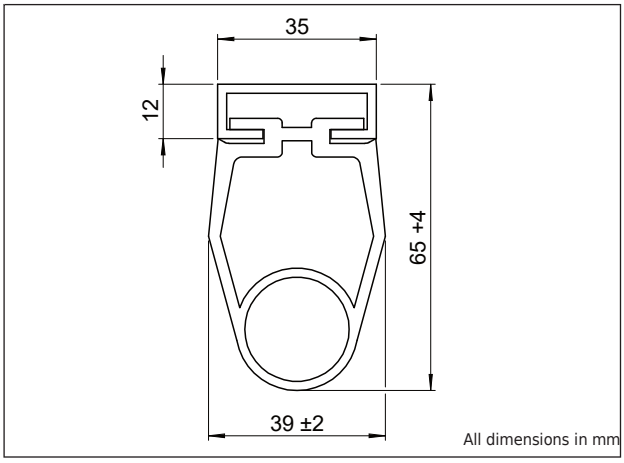

Intended use

Safety Edges are used for protecting against risks at shearing and crushing edges, for instance at machine guards, lifting tables, packaging machines, palletizing and depalletizing systems, automated guided vehicles (AGV's), theater stages and many others. They can be used in indoor and outdoor applications.

All Safety Edges of series HSC® meet the requirements for safety components according to the Machinery Directive 2006/42/EC.

Please note: When using cooling agents, oils, acids etc. please contact manufacturer for more information.

Function

Except for dimensions and shapes, the Safety Edges have a generally identical design. They contain the following components:

- Haake Safety Contact chain HSC® (N/C contacts)
- Aluminium profi les for mounting the sensor part at the machine body
- Double-insulated connection cables to the machine control system
- TPE hollow-chamber profi le and closure plugs

Upon actuation of the Safety Edge (sensor), the current fl ow is interrupted, based on the special geometry of the chain links inside the sensor. This interruption represents the OFF condition of the output signal switching device and thus transfers the safety output signal to the machine control system.

The Safety Edge meets the requirements for automatic reset, since after removing the operating force, it will return by itself into the ON condition.

If it is required to work with a manual reset, this has to be implemented according to DIN EN 1760-2 by the machine control system.

Due to the positive break of the supply (current circuit is broken), a separate safety control unit is not required. Safety Edge and control system together have to achieve the Performance Level that has been determined in the risk assessment.

Technical data

Operating temperature:	–20 ... +55 °C
Enclosure sealing:	IP65
Nominal voltage:	<50 V AC, 75 V DC (with safe separation from the supply system) A voltage source for SELV or PELV systems according to DIN VDE 0100-410 shall be used.
Nominal current:	max. 0,5 A, AC/DC The power supply shall be protected externally (fuse 0.5 A nominal value)!
Control category:	3 (to DIN EN ISO 13849-1)
Performance Level:	Possible up to d
Connection cable:	double-insulated, highly fl exible single-core cables (FLKM)
Connection cable length:	max. 50 m
Safety Edge length:	max. 6 m (single unit)
Material of sensor:	TPE
Material of profi le:	Aluminium

