



LS position switches

MCS pressure switches, sensors

Eaton safety and position switches are used wherever positions must be determined precisely. Available in various construction types, the sensors and proximity switches are non-contact for reliable switching. A wide spectrum of inductive, capacitive, optoelectronic and mechanical sensors with a multitude of connection variants for direct and alternating voltage with two or three conductors covers nearly every application.

Safety / position switches LS-Titan

Determine positions reliably +++ Cage clamp and screw terminal technology +++ Metal or insulated versions +++ Positive opening contacts +++ Easy mounting of the various operating heads → Page 3/2

Safety door switch, safety / position switches

Safety for personnel and processes +++ Secures and locks protective doors +++ Switches off safely in case of emergencies +++ Prevents unwanted manipulation → Page 3/12

MCS pressure switches

Pressure monitoring of fluid and gaseous media, i.e. air pressure +++ Two adjustable operating points (ON/OFF operating point) +++ 1-pole or 3-pole, to control auxiliary circuits or switch loads → Page 3/31

Sensors, proximity switches

Inductive, capacitive and optical object recognition +++ Cylindrical construction types from 4 – 30 mm +++ Cubical construction types +++ AC and DC variants → Page 3/36



System overview

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Ordering

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Description

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Ordering

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Ordering

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Dimensions

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Technical data

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Inductive Sensors

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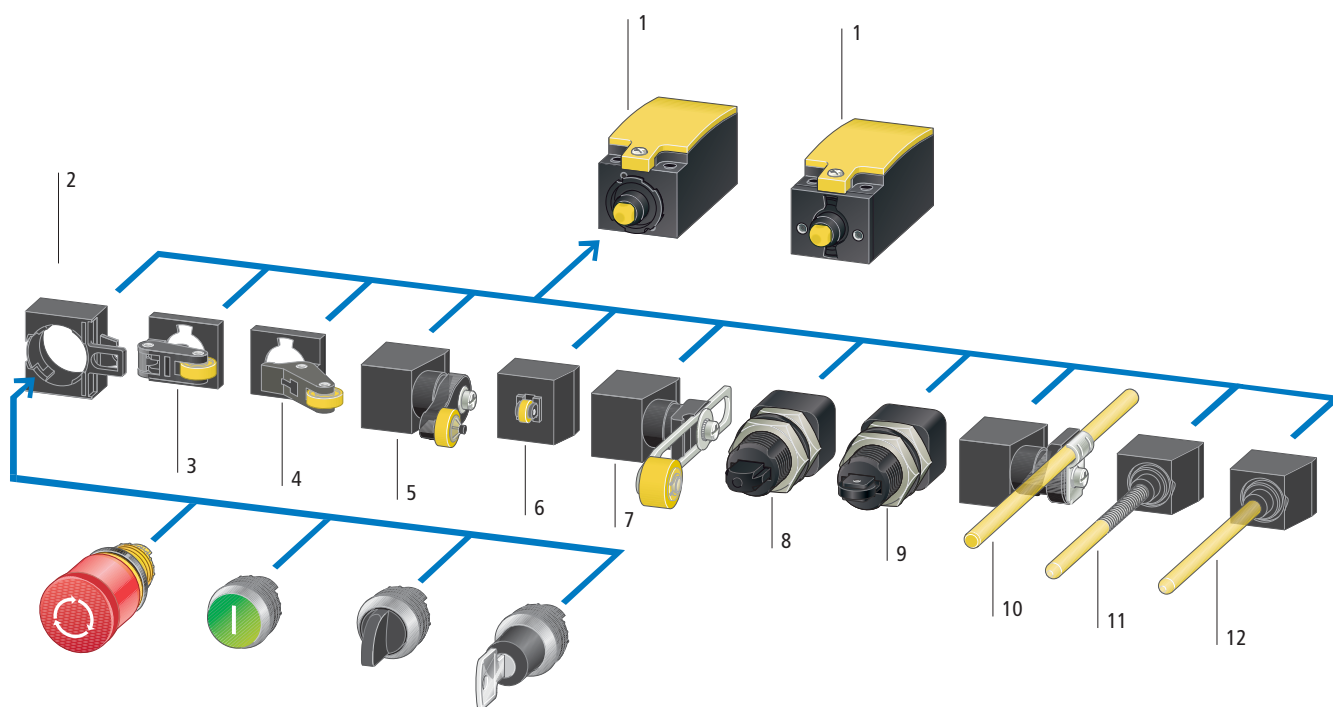
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Accessories

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System overview



LS, LSM

Basic units

Basic Unit	1
According to EN 50047	
With screw-on cover	
Contact configuration: 1N/O / 1NC, 2N/O, 2NC	
Cage Clamp, Screw terminals technology	
As snap-action or standard-action switch	
As electronic snap-action switch, (individually adjustable)	
As 4-20 mA analog signal encoder	
As 0-10 VDC analog signal encoder	
→ Page 3/3	

Operating heads

Can be rotated by 90°

Fixing adapters	2
Actuation through front element RMQ-Titan®	
Roller lever	3
For one-sided operation with higher operating speed	
Angled roller lever	4
For actuation along the unit axis	
Rotary lever	5
For transverse actuation, for pendulum movements	
→ Page 3/5	

Operating heads

Can be rotated by 90°

Roller plunger	6
For transverse actuation with low actuating force	
Adjustable roller lever	7
For length adjustment as required	
Rounded plunger, center fixing	8
For mounting in enclosure wall or mounting plate drilling M18 x 1	
Roller plunger, center fixing	9
For mounting in enclosure wall or mounting plate drilling M18 x 1	
Actuating rod	10
On conveyor belts for lightweight goods	
Spring rod	11
For flexible actuation from all sides	
Actuating rod	12
Withdrawable mechanism from front	
→ Page 3/5	

LS, LSM product features

- Modular system
- IP65 and IP66 protection type (except LSM)

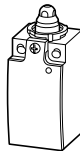
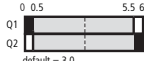
Totally insulated

- Personnel protection
- Positive operation
- ☹ Safety function with positively opening contacts to IEC/EN 60947-5-1 up to Category 4 to EN 954-1

- Suitable for use with electronic units to IEC/EN 61131-2
- Devices for world markets

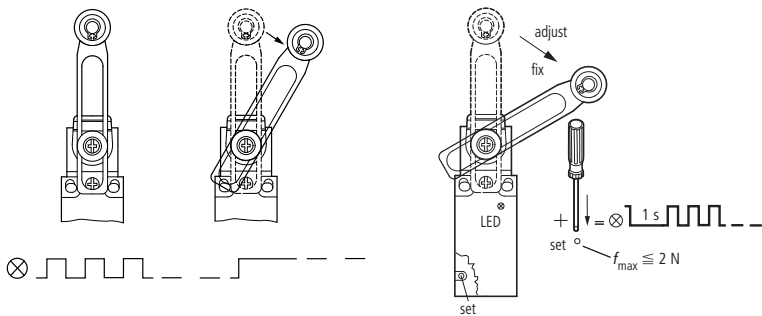
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Ordering

Contact configuration	Circuit symbol	Contact travel ■ = Contact closed □ = Contact open	Color Enclosure cover	Part no. Article no.	Price See price list	Std. pack		
⊕ Safety function safety function to IEC/EN 60947-5-1								
N/O = normally open contact	NC = normally closed contact							
Basic unit, expandable								
Operating point electronically adjustable, IP66, IP67								
Basic unit Visible status display, comparable with positive opening function Partly short-circuit-proof, restart after reset								
								
	1 N/O	1 NC				LSE-11 266121	2 off 	1)
—	2 NC				LSE-02 266122	2 off 	1)	

Notes

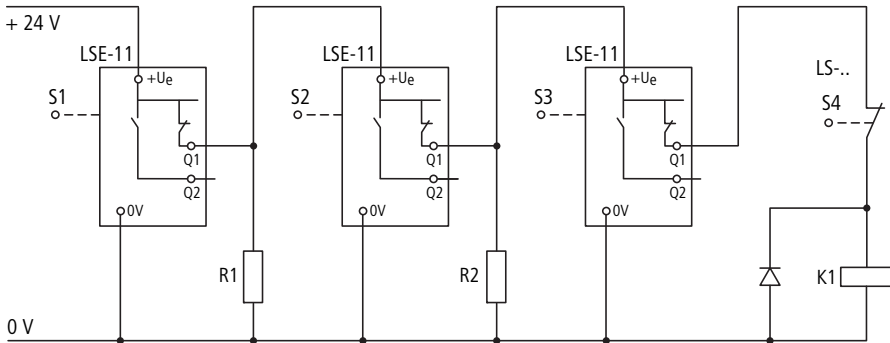
LSE-11 and LSE-02: Individual operating point adjustment:



The following applies to LSE-11 and LSE-02: ensure that the power supply operates correctly when setting the operating point.

Circuit example of series connection:

LSE-11 and LSE-02 can be used in safety-oriented circuits.



S1 is connected to 24 V DC

S2, S3 each switch with a delay of 0.7 s

R1, R2 e.g. series resistor element M22-XLED60 (2820 Ω/0.5 W)

1) Operating heads → Page 3/9

Information relevant for export to North America



Product Standards

UL File No.
UL CCN
CSA File No.
CSA Class No.
NA Certification
Degree of Protection

IEC/EN 60947-5; UL 508;
CSA-C22.2 No. 14; CE marking
E29184
NKCR
12528
3211-03
UL Listed, CSA certified
IEC: IP66, 67, UL/CSA Type 3R,
4X (indoor use only), 12, 13

Contact configuration

Circuit
symbol

■ = Contact closed
□ = Contact open

Color
Enclosure
covers

Enclosure

Connection
type

Part no.
Article no.

Price
See
price list

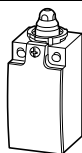
Std. pack

⊕ Positive opening
safety function according to
IEC/EN 60947-5-1

N/O = normally open
NC = normally closed contact

Basic unit, expandable

Rounded plunger, IP66, IP67



–	2 NC ⊕				plastic	Cage Clamp	LS-02 266107		10 off	1) 2)
–	2 NC ⊕					Cage Clamp	LS-02-SW 272009		10 off	1) 2)
–	2 NC ⊕					Screw terminal	LS-S02 106729		10 off	2)
–	2 NC ⊕					Screw terminal	LS-S02-SW 106782		10 off	2)
–	2 NC ⊕				metal	Cage Clamp	LSM-02 266142		2 off	1) 2)
–	2 NC ⊕				plastic EN 50047 Form B	Cage Clamp	LS-02A 116702		10 off	1) 2)
–	2 NC ⊕					Screw terminal	LS-S02A 116703		10 off	2)
1 N/O	1 NC ⊕				plastic	Cage Clamp	LS-11 266109		10 off	1) 2)
1 N/O	1 NC ⊕					Cage Clamp	LS-11-SW 272006		10 off	1) 2)
1 N/O	1 NC ⊕					Screw terminal	LS-S11 106783		10 off	2)
1 N/O	1 NC ⊕					Screw terminal	LS-S11-SW 106807		10 off	2)
1 N/O	1 NC ⊕				metal EN 50047 Form B	Cage Clamp	LSM-11 266144		2 off	1) 2)
1 N/O	1 NC ⊕				plastic EN 50047 Form B	Cage Clamp	LS-11A 116704		10 off	1) 2)
1 N/O	1 NC ⊕					Screw terminal	LS-S11A 116705		10 off	2)
1 N/O	1 NC ⊕				plastic	Cage Clamp	LS-11D 266114		10 off	1) 2)
1 N/O	1 NC ⊕					Cage Clamp	LS-11D-SW 272007		10 off	1) 2)
1 N/O	1 NC ⊕					Screw terminal	LS-S11D 106791		10 off	2)
1 N/O	1 NC ⊕					Screw terminal	LS-S11D-SW 106797		10 off	2)
1 N/O	1 NC ⊕				metal	Cage Clamp	LSM-11D 266149		2 off	1) 2)
1 N/O	1 NC ⊕				plastic	Cage Clamp	LS-11DA 292361		10 off	1) 2)
1 N/O	1 NC ⊕				plastic	Screw terminal	LS-S11DA 106795		1 off	2)
1 N/O	1 NC ⊕				metal	Cage Clamp	LSM-11DA 292363		1 off	1) 2)
1 N/O	1 NC ⊕				plastic EN 50047 Form B	Cage Clamp	LS-11S 266105		10 off	1) 2)
1 N/O	1 NC ⊕				plastic EN 50047 Form B	Cage Clamp	LS-11S-SW 272020		10 off	1) 2)
1 N/O	1 NC ⊕				plastic EN 50047 Form B	Screw terminal	LS-S11S 106798		10 off	2)
1 N/O	1 NC ⊕				plastic EN 50047 Form B	Screw terminal	LS-S11S-SW 106806		10 off	2)
1 N/O	1 NC ⊕				metal EN 50047 Form B	Cage Clamp	LSM-11S 266140		2 off	1) 2)

Notes

- ¹⁾ Cage Clamp is a registered trademark of Wago Kontakttechnik, 32432 Minden, Germany. Accessories for the Cage Clamp terminals from Wago: Jumper insert, grey, Wago article no. 264-402
- ²⁾ Operating heads → Page 3/9

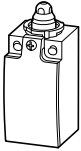
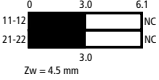
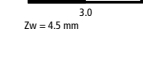
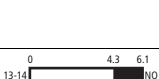
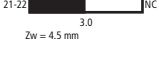
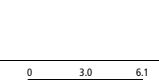
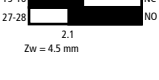
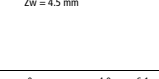
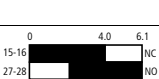
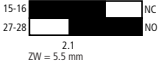
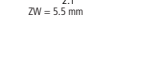
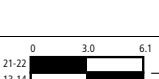
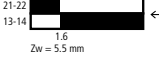
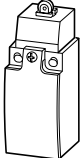
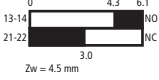
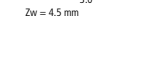
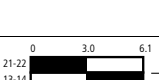
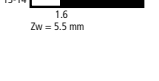
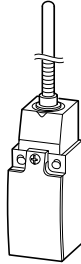
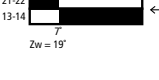
Information relevant for export to North America



Product Standards
UL File No.
UL CCN
CSA File No.
CSA Class No.
NA Certification
Degree of Protection

IEC/EN 60947-5; UL 508; CSA-C22.2 No. 14; CE marking
E29184
NKCR
12528
3211-03
UL Listed, CSA certified
IEC: IP66, 67, UL/CSA Type 3R, 4X (indoor use only), 12, 13

HPL030005EN

	Contact configuration ⊕ Positive opening safety function according to IEC/EN 60947-5-1 N/O = normally open contact NC = normally closed contact	Circuit symbol	Contact travel ■ = Contact closed □ = Contact open	Color Enclosure covers	Enclosure	Connection type	Part no. Article no.	Price See price list	Std. pack
Complete units									
Rounded plunger, IP66, IP67 (front fixing)									
	—	2 NC ⊕			Yellow	plastic	Cage Clamp	LS-02/F 292365	1 off   1) 2)
	—	2 NC ⊕			Yellow	plastic	Screwed terminal	LS-S02/F 106780	1 off   2)
	—	2 NC ⊕			Yellow	metal	Cage Clamp	LSM-02/F 292371	1 off   1) 2)
	1 N/O	1 NC ⊕			Yellow	plastic	Cage Clamp	LS-11/F 290176	1 off   1) 2)
	1 N/O	1 NC ⊕			Yellow	plastic	Screwed terminal	LS-S11/F 106784	1 off   2)
	1 N/O	1 NC ⊕			Yellow	metal	Cage Clamp	LSM-11/F 292372	1 off   1) 2)
	1 N/O	1 NC ⊕			Yellow	plastic	Screwed terminal	LS-S11D/F 106792	1 off   2)
	1 N/O	1 NC ⊕			Yellow	plastic	Cage Clamp	LS-11D/F 292366	1 off   1) 2)
	1 N/O	1 NC ⊕			Yellow	metal	Cage Clamp	LSM-11D/F 292373	1 off   1) 2)
	1 N/O	1 NC ⊕			Yellow	plastic	Cage Clamp	LS-11DA/F 292369	1 off   1) 2)
	1 N/O	1 NC ⊕			Yellow	plastic	Screwed terminal	LS-S11DA/F 106796	1 off   2)
	1 N/O	1 NC ⊕			Yellow	metal	Cage Clamp	LSM-11DA/F 292376	1 off   1) 2)
	1 N/O	1 NC ⊕			Yellow	plastic	Cage Clamp	LS-11S/F 292367	1 off   1) 2)
	1 N/O	1 NC ⊕			Yellow	plastic	Screwed terminal	LS-S11S/F 106799	1 off   2)
	1 N/O	1 NC ⊕			Yellow	metal	Cage Clamp	LSM-11S/F 292374	1 off   1) 2)
Roller plungers, IP66, IP67									
	1 N/O	1 NC ⊕			Yellow	plastic EN 50047 Form C	Cage Clamp	LS-11/P 266112	2 off   1) 2)
	1 N/O	1 NC ⊕			Yellow	plastic EN 50047 Form C	Screwed terminal	LS-S11/P 106788	2 off   2)
	1 N/O	1 NC ⊕			Yellow	metal EN 50047 Form C	Cage Clamp	LSM-11/P 266147	2 off   1) 2)
	1 N/O	1 NC ⊕			Yellow	plastic EN 50047 Form C	Cage Clamp	LS-11S/P 266118	2 off   1) 2)
	1 N/O	1 NC ⊕			Yellow	plastic EN 50047 Form C	Screwed terminal	LS-S11S/P 106801	2 off   2)
	1 N/O	1 NC ⊕			Yellow	metal EN 50047 Form C	Cage Clamp	LSM-11S/P 266153	2 off   1) 2)
Spring rod actuator IP66, IP67									
Do not use spring-rod actuator as a safety position switch; admissible only with snap-action contact.									
	1 N/O	1 NC ⊕			Yellow	plastic	Cage Clamp	LS-11S/S 266104	2 off   1) 2)
	1 N/O	1 NC ⊕			Yellow	plastic	Screwed terminal	LS-S11S/S 106805	2 off   2)
	1 N/O	1 NC ⊕			Yellow	metal	Cage Clamp	LSM-11S/S 266139	2 off   1) 2)

Notes

- 1) Cage Clamp is a registered trademark of Wago Kontakttechnik, 32432 Minden. Accessories for the Cage Clamp terminals from Wago: Jumper insert, grey, Wago article no. 264-402
- 2) The operating head can be rotated at 90° intervals to adapt to the specified operating direction.

Information relevant for export to North America



Product Standards
UL File No.
UL CCN
CSA File No.
CSA Class No.
NA Certification
Degree of Protection

IEC/EN 60947-5; UL 508; CSA-C22.2 No. 14; CE marking
E29184
NKCR
12528
3211-03
UL Listed, CSA certified
IEC: IP66, 67, UL/CSA Type 3R, 4X (indoor use only), 12, 13



Contact configuration

Circuit symbol

■ = Contact closed
□ = Contact open

Color
Enclosure
cover

Enclosure

Connection
typePart no.
Article no.

Price
See
price
list

Std. pack

☉ Positive opening
safety function
according to
IEC/EN 60947-5-1

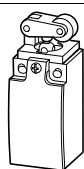
N/O =
normally open
contact

NC =
normally
closed contact

Complete units

Roller lever IP66, IP67

Long



—	2 NC ☉				plastic	Cage Clamp	LS-02/L 266108	2 off	1) 2)
—	2 NC ☉				plastic	Screw terminal	LS-S02/L 106781	2 off	2)
—	2 NC ☉				metal	Cage Clamp	LSM-02/L 266143	2 off	1) 2)
1 N/O	1 NC ☉				plastic EN 50047 Form E	Cage Clamp	LS-11/L 266110	2 off	1) 2)
1 N/O	1 NC ☉				plastic EN 50047 Form E	Screw terminal	LS-S11/L 106785	2 off	2)
1 N/O	1 NC ☉				metal EN 50047 Form E	Cage Clamp	LSM-11/L 266145	2 off	1) 2)
1 N/O	1 NC ☉				plastic	Cage Clamp	LS-11D/L 266115	2 off	1) 2)
1 N/O	1 NC ☉				plastic	Screw terminal	LS-S11D/L 106793	2 off	2)
1 N/O	1 NC ☉				metal	Cage Clamp	LSM-11D/L 266150	2 off	1) 2)
1 N/O	1 NC ☉				plastic EN 50047 Form E	Cage Clamp	LS-11S/L 266116	2 off	1) 2)
1 N/O	1 NC ☉				plastic EN 50047 Form E	Screw terminal	LS-S11S/L 106800	2 off	2)
1 N/O	1 NC ☉				metal EN 50047 Form E	Cage Clamp	LSM-11S/L 266151	2 off	1) 2)

Short

1 N/O	1 NC ☉				plastic	Cage Clamp	LS-11/LS 290173	2 off	1) 2)
1 N/O	1 NC ☉				plastic	Screw terminal	LS-S11/LS 106787	1 off	2)
1 N/O	1 NC ☉				plastic	Cage Clamp	LS-11D/LS 290174	1 off	1) 2)
1 N/O	1 NC ☉				plastic	Screw terminal	LS-S11D/LS 106794	1 off	2)

Large

1 N/O	1 NC ☉				plastic	Cage Clamp	LS-11/LB 290175	1 off	1) 2)
1 N/O	1 NC ☉				plastic	Screw terminal	LS-S11/LB 106786	1 off	2)

Notes

¹⁾ Cage Clamp is a registered trademark of Wago Kontakttechnik, 32432 Minden.

Accessories for the Cage Clamp terminals from Wago:
Jumper insert, grey, Wago article no. 264-402

²⁾ The operating head can be rotated at 90° intervals to adapt to the specified operating direction.

Information relevant for export to North America

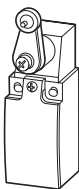
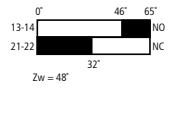
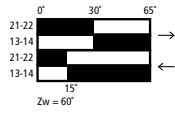
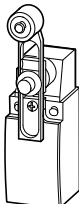
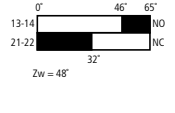
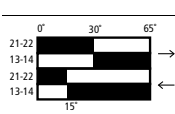
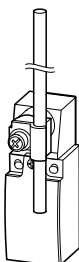
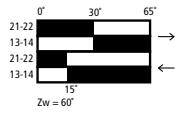


Product Standards

UL File No.
UL CCN
CSA File No.
CSA Class No.
NA Certification
Degree of Protection

IEC/EN 60947-5; UL 508; CSA-C22.2 No. 14;
CE marking
E29184
NKCR
12528
3211-03
UL Listed, CSA certified
IEC: IP66, 67, UL/CSA Type 3R, 4X
(indoor use only), 12, 13

HPL03007EN

Contact configuration	Circuit symbol	Contact travel ■ = Contact closed □ = Contact open	Color Enclosure covers	Enclosure	Connection type	Part no. Article no.	Price See price list	Std. pack		
⊕ Positive opening safety function according to IEC/EN 60947-5-1 N/O = normally open contact NC = normally closed contact										
Complete units										
Rotary lever, IP66, IP67										
	1 N/O	1 NC ⊕			yellow	plastic EN 50047 Form A	Cage Clamp	LS-11/RL 266111	2 off  	1) 2)
	1 N/O	1 NC ⊕				metal EN 50047 Form A	Cage Clamp	LSM-11/RL 266146	2 off  	1) 2)
	1 N/O	1 NC ⊕				plastic EN 50047 Form A	Screwed terminal	LS-S11/RL 106789	2 off  	2)
	1 N/O	1 NC ⊕			yellow	plastic EN 50047 Form A	Cage Clamp	LS-11S/RL 266117	2 off  	1) 2)
	1 N/O	1 NC ⊕				plastic EN 50047 Form A	Screwed terminal	LS-S11S/RL 106802	2 off  	2)
	1 N/O	1 NC ⊕				metal EN 50047 Form A	Cage Clamp	LSM-11S/RL 266152	2 off  	1) 2)
Adjustable roller levers, IP66, IP67										
	1 N/O	1 NC ⊕			yellow	plastic	Cage Clamp	LS-11/RLA 266113	2 off  	1) 2)
	1 N/O	1 NC ⊕				plastic	Screwed terminal	LS-S11/RLA 106790	2 off  	2)
	1 N/O	1 NC ⊕				metal	Cage Clamp	LSM-11/RLA 266148	2 off  	1) 2)
	1 N/O	1 NC ⊕			yellow	plastic	Cage Clamp	LS-11S/RLA 266119	2 off  	1) 2)
	1 N/O	1 NC ⊕				plastic	Screwed terminal	LS-S11S/RLA 106803	2 off  	2)
	1 N/O	1 NC ⊕				metal	Cage Clamp	LSM-11S/RLA 266154	2 off  	1) 2)
Actuating rod IP66, IP67										
	1 N/O	1 NC ⊕			yellow	plastic	Cage Clamp	LS-11S/RR 266106	4 off  	1) 2)
	1 N/O	1 NC ⊕				plastic	Screwed terminal	LS-S11S/RR 106804	4 off  	2)
	1 N/O	1 NC ⊕				metal	Cage Clamp	LSM-11S/RR 266141	4 off  	1) 2)
Customer specific complete units IP66, IP67										
(*) Use-definable customer ID or stock no.: up to 10 characters						plastic	—	LS-COMBINATION-* 266168	1 off  	1) 2)

Notes

- 1) Cage Clamp is a registered trademark of Wago Kontakttechnik, 32432 Minden, Germany.
Accessories for the Cage Clamp terminals from Wago:
Jumper insert, grey, Wago article no. 264-402
- 2) The operating head can be rotated at 90° intervals to adapt to the specified operating direction.

Information relevant for export to North America



Product Standards

UL File No.
UL CCN
CSA File No.
CSA Class No.
NA Certification
Degree of Protection

IEC/EN 60947-5; UL 508; CSA-C22.2 No. 14;
CE marking
E29184
NKCR
12528
3211-03
UL Listed, CSA certified
IEC: IP66, 67, UL/CSA Type 3R, 4X
(indoor use only), 12, 13



Contact configuration

Circuit
symbolContact travel
■ = Contact closed
□ = Contact openColor
Enclosure
cover

Enclosure

Connection
typePart no.
Article no.Price
See
price list

Std. pack

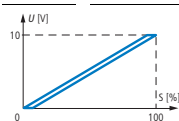
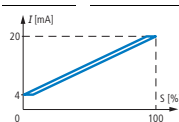
⊕ Positive opening
safety function
according to
IEC/EN 60947-5-1

N/O = normally
open contact NC = normally
closed
contact

Basic unit, expandable

Analog electronic position switches IP66, IP67

Basic unit
Visual status indication
Q1 = Analog output
Q2 = Diagnostics output
(the diagnostics output has a 0 V signal in the
event of a fault.)



plastic

Cage
ClampLSE-AI
269461

2 off

2)



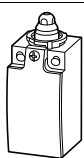
plastic

Cage
ClampLSE-AU
274096

2 off

2)

Rounded plunger, IP66, IP67



2 N/O

—



plastic

Cage
ClampLS-20
266120

10 off

1) 2)

2 N/O

—

Cage
ClampLS-20-SW
272008

10 off

1) 2)

2 N/O

—

Screwed
terminalLS-S20
106808

1 off

2)

2 N/O

—

Screwed
terminalLS-S20-SW
106812

10 off

2)

2 N/O

—



metal

Cage
ClampLSM-20
266155

2 off

1) 2)

2 N/O

—



plastic

Cage
ClampLS-20A
292362

1 off

1) 2)

2 N/O

—



plastic

Screwed
terminalLS-S20A
106810

10 off

2)

2 N/O

—



metal

Cage
ClampLSM-20A
100051

2 off

1) 2)

2 N/O

—

plastic
EN 50047
Form BCage
ClampLS-20B
116706

10 off

1) 2)

2 N/O

—

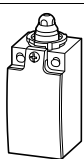
plastic
EN 50047
Form BScrewed
terminalLS-S20B
116707

10 off

2)

Basic unit, not expandable

Rounded plunger, IP66, IP67 (front fixing)



2 N/O

—



plastic

Cage
ClampLS-20/F
292368

1 off

1)

2 N/O

—



plastic

Screwed
terminalLS-S20/F
106809

1 off

1)

2 N/O

—



metal

Cage
ClampLSM-20/F
292375

1 off

1)

2 N/O

—



plastic

Cage
ClampLS-20A/F
292370

1 off

1)

2 N/O

—



plastic

Screwed
terminalLS-S20A/F
106811

1 off

1)

2 N/O

—



metal

Cage
ClampLSM-20A/F
292377

1 off

1)

Notes

1) Cage Clamp is a registered trademark of Wago Kontakttechnik, 32432 Minden.

Accessories for the Cage Clamp terminals from Wago:
Jumper insert, grey, Wago article no. 264-402

2) Operating heads → Page 3/9

Information relevant for export to North America

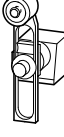
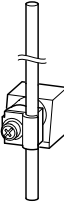
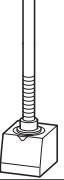
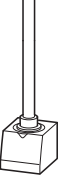


Product Standards

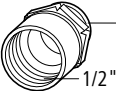
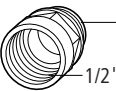
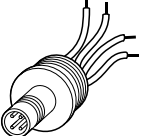
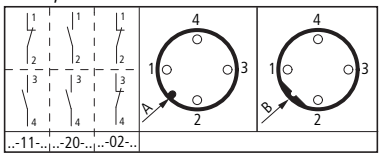
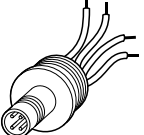
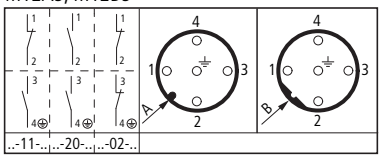
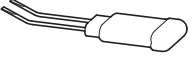
UL File No.
UL CCN
CSA File No.
CSA Class No.
NA Certification
Degree of Protection

IEC/EN 60947-5; UL 508; CSA-C22.2 No. 14;
CE marking
E29184
NKKR
12528
3211-03
UL Listed, CSA certified
IEC: IP66, 67, UL/CSA Type 3R, 4X
(indoor use only), 12, 13

HPL03009EN

		plastic Part no. Article no.	Price See price list	Std. pack	metal Part no. Article no.	Price See price list	Std. pack	Notes
Rounded plunger, center fixing								
	For installation in M18 × 1 enclosure wall or mounting plate drilling	LS-XZS 114024					1 off  	The operating head can be rotated at 90° intervals to adapt to the specified operating direction.
Roller plunger, center fixing								
	For installation in M18 × 1 enclosure wall or mounting plate drilling	LS-XZRS 114025					1 off  	Information relevant for export to North America  
Roller plunger								
	—	LS-XP 266125		10 off  	LSM-XP 266158		10 off  	Product Standards IEC/EN 60947-5; UL 508; CSA-C22.2 No. 14; CE marking E29184 NKCR 12528 CSA Class No. 3211-03 UL Listed, CSA Certified
Roller lever								
	Large	LS-XLB 290178		5 off  				UL File No. UL CCN CSA File No. CSA Class No. NA Certification
	Short	LS-XLS 290177		1 off  				
	Long	LS-XL 266123		10 off  	LSM-XL 266156		10 off  	
Angled roller lever								
	—	LS-XLA 266124		10 off  	LSM-XLA 266157		10 off  	
Rotary lever								
	—	LS-XRL 266126		5 off  	LSM-XRL 266159		5 off  	
Adjustable roller lever								
	D = 18 mm	LS-XRLA 266127		4 off  	LSM-XRLA 266160		4 off  	
	D = 30 mm	LS-XRLA30 266128		5 off  				
	D = 40 mm (rubber)	LS-XRLA40R 266130		5 off  				
	D = 40 mm	LS-XRLA40 266129		5 off  				
Actuating rod								
	Rod from insulated material	LS-XRR 266131		4 off  	LSM-XRR 266161		4 off  	
	Metal rod	LS-XRRM 266132		4 off  	LSM-XRRM 266162		4 off  	
Spring rod								
	Not to be used as a safety position switch Use only in conjunc- tion with snap-action contact.	LS-XS 266133		5 off  	LSM-XS 266163		5 off  	
Actuating rod								
	—	LS-XOR 290190		1 off  				
Fixing adapters								
	Actuation through front element RMQ-Titan®	M22-LS 266137		10/1 off  				UL/CSA certification not required



Description		Part no. Article no.	Price See price list	Std. pack	Notes	Information relevant for export to North America	
Screw connection to fit M20 to 1/2"						 	
	M20 1/2"	V1/2"/M20-NA 225269		10 off  	The screw connection is for grounding; no total insulation For connection thread lengths up to 9 mm	Product Standards UL 508; CSA-C22.2 No. 14 E29184 UL File No. UL CCN CSA File No. CSA Class No. NA Certification	UL 508; CSA-C22.2 No. 14 E29184 NKCR 12528 3211-03 UL Listed, CSA Certified
	M20 1/2"	V1/2"/M20 225270		10 off  	For connection thread lengths up to 9 mm	Specially designed for NA✓ UL/CSA certification not required	
M20 diaphragm bolt, IP65							
	With built in push-through diaphragm External diameter of cable up to 13 mm IP65 with cable inserted	EMS20 225271		25 off	—		
Screw closure M20							
	(self-sealing grommet) For tightening/loosening using a standard spanner for sealing grommet plugs	LS-X20 266134		25 off	—		
Plug connector M12x1, IP66 Molded material I _{th} = 4 A Fuse: 6 A gG/gL							
4-pole U _e = 250 V	For use with						
	LS	"A" coded  Standard to IEC/EN 60947-5-2	M12A 266135	10 off	M12A, M12B 		
	LS	"B"-coded 	M12B 266136	10 off			
5-pole U _e = 125 V							
	LSM	"A" coded  Standard to IEC/EN 60947-5-2	M12A5 272202	10 off	M12A5, M12B5 		
	LSM	"B"-coded 	M12B5 272203	10 off			
Cage clamp twin NC contacts							
	—	For opening two terminals simultaneously	LS-XTW 290179	1 off  	—	UL/CSA certification not required	
Adapter plate, thickness 2.5 mm							
	For additional fixing with sideways operation, together with locating plate FS-AT (order separately)	LS-XAP 114026		1 off  	—		
Locating plate							
	For fixing with side motion	FS-AT 019610		20 off  	—		

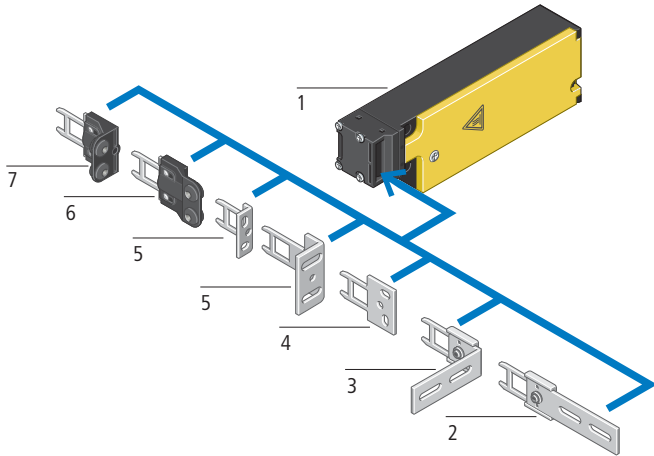


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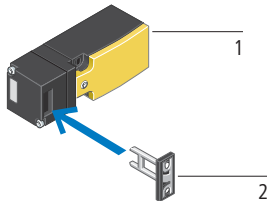
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System overview

LS-...ZBZ



LS-...ZB

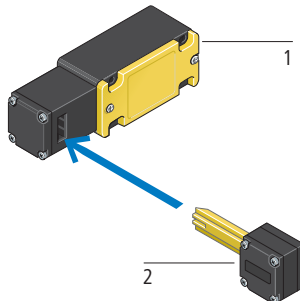


LSR-...TKG

LSR-...TS



LS4...ZB



LS-...ZBZ

Basic Unit Spring or magnet-powered interlock For increased personnel and process protection Tamper-proof Multiple coded actuators Contact configuration: 1 N/O / 1 NC or 2 NC → Page 3/16	1	Angled flexible actuator For doors that do not close precisely → Page 3/17	3	Flat compensating actuator For increased tolerance compensation in the direction of door closure → Page 3/17	6
Flat flexible actuator For doors that do not close precisely → Page 3/17	2	Flat actuator For sliding doors → Page 3/17	4	Angled compensating actuator For increased tolerance compensation in the direction of door closure → Page 3/17	7
		Angled actuator For swing doors → Page 3/17	5		

LS-...ZB

Complete unit For personnel protection Contact configuration: 1 NC, 1 N/O / 1 NC or 2 NC 5 directions of operation possible → Page 3/18	1	Actuator Multiple coding protection against tampering	2
--	---	---	---

LSR-...TKG, LSR-...TS

Complete unit For personnel protection Contact configuration: 1 N/O / 1 NC or 2 NC For swing doors with fixed connection to the door/hinge pin Multiple coded actuators Contact configuration: 1 N/O / 1 NC or 2 NC LSR-...TKG → Page 3/18 LSR-...TS → Page 3/18	1
--	---

LS4.../ZB

Complete unit Narrow enclosure version For personnel protection Contact configuration: 1 NC, 1 N/O / 1 NC → Page 3/16	1	Actuator Multiple coding For horizontal or vertical operation	2
--	---	--	---

Product features

- Interlocking unit to EN 1088
 - For use in safety circuits
 - ⊕ Positive opening safety function according to IEC/EN 60947-5-1
- Protection type IP65
 - Operating head can be turned 4 x 90°
 - With M20 x 1.5 connecting thread

totally insulated



LS-...ZB

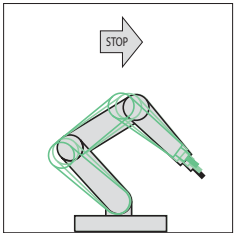
LS4/ZB

LSR-...TKG

LSR-...TS

“Personnel protection” by monitoring of the protective mechanism

- Door open
- LS-...ZB disconnects power
- No danger



LS-...ZB

Closed

Open

→ Personnel protection

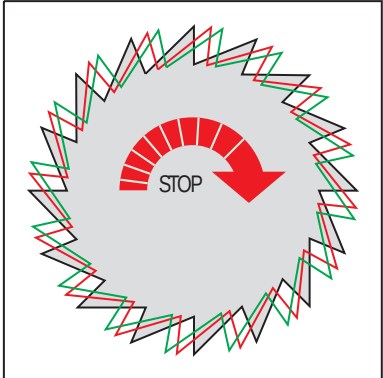
Door open → Enabling contact (21-22) opening positively

Door open → Enabling contact safely open; tamperproof against simple tools

Door close → Triple coded actuator closes the enabling contact

Switch must never be used as a mechanical stop!

LS/ZBZ



“Increased personnel protection” by monitoring and interlocking the protective mechanism

- Stop command
- Waiting time
- Machine is stopped
- Protective mechanism open
- No danger

LSR-...TKG

LSR-...TS

Closed

Open

→ Personnel protection

Open of guard mechanism → Enabling contact (21-22) opening positively

Guard mechanism open → Enabling contact safely open; tamperproof against simple tools

Closing of guard mechanism → Closes enabling contact (21–22)

LS-S02-...FT-ZBZ, spring-powered interlock (closed-circuit current principle)

Interlocked

Released

Open

→ Increased personnel protection with separate signal for door position

Door closed and interlocked → De-energized: even with mains failure or wire breakage: door interlocked = safe state Enabling contact (21-22)

To unlock door → Applies voltage to coil (A1, A2) e.g. via zero-speed monitor, enabling contact (21-22) opens

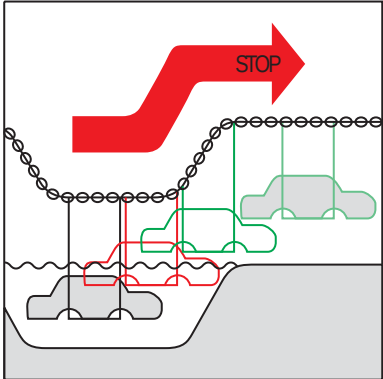
Door open → Both contacts blocked in the open position, even with tampering with simple tools

Door close → Triple-coded actuator cancels enabling contact inhibit; door position contact (11-12) closes

Interlock door → Disconnect coil voltage: 1st actuator interlocked 2nd enabling contact closed → Enable only when door locked

Switch must never be used as a mechanical stop!

LS/ZBZ



“Increased personnel protection” by monitoring and interlocking the protective mechanism

- Stop command
- Waiting time
- Process sequence halted
- Protective mechanism open
- Product OK

LS-S02-...MT-ZBZ, magnet-powered interlock (operating current principle)

Interlocked

Released

Open

→ Process protection + increased personnel protection with separate signal for door position

Door closed and interlocked → Energized: Enables immediate access in the event of mains failure and wire breakage. Both contacts closed

To unlock door → Applies voltage to coil (A1, A2) e.g. via zero-speed monitor, enabling contact (21-22) opens

Door open → Only possible once it is released, door position contact (11-12) opens

Door close → Triple-coded actuator cancels enabling contact inhibit; door position contact (11-12) closes

Interlock door → Disconnect coil voltage: 1st actuator interlocked 2nd enabling contact closed → Enable only when door locked

Switch must never be used as a mechanical stop!

