ENGELKING



Switch Catalogue

Issue 10

About **Engelking**

Engelking Elektronik GmbH is an owner-managed company with a corporate history of 40 years. We are the leading solution provider for waterproof switches and connectors and are known for our broad portfolio.

No matter how challenging your requirements are, we are guaranteed to find the best solution – whether with a standard or a specially developed, individual product.

In this catalogue you will find a wide range of pushbuttons and piezo switches for all applications and uses.

Please feel free to contact us at any time if you have any questions. We look forward to helping you choose the right switches.

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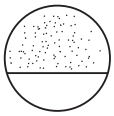
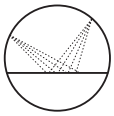
IP Degrees

First Digit

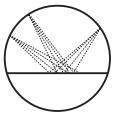


6: Dust tight. No ingress of dust.

Second Digit



5: Protected against jets of water from any direction.



6: Protected against powerful jets of water. Prevents ingress sufficient to cause harm.

Switches that fullfill the requirements of IPX6 also fullfill the requirements for IPX1 to IPX5.

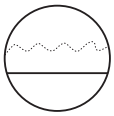


7: Protected against the effects of temporary immersion in water (submerged for 30 minutes at 1m depth).



8: Protected against the effects of continuous immersion in water (submerged for more than 30 minutes at more than 1m depth, to be specified).

Extended IP (eIPxx) for harsh enviroments



C: Cleaning chemicals added to water, depth and duration to be specified.



O: Duty cycle operated under water, depth to be specified.

Extended IP digits can be combined.

General **Information**

Key

19mm	Mounting diameter	**IP68**	IP degree
21.5mm	Outer diameter	**eIPOC**	Extended IP degree
10mm	Depth	**LED**	LED illuminated switch
	Recommended for engraving (non-rotating button)		

Definition of Terms

- **Circuit:** The contact arrangement with the switch actuator and contacts in their free position.
- **Maintained Switch:** A switch with contacts that sustain in operated position when actuating force is removed.
- **Momentary Switch:** A switch with contacts that return from operated to free position when actuation force is removed
- **Fast Connect Terminals:** A plug-in type terminal designed for quick switch wiring.
- **Normally Closed Contacts (N.C.):** Provide a normally closed circuit when actuator is in free position.
- **Normally Open Contacts (N.O.):** Provide a normally open circuit when actuator is in free position.

Switch Types



Form Z: This breaks the circuit in two places. Also referred to as **Double Break Contacts.**



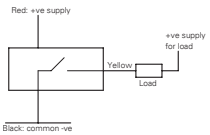
Form C: Switch which may either make or break a circuit, depending on how it is wired. Also referred to as **Single-Pole Double-Throw (SPDT)**.



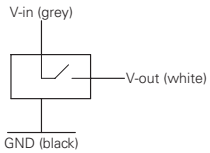
Form A: Normaly open (N.O.) switch with only one moving and one stationary contact. Also referred to as **Single-Pole Single-Throw (SPST)**.



Form A: Normaly closed (N.C.) switch with only one moving and one stationary contact.



Common Ground (NMOS): Is based on electronic circuitry. Switched output is pulled to ground when operated.



Common Plus (PMOS): Is based on electronic circuitry. Switched output is pulled to plus when operated.

Product Overview

Mechanical Switches

	Series	Depth	Mounting Diameter	Outer Diameter	IP Degree	LED	Switch Function	Termination	Button Type	Circuit	
	CM12	12.3mm	12mm	13.8mm	IP67		Momentary	2.0×0.5mm	Flat	Form A	10
	CMI12	12.3mm	12mm	13.8mm	IP67	Ring	Momentary	2.0×0.5mm	Flat	Form A	12
	CM08	18mm	12mm	14mm	IP67		Momentary	2.0×0.5mm	Flat, raised	Form A	14
	CMI08	19.1mm	12mm	14mm	IP67	Ring, dot	Momentary	2.0×0.5mm	Flat, raised	Form A	16
	CM18	13.7mm	16mm	18mm	IP67		Momentary	2.0×0.5mm	Flat	Form A	18
	CMI18	13.7mm	16mm	18mm	IP67	Ring	Momentary	2.0×0.5mm	Flat	Form A	20
	CM10	17.5mm, 20.1mm	16mm	18mm	IP65		Momentary	Screw, 2.0×0.5mm	Flat, raised, domed	Form A, Form B	22
	CMI10	20mm, 22.25mm	16mm	18mm	IP65	Ring, dot, power	Momentary	Screw, 2.0×0.5mm	Flat, raised, domed	Form A	24
	CM11	20.1mm	16mm	18mm	IP65		Momentary	Screw, 2.0×0.5mm	Flat, raised	Form A, Form B	26
	CMI11	20mm	16mm	18mm	IP65	Ring, dot	Momentary	2.0×0.5mm	Flat, raised	Form A	28
	CM57	19.7mm	16mm	18.5mm	IP67		Momentary, maintained	50cm leads, PC pins, 2.8×0.5mm	Flat	Form A	30
	CMI57	21mm	16mm	18.5mm	IP67	Ring, dot, power	Momentary, maintained	50cm leads, PC pins, 2.8×0.5mm	Flat	Form A	32
	CM15	36.6mm, 36.8mm	16mm	18mm	IP65		Momentary, maintained	2.8×0.5mm	Flat, raised	Form C	34
	CMI15	36.6mm, 36.8mm	16mm	18mm	IP65	Ring, dot, power	Momentary, maintained	2.8×0.5mm	Flat, raised	Form C	36
	CM16	36.6mm, 36.8mm	16mm	18mm	IP65		Momentary, maintained	2.8×0.5mm	Flat, raised	Form C	38
	CMI16	36.6mm, 36.8mm	16mm	18mm	IP65	Ring, dot, power	Momentary, maintained	2.8×0.5mm	Flat, raised	Form C	40
	ES06	7.8mm, 10mm	19mm	21.5mm	IP68, eIPOC		Momentary	15cm leads, PC pins	Flat	Form A	42
	ESI11	16.5mm	19mm	21.5mm		Ring	Momentary	15cm leads	Flat	Form A	44
	CM28	12.7mm	19mm	22mm	IP67		Momentary	2.0×0.5mm	Flat	Form A	46
	CMI28	12.7mm	19mm	22mm	IP67	Ring	Momentary	2.0×0.5mm	Flat	Form A	48
	CM19	40mm	19mm	22mm	IP68		Momentary, maintained	Screw, 2.8×0.4mm	Flat	Form A	50
	CMI19	40mm	19mm	22mm	IP68	Ring, dot, power	Momentary, maintained	Screw, 2.8×0.4mm	Flat	Form A	52
	CM20	24mm, 25.3mm	19mm	22mm	IP65		Momentary	Screw, 2.8×0.5mm	Flat, raised, domed	Form A	54
	CMI20	27.3mm, 27.4mm	19mm	22mm	IP65	Ring, dot	Momentary	Screw, 2.8×0.5mm	Flat	Form A	56

	Series	Depth	Mounting Diameter	Outer Diameter	IP Degree	LED	Switch Function	Termination	Button Type	Circuit	
	CM21	24mm, 25.3mm	19mm	22mm	IP65		Momentary	Screw, 2.8×0.5mm	Flat, raised	Form A	58
	CMI21	27.3mm	19mm	22mm	IP65	Ring, dot	Momentary	Screw	Flat	Form A	60
	CM22	17.2mm, 19.1mm	19mm	22mm	IP65		Momentary	Screw, 2.0×0.5mm	Flat, raised, domed	Form A, Form B	62
	CM23	17.2mm, 19.1mm	19mm	22mm	IP65		Momentary	Screw, 2.0×0.5mm	Flat, raised	Form A, Form B	64
	CM25	33.5mm - 41mm	19mm	22mm	IP65, IP67		Momentary, maintained	Screw, 2.8×0.5mm	Flat	Form Z	66
	CMI25	34.5mm - 41mm	19mm	22mm	IP65, IP67	Ring, dot, power	Momentary, maintained	Screw, 2.8×0.5mm	Flat, raised	Form Z	68
	CM26	33.5mm - 41mm	19mm	22mm	IP65, IP67		Momentary, maintained	Screw, 2.8×0.5mm	Flat	Form Z	70
	CMI26	34.5mm - 41mm	19mm	22mm	IP65, IP67	Ring, dot	Momentary, maintained	Screw, 2.8×0.5mm	Flat, raised	Form Z	72
	CM02	32.1mm, 36mm	19mm	22mm	IP65		Momentary	Screw, 2.8×0.8mm	Flat	Form Z	74
	CMI02	32.1mm, 36mm	19mm	22mm	IP65	Ring, dot	Momentary	Screw, 2.8×0.8mm	Flat	Form Z	76
	CM30	36.7mm	19mm	22mm	IP67		Momentary, maintained	2.8×0.5mm	Flat	Form C, 2x Form C	78
	CMI30	38mm	19mm	22mm	IP67	Ring, dot, power	Momentary, maintained	2.8×0.5mm	Flat	Form C, 2x Form C	80
	CM31	36.7mm	19mm	22mm	IP67		Momentary, maintained	2.8×0.5mm	Flat	Form C, 2x Form C	82
	CMI31	38mm	19mm	22mm	IP67	Ring, dot	Momentary, maintained	2.8×0.5mm	Flat	Form C, 2x Form C	84
	CM27	44.9mm, 51.2mm	19mm	22mm	IP65, IP67		Momentary, maintained	4.8×0.5mm	Flat	Form C, 2x Form C	86
	CMI27	44.9mm, 51.2mm	19mm	22mm	IP65, IP67	Ring, dot	Momentary, maintained	4.8×0.5mm, 2.8×0.5mm	Flat	Form C	88
	CM32	13.2mm	22mm	25mm	IP67		Momentary	2.0×0.5mm	Flat	Form A	90
	CMI32	13.2mm	22mm	25mm	IP67	Ring	Momentary	2.0×0.5mm	Flat	Form A	92
	CM58	23,5mm	22mm	25mm	IP67		Momentary, maintained	50cm leads	Flat	Form A	94
	CMI58	23,5mm	22mm	25mm	IP67	Ring, power	Momentary, maintained	50cm leads	Flat	Form A	96
	CM35	34.8mm - 41mm	22mm	25mm	IP65, IP67		Momentary, maintained	Screw, 2.8×0.5mm	Flat	Form Z	98
	CMI35	34.8mm - 41mm	22mm	25mm	IP65, IP67	Ring, dot, power	Momentary, maintained	Screw, 2.8×0.5mm	Flat	Form Z	100
	CM36	35.3mm, 40.3mm	22mm	25mm	IP65, IP67		Momentary, maintained	2.8×0.5mm	Flat	Form Z	102
	CMI36	35.3mm, 40.3mm	22mm	25mm	IP65, IP67	Ring, dot	Momentary, maintained	2.8×0.5mm	Flat	Form Z	104

Product **Overview**

Mechanical Switches

	Series	Depth	Mounting Diameter	Outer Diameter	IP Degree	LED	Switch Function	Termination	Button Type	Circuit	
	CM37	25.3mm	22mm	25mm	IP65		Momentary	2.8×0.5mm	Flat	Form A	106
	CM42	12.5mm	25mm	28mm	IP67		Momentary	2.0×0.5mm	Flat	Form A	108
	CMI42	12.5mm	25mm	28mm	IP67	Ring	Momentary	2.0×0.5mm	Flat	Form A	110
	CM40	34.8mm - 41mm	25mm	28mm	IP65, IP67		Momentary, maintained	Screw, 2.8×0.5mm	Flat	Form Z, 2x Form Z	112
	CMI40	34.8mm - 41mm	25mm	28mm	IP65, IP67	Ring, dot, power	Momentary, maintained	Screw, 2.8×0.5mm	Flat	Form Z, 2x Form Z	114
	CM41	38.5mm, 40.8mm	25mm	28mm	IP65, IP67		Momentary, maintained	2.8×0.5mm	Flat	Form Z, 2x Form Z	116
	CMI41	38.5mm, 40.8mm	25mm	28mm	IP65, IP67	Ring, dot	Momentary, maintained	2.8×0.5mm	Flat	Form Z, 2x Form Z	118
	CM45	35mm, 38.4mm	28mm	32mm	IP65, IP67		Momentary, maintained	2.8×0.5mm	Flat	Form Z, 2x Form Z	120
	CMI45	35mm -40.9mm	28mm	32mm	IP65, IP67	Ring, dot	Momentary, maintained	2.8×0.5mm	Flat	Form Z, 2x Form Z	122
	CM46	38.4mm, 40.8mm	28mm	32mm	IP65, IP67		Momentary, maintained	2.8×0.5mm	Flat	Form Z, 2x Form Z	124
	CMI46	38.4mm, 40.8mm	28mm	32mm	IP65, IP67	Ring, dot	Momentary, maintained	2.8×0.5mm	Flat	Form Z, 2x Form Z	126
	CM50	35mm -40.9mm	30mm	35mm	IP65, IP67		Momentary, maintained	Screw, 2.8×0.5mm	Flat	Form Z, 2x Form Z	128
	CMI50	35mm -40.9mm	30mm	35mm	IP65, IP67	Ring, dot	Momentary, maintained	Screw, 2.8×0.5mm	Flat	Form Z, 2x Form Z	130
	CM51	38.4mm, 40.8mm	30mm	35mm	IP65, IP67		Momentary, maintained	2.8×0.5mm	Flat	Form Z, 2x Form Z	132
	CMI51	38.4mm, 40.8mm	30mm	35mm	IP65, IP67	Ring, dot	Momentary, maintained	2.8×0.5mm	Flat	Form Z, 2x Form Z	134
	CM60	41.1mm	40mm	46mm	IP65		Momentary, maintained	2.8×0.5mm	Flat	Form Z, 2x Form Z	136
	CMI60	41.1mm	40mm	46mm	IP65	Ring	Momentary, maintained	2.8×0.5mm	Flat	Form Z, 2x Form Z	138

Plastic Switches

	Series	Depth	Mounting Diameter	Outer Diameter	IP Degree	LED	Switch Function	Termination	Button Type	Circuit	
	CM7X	17.6mm	12mm	17.5mm	IP67		Momentary, maintained	see datasheet	Domed, Flat, Raised		140
	CMI7X	17.6mm	12mm	17.5mm	IP67	Dot	Momentary, maintained	see datasheet	Flat		142
	CMI92	18.5mm	16mm	19.8mm	IP67		Momentary	15cm leads	Flat	Form A, Form B	144

	Series	Depth	Mounting Diameter	Outer Diameter	IP Degree	LED	Switch Function	Termination	Button Type	Circuit	
	CM90	37.3mm	22mm	25mm	IP65		Momentary, maintained	2.8×0.5mm	Flat	Form C, 2x Form C	146
	CMI90	38.5mm	22mm	25mm	IP65	Power, surface	Momentary, maintained	2.8×0.5mm	Flat	Form C, 2x Form C	148

Non-moving Switches

	Series	Depth	Mounting Diameter	Outer Diameter	IP Degree	LED	Switch Function	Termination	Button Type	Circuit	
	EP03	10mm	16mm	20mm	IP68, IP69K		Momentary	15cm leads	Guided	Form A	150
	EPI03	10mm	16mm	20mm	IP68	Dot	Momentary	15cm leads	Guided	Form A	152
	NK03	10mm	16mm	20mm	IP68, IP69K		Momentary, maintained	15cm leads	Guided	NMOS	154
	EP06	10mm	19mm	21.5mm	IP68, IP69K		Momentary	15cm leads	Flat	Form A	156
	NK02	10mm	19mm	21.5mm	IP68, IP69K		Momentary, toggle	15cm leads	Flat	NMOS	158
	EP70	9mm	20mm	20mm	IP68, IP69K		Momentary	15cm leads	Flat	Form A	160
	EP15	17.8mm, 19.7mm	22mm	25mm, 26mm	IP68, IP69K		Momentary	15cm leads	Flat, guided	Form A	162
	NK15	17.8mm, 19.7mm	22mm	26mm, 28mm	IP68 IP69K		Momentary, toggle	15cm leads	Flat, guided	NMOS	164
	EPI16	10.5mm, 14mm	22mm	26mm, 28mm	IP68	Ring	Momentary	15cm leads	Flat, raised	Form A	166
	NKI16	10.5mm, 14mm	22mm	26mm	IP68	Ring	Momentary, toggle	15cm leads	Flat, raised	NMOS	168
	EPI50	17.5mm	30mm	33.5mm	IP68	Ring, dot	Momentary	20cm leads	Flat	Form A	170
	NKI50	17.5mm	30mm	33.5mm	IP68	Ring, dot	Momentary, toggle	20cm leads	Flat	NMOS	172

Capacitive Switches

	Series	Depth	Mounting Diameter	Outer Diameter	IP Degree	LED	Switch Function	Termination	Button Type	Circuit	
	CKI21	32mm	19mm	22mm	IP68, IP69K	Ring	Momentary, maintained	30cm leads	Flat, guided	PMOS	174
	CKI35	32mm	22mm	25mm	IP68, IP69K	Ring	Momentary, maintained	30cm leads	Flat	PMOS	176
	CKI36	32mm	22mm	25mm	IP68, IP69K	Ring	Momentary, maintained	30cm leads	Flat, guided	PMOS	178

Keypads

	Series	Depth		Outer Diameter	IP Degree	LED	Switch Function	Termination	Button Type	Circuit	
	EPK10	4.5mm, 6.3mm	3×4	73×93mm, 78×97mm	(IP68)		Momentary	Pin header, cable			180
	EPK15	4.5mm, 6.3mm	4×4	97×97mm	(IP68)		Momentary	Pin header, cable			182

Product **Overview**

Indicators

	Series	Depth	Mounting Diameter	Outer Diameter	IP Degree	LED	Switch Function	Termination	Button Type	Circuit	
	CI04	26mm	8mm	11mm	IP67	Dot		1.8×0.4mm	Flat		184
	CI05	39mm	8mm	9.5mm	IP67	Dot		2.8×0.5mm	Flat		186
	CI08	27.4mm	12mm	15mm	IP67	Dot		1.8×0.4mm	Flat		188

Accessories

	Series	Depth	Mounting Diameter	Outer Diameter	IP De-gree	LED	Switch Function	Termination	Button Type	Circuit	
	MPI-VSG	14.5mm						Spring loaded			190
	AC										192

CM12 12mm Vandalproof Pushbutton

12mm	13.8mm	12.3mm	IP67

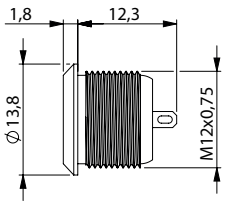
Specification

Termination	2.0×0.5mm solder terminals
Switching function	Momentary
Configuration of poles	Single
Maximum load	50mA, 24VDC
LED voltage	-
Contact resistance	< 50mΩ
Insulation resistance	> 1000MΩ
Operating temperature	-25°C to +55°C
Ingress protection	IP67 (EN 60529)
Duty cycle	50,000 (min)
Operating force	4N
Nut mounting torque	5-14Nm
Panel thickness	1.0mm to 3.0mm
Body & button material	See ordering information
Contact material	Gold plated brass

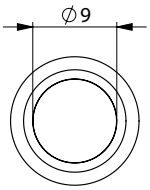
Product Dimensions

All dimensions in mm

Flat



Front View (all versions)

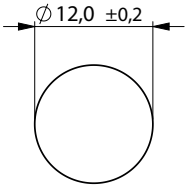


Circuit Diagram



Form A

Mounting Dimensions



Ordering Information



Material
V2: Stainless steel[1]
AS: Black aluminium

CM12 / ▭ / F / M / S / 20

[1] 1.4301

CMI12 12mm Vandalproof Pushbutton

12mm	13.8mm	12.3mm	IP67

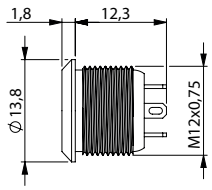
Specification

Termination	2.0×0.5mm solder terminals
Switching function	Momentary
Configuration of poles	Single
Maximum load	50mA, 24VDC
LED voltage	See ordering information
Contact resistance	< 50mΩ
Insulation resistance	> 1000MΩ
Operating temperature	-25°C to +55°C
Ingress protection	IP67 (EN 60529)
Duty cycle	50,000 (min)
Operating force	4N
Nut mounting torque	5-14Nm
Panel thickness	1.0mm to 3.0mm
Body & button material	See ordering information
Contact material	Gold plated brass

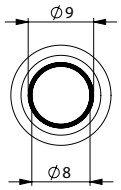
Product Dimensions

All dimensions in mm

Flat



Front View (all versions)

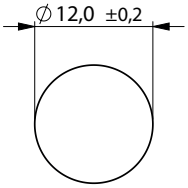


Circuit Diagram

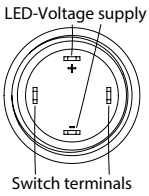


Form A

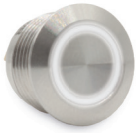
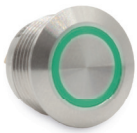
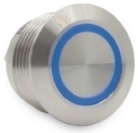
Mounting Dimensions



Wiring Instructions



Ordering Information

Material
V2: Stainless steel[1]
AS: Black aluminium

LED Colour
GN: Green
RD: Red
YL: Yellow
BL: Blue
WH: White

LED Voltage
00: No resistor[2]
06: 6 volt
12: 12 volt
24: 24 volt

CMI12 / ☐ / F / R / ☐ / ☐ / M / S / 20

[1] 1.4301
[2] Red, yellow: 1.8V | Green, blue, white: 2.8V (20mA)

CM08 12mm Vandalproof Pushbutton

12mm	14mm	18mm	IP67	

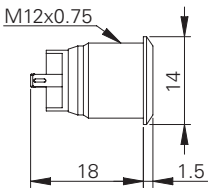
Specification

Termination	2.0×0.5mm solder terminals
Switching function	Momentary
Configuration of poles	Single
Maximum load	2A, 36VDC
LED voltage	-
Contact resistance	< 50mΩ
Insulation resistance	> 100MΩ
Operating temperature	-25°C to +55°C
Ingress protection	IP67 (EN 60529)
Duty cycle	200,000 (min)
Operating force	1.5N
Nut mounting torque	~ 0.3Nm
Panel thickness	1.0mm to 7.0mm
Body & button material	See ordering information
Contact material	Silver plated brass

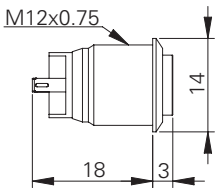
Product Dimensions

All dimensions in mm

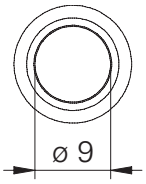
Flat



Raised



Front View (all versions)

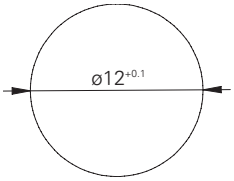


Circuit Diagram



Form A

Mounting Dimensions



Ordering Information






Material
V2: Stainless steel[1]
AS: Black aluminium

Button
F: Flat
R: Raised

CM08 / ☐ / ☐ / M / S / 20

[1] 1.4301

CM108 12mm Vandalproof Pushbutton

12mm	∅ 14mm	19.1mm	IP67	LED	

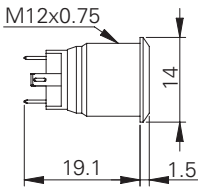
Specification

Termination	2.0×0.5mm solder terminals
Switching function	Momentary
Configuration of poles	Single
Maximum load	2A, 36VDC
LED voltage	See ordering information
Contact resistance	< 50mΩ
Insulation resistance	> 100MΩ
Operating temperature	-25°C to +55°C
Ingress protection	IP67 (EN 60529)
Duty cycle	200,000 (min)
Operating force	1.5N
Nut mounting torque	~ 0.3Nm
Panel thickness	1.0mm to 7.0mm
Body & button material	See ordering information
Contact material	Silver plated brass

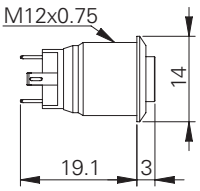
Product Dimensions

All dimensions in mm

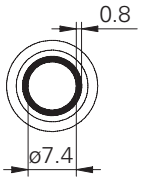
Flat



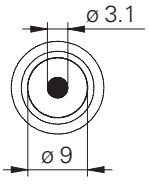
Raised



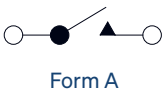
Front View (ring)



Front View (dot)

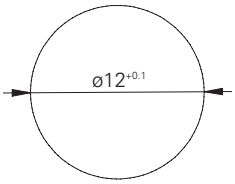


Circuit Diagram

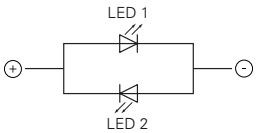


Form A

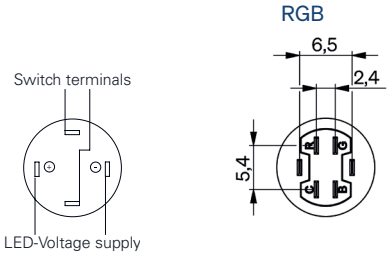
Mounting Dimensions



LED Circuit Diagram



Wiring Instructions



Ordering Information






Material
V2: Stainless steel[1]
AS: Black aluminium

Button
F: Flat
R: Raised

LED
R: Ring
D: Dot
P: Power[2]

LED Colour
GN: Green
RD: Red
YL: Yellow
BL: Blue
WH: White
OR: Orange
GR: Green/red[3]
BR: Blue/red[3]
GB: Green/blue[3]
10: RGB common anode[5]
11: RGB common cathode[5]

LED Voltage[1]
00: No resistor[4]
06: 6 volt
12: 12 volt
24: 24 volt

CMI08 / □ / □ / □ / □ / □ / M / S / 20

[1] 1.4301
[2] Only available with flat button
[3] 2 pins, colour change by swapping polarity
[4] Red, yellow, orange: 1.8V | Green, blue, white: 2.8V (15mA)
[5] Only available without resistor

CM18 16mm Vandalproof Pushbutton

16mm	18mm	13.7mm	IP67

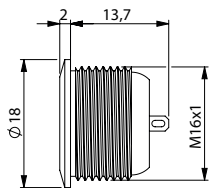
Specification

Termination	2.0×0.5mm solder terminals
Switching function	Momentary
Configuration of poles	Single
Maximum load	50mA, 24VDC
LED voltage	-
Contact resistance	< 50mΩ
Insulation resistance	> 1000MΩ
Operating temperature	-25°C to +55°C
Ingress protection	IP67 (EN 60529)
Duty cycle	50,000 (min)
Operating force	4N
Nut mounting torque	5-14Nm
Panel thickness	1.0mm to 3.0mm
Body & button material	See ordering information
Contact material	Gold plated brass

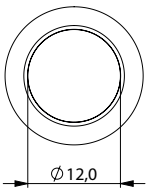
Product Dimensions

All dimensions in mm

Flat



Front View (all versions)

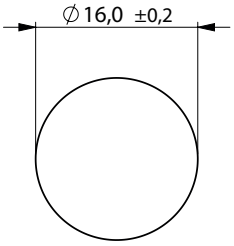


Circuit Diagram



Form A

Mounting Dimensions



Ordering Information



Material
V2: Stainless steel[1]
AS: Black aluminium

CM18 / ▭ / F / M / S / 20

[1] 1.4301

CMI18 16mm Vandalproof Pushbutton

16mm	18mm	13.7mm	IP67

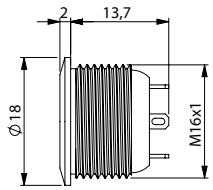
Specification

Termination	2.0×0.5mm solder terminals
Switching function	Momentary
Configuration of poles	Single
Maximum load	50mA, 24VDC
LED voltage	See ordering information
Contact resistance	< 50mΩ
Insulation resistance	> 1000MΩ
Operating temperature	-25°C to +55°C
Ingress protection	IP67 (EN 60529)
Duty cycle	50,000 (min)
Operating force	4N
Nut mounting torque	5-14Nm
Panel thickness	1.0mm to 3.0mm
Body & button material	See ordering information
Contact material	Gold plated brass

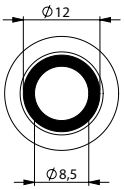
Product Dimensions

All dimensions in mm

Flat



Front View (all versions)

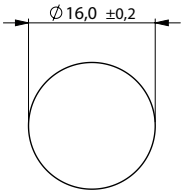


Circuit Diagram

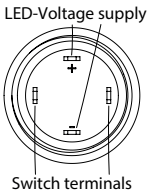


Form A

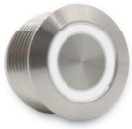
Mounting Dimensions

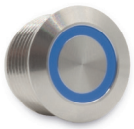


Wiring Instructions



Ordering Information



Material
V2: Stainless steel[1]
AS: Black aluminium

LED Colour
GN: Green
RD: Red
YL: Yellow
BL: Blue
WH: White

LED Voltage
00: No resistor[2]
06: 6 volt
12: 12 volt
24: 24 volt

CMI18 / ☐ / F / R / ☐ / ☐ / M / S / 20

[1] 1.4301
[2] Red, yellow: 1.8V | Green, blue, white: 2.8V (20mA)