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Force-travel-diagram

SG = SB + SN

SB = 12.9 mm

SN = 17.2 mm

SG = 12.9 mm + 17.2 mm

SG = 30.1 mm

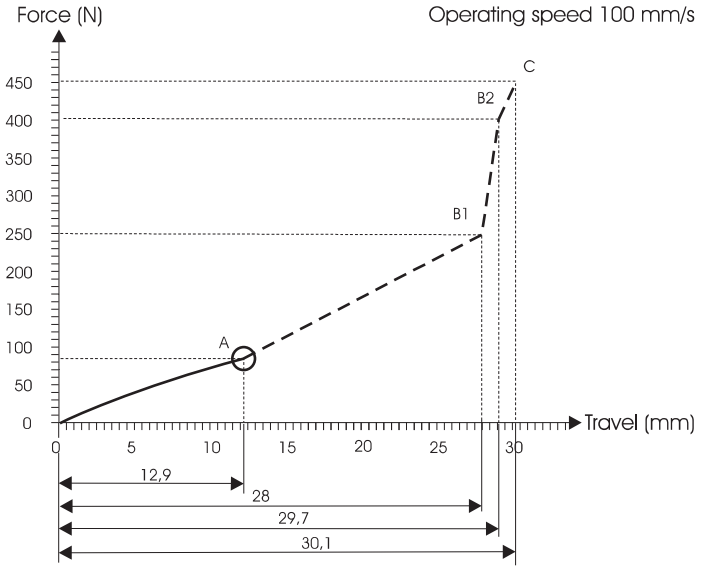
Actuating force F = 84 N

A: Switching point

SG: Total deformation

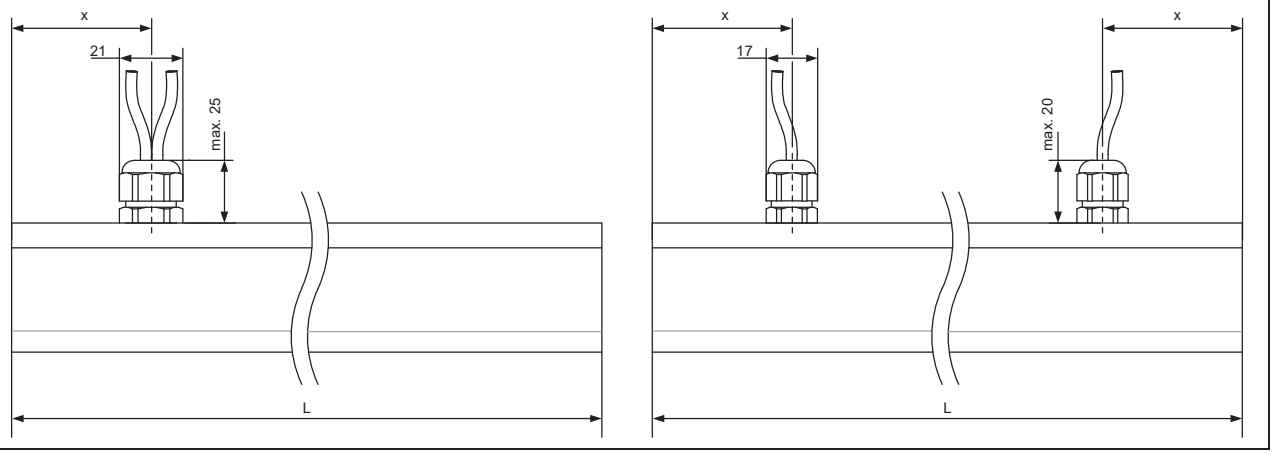
SB: Actuating travel

SN: Overtravel

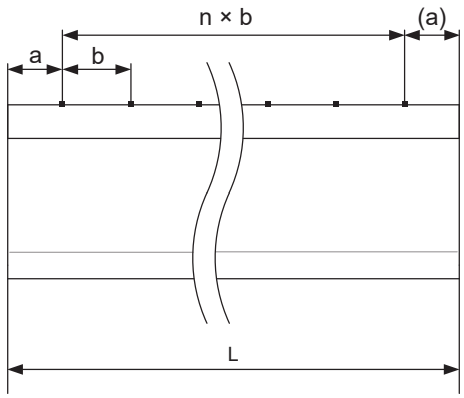


Distance dimensions (see also request form on page 3)

Measurements cable exits



Measurements mountings



General tolerances ISO 2768-m

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Inquiry

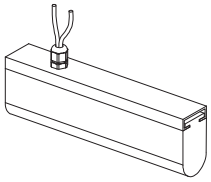
First and last name		E-Mail:	
Company:			
Street and no.:			
Postal code/ZIP and city:		Country:	
Phone no.:		Fax no.:	

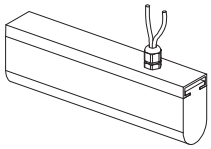
Length and application

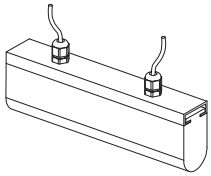
Length: _____ mm	Application:	Indoor dry	Indoor medium	Outdoor wet

Type and position of cable exit (see also Distance dimensions on page 2)

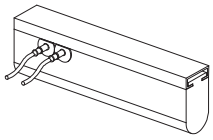
Top (only available with threaded bolts, see also Mounting possibilities)