Contact configuration

⇒ Safety function by positive opening according to IEC/EN 60947-5-1

N/O = normally open contact NC = normally closed contact

Circuit symbol

Rated control voltage for magnet drive U_s

V

Part no.
Article no.

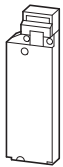
Price

See price list

Std. pack

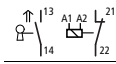
Basic units with spring-powered interlock (closed-circuit principle) IP65

- With interlock monitoring and auxiliary release mechanism
- Monitoring of door position: continuous



1 N/O

1 NC ⇒



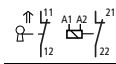
24 V DC

LS-S11-24DFT-ZBZ/X
106829

1 off
USA Canada

—

2 NC ⇒



24 V DC

LS-S02-24DFT-ZBZ/X
106823

1 N/O

1 NC ⇒

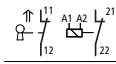


120 V 50/60 Hz

LS-S11-120AFT-ZBZ/X
106825

—

2 NC ⇒

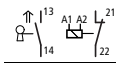


120 V 50/60 Hz

LS-S02-120AFT-ZBZ/X
106778

1 N/O

1 NC ⇒

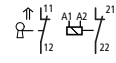


230 V 50/60 Hz

LS-S11-230AFT-ZBZ/X
106827

—

2 NC ⇒

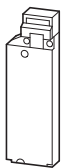


230 V 50/60 Hz

LS-S02-230AFT-ZBZ/X
106821

Basic units with magnet-powered interlock (open-circuit principle) IP65¹⁾

- With interlock monitoring
- Monitoring of door position: continuous



1 N/O

1 NC ⇒



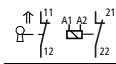
24 V DC

LS-S11-24DMT-ZBZ/X
106830

1 off
USA Canada

—

2 NC ⇒

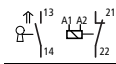


24 V DC

LS-S02-24DMT-ZBZ/X
106824

1 N/O

1 NC ⇒

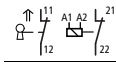


120 V 50/60 Hz

LS-S11-120AMT-ZBZ/X
106826

—

2 NC ⇒

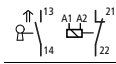


120 V 50/60 Hz

LS-S02-120AMT-ZBZ/X
106820

1 N/O

1 NC ⇒

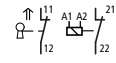


230 V 50/60 Hz

LS-S11-230AMT-ZBZ/X
106828

—

2 NC ⇒



230 V 50/60 Hz

LS-S02-230AMT-ZBZ/X
106822

Notes

Electric circuitry with DIL contactors and ESR5 safety relay
→ Safety manual TB02000-009, Article no. 119906

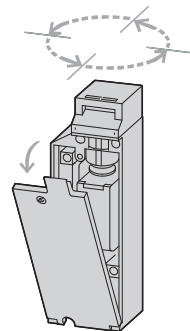
With the actuator inserted, the N/O contact is open and the NC contact is closed.



Switch must never be used as a mechanical stop!

¹⁾ Time control of the release operation possible using ESR5-NV30-30

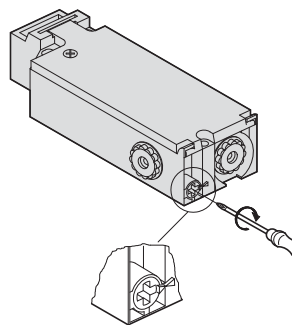
The operating head can be rotated manually in 90° steps to suit the specified level of actuation.



In the event of a loss of voltage, (e.g. during commissioning), the spring-powered LS-...FT-ZBZ can be released with a screwdriver.

The auxiliary release mechanism must be sealed!

→ Instructional leaflet AWA 1310-2354



For protection type IP65, use V-M20 cable glands with max 9 mm long thread.

Cable gland V-M20 → Page 2/46

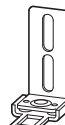
Information relevant for export to North America



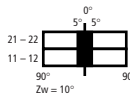
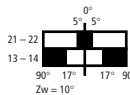
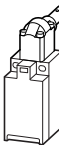
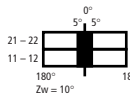
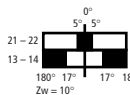
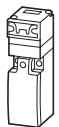
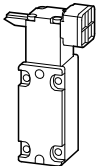
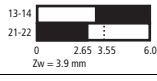
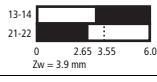
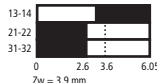
Product Standards
UL File No.
UL CCN
CSA File No.
CSA Class No.
NA Certification
Degree of Protection

IEC/EN 60947-5; UL 508; CSA-C22.2 No. 14; CE marking
E29184
NKCR
12528
3211-03
UL Listed, CSA Certified
IEC: IP65, UL/CSA Type 3R, 4X (indoor use only), 12, 13

HPL03017EN

	Part no. Article no.	Price See price list	Std. pack	Notes	Information relevant for export to North America  
Actuators					
For combination with LS-...ZBZ/X basic units Stainless steel					
Flat actuator For sliding doors 	LS-XG-ZBZ 106833		10 off  	—	Product Standards IEC/EN 60947-5; UL 508; CSA-C22.2 No. 14; CE marking E29184 NKCR UL File No. UL CCN CSA File No. 12528 CSA Class No. 3211-03 NA Certification UL Listed, CSA Certified
Angled actuator For swing doors above 250 mm width 	Short LS-XW-ZBZ 106839		10 off  	From width: 350 mm	
	Long LS-XWA-ZBZ 106838		10 off  	From width: 550 mm	
Angled, flexible actuator For doors that do not close precisely 	LS-XF-ZBZ 106832		10 off  	—	
Flat, flexible compensating actuator For doors that do not close precisely 	LS-XFG-ZBZ 106831		10 off  	—	
Flat, compensating actuator With increased tolerance in closing direction for door that does not close precisely. 	LS-XNG-ZBZ 106834		1 off  	—	
Angled compensating actuator With increased tolerance in closing direction for door that does not close precisely. 	LS-XNW-ZBZ 106835		10 off  	—	
Accessories					
Dust protection cap Prevents ingress of foreign matter into the unit head 	LS-XSK-ZBZ 106837		10 off  	—	UL/CSA certification not required



Contact configuration			Circuit symbol	Contact travel ■ = Contact closed □ = Contact open	Approval mark	Connection type	Part no. Article no.	Price See price list	Std. pack
⊕ Positive opening safety function according to IEC/EN 60947-5-1 N/O = normally open contact NC = normally closed contact									
Hasp-operated safety switch LSR-.../TKG, IP65									
	—	2 NC ⊕				Screwed terminal	LSR-S02-1-I/TKG 106848		1 off 
	1 N/O	1 NC ⊕				Screwed terminal	LSR-S11-1-I/TKG 106847		1 off 
Hinge-operated switch LSR-.../TS, IP65									
	—	2 NC ⊕				Screwed terminal	LSR-S02-1-I/TS 106852		1 off 
	1 N/O	1 NC ⊕				Screwed terminal	LSR-S11-1-I/TS 106851		1 off 
Safety position switches LS-...-ZB, IP65									
	—	2 NC ⊕				Cage Clamp	LS-02-ZB¹⁾ 106817		2 off 
	—	2 NC ⊕				Screwed terminal	LS-S02-ZB¹⁾ 106874		2 off 
	1 N/O	1 NC ⊕				Cage Clamp	LS-11-ZB¹⁾ 106819		2 off 
	1 N/O	1 NC ⊕				Screwed terminal	LS-S11-ZB¹⁾ 106876		2 off 
	1 N/O	1 NC ⊕				Cage Clamp	LS-11S-ZB¹⁾ 106870		2 off 
	1 N/O	1 NC ⊕				Screwed terminal	LS-S11S-ZB¹⁾ 106877		2 off 
Safety position switches LS4.../ZB, IP65									
	1 N/O	1 NC ⊕				Screwed terminal	LS4/S11-1/I/ZB²⁾ 106857		1 off 
	1 N/O	1 NC ⊕				Screwed terminal	LS4/S11-1/IA/ZB²⁾ 106858		1 off 
	1 N/O	2 NC ⊕				Screwed terminal	LS4/S12-7/IB/ZB²⁾ 106859		1 off 

Notes

Electric circuitry with contactors DIL and safety relay ESR5
→ Safety manual TB02000-009, Article no. 119906

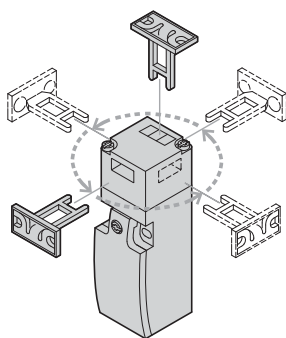


Switch must never be used as a mechanical stop!

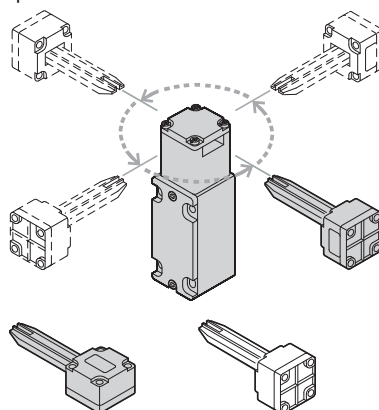
For protection type IP65 use cable glands V-M20 with max. 9 mm connection thread length.
Cable gland V-M20
→ Page 2/46

With the actuator inserted, the N/O contact is open and the NC contact is closed.

1)



2) Actuator can be repositioned for horizontal or vertical installation. The operating heads can be rotated manually in 90° steps to suit the specified level of actuation.

**Information relevant for export to North America**

Product Standards

IEC/EN 60947-5;
UL 508; CSA-C22.2 No. 14;
CE marking
E29184
NKCR
12528
3211-03
UL Listed, CSA Certified
IEC: IP65, UL/CSA Type 3R,
4X (indoor use only), 12, 13

UL File No.

UL CCN

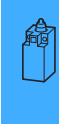
CSA File No.

CSA Class No.

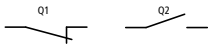
NA Certification

Degree of Protection

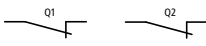
Engineering



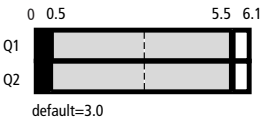
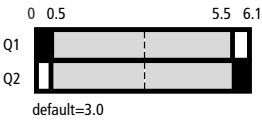
LSE-11



LSE-02



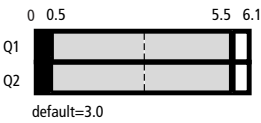
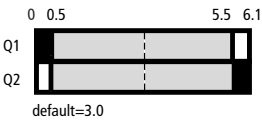
Basic units



Operating heads

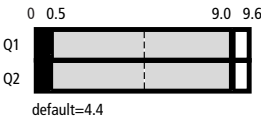
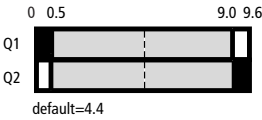
Roller plunger

- LS-XP
- LSM-XP
- LS-XOR



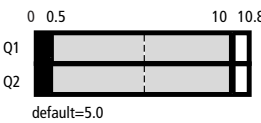
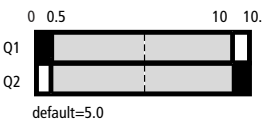
Roller lever

- LS-XL
- LSM-XL
- LS-XLS
- LS-XLB



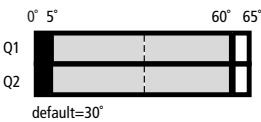
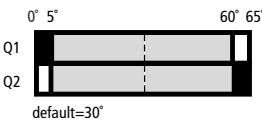
Angled roller lever

- LS-XLA
- LSM-XLA



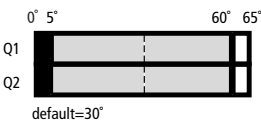
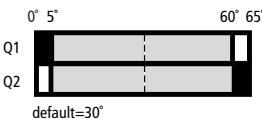
Rotary lever

- LS-XRL
- LSM-XRL



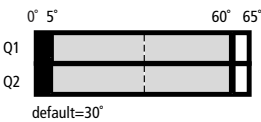
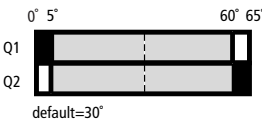
Adjustable roller lever

- LS-XRLA
- LSM-XRLA
- LS-XRLA30
- LS-XRLA40
- LS-XRLA40R



Actuating rod

- LS-XRR
- LSM-XRR
- LS-XRRM
- LSM-XRRM



Spring rod actuator

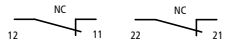
- LS-XS
- LSM-XS



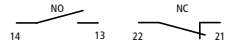


Notes: LS-(S)02A,
LS-(S)11A → Page 3/4
LS-(S)20B → Page 3/8

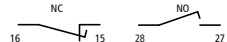
LS-02
LS-S02
LSM-02



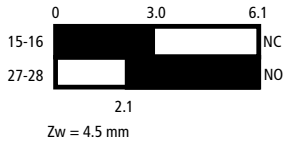
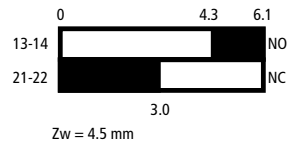
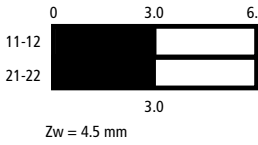
LS-11
LS-S11
LSM-11



LS-11D
LS-S11D
LSM-11D



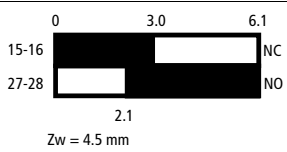
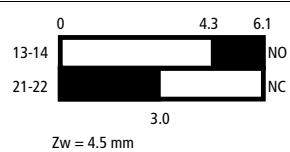
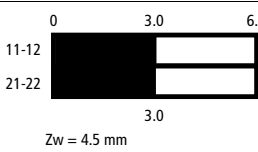
Basic units



Operating heads

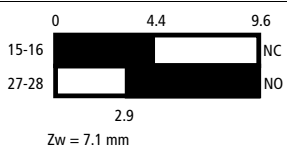
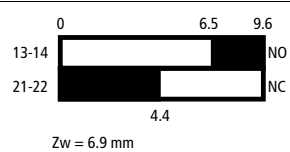
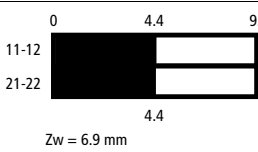
Roller plunger

LS-XP
LSM-XP

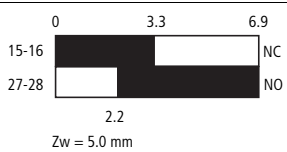
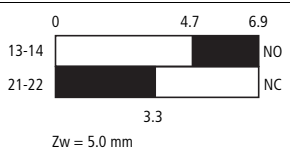
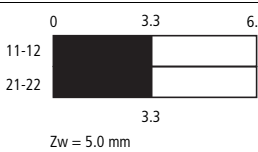


Roller lever

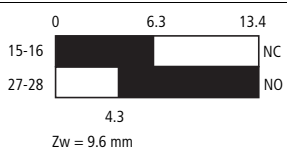
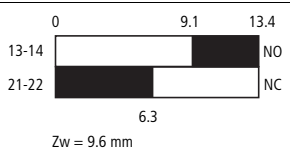
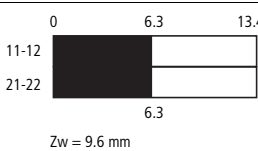
LS-XL, LSM-XL



Roller lever, short
LS-XLS

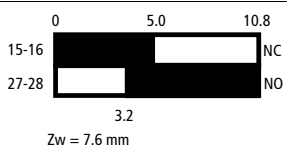
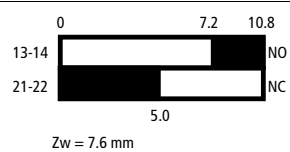
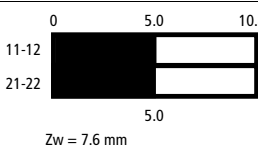


Roller lever, large
LS-XLB



Angled roller lever

LS-XLA, LSM-XLA



Rotary lever

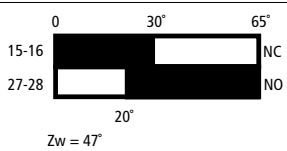
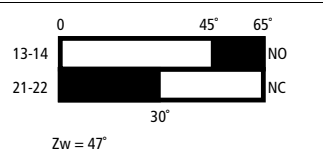
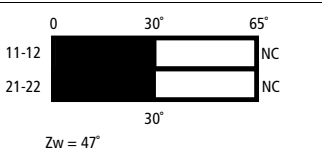
LS-XRL, LSM-XRL

Adjustable roller lever

LS-XRLA, LSM-XRLA,
LS-XRLA30, LS-XRLA40,
LS-XRLA40R

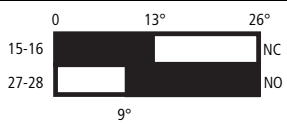
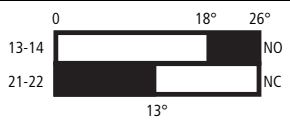
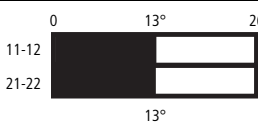
Actuating rod

LS-XRR, LSM-XRR,
LS-XRRM, LSM-XRRM

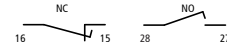


Spring rod actuator

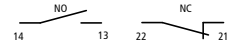
LS-XS, LSM-XS



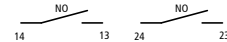
LS-11DA
LS-S11DA
LSM-11DA



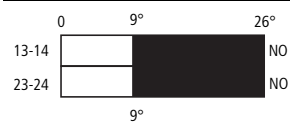
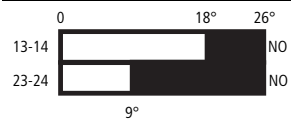
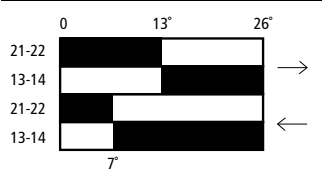
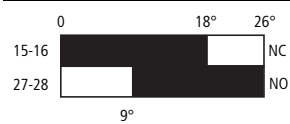
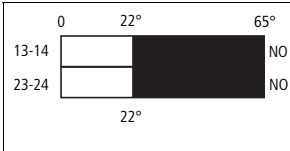
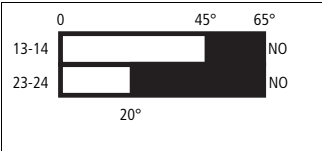
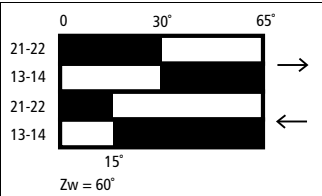
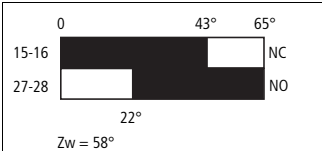
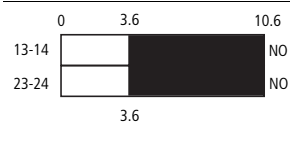
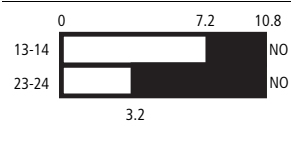
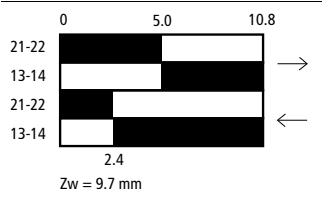
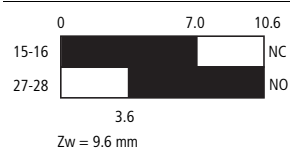
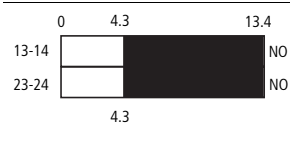
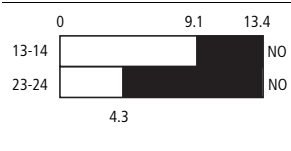
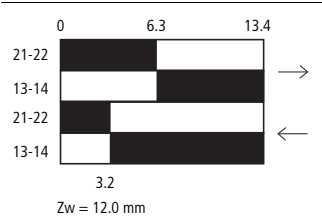
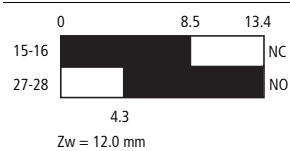
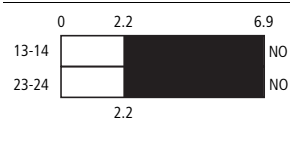
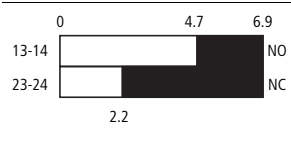
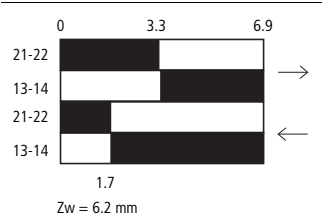
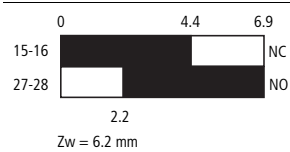
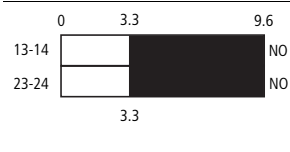
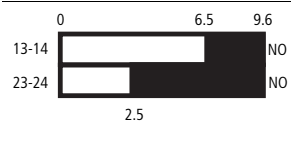
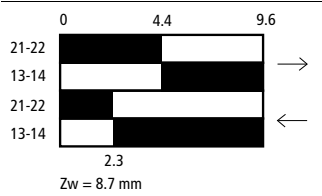
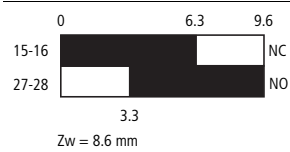
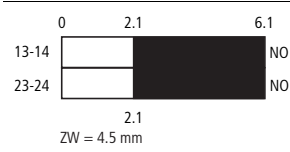
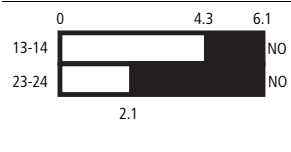
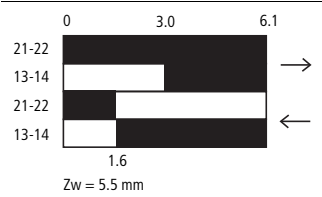
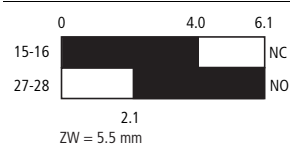
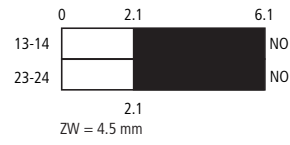
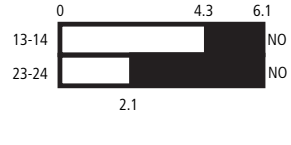
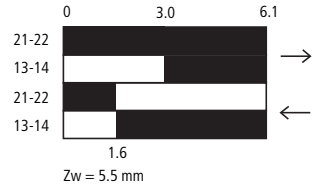
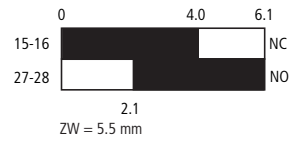
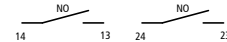
LS-11S
LS-S11S
LSM-11S



LS-20
LS-S20
LSM-20



LS-20A
LS-S20A
LSM-20A



Technical data

				Complete units IP66, IP67			
				LS, LSM	LSE11 LSE02	LSE-AI	LSE-AU
General							
Standards				IEC/EN 60947	IEC/EN 60947 EN 61000-4	IEC/EN 60947 EN 61000-4	IEC/EN 60947 EN 61000-4
Climatic proofing				Damp heat, constant, to IEC 60068-2-78, Damp heat, cyclic, to IEC 60068-2-30			
Ambient temperature		°C		-25 - +70	-25 - +70	-25 - +70	-25 - +70
Mounting position				Any	Any	Any	Any
Protection type				IP66, IP67	IP66, IP67	IP66, IP67	IP66, IP67
Terminal capacity of screw terminal and Cage Clamp							
Solid		mm ²		1 x (0.5 - 2.5)	1 x (0.5 - 2.5)	1 x (0.5 - 2.5)	1 x (0.5 - 2.5)
Flexible with ferrule to DIN 46228		mm ²		1 x (0.5 - 1.5)	1 x (0.5 - 1.5)	1 x (0.5 - 1.5)	1 x (0.5 - 1.5)
Power supply							
Rated voltage		U _e	V DC	–	12...30	24 (-15...+20 %)	24 (-15...+20 %)
Rated operational current							
12 V		I _e	mA	–	15	–	–
24 V		I	mA	–	18	28...45	24
30 V		I	mA	–	19	–	–
Contacts/switching capacity							
Rated impulse withstand voltage		U _{imp}	V AC	4000	–	–	–
Rated insulation voltage		U _i	V	400	–	–	–
Overvoltage category/pollution degree				III/3	III/3	–	–
Rated operational current							
AC-15	24 V	I _e	A	6	–	–	–
	230 V/240 V	I _e	A	6	–	–	–
	400 V/415 V	I _e	A	4	–	–	–
DC-13	24 V	I _e	A	3	0.2	–	–
	110 V	I _e	A	0.8	–	–	–
	220 V	I _e	A	0.3	–	–	–
Analog output Q1							
Output voltage (max. 10 mA)			V DC	–	–	–	0...10
Output current			mA	–	–	4 - 20	–
Fault scenario			V	–	–	0	0
Resolution			Steps	–	–	100	100
Step tolerance			Steps	–	–	<1	<1
Shunt resistor, resistive load			Ω	–	–	< 400	> 1000
Digital diagnostics output Q2 (positive switching PNP)							
Response threshold			V	–	–	approx. U _e	approx. U _e
			mA	–	–	< 200	< 200
Fault scenario			V	–	–	0	0
Control circuit reliability							
At 24 V DC/5 mA		H _F	Fault frequency	< 10 ⁻⁷ , < 1 fault in 10 ⁷ operations	–	–	–
At 5 V DC/1 mA		H _F	Fault frequency	< 10 ⁻⁶ , < 1 fault in 5 x 10 ⁶ operations	–	–	–
Mains frequency			Hz	max. 400	–	–	–
Short-circuit rating to IEC/EN 60947-5-1							
Max. fuse			A gG/gL	6	–	–	–
Repetition accuracy			mm	± 0.02	± 0.02	± 0.02	± 0.02
UL-File No. E29184							
Rating data for approved types to UL/CSA							
Pilot Duty							
AC operated				A300	–	–	–
DC operated				Q300 (1 A, 250 V DC)	Q300 (0.2 A, 24 V DC)	–	–
UL-approved degrees of protection				NEMA 4, 12, 13	NEMA 4, 12, 13	NEMA 4, 12, 13	NEMA 4, 12, 13



				Complete units IP66, IP67		
				LS, LSM	LSE11 LSE02	LSE-AI LSE-AU
Mechanical data						
Lifespan						
Standard action contact	Operations	x 10 ⁶	8	–	3	
Snap-action contact	Operations	x 10 ⁶	8	3 (electronic)	–	
Contact temperature of roller head		°C	≤ 100	≤ 100	≤ 100	
Mechanical shock resistance (half-sinusoidal shock, 20 ms)						
Standard action contact		g	25	–	–	
Snap-action contact		g	–	–	–	
Basic Unit		g	–	30	30	
Operating frequency	Operations/h		≤ 6000	≤ 3000	≤ 3000	
Switching point			–	0.5 - 5.5 mm, freely adjustable	–	
Hysteresis		mm	–	0.4	0.4	
Resolution		mm	–	0.04	0.06	
Drive						
Mechanical						
Actuating force at beginning/end of stroke						
Basic units		N	1.0/8.0	3.5/8.0	3.5/8.0	
LS(M)-XP		N	1.0/8.0	1.0/8.0	1.0/8.0	
LS(M)-XL		N	1.0/8.0	1.0/8.0	1.0/8.0	
LS(M)-XLA		N	1.0/8.0	1.0/8.0	1.0/8.0	
Actuating torque of rotary drives		Nm	0.2	0.2	0.2	
Max. operating speed with DIN cam						
Basic unit for angle of actuation	α = 0°/30°	m/s	1/0.5	1/0.5	1/0.5	
LS(M)-XRL for angle of actuation	α = 0°	m/s	1.5	1.5	1.5	
LS(M)-XRLA for angle of actuation	α = 30°, L = 125 mm	m/s	1.5	1.5	1.5	
LS(M)-XRR for	L = 130 mm	m/s	1.5	1.5	1.5	
LS(M)-XL for angle of actuation	α = 30°/45°	m/s	1	1	1	
LS(M)-XLA for angle of actuation	α = 30°/45°	m/s	1	1	1	
LS(M)-XP for angle of actuation	α = 0°/30°	m/s	1/1	1/1	1/1	
Electromagnetic compatibility (EMC)						
Electrostatic discharge (ESD), to IEC EN 61000-4-2						
Air discharge		kV	–	8	8	
Contact discharge		kV	–	4	4	
Electromagnetic fields (RFI), to IEC EN 61000-4-2		V/m	–	10	10	
Burst, to IEC/EN 61000-4-4						
Supply cables		kV	–	2	2	
Signal cables		kV	–	2	2	
High-energy pulses (surge) (IEC/EN 61000-4-5)		kV	–	0.5	0.5	
Radiated RFI, to IEC/EN 61000-4-6		V	–	10	10	
Notes				Accessories for the Cage Clamp terminals from Wago: Power comb. gray, Wago Article No. 264-402		

			plug connectors M12A(B)	M12A(B)
General				
Pole			4	5
Protection type			IP66	IP66
Lifespan, mechanical	Operations		> 500	> 500
Characteristic values				
Rated operating voltage	U _e	V AC	250	125
Rated operational current	I _e	A	1	1
Overvoltage category/pollution degree			II/3	II/3

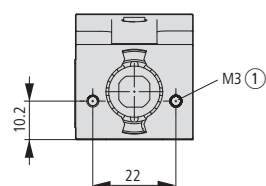
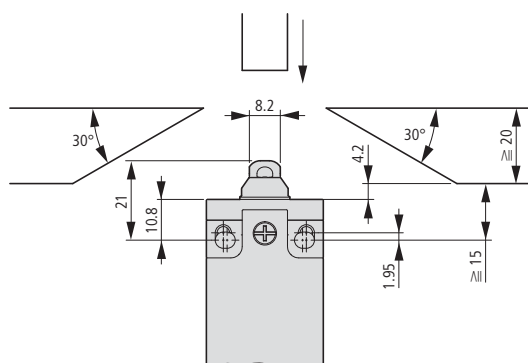


				Safety position switches			
				LS-...ZBZ	LS-...ZB	LS4...ZB	LSR...
General							
Standards				IEC/EN 60947	IEC/EN 60947	IEC/EN 60947	IEC/EN 60947
Climatic proofing				Damp heat, constant, to IEC 60068-2-78, Damp heat, cyclic, to IEC 60068-2-30			
Ambient temperature		°C		-25 - +40	-25 - +70	-25 - +70	-25 - +70
Mounting position				Any	Any	Any	Any
Protection type				IP65	IP65	IP65	IP65
Terminal capacity							
Solid		mm ²		1 x (0.75 - 2.5) 2 x (0.75 - 1.5)	1 x (0.5 - 1.5) 2 x (0.5 - 1.5)	1 x (0.75 - 2.5) 2 x (0.75 - 1.5)	1 x (0.75 - 2.5) 2 x (0.75 - 1.5)
Flexible with ferrule to DIN 46228		mm ²		1 x (0.5 - 1.5) 2 x (0.5 - 1.5)	1 x (0.5 - 1.5) 2 x (0.5 - 1.5)	1 x (0.5 - 1.5) 2 x (0.5 - 1.5)	1 x (0.5 - 1.5) 2 x (0.5 - 1.5)
Terminal screw				PH1	PH1	PH1	PH1
Terminal screw tightening torque		Nm		0.9	0.4	0.9	0.9
Contacts/switching capacity							
Rated impulse withstand voltage	U _{imp}	V AC		4000	6000	6000	6000
Rated insulation voltage	U _i	V		400	500	500	500
Overvoltage category/pollution degree				III/3	III/3	III/3	III/3
Rated operational current							
AC-15	24 V	I _e	A	6	6	10	10
	230 V/240 V	I _e	A	6	6	6	6
	400 V/415 V	I _e	A	4	4	4	4
DC-13	24 V	I _e	A	3	3	3	3
	110 V	I _e	A	0.8	0.8	0.8	1
	220 V	I _e	A	0.3	0.3	0.3	0.5
Mains frequency		Hz		max. 400	max. 400	max. 400	max. 400
Short-circuit rating to IEC/EN 60947-5-1							
Max. fuse		A gG/gL		6	6	6	6
Repetition accuracy		mm		± 0.02	± 0.02	± 0.02	± 0.02
Mechanical data							
Lifespan							
Standard action contact	Operations	x 10 ⁶		1	10	10	20
Snap-action contact	Operations	x 10 ⁶		–	–	–	20
Mechanical shock resistance (half-sinusoidal shock, 20 ms)							
Standard action contact		g		10	25	5	25
Snap-action contact		g		–	2	–	2
Operating frequency	Operations/h			≤ 800	≤ 1800	≤ 1800	≤ 1800
Drive							
Mechanical							
Actuating force at beginning/end of stroke							
ZB/ZBZ (push-in/pull-out)		N		25/15	10/5	15/20	
Mechanical holding force acc. to GS-ET-19 (04/2004)							
XG, XW, XNG		N		1700	–	–	
XWA, XFG, XF		N		1600	–	–	
XNW		N		1200	–	–	
Electro mechanical							
For magnet							
Power consumption							
At 120 V AC		VA		8	–	–	
At 230 V AC		VA		11	–	–	
At 24 V DC		W		8	–	–	
Voltage tolerance		x U _s		0.85 - 1.1			
Magnet duty factor		% DF		100	–	–	
UL-File No. E29184							
Rating data for approved types to UL/CSA 1)							
General Use							
AC operated		V		300	–	–	
AC operated		A		10	–	–	
Pilot Duty							
AC operated				A300	A300	A300	
DC operated				Q300	Q300 (1 A, 250 V DC)	Q300	
UL-approved degrees of protection				NEMA 4, 12, 13	NEMA 12, 13	–	

Dimensions

Basic units, non expandable (front fixing)

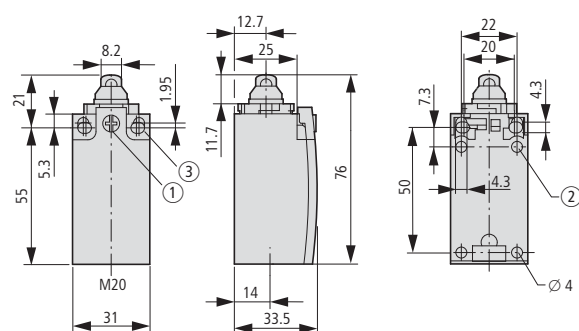
LS(M)-.../F



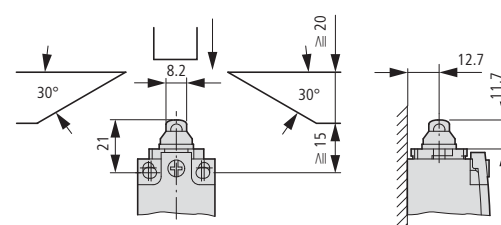
① Screw-in depth max. 12 mm

Basic units, expandable,

LS-..., LSM-..., LSE-...

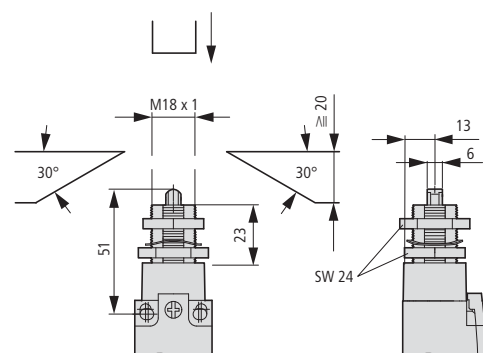
① Tightening torque of cover screw: 0.8 Nm $\pm$ 0.2 Nm

② Only with LS (insulated version)

③ Fixing screw 2 x M4 $\geq$ 30 $M_A = 1.5$ Nm

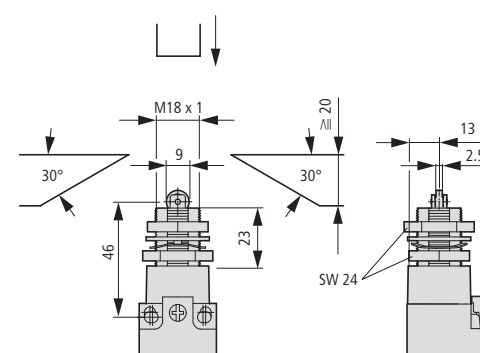
Rounded plunger, center fixing

LS-XZS



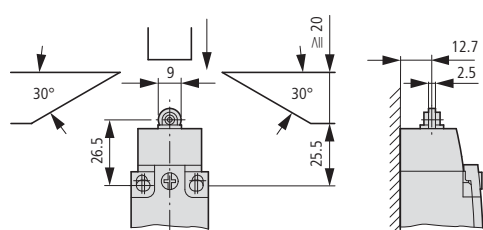
Roller plunger, center fixing

LS-XZRS



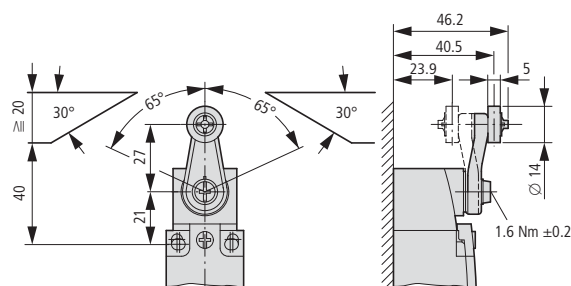
Roller plunger

LS(M)-.../P



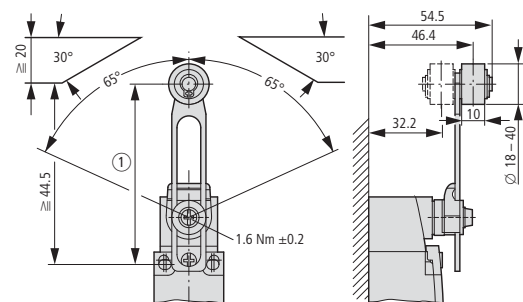
Rotary lever

LS(M)-.../RL



Adjustable roller lever

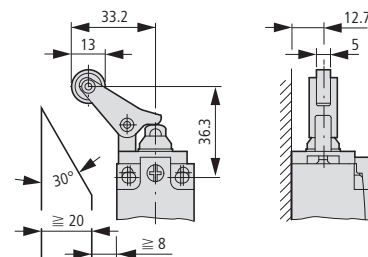
LS(M)-.../RLA



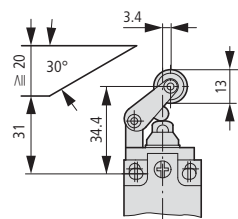
① Setting range from 54.5 to 97

Angled roller lever

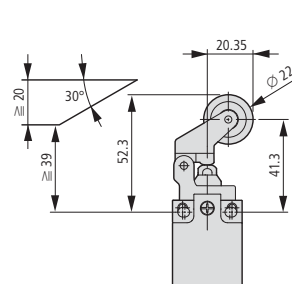
LS(M)-XLA

**Roller lever**

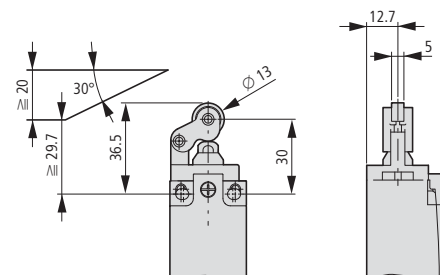
LS(M)-.../L

**Roller lever**

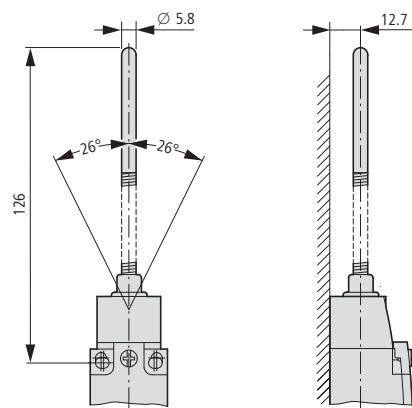
LS(M)-.../LB

**Roller lever**

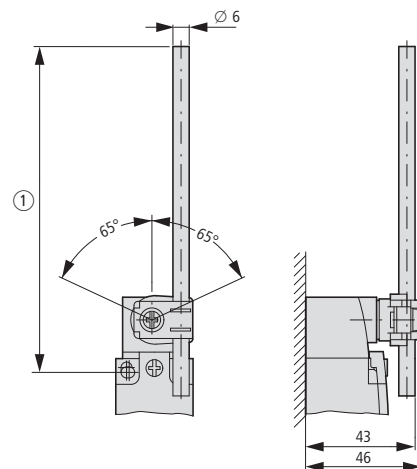
LS(M)-.../LS

**Spring rod**

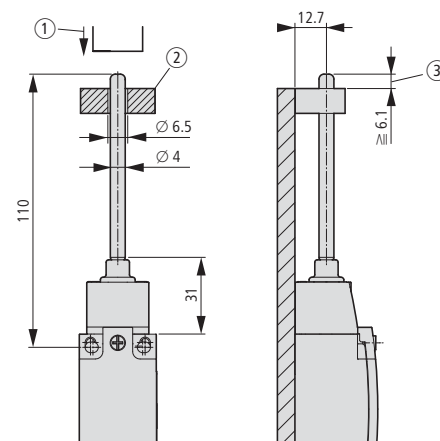
LS(M)-.../S

**Actuating rod**

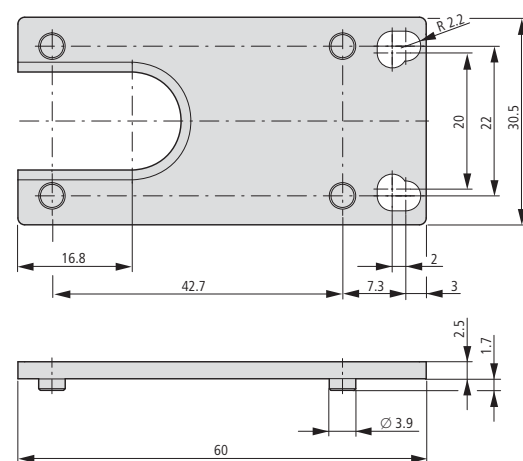
LS(M)-.../RR

① LS.../RR ≤ 150
LS.../RRM ≤ 210**Actuating rod**

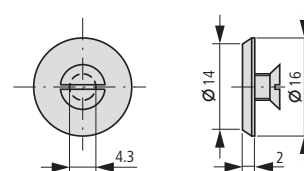
LS(M)-.../OR

① Approach direction, vertical
② Guide is done by customer, not included
③ Max. push-through**Adapter plate**

LS-XAP

**Locating plate**

FS-AT





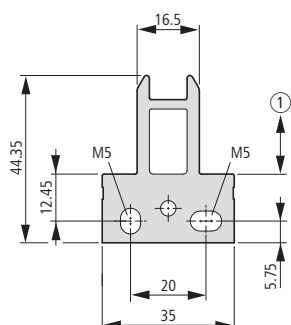
Type	R [mm]	
	Z	Y
LS-XG-ZBZ	350	350
LS-XW-ZBZ	350	350
LS-XWA-ZBZ	550	550
LS-XFG-ZBZ	350	350
LS-XF-ZBZ	350	350
LS-XNG-ZBZ	350	350
LS-XNW-ZBZ	150	250



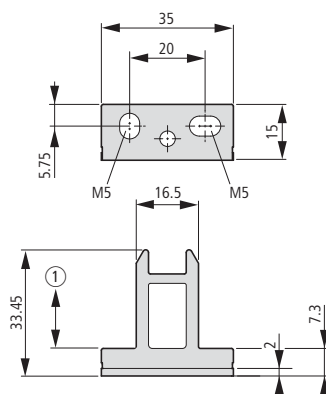
- ① The auxiliary release mechanism must be sealed for proper operation!
- ② Can be used as stop with the corresponding material selection and design.