CM10 16mm Vandalproof Pushbutton

16mm | 18mm | 17.5mm | 20.1mm | IP65

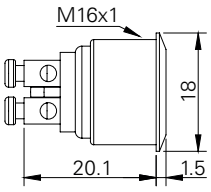
Specification

Termination	Screw or 2.0×0.5mm solder terminals
Switching function	Momentary
Configuration of poles	Single
Maximum load	2A, 36VDC
LED voltage	-
Contact resistance	< 50mΩ
Insulation resistance	> 100MΩ
Operating temperature	-25°C to +55°C
Ingress protection	IP65 (EN 60529)
Duty cycle	50,000 (min)
Operating force	4N
Nut mounting torque	~ 0.6Nm
Panel thickness	1.0mm to 6.0mm
Body & button material	See ordering information
Contact material	Silver plated brass

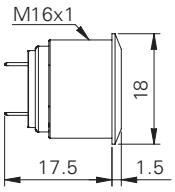
Product Dimensions

All dimensions in mm

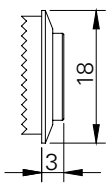
Screw Terminals Flat



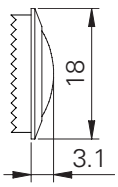
2.0mm Terminals Flat



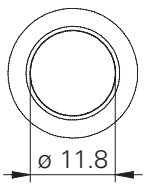
Raised



Domed



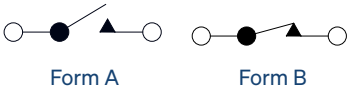
Front View (all versions)



ENGELKING

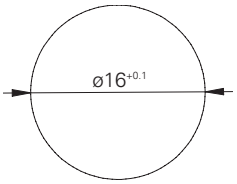
c UL us
Only certain variants, see file number E504292 for details

Circuit Diagram



Form A Form B

Mounting Dimensions



Ordering Information






Material
V2: Stainless steel[1]
AB: Blue aluminium
AG: Green aluminium
AN: Natural aluminium
AR: Red aluminium
AS: Black aluminium
AY: Yellow aluminium
BN: Nickel plated brass
BG: Messing gold

Button
F: Flat
R: Raised
D: Domed

Switch Function
M: Momentary NO
N: Momentary NC

Terminations
20: 2.0mm solder tabs
ST: Screws

CM10 / □ / □ / □ / S / □

[1] 1.4301

CMI10 16mm Vandalproof Pushbutton

16mm | 18mm | 22.25mm | IP65 | LED | 20mm

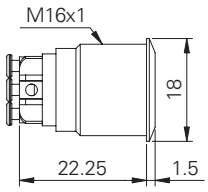
Specification

Termination	Screw or 2.0×0.5mm solder terminals
Switching function	Momentary
Configuration of poles	Single
Maximum load	2A, 36VDC
LED voltage	See ordering information
Contact resistance	< 50mΩ
Insulation resistance	> 100MΩ
Operating temperature	-25°C to +55°C
Ingress protection	IP65 (EN 60529)
Duty cycle	50,000 (min)
Operating force	4N
Nut mounting torque	~ 0.6Nm
Panel thickness	1.0mm to 6.0mm
Body & button material	See ordering information
Contact material	Silver plated brass

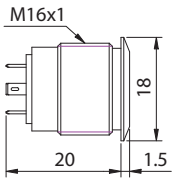
Product Dimensions

All dimensions in mm

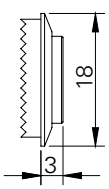
Screw Terminals Flat



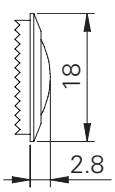
2.0mm Terminals Flat



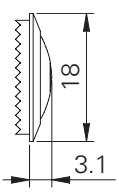
Raised



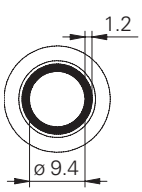
Domed (ring)



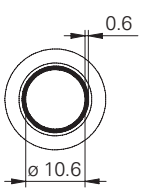
Domed (dot)



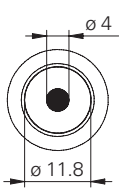
Front View (ring, flat or raised)



Front View (ring, domed)



Front View (dot)



ENGELKING

c UL us

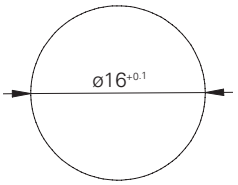
Only certain variants, see file number E504292 for details

Circuit Diagram

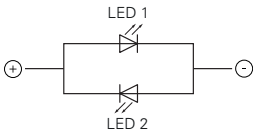


Form A

Mounting Dimensions

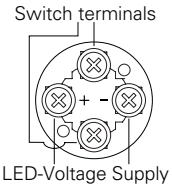


LED Circuit Diagram

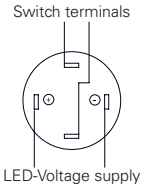


Wiring Instructions

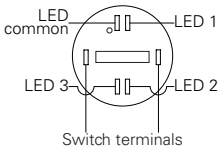
Screw terminals | 2 LED pins



Solder terminals | 2 LED pins



3&4 LED pins[1,4]



Ordering Information






Material
- V2: Stainless steel[1]
- AS: Black aluminium

Button
- F: Flat
- R: Raised
- D: Domed

LED
- R: Ring
- D: Dot
- S: Powerring[2,3]
- X: Custom[2,3,4]

LED Colour
- GN: Green
- RD: Red
- YL: Yellow
- BL: Blue
- WH: White
- GR: Green/red[5]
- BR: Blue/red[5]
- GB: Green/blue[5]
- 01: Green/red[3,6]
- 02: Green/blue[3,6]
- 03: Green/red[3,6]
- 11: RGB[3,7]

LED Voltage
- 00: No resistor[8]
- 06: 6 volt
- 12: 12 volt
- 24: 24 volt

Switch Function
- M: Momentary

Terminations
- 20: 2.0mm solder tabs
- ST: Screws

CMI10 / □ / □ / □ / □ / □ / □ / S / □

1 1.4301
2 Only available with flat button
3 Only available with solder terminals
4 IP65 (EN60529)
5 2 pins, colour change by swapping polarity
6 3 pins for LED connection (one per colour and common cathode (common anode available on request))
7 Red/green/blue, 4 pins for LED connection (one per colour and common cathode (common anode available on request))
8 Red, yellow: 1.8V | Green, blue, white: 2.8V (15mA)

Rev. 7 | Engelking retains the right to change the specifications at any time without prior notice.

CM11 16mm Vandalproof Pushbutton

16mm	18mm	20.1mm	IP65

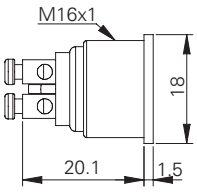
Specification

Termination	Screw or 2.0×0.5mm solder terminals
Switching function	Momentary
Configuration of poles	Single
Maximum load	2A, 36VDC
LED voltage	-
Contact resistance	< 50mΩ
Insulation resistance	> 100MΩ
Operating temperature	-25°C to +55°C
Ingress protection	IP65 (EN 60529)
Duty cycle	50,000 (min)
Operating force	4N
Nut mounting torque	~ 0.6Nm
Panel thickness	1.0mm to 6.0mm
Body & button material	See ordering information
Contact material	Silver plated brass

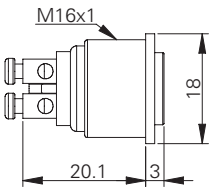
Product Dimensions

All dimensions in mm

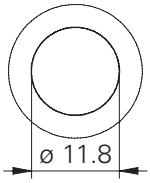
Flat Screw



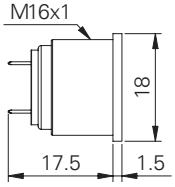
Raised Screw



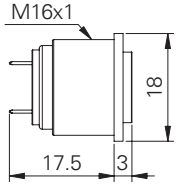
Front View (all versions)



Flat 2.0mm



Raised 2.0mm

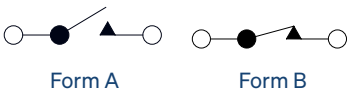


ENGELKING

c UL us

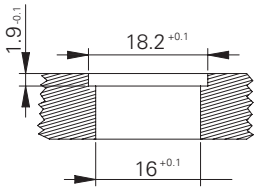
Only certain variants, see file number E504292 for details

Circuit Diagram



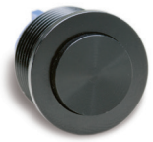
Form A Form B

Mounting Dimensions



Ordering Information



Material
V2: Stainless steel[1]
AS: Black aluminium
BN: Nickel plated brass
GB: Gold plated brass

Button
F: Flat
R: Raised

Switch Function
M: Momentary NO
N: Momentary NC

Termination
20: 2.0mm solder tabs
ST: Screws

CM11 / □ / □ / □ / S / □

[1] 1.4301

Tel: +49 (0)7464 9865 0 Email: info@engelking.de www.engelking.de

ENGELKING

CMI11 16mm Vandalproof Pushbutton

16mm	18mm	20mm	IP65	LED	

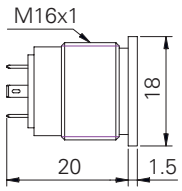
Specification

Termination	2.0×0.5mm solder terminals
Switching function	Momentary
Configuration of poles	Single
Maximum load	2A, 36VDC
LED voltage	See ordering information
Contact resistance	< 50mΩ
Insulation resistance	> 100MΩ
Operating temperature	-25°C to +55°C
Ingress protection	IP65 (EN 60529)
Duty cycle	50,000 (min)
Operating force	4N
Nut mounting torque	~ 0.6Nm
Panel thickness	1.0mm to 6.0mm
Body & button material	See ordering information
Contact material	Silver plated brass

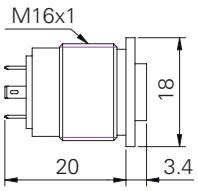
Product Dimensions

All dimensions in mm

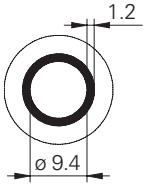
Flat



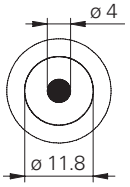
Raised



Front View (ring)



Front View (dot)



ENGELKING

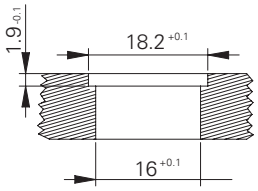
c UL us
Only certain variants, see file number E504292 for details

Circuit Diagram

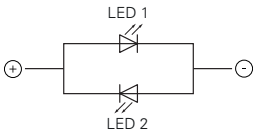


Form A

Mounting Dimensions

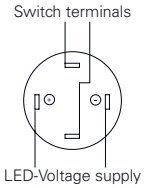


LED Circuit Diagram

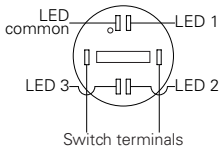


Wiring Instructions

2 LED pins



3 & 4 LED pins[1,2]



Ordering Information






Material
- V2: Stainless steel[1]
- AS: Black aluminium
- BN: Nickel plated brass

Button
- F: Flat
- R: Raised

LED
- R: Ring
- D: Dot
- X: Custom[2]

LED Colour
- GN: Green
- RD: Red
- YL: Yellow
- BL: Blue
- WH: White
- GR: Green/red[3]
- BR: Blue/red[3]
- GB: Green/blue[3]
- 01: Green/red[4]
- 02: Green/blue[4]
- 03: Blue/red[4]
- 11: RGB[5]

LED Voltage
- 00: No resistor[6]
- 06: 6 volt
- 12: 12 volt
- 24: 24 volt

Switch Function
- M: Momentary

CMI11 / □ / □ / □ / □ / □ / □ / S / 20

1 1.4301
2 IP65 (EN60529)
3 2 pins, colour change by swapping polarity
4 3 pins for LED connection (one per colour and common cathode (common anode available on request))
5 Red/green/blue, 4 pins for LED connection (one per colour and common cathode (common anode available on request))
6 Red, yellow: 1.8V | Green, blue, white: 2.8V (15mA)

CM57 16mm Vandalproof Pushbutton

16mm | 18.5mm | 19.7mm | 25.6mm | IP67 | 19.8mm

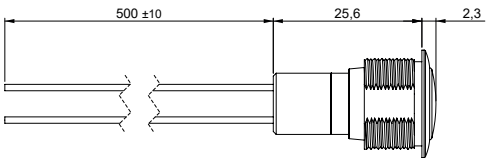
Specification

Termination	50cm flying leads, PC pins or 2.0×0.5mm solder terminals
Switching function	Momentary or maintained
Configuration of poles	Single
Maximum load	250mA, 48VDC
LED voltage	-
Contact resistance	< 50mΩ
Insulation resistance	> 1000MΩ
Operating temperature	-40°C to +85°C
Ingress protection	IP67
Duty cycle	50,000 (min)
Operating force	3N
Nut mounting torque	~ 1.0Nm
Panel thickness	0.5mm to 6.0mm
Body & button material	See ordering information
Contact material	Gold

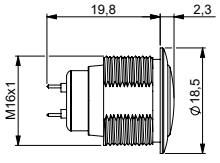
Product Dimensions

All dimensions in mm

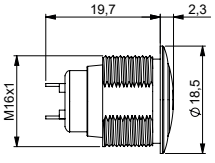
Flying Leads



2.8mm Terminals



PC pins

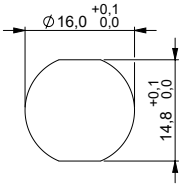


Circuit Diagram



Form A

Mounting Dimensions



Ordering Information

Material
V2: Stainless steel[1]
ZA: Zinc Alloy, Velour Chrome Plated
ZK: Zinc Alloy, Black

Switch Function
M: Momentary
L: Maintained

Terminations
20: 2.0mm solder tabs
L4: 50cm leads
PC: PC pins

CM57 / □ / D / □ / S / □

[1] 1.4301

CMI57 16mm Vandalproof Pushbutton

16mm | ⌀ 18.5mm | 21mm | IP67 | 25.6mm

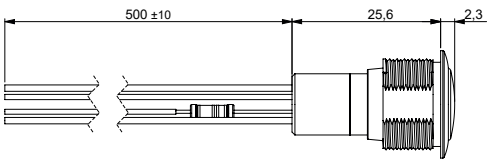
Specification

Termination	50cm flying leads, PC pins or 2.0×0.5mm solder terminals
Switching function	Momentary or maintained
Configuration of poles	Single
Maximum load	250mA, 48VDC
LED voltage	See ordering information
Contact resistance	< 50mΩ
Insulation resistance	> 1000MΩ
Operating temperature	-25°C to +85°C
Ingress protection	IP67
Duty cycle	50,000 (min)
Operating force	3N
Nut mounting torque	~ 1.0Nm
Panel thickness	0.5mm to 6.0mm
Body & button material	See ordering information
Contact material	Gold

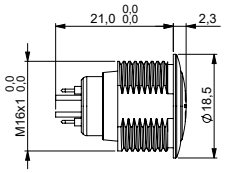
Product Dimensions

All dimensions in mm

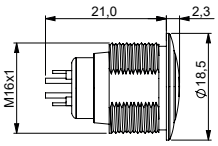
Flying Leads



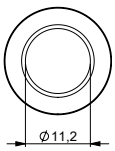
2.8mm Terminals



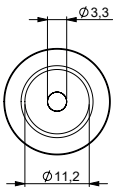
PC pins



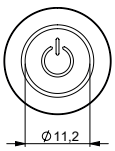
Front View (ring)



Front View (dot)



Front View (power)

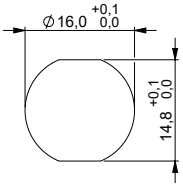


Circuit Diagram

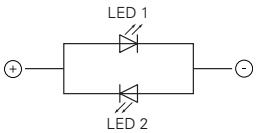


Form A

Mounting Dimensions

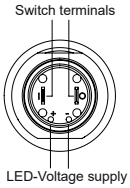


LED Circuit Diagram

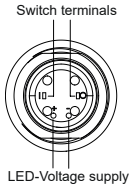


Wiring Instructions

Solder terminals | 2 LED pins



PC terminals | 2 LED pins



Ordering Information







Material
V2: Stainless steel[1]
ZA: Zinc Alloy, Velour Chrome Plated
ZK: Zinc Alloy, Black

LED
R: Ring
D: Dot
S: Powerring

LED Colour
GN: Green
RD: Red
YL: Yellow
BL: Blue
WH: White[2]
OR: Orange
63: Blue/red
60: Green/red

LED Voltage
00: No resistor[3]
05: 5 volt
12: 12 volt
24: 24 volt

Switch Function
M: Momentary
L: Maintained

Terminations
20: 2.0mm solder tabs
L4: 50cm leads
PC: PC pins

CMI57 / ☐ / D / ☐ / ☐ / ☐ / ☐ / S / ☐

[1] 1.4301
[2] Only with 5V resistor
[3] Red, yellow: 1.8V | Green, blue, white: 2.8V (15mA)

Rev. 3 | Engelking retains the right to change the specifications at any time without prior notice.

CM15 16mm Vandalproof Pushbutton

16mm | 18mm | 36.6mm | 36.8mm | IP65

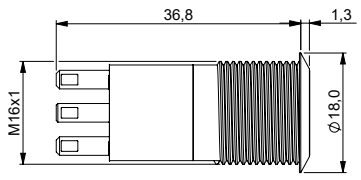
Specification

Termination	2.8×0.5mm solder terminals
Switching function	Momentary or maintained
Configuration of poles	Single or double
Maximum load	5A, 48VAC
LED voltage	-
Contact resistance	< 50mΩ
Insulation resistance	> 1000MΩ
Operating temperature	-25°C to +55°C
Ingress protection	IP65 (EN 60529)
Duty cycle	50,000 (min)
Operating force	1.5 ~ 2N
Nut mounting torque	~ 0.6Nm
Panel thickness	1.0mm to 8.0mm
Body & button material	See ordering information
Contact material	Silver Alloy

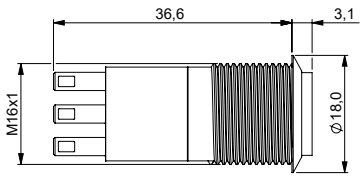
Product Dimensions

All dimensions in mm

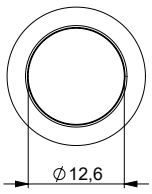
Flat



Raised



Front View (all versions)

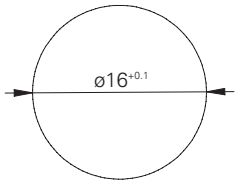


Circuit Diagram

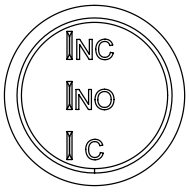


Form C

Mounting Dimensions



Contact Arrangement



Ordering Information

Material
V2: Stainless steel[1]
BC: Chrome plated brass
AS: Black aluminium

Button
F: Flat
R: Raised

Switch Function
M: Momentary
L: Maintained

Poles
S: Single
D: Double

CM15 / □ / □ / □ / □ / 28

[1] 1.4301

CMI15 16mm Vandalproof Pushbutton

16mm | 18mm | 36.6mm / 36.8mm | IP65 | LED

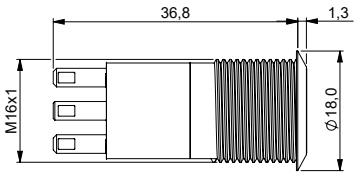
Specification

Termination	2.8×0.5mm solder terminals
Switching function	Momentary or maintained
Configuration of poles	Single or double
Maximum load	3A, 48VAC
LED voltage	See ordering information
Contact resistance	< 50mΩ
Insulation resistance	> 1000MΩ
Operating temperature	-25°C to +55°C
Ingress protection	IP65 (EN 60529)
Duty cycle	50,000 (min)
Operating force	1.5 ~ 2N
Nut mounting torque	~ 0.6Nm
Panel thickness	1.0mm to 8.0mm
Body & button material	See ordering information
Contact material	Silver Alloy

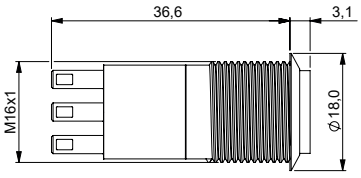
Product Dimensions

All dimensions in mm

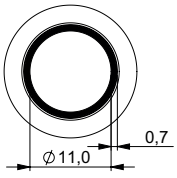
Flat



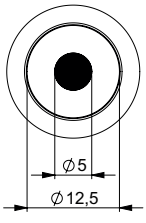
Raised



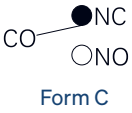
Front View (ring)



Front View (dot)

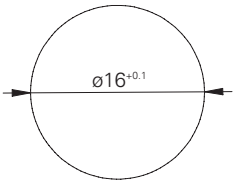


Circuit Diagram

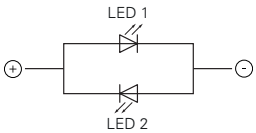


Form C

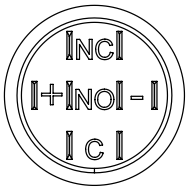
Mounting Dimensions



LED Circuit Diagram



Contact Arrangement



Ordering Information

Material
V2: Stainless steel[1]
BC: Chrome plated brass
AS: Black aluminium

Button
F: Flat
R: Raised

LED
R: Ring
D: Dot
S: Powerring[2]
X: Custom[2,3]

LED Colour
GN: Green
RD: Red
YL: Yellow
BL: Blue
WH: White

LED Voltage
06: 6 volt
12: 12 volt
24: 24 volt

Switch Function
M: Momentary
L: Maintained

Poles
S: Single
D: Double

CMI15 / □ / □ / □ / □ / □ / □ / □ / 28

[1] 1.4301
[2] Only available with flat button
[3] IP65 (EN60529)

CM16 16mm Vandalproof Pushbutton

16mm | 18mm | 36.6mm | 36.8mm | IP65

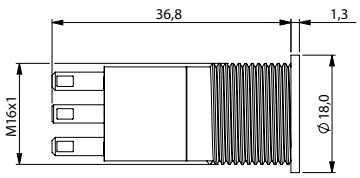
Specification

Termination	2.8×0.5mm solder terminals
Switching function	Momentary or maintained
Configuration of poles	Single or double
Maximum load	5A, 48VAC
LED voltage	-
Contact resistance	< 50mΩ
Insulation resistance	> 1000MΩ
Operating temperature	-25°C to +55°C
Ingress protection	IP65 (EN 60529)
Duty cycle	50,000 (min)
Operating force	1.5 ~ 2N
Nut mounting torque	~ 0.6Nm
Panel thickness	1.0mm to 8.0mm
Body & button material	See ordering information
Contact material	Silver Alloy

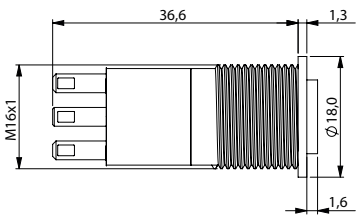
Product Dimensions

All dimensions in mm

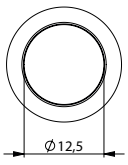
Flat



Raised



Front View (all versions)

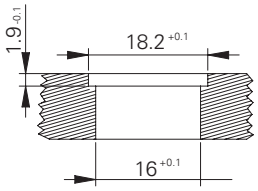


Circuit Diagram

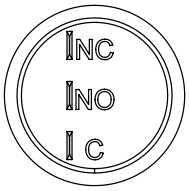


Form C

Mounting Dimensions



Contact Arrangement



Ordering Information

Material
V2: Stainless steel[1]
BC: Chrome plated brass
AS: Black aluminium

Button
F: Flat
R: Raised

Switch Function
M: Momentary
L: Maintained

Poles
S: Single
D: Double

CM16 / □ / □ / □ / □ / 28

[1] 1.4301

CMI16 16mm Vandalproof Pushbutton

16mm | 18mm | 36.6mm | 36.8mm | IP65 | LED

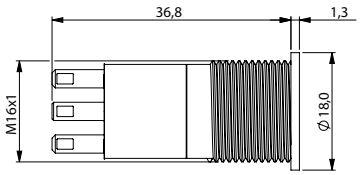
Specification

Termination	2.8×0.5mm solder terminals
Switching function	Momentary or maintained
Configuration of poles	Single or double
Maximum load	5A, 48VAC
LED voltage	See ordering information
Contact resistance	< 50mΩ
Insulation resistance	> 1000MΩ
Operating temperature	-25°C to +55°C
Ingress protection	IP65 (EN 60529)
Duty cycle	50,000 (min)
Operating force	1.5 ~ 2N
Nut mounting torque	~ 0.6Nm
Panel thickness	1.0mm to 8.0mm
Body & button material	See ordering information
Contact material	Silver Alloy

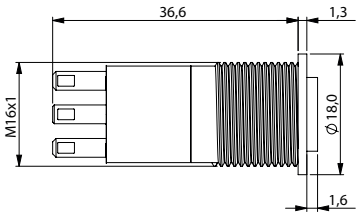
Product Dimensions

All dimensions in mm

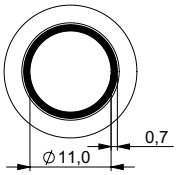
Flat



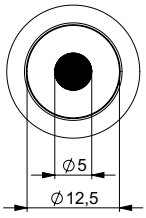
Raised



Front View (ring)



Front View (dot)

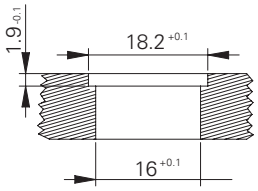


Circuit Diagram

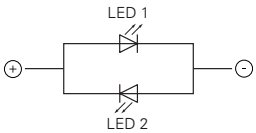


Form C

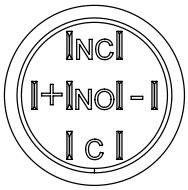
Mounting Dimensions



LED Circuit Diagram



Contact Arrangement



Ordering Information

Material
V2: Stainless steel[1]
BC: Chrome plated brass
AS: Black aluminium

Button
F: Flat
R: Raised

LED
R: Ring
D: Dot
S: Powerring[2]
X: Custom[2,3]

LED Colour
GN: Green
RD: Red
YL: Yellow
BL: Blue
WH: White

LED Voltage
06: 6 volt
12: 12 volt
24: 24 volt

Switch Function
M: Momentary
L: Maintained

Poles
S: Single
D: Double

CMI16 / □ / □ / □ / □ / □ / □ / □ / 28

[1] 1.4301
[2] IP65 (EN60529)
[3] 2 pins, colour change by swapping polarity

ES06 19mm Vandalproof Pushbutton

19mm	21.5mm	7.8mm	IP68	
		10mm	eIPOC	

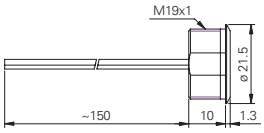
Specification

Termination	15cm flying leads or PC pins
Switching function	Momentary
Configuration of poles	Single
Maximum load	100mA, 42VDC
LED voltage	-
Contact resistance	100mΩ
Insulation resistance	> 10^9Ω
Operating temperature	-40°C to +85°C
Ingress protection	IP68 (EN 60529), eIPOC
Duty cycle	1,000,000 (min)
Operating force	$3.3^{+0.6}$N
Nut mounting torque	~ 2.5Nm
Panel thickness	1.0mm to 7.0mm
Body & button material	See ordering information
Contact material	Gold

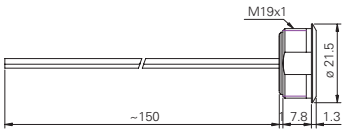
Product Dimensions

All dimensions in mm

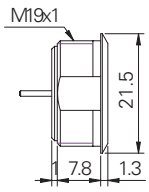
Flying Leads



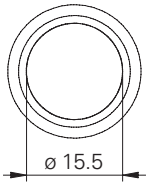
Flying Leads (aluminium)



PC pins



Front View

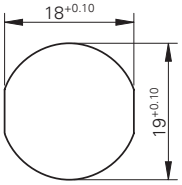


Circuit Diagram



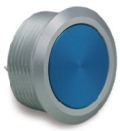
Form A

Mounting Dimensions



Ordering Information






Material
V2: Stainless steel[1]
MS: Chromed brass
AN: Natural annodised aluminium
A1: Red annodised aluminium[2]
A2: Blue annodised aluminium[2]
A3: Yellow annodised aluminium[2]
A4: Green annodised aluminium[2]

Terminals
L1: 15cm leads
PC: PC pins

ES06 ☐ **F00MM** ☐

[1] 1.4301
[2] Code is only for button material, housing is made of natural annodised aluminium

ESI11 19mm Vandalproof Pushbutton

19mm	∅ 21,5mm	16.5mm	LED	

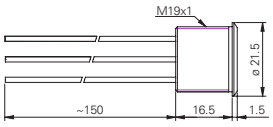
Specification

Termination	15cm flying leads
Switching function	Momentary
Configuration of poles	Single
Maximum load	50mA, 24VDC
LED voltage	See ordering information
Contact resistance	100mΩ
Insulation resistance	> 100MΩ
Operating temperature	-20°C to +70°C
Ingress protection	-
Duty cycle	50,000 (min)
Operating force	1.8N
Nut mounting torque	~ 2.5Nm
Panel thickness	1.5mm to 13.0mm
Body & button material	See ordering information
Contact material	Gold

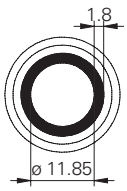
Product Dimensions

All dimensions in mm

Flying Leads



Front View

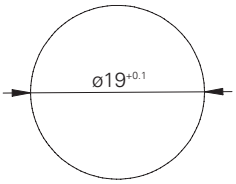


Circuit Diagram



Form A

Mounting Dimensions



Wiring Instructions

- Switch wire
- Switch wire
- Ground wire for LED
- LED colour wire for +LED

Ordering Information





Material
V2: Stainless steel[1]
AS: Black aluminium
AN: Natural aluminium
PK: Black plastic
PW: White plastic