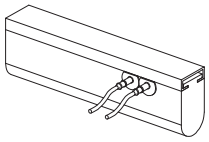

Top left, x = 50 mm

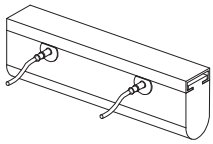

Top right, x = 50 mm

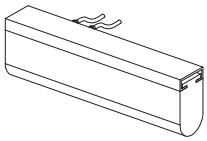

Top left and right, x = 50 mm

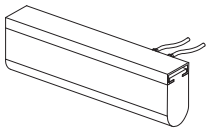
At side

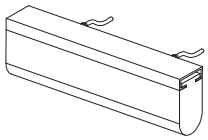

Front left, x = 50 mm


Front right, x = 50 mm

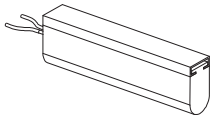

Front left and right, x = 50 mm

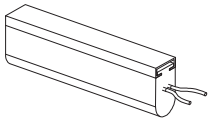

Rear left, x = 50 mm

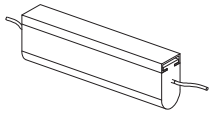

Rear right, x = 50 mm


Rear left and right, x = 50 mm

Frontal


Frontal left


Frontal right


Frontal left and right

Cable length

1.000 mm (Standard)	_____ mm (Upon request, surcharge)

Mounting possibilities

No mounting possibilities (made by client)		
Threaded bolts M6 ×	14	23 (effective length)
Threaded bolts M8 ×	18	28 (effective length)
Boreholes ø = 6 mm		

Dimensions (see also Distance dimensions on page 2)

Mounting dimensions are specifi ed by variables a and b.

a is for fi rst and last distances (symmetrical design) and
b is for intermediate distances.

Selected by manufacturer	Own distances a = ___ b = ___ mm

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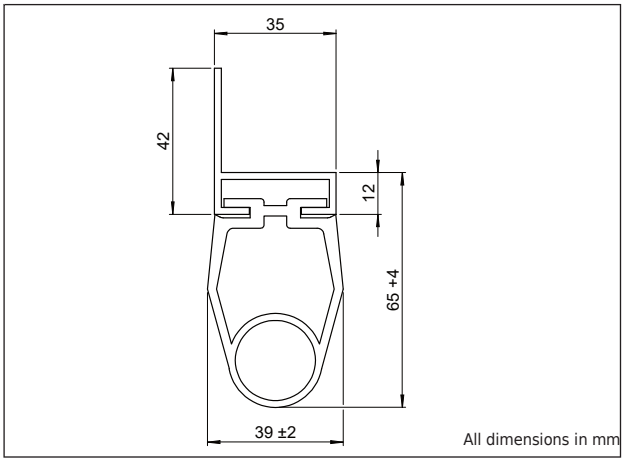

Intended use

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Control category:	3 (to DIN EN ISO 13849-1)
Performance Level:	Possible up to d
Connection cable:	double-insulated, highly fl exible single-core cables (FLKM)
Connection cable length:	max. 50 m
Safety Edge length:	max. 6 m (single unit)
Material of sensor:	TPE
Material of profi le:	Aluminium