Actuating element

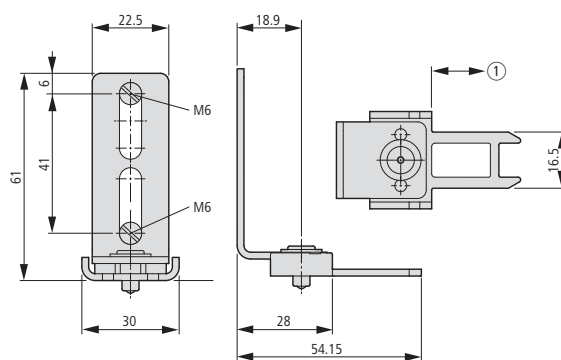
LS-XG-ZBZ



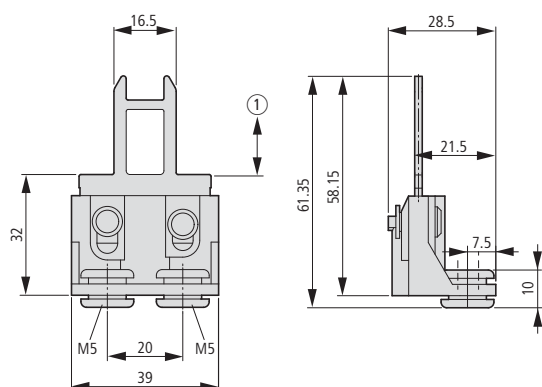
LS-XW-ZBZ



LS-XF-ZBZ

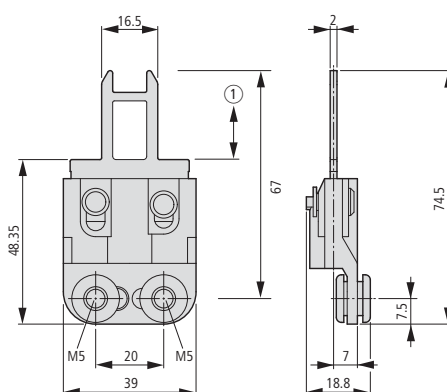


LS-XNW-ZBZ



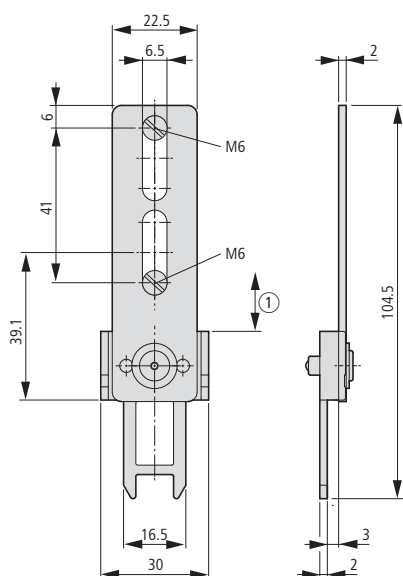
Fixing only allowed with M5 fixing screw and washer according to DIN EN ISO 7093

LS-XNG-ZBZ



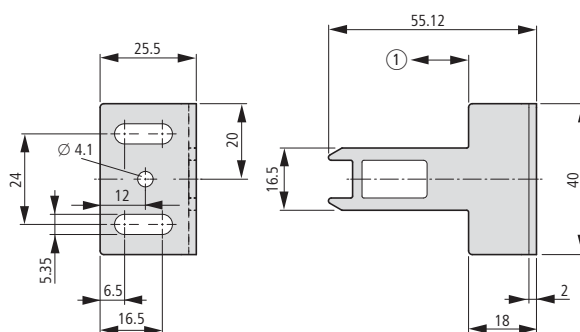
Fixing only allowed with M5 fixing screw and washer according to DIN EN ISO 7093

LS-XFG-ZBZ

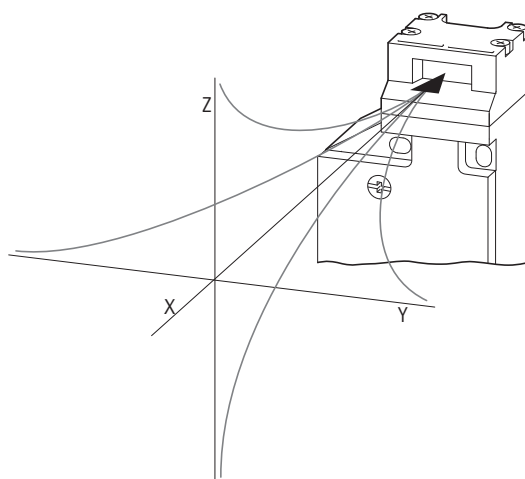


Part no.	R [mm]		
	F [N]	Z	Y
LS-XG-ZBZ	1700	350	350
LS-XW-ZBZ	1700	350	350
LS-XWA-ZBZ	1600	550	550
LS-XFG-ZBZ	1600	350	350
LS-XF-ZBZ	1600	350	350
LS-XNG-ZBZ	1700	350	350
LS-XNW-ZBZ	1200	150	250

LS-XWA-ZBZ



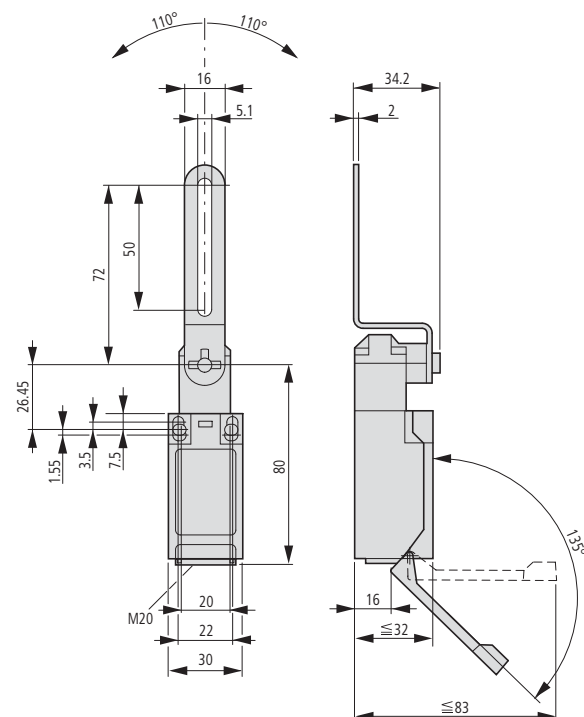
Pin with a 4 mm pin after mounting



① Distance to unit head = 0.1 ... 3.0 mm

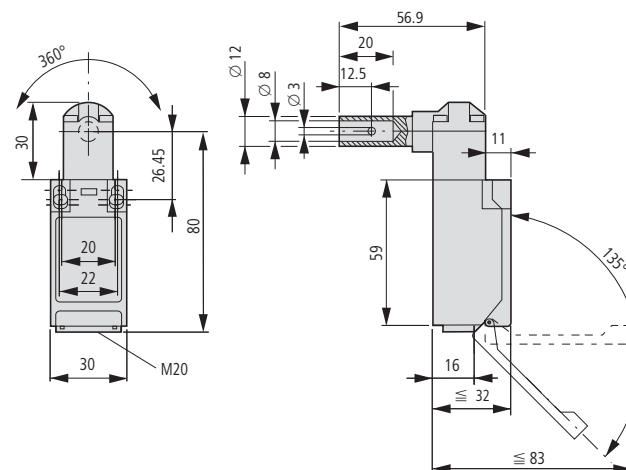
Hasp-operated safety switches

LSR-.../TKG



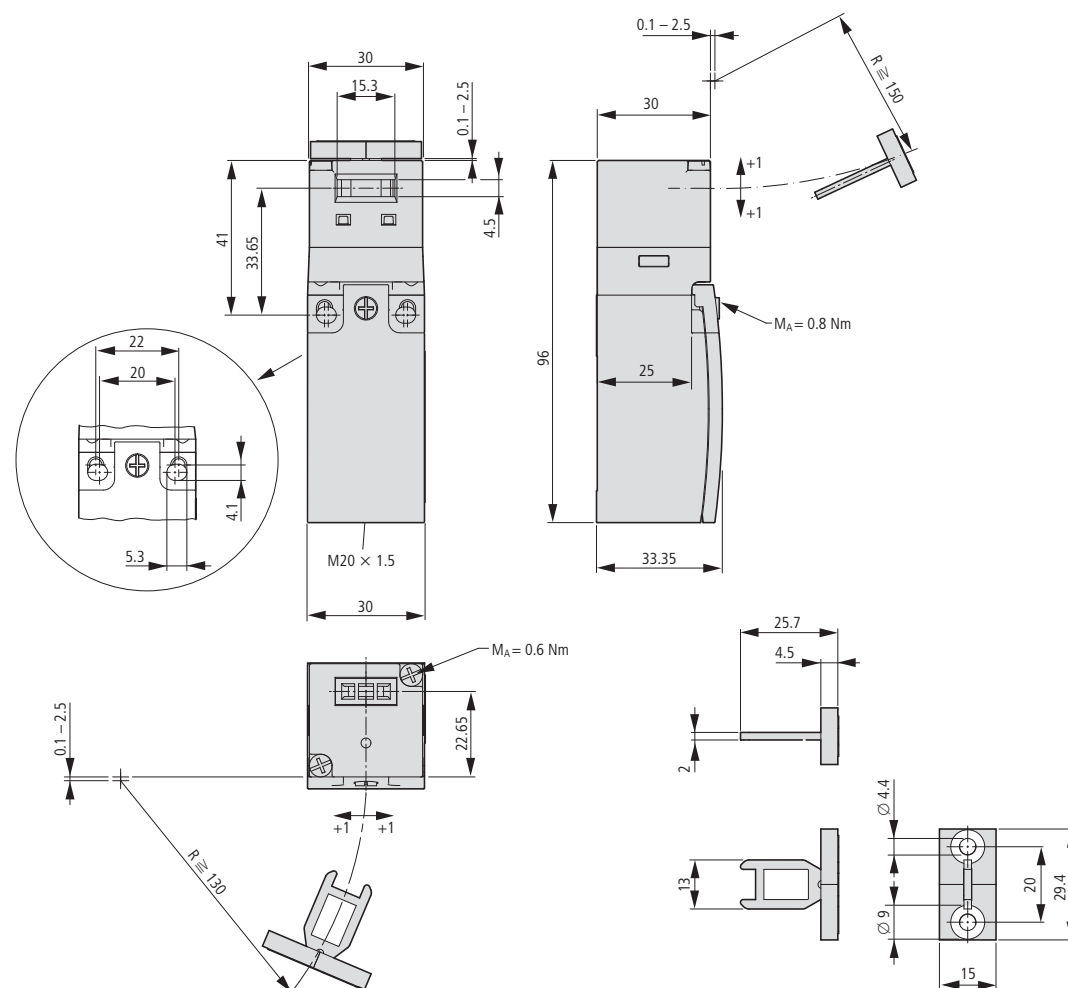
Safety hinge switches

LSR-.../TS



Safety position switches

LS...-ZB



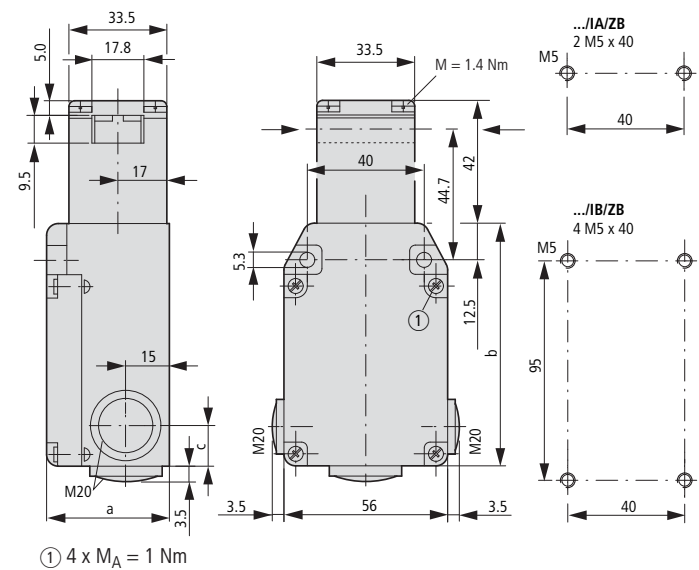
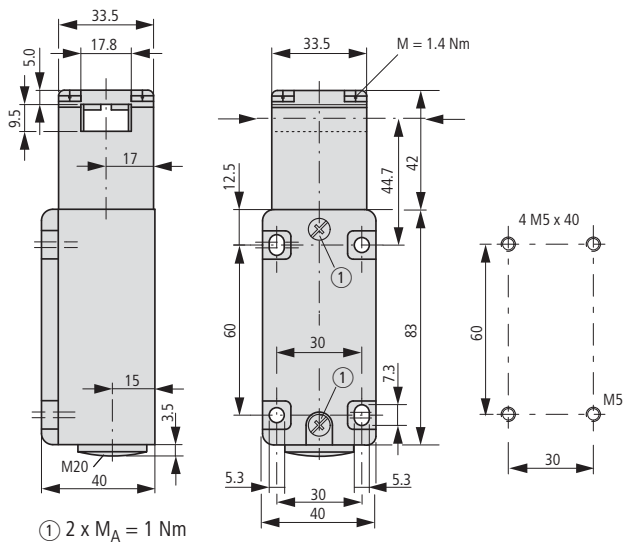
Switch must not be used as a mechanical stop.

Safety position switches

LS4...ZB

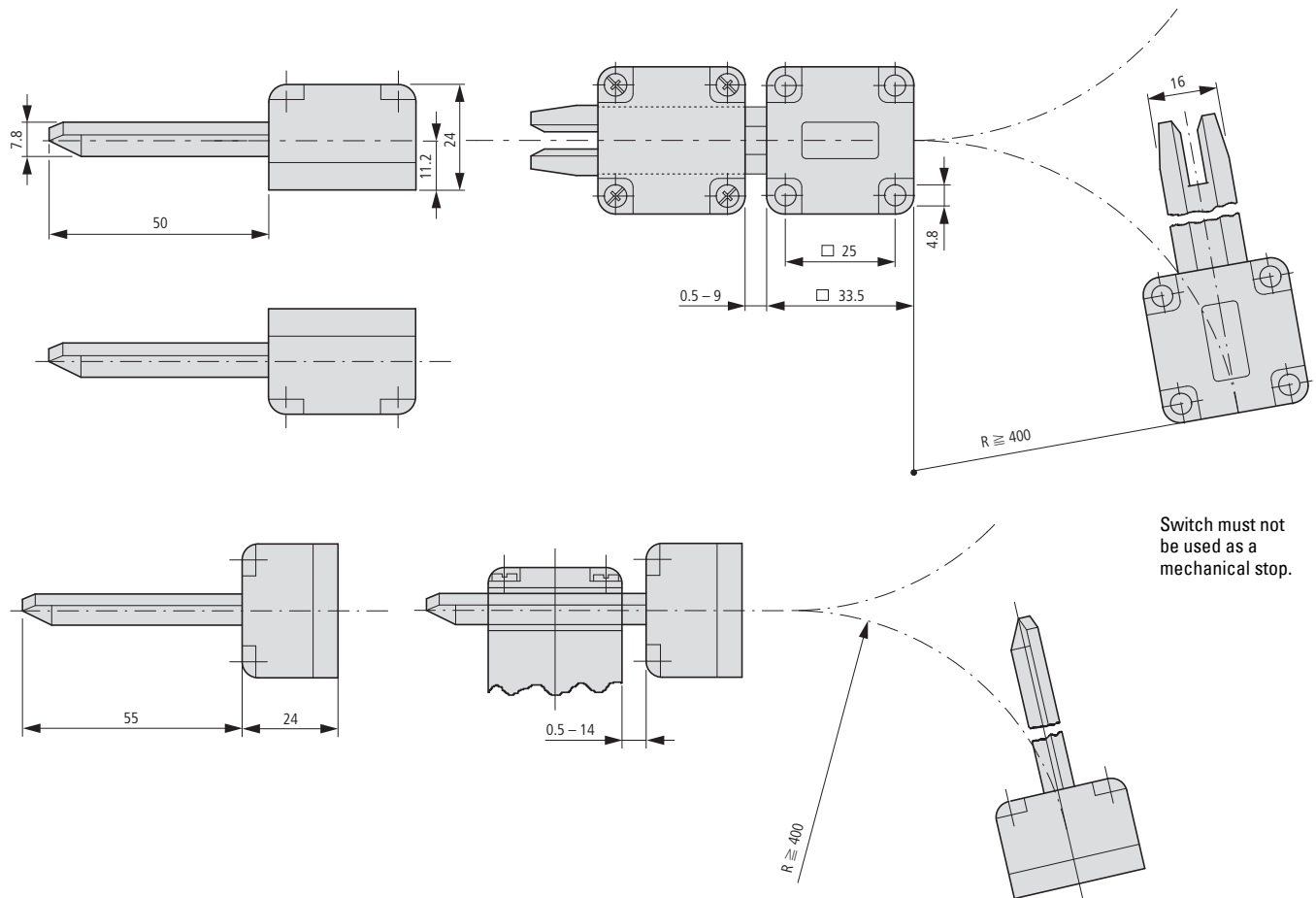
LS4/.../IA/ZB

LS4/.../IB/ZB



	a	b	c
LS4/S.../IA/ZB	41.5	83	16.7
LS4/S.../IB/ZB	43	115	29.5

Actuators



Make and break pressure:
Separately infinitely adjustable.
Pressures can be set to any point within the area of the pressure diagram for the appropriate switch.

Max.
operating
pressure

bar

Part no.
Article no.

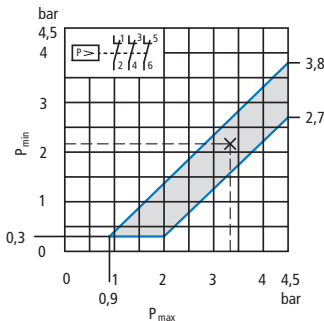
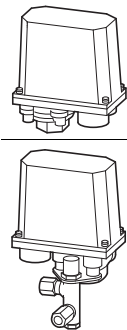
Price

See price
list

Std.
pack

Notes

Pressure switches with main contacts IP65, 3 pole



Min. switching differential: 0.6 bar
Example:
Cut-out pressure 3.3 bar
Cut-in pressure 2.2 bar

Variable
switching
differential

7

MCSN4
057679

With relief
valve
for 6 mm
compression
fitting

7

MCSN4-V
062425

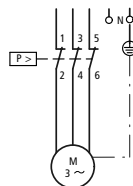
1 off

- Features:
- With terminal cover as standard
 - 1 insulated protective wire terminal ⊕
 - 1 insulated N terminal
 - 2 cable entry knockouts for M20, without cable gland
 - IP65 in conjunction with V-M20 cable gland
 - Pressure pipe flange R 1/2"
 - Please enquire: Pressure pipe flange R 1/4"
 - Neoprene diaphragm

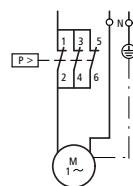
R 1/4" corresponds to G 1/4
R 1/2" corresponds to G 1/2 to ISO 228-1

For use as a motor load switch to IEC/EN 60947-4-1 for:

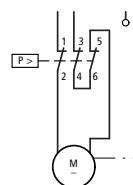
Three-phase current AC-3



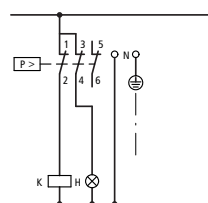
Single-phase current



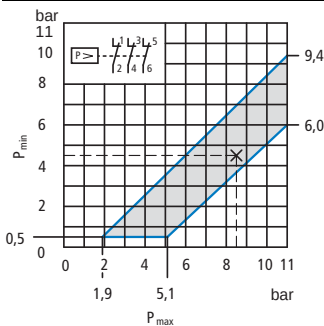
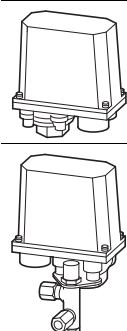
Direct current DC-3



For use as control switch:



Factory setting of cut-in and cut-out pressure via type suffix: → Page 3/33



Min. switching differential: 1.4 bar
Example:
Cut-out pressure 8.5 bar
Cut-in pressure 4.5 bar

Variable
switching
differential

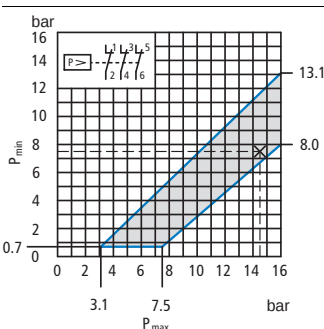
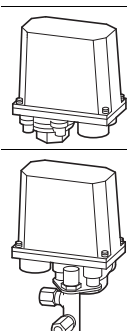
15

MCSN11
029203

With relief
valve
for 6 mm
compression
fitting

15

MCSN11-V
033949



Min. switching differential: 2.4 bar
Example:
Cut-out pressure 14.5 bar
Cut-in pressure 7.5 bar

Variable
switching
differential

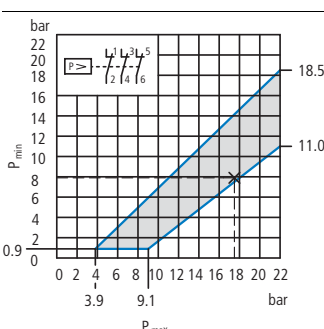
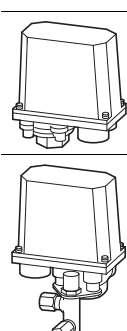
25

MCSN16
038695

With relief
valve
for 6 mm
compression
fitting

25

MCSN16-V
043441



Min. switching differential: 3.0 bar
Example:
Cut-out pressure 17.5 bar
Cut-in pressure 7.8 bar

Variable
switching
differential

25

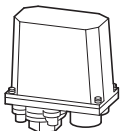
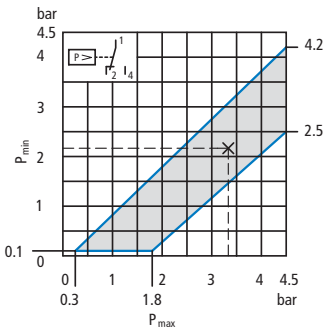
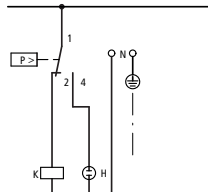
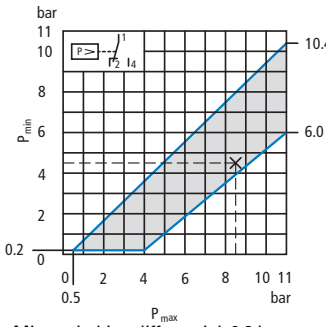
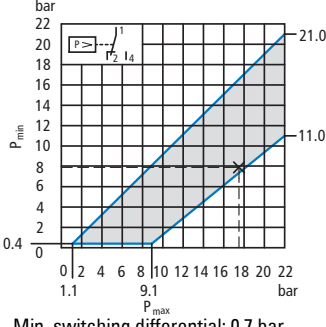
MCSN22
048187

With relief
valve
for 6 mm
compression
fitting

25

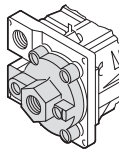
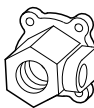
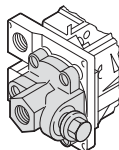
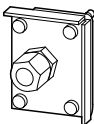
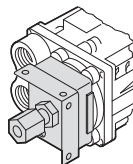
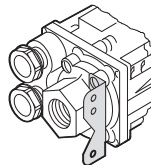
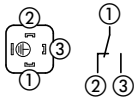
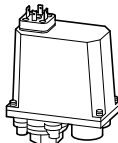
MCSN22-V
052933



Contacts	Max. operating pressure	Make and break pressure: separately infinitely adjustable. Pressures can be set to any point within the area of the pressure diagram for the appropriate switch.	Variable switching differential Part no. Article no.	Price See price list	Std. pack	Notes
Number	bar					
Pressure switch with auxiliary contacts, IP65						
						
1 changeover contact	7	 Min. switching differential: 0.2 bar Example: Cut-out pressure 3.3 bar Cut-in pressure 2.2 bar	MCS4 019711		1 off	 Features: • Pressure pipe flange R ¼" • If required: pressure pipe flange R ½" • IP65 in conjunction with V-M20 cable gland • 1 Insulated protective wire terminal ⊕ • 2 cable entry knockouts for M20 • Neoprene diaphragm, resistant to aging, air, engine oil, and water - min. -25 °C, max. +80 °C Factory setting of cut-in and cut-out pressure via type suffix: → Page 3/33 R ¼" corresponds to G ¼ R ½" corresponds to G ½ to ISO 228-1 Auxiliary contact to IEC/EN 60947-1 ¹⁾ Gold contacts are specially suitable for switching small voltages and currents from 12 V AC/DC, 0.1 A.
1 changeover contact with gold-plated	7		MCS4-G¹⁾ 058693			
2 changeover contacts with gold-plated contacts	7		MCS4-SOND910-G¹⁾ 087792			
1 changeover contact	15	 Min. switching differential: 0.3 bar Example: Cut-out pressure 8.5 bar Cut-in pressure 4.5 bar	MCS11 088527			
1 changeover contact with gold-plated	15		MCS11-G¹⁾ 058692			
2 changeover contacts with gold-plated contacts	15		MCS11-SOND910-G¹⁾ 087793			
1 changeover contact	25	 Min. switching differential: 0.7 bar Example: Cut-out pressure 17.5 bar Cut-in pressure 7.8 bar	MCS22 098019			
1 changeover contact with gold-plated	25		MCS22-G¹⁾ 058691			
2 changeover contacts with gold-plated contacts	25		MCS22-SOND910-G¹⁾ 087794			

HPL03033EN



For use with		Part no. Article no.	Price See price list	Std. pack	Notes		
Pressure pipe flange							
	MCS with R ½"	+R1/2"-MCS 001627		1 off	Order no. when ordering basic unit		
	MCS with R ½"	R1/2"-MCS 031617			Order no. when ordering separately		
	MCSN(-V) with R ¼"	+R1/4"-MCSN 001628			Order no. when ordering basic unit		
	MCSN(-V) with R ¼"	R1/4"-MCSN 033990			Order no. when ordering separately		
Pressure pipe flange with pressure gauge connection							
	MCS, MCSN(-V)	+M-MCS 001625		1 off	Order no. when ordering basic unit		Pressure gauge connection R ¼", Pressure pipe flange always R ½" also with MCS
	MCS, MCSN(-V)	M-MCS 071913			Order no. when ordering separately		
Compression fitting							
	MCS, MCSN	+E8-MCS 001624		1 off	Order no. when ordering basic unit		External diameter of pipe coupling 8 mm Wall fixing bracket integrated can be rotated in 180° stages
	MCS, MCSN	E8-MCS 040949			Order no. when ordering separately		
Wall fixing bracket							
	MCS, MCSN	+W-MCS 001631		1 off	Order no. when ordering basic unit		Wall fixing bracket can be rotated to right or left by 90° stages
	MCS, MCSN	W-MCS 050665		10 off	Order no. when ordering separately		
External unit plug, IP65							
3 poles plus earth for socket adapters to DIN 43650-A/ISO 4400 Plug configuration: 							
	MCS MCS...-G Not for use with MCS...SOND910-G	+S3-MCS 201854		1 off	Order no. when ordering basic unit	—	
Pressure setting Standard setting of the cut-in and cut-out pressures When ordering, the type reference must include the following details: 1st wildcard Δ cut-in pressure in bar 2nd wildcard Δ cut-out pressure in bar							
	MCS, MCSN	+PMIN(*)/PMAx(*) 203948		1 off	Order no. when ordering basic unit		

Notes

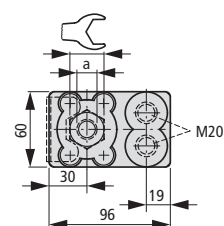
Ordering example

- Desired part no.: MCS4
 - Required cut-in pressure in bar: 2.2
 - Required cut-out pressure in bar: 3.3
- A maximum of one decimal place after the comma is possible with the pressure definition.
The correct part no. is:
MCS4 + PMIN(2.2)/PMAx(3.3)

Rating data for approved types to UL/CSA ¹⁾	Max. pressure	Rated insulation voltage to UL/CSA	Maximum motor rating HP = PS					Rated operational current	Part no. Article no.	Price	Std. pack
	psi ²⁾		115 V HP	200 V HP	230 V HP	460 V HP	575 V HP	I _e A		See price list	
MCS(N) pressure switches, IP55											
With transparent hood											
1 pole only for single-phase motors ⁴⁾	65	300	0.25 ³⁾	0.5 ³⁾	—	—	—	10	MCS4FORMCDN 024457		1 off
	160		0.25 ³⁾	0.5 ³⁾	—	—	—	10	MCS11FORMCDN 093273		
	315		0.25 ³⁾	0.5 ³⁾	—	—	—	10	MCS22FORMCDN 014965		
3 pole ⁴⁾	65	600	—	3	3	5	7.5	10	MCSN4FORMCDN 064798		1 off
	160		—	3	3	5	7.5	10	MCSN11FORMCDN 036322		
	230		—	3	3	5	7.5	10	MCSN16FORMCDN 045814		

Notes¹⁾ Devices for world markets IEC Δ UL/CSA²⁾ In North America, pressure is stated in pounds/inch (psi) (1 bar = 14.5 psi)³⁾ Heavy Pilot Duty = High switching duty⁴⁾ Selection data and application notes $\rightarrow$ 3/32**Dimensions****Pressure switches**

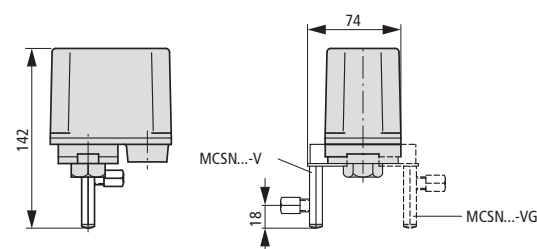
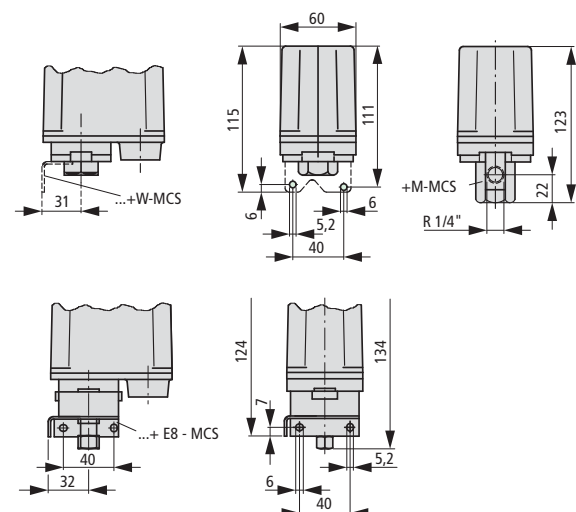
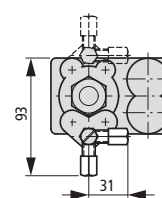
MCS..., MCSN...



Part no.	Pipe in-lead	a	
MSC...	2 x M20	R 1/4"	27
MCSN...	2 x M20	R 1/2"	36

MCSN...V

With relief valve



			Pressure switches		
			MCS	MCS...SOND910-G	MCSN
General					
Standards			IEC/EN 60947-5-1		
Test pressure		bar	32	32	32
Bursting pressure		bar	90	90	90
Operating frequency	Operations/h		≤ 3000	≤ 3000	≤ 1500
Climatic proofing			Damp heat, constant, to IEC 60068-2-78 Damp heat, cyclic, to IEC 60068-2-30		
Ambient temperature		°C	-25 - 70	-25 - 70	-25 - 70
Protection type			IP65	IP65	IP65
Mounting position			Any	Any	Any
Mechanical shock resistance to IEC 60068-2-27	Half-sinusoidal shock 20 ms	g	> 10	> 10	> 10
Vibration resistance acc. to IEC/EN 60068-2-6	Amplitude 1 mm	Hz	36	36	36
Lifespan at 50 % - 12 % pressure differential	Operations	x 10 ⁶	1...2	1...2	0.5
Terminal capacity					
Solid		mm ²	1 x (0.75 - 2.5)	1 x (0.75 - 2.5)	1 x (0.75 - 2.5) 2 x (0.75 - 2.5)
Flexible with ferrule to DIN 46228		mm ²	1 x (0.5 - 1.5)	1 x (0.5 - 1.5)	1 x (0.5 - 1.5) 2 x (0.5 - 1.5)
Terminations					
Terminal screw			Tunnel-type screw terminal	Tunnel-type screw terminal	Flat terminal with clamping washer
Terminal screw tightening torque		Nm	M3	M3	M4
			0.5	0.5	1.2
Contacts/switching capacity					
Rated impulse withstand voltage	U _{imp}	V AC	4000	4000	4000
Rated insulation voltage	U _i	V	400	400	400
Overvoltage category/pollution degree			III/3	III/3	III/3
Max. short-circuit protective unit					
Fuseless		Part no.	PKZ2/ZM6	PKZ2/ZM6	PKZ2/ZM16
Fuse	gG/gL	A	10	10	20
Type of coordination			—	—	1
AC-15					
Rated operational current					
230 V		A	2	—	—
AC-3					
Rated operational current					
230 V		A	—	—	15
400 V		A	—	—	11.5
Motor rating P					
230 V		kW	—	—	4
400 V		kW	—	—	5.5
DC-13					
Rated operational current					
24 V		A	2	0.8	—
110 V		A	0.25	0.25	—
DC-3					
Rated operational current					
24 V		A	—	—	16
110 V		A	—	—	12.5
250 V		A	—	—	2
Rated frequency	f	Hz	50	50	50



Description



- ① Outputs with function display on all models.
 ② All models with M12 plug connector or cable (2 m).
 ③ Versions for flush or non-flush mounting available.

Short description

Eaton's proximity sensors of the Global series have been developed specially for OEM series production. The sensors feature only the functions required for reliable operation. This means that you do not pay for additional, unnecessary functions but get the performance and features you expect from a sensor. Our DC versions feature a short-circuit protective unit and a rating of up to 2000 measuring cycles per second. The outputs of all models are equipped with a function display. The Global series includes models with various diameters from 8 to 30 mm, making it truly versatile in installation. Versions with various ranges are also available. The Global proximity sensors are DC or AC units with a 2- or 3-wire, NPN or PNP configuration. Versions for hard-wiring or with M12 plug connector are available. The DC versions have a rated load current of 100 mA, the AC versions 200 mA.

Product features

- The Global Proximity Line features solid performance and a basic feature set for reliable, cost-effective sensing.
- Available in a variety of sizes to fit in all of your applications: 8 mm, 12 mm, 18 mm und 30 mm diameters.
- The input voltage of the DC versions is 10 – 30 V DC with a 2- and 3-wire configuration (PNP and NPN).
- The input voltage of the AC versions is 2-AC 20...250 V.
- The operating frequency of the DC versions is 2 kHz.
- Versions for flush or non-flush installation available.
- Connection through cable (2 meters) or M12 plug connector.
- The DC versions feature short-circuit protection.