LED Colour
GN: Green
RD: Red
BL: Blue
YL: Yellow
WH: White
GB: Green/blue

LED Voltage
00: No resistor[2]
05: 5 volt
12: 12 volt
24: 24 volt

ESI11 / ☐ / F / R / ☐ / ☐ / M / S / L1

[1] 1.4301
[2] Green, blue, white: 3.2VDC | Red, orange: 2.5VDC (20mA)

CM28 19mm Vandalproof Pushbutton

19mm	22mm	12.7mm	IP67

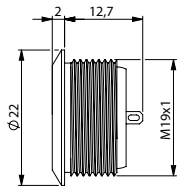
Specification

Termination	2.0×0.5mm solder terminals
Switching function	Momentary
Configuration of poles	Single
Maximum load	50mA, 24VDC
LED voltage	-
Contact resistance	< 50mΩ
Insulation resistance	> 1000MΩ
Operating temperature	-25°C to +55°C
Ingress protection	IP67 (EN 60529)
Duty cycle	50,000 (min)
Operating force	4N
Nut mounting torque	5-14Nm
Panel thickness	1.0mm to 3.0mm
Body & button material	See ordering information
Contact material	Gold plated brass

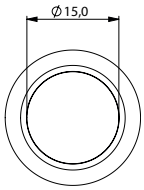
Product Dimensions

All dimensions in mm

Flat



Front View (all versions)

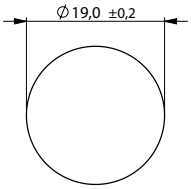


Circuit Diagram



Form A

Mounting Dimensions



Ordering Information



Material
V2: Stainless steel[1]
AS: Black aluminium

CM28 / ▭ / F / M / S / 20

[1] 1.4301

CMI28 19mm Vandalproof Pushbutton

19mm	22mm	12.7mm	IP67

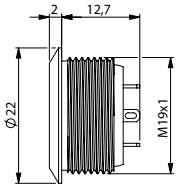
Specification

Termination	2.0×0.5mm solder terminals
Switching function	Momentary
Configuration of poles	Single
Maximum load	50mA, 24VDC
LED voltage	See ordering information
Contact resistance	< 50mΩ
Insulation resistance	> 1000MΩ
Operating temperature	-25°C to +55°C
Ingress protection	IP67 (EN 60529)
Impact resistance	IK09
Duty cycle	50,000 (min)
Operating force	4N
Nut mounting torque	5-14Nm
Panel thickness	1.0mm to 3.0mm
Body & button material	See ordering information
Contact material	Gold plated brass

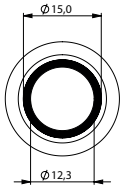
Product Dimensions

All dimensions in mm

Flat



Front View (all versions)

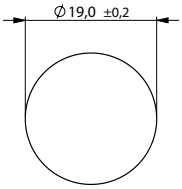


Circuit Diagram



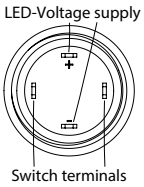
Form A

Mounting Dimensions

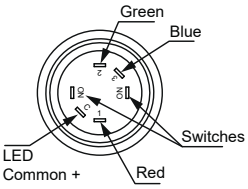


Wiring Instructions

GN, RD, YL, BL & WH



RGB



Ordering Information






Material
V2: Stainless steel[1]
AS: Black aluminium

LED Colour
GN: Green
RD: Red
YL: Yellow
BL: Blue
WH: White
10: RGB

LED Voltage
00: No resistor[2]
06: 6 volt
12: 12 volt
24: 24 volt

CMI28 / ☐ / F / R / ☐ / ☐ / M / S / 20

[1] 1.4301
[2] Red, yellow: 1.8V | Green, blue, white: 2.8V (20mA)

CM19 19mm Vandalproof Pushbutton

19mm	22mm	40mm	IP68

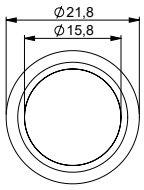
Specification

Termination	2.8×0.4mm fast connect terminals
Switching function	Momentary or maintained
Configuration of poles	Single or double
Maximum load	6A, 48VAC
LED voltage	-
Contact resistance	< 50mΩ
Insulation resistance	> 100MΩ
Operating temperature	0°C to +55°C
Ingress protection	IP68
Duty cycle	50.000 (min)
Operating force	4N
Nut mounting torque	~ 1.2Nm
Body & button material	See ordering information
Contact material	Silver alloy

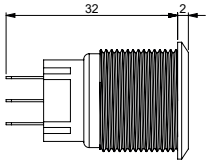
Product Dimensions

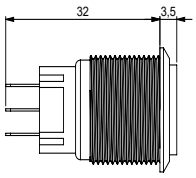
All dimensions in mm

Front View

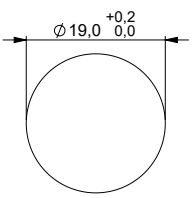


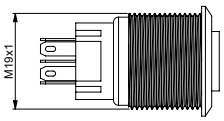
Side View





Mounting Dimensions



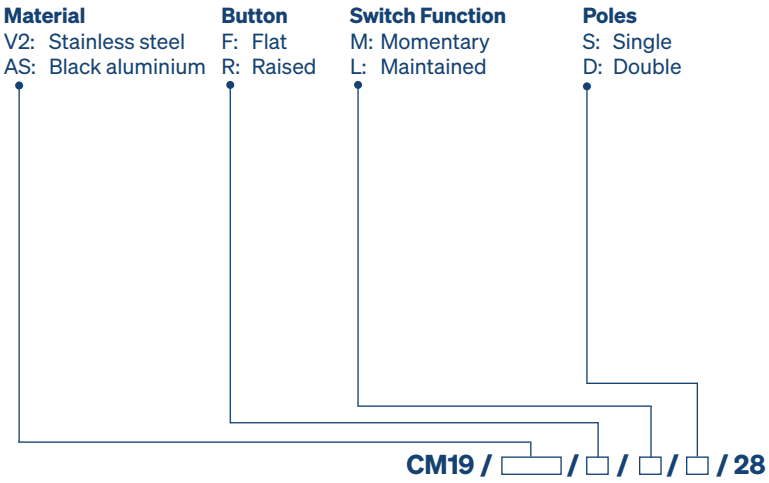


Circuit Diagram



Form C

Ordering Information



CMI19 19mm Vandalproof Pushbutton

19mm	22mm	40mm	IP68	LED

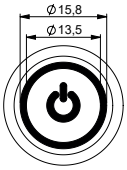
Specification

Termination	2.8×0.4mm fast connect terminals
Switching function	Momentary or maintained
Configuration of poles	Single or double
Maximum load	6A, 48VAC
LED voltage	See ordering information
Contact resistance	< 50mΩ
Insulation resistance	> 100MΩ
Operating temperature	0°C to +55°C
Ingress protection	IP68
Duty cycle	50.000 (min)
Operating force	4N
Nut mounting torque	~ 1.2Nm
Body & button material	See ordering information
Contact material	Silver alloy

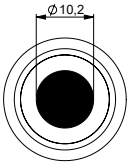
Product Dimensions

All dimensions in mm

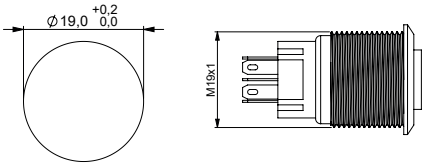
Front View (power)



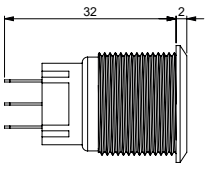
Front View (dot)

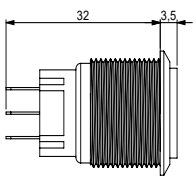


Mounting Dimensions



Side View





Circuit Diagram



Form C

Ordering Information





Material
V2: Stainless steel
AS: Black aluminium

Button
F: Flat
R: Raised

LED
D: Dot
R: Ring
S: Powerring

LED Colour
RD: Red
GN: Green
BL: Blue
WH: White
YL: Yellow
60: Red/Green
61: Red/Blue
11: RGB common cathode

LED Voltage
03: 3 volt
06: 6 volt
12: 12 volt
24: 24 volt
36: 36 volt
48: 48 volt

Switch Function
M: Momentary
L: Maintained

Poles
S: Single
D: Double

CMI19 / □ / □ / □ / □ / □ / □ / □ / 28

CM20 19mm Vandalproof Pushbutton

19mm	22mm	24mm	IP65
		25.3mm	

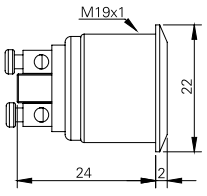
Specification

Termination	Screw or 2.8×0.5mm fast connect terminals
Switching function	Momentary
Configuration of poles	Single
Maximum load	2A, 36VDC
LED voltage	-
Contact resistance	< 50mΩ
Insulation resistance	> 100MΩ
Operating temperature	-25°C to +55°C
Ingress protection	IP65 (EN 60529)
Duty cycle	50,000 (min)
Operating force	4N
Nut mounting torque	~ 0.6Nm
Panel thickness	1.0mm to 10.0mm
Body & button material	See ordering information
Contact material	Silver plated brass

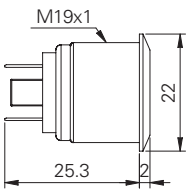
Product Dimensions

All dimensions in mm

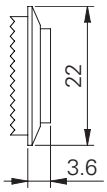
Screw Terminals Flat



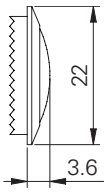
2.8mm Terminals Flat



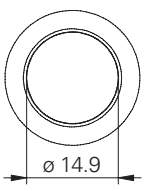
Raised



Domed



Front View (all versions)

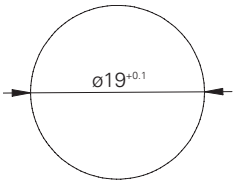


Circuit Diagram



Form A

Mounting Dimensions



Ordering Information






Material
V2: Stainless steel[1]
AS: Black aluminium
BN: Nickel plated brass
GB: Gold plated brass

Button
F: Flat
R: Raised
D: Domed

Terminations
28: 2.8mm solder
ST: Screws

CM20 / □ / □ / M / S / □

[1] 1.4301

CMI20 19mm Vandalproof Pushbutton

19mm | 22mm | 27.3mm | 27.4mm | IP65 | LED

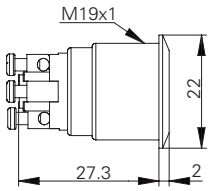
Specification

Termination	Screw or 2.8mm terminals
Switching function	Momentary
Configuration of poles	Single
Maximum load	2A, 36VDC
LED voltage	See ordering information
Contact resistance	< 50mΩ
Insulation resistance	> 100MΩ
Operating temperature	-25°C to +55°C
Ingress protection	IP65 (EN 60529)
Duty cycle	50,000 (min)
Operating force	4N
Nut mounting torque	~ 0.6Nm
Panel thickness	1.0mm to 10.0mm
Body & button material	See ordering information
Contact material	Silver plated brass

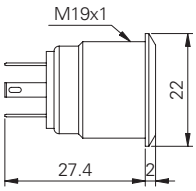
Product Dimensions

All dimensions in mm

Solder Terminals Flat



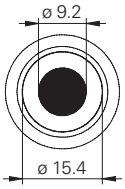
2.8mm Terminals Flat



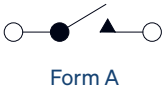
Front View (ring)



Front View (dot)

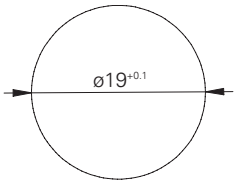


Circuit Diagram

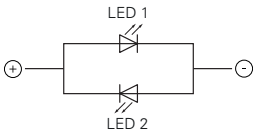


Form A

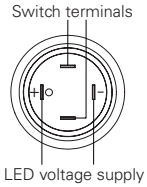
Mounting Dimensions

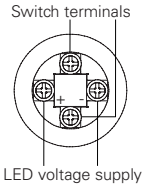


LED Circuit Diagram



Wiring Instructions





Ordering Information









Material
V2: Stainless steel[1]
AS: Black aluminium

LED
R: Ring
D: Dot

LED Colour
GN: Green
RD: Red
YL: Yellow
BL: Blue
WH: White
GR: Green/red[2]
BR: Blue/red[2]
GB: Green/blue[2]

LED Voltage
00: No resistor[3]
06: 6 volt
12: 12 volt
24: 24 volt

Termination
28: 2.8mm tabs
ST: Screws

CMI20 / ☐ / F / ☐ / ☐ / ☐ / M / S / ☐

[1] 1.4301
[2] 2 pins, colour change by swapping polarity
[3] Red, yellow: 1.8V | Green, blue, white: 2.8V (15mA)

CM21 19mm Vandalproof Pushbutton

19mm | **22mm** | **24mm** | **25.3mm** | **IP65**

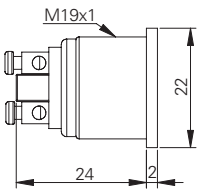
Specification

Termination	Screw or 2.8×0.5mm fast connect terminals
Switching function	Momentary
Configuration of poles	Single
Maximum load	2A, 36VDC
LED voltage	-
Contact resistance	< 50mΩ
Insulation resistance	> 100MΩ
Operating temperature	-25°C to +55°C
Ingress protection	IP65 (EN 60529)
Duty cycle	50,000 (min)
Operating force	4N
Nut mounting torque	~ 0.6Nm
Panel thickness	1.0mm to 10.0mm
Body & button material	See ordering information
Contact material	Silver plated brass

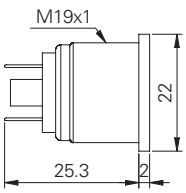
Product Dimensions

All dimensions in mm

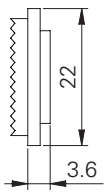
Screw Terminals Flat



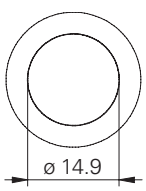
2.8mm Terminals Flat



Raised



Front View (all versions)

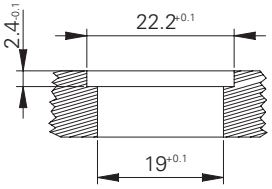


Circuit Diagram



Form A

Mounting Dimensions



Ordering Information






Material
V2: Stainless steel[1]
AS: Black aluminium
BN: Nickel plated brass

Button
F: Flat
R: Raised

Terminations
28: 2.8mm solder
ST: Screws

CM21 / □ / □ / M / S / □

[1] 1.4301

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ENGELKING

CMI21 19mm Vandalproof Pushbutton

19mm	22mm	27.3mm	IP65	LED	

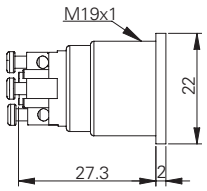
Specification

Termination	Screw terminals
Switching function	Momentary
Configuration of poles	Single
Maximum load	2A, 36VDC
LED voltage	See ordering information
Contact resistance	< 50mΩ
Insulation resistance	> 100MΩ
Operating temperature	-25°C to +55°C
Ingress protection	IP65 (EN 60529)
Duty cycle	50,000 (min)
Operating force	4N
Nut mounting torque	~ 0.6Nm
Panel thickness	1.0mm to 10.0mm
Body & button material	See ordering information
Contact material	Silver plated brass

Product Dimensions

All dimensions in mm

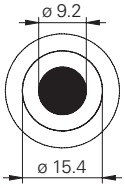
Side View



Front View (ring)



Front View (dot)

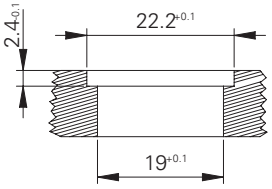


Circuit Diagram

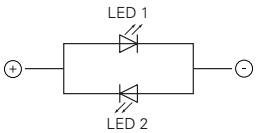


Form A

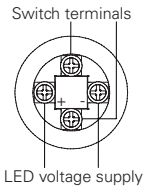
Mounting Dimensions



LED Circuit Diagram



Wiring Instructions



Ordering Information





Material
V2: Stainless steel[1]
AS: Black aluminium

LED
R: Ring
D: Dot

LED Colour
GN: Green
RD: Red
YL: Yellow
BL: Blue
WH: White
GR: Green/red[2]
BR: Blue/red[2]
GB: Green/blue[2]

LED Voltage
00: No resistor[3]
06: 6 volt
12: 12 volt
24: 24 volt

CMI21 / ☐ / F / ☐ / ☐ / ☐ / M / S / ST

[1] 1.4301
[2] 2 pins, colour change by swapping polarity
[3] Red, yellow: 1.8V | Green, blue, white: 2.8V (15mA)

CM22 19mm Vandalproof Pushbutton

19mm | **22mm** | **17.2mm** | **19.1mm** | **IP65**

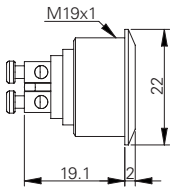
Specification

Termination	Screw or 2.8×0.5mm solder terminals
Switching function	Momentary
Configuration of poles	Single
Maximum load	2A, 36VDC
LED voltage	-
Contact resistance	< 50mΩ
Insulation resistance	> 100MΩ
Operating temperature	-25°C to +55°C
Ingress protection	IP65 (EN 60529)
Duty cycle	50,000 (min)
Operating force	4N
Nut mounting torque	~ 0.6Nm
Panel thickness	1.0mm to 6.0mm
Body & button material	See ordering information
Contact material	Silver plated brass

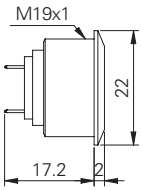
Product Dimensions

All dimensions in mm

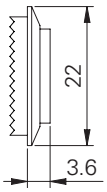
Screw Terminals Flat



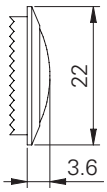
2.8mm Terminals Flat



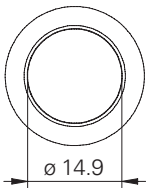
Raised



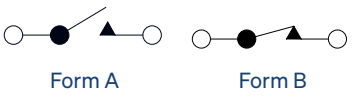
Domed



Front View (all versions)

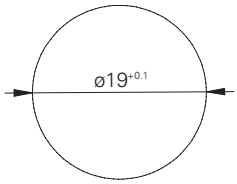


Circuit Diagram



Form A Form B

Mounting Dimensions



Ordering Information






Material
V2: Stainless steel[1]
AS: Black aluminium

Button
F: Flat
R: Raised
D: Domed

Switch Function
M: Momentary NO
N: Momentary NC

Terminations
20: 2.0mm solder tabs
ST: Screws

CM22 / □ / □ / □ / S / □

[1] 1.4301

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ENGELKING

CM23 19mm Vandalproof Pushbutton

19mm | **22mm** | **17.2mm** | **19.1mm** | **IP65**

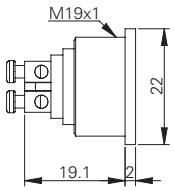
Specification

Termination	Screw or 2.0×0.5mm fast connect terminals
Switching function	Momentary
Configuration of poles	Single
Maximum load	2A, 36VDC
LED voltage	-
Contact resistance	< 50mΩ
Insulation resistance	> 100MΩ
Operating temperature	-25°C to +55°C
Ingress protection	IP65 (EN 60529)
Duty cycle	50,000 (min)
Operating force	4N
Nut mounting torque	~ 0.6Nm
Panel thickness	1.0mm to 6.0mm
Body & button material	See ordering information
Contact material	Silver plated brass

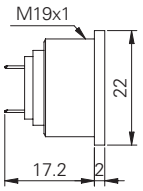
Product Dimensions

All dimensions in mm

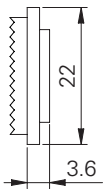
Screw Terminals Flat



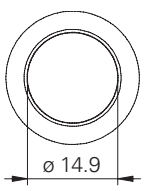
2.0mm Terminals Flat



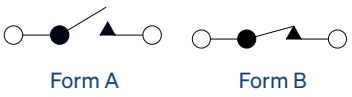
Raised



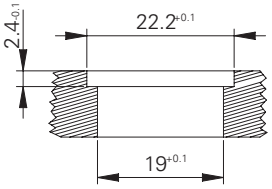
Front View (all versions)



Circuit Diagram



Mounting Dimensions



Ordering Information



Material
V2: Stainless steel[1]
AS: Black aluminium

Button
F: Flat
R: Raised
D: Domed

Switch Function
M: Momentary NO
N: Momentary NC

Terminations
20: 2.0mm solder tabs
ST: Screws

CM23 / □ / □ / □ / S / □

[1] 1.4301

CM25 19mm Vandalproof Pushbutton

19mm	22mm	33.5mm	39.5mm	IP65
		35mm	41mm	IP67

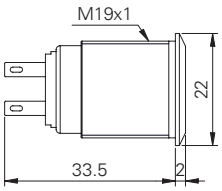
Specification

Termination	Screw or 2.8×0.5mm fast connect terminals
Switching function	Momentary or maintained
Configuration of poles	Single
Maximum load	5A, 48VAC
LED voltage	-
Contact resistance	< 50mΩ
Insulation resistance	> 100MΩ
Operating temperature	-25°C to +55°C
Ingress protection	IP67 (EN 60529) maintained: IP65
Duty cycle	50,000 (min)
Operating force	4N
Nut mounting torque	~ 0.8Nm
Panel thickness	1.0mm to 10.0mm
Body & button material	See ordering information
Contact material	Silver Alloy

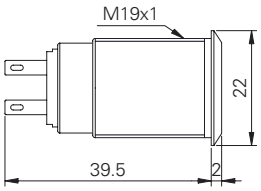
Product Dimensions

All dimensions in mm

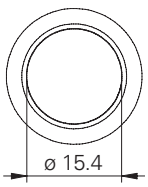
2.8mm Terminals Momentary



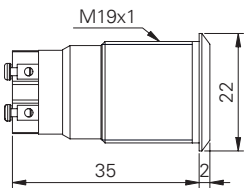
2.8mm Terminals Maintained



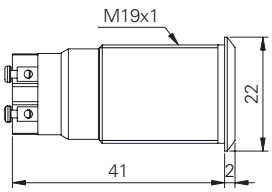
Front View



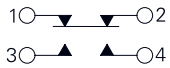
Screw Terminals Momentary



Screw Terminals Maintained

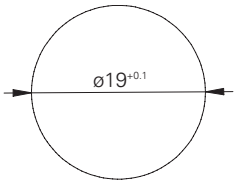


Circuit Diagram

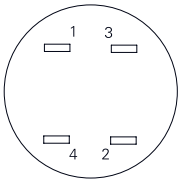


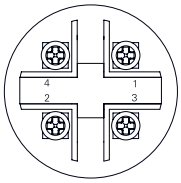
Form Z

Mounting Dimensions



Contact Arrangement





Ordering Information









Material
V2: Stainless steel[1]
AS: Black aluminium

Switch Function
M: Momentary
L: Maintained[2]

Termination
28: 2.8mm tabs
ST: Screws

CM25 / ☐ / F / ☐ / S / ☐

[1] 1.4301
[2] IP65 (EN60529)

Non rotating button available on request

CMI25 19mm Vandalproof Pushbutton

19mm	22mm	34.5mm	40.5mm	IP65	LED
		35mm	41mm	IP67	

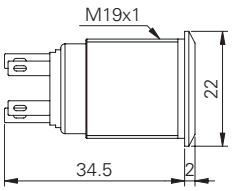
Specification

Termination	Screw or 2.8×0.5mm fast connect terminals
Switching function	Momentary or maintained
Configuration of poles	Single
Maximum load	5A, 48VAC
LED voltage	See ordering information
Contact resistance	< 50mΩ
Insulation resistance	> 100MΩ
Operating temperature	-25°C to +55°C
Ingress protection	IP67 (EN 60529) maintained: IP65
Duty cycle	50,000 (min)
Operating force	4N
Nut mounting torque	~ 0.8Nm
Panel thickness	1.0mm to 10.0mm
Body & button material	See ordering information
Contact material	Silver Alloy

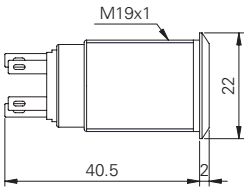
Product Dimensions

All dimensions in mm

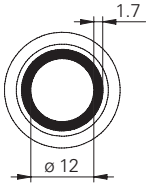
2.8mm Terminals Momentary



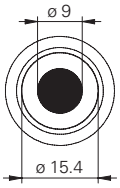
2.8mm Terminals Maintained



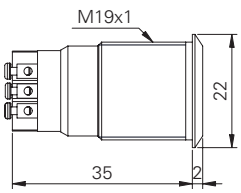
Front View (ring)



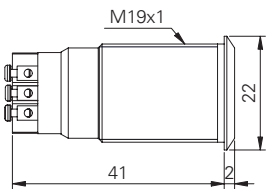
Front View (dot)



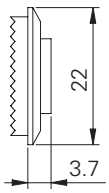
Screw Terminals Momentary



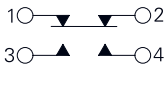
Screw Terminals Maintained



Raised

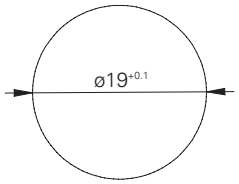


Circuit Diagram

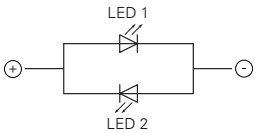


Form Z

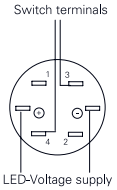
Mounting Dimensions

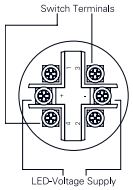


LED Circuit Diagram



Wiring Instructions





Ordering Information









Material
V2: Stainless steel[1]
AS: Black aluminium

Button
F: Flat
R: Raised[2]

LED
R: Ring
D: Dot
P: Power[3]
S: Powerring[3]
X: Custom[3]

LED Colour
GN: Green
RD: Red
YL: Yellow
BL: Blue
WH: White
GR: Green/red[4]
BR: Blue/red[4]
GB: Green/blue[4]

LED Voltage
00: No resistor[5]
06: 6 volt
12: 12 volt
24: 24 volt

Switch Function
M: Momentary
L: Maintained[3]

Terminations
28: 2.8mm tabs
ST: Screws

CMI25 / □ / □ / □ / □ / □ / □ / S / □

[1] 1.4301
[2] Only available with ring illumination
[3] IP65 (EN60529)
[4] 2 pins, colour change by swapping polarity
[5] Red, yellow: 1.8V | Green, blue, white: 2.8V (15mA)

Non rotating button available on request

CM26 19mm Vandalproof Pushbutton

19mm	22mm	33.5mm	39.5mm	IP65
		35mm	41mm	IP67

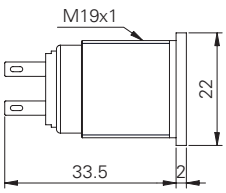
Specification

Termination	Screw or 2.8×0.5mm fast connect terminals
Switching function	Momentary or maintained
Configuration of poles	Single
Maximum load	5A, 48VAC
LED voltage	-
Contact resistance	< 50mΩ
Insulation resistance	> 100MΩ
Operating temperature	-25°C to +55°C
Ingress protection	IP67 (EN 60529) maintained: IP65
Duty cycle	50,000 (min)
Operating force	4N
Nut mounting torque	~ 0.8Nm
Panel thickness	1.0mm to 10.0mm
Body & button material	See ordering information
Contact material	Silver Alloy

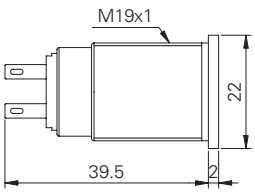
Product Dimensions

All dimensions in mm

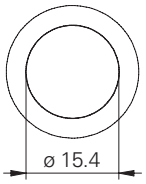
2.8mm Terminals Momentary



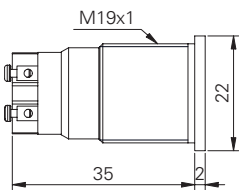
2.8mm Terminals Maintained



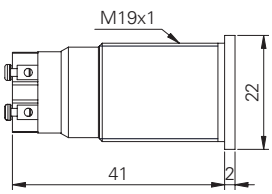
Front View



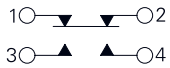
Screw Terminals Momentary



Screw Terminals Maintained

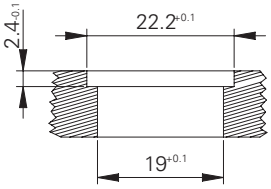


Circuit Diagram

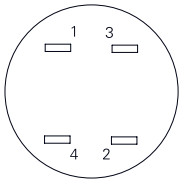


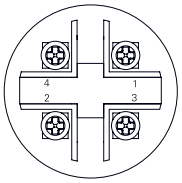
Form Z

Mounting Dimensions



Contact Arrangement





Ordering Information









Material
V2: Stainless steel[1]
AS: Black aluminium

Switch Function
M: Momentary
L: Maintained[2]

Termination
28: 2.8mm tabs
ST: Screws

CM26 / ☐ / F / ☐ / S / ☐

[1] 1.4301
[2] IP65 (EN60529)