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Force-travel-diagram

SG = SB + SN

SB = 12.9 mm

SN = 17.2 mm

SG = 12.9 mm + 17.2 mm

SG = 30.1 mm

Actuating force F = 84 N

A: Switching point

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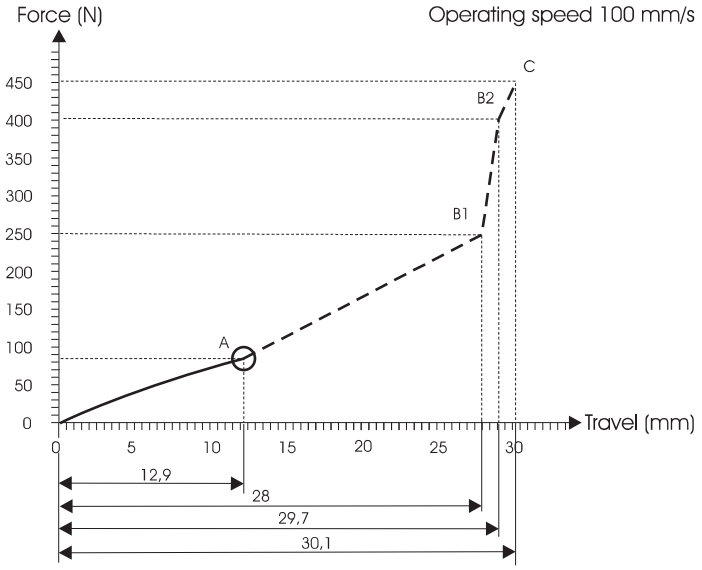
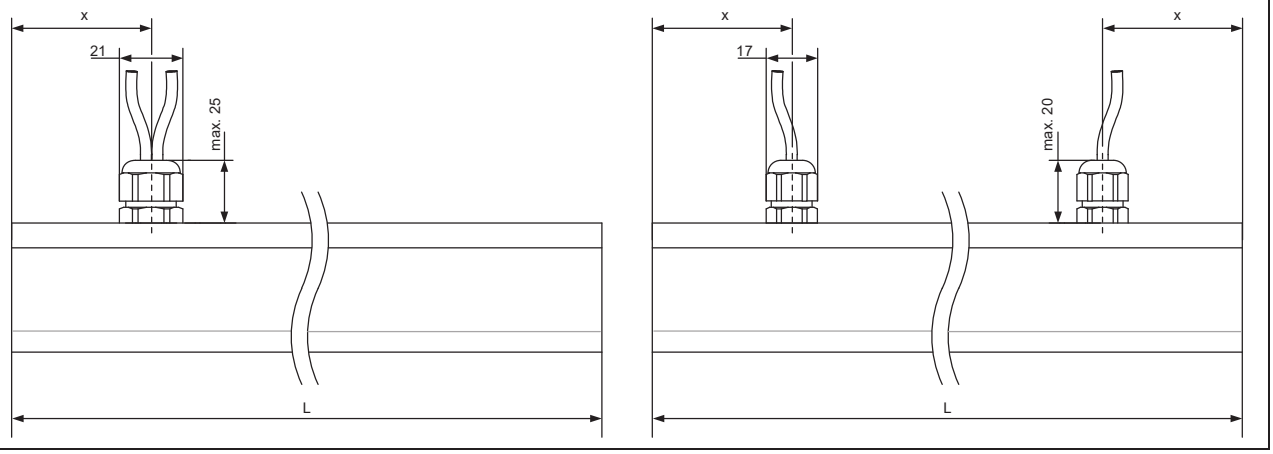
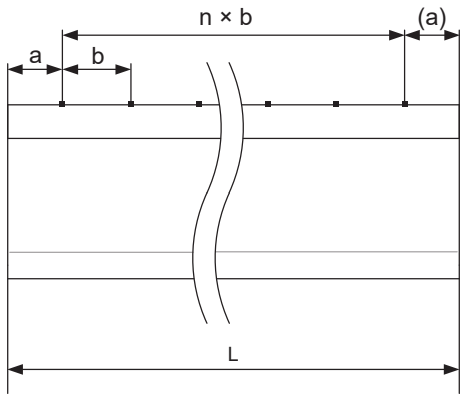


Distance dimensions (see also request form on page 3)

Measurements cable exits



Measurements mountings



General tolerances ISO 2768-m

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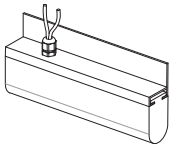
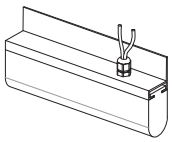
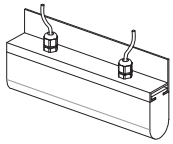
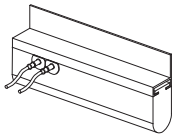
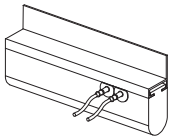
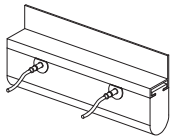
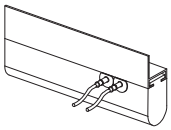
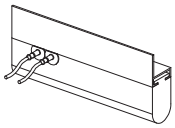
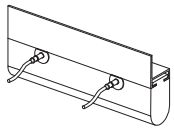
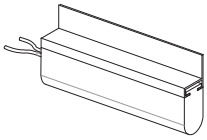
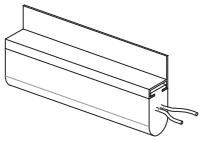
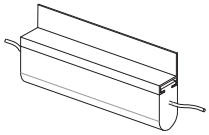
Inquiry

First and last name		E-Mail:	
Company:			
Street and no.:			
Postal code/ZIP and city:		Country:	
Phone no.:		Fax no.:	

Length and application

Length: _____ mm	Application:	Indoor dry	Indoor medium	Outdoor wet

Type and position of cable exit (see also Distance dimensions on page 2)