Approvals



HPL03037EN

Ordering

	Rated operational voltage	Rated switching distance S _n mm	Installation type	Switching type	Connection options:	Contact configuration N/O = normally open contact NC = normally closed contact	Material	Part no. Article no.	Price See price list	Std. pack
E57 Global series										
2-wire										
M12 x 1										
	10 - 30 V DC	2	Flush	—	2 m connection cable	1 N/O	Metal	E57-12GS02-D 135883		1 off  
		2	Flush	—	plug connector M12 x 1	1 N/O	Metal	E57-12GS02-DB 135884		
		4	Non-flush	—	2 m connection cable	1 N/O	Metal	E57-12GU04-D 135891		
		4	Non-flush	—	2 m connection cable	1 NC	Metal	E57-12GU04-D1 135892		
		4	Non-flush	—	plug connector M12 x 1	1 N/O	Metal	E57-12GU04-DB 135893		
		8	Non-flush	—	2 m connection cable	1 NC	Metal	E57-12GE08-D1 135872		
		8	Non-flush	—	plug connector M12 x 1	1 NC	Metal	E57-12GE08-D1DB 135873		
		8	Non-flush	—	plug connector M12 x 1	1 N/O	Metal	E57-12GE08-DB 135874		
		8	Non-flush	—	2 m connection cable	1 N/O	Metal	E57-12GE08-D 135871		
	20 - 250 V AC	2	Flush	—	2 m connection cable	1 N/O	Metal	E57-12GS02-A 135879		
		2	Flush	—	plug connector M12 x 1	1 N/O	Metal	E57-12GS02-AAB 135880		
		4	Non-flush	—	2 m connection cable	1 N/O	Metal	E57-12GU04-A 135887		
		4	Non-flush	—	plug connector M12 x 1	1 N/O	Metal	E57-12GU04-AAB 135888		
	M18 x 1									
		10 - 30 V DC	5	Flush	—	2 m connection cable	1 N/O	Metal	E57-18GS05-D 135929	
5			Flush	—	plug connector M12 x 1	1 N/O	Metal	E57-18GS05-DB 135930		
8			Non-flush	—	2 m connection cable	1 N/O	Metal	E57-18GU08-D 135937		
8			Non-flush	—	plug connector M12 x 1	1 N/O	Metal	E57-18GU08-DB 135938		
16			Non-flush	—	2 m connection cable	1 N/O	Metal	E57-18GE16-D 135917		
16			Non-flush	—	2 m connection cable	1 NC	Metal	E57-18GE16-D1 135918		
16			Non-flush	—	plug connector M12 x 1	1 NC	Metal	E57-18GE16-D1DB 135919		
16			Non-flush	—	plug connector M12 x 1	1 N/O	Metal	E57-18GE16-DB 135920		
20 - 250 V AC			5	Flush	—	2 m connection cable	1 N/O	Metal	E57-18GS05-A 135925	
		5	Flush	—	plug connector M12 x 1	1 N/O	Metal	E57-18GS05-AAB 135926		
		8	Non-flush	—	2 m connection cable	1 N/O	Metal	E57-18GU08-A 135933		
		8	Non-flush	—	plug connector M12 x 1	1 N/O	Metal	E57-18GU08-AAB 135934		
		16	Non-flush	—	plug connector M12 x 1	1 N/O	Metal	E57-18GE16-AAB 135916		

Information relevant for export to North America



Product Standards
UL File No.
UL CCN
CSA File No.
CSA Class No.
NA Certification
Max. Voltage Rating
Degree of Protection

UL 508; CSA-C22.2 No. 14; IEC60947-5-2; CE marking
CSA report applies to both Canada and US
—
224447
4652-84
CSA certified
250 V AC, 30 V DC
IEC: IP67; UL/CSA Type: -





	Rated operational voltage	Rated switching distance S _n mm	Installation type	Switching type	Connection options:	Contact configuration N/O = normally open contact NC = normally closed contact	Material	Part no. Article no.	Price See price list	Std. pack
E57 Global series										
2-wire										
M30 x 1.5										
	10 - 30 V DC	10	Flush	—	2 m connection cable	1 N/O	Metal	E57-30GS10-D 135973		1 off  
		10	Flush	—	2 m connection cable	1 NC	Metal	E57-30GS10-D1 135974		
		10	Flush	—	plug connector M12 x 1	1 NC	Metal	E57-30GS10-D1DB 135975		
		10	Flush	—	plug connector M12 x 1	1 N/O	Metal	E57-30GS10-DDB 135976		
		15	Non-flush	—	2 m connection cable	1 N/O	Metal	E57-30GU15-D 135983		
		15	Non-flush	—	plug connector M12 x 1	1 N/O	Metal	E57-30GU15-DDB 135984		
		25	Non-flush	—	2 m connection cable	1 N/O	Metal	E57-30GE25-D 135961		
		25	Non-flush	—	2 m connection cable	1 NC	Metal	E57-30GE25-D1 135962		
		25	Non-flush	—	plug connector M12 x 1	1 NC	Metal	E57-30GE25-D1DB 135963		
		25	Non-flush	—	plug connector M12 x 1	1 N/O	Metal	E57-30GE25-DDB 135964		
	20 - 250 V AC	10	Flush	—	2 m connection cable	1 N/O	Metal	E57-30GS10-A 135969		
		10	Flush	—	plug connector M12 x 1	1 N/O	Metal	E57-30GS10-AAB 135970		
		15	Non-flush	—	2 m connection cable	1 N/O	Metal	E57-30GU15-A 135979		
		15	Non-flush	—	plug connector M12 x 1	1 N/O	Metal	E57-30GU15-AAB 135980		
3-wire										
M8 x 1										
	10 - 30 V DC	1	Flush	NPN	2 m connection cable	1 N/O	Stainless steel	E57-08GS01-C 135859		1 off  
		1	Flush	NPN	plug connector M12 x 1	1 N/O	Stainless steel	E57-08GS01-CDB 135860		
		1	Flush	PNP	2 m connection cable	1 N/O	Stainless steel	E57-08GS01-G 135861		
		1	Flush	PNP	plug connector M12 x 1	1 N/O	Stainless steel	E57-08GS01-GDB 135862		
		2	Non-flush	NPN	2 m connection cable	1 N/O	Stainless steel	E57-08GU02-C 135863		
		2	Non-flush	NPN	plug connector M12 x 1	1 N/O	Stainless steel	E57-08GU02-CDB 135864		
		2	Non-flush	PNP	2 m connection cable	1 N/O	Stainless steel	E57-08GU02-G 135865		
		2	Non-flush	PNP	plug connector M12 x 1	1 N/O	Stainless steel	E57-08GU02-GDB 135866		
		3	Flush	NPN	2 m connection cable	1 NC	Stainless steel	E57-08GBE03-C 135850		
		3	Flush	NPN	2 m connection cable	1 N/O	Stainless steel	E57-08GE03-C 135851		
		3	Flush	NPN	plug connector M12 x 1	1 N/O	Stainless steel	E57-08GE03-CDB 135852		
		3	Flush	PNP	2 m connection cable	1 N/O	Stainless steel	E57-08GE03-G 135853		
		3	Flush	PNP	plug connector M12 x 1	1 N/O	Stainless steel	E57-08GE03-GDB 135854		

Information relevant for export to North America



Product Standards

UL File No.

UL CCN
CSA File No.
CSA Class No.
NA Certification
Max. Voltage Rating
Degree of Protection

UL 508; CSA-C22.2 No. 14; IEC60947-5-2;
CE marking
CSA report applies to both Canada and US

—
224447
4652-84
CSA certified
250 V AC, 30 V DC
IEC: IP67; UL/CSA Type: -

HPL03039EN

	Rated operational voltage	Rated switching distance S _n mm	Installation type	Switching type	Connection options:	Contact configuration N/O = normally open contact NC = normally closed contact	Material	Part no. Article no.	Price See price list	Std. pack
E57 Global series										
3-wire										
M8 x 1										
	10 - 30 V DC	6	Non-flush	NPN	2 m connection cable	1 N/O	Stainless steel	E57-08GE06-C 135855		1 off  
		6	Non-flush	NPN	plug connector M12 x 1	1 N/O	Stainless steel	E57-08GE06-CDB 135856		
		6	Non-flush	PNP	2 m connection cable	1 N/O	Stainless steel	E57-08GE06-G 135857		
		6	Non-flush	PNP	plug connector M12 x 1	1 N/O	Stainless steel	E57-08GE06-GDB 135858		
M12 x 1										
	10 - 30 V DC	2	Flush	NPN	2 m connection cable	1 N/O	Metal	E57-12GS02-C 135881		1 off  
		2	Flush	NPN	plug connector M12 x 1	1 N/O	Metal	E57-12GS02-CDB 135882		
		2	Flush	PNP	2 m connection cable	1 N/O	Metal	E57-12GS02-G 135885		
		2	Flush	PNP	plug connector M12 x 1	1 N/O	Metal	E57-12GS02-GDB 135886		
		4	Non-flush	NPN	2 m connection cable	1 N/O	Metal	E57-12GU04-C 135889		
		4	Non-flush	NPN	plug connector M12 x 1	1 N/O	Metal	E57-12GU04-CDB 135890		
		4	Non-flush	PNP	2 m connection cable	1 N/O	Metal	E57-12GU04-G 135894		
		4	Non-flush	PNP	plug connector M12 x 1	1 N/O	Metal	E57-12GU04-GDB 135895		
		5	Flush	NPN	2 m connection cable	1 N/O	Metal	E57-12GE05-C 135867		
		5	Flush	NPN	plug connector M12 x 1	1 N/O	Metal	E57-12GE05-CDB 135868		
		5	Flush	PNP	2 m connection cable	1 N/O	Metal	E57-12GE05-G 135869		
		5	Flush	PNP	plug connector M12 x 1	1 N/O	Metal	E57-12GE05-GDB 135870		
		10	Non-flush	NPN	2 m connection cable	1 N/O	Metal	E57-12GE10-C 135875		
		10	Non-flush	NPN	plug connector M12 x 1	1 N/O	Metal	E57-12GE10-CDB 135876		
		10	Non-flush	PNP	2 m connection cable	1 N/O	Metal	E57-12GE10-G 135877		
		10	Non-flush	PNP	plug connector M12 x 1	1 N/O	Metal	E57-12GE10-GDB 135878		
M18 x 1										
	10 - 30 V DC	5	Flush	NPN	2 m connection cable	1 N/O	Metal	E57-18GS05-C 135927		1 off  
		5	Flush	NPN	plug connector M12 x 1	1 N/O	Metal	E57-18GS05-CDB 135928		
		5	Flush	PNP	2 m connection cable	1 N/O	Metal	E57-18GS05-G 135931		
		5	Flush	PNP	plug connector M12 x 1	1 N/O	Metal	E57-18GS05-GDB 135932		
		8	Flush	NPN	2 m connection cable	1 N/O	Metal	E57-18GE08-C 135912		
		8	Flush	NPN	plug connector M12 x 1	1 N/O	Metal	E57-18GE08-CDB 135913		
		8	Flush	PNP	2 m connection cable	1 N/O	Metal	E57-18GE08-G 135914		

Information relevant for export to North America



Product Standards
UL File No.
UL CCN
CSA File No.
CSA Class No.
NA Certification
Max. Voltage Rating
Degree of Protection

UL 508; CSA-C22.2 No. 14; IEC60947-5-2; CE marking
CSA report applies to both Canada and US
-
224447
4652-84
CSA certified
250 V AC, 30 V DC
IEC: IP67; UL/CSA Type: -





	Rated operational voltage	Rated switching distance S _n mm	Installation type	Switching type	Connection options:	Contact configuration N/O = normally open contact NC = normally closed contact	Material	Part no. Article no.	Price See price list	Std. pack
E57 Global series										
3-wire										
M18 x 1										
	10 - 30 V DC	8	Flush	PNP	plug connector M12 x 1	1 N/O	Metal	E57-18GE08-GDB 135915		1 off  
		8	Non-flush	NPN	2 m connection cable	1 N/O	Metal	E57-18GU08-C 135935		
		8	Non-flush	NPN	plug connector M12 x 1	1 N/O	Metal	E57-18GU08-CDB 135936		
		8	Non-flush	PNP	2 m connection cable	1 N/O	Metal	E57-18GU08-G 135939		
		8	Non-flush	PNP	plug connector M12 x 1	1 N/O	Metal	E57-18GU08-GDB 135940		
		18	Non-flush	NPN	2 m connection cable	1 N/O	Metal	E57-18GE18-C 135921		
		18	Non-flush	NPN	plug connector M12 x 1	1 N/O	Metal	E57-18GE18-CDB 135922		
		18	Non-flush	PNP	2 m connection cable	1 N/O	Metal	E57-18GE18-G 135923		
		18	Non-flush	PNP	plug connector M12 x 1	1 N/O	Metal	E57-18GE18-GDB 135924		
3-wire										
M30 x 1.5										
	10 - 30 V DC	10	Flush	NPN	2 m connection cable	1 N/O	Metal	E57-30GS10-C 135971		1 off  
		10	Flush	NPN	plug connector M12 x 1	1 N/O	Metal	E57-30GS10-CDB 135972		
		10	Flush	PNP	2 m connection cable	1 N/O	Metal	E57-30GS10-G 135977		
		10	Flush	PNP	plug connector M12 x 1	1 N/O	Metal	E57-30GS10-GDB 135978		
		15	Flush	NPN	2 m connection cable	1 N/O	Metal	E57-30GE15-C 135957		
		15	Flush	NPN	plug connector M12 x 1	1 N/O	Metal	E57-30GE15-CDB 135958		
		15	Flush	PNP	2 m connection cable	1 N/O	Metal	E57-30GE15-G 135959		
		15	Flush	PNP	plug connector M12 x 1	1 N/O	Metal	E57-30GE15-GDB 135960		
		15	Non-flush	NPN	2 m connection cable	1 N/O	Metal	E57-30GU15-C 135981		
		15	Non-flush	NPN	plug connector M12 x 1	1 N/O	Metal	E57-30GU15-CDB 135982		
		15	Non-flush	PNP	2 m connection cable	1 N/O	Metal	E57-30GU15-G 135985		
		15	Non-flush	PNP	plug connector M12 x 1	1 N/O	Metal	E57-30GU15-GDB 135986		
		29	Non-flush	NPN	2 m connection cable	1 N/O	Metal	E57-30GE29-C 135965		
		29	Non-flush	NPN	plug connector M12 x 1	1 N/O	Metal	E57-30GE29-CDB 135966		
		29	Non-flush	PNP	2 m connection cable	1 N/O	Metal	E57-30GE29-G 135967		
		29	Non-flush	PNP	plug connector M12 x 1	1 N/O	Metal	E57-30GE29-GDB 135968		

Information relevant for export to North America



Product Standards
UL File No.
UL CCN
CSA File No.
CSA Class No.
NA Certification
Max. Voltage Rating
Degree of Protection

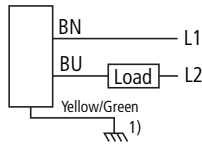
UL 508; CSA-C22.2 No. 14; IEC60947-5-2; CE marking
CSA report applies to both Canada and US

—
224447
4652-84
CSA certified
250 V AC, 30 V DC
IEC: IP67; UL/CSA Type: -

Engineering

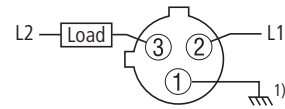
Circuit diagram

E57...-A



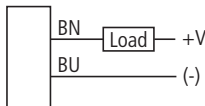
1) Internally connected to enclosure (wiring optional)

E57...-AAB

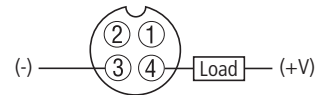


1) Internally connected to enclosure (wiring optional)

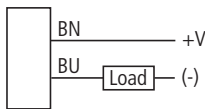
E57...-D
E57...-D1



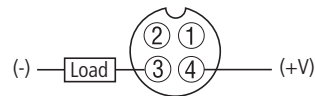
E57...-DDB
E57...-D1DB



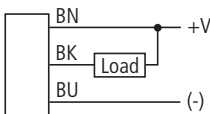
E57...-D
E57...-D1



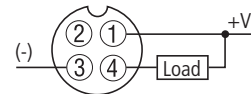
E57...-DDB
E57...-D1DB



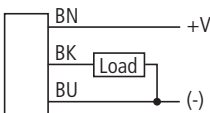
E57...-C



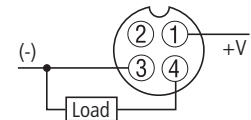
E57...-CDB



E57...-G



E57...-GDB



Technical data

			E57-...(2-wire) E57-12GS...A	E57-12GU...A	E57-18GS...A	E57-18GU...A
General						
Standards			IEC/EN 60947-5-2			
Ambient temperature		°C	-25 - +70	-25 - +70	-25 - +70	-25 - +70
Protection type			IP67	IP67	IP67	IP67
Mechanical shock resistance		g	30 Shock duration 11 ms			
Characteristic values						
Repetition accuracy of S_n		%	1	3	1	3
Temperature drift of S_n		%	10	10	10	10
Switching hysteresis of S_n		%	15	15	15	15
Rated operating voltage			20 - 250 V AC	20 - 250 V AC	20 - 250 V AC	20 - 250 V AC
Operating current in the switched state at 24 V DC	I_b	mA	1.8	1.8	1.8	1.8
Rated operational current	I_e	mA	200	200	200	200
Voltage drop at I_e	U_d	V	8	8	8	8
Switching frequency		Hz	25	25	25	25
Min. load current	I_e	mA	5	5	5	5
Residual current due to the load in locked state at 230 V AC or 24 V DC	I_r	mA	0.01	0.01	0.01	0.01
Switching state indication		LED	Red	Red	Red	Red
Function			2-wire	2-wire	2-wire	2-wire
Construction type						
Design (outer dimensions)			M12 x 1	M12 x 1	M18 x 1	M18 x 1
Material			Metal	Metal	Metal	Metal

			E57-...(2-wire) E57-18GE...A	E57-30GS...A	E57-30GU...A
General					
Standards			IEC/EN 60947-5-2		
Ambient temperature		°C	-25 - +70	-25 - +70	-25 - +70
Protection type			IP67	IP67	IP67
Mechanical shock resistance		g	30 Shock duration 11 ms		
Characteristic values					
Repetition accuracy of S_n		%	1	1	3
Temperature drift of S_n		%	10	10	10
Switching hysteresis of S_n		%	15	15	15
Rated operating voltage			20 - 250 V AC	20 - 250 V AC	20 - 250 V AC
Operating current in the switched state at 24 V DC	I_b	mA	1.8	1.8	1.8
Rated operational current	I_e	mA	200	200	200
Voltage drop at I_e	U_d	V	8	8	8
Switching frequency		Hz	25	25	25
Min. load current	I_e	mA	5	5	5
Residual current due to the load in locked state at 230 V AC or 24 V DC	I_r	mA	0.01	0.01	0.01
Switching state indication		LED	Red	Red	Red
Function			2-wire	2-wire	2-wire
Construction type					
Design (outer dimensions)			M18 x 1	M30 x 1.5	M30 x 1.5
Material			Metal	Metal	Metal

Notes

Further technical data can be found in the Online Catalogue at www.moeller.net



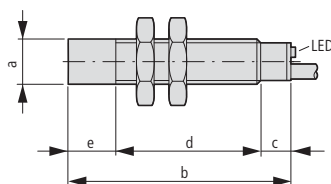
			E57-...(3-wire)				
			E57-08...	E57-12... E57-12GE...	E57-12GS...	E57-12GU...	E57-18... E57-18GE...
General							
Standards			IEC/EN 60947-5-2				
Ambient temperature		°C	-0 - +60	-25 - +70	-25 - +70	-25 - +70	-25 - +70
Protection type			IP67	IP67	IP67	IP67	IP67
Mechanical shock resistance		g	30 Shock duration 11 ms				
Characteristic values							
Repetition accuracy of S_n		%	1	1	1	1	1
Temperature drift of S_n		%	10	10	10	10	10
Switching hysteresis of S_n		%	15	15	15	15	15
Rated operating voltage			10 - 30 V DC	10 - 30 V DC	10 - 30 V DC	10 - 30 V DC	10 - 30 V DC
Residual ripple of U_e		%	10	10	10	10	10
Operating current in the switched state at 24 V DC	I_b	mA	10	10	10	20	10
Rated operational current	I_e	mA	100	100	100	100	100
Voltage drop at I_e	U_d	V	1.5	1.5	1.5	1.5	1.5
Switching frequency		Hz	2000	2000	2000	1000	1000
Residual current due to the load in locked state at 230 V AC or 24 V DC	I_r	mA	0.01	0.01	0.01	0.01	0.01
Switching state indication		LED	Red	Red	Red	Red	Red
Protective functions			Short-circuit protection Protection against polarity reversal Protection against wire breakage				
Function			3-wire	3-wire	3-wire	3-wire	3-wire
Construction type							
Design (outer dimensions)			M8 x 1	M12 x 1	M12 x 1	M12 x 1	M18 x 1
Material			Stainless steel	Metal	Metal	Metal	Metal

			E57-18...		E57-30...		
			E57-18GS...	E57-18GU...	E57-30GE...	E57-30GS...	
General							
Standards			IEC/EN 60947-5-2				
Ambient temperature		°C	-25 - +70	-25 - +70	-25 - +70	-25 - +70	-25 - +70
Protection type			IP67	IP67	IP67	IP67	IP67
Mechanical shock resistance		g	30 Shock duration 11 ms				
Characteristic values							
Repetition accuracy of S_n		%	1	1	1	1	1
Temperature drift of S_n		%	10	10	10	10	10
Switching hysteresis of S_n		%	15	15	15	15	15
Rated operating voltage			10 - 30 V DC	10 - 30 V DC	10 - 30 V DC	10 - 30 V DC	10 - 30 V DC
Residual ripple of U_e		%	10	10	10	10	10
Operating current in the switched state at 24 V DC	I_b	mA	10	20	10	10	20
Rated operational current	I_e	mA	100	100	100	100	100
Voltage drop at I_e	U_d	V	1.5	1.5	1.5	1.5	1.5
Switching frequency		Hz	1000	500	500	500	200
Residual current due to the load in locked state at 230 V AC or 24 V DC	I_r	mA	0.01	0.01	0.01	0.01	0.01
Switching state indication		LED	Red	Red	Red	Red	Red
Protective functions			Short-circuit protection Protection against polarity reversal Protection against wire breakage				
Function			3-wire	3-wire	3-wire	3-wire	3-wire
Construction type							
Design (outer dimensions)			M18 x 1	M18 x 1	M30 x 1.5	M30 x 1.5	M30 x 1.5
Material			Metal	Metal	Metal	Metal	Metal

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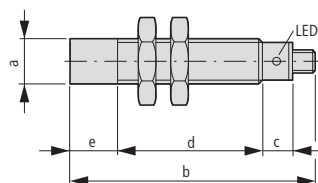
Dimensions

2 m connection cable



2-wire							3-wire						
20-250 V AC	E57-12GS02-A	M12x1	65	15	50	—	10-30 V DC	E57-08GE03-C	M8x1	46	6	40	—
	E57-12GU04-A	M12x1	60	15	42	8		E57-08GE06-C	M8x1	46	1	41	4
	E57-18GS05-A	M18x1	80	20	60	—		E57-08GE03-G	M8x1	46	6	40	—
	E57-18GU08-A	M18x1	80	20	48	12		E57-08GE06-G	M8x1	46	1	41	4
	E57-30GS10-A	M30	80	20	60	—		E57-08GS01-C	M8x1	45	—	45	—
	E57-30GU15-A	M30	80	20	45	15		E57-08GS01-G	M8x1	45	—	45	—
10-30 V DC	E57-12GS02-D	M12x1	50	—	50	—		E57-08GU02-C	M8x1	45	—	41	4
	E57-12GU04-D	M12x1	50	—	42	8		E57-08GU02-G	M8x1	45	—	41	4
	E57-12GU04-D1	M12x1	50	—	42	8		E57-12GE05-C	M12x1	51	2	49	—
	E57-12GE08-D	M12x1	50	—	42	8		E57-12GE05-G	M12x1	51	2	49	—
	E57-12GE08-D1	M12x1	50	—	42	8		E57-12GE10-C	M12x1	50.5	1.7	41	7.8
	E57-18GS05-D	M18x1	55	5	50	—		E57-12GE10-G	M12x1	50.5	1.7	41	7.8
	E57-18GU08-D	M18x1	55	5	38	12		E57-12GS02-C	M12x1	50	—	50	—
	E57-18GE16-D	M18x1	55	5	38	12		E57-12GS02-G	M12x1	50	—	50	—
	E57-18GE16-D1	M18x1	55	5	38	12		E57-12GU04-C	M12x1	50	—	42	8
	E57-30GS10-D	M30	55	5	50	—		E57-12GU04-G	M12x1	50	—	42	8
	E57-30GU15-D	M30	55	5	35	15		E57-18GE08-C	M18x1	67.5	2.5	65	—
	E57-30GE25-D	M30	55	5	35	15		E57-18GE08-G	M18x1	65.5	2.5	65	—
	E57-30GE25-D1	M30	55	5	35	15		E57-18GE18-C	M18x1	66	2.5	52	11.5
								E57-18GE18-G	M18x1	66	2.5	52	11.5
								E57-18GS05-C	M18x1	55	5	50	—
								E57-18GS05-G	M18x1	55	5	50	—
								E57-18GU08-C	M18x1	55	5	38	12
								E57-18GU08-G	M18x1	55	5	38	12
								E57-30GE15-C	M30	69	5	64	—
								E57-30GE15-G	M30	69	5	64	—
								E57-30GE29-C	M30	83	5	64	15
								E57-30GE29-G	M30	83	5	64	15
								E57-30GS10-C	M30	55	5	50	—
								E57-30GS10-G	M30	55	5	50	—
								E57-30GU15-C	M30	55	5	35	15
								E57-30GU15-G	M30	55	5	35	15

M12 plug connector



		a	b	c	d	e
2-wire						
20-250 V AC	E57-12GS02-AAB	M12x1	68	16	42	—
	E57-12GU04-AAB	M12x1	68	16	34	8
	E57-18GE16-AAB	M18x1	94	20	48	12
	E57-18GS05-AAB	M18x1	91	20	60	—
	E57-18GU08-AAB	M18x1	91	20	48	12
	E57-30GS10-AAB	M30	80	20	60	—
	E57-30GU15-AAB	M30	91	20	45	15
10-30 V DC	E57-12GS02-DDB	M12x1	69	16	42	—
	E57-12GU04-DDB	M12x1	68	16	34	8
	E57-12GE08-DDB	M12x1	68	16	34	8
	E57-12GE08-D1DB	M12x1	68	10	50	8
	E57-18GS05-DDB	M18x1	76	15	61	—
	E57-18GU08-DDB	M18x1	80	15	49	12
	E57-18GE16-DDB	M18x1	79	15	52	12
	E57-18GE16-D1DB	M18x1	79	15	52	12
	E57-30GS10-DDB	M30	75	15	60	—
	E57-30GU15-DDB	M30	79	15	45	15
	E57-30GE25-DDB	M30	78	15	48	15
	E57-30GE25-D1DB	M30	78	15	48	15

		a	b	c	d	e
3-wire						
10-30 V DC	E57-08GE03-CDB	M8x1	71	26	36	—
	E57-08GE03-CNB	M8x1	61	19	42	—
	E57-08GE03-GDB	M8x1	71	26	35	—
	E57-08GE03-GNB	M8x1	61	19	42	—
	E57-08GE06-CDB	M8x1	71	25	31	4
	E57-08GE06-GDB	M8x1	71	25	31	4
	E57-08GS01-CDB	M8x1	70	21	49	—
	E57-08GS01-GDB	M8x1	70	21	49	—
	E57-08GU02-CDB	M8x1	70	21	45	4
	E57-08GU02-GDB	M8x1	70	21	45	4
	E57-12GE05-CDB	M12x1	69	24	45	—
	E57-12GE05-GDB	M12x1	69	24	45	—
	E57-12GE10-CDB	M12x1	68.5	10.3	36	7.8
	E57-12GE10-GDB	M12x1	68.5	10.3	36	7.8
	E57-12GS02-CDB	M12x1	68	16	52	—
	E57-12GS02-GDB	M12x1	68	16	52	—
	E57-12GU04-CDB	M12x1	68	20	31	8
	E57-12GU04-GDB	M12x1	68	20	31	8
	E57-18GE08-CDB	M18x1	80	6	49	—
	E57-18GE08-GDB	M18x1	80	16	49	—
	E57-18GE18-CDB	M18x1	79	6	37	12
	E57-18GE18-GDB	M18x1	79	6	37	12
	E57-18GS05-CDB	M18x1	76	15	61	—
	E57-18GS05-GDB	M18x1	76	15	61	—
	E57-18GU08-CDB	M18x1	76	15	49	12
	E57-18GU08-GDB	M18x1	80	15	49	12
	E57-30GS10-CDB	M30	79	15	60	—
	E57-30GS10-GDB	M30	75	15	60	—
	E57-30GE15-CDB	M30	80	16	49	—
	E57-30GE15-GDB	M30	80	16	49	—
	E57-30GE29-CDB	M30	95	16	49	15
	E57-30GE29-GDB	M30	95	16	49	15
	E57-30GU15-CDB	M30	75	15	45	15
	E57-30GU15-GDB	M30	75	15	45	15

Description



① Measuring head angled 90° for difficult measuring tasks



Short description

Eaton's inductive proximity sensors of the Premium+ series feature an enhanced measuring performance, durability and selection. Unlike the standard sensors, the Premium+ models feature a rugged stainless steel enclosure, impact-resistant front caps and an impact-absorbing sealant. The sensors are now available in versions for AC, AC/DC and DC-only operation, with enclosure diameters of 12, 18 and 30 mm. Their interference immunity is unsurpassed at more than 20 volts/meter. The Premium+ series includes sensors with a specially short, cylindrical enclosure. Despite their small size, they feature the same measuring range as the longer standard sizes. This allows the sensors to be used in applications where mounting space is limited. All sensors are equipped with a LED with 360° visibility.

Product features

- New, wider product range – models with two-wire, three-wire, AC, DC and AC/DC connection.
- Resistant against mechanical and environmental strain.
- Designed with stainless steel barrel and new potting compound for robust, high temperature, high pressure washdown, as well as intense shock and vibration applications.
- Unmatched high noise immunity eliminates problems associated with electrical noise (all models > 20 Volt/meter).
- Output status lamp is visible through 360° from any direction and at all light conditions.
- AC/DC and DC models have resettable short-circuit and polarity reversal protection.
- Models with 90° measuring head offer unique problem-solving capabilities.
- Large temperature range (-25 to 70 °C).
- Small sizes for space-saving installation available.
- Versions with cable for with cable for hard wiring or M12 plug connector for fast installation and simple replacement.

Approvals



HPL03047EN

Ordering

Function	Rated operational voltage	Rated switching distance S _n mm	Installation type	Switching type	Connection options:	Contact configuration N/O = normally open contact NC = normally closed contact	Material	Part no. Article no.	Price See price list	Std. pack
E57 Premium Plus										
2-wire										
M12 x 1										
	20 - 250 V AC	2	Flush	—	2 m connection cable	1 N/O	Stainless steel	E57LAL12A2 ¹⁾ 135995		1 off  
			Flush	—	plug connector M12 x 1	1 N/O		E57LAL12A2SA ¹⁾ 135998		
			Flush	—	2 m connection cable	1 NC		E57LBL12A2 ¹⁾ 136030		
			Flush	—	plug connector M12 x 1	1 NC		E57LBL12A2SA ¹⁾ 136033		
		4	Non-flush	—	2 m connection cable	1 N/O		E57LAL12A2E ¹⁾ 135996		
			Non-flush	—	plug connector M12 x 1	1 N/O		E57LAL12A2EA ¹⁾ 135997		
			Non-flush	—	2 m connection cable	1 NC		E57LBL12A2E ¹⁾ 136031		
			Non-flush	—	plug connector M12 x 1	1 NC		E57LBL12A2EA ¹⁾ 136032		
M18 x 1										
	20 - 250 V AC	5	Flush	—	2 m connection cable	1 N/O	Stainless steel	E57LAL18A2 ¹⁾ 136007		
			Flush	—	2 m connection cable	1 NC		E57LBL18A2 ¹⁾ 136042		
			Flush	—	M12 plug connector x 1	1 NC		E57LBL18A2SA ¹⁾ 136045		
	20 - 250 V AC	5	Flush	—	2 m connection cable	1 N/O		E57RAL18A2 ²⁾ 136066		
		5	Flush	—	2 m connection cable	1 NC		E57RBL18A2 ²⁾ 136078		
		8	Non-flush	—	2 m connection cable	1 N/O		E57RAL18A2E ²⁾ 136067		
		8	Non-flush	—	2 m connection cable	1 NC		E57RBL18A2E ²⁾ 136079		
	20 - 250 V AC	8	Non-flush	—	2 m connection cable	1 N/O		E57LAL18A2E ¹⁾ 136008		
			Non-flush	—	plug connector M12 x 1	1 N/O		E57LAL18A2EA ¹⁾ 136009		
			Non-flush	—	2 m connection cable	1 NC		E57LBL18A2E ¹⁾ 136043		
			Non-flush	—	plug connector M12 x 1	1 NC		E57LBL18A2EA ¹⁾ 136044		
	20 - 250 V AC	5	Flush	—	plug connector M12 x 1	1 N/O		E57RAL18A2SA ²⁾ 136069		
		5	Flush	—	plug connector M12 x 1	1 NC		E57RBL18A2SA ²⁾ 136081		
		8	Non-flush	—	plug connector M12 x 1	1 N/O		E57RAL18A2EA ²⁾ 136068		
		8	Non-flush	—	plug connector M12 x 1	1 NC		E57RBL18A2EA ²⁾ 136080		

Information relevant for export to North America



- 1) Product Standards
UL File No.
UL CCN
CSA File No.
CSA Class No.
NA Certification
Max. Voltage Rating
Degree of Protection
- 2) Product Standards
UL File No.
UL CCN
NA Certification
Max. Voltage Rating
Degree of Protection
- UL 508; CSA-C22.2 No. 14; IEC60947-5-2; CE marking
E166051
NRKH, NRKH7
50513
3211-03
UL Listed, CSA certified
250 V AC
IEC: IP67, IP69K; UL/CSA Type: -
- UL 508; IEC60947-5-2; CE marking
E166051
NRKH, NRKH7
UL Listed
250 V AC
IEC: IP67, IP69K; UL/CSA Type: 4, 4x, 6, 6P, 12, 13



Function	Rated operational voltage	Rated switching distance S _n mm	Installation type	Switching type	Connection options:	Contact configuration N/O = normally open contact NC = normally closed contact	Material	Part no. Article no.	Price See price list	Std. pack
E57 Premium Plus										
2-wire										
	20 - 250 V AC	10	Flush	–	2 m connection cable	1 N/O	Stainless steel	E57LAL30A2 ¹⁾ 136018		1 off  
			Flush	–	plug connector M12 x 1	1 N/O		E57LAL30A2SA ¹⁾ 136021		
			Flush	–	2 m connection cable	1 NC		E57LBL30A2 ¹⁾ 136054		
			Flush	–	plug connector M12 x 1	1 NC		E57LBL30A2SA ¹⁾ 136057		
		15	Non-flush	–	2 m connection cable	1 N/O		E57LAL30A2E ¹⁾ 136019		
			Non-flush	–	plug connector M12 x 1	1 N/O		E57LAL30A2EA ¹⁾ 136020		
			Non-flush	–	2 m connection cable	1 NC		E57LBL30A2E ¹⁾ 136055		
			Non-flush	–	plug connector M12 x 1	1 NC		E57LBL30A2EA ¹⁾ 136056		
3-wire										
	6 - 48 V DC	2	Flush	NPN	2 m connection cable	1 N/O	Stainless steel	E57LAL12T110 ²⁾ 135999		1 off  
			Flush	NPN	plug connector M12 x 1	1 N/O		E57LAL12T110SD ²⁾ 136002		
			Flush	PNP	2 m connection cable	1 N/O		E57LAL12T111 ²⁾ 136003		
			Flush	PNP	plug connector M12 x 1	1 N/O		E57LAL12T111SD ²⁾ 136006		
			Flush	NPN	2 m connection cable	1 NC		E57LBL12T110 ²⁾ 136034		
			Flush	NPN	plug connector M12 x 1	1 NC		E57LBL12T110SD ²⁾ 136037		
			Flush	PNP	2 m connection cable	1 NC		E57LBL12T111 ²⁾ 136038		
			Flush	PNP	plug connector M12 x 1	1 NC		E57LBL12T111SD ²⁾ 136041		
		4	Non-flush	NPN	2 m connection cable	1 N/O		E57LAL12T110E ²⁾ 136000		
			Non-flush	NPN	plug connector M12 x 1	1 N/O		E57LAL12T110ED ²⁾ 136001		
			Non-flush	PNP	2 m connection cable	1 N/O		E57LAL12T111E ²⁾ 136004		
			Non-flush	PNP	plug connector M12 x 1	1 N/O		E57LAL12T111ED ²⁾ 136005		
			Non-flush	NPN	2 m connection cable	1 NC		E57LBL12T110E ²⁾ 136035		
			Non-flush	NPN	plug connector M12 x 1	1 NC		E57LBL12T110ED ²⁾ 136036		
			Non-flush	PNP	2 m connection cable	1 NC		E57LBL12T111E ²⁾ 136039		
			Non-flush	PNP	plug connector M12 x 1	1 NC		E57LBL12T111ED ²⁾ 136040		

Information relevant for export to North America



- 1) Product Standards
UL File No.
UL CCN
CSA File No.
CSA Class No.
NA Certification
Max. Voltage Rating
Degree of Protection
- 2) Product Standards
UL File No.
UL CCN
CSA File No.
CSA Class No.
NA Certification
Max. Voltage Rating
Degree of Protection
- UL 508; CSA-C22.2 No. 14; IEC60947-5-2; CE marking
E166051
NRKH, NRKH7
50513
3211-03
UL Listed, CSA certified
250 V AC
IEC: IP67, IP69K; UL/CSA Type: -
- UL 508; CSA-C22.2 No. 14; IEC60947-5-2; CE marking
E166051
NRKH, NRKH7
50513
3211-03
UL Listed, CSA certified
48 V DC
IEC: IP67, IP69K; UL/CSA Type: -

HPL03049EN

Function	Rated operational voltage	Rated switching distance S_n mm	Installation type	Switching type	Connection options:	Contact configuration N/O = normally open NC = normally closed contact	Material	Part no. Article no.	Price See price list	Std. pack
E57 Premium Plus										
3-wire										
M18 x 1										
	6 - 48 V DC	5	Flush	NPN	2 m connection cable	1 N/O	Stainless steel	E57RAL18T110 ¹⁾ 136070		1 off  
			Flush	PNP	2 m connection cable	1 N/O		E57RAL18T111 ¹⁾ 136074		
			Flush	NPN	2 m connection cable	1 NC		E57RBL18T110 ¹⁾ 136082		
			Flush	PNP	2 m connection cable	1 NC		E57RBL18T111 ¹⁾ 136086		
	5	5	Flush	NPN	2 m connection cable	1 N/O		E57LAL18T110 ²⁾ 136010		
			Flush	NPN	plug connector M12 x 1	1 N/O		E57LAL18T110SD ²⁾ 136013		
			Flush	PNP	2 m connection cable	1 N/O		E57LAL18T111 ²⁾ 136014		
			Flush	PNP	plug connector M12 x 1	1 N/O		E57LAL18T111SD ²⁾ 136017		
			Flush	NPN	2 m connection cable	1 NC		E57LBL18T110 ²⁾ 136046		
			Flush	NPN	plug connector M12 x 1	1 NC		E57LBL18T110SD ²⁾ 136049		
			Flush	PNP	2 m connection cable	1 NC		E57LBL18T111 ²⁾ 136050		
			Flush	PNP	plug connector M12 x 1	1 NC		E57LBL18T111SD ²⁾ 136053		
	8	8	Non-flush	NPN	2 m connection cable	1 N/O		E57RAL18T110E ¹⁾ 136071		
			Non-flush	PNP	2 m connection cable	1 N/O		E57RAL18T111E ¹⁾ 136075		
			Non-flush	NPN	2 m connection cable	1 NC		E57RBL18T110E ¹⁾ 136083		
			Non-flush	PNP	2 m connection cable	1 NC		E57RBL18T111E ¹⁾ 136087		
			Non-flush	NPN	2 m connection cable	1 N/O		E57LAL18T110E ²⁾ 136011		
			Non-flush	NPN	plug connector M12 x 1	1 N/O		E57LAL18T110ED ²⁾ 136012		
			Non-flush	PNP	2 m connection cable	1 N/O		E57LAL18T111E ²⁾ 136015		
			Non-flush	PNP	plug connector M12 x 1	1 N/O		E57LAL18T111ED ²⁾ 136016		
			Non-flush	NPN	2 m connection cable	1 NC		E57LBL18T110E ²⁾ 136047		
			Non-flush	NPN	plug connector M12 x 1	1 NC		E57LBL18T110ED ²⁾ 136048		
			Non-flush	PNP	2 m connection cable	1 NC		E57LBL18T111E ²⁾ 136051		
			Non-flush	PNP	plug connector M12 x 1	1 NC		E57LBL18T111ED ²⁾ 136052		

Information relevant for export to North America



- ¹⁾ Product Standards
UL File No.
UL CCN
NA Certification
Max. Voltage Rating
Degree of Protection

- ²⁾ Product Standards
UL File No.
UL CCN
CSA File No.
CSA Class No.
NA Certification
Max. Voltage Rating
Degree of Protection

UL 508; IEC60947-5-2; CE marking
E166051
NRKH, NRKH7
UL Listed
48 V DC
IEC: IP67, IP69K; UL/CSA Type: -

UL 508; CSA-C22.2 No. 14; IEC60947-5-2; CE marking
E166051
NRKH, NRKH7
50513
3211-03
UL Listed, CSA certified
48 V DC
IEC: IP67, IP69K; UL/CSA Type: -

Function	Rated operational voltage	Rated switching distance S _n mm	Installation type	Switching type	Connection options:		Contact configuration N/O = normally open contact NC = normally closed contact	Material	Part no. Article no.	Price See price list	Std. pack
E57 Premium Plus											
3-wire											
M18 x 1											
	6 - 48 V DC	5	Flush	NPN	plug connector M12 x 1	1 N/O	Stainless steel	E57RAL18T110SD ¹⁾ 136073		1 off  	
			Flush	PNP	plug connector M12 x 1	1 N/O		E57RAL18T111SD ¹⁾ 136077			
			Flush	NPN	plug connector M12 x 1	1 NC		E57RBL18T110SD ¹⁾ 136085			
			Flush	PNP	plug connector M12 x 1	1 NC		E57RBL18T111SD ¹⁾ 136089			
		8	Non-flush	NPN	plug connector M12 x 1	1 N/O		E57RAL18T110ED ¹⁾ 136072			
			Non-flush	PNP	plug connector M12 x 1	1 N/O		E57RAL18T111ED ¹⁾ 136076			
			Non-flush	NPN	plug connector M12 x 1	1 NC		E57RBL18T110ED ¹⁾ 136084			
			Non-flush	PNP	plug connector M12 x 1	1 NC		E57RBL18T111ED ¹⁾ 136088			
3-wire											
M30 x 1.5											
	6 - 48 V DC	10	Flush	NPN	2 m connection cable	1 N/O	Stainless steel	E57LAL30T110 ²⁾ 136022		1 off  	
			Flush	NPN	plug connector M12 x 1	1 N/O		E57LAL30T110SD ²⁾ 136025			
			Flush	PNP	2 m connection cable	1 N/O		E57LAL30T111 ²⁾ 136026			
			Flush	PNP	plug connector M12 x 1	1 N/O		E57LAL30T111SD ²⁾ 136029			
			Flush	NPN	2 m connection cable	1 NC		E57LBL30T110 ²⁾ 136058			
			Flush	NPN	plug connector M12 x 1	1 NC		E57LBL30T110SD ²⁾ 136061			
			Flush	PNP	2 m connection cable	1 NC		E57LBL30T111 ²⁾ 136062			
			Flush	PNP	plug connector M12 x 1	1 NC		E57LBL30T111SD ²⁾ 136065			
		15	Non-flush	NPN	2 m connection cable	1 N/O		E57LAL30T110E ²⁾ 136023			
			Non-flush	NPN	plug connector M12 x 1	1 N/O		E57LAL30T110ED ²⁾ 136024			
			Non-flush	PNP	2 m connection cable	1 N/O		E57LAL30T111E ²⁾ 136027			
			Non-flush	PNP	plug connector M12 x 1	1 N/O		E57LAL30T111ED ²⁾ 136028			
			Non-flush	NPN	2 m connection cable	1 NC		E57LBL30T110E ²⁾ 136059			
			Non-flush	NPN	plug connector M12 x 1	1 NC		E57LBL30T110ED ²⁾ 136060			
			Non-flush	PNP	2 m connection cable	1 NC		E57LBL30T111E ²⁾ 136063			
			Non-flush	PNP	plug connector M12 x 1	1 NC		E57LBL30T111ED ²⁾ 136064			