Non rotating button available on request

CMI26 19mm Vandalproof Pushbutton

19mm	22mm	34.5mm	40.5mm	IP65	LED
		35mm	41mm	IP67	

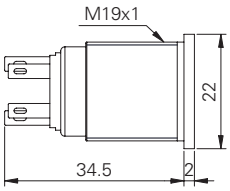
Specification

Termination	Screw or 2.8×0.5mm fast connect terminals
Switching function	Momentary or maintained
Configuration of poles	Single
Maximum load	5A, 48VAC
LED voltage	See ordering information
Contact resistance	< 50mΩ
Insulation resistance	> 100MΩ
Operating temperature	-25°C to +55°C
Ingress protection	IP67 (EN 60529) maintained: IP65
Duty cycle	50,000 (min)
Operating force	4N
Nut mounting torque	~ 0.8Nm
Panel thickness	1.0mm to 10.0mm
Body & button material	See ordering information
Contact material	Silver Alloy

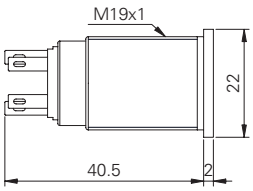
Product Dimensions

All dimensions in mm

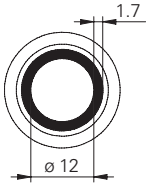
2.8mm Terminals Momentary



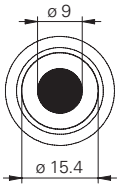
2.8mm Terminals Maintained



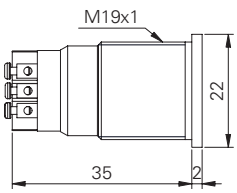
Front View (ring)



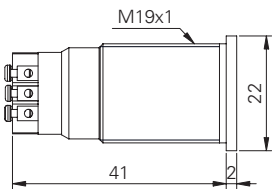
Front View (dot)



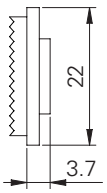
Screw Terminals Momentary



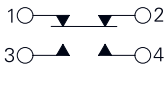
Screw Terminals Maintained



Raised

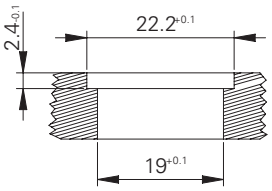


Circuit Diagram

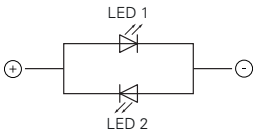


Form Z

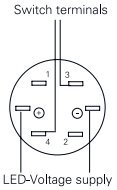
Mounting Dimensions

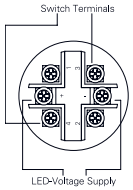


LED Circuit Diagram



Wiring Instructions



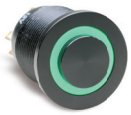


Ordering Information









Material
V2: Stainless steel[1]
AS: Black aluminium

Button
F: Flat
R: Raised[2]

LED
R: Ring
D: Dot
X: Custom[3]

LED Colour
GN: Green
RD: Red
YL: Yellow
BL: Blue
WH: White
GR: Green/red[4]
BR: Blue/red[4]
GB: Green/blue[4]

LED Voltage
00: No resistor[5]
06: 6 volt
12: 12 volt
24: 24 volt

Switch Function
M: Momentary
L: Maintained[3]

Terminations
28: 2.8mm tabs
ST: Screws

CMI26 / □ / □ / □ / □ / □ / □ / S / □

[1] 1.4301
[2] Only available with ring illumination
[3] IP65 (EN60529)
[4] 2 pins, colour change by swapping polarity
[5] Red, yellow: 1.8V | Green, blue, white: 2.8V (15mA)

Non rotating button available on request

CM02 19mm Vandalproof Pushbutton

19mm | ∅ 22mm | 32.1mm | IP65 | 36mm

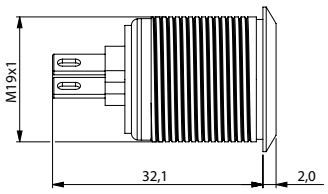
Specification

Termination	Screw or 2.8×0.8mm solder terminals
Switching function	Momentary
Configuration of poles	Single
Maximum load	50mA, 24VDC
LED voltage	-
Contact resistance	< 100mΩ
Insulation resistance	> 1000MΩ
Operating temperature	-20°C to +55°C
Ingress protection	IP65
Duty cycle	50,000 (min)
Operating force	8N
Nut mounting torque	~ 0.57Nm
Panel thickness	1.0mm to 10.0mm
Body & button material	Stainless steel
Contact material	Silver Alloy

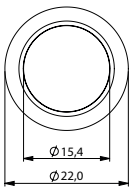
Product Dimensions

All dimensions in mm

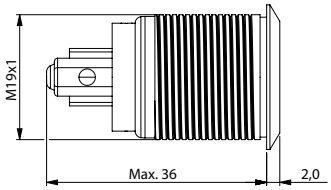
2.8mm Terminals



Front View



Screw Terminal

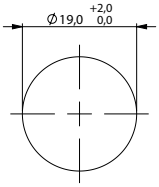


Circuit Diagram

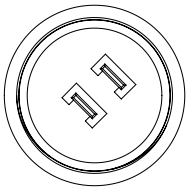


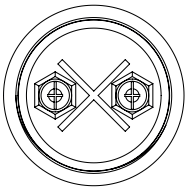
Form A

Mounting Dimensions



Contact Arrangement





Ordering Information

Termination
28: 2.8mm tabs
ST: Screws

CM02 / V2 / F / M / S / ☐

CM102 19mm Vandalproof Pushbutton

19mm	22mm	32.1mm	IP65	LED
		36mm		

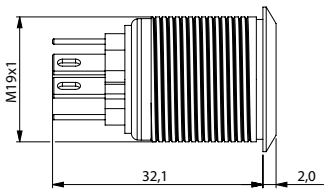
Specification

Termination	Screw or 2.8×0.8mm solder terminals
Switching function	Momentary
Configuration of poles	Single
Maximum load	50mA, 24VDC
LED voltage	See ordering information
Contact resistance	< 100mΩ
Insulation resistance	> 1000MΩ
Operating temperature	-20°C to +55°C
Ingress protection	IP65
Duty cycle	50,000 (min)
Operating force	8N
Nut mounting torque	~ 0.57Nm
Panel thickness	1.0mm to 10.0mm
Body & button material	See ordering information
Contact material	Silver Alloy

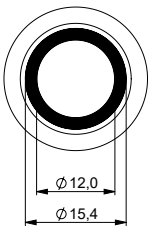
Product Dimensions

All dimensions in mm

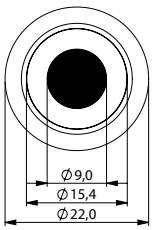
2.8mm Terminals



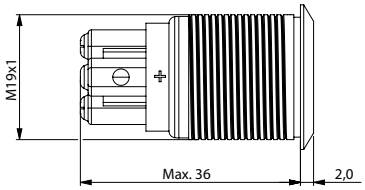
Front View (ring)



Front View (dot)



Screw Terminal

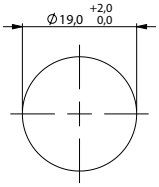


Circuit Diagram

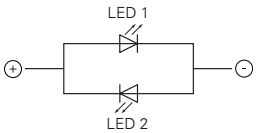


Form A

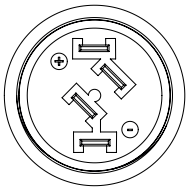
Mounting Dimensions

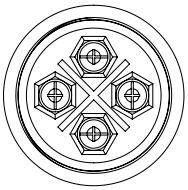


LED Circuit Diagram



Contact Arrangement





Ordering Information









Material
V2: Stainless steel[1]
AS: Black aluminium[2]

LED
R: Ring
D: Dot
P: Power
S: Powerring

LED Colour
GN: Green
RD: Red
YL: Yellow
BL: Blue
WH: White
OR: Orange
GR: Green/red[3]
BR: Blue/red[3]
GB: Green/blue[3]

LED Voltage
00: No resistor[4]
03: 3.3 volt
06: 6 volt
12: 12 volt
24: 24 volt
36: 36 volt

Termination
28: 2.8mm tabs
ST: Screws

CMI02 / ☐ / F / ☐ / ☐ / ☐ / M / S / ☐

[1] 1.4301
[2] Only with ring illumination
[3] 2 pins, colour change by swapping polarity
[4] Red, yellow, orange: 1.8V | Green, blue, white: 2.8V (15mA)

CM30 19mm Vandalproof Pushbutton

19mm	22mm	36.7mm	IP67	

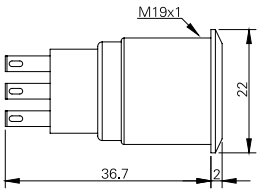
Specification

Termination	2.8×0.5mm fast connect terminals
Switching function	Momentary or maintained
Configuration of poles	Single or double
Maximum load	5A, 48VAC
LED voltage	-
Contact resistance	< 50mΩ
Insulation resistance	> 1000MΩ
Operating temperature	-25°C to +55°C
Ingress protection	IP67 (EN60529)
Duty cycle	50,000 (min)
Operating force	3 ~ 5N
Nut mounting torque	~ 0.8Nm
Panel thickness	1.0mm to 10.0mm
Body & button material	See ordering information
Contact material	Silver Alloy

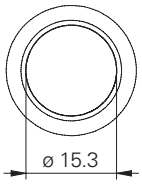
Product Dimensions

All dimensions in mm

Side View



Front View

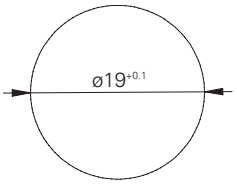


Circuit Diagram

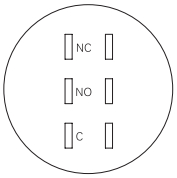


Form C

Mounting Dimensions



Contact Arrangement



Ordering Information





Material
V2: Stainless steel[1]
AS: Black aluminium

Switch Function
M: Momentary
L: Maintained

Poles
S: Single
D: Double

CM30 / ☐ / F / ☐ / ☐ / 28

[1] 1.4301

CMI30 19mm Vandalproof Pushbutton

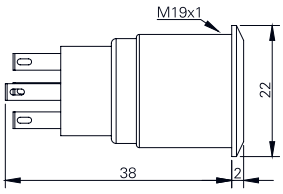
19mm	22mm	38mm	IP67	LED	

Specification

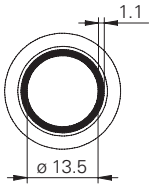
Termination	2.8×0.5mm fast connect terminals
Switching function	Momentary or maintained
Configuration of poles	Single or double
Maximum load	5A, 48VAC
LED voltage	See ordering information
Contact resistance	< 50mΩ
Insulation resistance	> 1000MΩ
Operating temperature	-25°C to +55°C
Ingress protection	IP67 (EN 60529)
Duty cycle	50,000 (min)
Operating force	3 ~ 5N
Nut mounting torque	~ 0.8Nm
Panel thickness	1.0mm to 10.0mm
Body & button material	See ordering information
Contact material	Silver Alloy

Product Dimensions

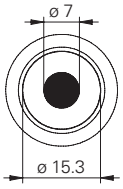
All dimensions in mm



Front View (ring)



Front View (dot)

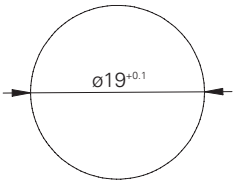


Circuit Diagram

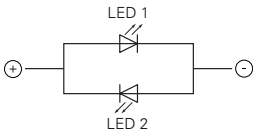


Form C

Mounting Dimensions

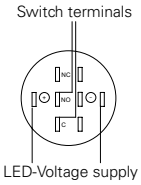


LED Circuit Diagram

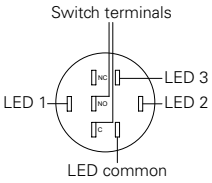


Wiring Instructions

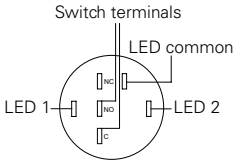
2 LED pins



4 LED pins (RGB)[5]



3 LED pins (bi-colour)[4]



Ordering Information






Material
- V2: Stainless steel[1]
- AS: Black aluminium

LED
- R: Ring
- D: Dot
- P: Power
- S: Powerring
- X: Custom[2]

LED Colour
- GN: Green
- RD: Red
- YL: Yellow
- BL: Blue
- WH: White
- GR: Green/red[3]
- BR: Blue/red[3]
- GB: Green/blue[3]
- 01: Green/red[4,7]
- 02: Green/blue[4,7]
- 03: Blue/red[4,7]
- 10: RGB common annode[5,7]
- 11: RGB common cathode[5,7]

LED Voltage
- 00: No resistor[6]
- 06: 6 volt
- 12: 12 volt
- 24: 24 volt

Switch Function
- M: Momentary
- L: Maintained

Poles
- S: Single
- D: Double

CMI30 / □ / F / □ / □ / □ / □ / □ / 28

[1] 1.4301
[2] IP65 (EN60529)
[3] 2 pins, colour change by swapping polarity
[4] 3 pins for LED connection (one per colour and common cathode (common anode available on request))
[5] Red/green/blue, 4 pins for LED connection (one per colour and common)
[6] Red, yellow: 1.8V | Green, blue, white: 2.8V (15mA)
[7] Only available with single pole

Rev. 8 | Engelking retains the right to change the specifications at any time without prior notice.

CM31 19mm Vandalproof Pushbutton

19mm	22mm	36.7mm	IP67	

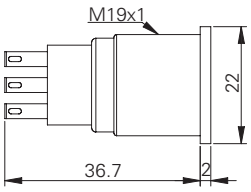
Specification

Termination	2.8×0.5mm fast connect terminals
Switching function	Momentary or maintained
Configuration of poles	Single or double
Maximum load	50A, 48VAC
LED voltage	-
Contact resistance	< 50mΩ
Insulation resistance	> 1000MΩ
Operating temperature	-25°C to +55°C
Ingress protection	IP67 (EN60529)
Duty cycle	50,000 (min)
Operating force	3 ~ 5N
Nut mounting torque	~ 0.8Nm
Panel thickness	1.0mm to 10.0mm
Body & button material	See ordering information
Contact material	Silver Alloy

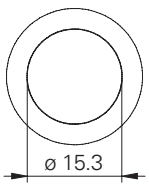
Product Dimensions

All dimensions in mm

Side View



Front View

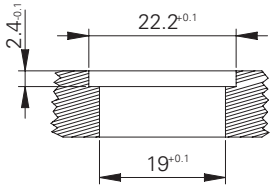


Circuit Diagram

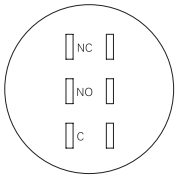


Form C

Mounting Dimensions



Contact Arrangement



Ordering Information





Material
V2: Stainless steel[1]
AS: Black aluminium

Switch Function
M: Momentary
L: Maintained

Poles
S: Single
D: Double

CM31 / □ / F / □ / □ / 28

[1] 1.4301

CMI31 19mm Vandalproof Pushbutton

19mm	22mm	38mm	IP67	LED	

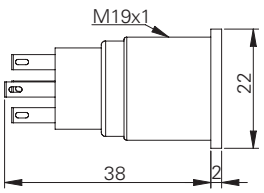
Specification

Termination	2.8×0.5mm fast connect terminals
Switching function	Momentary or maintained
Configuration of poles	Single or double
Maximum load	5A, 48VAC
LED voltage	See ordering information
Contact resistance	< 50mΩ
Insulation resistance	> 1000MΩ
Operating temperature	-25°C to +55°C
Ingress protection	IP67 (EN 60529)
Duty cycle	50,000 (min)
Operating force	3 ~ 5N
Nut mounting torque	~ 0.8Nm
Panel thickness	1.0mm to 10.0mm
Body & button material	See ordering information
Contact material	Silver Alloy

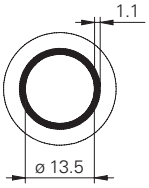
Product Dimensions

All dimensions in mm

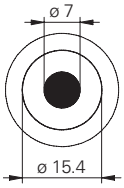
Side View



Front View (ring)



Front View (dot)

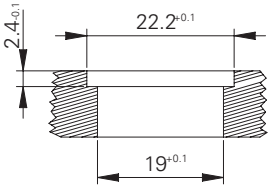


Circuit Diagram

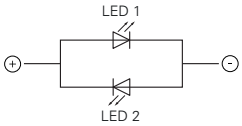


Form C

Mounting Dimensions

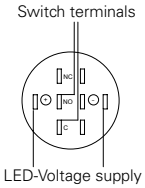


LED Circuit Diagram

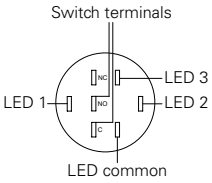


Wiring Instructions

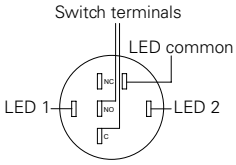
2 LED pins



4 LED pins (RGB)[5]



3 LED pins (bi-colour)[4]



Ordering Information







Material
V2: Stainless steel[1]
AS: Black aluminium

LED
R: Ring
D: Dot
X: Custom[2]

LED Colour
GN: Green
RD: Red
YL: Yellow
BL: Blue
WH: White
GR: Green/red[3]
BR: Blue/red[3]
GB: Green/blue[3]
01: Green/red[4,7]
02: Green/blue[4,7]
03: Blue/red[4,7]
11: RGB[5,7]

LED Voltage
00: No resistor[6]
06: 6 volt
12: 12 volt
24: 24 volt

Switch Function
M: Momentary
L: Maintained

Poles
S: Single
D: Double

CMI31 / ☐ / F / ☐ / ☐ / ☐ / ☐ / ☐ / 28

[1] 1.4301
[2] IP65 (EN60529)
[3] 2 pins, colour change by swapping polarity
[4] 3 pins for LED connection (one per colour and common cathode (common anode available on request))
[5] Red/green/blue, 4 pins for LED connection (one per colour and common cathode (common anode available on request))
[6] Red, yellow: 1.8V | Green, blue, white: 2.8V (15mA)
[7] Only available with single pole

Rev. 4 | Engelking retains the right to change the specifications at any time without prior notice.

CM27 19mm Vandalproof Pushbutton

19mm	22mm	44.9mm	IP65
		51.2mm	IP67

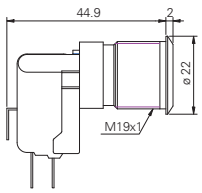
Specification

Termination	4.8×0.5mm fast connect terminals
Switching function	Momentary or maintained
Configuration of poles	Single
Maximum load	16A, 250VAC (resistive)
LED voltage	-
Contact resistance	< 50mΩ
Insulation resistance	> 100MΩ
Operating temperature	-25°C to +55°C
Ingress protection	IP67 (EN 60529) maintained: IP65
Duty cycle	50,000 (min)
Operating force	4N
Nut mounting torque	~ 0.6Nm
Panel thickness	1.0mm to 8.0mm
Body & button material	See ordering information
Contact material	Silver Alloy

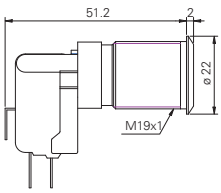
Product Dimensions

All dimensions in mm

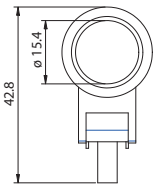
Momentary



Maintained



Front View

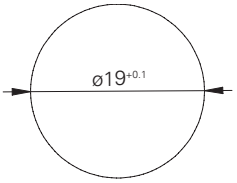


Circuit Diagram

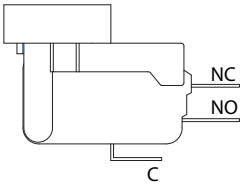


Form C

Mounting Dimensions



Contact Arrangement



Ordering Information

Material
V2: Stainless steel[1]
AS: Black aluminium

Switch Function
M: Momentary
L: Maintained[2]

CM27 / ☐ / F / ☐ / S / 48

[1] 1.4301
[2] IP65 (EN60529)

Non rotating button available on request

CMI27 19mm Vandalproof Pushbutton

19mm	22mm	44.9mm	IP65	LED
		51.2mm	IP67	

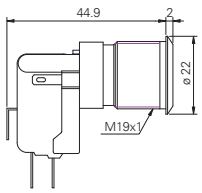
Specification

Termination	4.8×0.5 + 2.8×0.5mm fast connect terminals
Switching function	Momentary or maintained
Configuration of poles	Single
Maximum load	16A, 250VAC
LED voltage	See ordering information
Contact resistance	< 50mΩ
Insulation resistance	> 1000MΩ
Operating temperature	-25°C to +55°C
Ingress protection	IP67 (EN 60529) maintained: IP65
Duty cycle	50,000 (min)
Operating force	4N
Nut mounting torque	~ 0.8Nm
Panel thickness	1.0mm to 8.0mm
Body & button material	See ordering information
Contact material	Silver Alloy

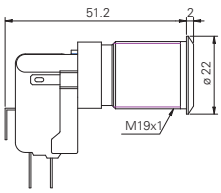
Product Dimensions

All dimensions in mm

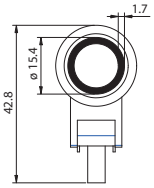
Momentary



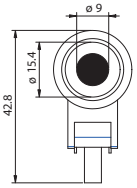
Maintained



Front View (ring)



Front View (dot)

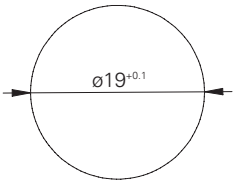


Circuit Diagram

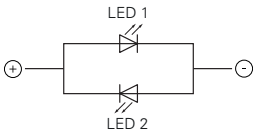


Form C

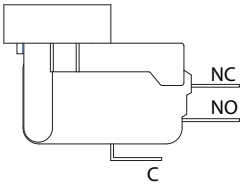
Mounting Dimensions

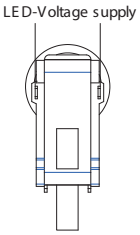


LED Circuit Diagram



Wiring Instructions





Ordering Information



Material
V2: Stainless steel[1]
AS: Black aluminium

LED
R: Ring
D: Dot
S: Powerring[2]
X: Custom[2]

LED Colour
GN: Green
RD: Red
YL: Yellow
BL: Blue
WH: White
GR: Green/red[3]
BR: Blue/red[3]
GB: Green/blue[3]

LED Voltage
00: No resistor[4]
06: 6 volt
12: 12 volt
24: 24 volt

Switch Function
M: Momentary
L: Maintained[2]

CMI27 / □ / F / □ / □ / □ / □ / S / 48

[1] 1.4301
[2] IP65 (EN60529)
[3] 2 pins, colour change by swapping polarity
[4] Red, yellow: 1.8V | Green, blue, white: 2.8V (15mA)

Non rotating button available on request

CM32 22mm Vandalproof Pushbutton

22mm	25mm	13.2mm	IP67

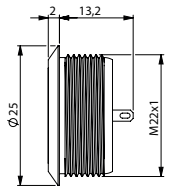
Specification

Termination	2.0×0.5mm solder terminals
Switching function	Momentary
Configuration of poles	Single
Maximum load	50mA, 24VDC
LED voltage	-
Contact resistance	< 50mΩ
Insulation resistance	> 1000MΩ
Operating temperature	-25°C to +55°C
Ingress protection	IP67 (EN 60529)
Duty cycle	50,000 (min)
Operating force	4N
Nut mounting torque	5-14Nm
Panel thickness	1.0mm to 3.0mm
Body & button material	See ordering information
Contact material	Gold plated brass

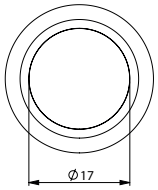
Product Dimensions

All dimensions in mm

Flat



Front View (all versions)

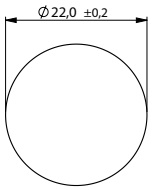


Circuit Diagram



Form A

Mounting Dimensions



Ordering Information



Material
V2: Stainless steel[1]

CM32 / ▭ / F / M / S / 20

[1] 1.4301

CMI32 22mm Vandalproof Pushbutton

22mm	25mm	13.2mm	IP67

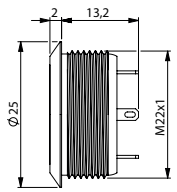
Specification

Termination	2.0×0.5mm solder terminals
Switching function	Momentary
Configuration of poles	Single
Maximum load	50mA, 24VDC
LED voltage	See ordering information
Contact resistance	< 50mΩ
Insulation resistance	> 1000MΩ
Operating temperature	-25°C to +55°C
Ingress protection	IP67 (EN 60529)
Duty cycle	50,000 (min)
Operating force	4N
Nut mounting torque	5-14Nm
Panel thickness	1.0mm to 3.0mm
Body & button material	See ordering information
Contact material	Gold plated brass

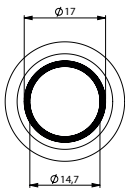
Product Dimensions

All dimensions in mm

Flat



Front View (all versions)

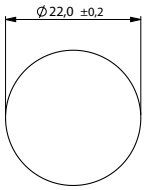


Circuit Diagram

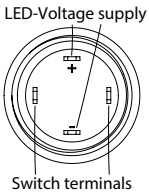


Form A

Mounting Dimensions

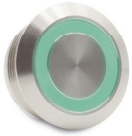


Wiring Instructions



Ordering Information






Material
V2: Stainless steel[1]

LED Colour
GN: Green
RD: Red
YL: Yellow
BL: Blue
WH: White

LED Voltage
03: 3 volt
06: 6 volt
12: 12 volt
24: 24 volt

CMI32 / ☐ / F / R / ☐ / ☐ / M / S / 20

[1] 1.4301

CM58 22mm Vandalproof Pushbutton

22mm	25mm	23.5mm	IP67

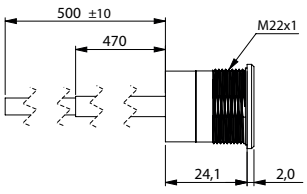
Specification

Termination	50cm flying leads
Switching function	Momentary or maintained
Configuration of poles	Single
Maximum load	10mA, 12VDC
LED voltage	-
Contact resistance	< 50mΩ
Insulation resistance	> 1000MΩ
Operating temperature	-25°C to +85°C
Ingress protection	IP67 (EN 60529)
Duty cycle	20,000 (min)
Operating force	3N
Nut mounting torque	1.2Nm
Panel thickness	1.3mm to 3.8mm
Body & button material	See ordering information
Contact material	See ordering information

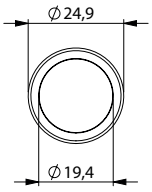
Product Dimensions

All dimensions in mm

Flying Leads



Front View

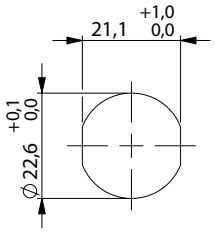


Circuit Diagram



Form A

Mounting Dimensions



Ordering Information



Material
V2: Stainless steel[1]
AN: Silver aluminium

Switch Function
M: Momentary
L: Maintained

CM58 / □ / F / □ / S / L4

[1] 1.4301

CMI58 22mm Vandalproof Pushbutton

22mm	25mm	23.5mm	IP67

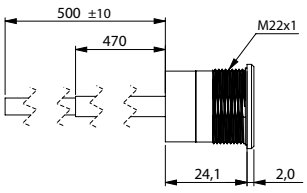
Specification

Termination	50cm flying leads
Switching function	Momentary or maintained
Configuration of poles	Single
Maximum load	10mA, 12VDC
LED voltage	See ordering information
Contact resistance	< 50mΩ
Insulation resistance	> 1000MΩ
Operating temperature	-25°C to +85°C
Ingress protection	IP67 (EN 60529)
Duty cycle	20,000 (min)
Operating force	3N
Nut mounting torque	1.2Nm
Panel thickness	1.3mm to 3.8mm
Body & button material	See ordering information
Contact material	See ordering information

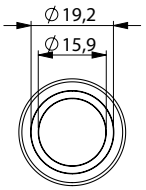
Product Dimensions

All dimensions in mm

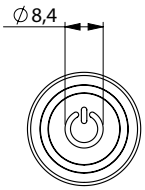
Flying Leads



Front View (ring)



Front View (power)



ILLU. TYPE CODE	ILLUMINATION TYPE DESCRIPTION
2	RING ILLUMINATION
3	POWER/STANDBY SYMBOL ILLUMINATION

LED COLOR CODE	LED COLOR
RGB	RED/GREEN/BLUE

LED INLET VOLTAGE CODE	LED INLET VOLTAGE
IF BLANK*	(SEE NOTE)
05	5V
12	12V
24	24V

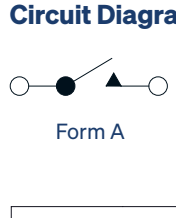
LED COLOR CODE	LED COLOR
RGB	RED/GREEN/BLUE

LED INLET VOLTAGE CODE	LED INLET VOLTAGE
IF BLANK*	(SEE NOTE)
05	5V
12	12V
24	24V

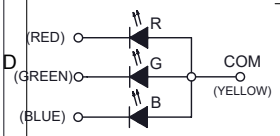
Circuit Diagram

Form A

Mounting Dimensions



LED SPECIFICATION					
LED CODE	LED Vf (VDC) Color RED (TYP.)	Color GREEN (TYP.)	Color BLUE (TYP.)	If (mA)	CIRCUITRY
RGB (COMMON ANODE)	2.1	3	3	20	
RGB05 (COMMON ANODE)	5	5	5	20	
RGB12 (COMMON ANODE)	12	12	12	20	
RGB24 (COMMON ANODE)	24	24	24	20	



Wiring Instructions

Switch wire

Switch wire

LED colour 1 wire for +LED

LED colour 1 wire for -LED

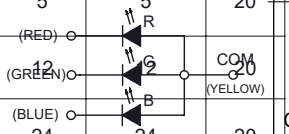
if the switch has two LED colours, additionally:

LED colour 2 wire for +LED

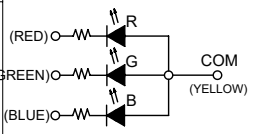
LED colour 2 wire for -LED

RGB Wiring

without resistor



with resistor



WIRELEADS SPECIFICATION										
WIRELEADS TYPE	WIRELEADS SPECIFICATION							LED		
							COM(+)	RED(-)	GREEN(-)	BLUE(-)
ILLUMINATION	AWG26 / UL1007	WHITE	WHITE	YELLOW	RED	GREEN	BLUE	RED	GREEN	BLUE

Ordering Information

DRAWING	DRAWN T.S.	TOLERANCES: UNLESS OTHERWISE NOTED X.X ± 0.5 X.XX ± 0.38 ANGULAR ± 5°	DWG TITLE W58M-MECHANICAL MOMENTARY/MAINTAIN, RGB ILLUMINATION							
ASE	REVIEW --	WIRELEADS SPECIFICATION								
	APPROVED V.W.	WIRELEADS SPECIFICATION	DWG NO. W58M-A,B-RGB							
	REF:	AWG26 / UL1007	WHITE	WHITE	YELLOW	RED	GREEN	BLUE		
			■ 管制文件 □ 非管制文件		Unit mm	SCALE 3 : 2	REV 1			

Material	LED	LED Colour	RoHS Compliant	LED Voltage	Switch Function
V2: Stainless Steel	R: R			05: 5 volt	M: Momentary
AN: Silver aluminium	P: P			12: 12 volt	L: Maintained
				24: 24 volt	

DWG TITLE					
W58M-MECHANICAL MOMENTARY/MAINTAIN, RGB ILLUMINATION					
DWG NO. W58M-A,B-RGB					
■ 管制文件 □ 非管制文件	Unit mm	SCALE 3 : 2	REV 1	RoHS Compliant	SHEET 1 OF 3

60: Green/red
62: Blue/green
10: RGB common anode

CMI58 / ☐ / F / ☐ / ☐ / ☐ / ☐ / S / L4

1 1.4301

CM35 22mm Vandalproof Pushbutton

22mm	25mm	34.8mm	40.3mm	IP65
		35.3mm	41mm	IP67

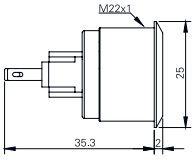
Specification

Termination	Screw or 2.8×0.5mm fast connect terminals
Switching function	Momentary or maintained
Configuration of poles	Single or double
Maximum load	5A, 48VAC
LED voltage	-
Contact resistance	< 50mΩ
Insulation resistance	> 100MΩ
Operating temperature	-25°C to +55°C
Ingress protection	IP67 (EN 60529) maintained: IP65
Duty cycle	50,000 (min)
Operating force	4N
Nut mounting torque	~ 0.6Nm
Panel thickness	1.0mm to 8.0mm
Body & button material	See ordering information
Contact material	Silver Alloy

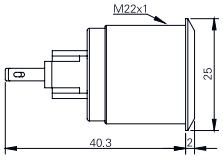
Product Dimensions

All dimensions in mm

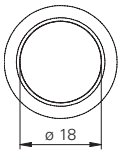
2.8mm Terminals Momentary



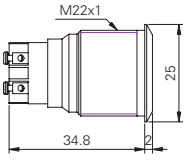
2.8mm Terminals Maintained



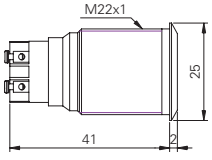
Front View (all versions)



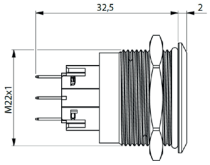
Screw Terminals Momentary



Screw Terminals Maintained



Double pole

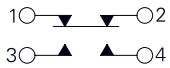


ENGELKING

c UL us

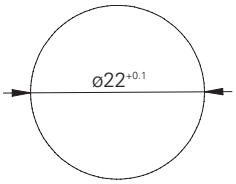
Only certain variants, see file number E504292 for details

Circuit Diagram

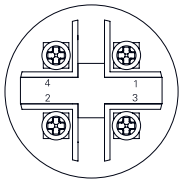


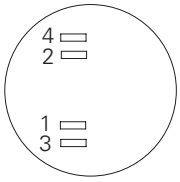
Form Z

Mounting Dimensions



Contact Arrangement





Ordering Information







Material
V2: Stainless steel[1]
AS: Black aluminium

Switch Function
M: Momentary
L: Maintained[2]

Poles
S: Single
D: Double

Termination
28: 2.8mm tabs
ST: Screws[3]

CM35 / ☐ / F / ☐ / ☐ / ☐

[1] 1.4301
[2] IP65 (EN60529)
[3] Only available for single pole

Non rotating button available on request

CMI35 22mm Vandalproof Pushbutton

22mm	25mm	34.8mm	40.3mm	IP65	LED
		35.3mm	41mm	IP67	

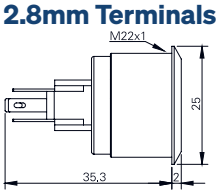
Specification

Termination	Screw or 2.8×0.5mm fast connect terminals
Switching function	Momentary or maintained
Configuration of poles	Single or double
Maximum load	5A, 48VAC
LED voltage	See ordering information
Contact resistance	< 50mΩ
Insulation resistance	> 100MΩ
Operating temperature	-25°C to +55°C
Ingress protection	IP67 (EN 60529) maintained: IP65
Duty cycle	50,000 (min)
Operating force	4N
Nut mounting torque	~ 0.6Nm
Panel thickness	1.0mm to 8.0mm
Body & button material	See ordering information
Contact material	Silver Alloy

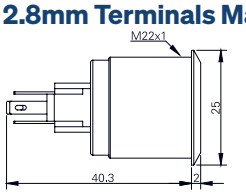
Product Dimensions

All dimensions in mm

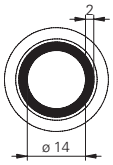
2.8mm Terminals Momentary



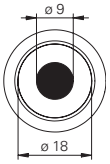
2.8mm Terminals Maintained



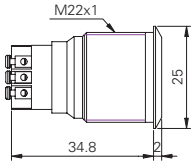
Front View (ring)



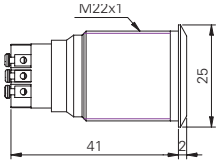
Front View (dot)



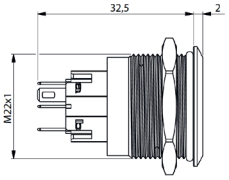
Screw Terminals Momentary



Screw Terminals Maintained



Double pole



Front View (powerring)



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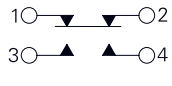
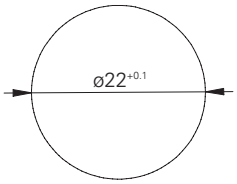
Only certain variants, see file number E504292 for details

Circuit Diagram

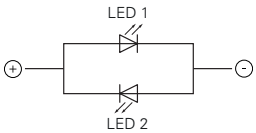


Form Z

Mounting Dimensions

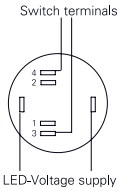


LED Circuit Diagram

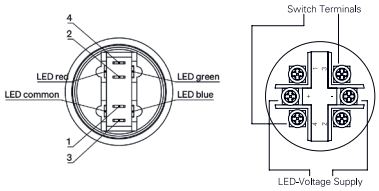


Wiring Instructions

2 LED pins



3&4 LED pins[4,5]



Ordering Information









Material
V2: Stainless steel[1]
AS: Black aluminium

LED
R: Ring
D: Dot
S: Powerring[2]
X: Custom[2]

LED Colour
GN: Green
RD: Red
YL: Yellow
BL: Blue
WH: White
GR: Green/red[3]
BR: Blue/red[3]
GB: Green/blue[3]
01: Green/red[4,7]
02: Green/blue[4,7]
03: Blue/red[4,7]
11: RGB[5,7]

LED Voltage
00: No resistor[6]
06: 6 volt
12: 12 volt
24: 24 volt

Switch Function
M: Momentary
L: Maintained[2]

Poles
S: Single
D: Double

Termination
28: 2.8mm tabs
ST: Screws[8]

CMI35 / □ / F / □ / □ / □ / □ / □ / □

[1] 1.4301
[2] IP65 (EN60529)
[3] 2 pins, colour change by swapping polarity
[4] 3 pins for LED connection (one per colour and common cathode (common anode available on request))
[5] Red/green/blue, 4 pins for LED connection (one per colour and common cathode (common anode available on request))
[6] Red, yellow: 1.8V | Green, blue, white: 2.8V (15mA)
[7] Only available with solder terminals
[8] Only available for single pole

Non rotating button available on request

Rev. 8 | Engelking retains the right to change the specifications at any time without prior notice.

CM36 22mm Vandalproof Pushbutton

22mm	25mm	35.3mm	IP65
		40.3mm	IP67

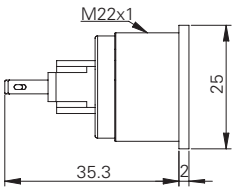
Specification

Termination	2.8×0.5mm fast connect terminals
Switching function	Momentary or maintained
Configuration of poles	Single
Maximum load	5A, 48VAC
LED voltage	-
Contact resistance	< 50mΩ
Insulation resistance	> 100MΩ
Operating temperature	-25°C to +55°C
Ingress protection	IP67 (EN 60529) maintained: IP65
Duty cycle	50,000 (min)
Operating force	4N
Nut mounting torque	~ 0.6Nm
Panel thickness	1.0mm to 8.0mm
Body & button material	See ordering information
Contact material	Silver Alloy

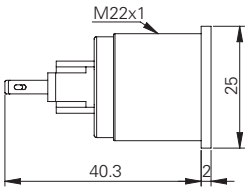
Product Dimensions

All dimensions in mm

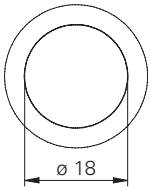
Momentary



Maintained



Front View (all versions)



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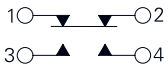
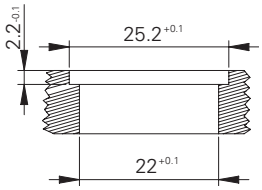
c UL us
Only certain variants, see file number E504292 for details

Circuit Diagram

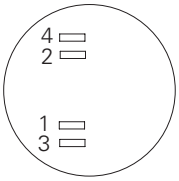


Form Z

Mounting Dimensions



Contact Arrangement



Ordering Information





Material
V2: Stainless steel[1]
AS: Black aluminium

Switch Function
M: Momentary
L: Maintained[2]

CM36 / ☐ / F / ☐ / S / 28

[1] 1.4301
[2] IP65 (EN60529)

Non rotating button available on request

CMI36 22mm Vandalproof Pushbutton

22mm	25mm	35.3mm	IP65	LED
		40.3mm	IP67	

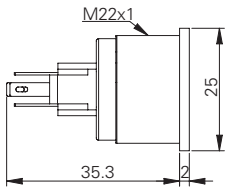
Specification

Termination	2.8×0.5mm fast connect terminals
Switching function	Momentary or maintained
Configuration of poles	Single
Maximum load	5A, 48VAC
LED voltage	See ordering information
Contact resistance	< 50mΩ
Insulation resistance	> 100MΩ
Operating temperature	-25°C to +55°C
Ingress protection	IP67 (EN 60529) maintained: IP65
Duty cycle	50,000 (min)
Operating force	4N
Nut mounting torque	~ 0.6Nm
Panel thickness	1.0mm to 8.0mm
Body & button material	See ordering information
Contact material	Silver Alloy

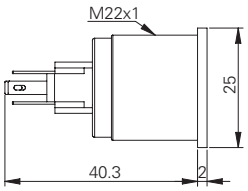
Product Dimensions

All dimensions in mm

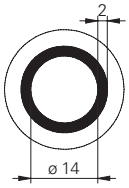
2.8mm Terminals Momentary



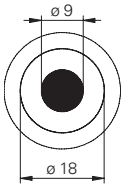
2.8mm Terminals Maintained



Front View (ring)



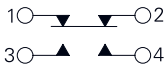
Front View (dot)



ENGELKING

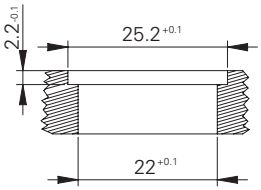
c UL us
Only certain variants, see file number E504292 for details

Circuit Diagram

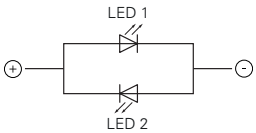


Form Z

Mounting Dimensions

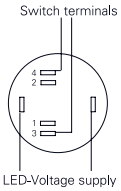


LED Circuit Diagram

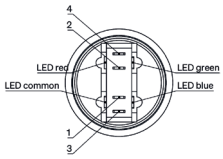


Wiring Instructions

2 LED pins



3&4 LED pins[4,5]



Ordering Information






Material
V2: Stainless steel[1]
AS: Black aluminium

LED
R: Ring
D: Dot
X: Custom[2]

LED Colour
GN: Green
RD: Red
YL: Yellow
BL: Blue
WH: White
GR: Green/red[3]
BR: Blue/red[3]
GB: Green/blue[3]
01: Green/red[4]
02: Green/blue[4]
03: Blue/red[4]
11: RGB[5]

LED Voltage
00: No resistor[6]
06: 6 volt
12: 12 volt
24: 24 volt

Switch Function
M: Momentary
L: Maintained[2]

CMI36 / □ / F / □ / □ / □ / □ / S / 28

[1] 1.4301
[2] IP65 (EN60529)
[3] 2 pins, colour change by swapping polarity
[4] 3 pins for LED connection (one per colour and common cathode (common anode available on request))
[5] Red/green/blue, 4 pins for LED connection (one per colour and common cathode (common anode available on request))
[6] Red, yellow: 1.8V | Green, blue, white: 2.8V (15mA)

Non rotating button available on request

CM37 22mm Vandalproof Pushbutton

22mm	25mm	25.3mm	IP65

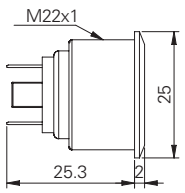
Specification

Termination	2.8×0.5mm fast connect terminals or screw terminals
Switching function	Momentary
Configuration of poles	Single
Maximum load	2A, 36VAC
LED voltage	-
Contact resistance	< 50mΩ
Insulation resistance	> 1000MΩ
Operating temperature	-20°C to +55°C
Ingress protection	IP65 (EN60529)
Duty cycle	200,000 (min)
Operating force	4N
Nut mounting torque	5 ~ 14Nm
Panel thickness	1.0mm to 10.0mm
Body & button material	See ordering information
Contact material	Silver Alloy

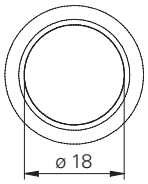
Product Dimensions

All dimensions in mm

Side View



Front View

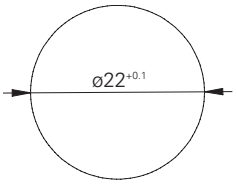


Circuit Diagram



Form A

Mounting Dimensions



Ordering Information



Material
V2: Stainless steel[1]
AS: Black aluminium

CM37 / ▭ / F / M / S / 28

[1] 1.4301

CM42 25mm Vandalproof Pushbutton

25mm	28mm	12.5mm	IP67

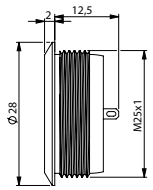
Specification

Termination	2.0×0.5mm solder terminals
Switching function	Momentary
Configuration of poles	Single
Maximum load	50mA, 24VDC
LED voltage	-
Contact resistance	< 50mΩ
Insulation resistance	> 1000MΩ
Operating temperature	-25°C to +55°C
Ingress protection	IP67 (EN 60529)
Duty cycle	50,000 (min)
Operating force	4N
Nut mounting torque	5-14Nm
Panel thickness	1.0mm to 3.0mm
Body & button material	See ordering information
Contact material	Gold plated brass

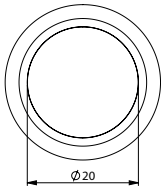
Product Dimensions

All dimensions in mm

Flat



Front View (all versions)

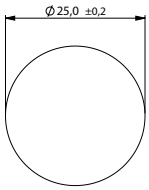


Circuit Diagram



Form A

Mounting Dimensions



Ordering Information



Material
V2: Stainless steel[1]
AS: Black aluminium

CM42 / ▭ / F / M / S / 20

[1] 1.4301

CMI42 25mm Vandalproof Pushbutton

25mm	28mm	12.5mm	IP67

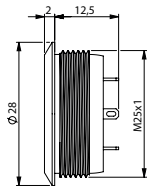
Specification

Termination	2.0×0.5mm solder terminals
Switching function	Momentary
Configuration of poles	Single
Maximum load	50mA, 24VDC
LED voltage	See ordering information
Contact resistance	< 50mΩ
Insulation resistance	> 1000MΩ
Operating temperature	-25°C to +55°C
Ingress protection	IP67 (EN 60529)
Duty cycle	50,000 (min)
Operating force	4N
Nut mounting torque	5-14Nm
Panel thickness	1.0mm to 3.0mm
Body & button material	See ordering information
Contact material	Gold plated brass

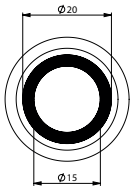
Product Dimensions

All dimensions in mm

Flat



Front View (all versions)

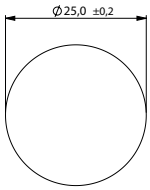


Circuit Diagram

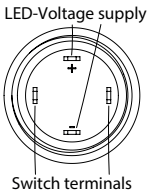


Form A

Mounting Dimensions



Wiring Instructions



Ordering Information






Material
V2: Stainless steel[1]
AS: Black aluminium

LED Colour
GN: Green
RD: Red
YL: Yellow
BL: Blue
WH: White

LED Voltage
00: No resistor[2]
06: 6 volt
12: 12 volt
24: 24 volt

CMI42 / ☐ / F / R / ☐ / ☐ / M / S / 20

[1] 1.4301
[2] Red, yellow: 1.8V | Green, blue, white: 2.8V (20mA)

CM40 25mm Vandalproof Pushbutton

25mm	28mm	34.8mm	40.8mm	IP65
		38.5mm	41mm	IP67

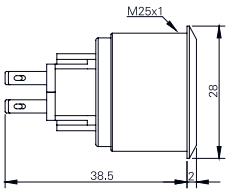
Specification

Termination	Screw or 2.8×0.5mm fast connect terminals
Switching function	Momentary or maintained
Configuration of poles	Single or double
Maximum load	5A, 48VAC
LED voltage	-
Contact resistance	< 50mΩ
Insulation resistance	> 100MΩ
Operating temperature	-25°C to +55°C
Ingress protection	IP67 (EN 60529) maintained: IP65
Duty cycle	50,000 (min)
Operating force	Single pole: 4N, double pole: 7.5N
Nut mounting torque	~ 0.6Nm
Panel thickness	1.0mm to 10.0mm
Body & button material	See ordering information
Contact material	Gold plated

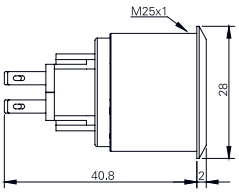
Product Dimensions

All dimensions in mm

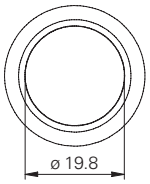
2.8mm Terminals Momentary



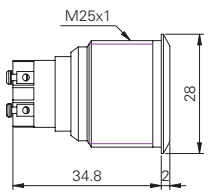
2.8mm Terminals Maintained



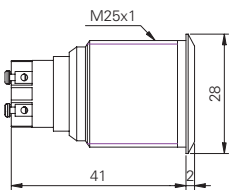
Front View (all versions)



Screw Terminals Momentary



Screw Terminals Maintained



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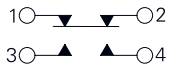
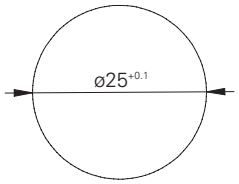
Only certain variants, see file number E504292 for details

Circuit Diagram

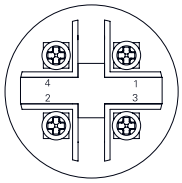


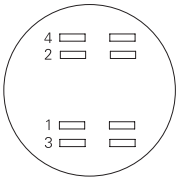
Form Z

Mounting Dimensions



Contact Arrangement





Ordering Information







Material
V2: Stainless steel[1]
AS: Black aluminium

Switch Function
M: Momentary
L: Maintained[2]

Poles
S: Single
D: Double

Termination
28: 2.8mm tabs
ST: Screws[3]

CM40 / ☐ / F / ☐ / ☐ / ☐

[1] 1.4301
[2] IP65 (EN60529)
[3] Only available with single pole

Non rotating button available on request

CMI40 25mm Vandalproof Pushbutton

25mm	28mm	34.8mm	40.8mm	IP65	LED
		38.5mm	41mm	IP67	

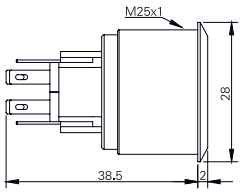
Specification

Termination	Screw or 2.8×0.5mm fast connect terminals
Switching function	Momentary or maintained
Configuration of poles	Single or double
Maximum load	5A, 48VAC
LED voltage	See ordering information
Contact resistance	< 50mΩ
Insulation resistance	> 100MΩ
Operating temperature	-25°C to +55°C
Ingress protection	IP67 (EN 60529) maintained: IP65
Duty cycle	50,000 (min)
Operating force	Single pole: 4N, double pole: 7.5N
Nut mounting torque	~ 0.6Nm
Panel thickness	1.0mm to 10.0mm
Body & button material	See ordering information
Contact material	Gold plated

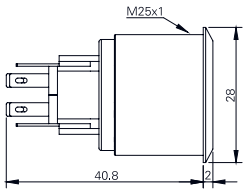
Product Dimensions

All dimensions in mm

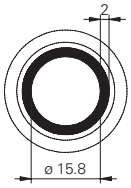
2.8mm Terminals Momentary



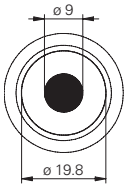
2.8mm Terminals Maintained



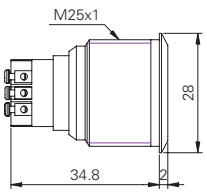
Front View (ring)



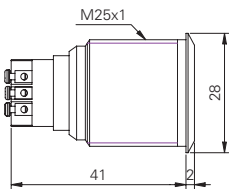
Front View (dot)



Screw Terminals Momentary



Screw Terminals Maintained



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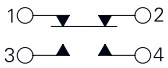
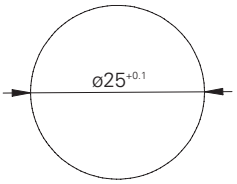
Only certain variants, see file number E504292 for details

Circuit Diagram

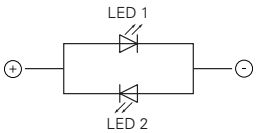


Form Z

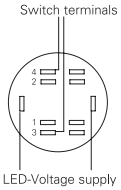
Mounting Dimensions

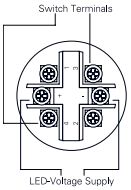


LED Circuit Diagram



Wiring Instructions





Ordering Information









Material	LED	LED Colour	LED Voltage	Switch Function	Poles	Terminations
V2: Stainless steel[1]	R: Ring	GN: Green	00: No resistor[4]	M: Momentary	S: Single	28: 2.8mm tabs
AS: Black aluminium	D: Dot	RD: Red	06: 6 volt	L: Maintained[2]	D: Double	ST: Screws[5,6]
	S: Powerring[2]	YL: Yellow	12: 12 volt			
	X: Custom[2]	BL: Blue	24: 24 volt			
		WH: White				
		GR: Green/red[3]				
		BR: Blue/red[3]				
		GB: Green/blue[3]				
		10: RGB common anode				
		11: RGB common cathode				

CMI40 / ☐ / F / ☐ / ☐ / ☐ / ☐ / ☐ / ☐

[1] 1.4301
[2] IP65 (EN60529)
[3] 2 pins, colour change by swapping polarity
[4] Red, yellow: 1.8V | Green, blue, white: 2.8V (15mA)
[5] Only available with single pole
[6] Not available in combination with RGB LED

Non rotating button available on request

CM41 25mm Vandalproof Pushbutton

25mm	28mm	38.5mm	IP65
		40.8mm	IP67

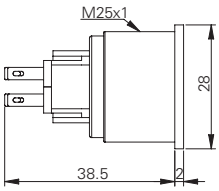
Specification

Termination	2.8×0.5mm fast connect terminals
Switching function	Momentary or maintained
Configuration of poles	Single or double
Maximum load	5A, 48VAC
LED voltage	-
Contact resistance	< 50mΩ
Insulation resistance	> 100MΩ
Operating temperature	-25°C to +55°C
Ingress protection	IP67 (EN 60529) maintained: IP65
Duty cycle	50,000 (min)
Operating force	Single pole: 4N, double pole: 7.5N
Nut mounting torque	~ 0.6Nm
Panel thickness	1.0mm to 10.0mm
Body & button material	See ordering information
Contact material	Gold plated

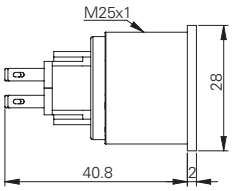
Product Dimensions

All dimensions in mm

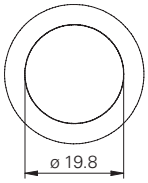
Momentary



Maintained



Front View (all versions)



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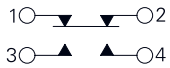
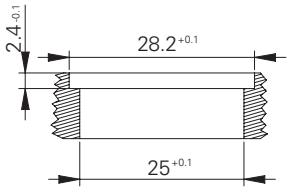
Only certain variants, see file number E504292 for details

Circuit Diagram

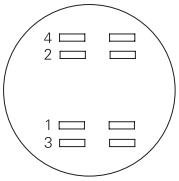


Form Z

Mounting Dimensions



Contact Arrangement



Ordering Information





Material
V2: Stainless steel[1]
AS: Black aluminium

Switch Function
M: Momentary
L: Maintained[2]

Poles
S: Single
D: Double

CM41 / □ / F / □ / □ / 28

[1] 1.4301
[2] IP65 (EN60529)

Non rotating button available on request

CMI41 25mm Vandalproof Pushbutton

25mm	28mm	38.5mm	IP65	LED
		40.8mm	IP67	

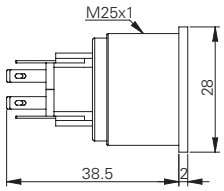
Specification

Termination	2.8×0.5mm fast connect terminals
Switching function	Momentary or maintained
Configuration of poles	Single or double
Maximum load	5A, 48VAC
LED voltage	See ordering information
Contact resistance	< 50mΩ
Insulation resistance	> 100MΩ
Operating temperature	-25°C to +55°C
Ingress protection	IP67 (EN 60529) maintained: IP65
Duty cycle	50,000 (min)
Operating force	Single pole: 4N, double pole: 7.5N
Nut mounting torque	~ 0.6Nm
Panel thickness	1.0mm to 10.0mm
Body & button material	See ordering information
Contact material	Gold plated

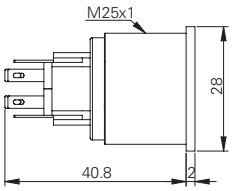
Product Dimensions

All dimensions in mm

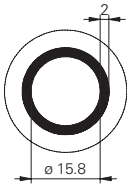
Momentary



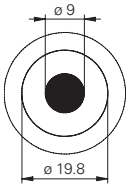
Maintained



Front View (ring)



Front View (dot)



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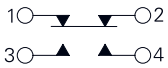
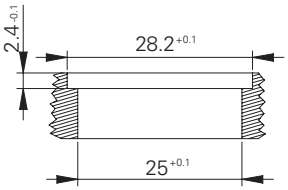
Only certain variants, see file number E504292 for details

Circuit Diagram

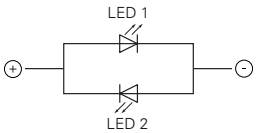


Form Z

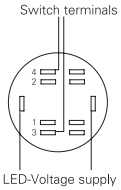
Mounting Dimensions



LED Circuit Diagram

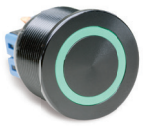
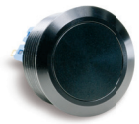


Wiring Instructions



Ordering Information



Material
V2: Stainless steel[1]
AS: Black aluminium

LED
R: Ring
D: Dot
X: Custom[2]

LED Colour
GN: Green
RD: Red
YL: Yellow
BL: Blue
WH: White
GR: Green/red[3]
BR: Blue/red[3]
GB: Green/blue[3]

LED Voltage
00: No resistor[4]
06: 6 volt
12: 12 volt
24: 24 volt

Switch Function
M: Momentary
L: Maintained[3]

Poles
S: Single
D: Double

CMI41 / □ / F / □ / □ / □ / □ / □ / 28

[1] 1.4301
[2] IP65 (EN60529)
[3] 2 pins, colour change by swapping polarity
[4] Red, yellow: 1.8V | Green, blue, white: 2.8V (15mA)