Top		
 Top left, x = 50 mm	 Top right, x = 50 mm	 Top left and right, x = 50 mm
At side		
 Front left, x = 50 mm	 Front right, x = 50 mm	 Front left and right, x = 50 mm
 Rear left, x = 50 mm	 Rear right, x = 50 mm	 Rear left and right, x = 50 mm
Frontal		
 Frontal left	 Frontal right	 Frontal left and right

Cable length

1.000 mm (Standard)	_____ mm (Upon request, surcharge)

Mounting possibilities

No mounting possibilities (made by client)
Boreholes ø = 6 mm
Oblong holes 7.5 × 21 mm

Dimensions (see also Distance dimensions on page 2)

Mounting dimensions are specifi ed by variables a and b. a is for fi rst and last distances (symmetrical design) and b is for intermediate distances.	
Selected by manufacturer	Own distances a = ___ b = ___ mm

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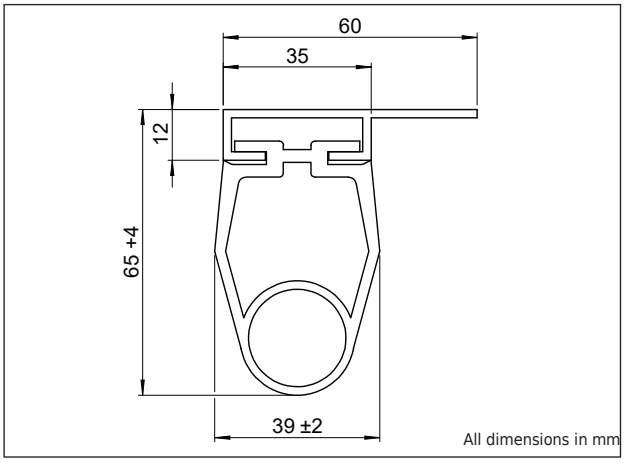

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Nominal current:	max. 0,5 A, AC/DC The power supply shall be protected externally (fuse 0.5 A nominal value)!
Control category:	3 (to DIN EN ISO 13849-1)
Performance Level:	Possible up to d
Connection cable:	double-insulated, highly fl exible single-core cables (FLKM)
Connection cable length:	max. 50 m
Safety Edge length:	max. 6 m (single unit)
Material of sensor:	TPE
Material of profi le:	Aluminium

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SN = 17.2 mm

SG = 12.9 mm + 17.2 mm

SG = 30.1 mm

Actuating force F = 84 N

A: Switching point

SG: Total deformation

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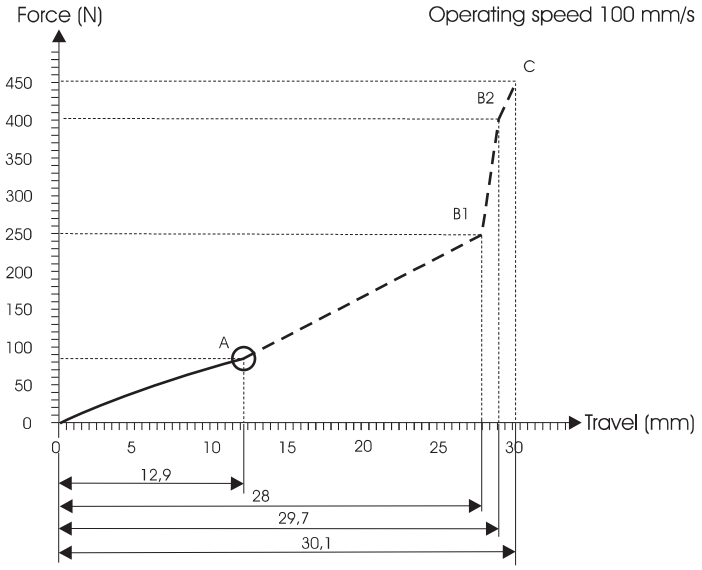
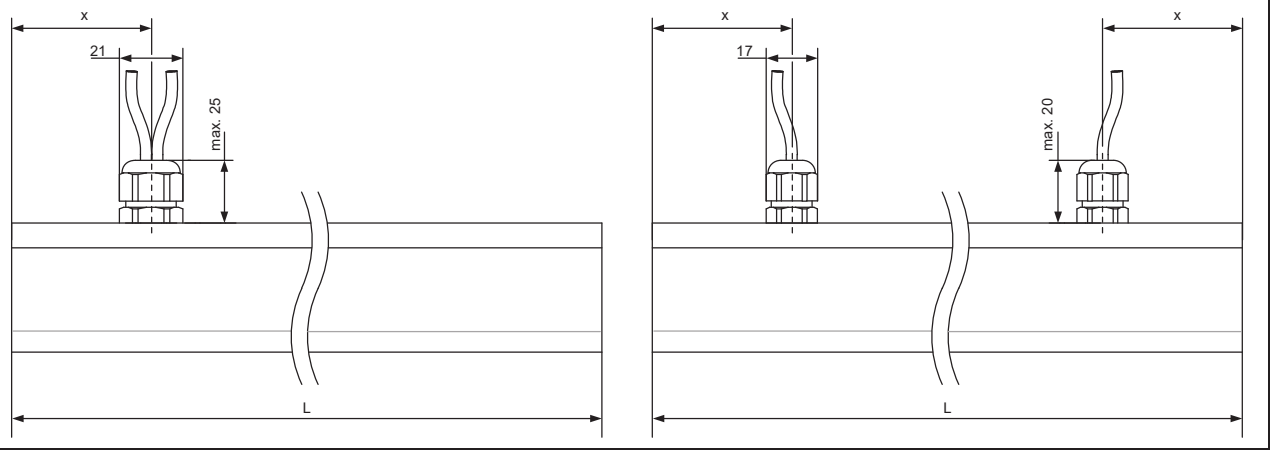
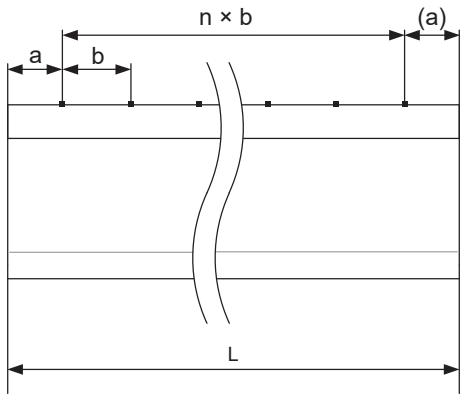