Information relevant for export to North America



- Product Standards
UL File No.
UL CCN
NA Certification
Max. Voltage Rating
Degree of Protection

- Product Standards
UL File No.
UL CCN
CSA File No.
CSA Class No.
NA Certification
Max. Voltage Rating
Degree of Protection

UL 508; IEC60947-5-2; CE marking
E166051
NRKH, NRKH7
UL Listed
48 V DC
IEC: IP67, IP69K; UL/CSA Type: -

UL 508; CSA-C22.2 No. 14; IEC60947-5-2; CE marking
E166051
NRKH, NRKH7
50513
3211-03
UL Listed, CSA certified
48 V DC
IEC: IP67, IP69K; UL/CSA Type: -

HPL03051EN

Function	Rated operational voltage	Rated switching distance S _n mm	Installation type	Switching type	Connection options:	Contact configuration N/O = normally open contact NC = normally closed contact	Material	Part no. Article no.	Price See price list	Std. pack	
E57 Premium Plus Short Series											
2-wire											
M12 x 1											
	20 - 250 V DC 40 - 250 V AC	2	Flush	—	2 m connection cable	1 N/O	Stainless steel	E57SAL12A2 136090		1 off  	
			Flush	—	plug connector M12 x 1	1 N/O		E57SAL12A2SA 136093			
			Flush	—	2 m connection cable	1 NC		E57SBL12A2 136138			
			Flush	—	plug connector M12 x 1	1 NC		E57SBL12A2SA 136141			
	20 - 250 V AC		Flush	—	2 m connection cable	1 N/O		E57SAL12A4 136094			
			Flush	—	plug connector M12 x 1	1 N/O		E57SAL12A4SA 136097			
			Flush	—	2 m connection cable	1 NC		E57SBL12A4 136142			
			Flush	—	plug connector M12 x 1	1 NC		E57SBL12A4SA 136145			
	20 - 250 V DC 40 - 250 V AC	4	Non-flush	—	2 m connection cable	1 N/O		E57SAL12A2E 136091			
			Non-flush	—	plug connector M12 x 1	1 N/O		E57SAL12A2EA 136092			
			Non-flush	—	2 m connection cable	1 NC		E57SBL12A2E 136139			
			Non-flush	—	plug connector M12 x 1	1 NC		E57SBL12A2EA 136140			
	20 - 250 V AC		Non-flush	—	2 m connection cable	1 N/O		E57SAL12A4E 136095			
			Non-flush	—	plug connector M12 x 1	1 N/O		E57SAL12A4EA 136096			
			Non-flush	—	2 m connection cable	1 NC		E57SBL12A4E 136143			
			Non-flush	—	plug connector M12 x 1	1 NC		E57SBL12A4EA 136144			
M18 x 1											
	20 - 250 V DC 40 - 250 V AC	5	Flush	—	2 m connection cable	1 N/O	Stainless steel	E57SAL18A2 136106		1 off  	
			Flush	—	plug connector M12 x 1	1 N/O		E57SAL18A2SA 136109			
			Flush	—	2 m connection cable	1 NC		E57SBL18A2 136152			
			Flush	—	plug connector M12 x 1	1 NC		E57SBL18A2SA 136155			
	20 - 250 V AC		Flush	—	2 m connection cable	1 N/O		E57SAL18A4 136110			
			Flush	—	plug connector M12 x 1	1 N/O		E57SAL18A4SA 136113			
			Flush	—	2 m connection cable	1 NC		E57SBL18A4 136156			
			Flush	—	plug connector M12 x 1	1 NC		E57SBL18A4SA 136159			
	20 - 250 V DC 40 - 250 V AC	8	Non-flush	—	2 m connection cable	1 N/O		E57SAL18A2E 136107			
			Non-flush	—	plug connector M12 x 1	1 N/O		E57SAL18A2EA 136108			
			Non-flush	—	2 m connection cable	1 NC		E57SBL18A2E 136153			
			Non-flush	—	plug connector M12 x 1	1 NC		E57SBL18A2EA 136154			
	20 - 250 V AC		Non-flush	—	2 m connection cable	1 N/O		E57SAL18A4E 136111			
			Non-flush	—	plug connector M12 x 1	1 N/O		E57SAL18A4EA 136112			
			Non-flush	—	2 m connection cable	1 NC		E57SBL18A4E 136157			
			Non-flush	—	plug connector M12 x 1	1 NC		E57SBL18A4EA 136158			

Information relevant for export to North America



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Function	Rated operational voltage	Rated switching distance S _n mm	Installation type	Switching type	Connection options:	Contact configuration N/O = normally open contact NC = normally closed contact	Material	Part no. Article no.	Price See price list	Std. pack
E57 Premium Plus Short Series										
2-wire										
M30 x 1.5										
	20 - 250 V DC 40 - 250 V AC	10	Flush	—	2 m connection cable	1 N/O	Stainless steel	E57SAL30A2 136122		1 off  
			Flush	—	plug connector M12 x 1	1 N/O		E57SAL30A2SA 136125		
			Flush	—	2 m connection cable	1 NC		E57SBL30A2 136168		
			Flush	—	plug connector M12 x 1	1 NC		E57SBL30A2SA 136171		
	20 - 250 V AC		Flush	—	2 m connection cable	1 N/O		E57SAL30A4 136126		
			Flush	—	plug connector M12 x 1	1 N/O		E57SAL30A4SA 136129		
			Flush	—	2 m connection cable	1 NC		E57SBL30A4 136172		
			Flush	—	plug connector M12 x 1	1 NC		E57SBL30A4SA 136175		
	20 - 250 V DC 40 - 250 V AC	15	Non-flush	—	2 m connection cable	1 N/O		E57SAL30A2E 136123		
			Non-flush	—	plug connector M12 x 1	1 N/O		E57SAL30A2EA 136124		
			Non-flush	—	2 m connection cable	1 NC		E57SBL30A2E 136169		
			Non-flush	—	plug connector M12 x 1	1 NC		E57SBL30A2EA 136170		
	20 - 250 V AC		Non-flush	—	2 m connection cable	1 N/O		E57SAL30A4E 136127		
			Non-flush	—	plug connector M12 x 1	1 N/O		E57SAL30A4EA 136128		
			Non-flush	—	2 m connection cable	1 NC		E57SBL30A4E 136173		
			Non-flush	—	plug connector M12 x 1	1 NC		E57SBL30A4EA 136174		
3-wire										
M12 x 1										
	6 - 48 V DC	2	Flush	NPN	2 m connection cable	1 N/O	Stainless steel	E57SAL12T110 136098		1 off  
			Flush	NPN	plug connector M12 x 1	1 N/O		E57SAL12T110SD 136101		
			Flush	PNP	2 m connection cable	1 N/O		E57SAL12T111 136102		
			Flush	PNP	plug connector M12 x 1	1 N/O		E57SAL12T111SD 136105		
			Flush	PNP	2 m connection cable	1 NC		E57SBL12T111 136148		
			Flush	PNP	plug connector M12 x 1	1 NC		E57SBL12T111SD 136151		
		4	Non-flush	NPN	2 m connection cable	1 N/O		E57SAL12T110E 136099		
			Non-flush	NPN	plug connector M12 x 1	1 N/O		E57SAL12T110ED 136100		

Information relevant for export to North America



Product Standards
UL File No.
UL CCN
CSA File No.
CSA Class No.
NA Certification
Max. Voltage Rating
Degree of Protection

UL 508; CSA-C22.2 No. 14; IEC60947-5-2; CE marking
E166051
NRKH, NRKH7
50513
3211-03
UL Listed, CSA certified
250 V AC, 250 V DC
IEC: IP67, IP69K; UL/CSA Type: 4, 4x, 6, 6P, 12, 13

HPL03053EN

Function	Rated operational voltage	Rated switching distance S _n mm	Installation type	Switching type	Connection options:	Contact configuration N/O = normally open contact NC = normally closed contact	Material	Part no. Article no.	Price See price list	Std. pack
E57 Premium Plus Short Series										
3-wire										
M12 x 1										
	6 - 48 V DC	4	Non-flush	PNP	2 m connection cable	1 N/O	Stain-less steel	E57SAL12T111E 136103		1 off  
			Non-flush	PNP	plug connector M12 x 1	1 N/O		E57SAL12T111ED 136104		
			Non-flush	NPN	2 m connection cable	1 NC		E57SBL12T110E 136146		
			Non-flush	NPN	plug connector M12 x 1	1 NC		E57SBL12T110ED 136147		
			Non-flush	PNP	2 m connection cable	1 NC		E57SBL12T111E 136149		
			Non-flush	PNP	plug connector M12 x 1	1 NC		E57SBL12T111ED 136150		
3-wire										
M18 x 1										
	6 - 48 V DC	5	Flush	NPN	2 m connection cable	1 N/O	Stain-less steel	E57SAL18T110 136114		1 off  
			Flush	NPN	plug connector M12 x 1	1 N/O		E57SAL18T110SD 136117		
			Flush	PNP	2 m connection cable	1 N/O		E57SAL18T111 136118		
			Flush	PNP	plug connector M12 x 1	1 N/O		E57SAL18T111SD 136121		
			Flush	NPN	2 m connection cable	1 NC		E57SBL18T110 136160		
			Flush	NPN	plug connector M12 x 1	1 NC		E57SBL18T110SD 136163		
			Flush	PNP	2 m connection cable	1 NC		E57SBL18T111 136164		
			Flush	PNP	plug connector M12 x 1	1 NC		E57SBL18T111SD 136167		
		8	Non-flush	NPN	2 m connection cable	1 N/O		E57SAL18T110E 136115		
			Non-flush	NPN	2 m connection cable	1 NC		E57SBL18T110E 136161		
			Non-flush	NPN	plug connector M12 x 1	1 N/O		E57SAL18T110ED 136116		
			Non-flush	PNP	2 m connection cable	1 N/O		E57SAL18T111E 136119		
			Non-flush	PNP	plug connector M12 x 1	1 N/O		E57SAL18T111ED 136120		
			Non-flush	NPN	plug connector M12 x 1	1 NC		E57SBL18T110ED 136162		
			Non-flush	PNP	2 m connection cable	1 NC		E57SBL18T111E 136165		
			Non-flush	PNP	plug connector M12 x 1	1 NC		E57SBL18T111ED 136166		

Information relevant for export to North America



Product Standards
UL File No.
UL CCN
CSA File No.
CSA Class No.
NA Certification
Max. Voltage Rating
Degree of Protection

UL 508; CSA-C22.2 No. 14; IEC60947-5-2; CE marking
E166051
NRKH, NRKH7
50513
3211-03
UL Listed, CSA certified
250 V AC, 250 V DC
IEC: IP67, IP69K; UL/CSA Type: -



Function	Rated operational voltage	Rated switching distance S _n mm	Installation type	Switching type	Connection options:	Contact configuration N/O = normally open contact NC = normally closed contact	Material	Part no. Article no.	Price See price list	Std. pack
E57 Premium Plus Short Series										
3-wire										
M30 x 1.5										
	6 - 48 V DC	10	Flush	NPN	2 m connection cable	1 N/O	Stain-less steel	E57SAL30T110 136130		1 off  
			Flush	NPN	plug connector M12 x 1	1 N/O		E57SAL30T110SD 136133		
			Flush	PNP	2 m connection cable	1 N/O		E57SAL30T111 136134		
			Flush	PNP	plug connector M12 x 1	1 N/O		E57SAL30T111SD 136137		
			Flush	NPN	2 m connection cable	1 NC		E57SBL30T110 136176		
			Flush	NPN	plug connector M12 x 1	1 NC		E57SBL30T110SD 136179		
			Flush	PNP	2 m connection cable	1 NC		E57SBL30T111 136180		
			Flush	PNP	plug connector M12 x 1	1 NC		E57SBL30T111SD 136183		
		15	Non-flush	NPN	2 m connection cable	1 N/O		E57SAL30T110E 136131		
			Non-flush	NPN	2 m connection cable	1 NC		E57SBL30T110E 136177		
			Non-flush	NPN	plug connector M12 x 1	1 N/O		E57SAL30T110ED 136132		
			Non-flush	PNP	2 m connection cable	1 N/O		E57SAL30T111E 136135		
			Non-flush	PNP	plug connector M12 x 1	1 N/O		E57SAL30T111ED 136136		
			Non-flush	NPN	plug connector M12 x 1	1 NC		E57SBL30T110ED 136178		
			Non-flush	PNP	2 m connection cable	1 NC		E57SBL30T111E 136181		
			Non-flush	PNP	plug connector M12 x 1	1 NC		E57SBL30T111ED 136182		

Information relevant for export to North America



Product Standards
UL File No.
UL CCN
CSA File No.
CSA Class No.
NA Certification
Max. Voltage Rating
Degree of Protection

UL 508; CSA-C22.2 No. 14; IEC60947-5-2; CE marking
E166051
NRKH, NRKH7
50513
3211-03
UL Listed, CSA certified
250 V AC, 250 V DC
IEC: IP67, IP69K; UL/CSA Type: -

Engineering

Circuit diagram	Contacts	2 m connection cable	M12 plug connector (front view plug)
Rated operating voltage 2-wire sensors 20–250 V AC/DC and AC-only Example AC connection	N/O and NC		
20–250 V AC/DC Example DC connection	N/O and NC (NPN)		
	N/O and NC (PNP)		
3-wire sensors 6–48 V DC	N/O (NPN)		
	N/O (PNP)		
	NC (NPN)		
	NC (PNP)		

Technical data

		E57-L...L12A	E57-L...L12T	E57-S...L12A	E57-S...L12T
General					
Standards		IEC/EN 60947-5-2	IEC/EN 60947-5-2	IEC/EN 60947-5-2	IEC/EN 60947-5-2
Ambient temperature	°C	-25 - +70	-25 - +70	-25 - +70	-25 - +70
Protection type		IP67	IP67	IP67	IP67
Mechanical shock resistance	g	30 Shock duration 11 ms	30 Shock duration 11 ms	30 Shock duration 11 ms	30 Shock duration 11 ms
Characteristic values					
Temperature drift of S_n	%	10	10	10	10
Switching hysteresis of S_n	%	20	15	20	15
Rated operating voltage		20 - 250 V AC	6 - 48 V DC	40 - 250 V AC 20 - 250 V DC	6 - 48 V DC
Rated operational current	I_e	250	500	500	500
Switching frequency	Hz	20	800	20	800
Switching state indication	LED	Red	Red	Red	Red
Function		2-wire	3-wire	2-wire	3-wire
Construction type					
Design (outer dimensions)		M12 x 1	M12 x 1	M12 x 1	M12 x 1
Material		Stainless steel	Stainless steel	Stainless steel	Stainless steel

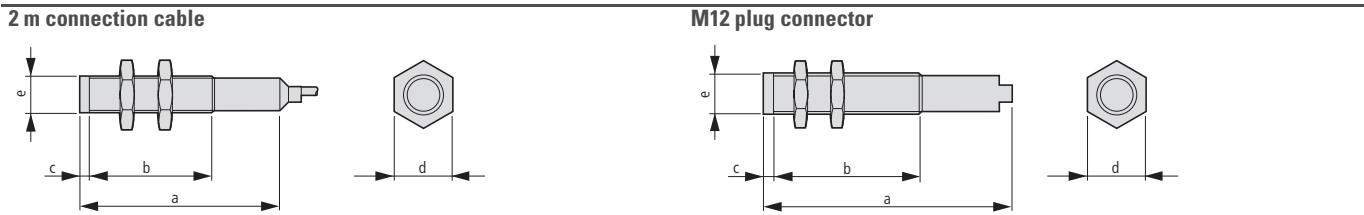
		E57-L...L18A	E57-L...L18T	E57-S...L18A	E57-S...L18T	E57-R...L18A	E57-R...L18T
General							
Standards		IEC/EN 60947-5-2					
Ambient temperature	°C	-25 - +70	-25 - +70	-25 - +70	-25 - +70	-25 - +70	-25 - +70
Protection type		IP67	IP67	IP67	IP67	IP67	IP67
Mechanical shock resistance	g	30 Shock duration 11 ms					
Characteristic values							
Temperature drift of S_n	%	10	10	10	10	10	10
Switching hysteresis of S_n	%	20	15	20	15	20	15
Rated operating voltage		40 - 250 V AC 20 - 250 V DC	6 - 48 V DC	40 - 250 V AC 20 - 250 V DC	6 - 48 V DC	20 - 250 V AC	6 - 48 V DC
Rated operational current	I_e	250	500	500	500	500	500
Switching frequency	Hz	20	500	20	500	20	500
Switching state indication	LED	Red	Red	Red	Red	Red	Red
Function		2-wire	3-wire	2-wire	3-wire	2-wire	3-wire
Construction type							
Design (outer dimensions)		M18 x 1	M18 x 1	M18 x 1	M18 x 1	M18 x 1	M18 x 1
Material		Stainless steel					

		E57-L...L30A	E57-L...L30T	E57-S...L30A	E57-S...L30T
General					
Standards		IEC/EN 60947-5-2	IEC/EN 60947-5-2	IEC/EN 60947-5-2	IEC/EN 60947-5-2
Ambient temperature	°C	-25 - +70	-25 - +70	-25 - +70	-25 - +70
Protection type		IP67	IP67	IP67	IP67
Mechanical shock resistance	g	30 Shock duration 11 ms	30 Shock duration 11 ms	30 Shock duration 11 ms	30 Shock duration 11 ms
Characteristic values					
Temperature drift of S_n	%	10	10	10	10
Switching hysteresis of S_n	%	20	15	20	15
Rated operating voltage		20 - 250 V AC	6 - 48 V DC	40 - 250 V AC 20 - 250 V DC	6 - 48 V DC
Rated operational current	I_e	250	500	500	500
Switching frequency	Hz	20	300	20	300
Switching state indication	LED	Red	Red	Red	Red
Function		2-wire	3-wire	2-wire	3-wire
Construction type					
Design (outer dimensions)		M30 x 1.5	M30 x 1.5	M30 x 1.5	M30 x 1.5
Material		Stainless steel	Stainless steel	Stainless steel	Stainless steel

Notes

Further technical data can be found in the Online Catalogue at www.moeller.net

Dimensions



Construction type	Installation type	Dimensions in (mm)				
		a	b	c	d	e

2-wire, 2 m connection cable						
12 mm	Flush	62.4	50.3	-	16.8	M12x1
	Non-flush	72.7	50.3	9.14	16.8	M12x1
18 mm	Flush	64.5	50.9	-	23.8	M18x1
	Non-flush	66.0	37.2	14.1	23.8	M18x1
30 mm	Flush	69.3	50.3	-	35.9	M30x1.5
	Non-flush	69.3	37.8	13.26	35.9	M30x1.5

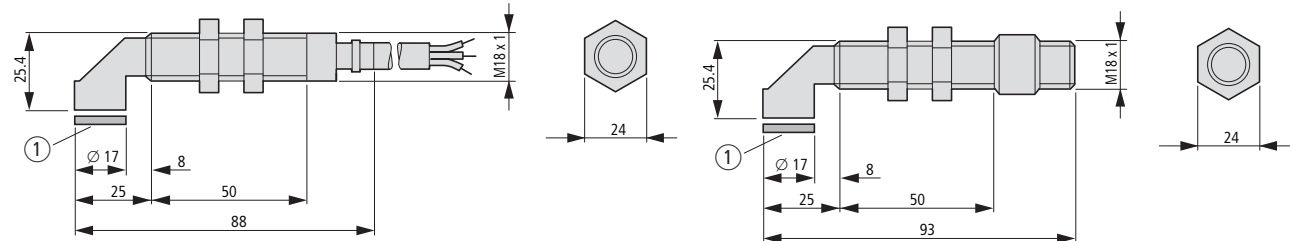
2-wire, M12 plug connector						
12 mm	Flush	68.4	50.3	-	16.8	M12x1
	Non-flush	77.7	50.3	9.14	9.14	M12x1
18 mm	Flush	69.06	50.9	-	23.8	M18x1
	Non-flush	69.4	37.2	14.1	23.8	M18x1
30 mm	Flush	73.8	50.3	-	35.9	M30x1.5
	Non-flush	73.8	37.8	13.26	35.9	M30x1.5

3-wire, 2 m connection cable						
12 mm	Flush	62.4	50.3	-	16.8	M12x1
	Non-flush	72.7	50.3	9.14	16.8	M12x1
18 mm	Flush	64.5	50.9	-	23.8	M18x1
	Non-flush	66.0	37.2	14.1	23.8	M18x1
30 mm	Flush	69.3	50.3	-	35.9	M30x1.5
	Non-flush	69.3	37.8	13.26	35.9	M30x1.5

3-wire, M12 plug connector						
12 mm	Flush	68.7	50.3	-	16.8	M12x1
	Non-flush	77.7	50.3	9.14	16.8	M12x1
18 mm	Flush	69.3	50.9	-	23.8	M18x1
	Non-flush	69.4	37.2	14.1	23.8	M18x1
30 mm	Flush	74.1	50.3	-	35.9	M30x1.5
	Non-flush	74.1	37.8	13.26	35.9	M30x1.5

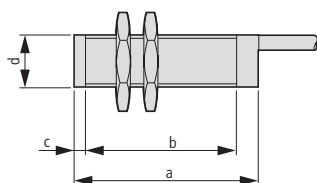
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E57R...110...
E57R...111...

E57R...SA
E57R...EA
E57R...SD
E57R...ED

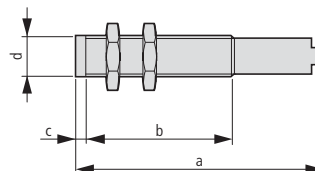


① Sensor surface

2 m connection cable



M12 plug connector



		a	b	c	d
2-wire, AC, 2 m connection cable					
12 mm	Flush	51.7	39.6	0.5	M12x1
	Non-flush	51.7	35.1	5	M12x1
18 mm	Flush	35.4	21.82	0.5	M18x1
	Non-flush	35.4	15.32	7	M18x1
30 mm	Flush	40.2	25.15	0.8	M30x1.5
	Non-flush	44.9	17.27	13.26	M30x1.5

2-wire, AC, M12 plug connector

12 mm	Flush	57.8	39.6	0.5	M12x1
	Non-flush	57.8	35.1	5	M12x1
18 mm	Flush	40.0	21.82	0.5	M18x1
	Non-flush	40.0	15.32	7	M18x1
30 mm	Flush	44.8	25.15	0.8	M30x1.5
	Non-flush	49.5	17.27	13.26	M30x1.5

2-wire, AC/DC, 2 m connection cable

12 mm	Flush	62.4	50.27	-	M12x1
	Non-flush	62.4	45.77	5	M12x1
18 mm	Flush	64.5	50.9	-	M18x1
	Non-flush	64.5	44.4	7	M18x1
30 mm	Flush	69.3	53.8	-	M30x1.5
	Non-flush	69.3	41.4	13.26	M30x1.5

2-wire, AC/DC, M12 plug connector

12 mm	Flush	68.4	50.27	-	M12x1
	Non-flush	68.4	45.77	5	M12x1
18 mm	Flush	69.06	50.9	-	M18x1
	Non-flush	69.06	44.4	7	M18x1
30 mm	Flush	73.8	53.8	-	M30x1.5
	Non-flush	73.8	41.4	13.26	M30x1.5

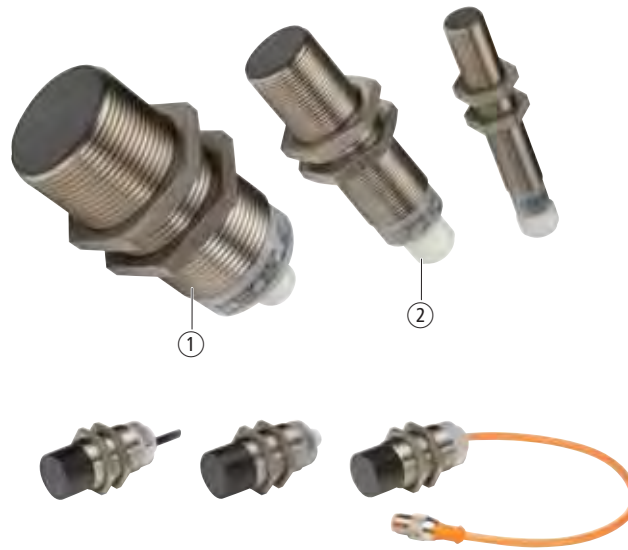
3-wire, DC, 2 m connection cable

12 mm	Flush	35.2	23.9	0.5	M12x1
	Non-flush	35.2	18.59	5	M12x1
18 mm	Flush	35.4	21.82	0.5	M18x1
	Non-flush	35.4	15.32	7	M18x1
30 mm	Flush	40.2	21.26	0.8	M30x1.5
	Non-flush	44.9	13.46	13.26	M30x1.5

3-wire, DC, M12 plug connector

12 mm	Flush	41.5	23.9	0.5	M12x1
	Non-flush	41.5	18.59	5	M12x1
18 mm	Flush	40.3	21.82	0.5	M18x1
	Non-flush	40.3	15.32	7	M18x1
30 mm	Flush	45.0	21.26	0.8	M30x1.5
	Non-flush	49.7	13.46	13.26	M30x1.5

Description



- ① Two-color 360° output signal lamp
② Shock absorbing Ryton face cap material®

Brief description

The iProx is Eaton's most powerful and versatile inductive, cylindrical sensor. With its mounting microprocessor and unique Smart-Sense™ technology this sensor has three times the range of other sensors in its class and offers unmatched configurability. Both shielded and unshielded versions of the sensor have an extended range so that the sensor can be positioned further away from the target object. This reduces the risk of a collision with the target object and increases operational reliability. The iProx also has many additional functions, which can be activated through the optionally available programming tools. With Windows software ProxView the sensor can be programmed for any application. Sensor characteristics such as range can be set to the nearest tenth of a millimeter. The outputs can be configured as N/O or NC. Even interference immunity and response time can be adjusted. In addition the iProx features a mounting logic for timing delays and speed detection – without complex PLC programming. With its large range, high quality, sophisticated design, and adaptability to its environment, iProx is the ideal choice for demanding applications.

Product features

- Available as DC 3-wire version.
- Reliably detect metal targets at up to three times the range of conventional shielded or unshielded tubular inductive sensors
- Quality construction using a stainless steel barrel, 360° degree dual-color LED indicator, Ryton impact-resistant face cap® and vibration-absorbing potting compound.
- The automatic configuration automatically detects NPN and PNP connections and switches the sensor accordingly and without user intervention.
- Configurable range, band detection, background (metal) object detection, timing delays and speed detection thanks to the microprocessor-based Smart-Sense™ technology.
- Optional computer programming cable and Windows-based ProxView configuration software makes it easy to customize sensors.
- Resistant to high interference levels (up to 20 V/m).
- Resistant to extreme temperatures (-40 °C).

Approvals



Ordering



	Rated operational voltage	Rated switching distance S _n mm	Installation type	Switching type	Connection options	Contact configuration NC = Normally closed contact N/O = Normally open contact	Material	Part no. Article no.	Price See price list	Std. pack
iProx series										
3-wire										
M12 x 1										
	6 - 48 V DC	4	Flush	NPN PNP	2 m connection cable	1 N/O	Stainless steel	E59-M12A105C02-D1 136205		1 off  
			Flush	NPN PNP	2 m connection cable	1 NC	Stainless steel	E59-M12A105C02-D2 136206		
			Flush	NPN PNP	plug connector M12 x 1	1 N/O	Stainless steel	E59-M12A105D01-D1 136207		
			Flush	NPN PNP	plug connector M12 x 1	1 NC	Stainless steel	E59-M12A105D01-D2 136208		
	6 - 48 V DC	10	Non-flush	NPN PNP	2 m connection cable	1 N/O	Stainless steel	E59-M12C110C02-D1 136209		
			Non-flush	NPN PNP	2 m connection cable	1 NC	Stainless steel	E59-M12C110C02-D2 136210		
			Non-flush	NPN PNP	plug connector M12 x 1	1 N/O	Stainless steel	E59-M12C110D01-D1 136211		
			Non-flush	NPN PNP	plug connector M12 x 1	1 NC	Stainless steel	E59-M12C110D01-D2 136212		
M18 x 1										
	6 - 48 V DC	8	Flush	NPN PNP	2 m connection cable	1 N/O	Stainless steel	E59-M18A108C02-D1 136213		1 off  
			Flush	NPN PNP	2 m connection cable	1 NC	Stainless steel	E59-M18A108C02-D2 136214		
			Flush	NPN PNP	plug connector M12 x 1	1 N/O	Stainless steel	E59-M18A108D01-D1 136215		
			Flush	NPN PNP	plug connector M12 x 1	1 NC	Stainless steel	E59-M18A108D01-D2 136216		
	6 - 48 V DC	18	Non-flush	NPN PNP	2 m connection cable	1 N/O	Stainless steel	E59-M18C116C02-D1 136217		1 off  
			Non-flush	NPN PNP	2 m connection cable	1 NC	Stainless steel	E59-M18C116C02-D2 136218		
			Non-flush	NPN PNP	plug connector M12 x 1	1 N/O	Stainless steel	E59-M18C116D01-D1 136219		
			Non-flush	NPN PNP	plug connector M12 x 1	1 NC	Stainless steel	E59-M18C116D01-D2 136220		
M30 x 1.5										
	6 - 48 V DC	15	Flush	NPN PNP	2 m connection cable	1 N/O	Stainless steel	E59-M30A115C02-D1 136221		1 off  
			Flush	NPN PNP	2 m connection cable	1 NC	Stainless steel	E59-M30A115C02-D2 136222		
			Flush	NPN PNP	plug connector M12 x 1	1 N/O	Stainless steel	E59-M30A115D01-D1 136223		
			Flush	NPN PNP	plug connector M12 x 1	1 NC	Stainless steel	E59-M30A115D01-D2 136224		
	6 - 48 V DC	29	Non-flush	NPN PNP	2 m connection cable	1 N/O	Stainless steel	E59-M30C129C02-D1 136225		
			Non-flush	NPN PNP	2 m connection cable	1 NC	Stainless steel	E59-M30C129C02-D2 136226		
			Non-flush	NPN PNP	plug connector M12 x 1	1 N/O	Stainless steel	E59-M30C129D01-D1 136227		
			Non-flush	NPN PNP	plug connector M12 x 1	1 NC	Stainless steel	E59-M30C129D01-D2 136228		
Programming cable RS232		—	—	—	—	—	E59RP1 136229		1 off	
Programming software CD		—	—	—	—	—	E59SW1 136230		1 off	

Information relevant for export to
North America

Product Standards

UL File No.
UL CCN
CSA File No.UL 508; CSA-C22.2 No. 14;
IEC60947-5-2; CE marking
E166051
NRKH, NRKH7
UL report applies to both Canada
and USCSA Class No.
NA CertificationMax. Voltage Rating
Degree of Protection—
UL Listed, certified by UL for use in
Canada
48 V DC
IEC: IP67, IP69K; UL/CSA Type: 4, 4x,
6, 6P, 12, 13

Technical data

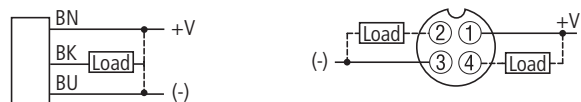
			E59-M12A105	E59-M18A108	E59-M12C110	E59-M30A115	E59-M18C116	E59-M30C129
General								
Standards			IEC/EN 60947-5-2					
Ambient temperature		°C	-40 - +70					
Protection type			IP67	IP69K	IP67	IP69K	IP69K	IP69K
Mechanical shock resistance			30 Shock duration 11 ms					
Characteristic values								
Rated switching distance								
Rated switching distance	S_n	mm	4	8	10	15	18	29
Repetition accuracy of S_n		%	1	1	3	1	3	3
Temperature drift of S_n		%	10	10	10	10	10	10
Switching hysteresis of S_n		%	15	15	15	15	15	15
Sensing range		mm	—	—	—	—	—	—
Rated operating voltage			6 - 48 V DC	6 - 48 V DC	6 - 48 V DC	6 - 48 V DC	6 - 48 V DC	6 - 48 V DC
Mains frequency								
Residual ripple of U_e		%	—	—	—	—	—	—
Operating current in the switched state at 24 V DC	I_b	mA	15	15	15	15	15	15
Rated operational current	I_e	mA	300	300	300	300	300	300
Voltage drop at I_e	U_d	V	2.5	2.5	2.5	2.5	2.5	2.5
Switching frequency		Hz	580	390	300	240	150	145
Min. load current	I_e	mA	1	1	1	1	1	1
Short-time current (10 ms, 5 Hz)		A	—	—	—	—	—	—
Residual current due to the load in locked state at 230 V AC or 24 V DC	I_r	mA	0.15	0.15	0.15	0.15	0.15	0.15
Switching state indication		LED	Red	Red	Red	Red	Red	Red
Operating voltage display		LED	Red	Red	Red	Red	Red	Red
Boundary gain			—	—	—	—	—	—
Protective functions			Short-circuit protection, protection against polarity reversal, wire breakage protection					
Function			3-wire	3-wire	3-wire	3-wire	3-wire	3-wire
Construction type								
Design (outer dimensions)			M12 x 1	M18 x 1	M12 x 1	M30 x 1.5	M18 x 1	M30 x 1.5
Material			Stainless steel	Stainless steel	Stainless steel	Stainless steel	Stainless steel	Stainless steel
Notes			Further technical data can be found in the Online Catalogue at www.moeller.net					

Engineering

Circuit diagram

59...C02-D1
E59...C02-D2

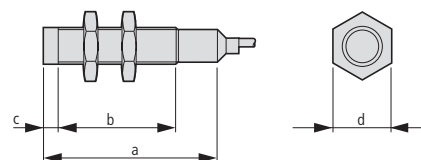
E59...D01-D1
E59...D01-D2



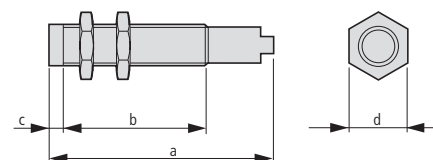
Pins 2 and 4 internally interconnected.

Dimensions

2 m connection cable

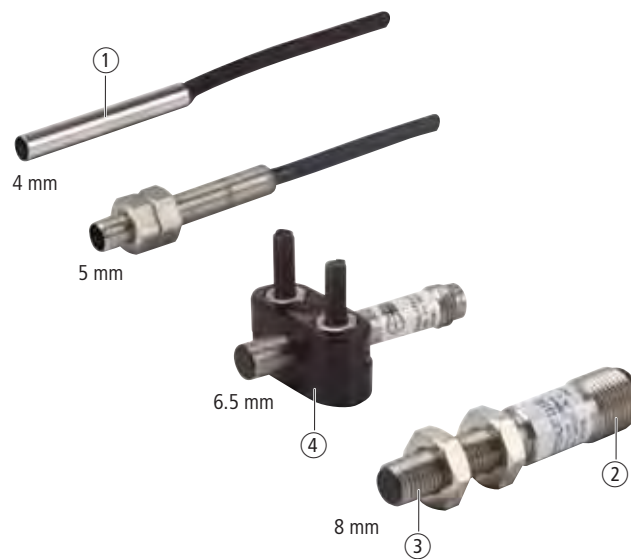


M12 plug connector



Construction type	Installation type	a	b	c	d	Construction type	Installation type	a	b	c	d
12 mm	Flush	62.4	50.3	0.5	17	12 mm	Flush	68.7	50.3	0.5	17
	Non-flush	62.4	41.6	9	17		Non-flush	68.7	41.6	9	17
18 mm	Flush	64.5	50.9	0.5	24	18 mm	Flush	69.3	50.9	0.5	24
	Non-flush	64.5	37.4	14	24		Non-flush	69.3	37.4	14	24
30 mm	Flush	69.6	54.1	0.75	36	30 mm	Flush	74.1	54.1	0.75	36
	Non-flush	69.6	35.8	19	36		Non-flush	74.1	35.8	19	36

Description



- ① High quality stainless steel enclosures.
- ② M12 plug connector available for sizes 6.5 and 8 mm.
- ③ Sizes 5 mm and 8 mm with thread; 4 mm and 6.5 mm without thread.
- ④ Size 6.5 mm supplied complete with mounting bracket.

Short description

Eaton's unique inductive proximity sensors have been developed specially for use in extremely small spaces. The wide range of available models with enclosure diameters from 8 mm down to 4 mm covers a multitude of application scenarios. The sensors feature three-wire connections with an input voltage of 10 to 30 V DC. Both shielded and unshielded versions are available.

Product features

- Small 4, 5, 6.5 and 8 mm diameters for use in applications with limited space for mounting sensors
- Stainless steel enclosure.
- All models have an output status display.
- Short-circuit and reverse polarity protection.
- High degree of protection IP67.

Approvals

HPL03063EN

Ordering

	Rated operational voltage	Rated switching distance S_n mm	Installation type	Switching type	Connection options	Contact configuration NC = Normally closed contact N/O = Normally open contact	Material	Part no. Article no.	Price See price list	Std. pack
E57 Miniature Series										
3-wire										
4 mm $\varnothing$										
	10 - 30 V DC	0.8	Flush	NPN	2 m connection cable	1 N/O	Stainless steel	E57EAL4T110SP 136238		1 off
		0.8	Flush	PNP	2 m connection cable	1 N/O		E57EAL4T111SP 136239		
M5 x 1										
	10 - 30 V DC	0.8	Flush	NPN	2 m connection cable	1 N/O	Stainless steel	E57EAL5T110SP 136240		1 off
		0.8	Flush	PNP	2 m connection cable	1 N/O		E57EAL5T111SP 136241		
6.5 mm $\varnothing$										
	10 - 30 V DC	1	Flush	NPN	2 m connection cable	1 N/O	Stainless steel	E57EAL6T110SP 136243		1 off
		2	Non-flush	NPN	2 m connection cable	1 N/O		E57EAL6T110EP 136242		
		1	Flush	PNP	2 m connection cable	1 N/O		E57EAL6T111SP 136245		
		2	Non-flush	PNP	2 m connection cable	1 N/O		E57EAL6T111EP 136244		
M8 x 1										
	10 - 30 V DC	1	Flush	NPN	2 m connection cable	1 N/O	Stainless steel	E57EAL8T110SP 136249		1 off
		1	Flush	NPN	2 m connection cable	1 NC		E57EBL8T110SP 136257		
		1	Flush	NPN	plug connector M12 x 1	1 N/O		E57EAL8T110SD 136248		
		1	Flush	NPN	plug connector M12 x 1	1 NC		E57EBL8T110SD 136256		
		1	Flush	PNP	2 m connection cable	1 N/O		E57EAL8T111SP 136253		
		1	Flush	PNP	2 m connection cable	1 NC		E57EBL8T111SP 136261		
		1	Flush	PNP	plug connector M12 x 1	1 N/O		E57EAL8T111SD 136252		
		1	Flush	PNP	plug connector M12 x 1	1 NC		E57EBL8T111SD 136260		
		2	Non-flush	NPN	2 m connection cable	1 N/O		E57EAL8T110EP 136247		
		2	Non-flush	NPN	2 m connection cable	1 NC		E57EBL8T110EP 136255		
		2	Non-flush	NPN	plug connector M12 x 1	1 N/O		E57EAL8T110ED 136246		
		2	Non-flush	NPN	plug connector M12 x 1	1 NC		E57EBL8T110ED 136254		
		2	Non-flush	PNP	2 m connection cable	1 N/O		E57EAL8T111EP 136251		
		2	Non-flush	PNP	2 m connection cable	1 NC		E57EBL8T111EP 136259		
		2	Non-flush	PNP	plug connector M12 x 1	1 N/O		E57EAL8T111ED 136250		
		2	Non-flush	PNP	plug connector M12 x 1	1 NC		E57EBL8T111ED 136258		

Technical data

			E57-EAL..., E57-EBL...
General			
Standards			IEC/EN 60947-5
Ambient temperature		°C	-25 - +70
Protection type			IP67
Mechanical shock resistance		g	30 Shock duration 11 ms
Characteristic values			
Repetition accuracy of S_n		%	1
Temperature drift of S_n		%	10
Switching hysteresis of S_n		%	15
Rated operating voltage			10 - 30 V DC
Operating current in the switched state at 24 V DC	I_b	mA	10
Rated operational current	I_e	mA	200
Voltage drop at I_e	U_d	V	1.5
Switching frequency		Hz	2000
Residual current due to the load in locked state at 230 V AC or 24 V DC	I_r	mA	0.01
Switching state indication		LED	Red
Protective functions			Short-circuit protection
Function			3-wire
Material			Stainless steel

Notes

Further technical data can be found in the Online Catalogue at www.moeller.net

Engineering

Circuit diagram

Rated operating voltage

3-wire sensors

10 - 30 V DC

Contacts

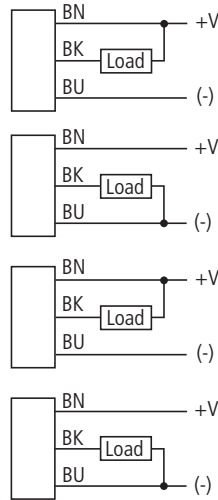
N/O (NPN)

N/O (PNP)

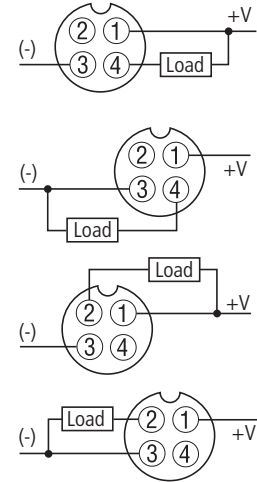
NC (NPN)

NC (PNP)

2 m connection cable

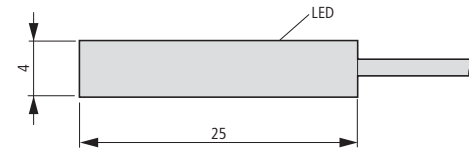


M12 plug connector (front view plug)

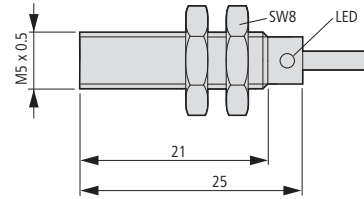


Dimensions

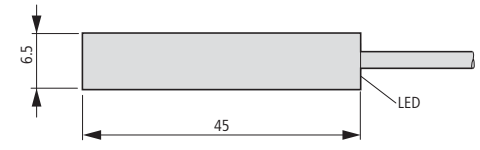
E57EAL4T...