CM45 28mm Vandalproof Pushbutton

28mm	32mm	35mm	40.8mm	IP65
		38.4mm	40.9mm	IP67

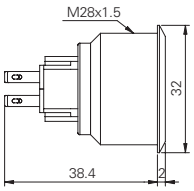
Specification

Termination	2.8×0.5mm fast connect terminals
Switching function	Momentary or maintained
Configuration of poles	Single or double
Maximum load	5A, 48VAC
LED voltage	-
Contact resistance	< 50mΩ
Insulation resistance	> 100MΩ
Operating temperature	-25°C to +55°C
Ingress protection	IP67 (EN 60529) maintained: IP65
Duty cycle	50,000 (min)
Operating force	Single pole: 4N, double pole: 7.5N
Nut mounting torque	~ 0.6Nm
Panel thickness	1.0mm to 10.0mm
Body & button material	See ordering information
Contact material	Gold plated

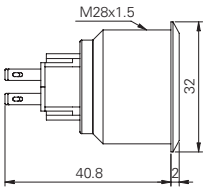
Product Dimensions

All dimensions in mm

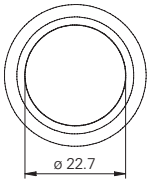
2.8mm Terminals Momentary



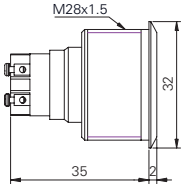
2.8mm Terminals Maintained



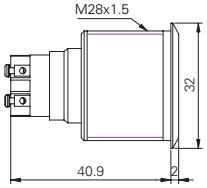
Front View (all versions)



Screw Terminals Momentary



Screw Terminals Maintained



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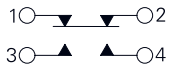
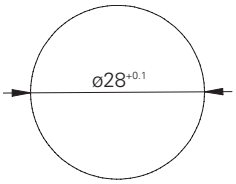
Only certain variants, see file number E504292 for details

Circuit Diagram

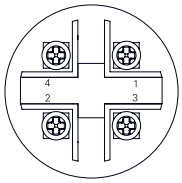


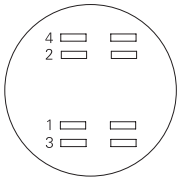
Form Z

Mounting Dimensions



Contact Arrangement





Ordering Information





Material
V2: Stainless steel[1]
AS: Black aluminium

Switch Function
M: Momentary
L: Maintained[2]

Poles
S: Single
D: Double

CM45 / □ / F / □ / □ / 28

[1] 1.4301
[2] IP65 (EN60529)

Non rotating button available on request

CMI45 28mm Vandalproof Pushbutton

28mm	32mm	35mm	40.8mm	IP65	LED
		38.4mm	40.9mm	IP67	

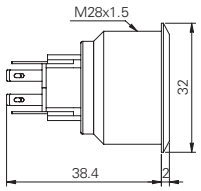
Specification

Termination	2.8×0.5mm fast connect terminals
Switching function	Momentary or maintained
Configuration of poles	Single or double
Maximum load	5A, 48VAC
LED voltage	See ordering information
Contact resistance	< 50mΩ
Insulation resistance	> 100MΩ
Operating temperature	-25°C to +55°C
Ingress protection	IP67 (EN 60529) maintained: IP65
Duty cycle	50,000 (min)
Operating force	Single pole: 4N, double pole: 7.5N
Nut mounting torque	~ 0.6Nm
Panel thickness	1.0mm to 10.0mm
Body & button material	See ordering information
Contact material	Gold plated

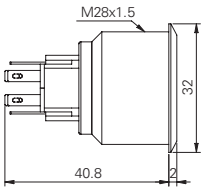
Product Dimensions

All dimensions in mm

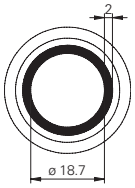
2.8mm Terminals Momentary



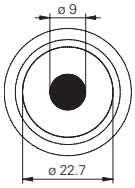
2.8mm Terminals Maintained



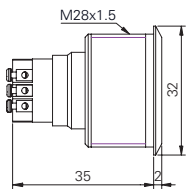
Front View (ring)



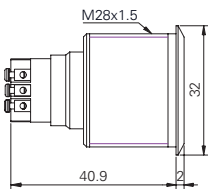
Front View (dot)



Screw Terminals Momentary



Screw Terminals Maintained



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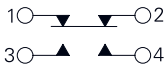
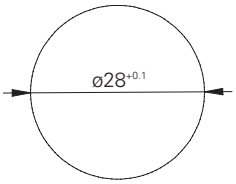
c UL us
Only certain variants, see file number E504292 for details

Circuit Diagram

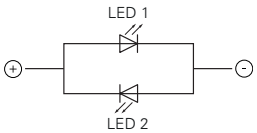


Form Z

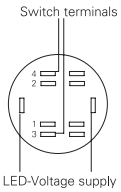
Mounting Dimensions

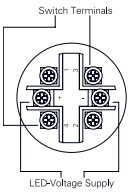


LED Circuit Diagram

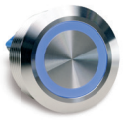


Wiring Instructions

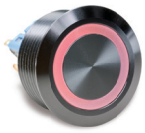




Ordering Information









Material
V2: Stainless steel[1]
AS: Black aluminium

LED
R: Ring
D: Dot

LED Colour
GN: Green
RD: Red
YL: Yellow
BL: Blue
WH: White
GR: Green/red[3]
BR: Blue/red[3]
GB: Green/blue[3]

LED Voltage
00: No resistor[4]
06: 6 volt
12: 12 volt
24: 24 volt

Switch Function
M: Momentary
L: Maintained[2]

Poles
S: Single
D: Double

CMI45 / ☐ / F / ☐ / ☐ / ☐ / ☐ / ☐ / 28

[1] 1.4301
[2] IP65 (EN60529)
[3] 2 pins, colour change by swapping polarity
[4] Red, yellow: 1.8V | Green, blue, white: 2.8V (15mA)

Non rotating button available on request

CM46 28mm Vandalproof Pushbutton

28mm	32mm	38.4mm	IP65
		40.8mm	IP67

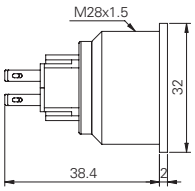
Specification

Termination	2.8×0.5mm fast connect terminals
Switching function	Momentary or maintained
Configuration of poles	Single or double
Maximum load	5A, 48VAC
LED voltage	-
Contact resistance	< 50mΩ
Insulation resistance	> 100MΩ
Operating temperature	-25°C to +55°C
Ingress protection	IP67 (EN 60529) maintained: IP65
Duty cycle	50,000 (min)
Operating force	Single pole: 4N, double pole: 7.5N
Nut mounting torque	~ 0.6Nm
Panel thickness	1.0mm to 10.0mm
Body & button material	See ordering information
Contact material	Gold plated

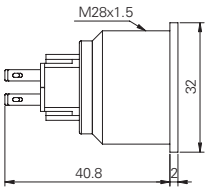
Product Dimensions

All dimensions in mm

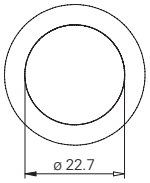
Momentary



Maintained



Front View



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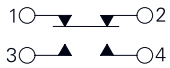
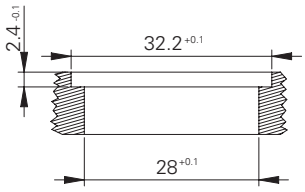
Only certain variants, see file number E504292 for details

Circuit Diagram

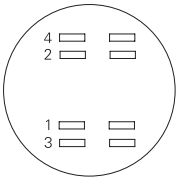


Form Z

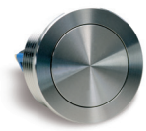
Mounting Dimensions



Contact Arrangement



Ordering Information





Material
V2: Stainless steel[1]
AS: Black aluminium

Switch Function
M: Momentary
L: Maintained[2]

Poles
S: Single
D: Double

CM46 / □ / F / □ / □ / 28

[1] 1.4301
[2] IP65 (EN60529)

Non rotating button available on request

CMI46 28mm Vandalproof Pushbutton

28mm	32mm	38.4mm	IP65	LED
		40.8mm	IP67	

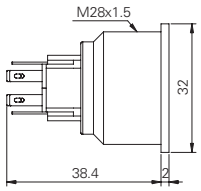
Specification

Termination	2.8×0.5mm fast connect terminals
Switching function	Momentary or maintained
Configuration of poles	Single or double
Maximum load	5A, 48VAC
LED voltage	See ordering information
Contact resistance	< 50mΩ
Insulation resistance	> 100MΩ
Operating temperature	-25°C to +55°C
Ingress protection	IP67 (EN 60529) maintained: IP65
Duty cycle	50,000 (min)
Operating force	Single pole: 4N, double pole: 7.5N
Nut mounting torque	~ 0.6Nm
Panel thickness	1.0mm to 10.0mm
Body & button material	See ordering information
Contact material	Gold plated

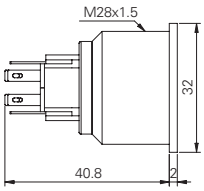
Product Dimensions

All dimensions in mm

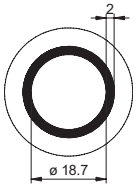
Momentary



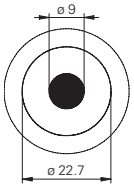
Maintained



Front View (ring)



Front View (dot)



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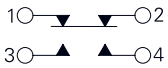
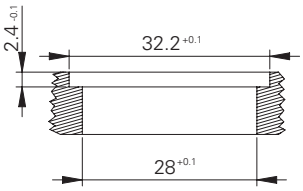
Only certain variants, see file number E504292 for details

Circuit Diagram

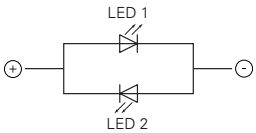


Form Z

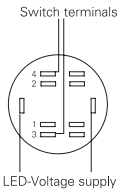
Mounting Dimensions



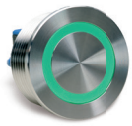
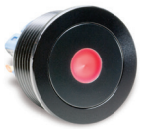
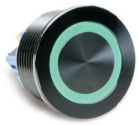
LED Circuit Diagram



Wiring Instructions



Ordering Information

Material
V2: Stainless steel[1]
AS: Black aluminium

LED
R: Ring
D: Dot

LED Colour
GN: Green
RD: Red
YL: Yellow
BL: Blue
WH: White
GR: Green/red[3]
BR: Blue/red[3]
GB: Green/blue[3]

LED Voltage
00: No resistor[4]
06: 6 volt
12: 12 volt
24: 24 volt

Switch Function
M: Momentary
L: Maintained[2]

Poles
S: Single
D: Double

CMI46 / □ / F / □ / □ / □ / □ / □ / 28

[1] 1.4301
[2] IP65 (EN60529)
[3] 2 pins, colour change by swapping polarity
[4] Red, yellow: 1.8V | Green, blue, white: 2.8V (15mA)

CM50 30mm Vandalproof Pushbutton

30mm	35mm	35mm	40.8mm	IP65
		38.4mm	40.9mm	IP67

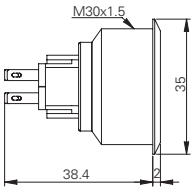
Specification

Termination	Screw or 2.8×0.5mm fast connect terminals
Switching function	Momentary or maintained
Configuration of poles	Single or double
Maximum load	5A, 48VAC
LED voltage	-
Contact resistance	< 50mΩ
Insulation resistance	> 100MΩ
Operating temperature	-25°C to +55°C
Ingress protection	IP67 (EN 60529) maintained: IP65
Duty cycle	50,000 (min)
Operating force	Single pole: 4N, double pole: 7.5N
Nut mounting torque	~ 0.6Nm
Panel thickness	1.0mm to 10.0mm
Body & button material	See ordering information
Contact material	Gold plated

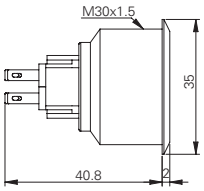
Product Dimensions

All dimensions in mm

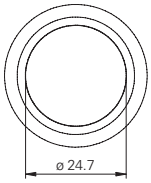
2.8mm Terminals Momentary



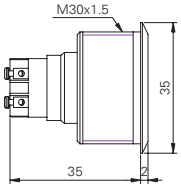
2.8mm Terminals Maintained



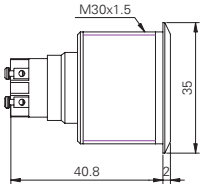
Front View



Screw Terminals Momentary



Screw Terminals Maintained



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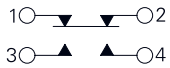
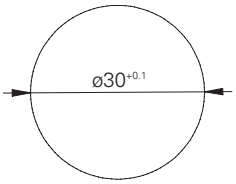
Only certain variants, see file number E504292 for details

Circuit Diagram

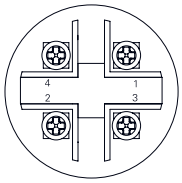


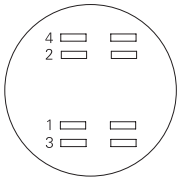
Form Z

Mounting Dimensions



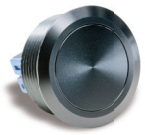
Contact Arrangement





Ordering Information





Material
V2: Stainless steel[1]
AS: Black aluminium

Switch Function
M: Momentary
L: Maintained[2]

Poles
S: Single
D: Double

Termination
28: 2.8mm tabs
ST: Screws[3]

CM50 / ☐ / F / ☐ / ☐ / ☐

[1] 1.4301
[2] IP65 (EN60529)
[3] Only available with single pole

Non rotating button available on request

CMI50 30mm Vandalproof Pushbutton

30mm	35mm	35mm	40.8mm	IP65	LED
		38.4mm	40.9mm	IP67	

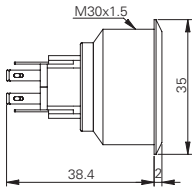
Specification

Termination	Screw or 2.8×0.5mm fast connect terminals
Switching function	Momentary or maintained
Configuration of poles	Single or double
Maximum load	5A, 48VAC
LED voltage	See ordering information
Contact resistance	< 50mΩ
Insulation resistance	> 100MΩ
Operating temperature	-25°C to +55°C
Ingress protection	IP67 (EN 60529) maintained: IP65
Duty cycle	50,000 (min)
Operating force	Single pole: 4N, double pole: 7.5N
Nut mounting torque	~ 0.6Nm
Panel thickness	1.0mm to 10.0mm
Body & button material	See ordering information
Contact material	Gold plated

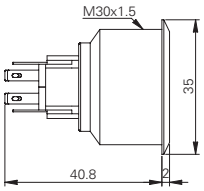
Product Dimensions

All dimensions in mm

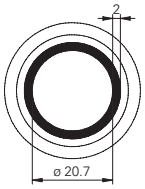
2.8mm Terminals Momentary



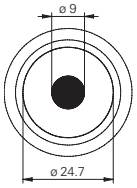
2.8mm Terminals Maintained



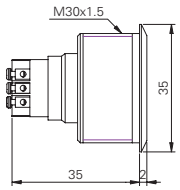
Front View (ring)



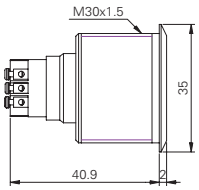
Front View (dot)



Screw Terminals Momentary



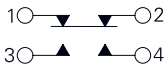
Screw Terminals Maintained



ENGELKING

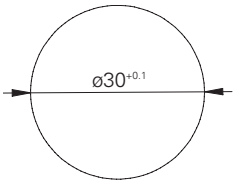
c UL us
Only certain variants, see file number E504292 for details

Circuit Diagram

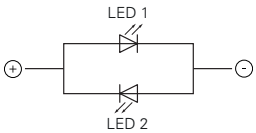


Form Z

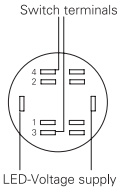
Mounting Dimensions

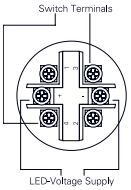


LED Circuit Diagram



Wiring Instructions





Ordering Information









Material
V2: Stainless steel[1]
AS: Black aluminium

LED
R: Ring
D: Dot

LED Colour
GN: Green
RD: Red
YL: Yellow
BL: Blue
WH: White
GR: Green/red[3]
BR: Blue/red[3]
GB: Green/blue[3]

LED Voltage
00: No resistor[4]
06: 6 volt
12: 12 volt
24: 24 volt

Switch Function
M: Momentary
L: Maintained[2]

Poles
S: Single
D: Double

Terminations
28: 2.8mm tabs
ST: Screws[5]

CMI50 / □ / F / □ / □ / □ / □ / □ / □ / □

[1] 1.4301
[2] IP65 (EN60529)
[3] 2 pins, colour change by swapping polarity
[4] Red, yellow: 1.8V | Green, blue, white: 2.8V (15mA)
[5] Only available with single pole

Non rotating button available on request

CM51 30mm Vandalproof Pushbutton

30mm	35mm	38.4mm	IP65
		40.8mm	IP67

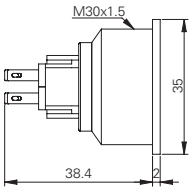
Specification

Termination	2.8×0.5mm fast connect terminals
Switching function	Momentary or maintained
Configuration of poles	Single or double
Maximum load	5A, 48VAC
LED voltage	-
Contact resistance	< 50mΩ
Insulation resistance	> 100MΩ
Operating temperature	-25°C to +55°C
Ingress protection	IP67 (EN 60529) maintained: IP65
Duty cycle	50,000 (min)
Operating force	Single pole: 4N, double pole: 7.5N
Nut mounting torque	~ 0.6Nm
Panel thickness	1.0mm to 10.0mm
Body & button material	Stainless steel 1.4301
Contact material	Gold plated

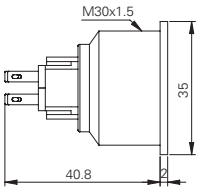
Product Dimensions

All dimensions in mm

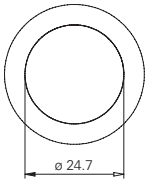
Momentary



Maintained



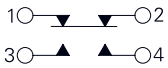
Front View



ENGELKING

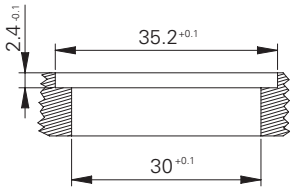
c UL us
Only certain variants, see file number E504292 for details

Circuit Diagram

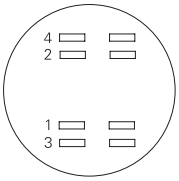


Form Z

Mounting Dimensions



Contact Arrangement



Ordering Information





Switch Function
M: Momentary
L: Maintained[1]

Poles
S: Single
D: Double

CM51 / V2 / F / □ / □ / 28

[1] IP65 (EN60529)

Non rotating button available on request

CMI51 30mm Vandalproof Pushbutton

30mm	35mm	38.4mm	IP65	LED
		40.8mm	IP67	

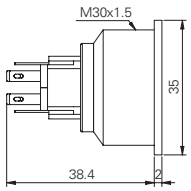
Specification

Termination	2.8×0.5mm fast connect terminals
Switching function	Momentary or maintained
Configuration of poles	Single or double
Maximum load	5A, 48VAC
LED voltage	See ordering information
Contact resistance	< 50mΩ
Insulation resistance	> 100MΩ
Operating temperature	-25°C to +55°C
Ingress protection	IP67 (EN 60529) maintained: IP65
Duty cycle	50,000 (min)
Operating force	Single pole: 4N, double pole: 7.5N
Nut mounting torque	~ 0.6Nm
Panel thickness	1.0mm to 10.0mm
Body & button material	Stainless steel 1.4301
Contact material	Gold plated

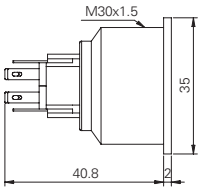
Product Dimensions

All dimensions in mm

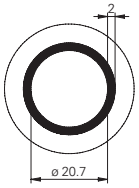
Momentary



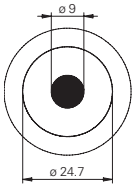
Maintained



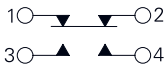
Front View (ring)



Front View (dot)

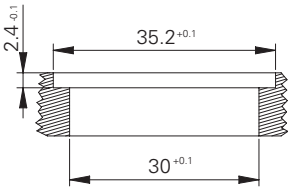


Circuit Diagram

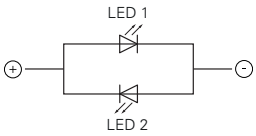


Form Z

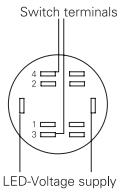
Mounting Dimensions



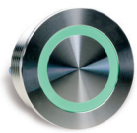
LED Circuit Diagram



Wiring Instructions



Ordering Information






LED
R: Ring
D: Dot

LED Colour
GN: Green
RD: Red
YL: Yellow
BL: Blue
WH: White
GR: Green/red[3]
BR: Blue/red[3]
GB: Green/blue[3]

LED Voltage
00: No resistor[4]
06: 6 volt
12: 12 volt
24: 24 volt

Switch Function
M: Momentary
L: Maintained[2]

Poles
S: Single
D: Double

CMI51 / V2 / F / □ / □ / □ / □ / □ / 28

1 IP65 (EN60529)
2 2 pins, colour change by swapping polarity
3 Red, yellow: 1.8V | Green, blue, white: 2.8V (15mA)

Non rotating button available on request

CM60 40mm Vandalproof Pushbutton

40mm	46mm	41.1mm	IP65
			IP67

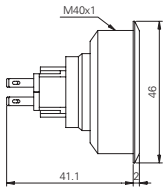
Specification

Termination	2.8×0.5mm fast connect terminals
Switching function	Momentary or maintained
Configuration of poles	Single or double
Maximum load	5A, 48VAC
LED voltage	-
Contact resistance	< 50mΩ
Insulation resistance	> 100MΩ
Operating temperature	-25°C to +55°C
Ingress protection	IP67 (EN 60529) maintained: IP65
Duty cycle	50,000 (min)
Operating force	Single pole: 4N, double pole: 7.5N
Nut mounting torque	~ 0.6Nm
Panel thickness	1.0mm to 5.0mm
Body & button material	Stainless steel 1.4301
Contact material	Silver Alloy

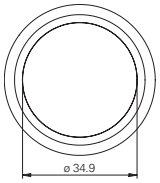
Product Dimensions

All dimensions in mm

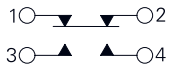
Side View



Front View

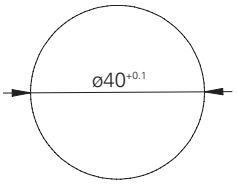


Circuit Diagram

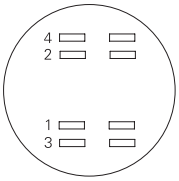


Form Z

Mounting Dimensions



Contact Arrangement



Ordering Information



Switch Function
M: Momentary
L: Maintained

Poles
S: Single
D: Double

CM60 / V2 / F / □ / □ / 28

Non rotating button available on request

CM160 40mm Vandalproof Pushbutton

40mm	46mm	41.1mm	IP65	LED

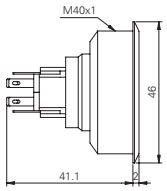
Specification

Termination	2.8×0.5mm fast connect terminals
Switching function	Momentary or maintained
Configuration of poles	Single or double
Maximum load	5A, 48VAC
LED voltage	-
Contact resistance	< 50mΩ
Insulation resistance	> 100MΩ
Operating temperature	-25°C to +55°C
Ingress protection	IP67 (EN 60529) maintained: IP65
Duty cycle	50,000 (min)
Operating force	Single pole: 4N, double pole: 7.5N
Nut mounting torque	~ 0.6Nm
Panel thickness	1.0mm to 5.0mm
Body & button material	Stainless steel 1.4301
Contact material	Silver Alloy

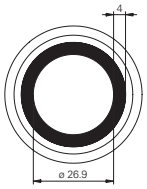
Product Dimensions

All dimensions in mm

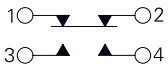
Side View



Front View (ring)

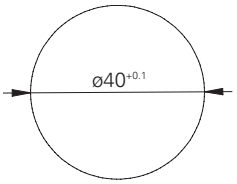


Circuit Diagram

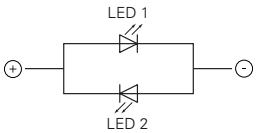


Form Z

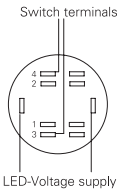
Mounting Dimensions



LED Circuit Diagram



Wiring Instructions



Ordering Information



LED Colour
GN: Green
RD: Red
YL: Yellow
BL: Blue
WH: White
GR: Green/red[1]
BR: Blue/red[1]
GB: Green/blue[1]

LED Voltage
00: No resistor[2]
06: 6 volt
12: 12 volt
24: 24 volt

Switch Function
M: Momentary
L: Maintained

Poles
S: Single
D: Double

CMI60 / V2 / F / R / □ / □ / □ / □ / 28

[1] 2 pins, colour change by swapping polarity
[2] Red, yellow: 1.8V | Green, blue, white: 2.8V (15mA)

Non rotating button available on request

CM7X 12mm Vandalproof Pushbutton

12mm | **17,5mm** | **IP67**

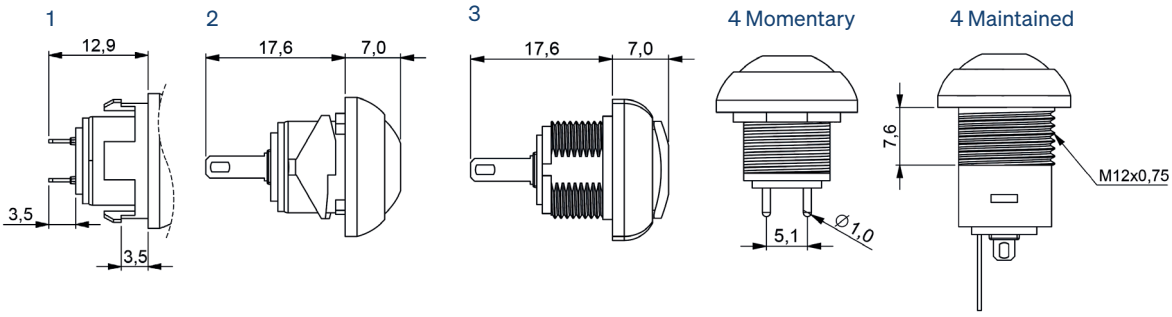
Specification

Termination	See ordering information
Switching function	See ordering information
Configuration of poles	Single
Maximum load	0.4A, 32VAC
LED voltage	-
Contact resistance	< 50mΩ
Insulation resistance	> 1,000MΩ
Operating temperature	-30°C to +85°C
Ingress protection	IP67
Duty cycle	500,000 (min)
Operating force	2N~5N
Nut mounting torque	~0.5Nm; metal bushing type: ~1.5Nm
Body & button material	See ordering information
Contact material	brass, gold over silver plated

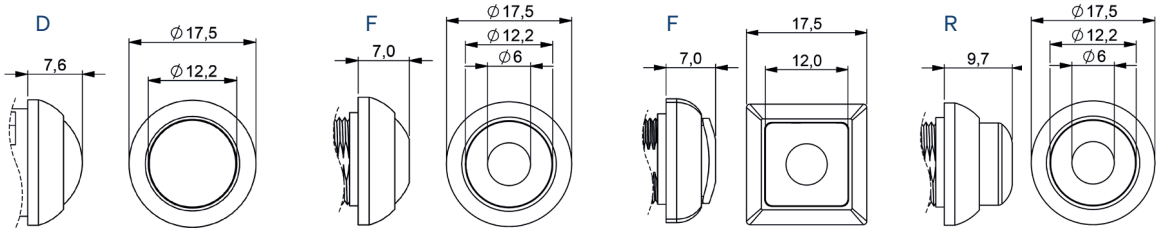
Product Dimensions

All dimensions in mm

Housing



Button

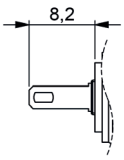


Termination

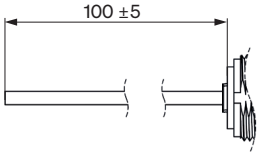
20



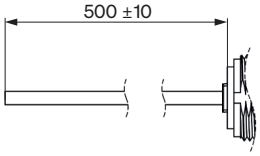
21



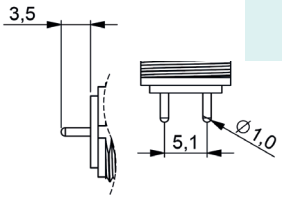
L3



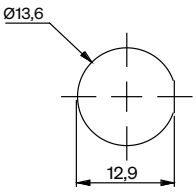
L4



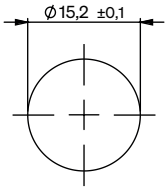
PC



Mounting Dimensions



only suitable for snap in 2.85mm



Ordering Information

Housing
1: snap-in 0.8-1.8mm
2: snap-in 2.85mm
3: square threaded
4: round threaded

Housing Material
P: Black Plastic
Z: Black Zink Alloy[1]
C: Chrome Zink Alloy[1]
S: Satin Chrome Zink Alloy[1]
N: Satin Nickel Zink Alloy[1]

Cap Colour
B: Blue
G: Green
K: Black
R: Red
O: Orange
W: White
Y: Yellow

Button
D: Domed
F: Flat
R: Raised

Switch Function
M: Momentary NO
N: Momentary NC
L: Maintained[2]

Termination
20: 2.0mm solder tabs
21: 2.0mm solder tabs fast on
L3: 10cm leads
L4: 50cm leads
PC: PC pins

CM7 □ / □ □ / □ / □ / S / □

[1] Only available for Housing 3 and 4
[2] Only available for Housing 4

Rev. O | Engelking retains the right to change the specifications at any time without prior notice.