Distance dimensions (see also request form on page 3)

Measurements cable exits



Measurements mountings



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Inquiry

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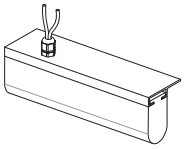
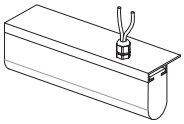
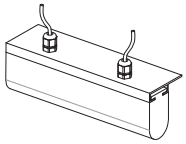
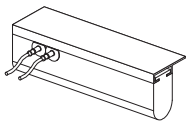
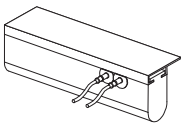
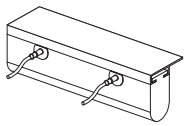
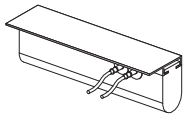
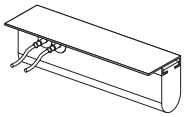
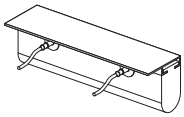
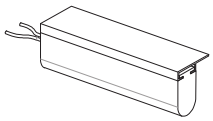
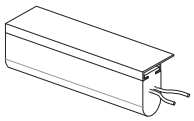
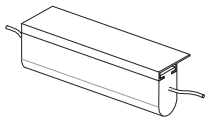
Company:			
Street and no.:			
Postal code/ZIP and city:		Country:	
Phone no.:		Fax no.:	

Length and application

Length: _____ mm	Application:	Indoor dry	Indoor medium	Outdoor wet

Type and position of cable exit (see also Distance dimensions on page 2)

Top		
 Top left, x = 50 mm	 Top right, x = 50 mm	 Top left and right, x = 50 mm
At side		
 Front left, x = 50 mm	 Front right, x = 50 mm	 Front left and right, x = 50 mm
 Rear left, x = 50 mm	 Rear right, x = 50 mm	 Rear left and right, x = 50 mm
Frontal		
 Frontal left	 Frontal right	 Frontal left and right

Cable length

1.000 mm (Standard)	_____ mm (Upon request, surcharge)

Mounting possibilities

No mounting possibilities (made by client)
Boreholes ø = 6 mm
Oblong holes 7.5 × 21 mm

Dimensions (see also Distance dimensions on page 2)

Mounting dimensions are specifi ed by variables a and b. a is for fi rst and last distances (symmetrical design) and b is for intermediate distances.	
Selected by manufacturer	Own distances a = ___ b = ___ mm

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