E57EAL5T...

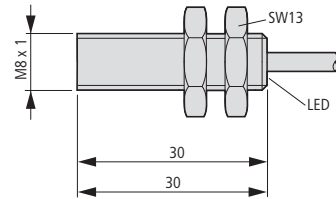


E57EAL6T...



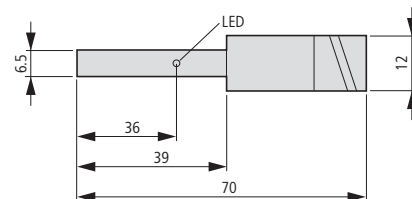
E57...8T...SP

E57...8T...EP

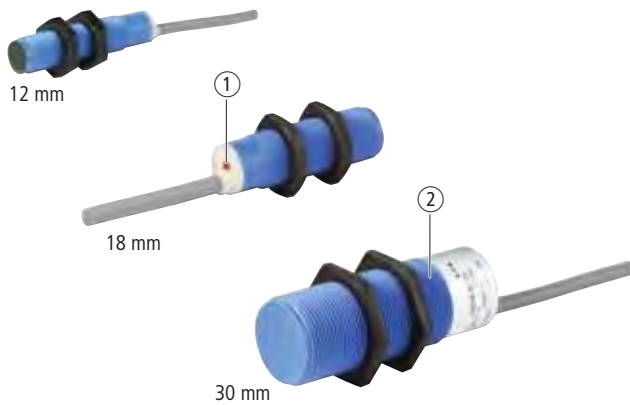


E57...8T...SD

E57...8T...ED



Description



- ① LED for output status.
② Corrosion-resistant PBT enclosure

Short description

Cylinder design

Tubular Inductive Proximity Sensors by Eaton's electrical business are constructed of corrosion resistant PBT plastic. They are ideally suited for wash down applications such as those found in food processing plants. They are available in 12 mm, 18 mm and 30 mm diameters. Shielded sensors can be embedded in metallic surfaces.

Approvals



Product features

Cylinder design

- Versions for 2-wire AC voltage or 3-wire DC voltage.
- Threaded tubular enclosures in three diameters allow easy integration into new and existing applications
- Nonmetallic construction offers excellent resistance to corrosion
- All models feature an output signal indicator light.



- ① Sensor head fitted for lateral detection. Can be rotated 90°.
② Non-metal enclosure is corrosion-resistant.

Short description

Rectangular design

These sensors from Eaton's electrical business feature PBT resin enclosures for high resistance to corrosion. The enclosure is sized to offer a direct replacement for standard limit switches. The unique sensing head is factory assembled for top sensing, but can be easily converted in the field to any one of four side sensing positions. Models are available with sensing ranges from 15 mm to 40 mm. The sensors can be configured for N/O or NC operation.

Product features

Rectangular design

- Nonmetallic enclosure offers excellent resistance to corrosion.
- Same form factor and mounting as standard limit switches for easy retrofit.
- Sensor head features five sensing positions (top and all four sides) that can be easily changed in the field.
- Long sensing ranges up to 40 mm.

HPL03067EN

Design (outer dimensions)	Rated operational voltage	Rated switching distance	Installation type	Switching type	Connection option	Contact configuration NC = Normally closed contact N/O = Normally open contact P = Normally closed contact/ Normally open closed pro- grammable	Material	Part no. Article no.	Price See price list	Std. pack
								S _n mm		
E55 Series										
2-wire										
	M12 x 1	20 - 250 V AC	2	Flush	—	1 N/O	plastic	E55CAL12A2 135816		1 off
			2	Flush	—	1 NC		E55CBL12A2 135834		
			4	Non-flush	—	1 N/O		E55CAL12A2E 135817		
			4	Non-flush	—	1 NC		E55CBL12A2E 135835		
	M18 x 1		5	Flush	—	1 N/O		E55CAL18A2 135822		
			5	Flush	—	1 NC		E55CBL18A2 135839		
			8	Non-flush	—	1 N/O		E55CAL18A2E 135823		
			8	Non-flush	—	1 NC		E55CBL18A2E 135840		
	M30 x 1.5		10	Flush	—	1 N/O		E55CAL30A2 135828		
			10	Flush	—	1 NC		E55CBL30A2 135844		
			15	Non-flush	—	1 N/O		E55CAL30A2E 135829		
			15	Non-flush	—	1 NC		E55CBL30A2E 135845		
3-wire										
	M12 x 1	10 - 30 V DC	2	Flush	NPN	1 N/O	plastic	E55CAL12T110 135818		1 off
			2	Flush	PNP	1 N/O		E55CAL12T111 135820		
			2	Flush	PNP	1 NC		E55CBL12T111 135837		
			4	Non-flush	NPN	1 N/O		E55CAL12T110E 135819		
			4	Non-flush	PNP	1 N/O		E55CAL12T111E 135821		
			4	Non-flush	NPN	1 NC		E55CBL12T110E 135836		
			4	Non-flush	PNP	1 NC		E55CBL12T111E 135838		
			4	Non-flush	PNP	1 NC		E55CBL12T111E 135838		
	M18 x 1		5	Flush	NPN	1 N/O		E55CAL18T110 135824		
			5	Flush	PNP	1 N/O		E55CAL18T111 135826		
			5	Flush	NPN	1 NC		E55CBL18T110 135841		
			8	Non-flush	NPN	1 N/O		E55CAL18T110E 135825		
			8	Non-flush	PNP	1 N/O		E55CAL18T111E 135827		
			8	Non-flush	NPN	1 NC		E55CBL18T110E 135842		
			8	Non-flush	PNP	1 NC		E55CBL18T111E 135843		
			8	Non-flush	PNP	1 NC		E55CBL18T111E 135843		



Design (outer dimensions)	Rated operational voltage	Rated switching distance S _n mm	Installation type	Switching type	Connection option	Contact configuration NC = Normally closed contact N/O = Normally open contact P = Normally closed contact/ Normally open closed pro- grammable	Material	Part no. Article no.	Price See price list	Std. pack
M30 x 1.5	10 - 30 V DC	10	Flush	NPN	2 m connection cable	1 N/O	plastic	E55CAL30T110 135830		1 off
		10	Flush	PNP		1 N/O		E55CAL30T111 135832		
		10	Flush	NPN		1 NC		E55CBL30T110 135846		
		10	Flush	PNP		1 NC		E55CBL30T111 135848		
		15	Non- flush	NPN		1 N/O		E55CAL30T110E 135831		
		15	Non- flush	PNP		1 N/O		E55CAL30T111E 135833		
		15	Non- flush	NPN		1 NC		E55CBL30T110E 135847		
		15	Non- flush	PNP		1 NC		E55CBL30T111E 135849		
		40 x 40 x 118	20 - 250 V AC	15		Flush		–		
20	Non- flush			–	1 P	E55BLT1D 135813				
30	Non- flush			–	1 P	E55BLT1E 135814				
40	Non- flush			–	1 P	E55BLT1F 135815				

Technical data

			E55C...L12A	E55C...L12T	E55C...L12T...E	E55C...L18A	E55C...L18T
General							
Standards			IEC/EN 60947-5-2				
Ambient temperature		°C	-25 - +70	-25 - +70	-25 - +70	-25 - +70	-25 - +70
Protection type			IP66	IP66	IP66	IP66	IP66
Mechanical shock resistance		g	30 Shock duration 11 ms				
Characteristic values							
Repetition accuracy of S _n		%	10	10	10	10	10
Temperature drift of S _n		%	10	10	10	10	10
Switching hysteresis of S _n		%	20	20	20	20	20
Rated operating voltage			20 - 250 V AC	10 - 30 V DC	10 - 30 V DC	20 - 250 V AC	10 - 30 V DC
Residual ripple of U _e		%	10	10	10	10	10
Operating current in the switched state at 24 V DC	I _b	mA	3	—	3	3	—
Rated operational current	I _e	mA	150	200	200	150	200
Voltage drop at I _e	U _d	V	10	8	8	10	8
Switching frequency		Hz	25	2000	1000	25	1000
Switching state indication		LED	Red	Red	Red	Red	Red
Protective functions				Short-circuit protection Protection against polarity reversal	Short-circuit protection Protection against polarity reversal		Short-circuit protection Protection against polarity reversal
Function			2-wire	3-wire	3-wire	2-wire	3-wire
Construction type							
Design outer dimensions)			M12 x 1	M12 x 1	M12 x 1	M18 x 1	M18 x 1
Connection options			Cable open 2 m connection cable				
Material			plastic				

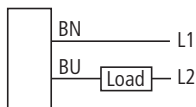
			E55C...L18T...E	E55C...L30T	E55C...L30A	E55C...L30T...E	E55BLT...
General							
Standards			IEC/EN 60947-5-2				
Ambient temperature		°C	-25 - +70	-25 - +70	-25 - +70	-25 - +70	-25 - +70
Protection type			IP66	IP66	IP66	IP66	IP67
Mechanical shock resistance		g	30 Shock duration 11 ms				
Characteristic values							
Repetition accuracy of S _n		%	10	10	10	10	10
Temperature drift of S _n		%	10	10	10	10	10
Switching hysteresis of S _n		%	20	20	20	20	20
Rated operating voltage			10 - 30 V DC	10 - 30 V DC	20 - 250 V AC	10 - 30 V DC	20 - 264 V AC
Residual ripple of U _e		%	10	10	10	10	10
Operating current in the switched state at 24 V DC	I _b	mA	3	–	3	3	3
Rated operational current	I _e	mA	200	200	150	200	400
Voltage drop at I _e	U _d	V	8	8	10	8	8
Switching frequency		Hz	500	300	25	150	25
Switching state indication		LED	Red	Red	Red	Red	Red
Protective functions			Short-circuit protection Protection against polarity reversal	Short-circuit protection Protection against polarity reversal		Short-circuit protection Protection against polarity reversal	Short-circuit protection Protection against polarity reversal Protection against wire breakage
Function			3-wire	3-wire	2-wire	3-wire	2-wire
Construction type							
Design (outer Dimensions)			M18 x 1	M30 x 1.5	M30 x 1.5	M30 x 1.5	40 x 40 x 118
Connection options							
Material							

Notes

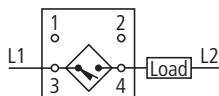
Further technical data can be found in the Online Catalogue at www.moeller.net

Engineering

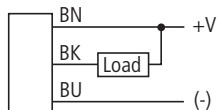
E55CAL...AZ, E55CBL...A2
E55CAL...A2E, E55CBL...A2E



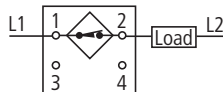
E55BL...



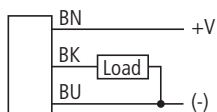
E55CAL...110, E55CBL...110
E55CAL...110E, E55CBL...110E



E55BL...



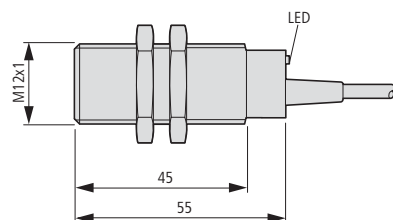
E55CAL...111, E55CBL...111E
E55CAL...111, E55CBL...111E

**Note:**

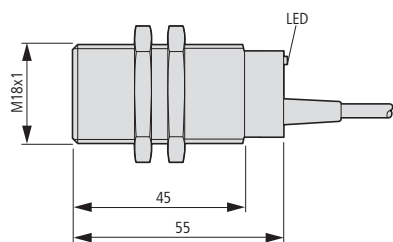
Switches are supplied configured as N/O. Can be switched internally to NC.

Dimensions

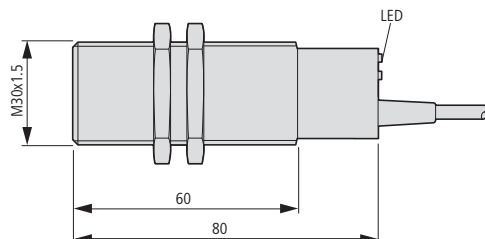
E55CAL12...
E55CBL12...



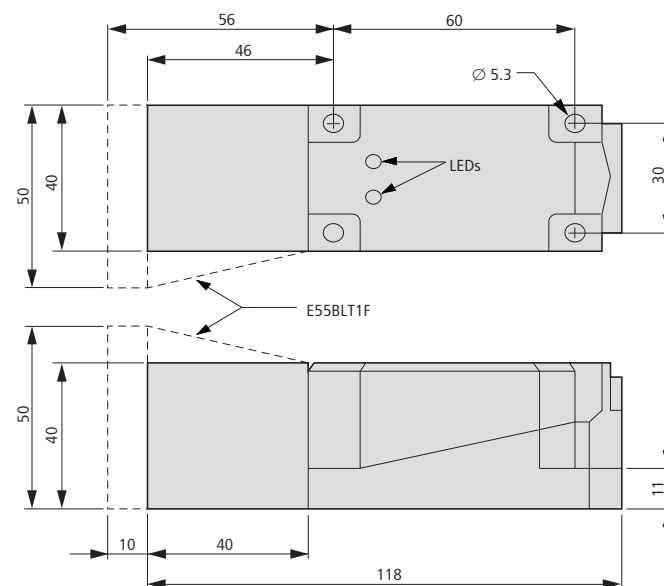
E55CAL18...
E55CBL18...



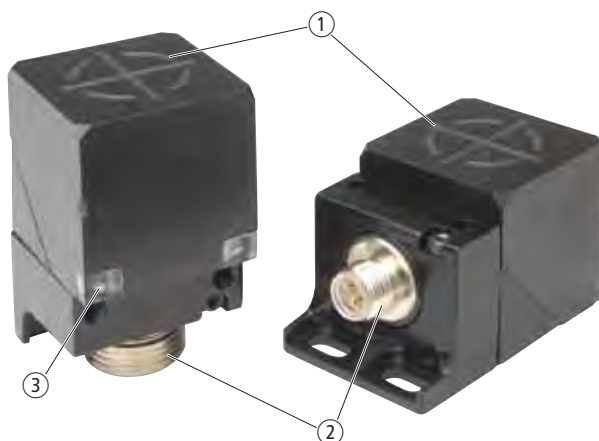
E55CAL30...
E55CBL30...



E55BL...



Description



- ① Adjustable sensing head for top- and side-sensing.
② M12 Plug connector.
③ Two LEDs status indication.

Short description

The E52 Cube sensor from Eaton is a powerful inductive proximity sensor. It provides a long sensing range in a compact, standard-conformant enclosure. The outputs of this series are self-configuring as PNP or NPN, without the need for user intervention. The E52 features additional outputs for various connection types to cover many applications with just a few models. Separate indicator lights for voltage and output signal simplify installation and troubleshooting. Five different mounting methods make these sensors exceptionally versatile. The E52 Cube has been developed specially for demanding applications, for example in car production, in bulk material plants and in metal-processing industries.

Product features

- Large measuring range up to 40 mm.
- Four-wire models feature additional outputs (1 × NC, 1 × N/O).
- Four-wire DC models feature an automatic configuration function for independent NPN/PNP selection.
- Robust design featuring vibration and impact-absorbing potting compound.
- Ideal for extreme temperatures or high pressure washdown environments.

Approvals



Ordering

	Function	Design (outer dimensions)	Rated operational voltage	Rated switching distance S_n mm	Installation type	Switching type	Connection option	Contact configuration NC = Normally closed contact N/O = Normally open contact	Material	Part no. Article no.	Price See price list	Std. pack
E52-Serie												
	4-wire	40 x 40 x 40 Rectangular enclosure	6 - 48 V DC	15	Flush	NPN PNP	M12, "A"-coded plug connectors	1 NC/1 N/O	Zinc/ plastic	E52Q-DL15SAD01 135804		1 off
			6 - 48 V DC	15	Non-flush			1 NC/1 N/O		E52Q-DL15UAD01 135805		
			6 - 48 V DC	20	Flush			1 NC/1 N/O		E52Q-DL20SAD01 135806		
			6 - 48 V DC	20	Non-flush			1 NC/1 N/O		E52Q-DL20UAD01 135807		
			6 - 48 V DC	25	Non-flush			1 NC/1 N/O		E52Q-DL25UAD01 135808		
			6 - 48 V DC	30	Non-flush			1 NC/1 N/O		E52Q-DL30UAD01 135809		
			6 - 48 V DC	35	Non-flush			1 NC/1 N/O		E52Q-DL35UAD01 135810		
			6 - 48 V DC	40	Non-flush			1 NC/1 N/O		E52Q-DL40UAD01 135811		

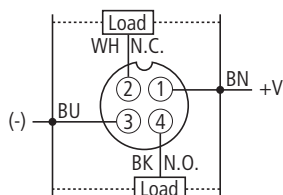
Information relevant for export to North America



Product Standards	UL 508; CSA-C22.2 No. 14; IEC60947-5-2; CE marking
UL File No.	E166051
UL CCN	NRKH, NRKH7
CSA File No.	UL report applies to both Canada and US
CSA Class No.	—
NA Certification	UL Listed, certified by UL for use in Canada
Max. Voltage Rating	48 V DC
Degree of Protection	IEC: IP68; UL Type 4, 4X, 6, 6P, 12, 13

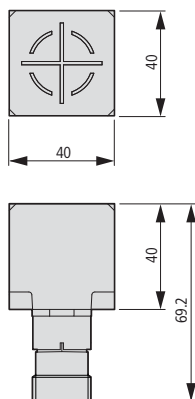
Engineering

E52...



Through autoconfiguration connectable to both +V or (-).

Dimensions



Technical data

			E52-Series
General			
Standards			IEC/EN 60947-5-2
Ambient temperature		°C	-40 - +70
Protection type			IP67
Mechanical shock resistance		g	30 Shock duration 11 ms
Characteristic values			
Repetition accuracy of S_n		%	2
Temperature drift of S_n		%	10
Switching hysteresis of S_n		%	15
Rated operating voltage			6 - 48 V DC
Operating current in the switched state at 24 V DC	I_b	mA	25
Rated operational current	I_e	mA	300
Voltage drop at I_e	U_d	V	2.5
Switching frequency		Hz	100
Residual current due to the load in locked state at 230 V AC or 24 V DC	I_r	mA	0.15
Switching state indication		LED	Red
Operating voltage display		LED	Green
Protective functions			Short-circuit protection Protection against polarity reversal Protection against wire breakage
Function			4-wire
Design (outer dimensions)			40 x 40 x 40 Rectangular enclosure
Connection options			M12, "A"-coded plug connectors
Material			plastic
Surface			Zinc alloy
Notes			Further technical data can be found in the Online-Catalogue at www.moeller.net



Description



① Indicator lights for current and output status.

Short description

Eaton's E56 sensors are powerful inductive proximity sensors. The E56 Pancake provides greater sensing ranges than other inductive sensor package types. They are easy to wire and feature self-configuring complementary outputs, which automatically detect an NPN or PNP connection and configure the sensor accordingly without the need for user intervention. Indicator lights for power and output state simplify troubleshooting compared to sensors with only an output indicator. These convenience features and their high performance make the E56 Pancake sensors ideal for applications in which a rugged design and a long range are required.

Product features

- Longest measuring range on the market – up to 100 mm.
- Three sizes for all application scenarios; max. range 50, 70 or 100 mm.
- Complementary outputs (1 × NC, 1 × N/O) on models with four-wire connection.
- Models with DC voltage four-wire connection feature an automatic configuration function for independent switchover between NPN and PNP.
- Robust design featuring vibration and impact-absorbing potting compound.
- Ideal for extreme temperatures or high pressure washdown environments.

Approvals



HPL03075EN

Ordering

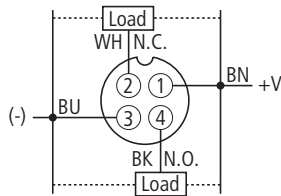
	Function	Design (outer dimensions)	Rated operational voltage	Rated switching distance S_n mm	Installation type	Switching type	Connection option	Contact configuration NC = Normally closed contact N/O = Normally open contact	Material	Part no. Article no.	Price See price list	Std. pack
E56 Series												
	4-wire	79 x 79 x 39	6 - 48 V DC	40	Flush	NPN PNP	plug connectors	1 NC/1 N/O	plastic	E56ADL40SAD01 136234		1 off
		79 x 79 x 39		50	Non-flush	NPN PNP		1 NC/1 N/O		E56ADL40UAD01 136235		
		109 x 110 x 41		70	Non-flush	NPN PNP		1 NC/1 N/O		E56BDL70UAD01 136236		
		171.5 x 171.5 x 67.4		100	Non-flush	NPN PNP		1 NC/1 N/O		E56CDL100UAD01 136237		

Information relevant for export to North America



Product Standards	UL 508; CSA-C22.2 No. 14; IEC60947-5-2; CE marking
UL File No.	E166051
UL CCN	NRKH, NRKH7
CSA File No.	UL report applies to both Canada and US
CSA Class No.	—
NA Certification	UL Listed, certified by UL for use in Canada
Max. Voltage Rating	48 V DC
Degree of Protection	IEC: IP67, IP69K; UL/CSA Type: 4, 4x, 6, 6P, 12, 13

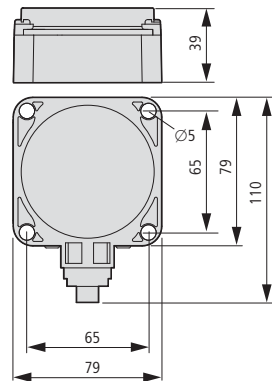
Engineering



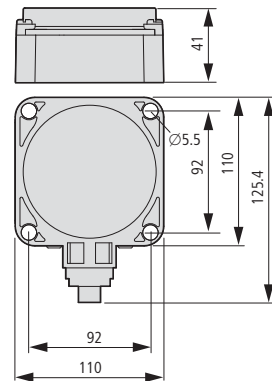
Through autoconfiguration connectable to both +V or (-).

Dimensions

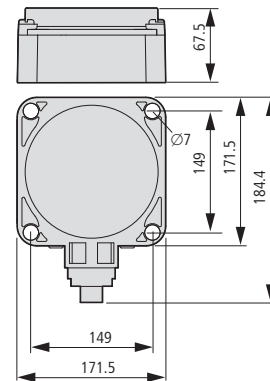
E56ADL40...



E56BDL70...



E56CDL100...



Technical data

			E56ADL40S	E56ADL40U	E56BDL70U	E56CDL100U
General						
Standards			IEC/EN 60947-5-2			
Ambient temperature		°C	-25 - +70	-25 - +70	-25 - +70	-25 - +70
Protection type			IP67	IP67	IP67	IP67
Characteristic values						
Repetition accuracy of S_n		%	2	2	2	2
Temperature drift of S_n		%	10	10	10	10
Switching hysteresis of S_n		%	15	15	15	15
Rated operating voltage			6 - 48 V DC	6 - 48 V DC	6 - 48 V DC	6 - 48 V DC
Operating current in the switched state at 24 V DC	I_b	mA	25	25	25	25
Rated operational current	I_e	mA	300	300	300	300
Voltage drop at I_e	U_d	V	2.5	2.5	2.5	2.5
Switching frequency		Hz	100	100	20	20
Min. load current	I_e	mA	1	1	1	1
Residual current due to the load in locked state at 230 V AC or 24 V DC	I_r	mA	0.15	0.15	0.15	0.15
Switching state indication		LED	Red	Red	Red	Red
Operating voltage display		LED	Red	Red	Red	Red
Protective functions			Short-circuit protection Protection against polarity reversal			
Function			4-wire	4-wire	4-wire	4-wire
Construction type						
Design (outer dimensions)			79 x 79 x 39	79 x 79 x 39	109 x 110 x 41	171.5 x 171.5 x 67.4
Connection options			M12, "A"-coded plug connectors			
Material			plastic	plastic	plastic	plastic
Surface			PPS	PPS	PPS	PPS

Notes

Further technical data can be found in the Online Catalogue at www.moeller.net

Description



- ① Models with cable or plug connectors available.
 ② All models feature an output signal indicator light.



- ① With mounting bracket.

Short description

The capacitive proximity sensors from Eaton's electrical business are self-contained units designed to detect both metallic and nonmetallic targets. They are ideally suited for liquid level control and for sensing powdered or granulated material. For best operation, they should be used in an environment having relatively constant temperature and humidity.

Product features

- Detect liquids, powders and other materials that are difficult or impossible with other sensor types.
 - Corrosion-resistant insulated enclosure.
- Adjustable sensitivity.

Approvals



Ordering



	Rated operational voltage	Rated switching distance S _n mm	Installation type	Switching type	Connection options	Contact configuration NC = Normally closed contact N/O = Normally open contact	Material	Part no. Article no.	Price See price list	Std. pack
E53 Series										
2-wire										
M18 x 1										
	20 - 250 V AC	8	Flush	–	2 m connection cable	1 N/O	plastic	E53KAL18A2 134517	1 off	
			Flush	–	plug connector M12 x 1	1 N/O		E53KAL18A2SA 134760		
			Flush	–	2 m connection cable	1 NC		E53KBL18A2 134791		
			Flush	–	plug connector M12 x 1	1 NC		E53KBL18A2SA 134794		
		15	Non-flush	–	2 m connection cable	1 N/O		E53KAL18A2E 134518		
			Non-flush	–	plug connector M12 x 1	1 N/O		E53KAL18A2EA 134519		
			Non-flush	–	2 m connection cable	1 NC		E53KBL18A2E 134792		
			Non-flush	–	plug connector M12 x 1	1 NC		E53KBL18A2EA 134793		
M30 x 1.5										
	20 - 250 V AC	20	Flush	–	2 m connection cable	1 N/O	plastic	E53KAL30A2 134769	1 off	
			Flush	–	plug connector M12 x 1	1 N/O		E53KAL30A2SA 134772		
			Flush	–	2 m connection cable	1 NC		E53KBL30A2 134803		
			Flush	–	plug connector M12 x 1	1 NC		E53KBL30A2SA 134806		
		25	Non-flush	–	2 m connection cable	1 N/O		E53KAL30A2E 134770		
			Non-flush	–	plug connector M12 x 1	1 N/O		E53KAL30A2EA 134771		
			Non-flush	–	2 m connection cable	1 NC		E53KBL30A2E 134804		
			Non-flush	–	plug connector M12 x 1	1 NC		E53KBL30A2EA 134805		
3-wire										
M18 x 1										
	10 - 30 V DC	8	Flush	NPN	2 m connection cable	1 N/O	plastic	E53KAL18T110 134761	1 off	
			Flush	NPN	plug connector M12 x 1	1 N/O		E53KAL18T110SD 134764		
			Flush	PNP	2 m connection cable	1 N/O		E53KAL18T111 134765		
			Flush	PNP	plug connector M12 x 1	1 N/O		E53KAL18T111SD 134768		
			Flush	NPN	2 m connection cable	1 NC		E53KBL18T110 134795		
			Flush	NPN	plug connector M12 x 1	1 NC		E53KBL18T110SD 134798		
			Flush	PNP	2 m connection cable	1 NC		E53KBL18T111 134799		
			Flush	PNP	plug connector M12 x 1	1 NC		E53KBL18T111SD 134802		

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	Rated operational voltage	Rated switching distance S _n mm	Installation type	Switching type	Connection options	Contact configuration NC = Normally closed contact N/O = Normally open contact	Material	Part no. Article no.	Price See price list	Std. pack
3-wire										
M18 x 1										
	10 - 30 V DC	15	Non-flush	NPN	2 m connection cable	1 N/O	plastic	E53KAL18T110E 134762		1 off
			Non-flush	NPN	plug connector M12 x 1	1 N/O		E53KAL18T110ED 134763		
			Non-flush	PNP	2 m connection cable	1 N/O		E53KAL18T111E 134766		
			Non-flush	PNP	plug connector M12 x 1	1 N/O		E53KAL18T111ED 134767		
			Non-flush	NPN	2 m connection cable	1 NC		E53KBL18T110E 134796		
			Non-flush	NPN	plug connector M12 x 1	1 NC		E53KBL18T110ED 134797		
			Non-flush	PNP	2 m connection cable	1 NC		E53KBL18T111E 134800		
			Non-flush	PNP	plug connector M12 x 1	1 NC		E53KBL18T111ED 134801		
M30 x 1.5										
	10 - 30 V DC	20	Flush	NPN	2 m connection cable	1 N/O	plastic	E53KAL30T110 134773		1 off
			Flush	NPN	plug connector M12 x 1	1 N/O		E53KAL30T110SD 134776		
			Flush	PNP	2 m connection cable	1 N/O		E53KAL30T111 134777		
			Flush	PNP	plug connector M12 x 1	1 N/O		E53KAL30T111SD 134780		
			Flush	NPN	2 m connection cable	1 NC		E53KBL30T110 134807		
			Flush	NPN	plug connector M12 x 1	1 NC		E53KBL30T110SD 134810		
			Flush	PNP	2 m connection cable	1 NC		E53KBL30T111 134811		
			Flush	PNP	plug connector M12 x 1	1 NC		E53KBL30T111SD 134814		
	10 - 30 V DC	25	Non-flush	NPN	2 m connection cable	1 N/O		E53KAL30T110E 134774		
			Non-flush	NPN	plug connector M12 x 1	1 N/O		E53KAL30T110ED 134775		
			Non-flush	PNP	2 m connection cable	1 N/O		E53KAL30T111E 134778		
			Non-flush	PNP	plug connector M12 x 1	1 N/O		E53KAL30T111ED 134779		
			Non-flush	NPN	2 m connection cable	1 NC		E53KBL30T110E 134808		
			Non-flush	NPN	plug connector M12 x 1	1 NC		E53KBL30T110ED 134809		
			Non-flush	PNP	2 m connection cable	1 NC		E53KBL30T111E 134812		
			Non-flush	PNP	plug connector M12 x 1	1 NC		E53KBL30T111ED 134813		





	Rated operational voltage	Rated switching distance S _n mm	Installation type	Switching type	Connection options	Contact configuration NC = Normally closed contact N/O = Normally open contact	Material	Part no. Article no.	Price See price list	Std. pack
2-wire										
	20 - 250 V AC	35	Non-flush	–	2 m connection cable	1 N/O	plastic	E53KAL34A2E 134781		1 off
		35	Non-flush	–	plug connector M12 x 1	1 N/O		E53KAL34A2EA 134782		
		35	Non-flush	–	2 m connection cable	1 NC		E53KBL34A2E 134815		
		35	Non-flush	–	plug connector M12 x 1	1 NC		E53KBL34A2EA 134816		
3-wire										
	10 - 30 V DC	25	Flush	NPN	2 m connection cable	1 N/O	plastic	E53KAL34T110 134783		1 off
		25	Flush	NPN	plug connector M12 x 1	1 N/O		E53KAL34T110SD 134786		
		25	Flush	PNP	2 m connection cable	1 N/O		E53KAL34T111 134787		
		25	Flush	PNP	plug connector M12 x 1	1 N/O		E53KAL34T111SD 134790		
		25	Flush	NPN	2 m connection cable	1 NC		E53KBL34T110 134817		
		25	Flush	NPN	plug connector M12 x 1	1 NC		E53KBL34T110SD 134820		
		25	Flush	PNP	2 m connection cable	1 NC		E53KBL34T111 134821		
		25	Flush	PNP	plug connector M12 x 1	1 NC		E53KBL34T111SD 134824		
		35	Non-flush	NPN	2 m connection cable	1 N/O		E53KAL34T110E 134784		
		35	Non-flush	NPN	plug connector M12 x 1	1 N/O		E53KAL34T110ED 134785		
		35	Non-flush	PNP	2 m connection cable	1 N/O		E53KAL34T111E 134788		
		35	Non-flush	PNP	plug connector M12 x 1	1 N/O		E53KAL34T111ED 134789		
		35	Non-flush	NPN	2 m connection cable	1 NC		E53KBL34T110E 134818		
		35	Non-flush	NPN	plug connector M12 x 1	1 NC		E53KBL34T110ED 134819		
		35	Non-flush	PNP	2 m connection cable	1 NC		E53KBL34T111E 134822		
		35	Non-flush	PNP	plug connector M12 x 1	1 NC		E53KBL34T111ED 134823		

Engineering

Circuit diagram Rated operating voltage	Contacts	2 m connection cable	M12 plug connector (front view plug)
2-wire sensors 20–250 V AC/DC	N/O and NC		
3-wire sensors 10–30 V DC	N/O (NPN)		
	N/O (PNP)		
	NC (NPN)		
	NC (PNP)		

Technical data

			E53...A...	E53...T..
General				
Standards			IEC/EN 60947-5-2	
Ambient temperature		°C	-25 - +70	-25 - +70
Protection type			IP65	IP65
Mechanical shock resistance		g	30 Shock duration 11 ms	
Characteristic values				
Repetition accuracy of S_n		%	10	10
Temperature drift of S_n		%	10	10
Switching hysteresis of S_n		%	20	20
Rated operating voltage			20 - 250 V AC	10 - 30 V DC
Residual ripple of U_e		%	10	10
Rated operational current	I_e	mA	300	300
Voltage drop at I_e	U_d	V	9	2
Switching frequency		Hz	15	250
Min. load current	I_e	mA	5	5
Switching state indication		LED	Red	Red
Function			2-wire	3-wire
Material			plastic	plastic

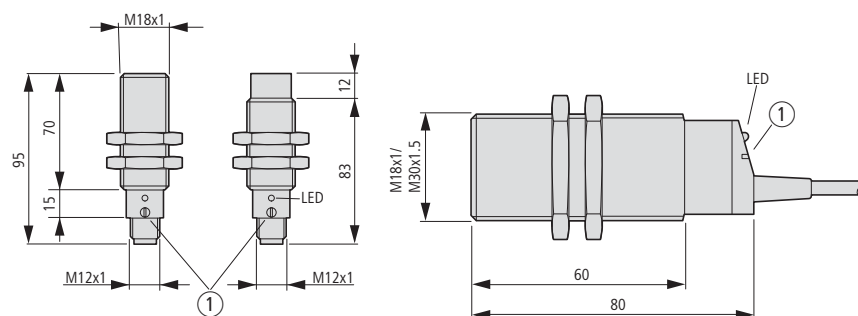
Notes

Further technical data can be found in the Online Catalogue at www.moeller.net

Dimensions

E53KAL18...

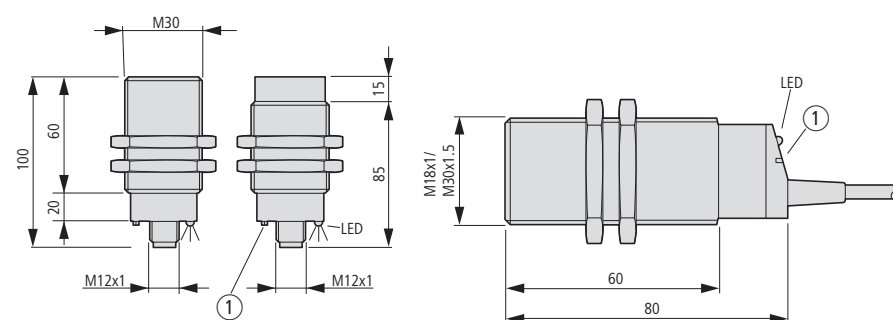
E53KBL18...



① Sensitivity setting

E53KAL30...

E53KBL30...

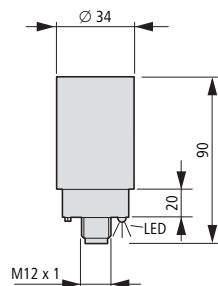


① Sensitivity setting

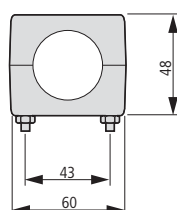
E53KAL34...

E53KBL34...

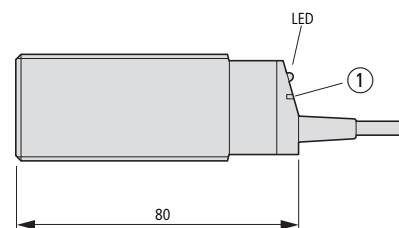
M12 plug connector



Fixing bracket (included as standard)

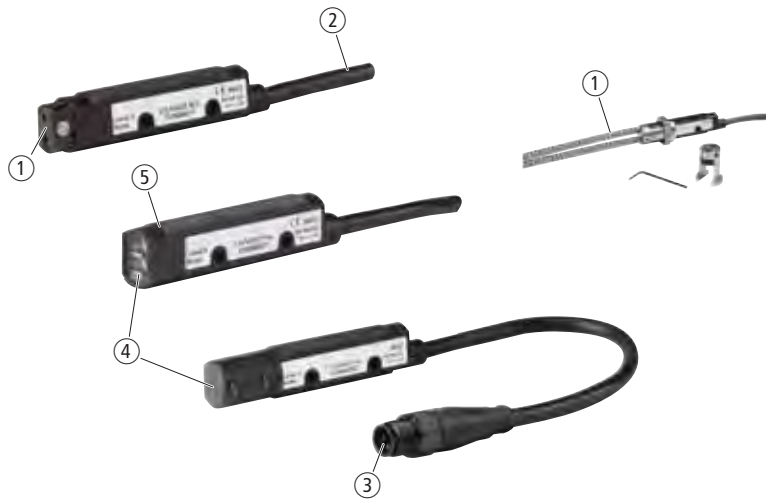


2 m connection cable



① Sensitivity setting

Description



- ① FO cable versions possible.
- ② Light/dark operation selector switch on all models.
- ③ Models with M12 plug connector.
- ④ Sensing beam 0° or 90°.
- ⑤ Solid polyurethane body for rugged use.

Short description

Eaton's high-performance photo-electric sensors feature a tubular enclosure with a diameter of 18 mm and are available in a range of versions to solve virtually any sensing problem. The sensors are available in thru-beam, reflex, polarized reflex, diffuse reflective, focused diffuse reflective, wide-angle diffuse reflective, Perfect Prox®, Fine Spot Perfect Prox® and fiber optic sensing versions. The Perfect Prox® sensors are among the most powerful on the market. These sensors reliably detect targets of different color, reflectance, contrast or surface shape at the same range, while ignoring background objects just a fraction of an inch away. The Comet Series includes AC/DC and DC-only models with 2-, 3- and 4-wire circuitry, and with cable or M 12 micro-connector. Each sensor features a Light/ Dark Operation switch and a gain control to provide for quick adjustment to peak optical performance. The unique threaded body with flat sides allows quick mounting in a 19 mm hole or against any flat surface. Internal components are rigidly sealed in a solid encapsulated package for excellent performance in high vibration and high-shock applications.

Product features

- Industry standard 18 mm diameter threaded body has flat sides allowing it to be mounted like a tubular sensor or against any flat surface
- Models with a 90° measurement direction can be installed in holes with a depth of only 152 mm.
- Perfect Prox® technology provides exceptional background rejection and application problem-solving.
- Visible sensing beams let you see where the light barrier is aimed for quick flush mounting and alignment.
- Solid polyurethane enclosure completely encapsulates internal circuits for high resistance to shock and vibration.
- Adaptable modulation circuit provides immunity to cross talk from other closely mounted sensors.
- Models available with both AC and DC operation in a single unit – up to 264 volts AC.
- 4-wire DC sensors offer both NPN and PNP outputs.
- Output status indicator visible from a wide 270° angle.