CMI7X 12mm Vandalproof Pushbutton

12mm | **17,5mm** | **IP67** | **LED**

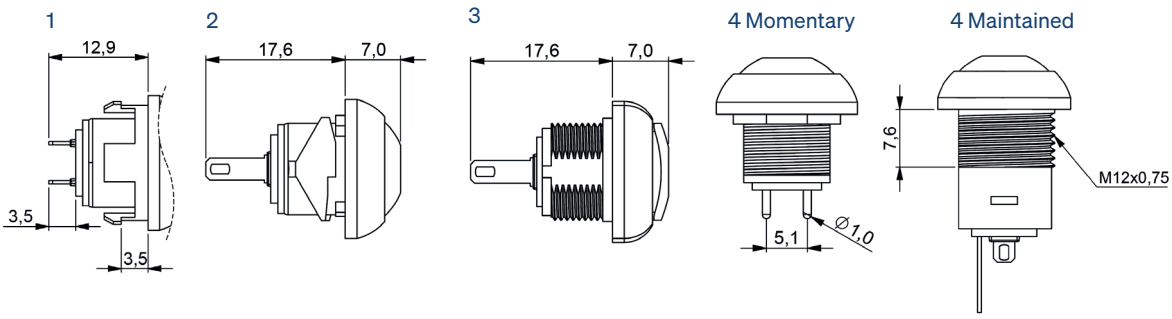
Specification

Termination	See ordering information
Switching function	See ordering information
Configuration of poles	Single
Maximum load	0.4A, 32VAC
LED voltage	See ordering information
Contact resistance	< 50mΩ
Insulation resistance	> 1,000MΩ
Operating temperature	-30°C to +85°C
Ingress protection	IP67
Duty cycle	500,000 (min)
Operating force	2N~5N
Nut mounting torque	~0.5Nm; metal bushing type: ~1.5Nm
Body & button material	See ordering information
Contact material	brass, gold over silver plated

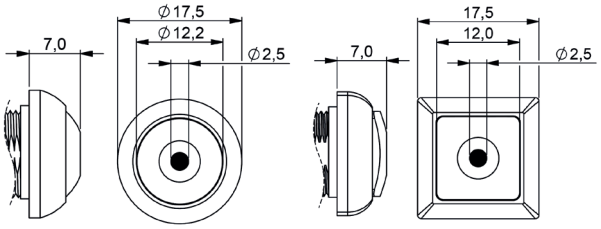
Product Dimensions

All dimensions in mm

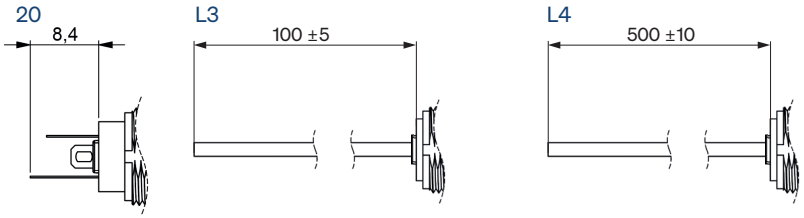
Housing



Button

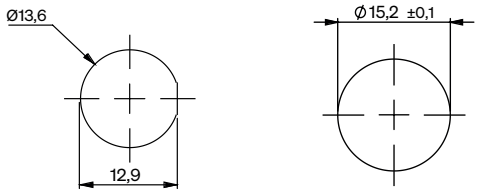


Termination



Mounting Dimensions

only suitable for snap in 2.85mm



Ordering Information

Housing
1: snap-in 0.8-1.8mm
2: snap-in 2.85mm
3: square threaded
4: round threaded

Housing Material
P: Black Plastic
Z: Black Zink Alloy[1]
C: Chrome Zink Alloy[1]
S: Satin Chrome Zink Alloy[1]
N: Satin Nickel Zink Alloy[1]

Cap Colour
B: Blue
G: Green
K: Black
R: Red
O: Orange
W: White
Y: Yellow

LED Colour
RD: Red
GN: Green
BL: Blue
WH: White
YL: Yellow
RG: Red/Green
RB: Red/Blue

Switch Function
M: Momentary NO
L: Maintained[2]

Termination
20: 2.0mm solder tabs
L3: 10cm leads
L4: 50cm leads

CMI7 □ / □ □ / F / D / □ / 03 / □ / S / □

[1] Only available for Housing 3 and 4
[2] Only available for Housing 4

CM92 16mm Plastic Pushbutton

16mm	19.8mm	18.5mm	IP67

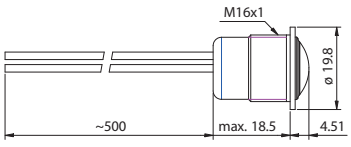
Specification

Termination	15cm flying leads
Switching function	Momentary
Configuration of poles	Single
Maximum load	2A, 24VDC
LED voltage	-
Contact resistance	< 100mΩ
Insulation resistance	> 100MΩ
Operating temperature	-20°C to +65°C
Ingress protection	IP67 (EN 60529)
Duty cycle	10,000 (min)
Operating force	7N
Nut mounting torque	~ 0.8Nm
Panel thickness	1.0mm to 9.0mm
Body & button material	Nylon & PUR
Contact material	-

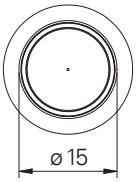
Product Dimensions

All dimensions in mm

Side View



Front View

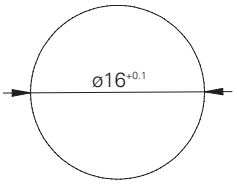


Circuit Diagram



Form A Form B

Mounting Dimensions



Ordering Information



Material
PK: Black plastic
PG: Green plastic[1]
PR: Red plastic[1]
PY: Yellow plastic[1]
PW: White plastic[1]
PB: Blue plastic[1]

Switch Function
M: Momentary NO
L: Momentary NC

CM92 / ☐ / D / ☐ / S / L4

[1] Code is only for button material. Housing is made of black plastic

CM90 22mm Plastic Pushbutton

22mm	25mm	37.3mm	IP65

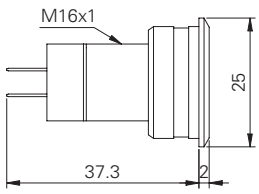
Specification

Termination	2.8×0.5mm fast connect terminals
Switching function	Momentary or maintained
Configuration of poles	Single or double
Maximum load	1A, 48VAC
LED voltage	-
Contact resistance	< 50mΩ
Insulation resistance	> 100MΩ
Operating temperature	-25°C to +55°C
Ingress protection	IP65 (EN 60529)
Duty cycle	50,000 (min)
Operating force	Single pole: 1.5N, double pole: 3N
Nut mounting torque	-
Panel thickness	0.5mm to 6.0mm
Body & button material	PC
Contact material	Silver plated

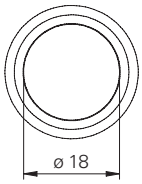
Product Dimensions

All dimensions in mm

Side View



Front View

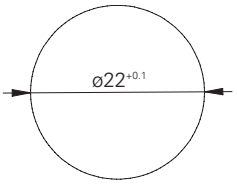


Circuit Diagram

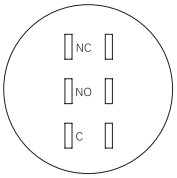


Form C

Mounting Dimensions



Contact Arrangement



Ordering Information



Material
PK: Black plastic
PS: Silver plastic

Switch Function
M: Momentary
L: Maintained

Poles
S: Single
D: Double

CM90 / □ / F / □ / □ / 28

CM190 22mm Plastic Pushbutton

22mm	25mm	38.5mm	IP65	LED

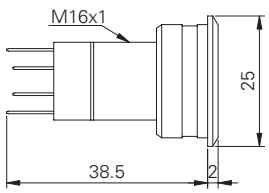
Specification

Termination	2.8×0.5mm fast connect terminals
Switching function	Momentary or maintained
Configuration of poles	Single or double
Maximum load	1A, 48VAC
LED voltage	See ordering information
Contact resistance	< 50mΩ
Insulation resistance	> 100MΩ
Operating temperature	-25°C to +55°C
Ingress protection	IP65 (EN 60529)
Duty cycle	50,000 (min)
Operating force	Single pole: 1.5N, double pole: 3N
Nut mounting torque	-
Panel thickness	0.5mm to 6.0mm
Body & button material	PC
Contact material	Silver plated

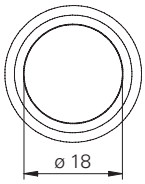
Product Dimensions

All dimensions in mm

Side View



Front View (surface)

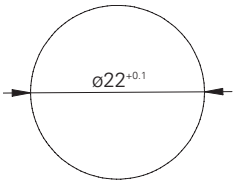


Circuit Diagram

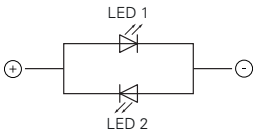


Form C

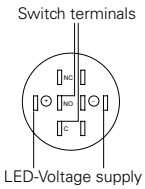
Mounting Dimensions



LED Circuit Diagram



Wiring Instructions



Ordering Information



Material
PK: Black plastic
PS: Silver plastic

LED
P: Power[1]
F: Surface

LED Colour
GN: Green
RD: Red
YL: Yellow
BL: Blue
WH: White
GR: Green/red[2]
BR: Blue/red[2]
GB: Green/blue[2]

LED Voltage
00: No resistor[3]
06: 6 volt
12: 12 volt
24: 24 volt

Switch Function
M: Momentary
L: Maintained

Poles
S: Single
D: Double

CMI90 / □ / F / □ / □ / □ / □ / □ / 28

[1] Only available with silver plastic
[2] 2 pins, colour change by swapping polarity
[3] Red, yellow: 1.8V | Green, blue, white: 2.8V (15mA)

EP03 16mm Piezo Switch

16mm | ∅ 20mm | 10mm | IP68 | IP69K

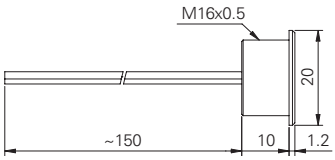
Specification

Termination	15cm flying leads
Switching function	Momentary
Configuration of poles	Single
Maximum load	100mA, 35VDC
LED voltage	-
Contact resistance	100mΩ
Insulation resistance	> 10^9Ω
Operating temperature	-40°C to +85°C
Ingress protection	IP66, IP68 (EN 60529); IP69K (DIN 4050)
Duty cycle	1,000,000 (min)
Operating force	< 3N
Nut mounting torque	~ 2.5Nm
Panel thickness	0.5mm to 8.0mm
Body & button material	See ordering information
Contact material	-

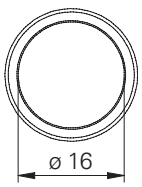
Product Dimensions

All dimensions in mm

Finger Guided



Front View

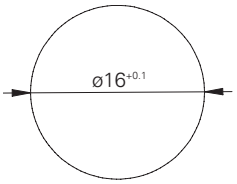


Circuit Diagram



Form A

Mounting Dimensions



Ordering Information






Material
AN: Natural annodised aluminium
AR: Red annodised aluminium
AB: Blue annodised aluminium
AY: Yellow annodised aluminium
AG: Green annodised aluminium
AS: Black annodised aluminium

Switch Function
M: Momentary NO
N: Momentary NC

EP03 / ☐ / G / ☐ / S / L1

EPI03 16mm Illuminated Piezo Switch

16mm	∅ 20mm	10mm	IP68	LED	

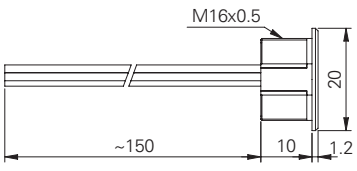
Specification

Termination	15cm flying leads
Switching function	Momentary
Configuration of poles	Single
Maximum load	100mA, 35VDC
LED voltage	Red & yellow: 1.9V, Green & blue: 3.4V, White: 3.6V (20mA)
Contact resistance	100mΩ
Insulation resistance	> 10^9Ω
Operating temperature	-40°C to +50°C
Ingress protection	IP68 (EN 60529)
Duty cycle	1,000,000 (min)
Operating force	< 5N
Nut mounting torque	~ 2.5Nm
Panel thickness	0.5mm to 8.0mm
Body & button material	See ordering information
Contact material	-

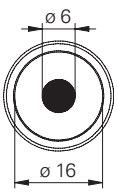
Product Dimensions

All dimensions in mm

Finger Guided



Front View

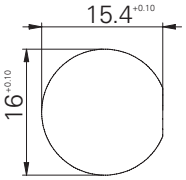


Circuit Diagram



Form A

Mounting Dimensions



Wiring Instructions

- Switch wire
- Switch wire
- Ground wire for LED
- LED colour wire for +LED

Ordering Information





Material
AN: Natural annodised aluminium
AR: Red annodised aluminium
AB: Blue annodised aluminium
AY: Yellow annodised aluminium
AG: Green annodised aluminium
AS: Black annodised aluminium

LED Colour
GN: Green
RD: Red
YL: Yellow
BL: Blue
WH: White
GR: Green/red
BR: Blue/red
GB: Green/blue
BW: Blue/white

EPI03 / ☐ / G / D / ☐ / 00 / M / S / L1

NK03 16mm thiNKswitch™

16mm | 20mm | 10mm | IP68 | IP69K

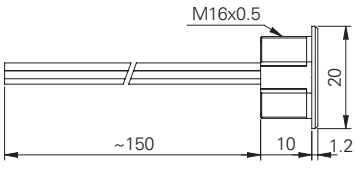
Specification

Termination	15cm flying leads
Switching function	Momentary or toggle
Configuration of poles	Single
Maximum load	2.5A, 8VDC to 24VDC
LED voltage	-
"On" resistance	100mΩ
Insulation resistance	> 10^9Ω
Operating temperature	-40°C to +85°C
Ingress protection	IP66, IP68 (EN 60529); IP69K (DIN 4050)
Duty cycle	1,000,000 (min)
Operating force	< 5N
Nut mounting torque	~ 2.5Nm
Panel thickness	0.5mm to 8.0mm
Body & button material	See ordering information
Impulse time	0.5 sec (momentary)

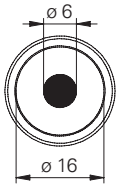
Product Dimensions

All dimensions in mm

Finger Guided

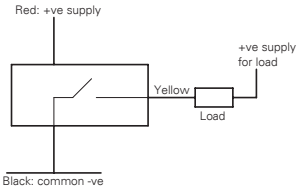


Front View

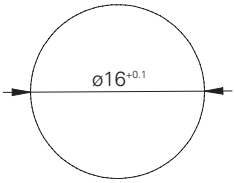


Circuit Diagram

Common ground (NMOS)

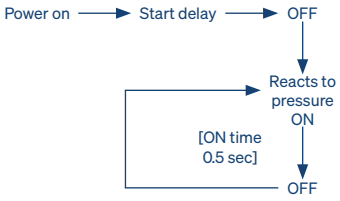


Mounting Dimensions

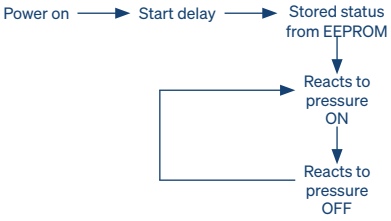


Timing Diagram

Momentary



Toggle



Ordering Information



Material

AN: Natural annodised aluminium
AR: Red annodised aluminium
AB: Blue annodised aluminium
AY: Yellow annodised aluminium
AG: Green annodised aluminium
AS: Black annodised aluminium

Switch Function

M: Momentary
T: Toggle

NK03 / ☐ / G / ☐ / S / L1

EP06 19mm Piezo Switch

19mm | ∅ 21.5mm | 10mm | IP68 | IP69K

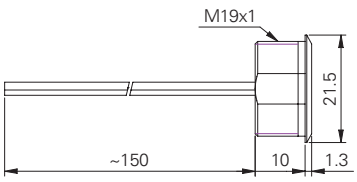
Specification

Termination	15cm flying leads
Switching function	Momentary
Configuration of poles	Single
Maximum load	100mA, 35VDC
LED voltage	-
"On" resistance	100mΩ
Insulation resistance	> 10^9Ω
Operating temperature	-40°C to +85°C
Ingress protection	IP66, IP68 (EN 60529); IP69K (DIN 4050)
Duty cycle	1,000,000 (min)
Operating force	< 3N
Nut mounting torque	~ 2.5Nm
Panel thickness	0.5mm to 8.0mm
Body & button material	See ordering information
Impulse time	-

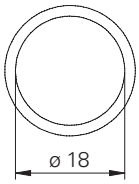
Product Dimensions

All dimensions in mm

Side View



Front View

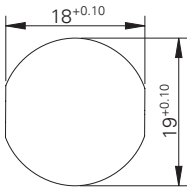


Circuit Diagram



Form A

Mounting Dimensions



Ordering Information



Material
V2: Stainless steel[1]
BC: Chrome plated brass

EP06 / ▭ / F / M / S / L1

[1] 1.4307

NKO2 19mm thiNKswitch™

19mm | ∅ 21.5mm | 10mm | IP68 | IP69K

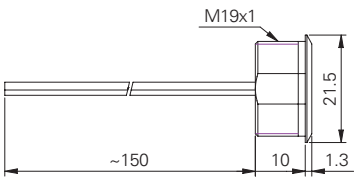
Specification

Termination	15cm flying leads
Switching function	Momentary or toggle
Configuration of poles	Single
Maximum load	2.5A, 8VDC to 24VDC
LED voltage	-
"On" resistance	100mΩ
Insulation resistance	> 10^9Ω
Operating temperature	-40°C to +85°C
Ingress protection	IP66, IP68 (EN 60529); IP69K (DIN 4050)
Duty cycle	1,000,000 (min)
Operating force	< 3N
Nut mounting torque	~ 2.5Nm
Panel thickness	0.5mm to 4.0mm
Body & button material	See ordering information
Impulse time	0.5 sec (momentary)

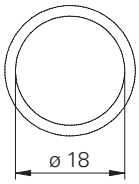
Product Dimensions

All dimensions in mm

Side View

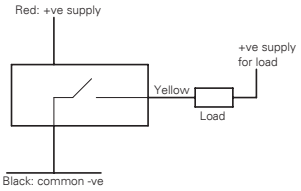


Front View

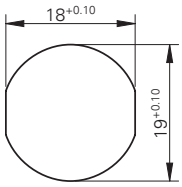


Circuit Diagram

Common ground (NMOS)

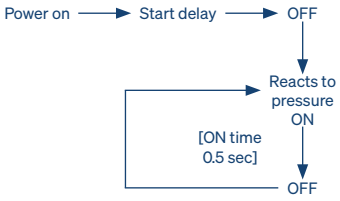


Mounting Dimensions

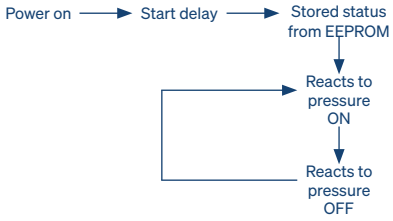


Timing Diagram

Momentary



Toggle



Ordering Information



Material
V2: Stainless steel[1]
BC: Brass chrome

Switch Function
M: Momentary
T: Toggle

NK02 / ☐ / F / ☐ / S / L1

[1] 1.4307

EP70 20mm Piezo Module

20mm	∅ 20mm	9mm	IP68
			IP69K

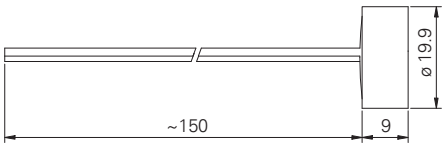
Specification

Termination	15cm flying leads
Switching function	Momentary
Configuration of poles	Single
Maximum load	100mA, 35VDC
LED voltage	-
"On" resistance	100mΩ
Insulation resistance	> 10^9Ω
Operating temperature	-40°C to +85°C
Ingress protection	IP66, IP68 (EN 60529); IP69K (DIN 4050)
Duty cycle	1,000,000 (min)
Operating force	< 7N (depends on material and current)
Nut mounting torque	-
Panel thickness	Min. 3.0mm
Supported panel material	Plastics, metals, glas (for advanced users)
Body	POM black

Product Dimensions

All dimensions in mm

Side View

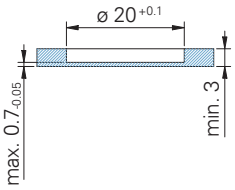


Circuit Diagram



Form A

Mounting Dimensions



Timing Instructions

The EP70 Piezo Module is glued into a recessed hole on the back of panel or housing by applying LOCTITE 435 or LOCTITE 480 on the centre pin and rim. Detailed instructions are available on request.

Ordering Information



Part Number
EP70/PK/F/M/S/L1

EP15 22mm Piezo Switch

22mm	∅ 26mm	17.8mm	IP68	
	∅ 25mm	19.7mm	IP69K	

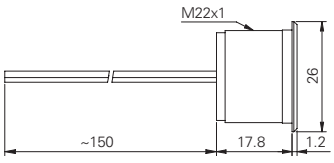
Specification

Termination	15cm flying leads
Switching function	Momentary
Configuration of poles	Single
Maximum load	100mA, 35VDC
LED voltage	-
"On" resistance	100mΩ
Insulation resistance	> 10^9Ω
Operating temperature	-40°C to +85°C
Ingress protection	IP66, IP68 (EN 60529); IP69K (DIN 4050)
Duty cycle	1,000,000 (min)
Operating force	< 3N
Nut mounting torque	~ 2.5Nm
Panel thickness	0.5mm to 13.0mm
Body & button material	See ordering information
Impulse time	-

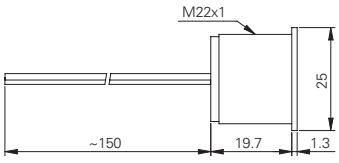
Product Dimensions

All dimensions in mm

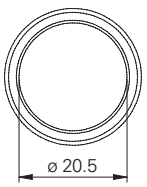
Finger Guided



Flat



Front View (guided)

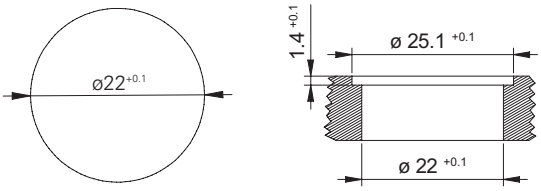


Circuit Diagram



Form A

Mounting Dimensions



Ordering Information





Material
AN: Natural annodised aluminium
AR: Red annodised aluminium
AB: Blue annodised aluminium
AY: Yellow annodised aluminium
AG: Green annodised aluminium
AS: Black annodised aluminium
V2: Stainless steel

Head Style
F: Flat
G: Finger guided

EP15 / □ / □ / M / S / L1

NK15 22mm thiNKswitch™

22mm	∅ 26mm	17.8mm	IP68	
	∅ 28mm	19.7mm	IP69K	

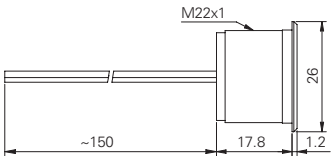
Specification

Termination	15cm flying leads
Switching function	Momentary or toggle
Configuration of poles	Single
Maximum load	2.5A, 8VDC to 24VDC
LED voltage	-
"On" resistance	100mΩ
Insulation resistance	> 10^9Ω
Operating temperature	-40°C to +85°C
Ingress protection	IP66, IP68 (EN 60529); IP69K (DIN 4050)
Duty cycle	1,000,000 (min)
Operating force	< 3N
Nut mounting torque	~ 2.5Nm
Panel thickness	0.5mm to 13.0mm
Body & button material	See ordering information
Impulse time	0.5 sec (momentary)

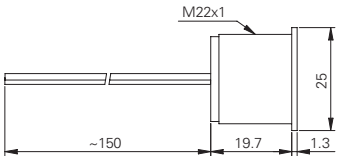
Product Dimensions

All dimensions in mm

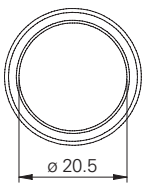
Finger Guided



Flat

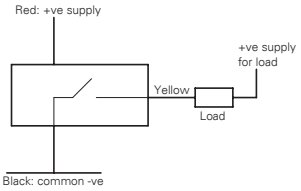


Front View (guided)

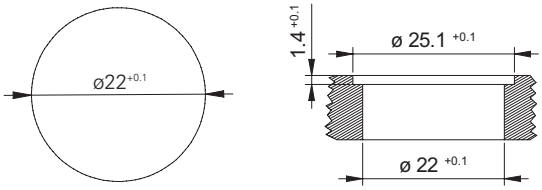


Circuit Diagram

Common ground (NMOS)

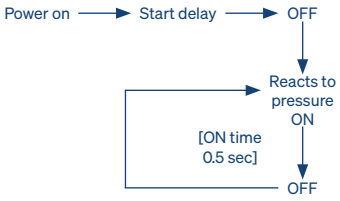


Mounting Dimensions

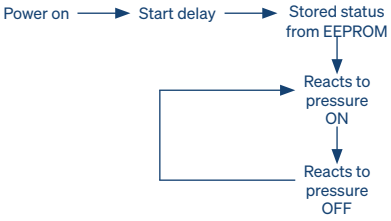


Timing Diagram

Momentary



Toggle



Ordering Information



Material
AN: Natural annodised aluminium
AR: Red annodised aluminium
AB: Blue annodised aluminium
AY: Yellow annodised aluminium
AG: Green annodised aluminium
AS: Black annodised aluminium
BC: Chrome plated brass
V2: Stainless steel[1]

Head Style
F: Flat
G: Guided

Switch Function
M: Momentary
T: Toggle

NK15 / □ / □ / □ / S / L1

[1] 1.4305

EPI16 22mm Illuminated Piezo Switch

22mm	26mm	10.5mm	IP68	LED	
	28mm	14mm			

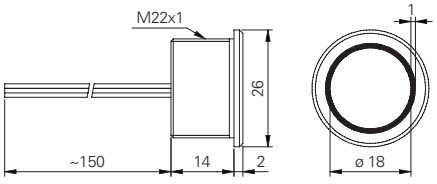
Specification

Termination	15cm flying leads
Switching function	Momentary
Configuration of poles	Single
Maximum load	100mA, 35VDC
LED voltage	See ordering information
Contact resistance	100mΩ
Insulation resistance	> 10^9Ω
Operating temperature	-40°C to +50°C
Ingress protection	IP68 (EN 60529)
Duty cycle	1,000,000 (min)
Operating force	< 5N
Nut mounting torque	~ 2.5Nm
Panel thickness	0.5mm to 13.0mm
Body & button material	See ordering information
ESD resistance	15kV to front of switch

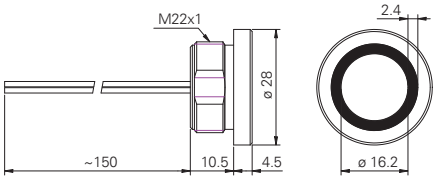
Product Dimensions

All dimensions in mm

Flat



Raised

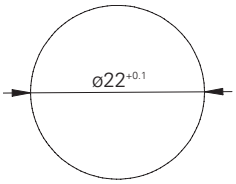


Circuit Diagram



Form A

Mounting Dimensions



Wiring Instructions

Switch wire

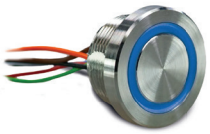
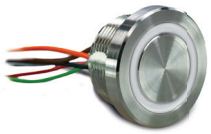
Switch wire

Ground wire for LED

LED colour wire for +LED

Ordering Information



Material
AN: Natural annodised aluminium
AR: Red annodised aluminium
AB: Blue annodised aluminium
AY: Yellow annodised aluminium
AG: Green annodised aluminium
AS: Black aluminium
V2: Stainless steel[1]
V4: Stainless steel[2]
V5: Stainless steel[3]

Head Style
F: Flat
R: Raised

LED Colour
GN: Green
RD: Red
YL: Yellow
BL: Blue
WH: White
GR: Green/red[3]
BR: Blue/red[3]
GB: Green/blue[3]
BW: Blue/white
10: RGB[4,6]

LED Voltage
R1: 5-12 volt[5]
R3: 12-24 volt[6]

EPI16 / □ / □ / R / □ / □ / M / S / L1

[1] 1.4305
[2] 1.4404
[3] 1.4462
[4] Only available with 12-24 volt (R3)
[5] Only available with flat head
[6] Only available with raised head

NKI16 22mm Illuminated thiNKswitch™

22mm	26mm	10.5mm	IP68	LED	
		14mm			

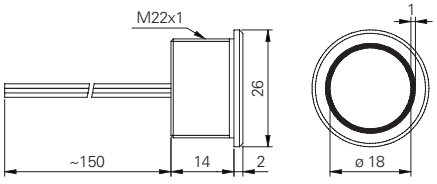
Specification

Termination	15cm flying leads
Switching function	Momentary or toggle
Configuration of poles	Single
Maximum load	2.5A, 8VDC to 24VDC
LED voltage	See ordering information
"ON" resistance	100mΩ
Insulation resistance	> 10^9Ω
Operating temperature	-40°C to +50°C
Ingress protection	IP68 (EN 60529)
Duty cycle	1,000,000 (min)
Operating force	< 5N
Nut mounting torque	~ 2.5Nm
Panel thickness	0.5mm to 13.0mm
Body & button material	See ordering information
ESD resistance	15kV to front of switch
Impulse time	0.5 sec (momentary)

