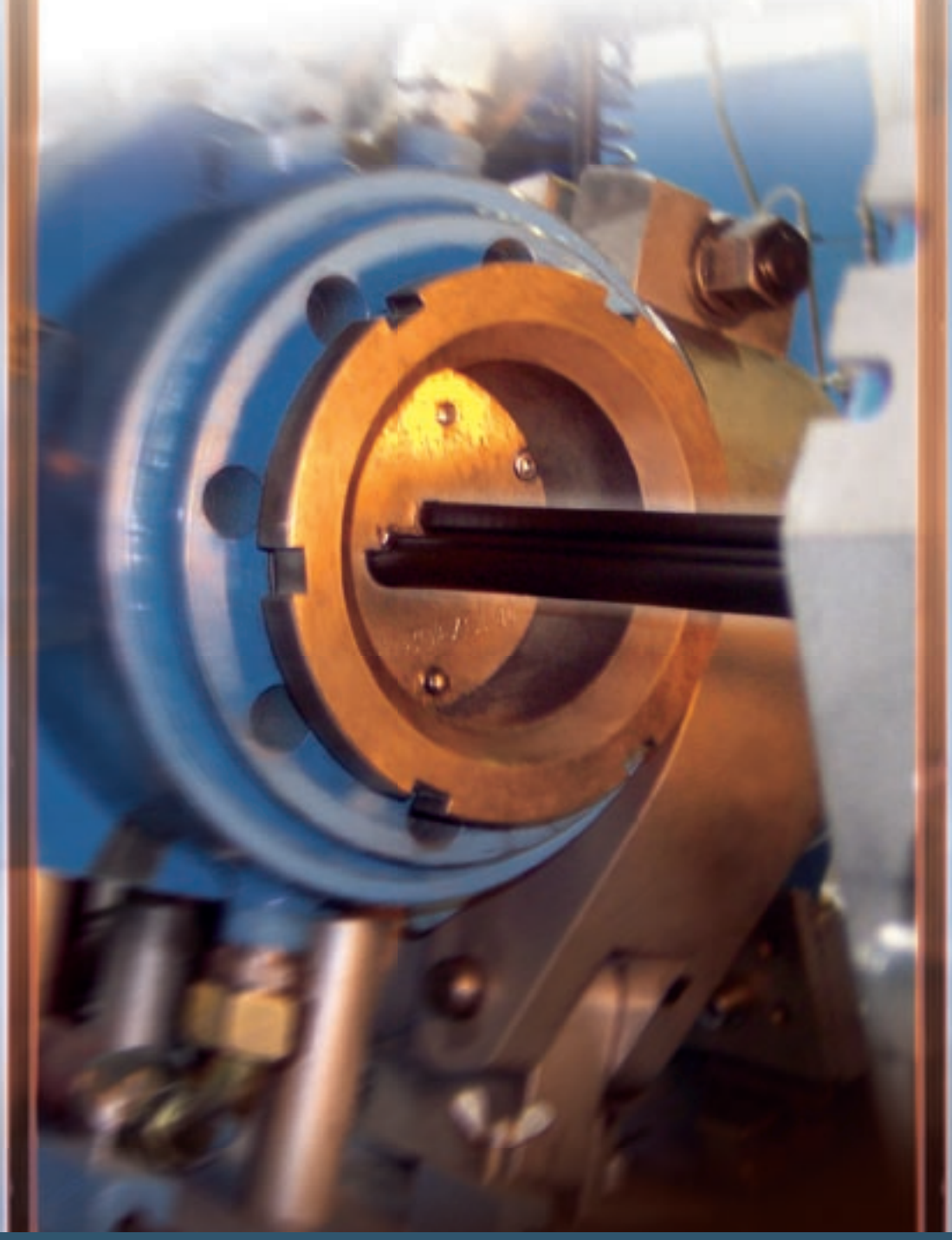
IN CONTACT WITH MAXIMISED SAFETY

Product catalogue

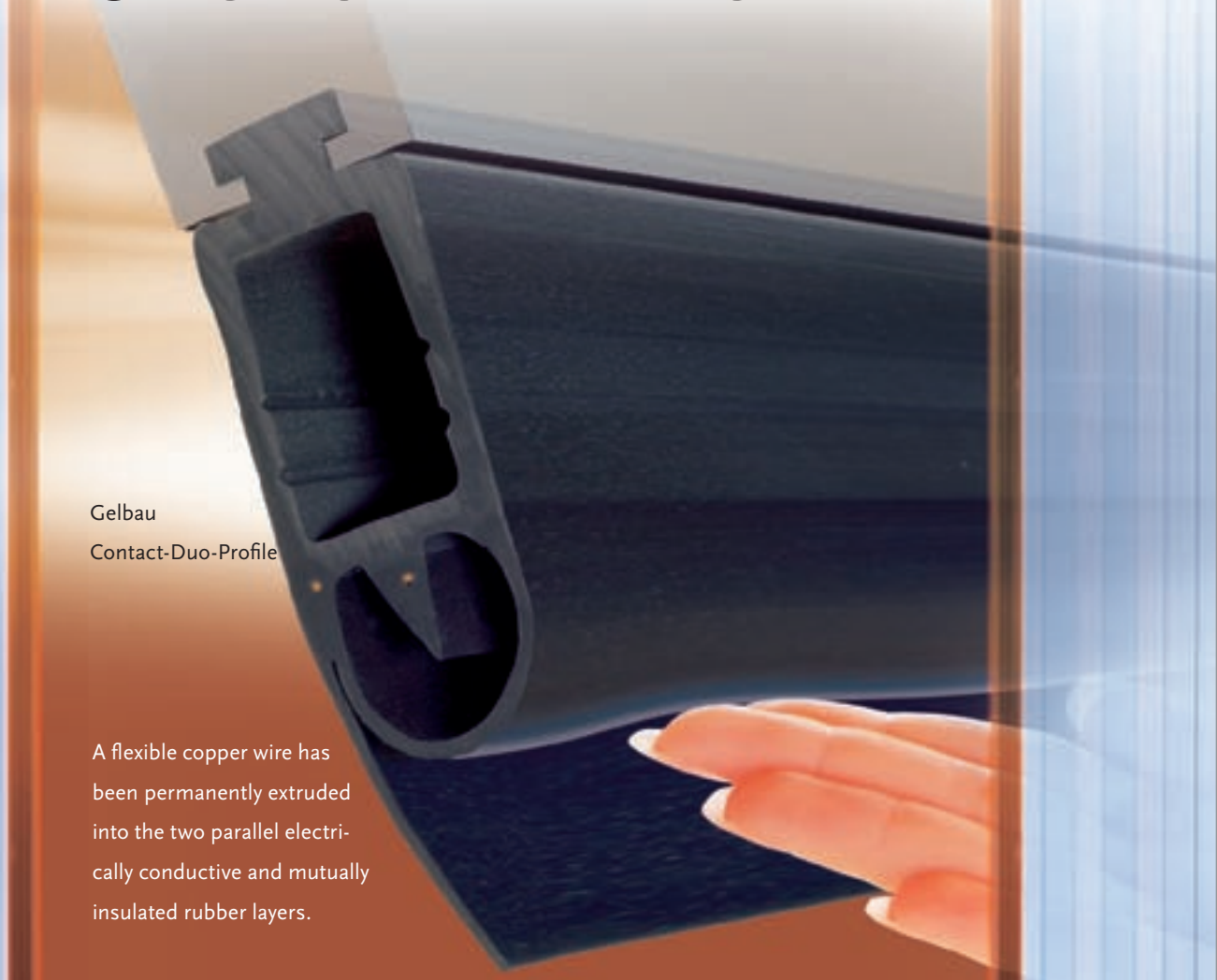
GELBAU

OUR CORPORATE PHILOSOPHY: 100-PER-CENT SAFETY

AN UNCOMPROMISING COMMITMENT TO QUALITY



SAFETY “MADE BY GELBAU” – THE FUNCTIONAL PRINCIPLE



Gelbau
Contact-Duo-Profile

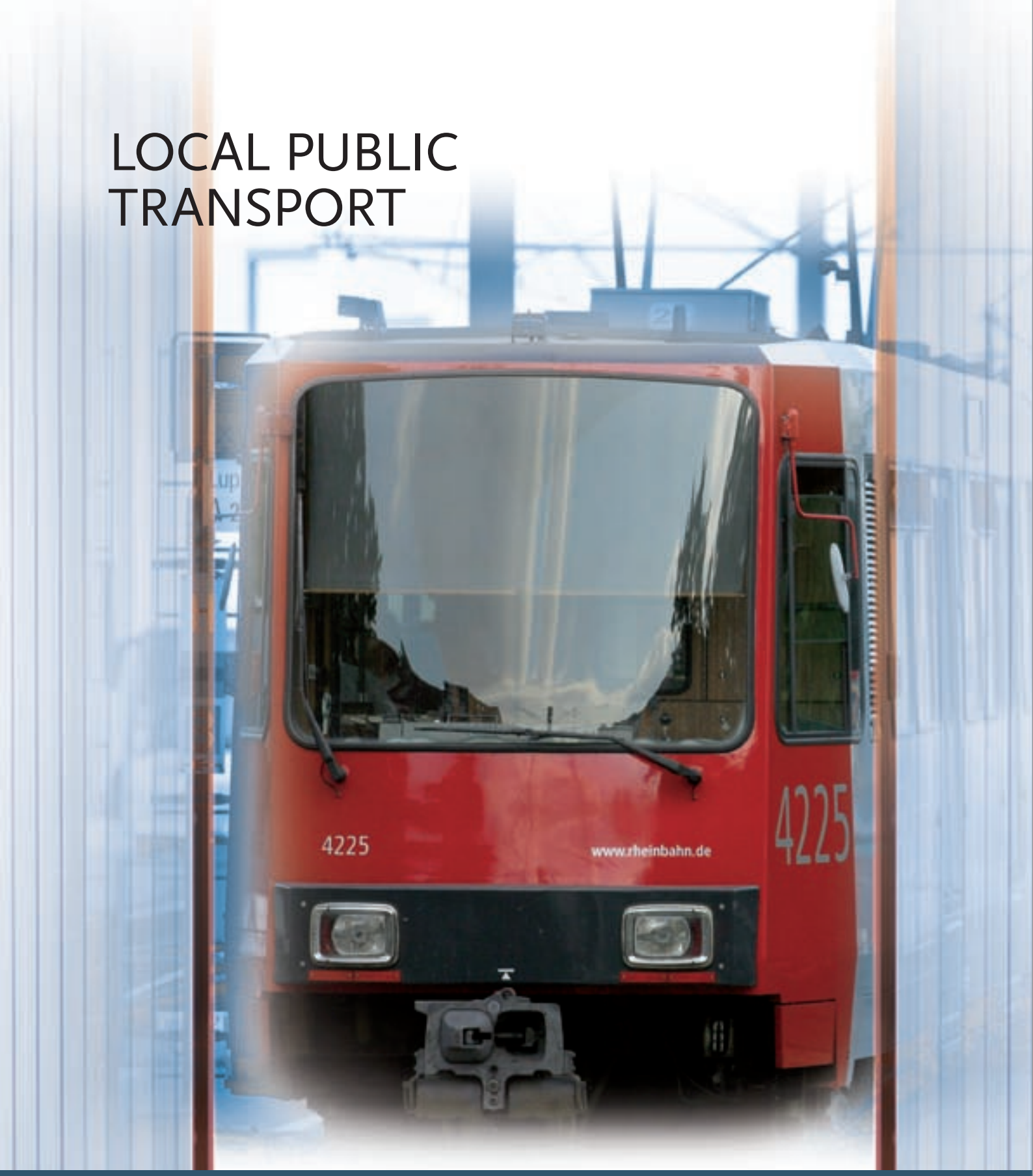
A flexible copper wire has been permanently extruded into the two parallel electrically conductive and mutually insulated rubber layers.