Approvals

Ordering



	Rated operating voltage	Switching type	Rated switching distance S _n mm	Connection options	Description	Type of light	Part no. Article no.	Price See price list	Std. pack
Comet series									
M18 x 1, light switching, dark switching, programmable, plastic									
3-wire									
Thru-beam sensor (detector), forward viewing									
	20 - 264 V AC 15 - 30 V DC	NPN	6000	2 m connection cable	–	Visible red	12100A6513 135566		1 off  
			6000	plug connector M12 x 1			12100AQD03 135568		
			24000	2 m connection cable			12102A6513 135574		
			24000	plug connector M12 x 1			12102AQD03 135576		
Thru-beam sensor (source), forward viewing									
	20 - 264 V AC 15 - 30 V DC	NPN	6000	2 m connection cable	–	Visible red	11100A6513 135554		1 off  
			6000	plug connector M12 x 1			11100AQD03 135556		
			24000	2 m connection cable			11102A6513 135562		
			24000	plug connector M12 x 1			11102AQD03 135564		
Thru-beam sensor (detector), right-angle									
	20 - 264 V AC 15 - 30 V DC	NPN	6000	2 m connection cable	–	Visible red	12100R6513 135570		1 off  
			6000	plug connector M12 x 1			12100RQD03 135572		
Thru-beam sensor (source), right-angle									
	20 - 264 V AC 15 - 30 V DC	NPN	6000	2 m connection cable	–	Visible red	11100R6513 135558		1 off  
			6000	plug connector M12 x 1			11100RQD03 135560		
Diffuse reflective sensor, right-angle									
	20 - 264 V AC 15 - 30 V DC	NPN	3000	2 m connection cable	For combination with reflector with polarisation filter	Visible red	14101R6513 135650		1 off  
			3000	plug connector M12 x 1			14101RQD03 135652		
			4500	2 m connection cable	For combination with reflector		14102R6513 135658		
			4500	plug connector M12 x 1			14102RQD03 135660		
Diffuse reflective sensor, forward viewing									
	20 - 264 V AC 15 - 30 V DC	NPN	4500	2 m connection cable	For combination with reflector with polarisation filter	Visible red	14101A6513 135646		1 off  
			4500	plug connector M12 x 1			14101AQD03 135648		
			7600	2 m connection cable	For combination with reflector	Infrared	14100A6513 135642		
				plug connector M12 x 1			14100AQD03 135644		
				2 m connection cable	Visible red		14102A6513 135654		
				plug connector M12 x 1			14102AQD03 135656		
Diffuse reflective sensor, focused, forward viewing									
	20 - 264 V AC 15 - 30 V DC	NPN	40	2 m connection cable	–	Visible red	13102A6513 135590		1 off  
			40	plug connector M12 x 1			13102AQD03 135592		

Information relevant for export to North America



Product Standards	UL 508; CSA-C22.2 No. 14; IEC60947-5-2; CE marking
UL File No.	E166051
UL CCN	NRKH, NRKH7
CSA File No.	50513
CSA Class No.	3211-07
NA Certification	UL Listed, CSA certified
Max. Voltage Rating	264 V AC, 30 V DC
Degree of Protection	IEC: IP68, IP69K; UL/CSA Type: 1, 2, 3, 4, 4x, 6, 12, 13

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	Rated operating voltage	Switching type	Rated switching distance S _n mm	Connection options	Description	Type of light	Part no. Article no.	Price See price list	Std. pack	
Diffuse reflective sensor, forward viewing										
	20 - 264 V AC 15 - 30 V DC	NPN	50	2 m connection cable	With background suppression (Perfect Prox)	Visible red	13104A6513 135602		1 off  	
				plug connector M12 x 1			13104AQD03 135604			
			100	2 m connection cable			13105A6513 135614			
				plug connector M12 x 1			13105AQD03 135616			
			100	2 m connection cable		13101A6513 135586				
				plug connector M12 x 1		13101AQD03 135588				
			150	2 m connection cable	–	13107AS6513 135626				
				plug connector M12 x 1		13107ASQD03 135628				
				2 m connection cable	With background suppression (Perfect Prox)	13108A6513 135634				
				plug connector M12 x 1		13108AQD03 135636				
			200	2 m connection cable	–	13106A6513 135618				
				plug connector M12 x 1		13106AQD03 135620				
			225	2 m connection cable	With background suppression (Perfect Prox)	13103A6513 135594				
				plug connector M12 x 1		13103AQD03 135596				
			610	2 m connection cable	–	13100A6513 135578				
				plug connector M12 x 1		13100AQD03 135580				
Diffuse reflective sensor, right-angle										
	20 - 264 V AC 15 - 30 V DC	NPN	50	2 m connection cable	With background suppression (Perfect Prox)	Visible red	13104R6513 135606		1 off  	
				plug connector M12 x 1			13104RQD03 135608			
			100	plug connector M12 x 1			13104RS5003 135610			
				2 m connection cable			13104RS5013 135612			
			150	2 m connection cable	–	Infrared	13107RS6513 135630			
				plug connector M12 x 1			13107RSQD03 135632			
				2 m connection cable	With background suppression (Perfect Prox)		13108R6513 135638			
				plug connector M12 x 1			13108RQD03 135640			
			200	2 m connection cable	–		13106R6513 135622			
				plug connector M12 x 1			13106RQD03 135624			
			225	2 m connection cable	With background suppression (Perfect Prox)		13103R6513 135598			
				plug connector M12 x 1			13103RQD03 135600			
			610	2 m connection cable	–		13100R6513 135582			
				plug connector M12 x 1			13100RQD03 135584			

Information relevant for export to North America



Product Standards	UL 508; CSA-C22.2 No. 14; IEC60947-5-2; CE marking
UL File No.	E166051
UL CCN	NRKH, NRKH7
CSA File No.	50513
CSA Class No.	3211-07
NA Certification	UL Listed, CSA certified
Max. Voltage Rating	264 V AC, 30 V DC
Degree of Protection	IEC: IP68, IP69K; UL/CSA Type: -





	Rated operating voltage	Switching type	Rated switching distance S _n mm	Connection options	Description	Type of light	Part no. Article no.	Price See price list	Std. pack
Comet series									
M18 x 1, light switching, dark switching, programmable, plastic									
4-wire									
Thru-beam sensor (detector), forward viewing									
	10 - 30 V DC	NPN PNP	6000	2 m connection cable	–	Visible red	12100A6517 ¹⁾ 135567		1 off 
			6000	plug connector M12 x 1			12100AQD07 ¹⁾ 135569		
			24000	2 m connection cable			12102A6517 ¹⁾ 135575		
			24000	plug connector M12 x 1			12102AQD07 ¹⁾ 135577		
Thru-beam sensor (source), forward viewing									
	10 - 30 V DC	NPN PNP	6000	2 m connection cable	–	Visible red	11100A6517 ¹⁾ 135555		1 off 
			6000	plug connector M12 x 1			11100AQD07 ¹⁾ 135557		
			24000	2 m connection cable			11102A6517 ¹⁾ 135563		
			24000	plug connector M12 x 1			11102AQD07 ¹⁾ 135565		
Thru-beam sensor (detector), right-angle									
	10 - 30 V DC	NPN PNP	6000	2 m connection cable	–	Visible red	12100R6517 ¹⁾ 135571		1 off 
			6000	plug connector M12 x 1			12100RQD07 ¹⁾ 135573		
Thru-beam sensor (source), right-angle									
	10 - 30 V DC	NPN PNP	6000	2 m connection cable	–	Visible red	11100R6517 ¹⁾ 135559		1 off 
			6000	plug connector M12 x 1			11100RQD07 ¹⁾ 135561		
Diffuse reflective sensor, right-angle									
	10 - 30 V DC	NPN PNP	3000	2 m connection cable	For combination with reflector with polarisation filter	Visible red	14101R6517 ¹⁾ 135651		1 off 
			3000	plug connector M12 x 1			14101RQD07 ¹⁾ 135653		
			4500	2 m connection cable	For combination with reflector	Visible red	14102R6517 ¹⁾ 135659		
			4500	plug connector M12 x 1			14102RQD07 ¹⁾ 135661		
Diffuse reflective sensor, forward viewing									
	10 - 30 V DC	NPN PNP	4500	2 m connection cable	For combination with reflector with polarisation filter	Visible red	14101A6517 ¹⁾ 135647		1 off 
			4500	plug connector M12 x 1			14101AQD07 ¹⁾ 135649		
			7600	2 m connection cable	For combination with reflector	Infrared	14100A6517 ¹⁾ 135643		
				plug connector M12 x 1			14100AQD07 ¹⁾ 135645		
				2 m connection cable	Visible red	14102A6517 ¹⁾ 135655			
				plug connector M12 x 1		14102AQD07 ¹⁾ 135657			
Diffuse reflective sensor, focused, forward viewing									
	10 - 30 V DC	NPN PNP	40	2 m connection cable	–	Visible red	13102A6517 ¹⁾ 135591		1 off 
			40	plug connector M12 x 1			13102AQD07 ¹⁾ 135593		

¹⁾ Information relevant for export to North America



Product Standards	UL 508; CSA-C22.2 No. 14; IEC60947-5-2; CE marking
UL File No.	E166051
UL CCN	NRKH, NRKH7
CSA File No.	50513
CSA Class No.	3211-07
NA Certification	UL Listed, CSA certified
Max. Voltage Rating	30 V DC
Degree of Protection	IEC: IP68, IP69K; UL/CSA Type: -

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	Rated operating voltage	Switching type	Rated switching distance S _n mm	Connection options	Description	Type of light	Part no. Article no.	Price See price list	Std. pack	
Comet series										
M18 x 1, light switching, dark switching, programmable, plastic										
Diffuse reflective sensor, forward viewing										
	10 - 30 V DC	NPN PNP	50	2 m connection cable	With background suppression (Perfect Prox)	Visible red	13104A6517 ¹⁾		1 off  	
				plug connector M12 x 1			13104AQD07 ¹⁾			
			2 m connection cable	13105A6517 ¹⁾						
				plug connector M12 x 1	13105AQD07 ¹⁾					
			100	2 m connection cable		Infrared	13101A6517 ¹⁾			
				plug connector M12 x 1			13101AQD07 ¹⁾			
			150	2 m connection cable	–	13107AS6517 ¹⁾				
				plug connector M12 x 1		13107ASQD07 ¹⁾				
			2 m connection cable	With background suppression (Perfect Prox)	13108A6517 ¹⁾					
					plug connector M12 x 1	13108AQD07 ¹⁾				
			200	2 m connection cable	–	13106A6517 ¹⁾				
				plug connector M12 x 1		13106AQD07 ¹⁾				
			225	2 m connection cable	With background suppression (Perfect Prox)	13103A6517 ¹⁾				
				plug connector M12 x 1		13103AQD07 ¹⁾				
			610	2 m connection cable	–	13100A6517 ¹⁾				
				plug connector M12 x 1		13100AQD07 ¹⁾				
Diffuse reflective sensor, right-angle										
	10 - 30 V DC	NPN PNP	50	2 m connection cable	With background suppression (Perfect Prox)	Visible red	13104R6517		1 off  	
				plug connector M12 x 1			13104RQD07			
			100	plug connector M12 x 1			13104RS5007			
				2 m connection cable			13104RS5020			
			150	2 m connection cable	–	Infrared	13107RS6517			
				plug connector M12 x 1			13107RSQD07			
			2 m connection cable	With background suppression (Perfect Prox)	13108R6517					
					plug connector M12 x 1		13108RQD07			
			200	2 m connection cable	–		13106R6517			
				plug connector M12 x 1			13106RQD07			
			225	2 m connection cable	With background suppression (Perfect Prox)		13103R6517			
				plug connector M12 x 1			13103RQD07			
			610	2 m connection cable	–		13100R6517			
				plug connector M12 x 1			13100RQD07			

¹⁾ Information relevant for export to North America

Product Standards	UL 508; CSA-C22.2 No. 14; IEC60947-5-2; CE marking
UL File No.	E166051
UL CCN	NRKH, NRKH7
CSA File No.	50513
CSA Class No.	3211-07
NA Certification	UL Listed, CSA certified
Max. Voltage Rating	30 V DC
Degree of Protection	IEC: IP68, IP69K; UL/CSA Type: -



Ordering

	Design (outer dimensions)	Material	Part no. Article no.	Price See price list	Std. pack
Glass fiber adapter					
In combination with reflex sensors 13106A... or 13100A... and E51KF fiber optic					
	—	Metal	6235A-6501 135759		1 off
Glass fiber duplex cable					
	2.4 Ø x 914	PVC	E51KF163 135761		1 off
	2.4 Ø x 914	Stainless steel	E51KF563 135783		1 off
	1.6 Ø x 914	PVC	E51KF183 135763		1 off
	1.6 Ø x 914	Stainless steel	E51KF583 135785		1 off
	0.5 x 3.9 Ø x 914	PVC	E51KF193 135764		1 off
	0.5 x 3.9 Ø x 914	Stainless steel	E51KF593 135786		1 off
	3.2 Ø x 914	PVC	E51KF323 135771		1 off
	3.2 Ø x 914	Stainless steel	E51KF723 135793		1 off
	3.2 Ø x 914	PVC	E51KF313 135770		1 off
	3.2 Ø x 914	Stainless steel	E51KF713 135792		1 off
	0.8 x 9.7 Ø x 914	PVC	E51KF343 135773		1 off
	0.8 x 9.7 Ø x 914	Stainless steel	E51KF743 135795		1 off
	0.5 x 3.9 Ø x 914	Stainless steel	E51KF553 135782		1 off
	0.5 x 3.9 Ø x 914	PVC	E51KF153 135760		1 off
	1.6 Ø x 914	Stainless steel	E51KF573 135784		1 off
	3.2 Ø x 914	Stainless steel	E51KF733 135794		1 off
	1.6 Ø x 914	PVC	E51KF173 135762		1 off
	3.2 Ø x 914	PVC	E51KF333 135772		1 off
	3.2 Ø x 914	Stainless steel	E51KF7A3 135796		1 off
	3.2 Ø x 914	PVC	E51KF3A3 135774		1 off
	3.2 Ø x 914	Stainless steel	E51KF7B3 135797		1 off
	3.2 Ø x 914	PVC	E51KF3B3 135775		1 off
Glass fiber simplex cable					
	2.4 Ø x 914	Stainless steel	E51KF663 135788		1 off
	2.4 Ø x 914	PVC	E51KF263 135766		1 off
	1.6 Ø x 914	Stainless steel	E51KF683 135790		1 off
	1.6 Ø x 914	PVC	E51KF283 135768		1 off
	0.5 x 3.9 Ø x 914	Stainless steel	E51KF693 135791		1 off

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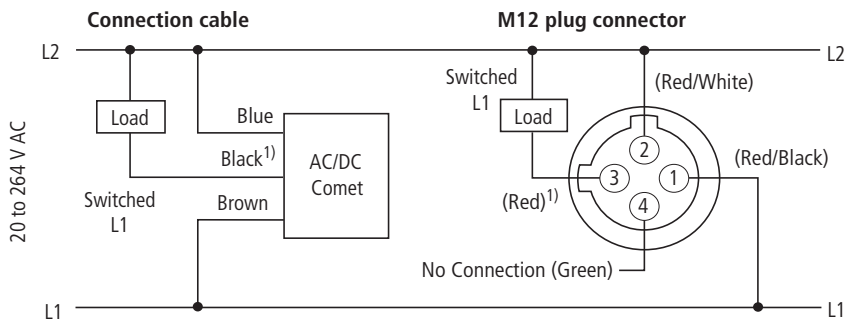
	Design (outer dimensions)	Material	Part no. Article no.	Price See price list	Std. pack
	3.2 Ø x 914	Stainless steel	E51KF823 135799		1 off
	3.2 Ø x 914	PVC	E51KF423 135777		1 off
	0.5 x 3.9 Ø x 914	PVC	E51KF293 135769		1 off
	3.2 Ø x 914	Stainless steel	E51KF813 135798		1 off
	3.2 Ø x 914	PVC	E51KF413 135776		1 off
	0.8 x 9.7 Ø x 914	Stainless steel	E51KF843 135801		1 off
	0.8 x 9.7 Ø x 914	PVC	E51KF443 135779		1 off
	0.5 x 3.9 Ø x 914	Stainless steel	E51KF653 135787		1 off
	0.5 x 3.9 Ø x 914	PVC	E51KF253 135765		1 off
	1.6 Ø x 914	Stainless steel	E51KF673 135789		1 off
	3.2 Ø x 914	Stainless steel	E51KF833 135800		1 off
	1.6 Ø x 914	PVC	E51KF273 135767		1 off
	3.2 Ø x 914	PVC	E51KF433 135778		1 off
	3.2 Ø x 914	Stainless steel	E51KF8A3 135802		1 off
	3.2 Ø x 914	PVC	E51KF4A3 135780		1 off
	3.2 Ø x 914	Stainless steel	E51KF8B3 135803		1 off
	3.2 Ø x 914	PVC	E51KF4B3 135781		1 off
Protective bracket	—	Metal	E58KS5200 135757		1 off
Fixing brackets					
	53 x 44	Stainless steel	6161AS5296 135738		1 off
	53 x 44	Stainless steel	6161AS5297 135739		1 off



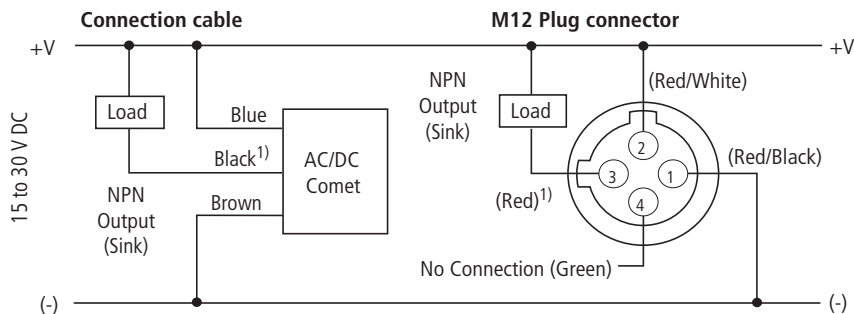
Engineering

Circuit diagram

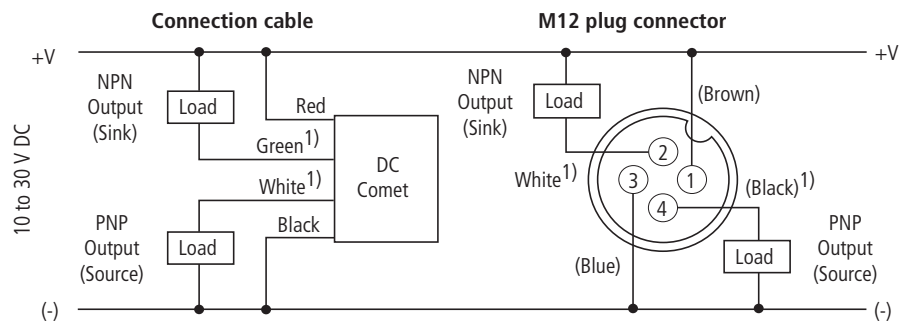
AC/DC connection (AC units)



AC/DC connection (DC units)



DC connection (DC units)

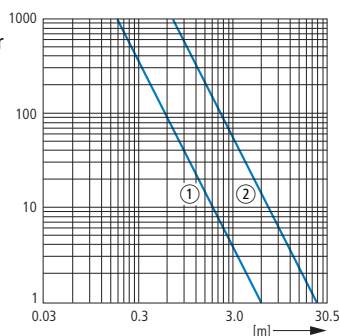


Note: AC/DC sensors have AC plug connectors. Take into account when using with DC voltage.

Excess gain chart

Thru-beam sensor

- ① Detector 12100A and 12100R with source 11100A or 11100R
② Detector 12102A with source 11102A



Reflex sensor

(84 mm reflector)

- ① 14100A/14102A
② 14102R
③ 14101A
④ 14101R

Diffuse reflective sensor

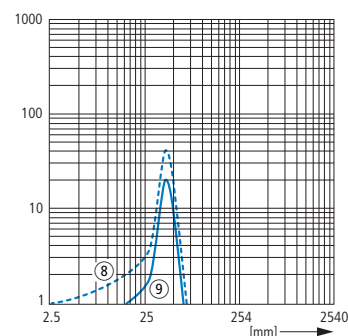
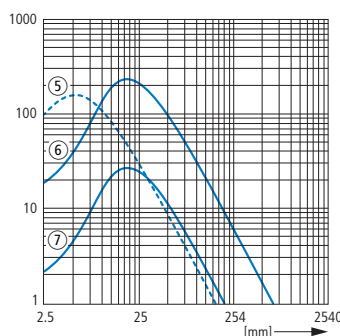
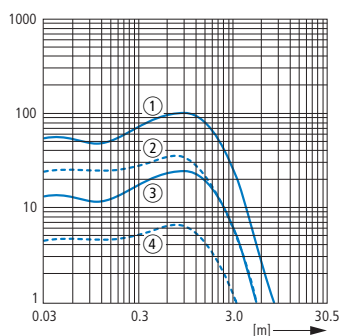
(90 % reflective test card)

- ⑤ 13107
⑥ 13100
⑦ 13106

Focused diffuse reflective sensors

(90 % reflective test card)

- ⑧ 13102A typ.
⑨ 13102A minimum

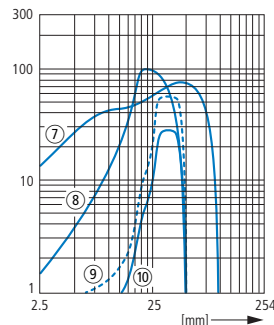
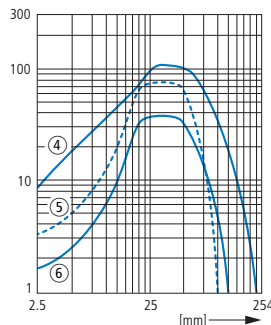
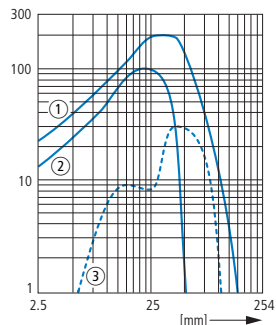


Perfect Prox®

- ① 13108A/13108R
② 13104A
③ 14104RS

- ④ 13103A/13103R
⑤ 13101A typ.
⑥ 13101A minimum

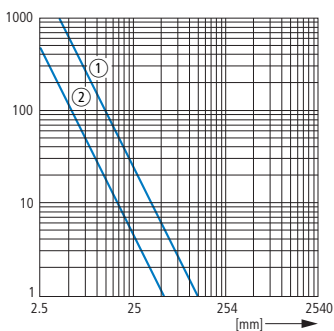
- ⑦ 13101AS
⑧ 13104R
⑨ 13105A typ.
⑩ 13105A minimum



Thru-beam sensor

With single F0 cable E51KF823

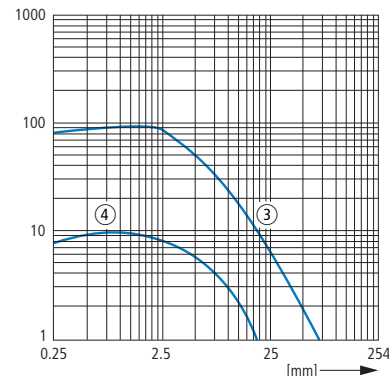
- ① 13100A Comet
② 13106A Comet



Diffuse reflective sensors

With duplex F0 cable E51KF723

- ③ 13100A Comet
④ 13106A Comet



Technical data

			3-wire 111 Types	121 Types	131 Types	141 Types
General						
Standards			IEC/EN 60947-5-2			
Ambient temperature		°C	-20 - +70	-40 - +70	-40 - +70	-40 - +70
Protection type			IP67	IP67	IP67	IP67
Mechanical shock resistance		g	100 Shock duration 3 ms			
Characteristic values						
Rated operating voltage			20 - 264 V AC 15 - 30 V DC	20 - 264 V AC 15 - 30 V DC	20 - 264 V AC 15 - 30 V DC	20 - 264 V AC 15 - 30 V DC
Operating current in the switched state at 24 V DC	I _b	mA	25	30	30	30
Rated operational current	I _e	mA	300	300	300	300
Switching frequency		Hz	—	50	50	50
Switching state indication		LED	—	Red	Red	Red
Operating voltage indication		LED	Red	—	—	—
Protective functions			Short-circuit protection Protection against polarity reversal Protection against wire breakage			
Function			3-wire	3-wire	3-wire	3-wire
Construction type						
Design (outer dimensions)			M18 x 1	M18 x 1	M18 x 1	M18 x 1
Connection options			Cable open 2 m connection cable			
Material			plastic			

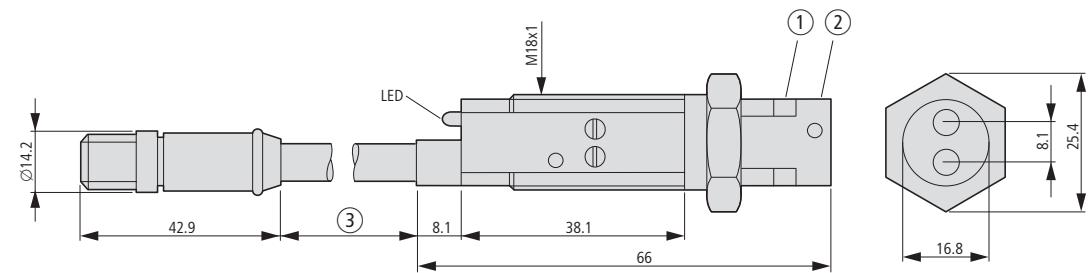
			4-wire 111 Types	121 Types	131 Types	141 Types
General						
Standards			IEC/EN 60947-5-2			
Ambient temperature		°C	-20 - +70	-40 - +70	-40 - +70	-40 - +70
Protection type			IP67	IP67	IP67	IP67
Mechanical shock resistance		g	100 Shock duration 3 ms			
Characteristic values						
Rated operating voltage			10 - 30 V DC	10 - 30 V DC	10 - 30 V DC	10 - 30 V DC
Operating current in the switched state at 24 V DC	I _b	mA	25	30	30	30
Rated operational current	I _e	mA	100	100	100	100
Switching frequency		Hz	—	142	500	500
Switching state indication		LED	—	Red	Red	Red
Operating voltage indication		LED	Red	—	—	—
Protective functions			Short-circuit protection Protection against polarity reversal Protection against wire breakage			
Function			4-wire	4-wire	4-wire	4-wire
Construction type						
Design (outer dimensions)			M18 x 1	M18 x 1	M18 x 1	M18 x 1
Connection options			Cable open 2 m connection cable			
Material			plastic			

Notes

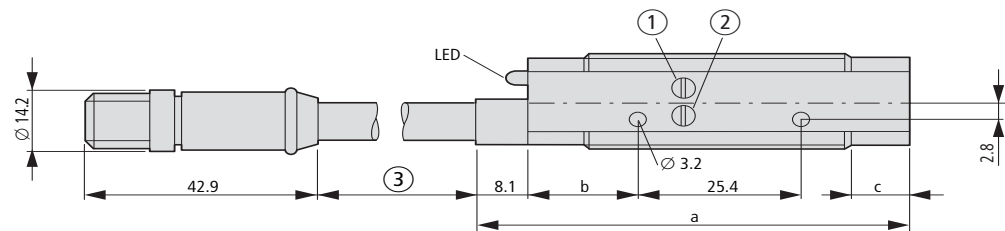
Further technical data can be found in the Online Catalogue at www.moeller.net

Dimensions

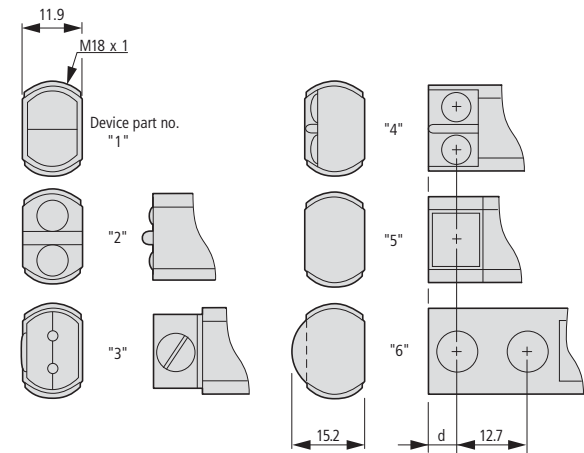
Sensor with installed adapter



- ① Seal
- ② Adapter
- ③ Cable length

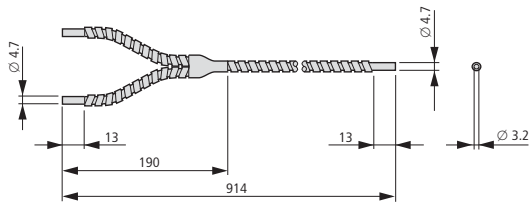
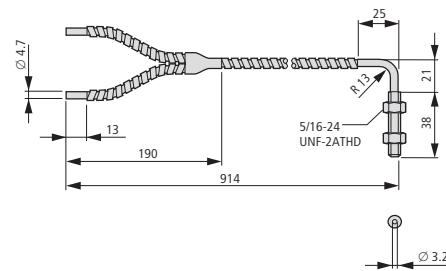
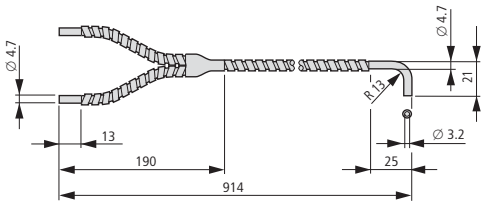
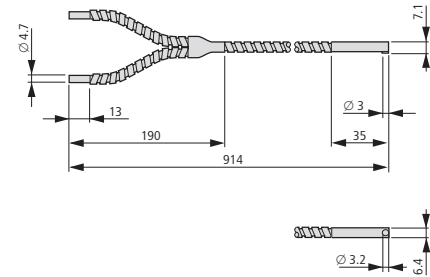
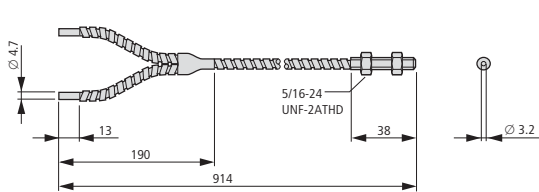
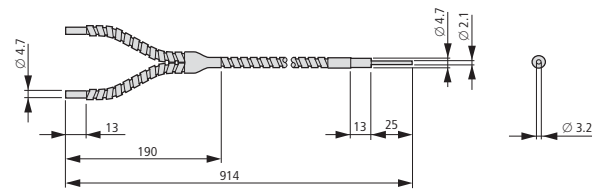
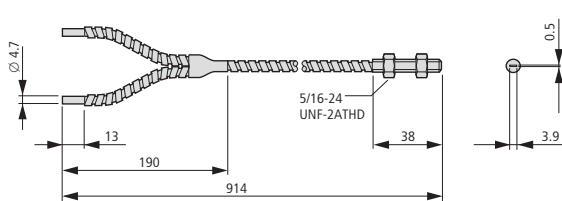
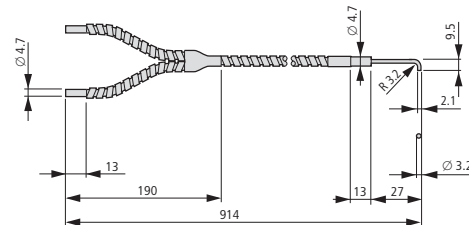
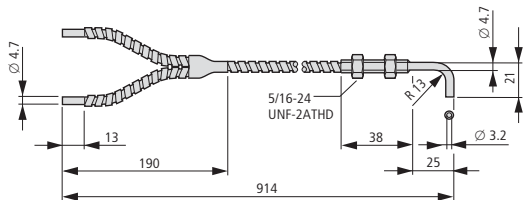
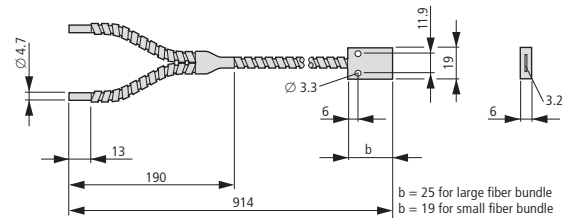
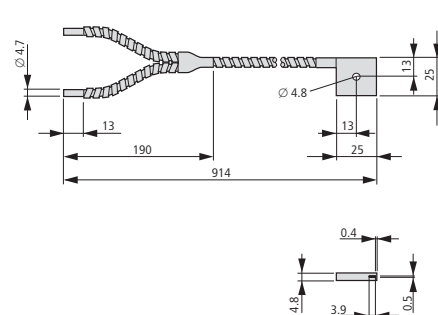


- ① Brightness setting
- ② Gain adjustment
- ③ Cable length



	Dimensions in (mm)				Settings		Housing type
	a	b	c	d	Light/dark	Gain	
11100A...	56	17	6	-	No	No	2
11100R...	65	17	15	5	No	No	4
11102A...	70	17	28	-	No	No	1
12100A...	56	17	6	-	Yes	Yes	2
12100R...	65	17	15	5	Yes	Yes	4
12102A...	66	15	7	-	Yes	Yes	1
13100A..., 13106A...	56	17	6	-	Yes	Yes	2
13100R..., 13106R...	65	17	15	5	Yes	Yes	4
13101A..., 13104A...	66	15	6	-	Yes	No	1
13102A..., 13103A..., 13105A..., 13108A...	66	15	6	-	Yes	Yes	1
13104R...	77	15	28	5	Yes	No	6
14100A..., 14102A...	66	15	7	-	Yes	Yes	1
14101R..., 14102R...	76	15	18	5	Yes	Yes	5
14101A...	67	15	7	-	Yes	Yes	1
15100A..., 15101A...	73	15	15	-	Yes	Yes	3

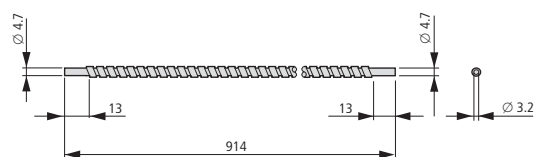
Glass fiber duplex cable

E51KF313
E51KF713E51KF3B3
E51KF7B3E51KF333
E51KF733E51KF163
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E51KF723E51KF183
E51KF583E51KF193
E51KF593E51KF173
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E51KF743E51KF153
E51KF553

Glass fiber simplex cable

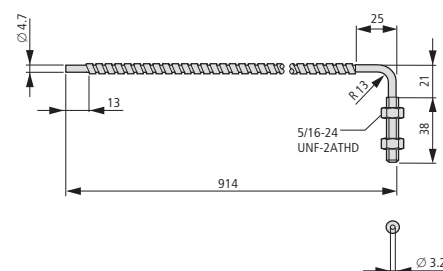
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E51KF813



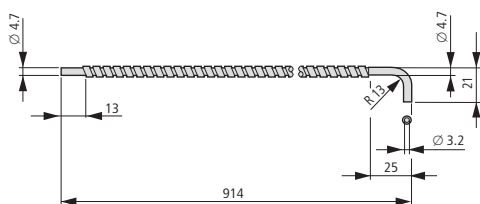
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E51KF8B3



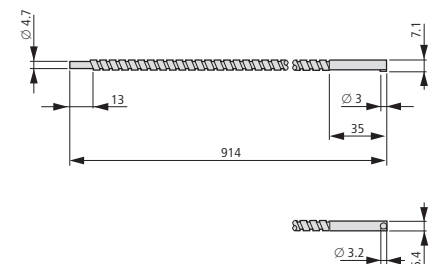
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E51KF833



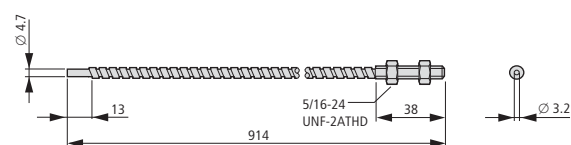
E51KF263

E51KF663



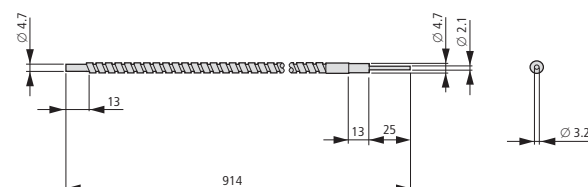
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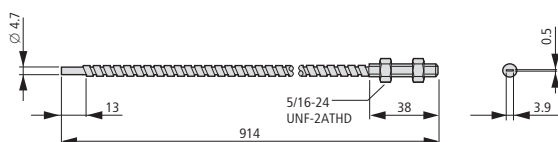
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E51KF683



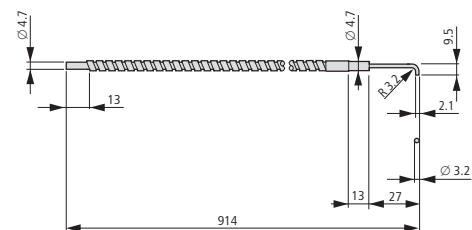
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E51KF693



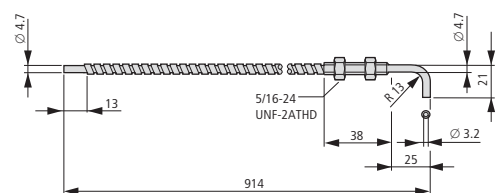
E51KF273

E51KF673



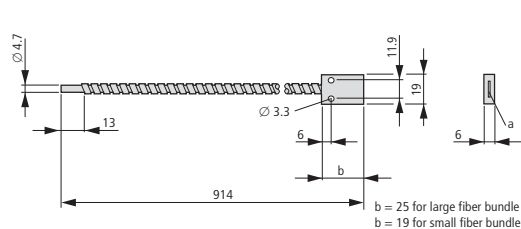
E51KF4A3

E51KF8A3



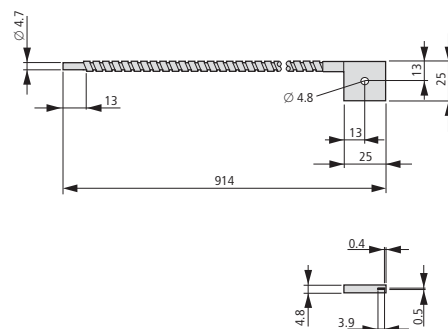
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E51KF843



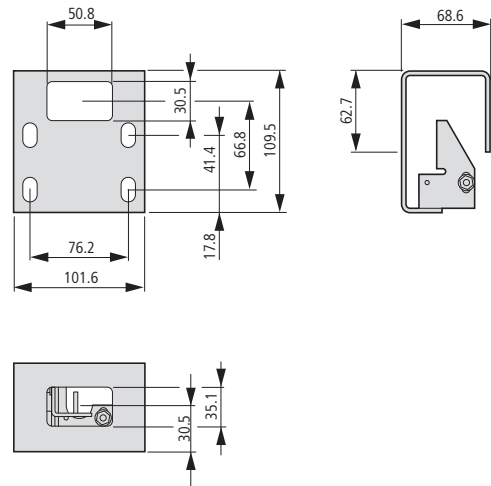
E51KF253

E51KF653

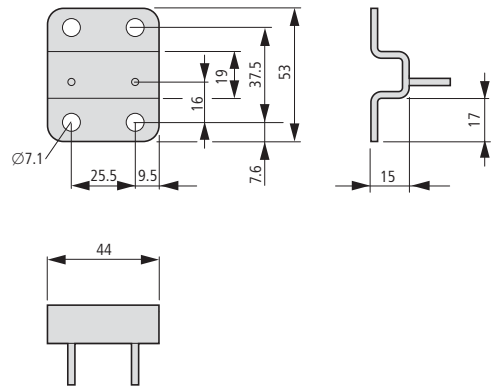


Dimensions

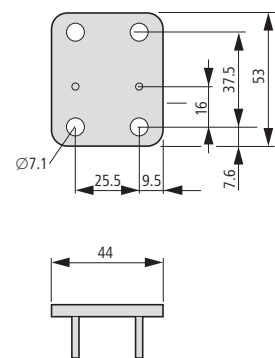
Protective bracket, adjustable



Clip-type fixing bracket, raised



Clip-type fixing bracket, flat



Description



- ① Tempered glass lens cover protects against abrasion.
- ② Bright 360° function indicator.
- ③ All models with Visible red light.
- ④ All models available in versions with M12 (micro) plug connector.

Short description

Eaton's E58 series was designed to withstand the harshest physical, chemical and optical environments. Stainless steel, PVDF and tempered glass components are mechanically assembled using Viton® seals to ensure complete sealing and resistance to industry chemicals. All adhesives and potting subject to failure from chemical attack have been eliminated from the design. The result is a sensor highly resistant to chemical attack and moisture intrusion, that can withstand heavy shock and vibration in almost any application. E58 Harsh Duty sensors feature unparalleled optical performance. They are ideal for automotive applications where exposure to lubricants, cutting fluids, coolants and glycols is common. For food processing applications, a smooth enclosure version simplifies high-pressure chemical washdowns, and withstands the use of sanitizers, surfactants, and cleaning agents including diluted bases and acids.