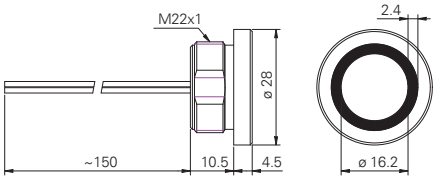
Product Dimensions

All dimensions in mm

Flat

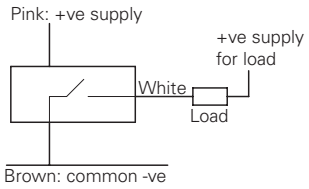


Raised

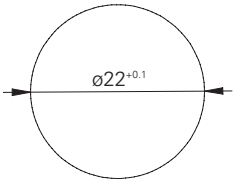


Circuit Diagram

Common ground (NMOS)



Mounting Dimensions



Wiring Instructions

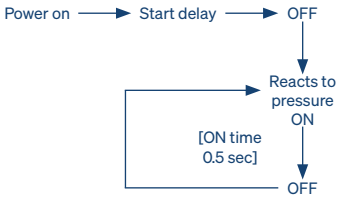
Switch: See circuit diagram

Ground wire for LED

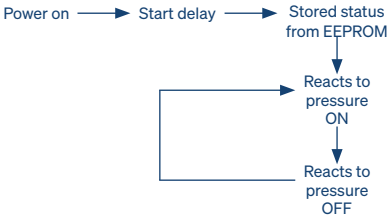
LED colour wire for +LED

Timing Diagram

Momentary



Toggle



Ordering Information



Material
- AN: Natural annodised aluminium
- AR: Red annodised aluminium
- AB: Blue annodised aluminium
- AY: Yellow annodised aluminium
- AG: Green annodised aluminium
- AS: Black aluminium
- V2: Stainless steel[1]
- V4: Stainless steel[2]
- V5: Stainless steel[3]

Head Style
- F: Flat
- G: Raised

LED Colour
- GN: Green
- RD: Red
- YL: Yellow
- BL: Blue
- WH: White
- GR: Green/red
- BR: Blue/red
- GB: Green/blue
- BW: Blue/white

LED Voltage
- 00: No resistor[4]
- 05: 5 volt
- 12: 12 volt
- 24: 24 volt

Switch Function
- M: Momentary
- T: Toggle

NKI16 / □ / □ / R / □ / □ / □ / S / L1

[1] 1.4305
[2] 1.4404
[3] 1.4462
[4] Red, yellow: 1.9V | Green, blue: 3.4V | White: 3.6V (20mA)

EPI50 30mm Illuminated Piezo Switch

30mm	∅ 33.5mm	17.5mm	IP68	LED	

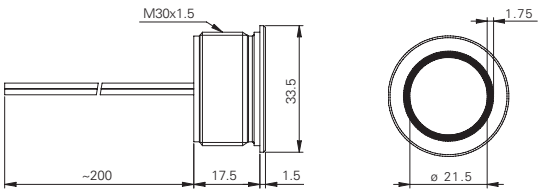
Specification

Termination	20cm flying leads
Switching function	Momentary
Configuration of poles	Single
Maximum load	100mA, 35VDC, 24VAC
LED voltage	See ordering information
Contact resistance	100mΩ
Insulation resistance	> 10^9Ω
Operating temperature	-40°C to +50°C
Ingress protection	IP68 (EN 60529)
Duty cycle	1,000,000 (min)
Operating force	< 5N
Nut mounting torque	~ 2.5Nm
Panel thickness	0.5mm to 13.0mm
Body & button material	See ordering information
ESD resistance	-

Product Dimensions

All dimensions in mm

Flat

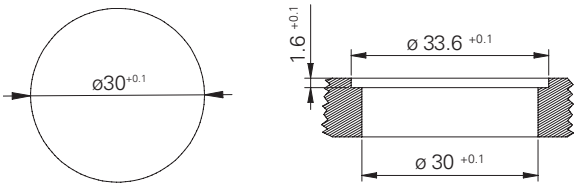


Circuit Diagram



Form A

Mounting Dimensions



Wiring Instructions

Switch wire

Switch wire

Ground wire for LED

LED colour wire for +LED

Ordering Information



Material
AN: Natural annodised aluminium
AR: Red annodised aluminium
AB: Blue annodised aluminium
AY: Yellow annodised aluminium
AG: Green annodised aluminium
AS: Black annodised aluminium
V2: Stainless steel[1]
V4: Stainless steel[2]

LED Colour
GN: Green
RD: Red
YL: Yellow
BL: Blue
WH: White
GR: Green/red
BR: Blue/red
GB: Green/blue
BW: Blue/white

LED Voltage
00: No resistor
12: 12 volt
24: 24 volt

EPI50 / ☐ / F / R / ☐ / ☐ / M / S / L2

[1] 1.4305
[2] 1.4404

NKI50 30mm Illuminated thiNKswitch™

30mm	∅ 33.5mm	17.5mm	IP68	LED	

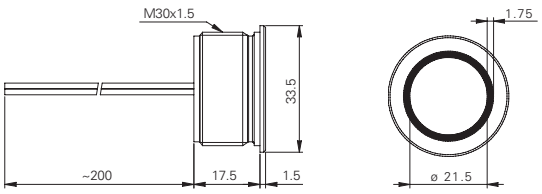
Specification

Termination	20cm flying leads
Switching function	Momentary or toggle
Configuration of poles	Single
Maximum load	2.5A, 8VDC to 24VDC
LED voltage	24 volt DC
"ON" resistance	100mΩ
Insulation resistance	> 10^9Ω
Operating temperature	-40°C to +50°C
Ingress protection	IP68 (EN 60529)
Duty cycle	1,000,000 (min)
Operating force	< 5N
Nut mounting torque	~ 2.5Nm
Panel thickness	0.5mm to 13.0mm
Body & button material	See ordering information
Impulse time	0.5 sec (momentary)

Product Dimensions

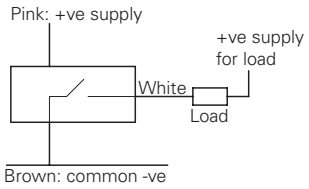
All dimensions in mm

Flat

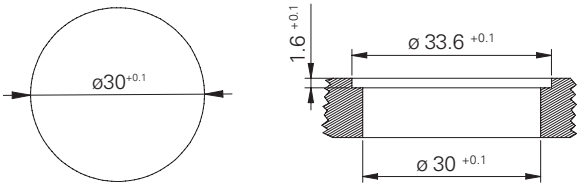


Circuit Diagram

Common ground (NMOS)

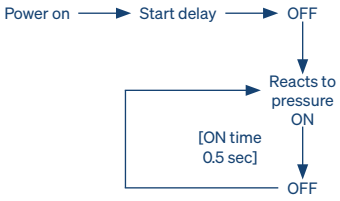


Mounting Dimensions

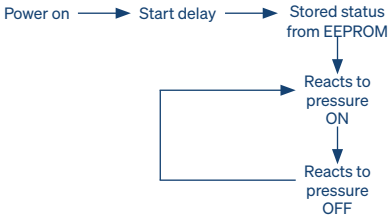


Timing Diagram

Momentary



Toggle



Wiring Instructions



Switch: See circuit diagram

Ground wire for LED

LED colour wire for +LED

Ordering Information



Material
AN: Natural annodised aluminium
AR: Red annodised aluminium
AB: Blue annodised aluminium
AY: Yellow annodised aluminium
AG: Green annodised aluminium
AS: Black annodised aluminium
V2: Stainless steel[1]
V4: Stainless steel[2]

LED Colour
GN: Green
RD: Red
YL: Yellow
BL: Blue
WH: White
GR: Green/red
BR: Blue/red
GB: Green/blue
BW: Blue/white

Switch Function
M: Momentary
T: Toggle

NKI50 / ☐ / F / R / ☐ / 24 / ☐ / S / L1

[1] 1.4305
[2] 1.4404

CK121 19mm Illuminated Capacitive Switch

19mm | 22mm | 32mm | IP68 | IP69K | LED

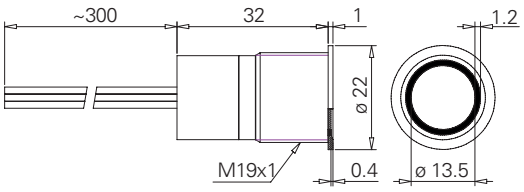
Specification

Termination	30cm flying leads
Switching function	Momentary or maintained
Configuration of poles	Single
Maximum load	500mA, 24VDC
LED voltage	See ordering information
Contact resistance	200mΩ
Insulation resistance	600VDC 10MΩ
Operating temperature	-25°C to +55°C
Ingress protection	IP67 (EN 60529), IP69K (DIN 4050)
Duty cycle	50,000,000 (min)
Operating force	0N
Nut mounting torque	~ 0.8Nm
Panel thickness	0.5mm to 8.0mm
Body & button material	Stainless steel 1.4301
Can be triggered by water	

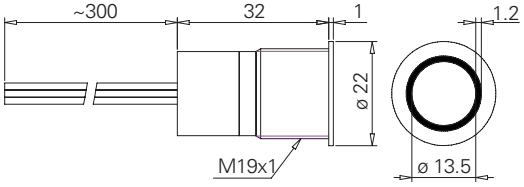
Product Dimensions

All dimensions in mm

Finger Guided

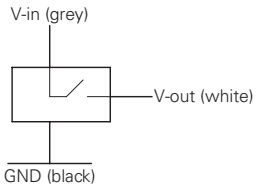


Flat

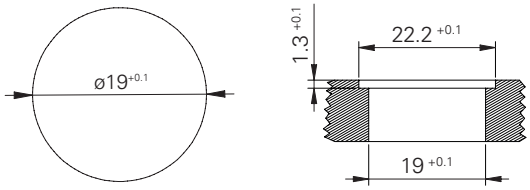


Circuit Diagram

Common plus (PMOS)



Mounting Dimensions



Wiring Instructions

Switch: See circuit diagram

LED wire +[2]

LED wire -[2]

For versions with 3 & 4 LED wires there is one wire per colour (+) and a black wire as common cathode[4,5]

Ordering Information



Head Style
F: Flat
G: Finger guided

LED Colour
GN: Green
RD: Red
YL: Yellow
BL: Blue
WH: White
BG: Blue/green[3]
BR: Blue/red[3]
BW: Blue/white[3]
RG: Red/green[3]
RB: Red/blue[3]
GB: Green/blue[3]
GR: Green/red[3]
WB: White/blue[3]
NB: Off/blue
NG: Off/green
NR: Off/red
NW: Off/white
NY: Off/yellow
01: Green/red[4]
02: Green/blue[4]
03: Blue/red[4]
04: Blue/white[4]
11: RGB[5]

LED Voltage
00: No resistor[1]
05: 5 volt
12: 12 volt
24: 24 volt

Switch Function
M: Momentary
L: Maintained
1: Momentary switched LED[3]
2: Maintained switched LED[3]

CKI21 / V2 / □ / R / □ / □ / □ / S / L3

[1] Green, yellow: 1.8V | Red, blue, white: 2.8V (20mA)
[2] LED wires are only present by unswitched LED versions
[3] First colour is active when the switch is not pressed.
Second colour is active when switch is pressed.
[4] 3 wires for LED connection (one per colour and common cathode (common anode available on request))
[5] Red/green/blue, 4 wires for LED connection (one per colour and common cathode (common anode available on request))

CK135 22mm Illuminated Capacitive Switch

22mm | 25mm | 32mm | IP68 | IP69K | LED

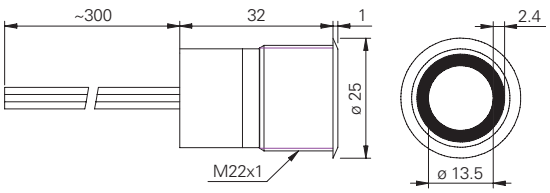
Specification

Termination	30cm flying leads
Switching function	Momentary or maintained
Configuration of poles	Single
Maximum load	500mA, 24VDC
LED voltage	See ordering information
Contact resistance	200mΩ
Insulation resistance	600VDC 10MΩ
Operating temperature	-25°C to +55°C
Ingress protection	IP67 (EN 60529), IP69K (DIN 4050)
Duty cycle	50,000,000 (min)
Operating force	0N
Nut mounting torque	~ 0.8Nm
Panel thickness	0.5mm to 8.0mm
Body & button material	Stainless steel 1.4301
Can be triggered by water	

Product Dimensions

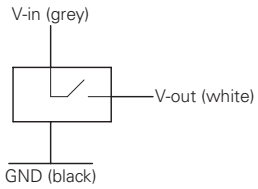
All dimensions in mm

Flat

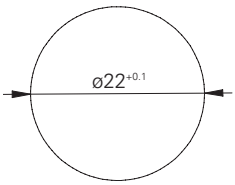


Circuit Diagram

Common plus (PMOS)



Mounting Dimensions



Wiring Instructions

Switch: See circuit diagram

LED wire +[2]

LED wire -[2]

For versions with 3 & 4 LED wires there is one wire per colour (+) and a black wire as common cathode[4,5]

Ordering Information



LED Colour

GN: Green
RD: Red
YL: Yellow
BL: Blue
WH: White
BG: Blue/green[3]
BR: Blue/red[3]
BW: Blue/white[3]
RG: Red/green[3]
RB: Red/blue[3]
GB: Green/blue[3]
GR: Green/red[3]

WB: White/blue[3]
NB: Off/blue
NG: Off/green
NR: Off/red
NW: Off/white
NY: Off/yellow
01: Green/red[4]
02: Green/blue[4]
03: Blue/red[4]
04: Blue/white[4]
11: RGB[5]

LED Voltage

00: No resistor[1]
05: 5 volt
12: 12 volt
24: 24 volt

Switch Function

M: Momentary
L: Maintained
1: Momentary switched LED[3]
2: Maintained switched LED[3]

CKI35 / V2 / F / R / □ / □ / □ / S / L3

[1] Green, yellow: 1.8V | Red, blue, white: 2.8V (20mA)
[2] LED wires are only present by unswitched LED versions
[3] First colour is active when the switch is not pressed.
Second colour is active when switch is pressed.
[4] 3 wires for LED connection (one per colour and common cathode (common anode available on request))
[5] Red/green/blue, 4 wires for LED connection (one per colour and common cathode (common anode available on request))

Rev. 3 | Engelking retains the right to change the specifications at any time without prior notice.

CK136 22mm Illuminated Capacitive Switch

22mm	25mm	32mm	IP68	LED	
			IP69K		

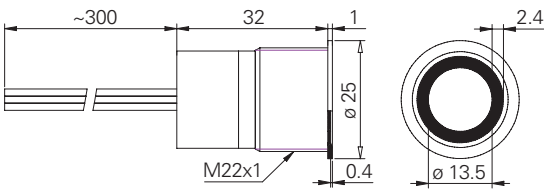
Specification

Termination	30cm flying leads
Switching function	Momentary or maintained
Configuration of poles	Single
Maximum load	500mA, 24VDC
LED voltage	See ordering information
Contact resistance	200mΩ
Insulation resistance	600VDC 10MΩ
Operating temperature	-25°C to +55°C
Ingress protection	IP67 (EN 60529), IP69K (DIN 4050)
Duty cycle	50,000,000 (min)
Operating force	0N
Nut mounting torque	~ 0.8Nm
Panel thickness	0.5mm to 8.0mm
Body & button material	Stainless steel 1.4301
Can be triggered by water	

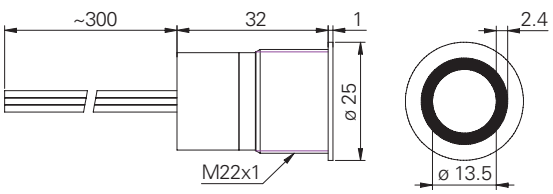
Product Dimensions

All dimensions in mm

Finger Guided

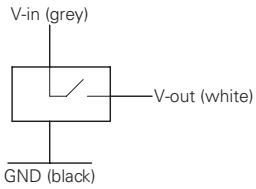


Flat

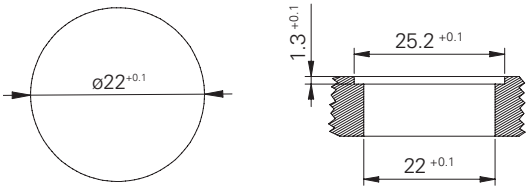


Circuit Diagram

Common plus (PMOS)



Mounting Dimensions



Wiring Instructions

Switch: See circuit diagram

LED wire +[2]

LED wire -[2]

For versions with 3 & 4 LED wires there is one wire per colour (+) and a black wire as common cathode[4,5]

Ordering Information



Head Style
F: Flat
G: Finger guided

LED Colour
GN: Green
RD: Red
YL: Yellow
BL: Blue
WH: White
BG: Blue/green[3]
BR: Blue/red[3]
BW: Blue/white[3]
RG: Red/green[3]
RB: Red/blue[3]
GB: Green/blue[3]
GR: Green/red[3]
WB: White/blue[3]
NB: Off/blue
NG: Off/green
NR: Off/red
NW: Off/white
NY: Off/yellow
01: Green/red[4]
02: Green/blue[4]
03: Blue/red[4]
04: Blue/white[4]
11: RGB[5]

LED Voltage
00: No resistor[1]
05: 5 volt
12: 12 volt
24: 24 volt

Switch Function
M: Momentary
L: Maintained
1: Momentary switched LED[3]
2: Maintained switched LED[3]

CKI36 / V2 / □ / R / □ / □ / □ / S / L3

[1] Green, yellow: 1.8V | Red, blue, white: 2.8V (20mA)
[2] LED wires are only present by unswitched LED versions
[3] First colour is active when the switch is not pressed.
Second colour is active when switch is pressed.
[4] 3 wires for LED connection (one per colour and common cathode (common anode available on request))
[5] Red/green/blue, 4 wires for LED connection (one per colour and common cathode (common anode available on request))

Rev. 3 | Engelking retains the right to change the specifications at any time without prior notice.

EPK10 3x4 Piezo Keypad

3×4	4.5mm 6.3mm	(IP68)	

Specification

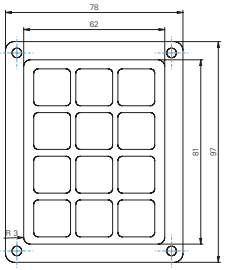
Termination	See ordering information
Switching function	Momentary
Configuration of poles	Single
Maximum load	200mA, 35VDC
Contact resistance ON	< 7.5Ω
Operating temperature	-40°C to +85°C
Ingress protection	IP68 (EN 60529) with additional gasket
Duty cycle	1,000,000 (min)
Operating force	< 5N
Body material	See ordering information

Product Dimensions

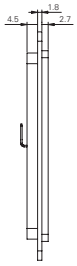
All dimensions in mm

Rear Panel Mount Vertical

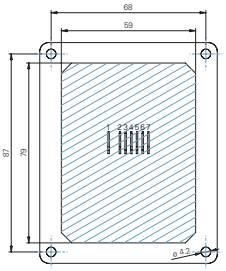
Front View



Side View

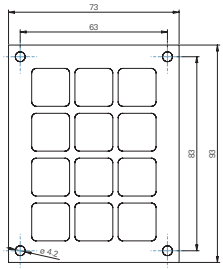


Rear View



Front Panel Mount Vertical

Front View



Side View



Pin Layout

Pin number

Button	1	2	3	4	5	6	7
1	□				□		
2	□					□	
3	□						□
4		□			□		
5		□				□	
6		□					□
7			□		□		
8			□			□	
9			□				□
*				□	□		
0				□		□	
#				□			□

Ordering Information



Material
AN: Natural aluminium
V2: Stainless steel

Mounting
R: Rear panel
F: Front panel

Orientation
V: Vertical

Key Type
F: Flat

EPK10 / □ / □ / □ / □ / □ / □ / □ / □

Function
M: Momentary

Output
M: Matrix

Marking
01: 0-9*#

Termination
TA: Top angle pin header
R3: Ribbon cable 30cm

Standard Marking Options

1	2	3
4	5	6
7	8	9
*	0	#

01: 0-9*#

EPK15 4x4 Piezo Keypad

4x4	4.5mm / 6.3mm	(IP68)	

Specification

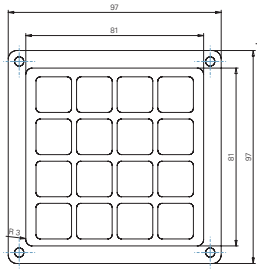
Termination	See ordering information
Switching function	Momentary
Configuration of poles	Single
Maximum load	200mA, 35VDC
Contact resistance ON	< 7.5Ω
Operating temperature	-40°C to +85°C
Ingress protection	IP69K (EN 4050) with additional gasket
Duty cycle	1,000,000 (min)
Operating force	< 5N
Body material	See ordering information

Product Dimensions

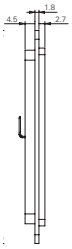
All dimensions in mm

Rear Panel Mount Vertical

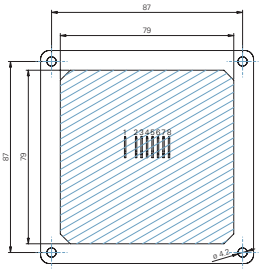
Front View



Side View

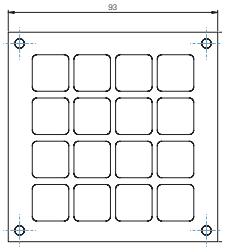


Rear View



Front Panel Mount Vertical

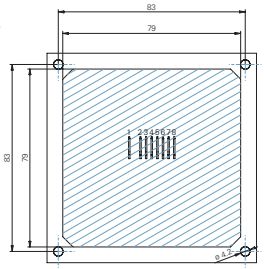
Front View



Side View



Rear View



Pin Layout

Pin number

Button	1	2	3	4	5	6	7	8
1	□				□			
2	□					□		
3	□						□	
A	□							□
4		□			□			
5		□				□		
6		□					□	
B		□						□
7			□		□			
8			□			□		
9			□				□	
C			□					□
*				□	□			
0				□		□		
#				□			□	
D				□				□

Ordering Information



Material
AN: Natural aluminium
V2: Stainless steel

Mounting
R: Rear panel

Orientation
V: Vertical

Key Type
F: Flat

EPK15 / ☐ / R / V / F / M / M / ☐ / ☐

Function
M: Momentary

Output
M: Matrix

Marking
20: 0-9*#A-D

Termination
TA: Top angle pin header
R3: Ribbon cable 30cm

Standard Marking Options

1	2	3	A
4	5	6	B
7	8	9	C
*	0	#	D

20: 0-9*#A-D

CIO4 8mm Vandalproof LED

8mm	11mm	26mm	IP67

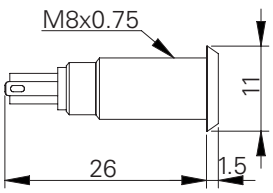
Specification

Termination	1.8×0.4mm fast connect terminals
LED voltage	See ordering information
Rated current	20mA
Operating temperature	-25°C to +55°C
Ingress protection	IP67 (EN 60529)
Nut mounting torque	About 0.1Nm
Panel thickness	6.0mm (max)
Body material	See ordering information

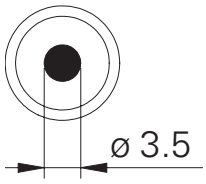
Product Dimensions

All dimensions in mm

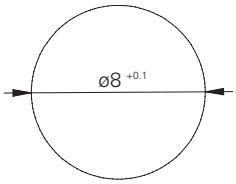
Side View



Front View



Mounting Dimensions



Ordering Information





Material
V2: Stainless steel[1]
BN: Nickel plated brass

LED Colour
GN: Green
RD: Red
YL: Yellow
BL: Blue
WH: White
GR: Green/red
BR: Blue/red
GB: Green/blue

LED Voltage
00: No resistor[2]
06: 6 volt
12: 12 volt
24: 24 volt

CI04 / ☐ / P / D / ☐ / ☐ / 18

[1] 1.4301
[2] Green, yellow: 1.8V | Red, blue, white: 2.8V (20mA)

C105 8mm Vandalproof LED

8mm	9.5mm	39mm	IP67

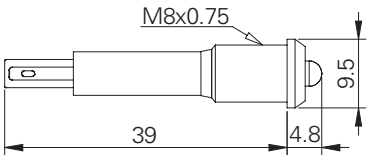
Specification

Termination	2.8×0.5mm fast connect terminals
LED voltage	See ordering information
Rated current	20mA
Operating temperature	-25°C to +55°C
Ingress protection	IP67 (EN 60529)
Nut mounting torque	About 0.1Nm
Panel thickness	6.0mm (max)
Body material	See ordering information

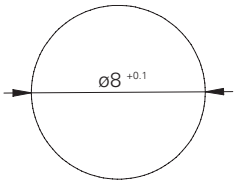
Product Dimensions

All dimensions in mm

Side View



Mounting Dimensions



Ordering Information

Material
V2: Stainless steel
MB: Black plated brass
BN: Nickel plated brass

LED Colour
GN: Green
RD: Red
YL: Yellow
BL: Blue
WH: White
GR: Green/red
BR: Blue/red
GB: Green/blue

LED Voltage
06: 6 volt
12: 12 volt
24: 24 volt

CI05 / ☐ / D / D / ☐ / ☐ / 28

C108 12mm Vandalproof LED

12mm	∅ 15mm	27.4mm	IP67

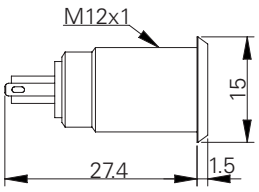
Specification

Termination	1.8×0.4mm fast connect terminals
LED voltage	See ordering information
Rated current	2mA to 20mA
Operating temperature	-25°C to +55°C
Ingress protection	IP67 (EN 60529)
Nut mounting torque	About 0.1Nm
Panel thickness	10.0mm (max)
Body material	See ordering information

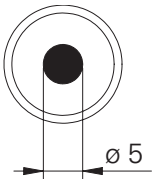
Product Dimensions

All dimensions in mm

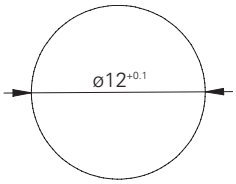
Side View



Front View



Mounting Dimensions



Ordering Information





Material
V2: Stainless steel[1]
BN: Nickel plated brass

LED Colour
GN: Green
RD: Red
YL: Yellow
BL: Blue
WH: White
GR: Green/red
BR: Blue/red
GB: Green/blue

LED Voltage
00: No resistor[2]
06: 6 volt
12: 12 volt
24: 24 volt

CI08 / ☐ / P / D / ☐ / ☐ / 18

[1] 1.4301
[2] Green, yellow: 1.8V | Red, blue, white: 2.8V (20mA)

Tel: +49 (0)7464 9865 0 Email: info@engelking.de www.engelking.de

MPI-VSG 14.5mm Electronic Ballast

14.5mm

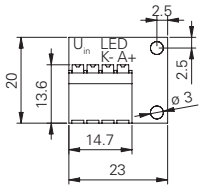
Specification

Termination	Spring loaded terminals
Input voltage	8-30VDC or 8-24VAC
Output	15-20mA
Protects the LED from excessive voltage	
Constant current source with transient protection	

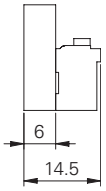
Product Dimensions

All dimensions in mm

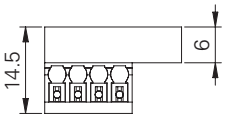
Front View



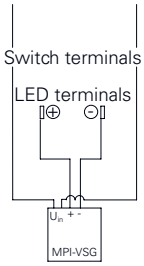
Side View



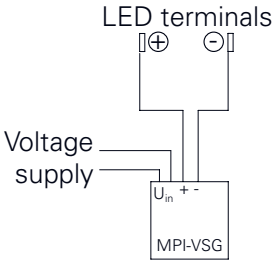
Top View



Connection Diagram for 4-Wire Systems



Connection Diagram for 2-Wire Systems



Ordering Information



Part Number
MPI-VSG

Rev. 2 | Engelking retains the right to change the specifications at any time without prior notice.

AC Wiring Accessories

Ordering Information





Switch Type
I: Illuminated[1]
N: Non-illuminated

For Series
15: CM15/16 & CMI15/16
25: CM25/26 & CMI25/26
30: CM30/31 & CMI30/31
35: CM35/36 & CMI35/36
40: CM(I)40/41/45/

Poles
S: Single
D: Double

Terminations
L1: 15cm leads
L2: 20cm leads[2]
L3: 30cm leads[2]
PC: PC pins
SC: Solder contacts

AC □ / ▭ / □ / ▭

[1] Only available for single colour switches
[2] Only available for series (code) 35 & 40

Customized **Products**

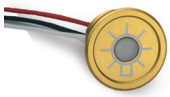
Customized Switches



1. Printed lit symbols



2. Lasered lit symbols



3. Laser engraving





4. Custom colour



5. Surface illumination



6. Rear sealing



7. Printed symbols

Custom Development



1. Snap-in piezo switch



2. Custom piezo switch



3. Custom pushbutton



4. Underwater piezo panel



5. Door pushbutton



6. Chrome switch panel



7. Snap-in pushbutton



8. Pool piezo panel

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