Product features

- Sensor with a diameter of 18 mm and 30 mm.
- Highly refined optics for long sensing ranges and to see through high levels of contamination – unmatched optical performance
- Perfect Prox® technology provides exceptional background rejection and extremely high excess gain.
- Resistant to the wide range of chemicals used in the automotive, food processing and forest products industries
- Suitable for high temperature, high pressure washdown (82 bar).
- Mechanical Viton seals hold up to extreme temperature variations.
- Visible sensing beam on all models lets you see where the beam is aimed for quick flush mounting and alignment.
- Output status indicator is the brightest available and is visible from any angle and in any illumination condition
- The industry's only background rejection sensors with a 2-wire circuit design
- Four-wire DC sensors feature an NPN and a PNP output

Approvals



Function	Design (outer dimensions)	Rated operational voltage	Rated switching distance S _n mm	Switching type	Connection option	Material	Type of light	Switching principle	Part no. Article no.	Price See price list	Std. pack
E58 Series											
Reflex sensor With background suppression (Perfect Prox)											
	2-wire	M18 x 1	18 - 50 V DC	50	—	plug connector M12 x 1	Stainless steel	Visible red	Dark switching	E58-18DP50-DDP 135668	1 off
				50	—				Light switching	E58-18DP50-DLP 135669	
				100	—				Dark switching	E58-18DP100-DDP 135662	
				100	—				Light switching	E58-18DP100-DLP 135663	
	M30 x 1.5			150	—				Dark switching	E58-30DP150-DDP 135674	
				150	—				Light switching	E58-30DP150-DLP 135675	

Information relevant for export to North America



Product Standards

UL File No.
UL CCN
CSA File No.
CSA Class No.
NA Certification
Max. Voltage Rating
Degree of Protection

UL 508; CSA-C22.2 No. 14;
IEC60947-5-2; CE marking
E166051
NRKH, NRKH7
UL report applies to both Canada and US
—
UL Listed, certified by UL for use in Canada
50 V DC
IEC: IP68, IP69K; UL/CSA Type: 1, 2, 3, 3R, 3S, 4, 4X, 6, 6P, 12, 12K, 13

Function	Design (outer dimensions)	Rated operational voltage	Rated switching distance S _n mm	Switching type	Connection option	Material	Type of light	Switching principle	Part no. Article no.	Price See price list	Std. pack
E58 Series											
Reflex sensor With background suppression (Perfect Prox)											
	4-wire	M18 x 1	10 - 30 V DC	50	NPN PNP	2m connection cable	Stainless steel	Visible red	Dark switching	E58-18DP50-HD 135670	1 off
				50	NPN PNP	plug connector M12 x 1			Dark switching	E58-18DP50-HDP 135671	
				50	NPN PNP	2m connection cable			Light switching	E58-18DP50-HL 135672	
				50	NPN PNP	plug connector M12 x 1			Light switching	E58-18DP50-HLP 135673	
				100	NPN PNP	2m connection cable			Dark switching	E58-18DP100-HD 135664	
				100	NPN PNP	plug connector M12 x 1			Dark switching	E58-18DP100-HDP 135665	
				100	NPN PNP	2m connection cable			Light switching	E58-18DP100-HL 135666	
				100	NPN PNP	plug connector M12 x 1			Light switching	E58-18DP100-HLP 135667	
	M30 x 1.5		10 - 30 V DC	150	NPN PNP	2m connection cable			Dark switching	E58-30DP150-HD 135676	
				150	NPN PNP	plug connector M12 x 1			Dark switching	E58-30DP150-HDP 135677	
				150	NPN PNP	2m connection cable			Light switching	E58-30DP150-HL 135678	
				150	NPN PNP	plug connector M12 x 1			Light switching	E58-30DP150-HLP 135679	
				280	NPN PNP	2m connection cable			Dark switching	E58-30DPS280-HD 135680	
				280	NPN PNP	plug connector M12 x 1			Dark switching	E58-30DPS280-HDP 135681	
				280	NPN PNP	2m connection cable			Light switching	E58-30DPS280-HL 135682	
				280	NPN PNP	plug connector M12 x 1			Light switching	E58-30DPS280-HLP 135683	

HPL03099EN

	Function	Design (outer dimensions)	Rated operational voltage	Rated switching distance S _n mm	Switching type	Connection option	Material	Type of light	Switching principle	Part no. Article no.	Price See price list	Std. pack
E58 Series												
Polarized reflexsensor For combination with reflector												
	4-wire	M30 x 1.5	10 - 30 V DC	10000	NPN PNP	2m connection cable	Stainless steel	Visible red	Dark switching	E58-30RP10-HD 135684		1 off  
		M30 x 1.5	10 - 30 V DC	10000	NPN PNP	plug connector M12 x 1			Dark switching	E58-30RP10-HDP 135685		
		M30 x 1.5	10 - 30 V DC	10000	NPN PNP	2m connection cable			Light switching	E58-30RP10-HL 135686		
		M30 x 1.5	10 - 30 V DC	10000	NPN PNP	plug connector M12 x 1			Light switching	E58-30RP10-HLP 135687		
Reflex sensor For combination with reflector												
	4-wire	M30 x 1.5	10 - 30 V DC	18000	NPN PNP	2m connection cable	Stainless steel	Visible red	Dark switching	E58-30RS18-HD 135688		1 off  
		M30 x 1.5	10 - 30 V DC	18000	NPN PNP	plug connector M12 x 1			Dark switching	E58-30RS18-HDP 135689		
		M30 x 1.5	10 - 30 V DC	18000	NPN PNP	2m connection cable			Light switching	E58-30RS18-HL 135690		
		M30 x 1.5	10 - 30 V DC	18000	NPN PNP	plug connector M12 x 1			Light switching	E58-30RS18-HLP 135691		
Thru-beam sensor (detector), forward viewing												
	4-wire	M30 x 1.5	10 - 30 V DC	250000	NPN PNP	2m connection cable	Stainless steel	—	Dark switching	E58-30TD250-HD 135692		1 off  
		M30 x 1.5	10 - 30 V DC	250000	NPN PNP	plug connector M12 x 1			Dark switching	E58-30TD250-HDP 135693		
		M30 x 1.5	10 - 30 V DC	250000	NPN PNP	2m connection cable			Light switching	E58-30TD250-HL 135694		
		M30 x 1.5	10 - 30 V DC	250000	NPN PNP	plug connector M12 x 1			Light switching	E58-30TD250-HLP 135695		
Thru-beam sensor (source), forward viewing												
	4-wire	M30 x 1.5	10 - 30 V DC	250000	NPN PNP	2m connection cable	Stainless steel	Visible red	—	E58-30TS250-HA 135696		1 off  
		M30 x 1.5	10 - 30 V DC	250000	NPN PNP	plug connector M12 x 1			—	E58-30TS250-HAP 135697		

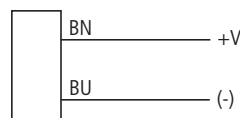
Information relevant for export to North America**Product Standards**

UL File No.
UL CCN
CSA File No.
CSA Class No.
NA Certification
Max. Voltage Rating
Degree of Protection

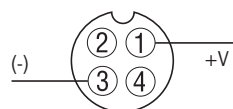
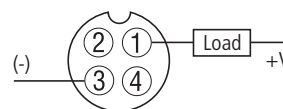
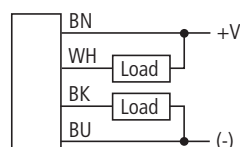
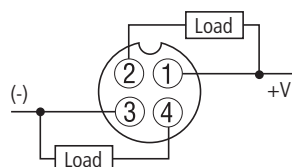
UL 508; CSA-C22.2 No. 14;
IEC60947-5-2; CE marking
E166051
NRKH, NRKH7
UL report applies to both Canada and US
—
UL Listed, certified by UL for use in Canada
30 V DC
IEC: IP68, IP69K; UL/CSA Type: -

Engineering**Circuit diagram**

E58...HA



E58...HAP

E58...DDP
E58...DLPE58...HD
E58...HLE58...HDP
E58...HLP

Excess gain chart

Thru-beam

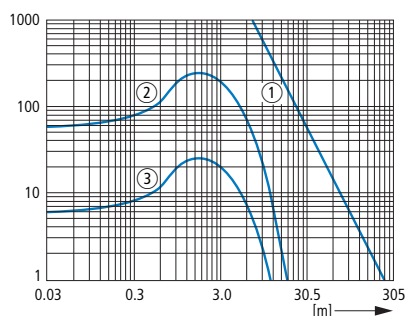
① Thru-beam

Reflex

② 84 mm-reflector

Polarized reflex

③ 84 mm-reflector



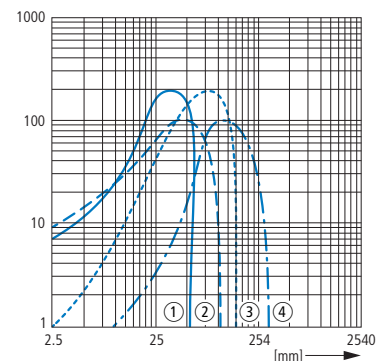
Perfect Prox®

① 18 mm diameter, 50 mm-designs

② 18 mm diameter, 100 mm-designs

③ 30 mm diameter, 150 mm-designs

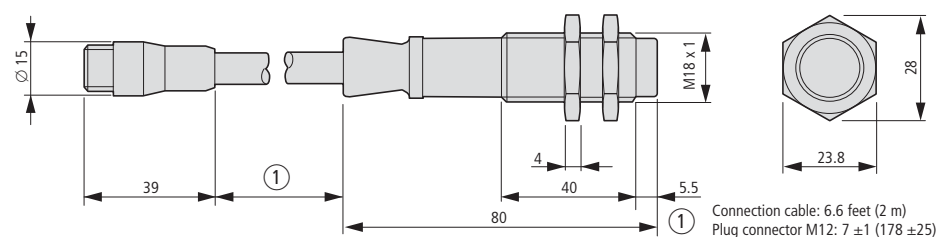
④ 30 mm diameter, 280 mm-Design



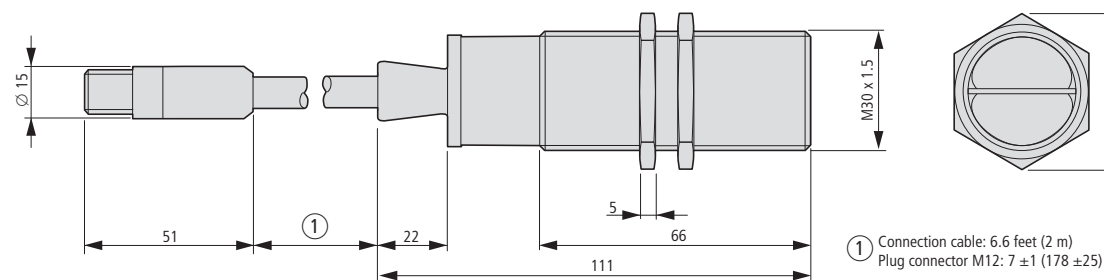
Dimensions

E58 Series

E58-18...



E58-30...



Technical data

			2-wire		4-wire	
			E58-18...	E58-30...	E58-18...	E58-30...
General						
Standards			IEC/EN 60947-5-2			
Ambient temperature		°C	-40 - +70	-25 - +55	-40 - +55	-40 - +55
Protection type			IP67	IP67	IP67	IP67
Mechanical shock resistance			100 Shock duration 3 ms			
Characteristic values						
Rated operating voltage			18 - 50 V DC	18 - 50 V DC	10 - 30 V DC	10 - 30 V DC
Operating current in the switched state at 24 V DC	I _b	mA	1.7	1.7	—	—
Rated operational current	I _e	mA	100	100	100	100
Switching frequency		Hz	14	14	500	312
Switching state indication		LED	Red	Red	Red	Red
Protective functions			Short-circuit protection Protection against polarity reversal Protection against wire breakage			
Function						
Construction type			2-wire	2-wire	4-wire	4-wire
Design (outer dimensions)			M18 x 1	M30 x 1.5	M18 x 1	M30 x 1.5
Material			Stainless steel	Stainless steel	Stainless steel	Stainless steel

Notes

Further technical data can be found in the Online Catalogue at www.moeller.net

Description



- ① 18 mm thread
- ② Power lamp (green)
- ③ Output lamp (red)
- ④ TargetLock™ lamp (orange)
- ⑤ Gain adjustment

Short description

Eaton's SM series photoelectric sensors offer a high performance and simple use in a compact, cost-effective design. Regardless how good a sensor's performance just a slight maladjustment or incorrectly positioned target will sooner or later impact reliability.

In addition to simplifying sensor setup, TargetLock™ provides visual confirmation of the correct mounting position for optimum reliability. In addition TargetLock™ outputs diagnostic information during operation, which provides an early warning about potential problems to help prevent costly downtimes. No other sensor is easier to use.

The SM sensors offer numerous performance features that simplify their use. A visible sensing beam shows you exactly where the sensor is pointing. The durable enclosure features multiple fixing possibilities to easily fit on your equipment in the tightest of spaces. Full protection from overvoltage, reverse polarity and short circuits reduces the chance of damage. Bright 360° LED indicators clearly show sensor status.

Product features

- Bright indicators for power, output, and TargetLock™.
- TargetLock™ simplifies setup and ensures a high operational reliability.
- The Perfect Prox® models detect targets with different colors at the same range while ignoring background objects.
- AC/DC models work with 18 – 264 V AC or 18 – 50 V DC.
- DC-only models feature PNP and NPN outputs.
- Visible sensing beam on all models lets you see where the beam is aimed for quick flush mounting and alignment.
- Compact design for space-saving flush mounting.
- Range of fixing possibilities, including standard 18 mm thread.
- Short-circuit, overload and protection against polarity reversal.
- Full family includes thru-beam, polarized reflex, diffuse reflective and Perfect Prox® background rejection.

Approvals



Ordering

	Rated operational voltage	Function	Switching principle	Rated switching distance S _n mm	Switching type	Connection options	Part no. Article no.	Price See price list	Std. pack
E65 SM Series									
3-conductors, insulated material									
	18 - 264 V AC 18 - 50 V DC	Reflex sensor With background suppression (Perfect Prox)	Dark switching	50	NPN (DC)	2 m connection cable	E65-SMPP050-GD 135698		1 off  
			Dark switching	50	NPN (DC)	plug connector M12 x 1	E65-SMPP050-GDD 135699		
			Light switching	50	NPN (DC)	2 m connection cable	E65-SMPP050-GL 135700		
			Light switching	50	NPN (DC)	plug connector M12 x 1	E65-SMPP050-GLD 135701		
			Dark switching	100	NPN (DC)	2 m connection cable	E65-SMPP100-GD 135706		
			Dark switching	100	NPN (DC)	plug connector M12 x 1	E65-SMPP100-GDD 135707		
			Light switching	100	NPN (DC)	2 m connection cable	E65-SMPP100-GL 135708		
			Light switching	100	NPN (DC)	plug connector M12 x 1	E65-SMPP100-GLD 135709		
		Diffuse reflective sensor	Dark switching	200	NPN (DC)	2 m connection cable	E65-SMSD200-GD 135722		
			Dark switching	200	NPN (DC)	plug connector M12 x 1	E65-SMSD200-GDD 135723		
			Light switching	200	NPN (DC)	2 m connection cable	E65-SMSD200-GL 135724		
			Light switching	200	NPN (DC)	plug connector M12 x 1	E65-SMSD200-GLD 135725		
		Polarized reflex For combination with reflector	Dark switching	3000	NPN (DC)	2 m connection cable	E65-SMPR3-GD 135714		
			Dark switching	3000	NPN (DC)	plug connector M12 x 1	E65-SMPR3-GDD 135715		
			Light switching	3000	NPN (DC)	2 m connection cable	E65-SMPR3-GL 135716		
			Light switching	3000	NPN (DC)	plug connector M12 x 1	E65-SMPR3-GLD 135717		

Information relevant for export to North America

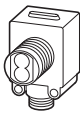


Product Standards
UL File No.
UL CCN
CSA File No.
CSA Class No.
NA Certification
Max. Voltage Rating
Degree of Protection

UL 508; CSA-C22.2 No. 14; IEC60947-5-2; CE marking
E166051
NRKH, NRKH7
UL report applies to both Canada and US
—
UL Listed, certified by UL for use in Canada
132 V AC, 30 V DC
IEC: IP68, IP69K; UL/CSA Type: 1, 3, 4, 4X, 6, 6P, 12, 13

	Rated operational voltage	Function	Switching principle	Rated switching distance S _n mm	Switching type	Connection options	Part no. Article no.	Price See price list	Std. pack
E65 SM Series									
4-conductors, insulated material									
	10 - 30 V DC	Reflex sensor With background suppression (Perfect Prox)	Dark switching	50	NPN PNP	2 m connection cable	E65-SMPP050-HD 135702		1 off  
			Dark switching	50	NPN PNP	plug connector M12 x 1	E65-SMPP050-HDD 135703		
			Light switching	50	NPN PNP	2 m connection cable	E65-SMPP050-HL 135704		
			Light switching	50	NPN PNP	plug connector M12 x 1	E65-SMPP050-HLD 135705		
			Dark switching	100	NPN PNP	2 m connection cable	E65-SMPP100-HD 135710		
			Dark switching	100	NPN PNP	plug connector M12 x 1	E65-SMPP100-HDD 135711		
			Light switching	100	NPN PNP	2 m connection cable	E65-SMPP100-HL 135712		
			Light switching	100	NPN PNP	plug connector M12 x 1	E65-SMPP100-HLD 135713		

HPL03103EN

	Rated operational voltage	Function	Switching principle	Rated switching distance S_n mm	Switching type	Connection options	Part no. Article no.	Price See price list	Std. pack
E65 SM Series									
4-conductors, insulated material									
	10 - 30 V DC	Diffuse reflective sensor	Dark switching	200	NPN PNP	2 m connection cable	E65-SMSD200-HD 135726		1 off  
			Dark switching	200	NPN PNP	plug connector M12 x 1	E65-SMSD200-HDD 135727		
			Light switching	200	NPN PNP	2 m connection cable	E65-SMSD200-HL 135728		
			Light switching	200	NPN PNP	plug connector M12 x 1	E65-SMSD200-HLD 135729		
		Polarized reflex photoelectric sensor For combination with reflector	Dark switching	3000	NPN PNP	2 m connection cable	E65-SMPR3-HD 135718		
			Dark switching	3000	NPN PNP	plug connector M12 x 1	E65-SMPR3-HDD 135719		
			Light switching	3000	NPN PNP	2 m connection cable	E65-SMPR3-HL 135720		
			Light switching	3000	NPN PNP	plug connector M12 x 1	E65-SMPR3-HLD 135721		
	10 - 30 V DC	Thru-beam sensor (detector) For combination with source	Dark switching	15000	NPN PNP	2 m connection cable	E65-SMTD15-HD 135730		1 off  
			Dark switching	15000	NPN PNP	plug connector M12 x 1	E65-SMTD15-HDD 135731		
			Light switching	15000	NPN PNP	2 m connection cable	E65-SMTD15-HL 135732		
			Light switching	15000	NPN PNP	plug connector M12 x 1	E65-SMTD15-HLD 135733		
		Thru-beam sensor (source) For combination with detector	–	15000	NPN PNP	2 m connection cable	E65-SMTS15-HA 135734		
			–	15000	NPN PNP	plug connector M12 x 1	E65-SMTS15-HAD 135735		

Information relevant for export to North America



Product Standards
UL File No.
UL CCN
CSA File No.
CSA Class No.
NA Certification
Max. Voltage Rating
Degree of Protection

UL 508; CSA-C22.2 No. 14; IEC60947-5-2; CE marking
E166051
NRKH, NRKH7
UL report applies to both Canada and US
–
UL Listed, certified by UL for use in Canada
30 V DC
IEC: IP68, IP69K; UL/CSA Type: -

Technical data

			E65...-G...	E65...-H...	E65...15-H...	E65...-HA...
General						
Standards			IEC/EN 60947-5-2			
Ambient temperature		°C	-25 - +55	-25 - +55	-25 - +55	-25 - +55
Protection type			IP67	IP67	IP67	IP67
Mechanical shock resistance		g	50 Shock duration 10 ms			
Characteristic values						
Rated operating voltage			18 - 264 V AC 18 - 50 V DC	10 - 30 V DC	10 - 30 V DC	10 - 30 V DC
Operating current in the switched state at 24 V DC	I _b	mA	20	20	20	40
Rated operational current	I _e	mA	200	100	100	–
Switching frequency		Hz	31	500	–	–
Switching state indication		LED	Red	Red	Red	Red
Operating voltage display		LED	Green	Green	Green	Green
Boundary gain			Yellow	Yellow	Yellow	Yellow
Protective functions			Short-circuit protection Protection against polarity reversal Protection against wire breakage			
Function			3-wire	4-wire	4-wire	4-wire
Construction type						
Design (outer dimensions)			33 x 41 x 43	33 x 41 x 37	33 x 41 x 37	33 x 41 x 37
Material			plastic	plastic	plastic	plastic

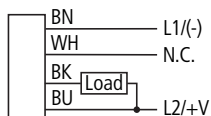
Notes

Further technical data can be found in the Online Catalogue at www.moeller.net

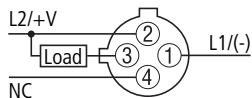
Engineering

Circuit diagram

E65...GD
E65...GL



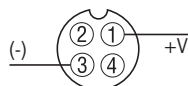
E65...GDD
E65...GLD



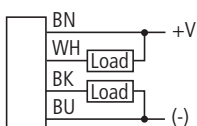
E65...HA



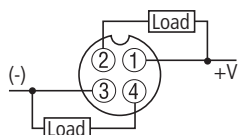
E65...HAD



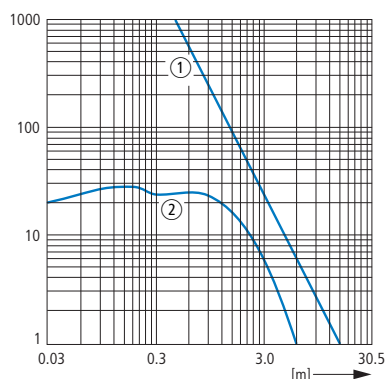
E65...HD
E65...HL



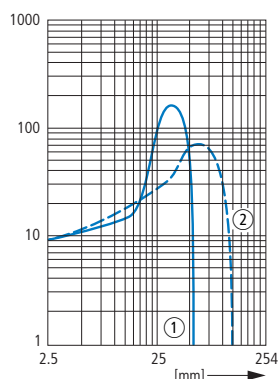
E65...HDD
E65...HLD



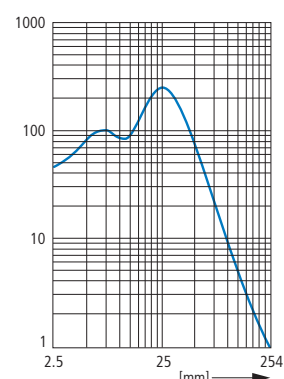
Excess gain chart



- ① Thru-beam sensor
② Reflex sensor with polarizing filter



- ① 50 mm Perfect Prox®
② 100 mm Perfect Prox®

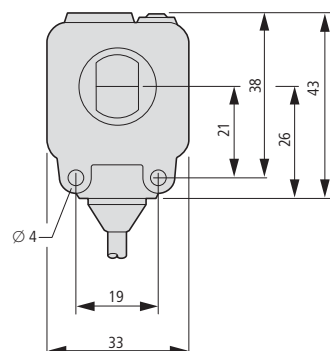


- Photoelectric sensors
(90 % reflective test card)

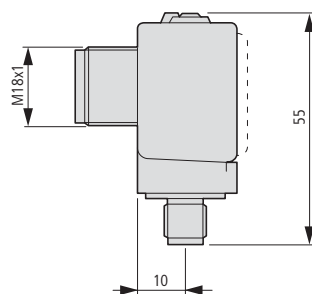
Dimensions

E65 SM Series

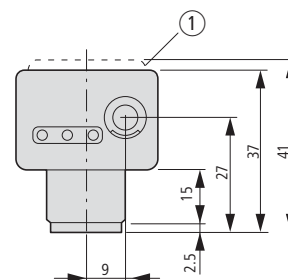
E65...-GD
E65...-GL
E65...-HD
E65...-HL
E65...-HA



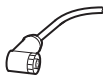
E65...-HDD
E65...-HLD
E65...-HAD



E65...-GDD
E65...-GLD



HPL03105EN

	Design, input end	Design output end	Pole	Length mm	Part no. Article no.	Price See price list	Std. pack
Connecting cables							
	Coupling, straight	Cable end open	AC	3-pole	2000	CSAS3F3CY2202 136265	1 off
					5000	CSAS3F3CY2205 136266	
					10000	CSAS3F3CY2210 136267	
				4-pole	2000	CSAS4A4CY2202 136268	
					5000	CSAS4A4CY2205 136269	
					10000	CSAS4A4CY2210 136312	
			DC	4-pole, 3-wire	2000	CSDS4A3CY2202 136287	
					5000	CSDS4A3CY2205 136288	
					10000	CSDS4A3CY2210 136289	
				4-pole	2000	CSDS4A4CY2202 136292	
					5000	CSDS4A4CY2205 136294	
					10000	CSDS4A4CY2210 136296	
	Coupling, straight	Plug, straight	DC	4-pole	1000	CSDS4A4CY2201-D 136291	
					3000	CSDS4A4CY2203-D 136293	
					5000	CSDS4A4CY2205-D 136295	
					1500	CSDS4A4CY2201.5-D 136316	
	Coupling, straight	Plug, angled		4-pole	1000	CSDR4A4CY2201-D 136278	
					5000	CSDR4A4CY2205-D 136283	
					1500	CSDR4A4CY2201.5-D 136313	
					2000	CSDR4A4CY2202-D 136314	
					3000	CSDR4A4CY2203-D 136315	
	Coupling, angled	Cable end open	AC	3-pole	2000	CSAR3F3CY2202 136262	
					5000	CSAR3F3CY2205 136263	
					10000	CSAR3F3CY2210 136264	
			DC		2000	CSDR4A3CY2202 136272	
					5000	CSDR4A3CY2205 136273	
					5000	CSDR4A3CY2205-LN ¹⁾ 136274	
				4-pole	5000	CSDR4A3CY2205-LP ²⁾ 136275	
					10000	CSDR4A3CY2210 136276	
					2000	CSDR4A4CY2202 136279	
					5000	CSDR4A4CY2205 136282	
					10000	CSDR4A4CY2210 136284	

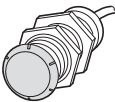
Notes

¹⁾ With LED (NPN)²⁾ With LED (PNP)



	Description	Length mm		Switching type	Pole	Part no. Article no.	Price See price list	Std. pack	
Coupler									
	Angled	–	–	–	4-pole	CSDR4 136271		1 off	
	Straight	–	–	–	4-pole	CSDS4 136286		1 off	
Plug									
	Angled	–	–	–	4-pole	CSDRM4 136285		1 off	
	Straight	–	–	–	4-pole	CSDSM4 136297		1 off	
M12 (micro) multi-connector block									
	Cable	10000	DC	PNP	4-pole	CBDR4P10 136318		1 off	
	Cable	5000		PNP		CBDR4P05 136301			
	Spring cage	–		NPN		CBDR4NSC 136300			
	Spring cage	–		PNP		CBDR4PSC 136303			
	Cable	10000		PNP	6-pole	CBDR6P10 136319			1 off
	Cable	5000		PNP		CBDR6P05 136305			
	Spring cage	–		NPN		CBDR6NSC 136304			
	Spring cage	–		PNP		CBDR6PSC 136320			
	Cable	10000	PNP	8-pole	CBDR8P10 136322		1 off		
	Cable	5000	PNP		CBDR8P05 136309				
	Spring cage	–	NPN		CBDR8NSC 136321				
	Spring cage	–	PNP		CBDR8PSC 136311				
Protection cap									
	Plug	–	–	–	–	CBMCAP 136298			1 off
	Coupling	–	–	–	–	CBCAP 136317			
	M12 sensors	–	–	–	–	E57KP12 136202			
	M18 sensors	–	–	–	–	E57KP18 136203			
	M30 sensors	–	–	–	–	E57KP30 136204			
Cable adapters									
	M12 sensors, metal	–	–	–	–	E57KC12 136184		1 off	
	M18 sensors, metal	–	–	–	–	E57KC18 136185			
	M30 sensors, metal	–	–	–	–	E57KC30 136186			
	M8 sensors, metal	–	–	–	–	E57KC8 136187			
	M30 sensors, stainless steel	–	–	–	–	E58KC30 135754			

HPL03107EN

Description		For use with	Material	Part no. Article no.	Price See price list	Std. pack
Fixing brackets						
		M8 sensors	Stainless steel	E57KM8 136191		1 off
		M12 sensors		E57KM12 136188		
		M18 sensors		E57KM18 136189		
		M30 sensors		E57KM30 136190		
		M18 sensors	Aluminium	6161A-6501 135736		2 off
				6161AS5295 135737		1 off
				6161AS7050 135741		
			Metal	6167A-6501 135742		
	Adjustable, insulated	M18 sensors	Stainless steel	E58KAM18 135749		
	Adjustable, not insulated	M18 sensors		E58KAM18U 135751		
	Adjustable, insulated	M30 sensors		E58KAM30 135752		
	Adjustable, not insulated	M30 sensors		E58KAM30U 135753		
	with ball joint	M18 sensors	Plastic	E58KAM18B 135750		
Spare nuts						
		M8 sensors	Metal	E57KNM8 136194		2 off
		M12 sensors		E57KNM12 136193		
		M12 sensors		E57KNS12 136195		
		M18 sensors	Plastic	E57KNC18 136192		
		M18 sensors	Metal	E57KNS18 136196		
		M30 sensors	Metal	E57KNS30 136197		
		M18 sensors	Stainless steel	E58KNS18 135755		1 off
		M30 sensors	Stainless steel	E58KNS30 135756		1 off
Sensor fixing						
		M8 sensors	—	E57KNZ8 136201		1 off
		M12 sensors	—	E57KNZ12 136198		1 off
		M18 sensors	—	E57KNZ18 136199		1 off
		M30 sensors	—	E57KNZ30 136200		1 off



Design
(outer
dimensions)

Material

Part no.
Article no.Price
See price
list

Std. pack

Information relevant for export to North America



Retro-reflector



84 mm Ø

Plastic

6200A-6501
135743

2 off

61 mm Ø

Plastic

6200A-6502
135744

1 off

33 mm Ø

Plastic

6200A-6504
135745

1 off

61 mm Ø

Plastic

6200A-6505
135746

1 off

84 mm Ø

Plastic/metal

6200A-6506
135747

1 off

38 x 81

Plastic

6200A-6507
135748

1 off

63 mm Ø

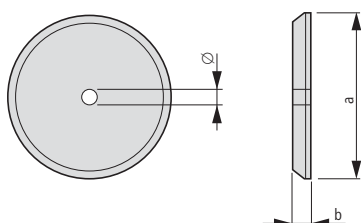
Plastic

E65KR55
135758

1 off

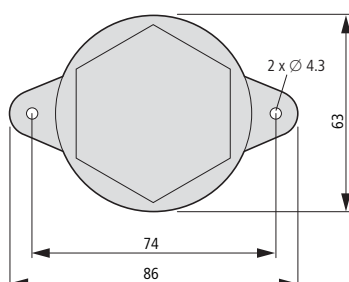
Dimensions

Retro-reflector



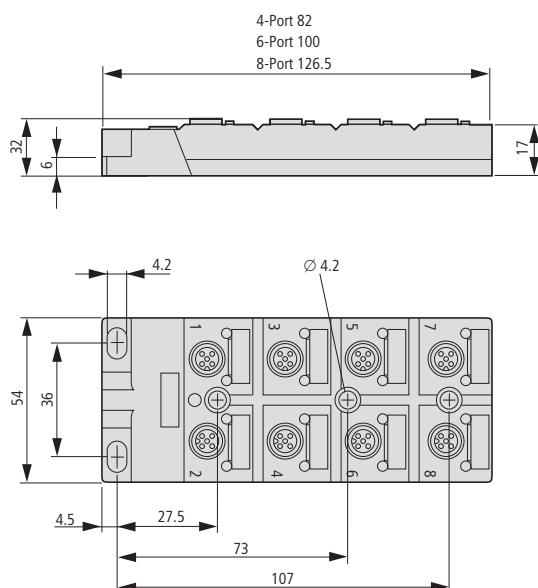
	a	b	Ø
6200A-6501	84	9	5
6200A-6502	61	7.5	-
6200A-6504	33	6	-
6200A-6505	61	7.5	6
6200A-6506	84	7.5	5

E65KR55

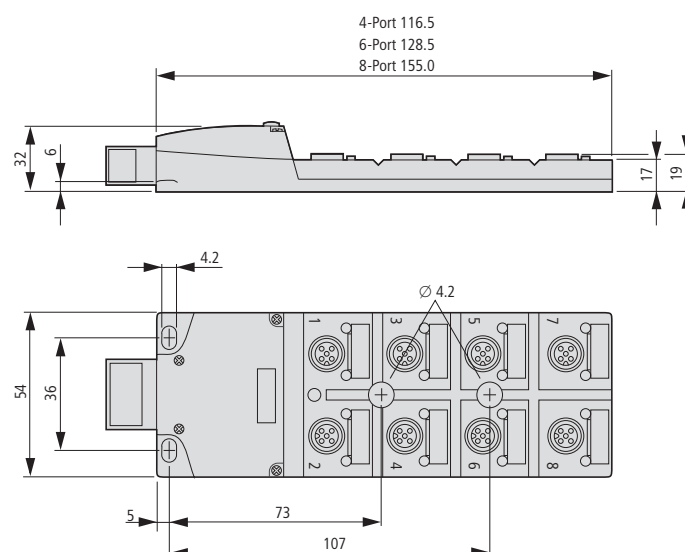


Multi-connection blocks

Cable



Spring cage

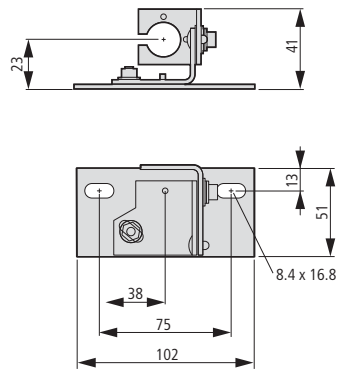


Dimensions

Fixing brackets

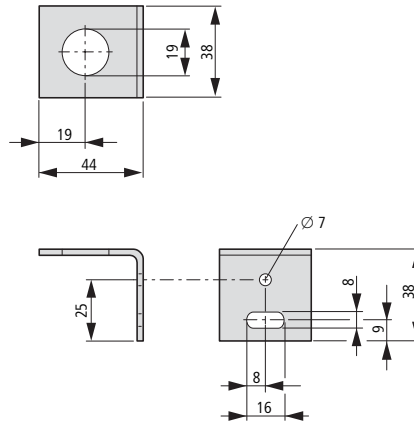
E58KAM18

E58KAM18U



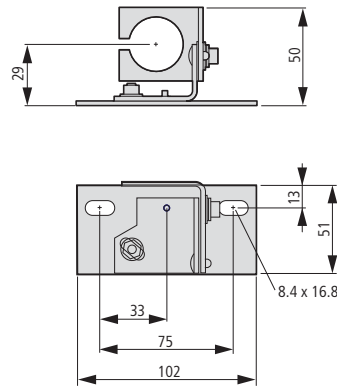
6161A-6501

6161AS-6501

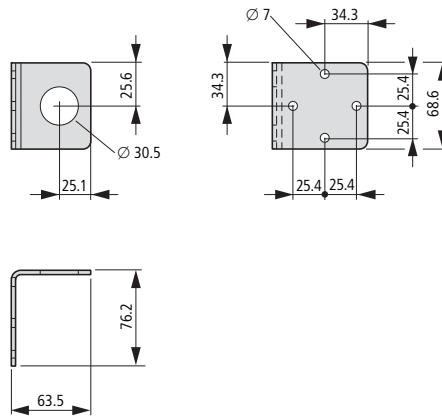


E58KAM30

E58KAM30U



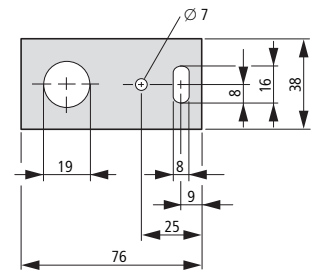
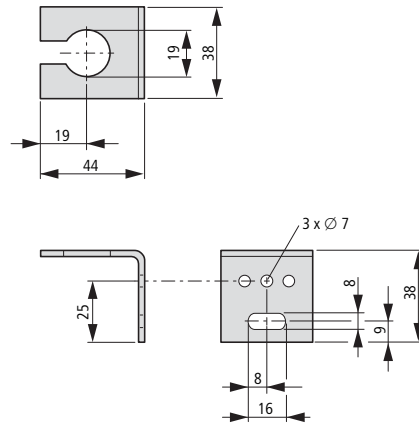
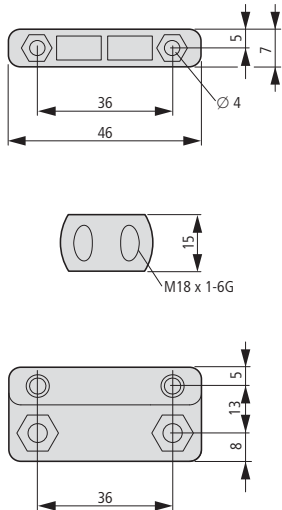
6167A-6501



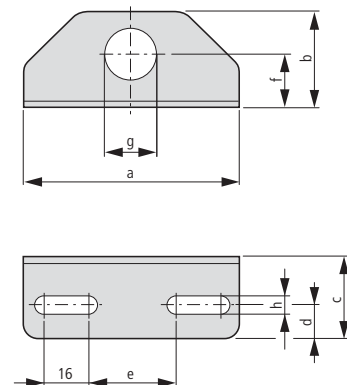
E58KAM18B

6161AS-7050

6161AS-5295



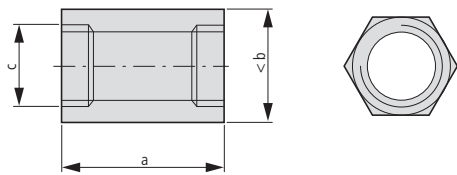
E57KM...



	a	b	c	d	e	f	g	h
8 mm	76	34	29	17	31	19	8	6
12 mm	76	34	29	17	31	19	12	6
18 mm	76	34	29	17	31	19	18	6
30 mm	108	55	45	25	51	29	30	7

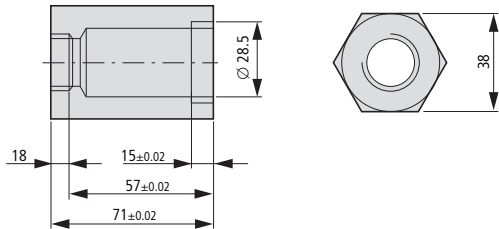
Cable adapters

E57KC...



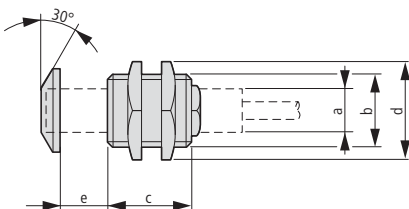
	a	b	c
8 mm	25	25	M8x1
12 mm	38	25	M12x1
18 mm	38	25	M18x1
30 mm	48	38	M30x1.5

E58KC30



Sensor fixing

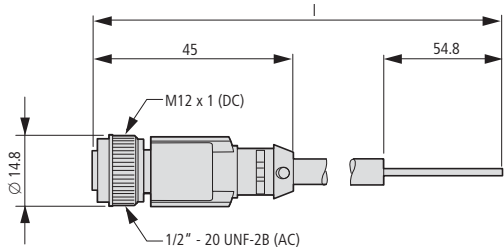
E57KNZ



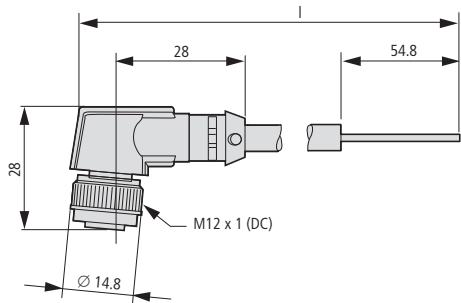
	a	b	c	d	e
8 mm	M8x1	M16x1.5	22	22	9
12 mm	M12x1	M22x1.5	22	29	10
18 mm	M18x1	M30x1.5	30	36	12
30 mm	M30x1.5	M47x1.5	37	51	15

Connecting cables

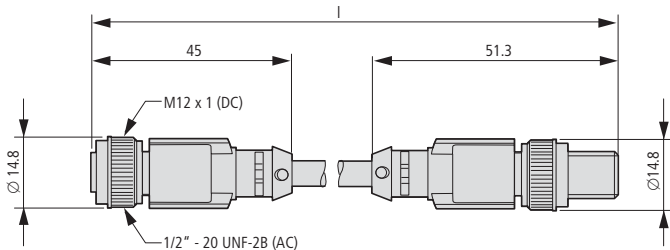
Coupling straight, cable end open



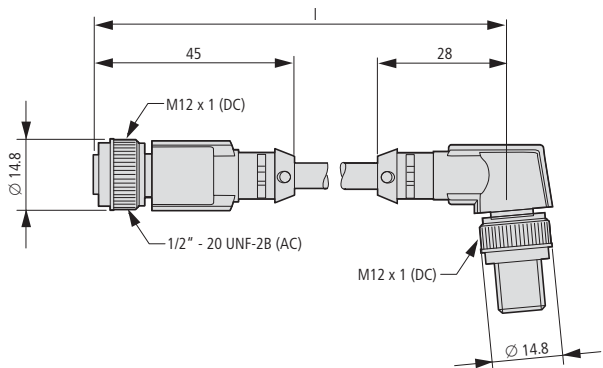
Coupling angled, cable end open



Straight coupling, straight plug



Coupling angled, angled





WWW.TM2A.PT info@tm2a.pt

WWW.TM2A.PT info@tm2a.pt