Mechanical pressure will trigger electrical contacting, which causes the potential-insulated safety contact to open at the evaluator unit.

For a functioning system, you need not only the profile and the evaluator unit, but also a terminating plug connector, which serves as an electrical termination. A plug connector with cable constitutes the link between the profile and the evaluator unit. In addition, end caps are required for closing off the ends. For the Quadro-Profile, you also use a flexible wire jumper in addition to these components.

GATE INDUSTRY

LOCAL PUBLIC TRANSPORT



MACHINERY AND PLANT CONSTRUCTION

SCENERY CONSTRUCTION

CAN-DO SERVICE INCLUDED

Gelbau – for conveniently customer-responsive proximity

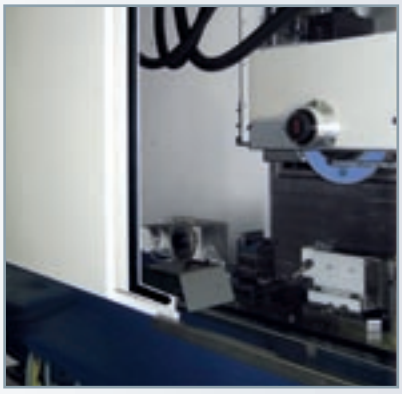
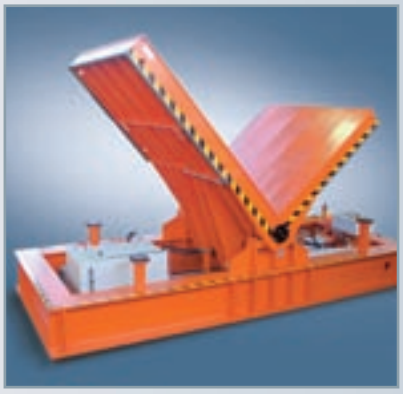
Thanks to a complete-coverage network of commercial agents and contracted dealers in Germany and Europe, we can provide you with intensive on-the-spot consultancy any time, anywhere, backed up by optimised delivery capabilities.

PRODUCTS

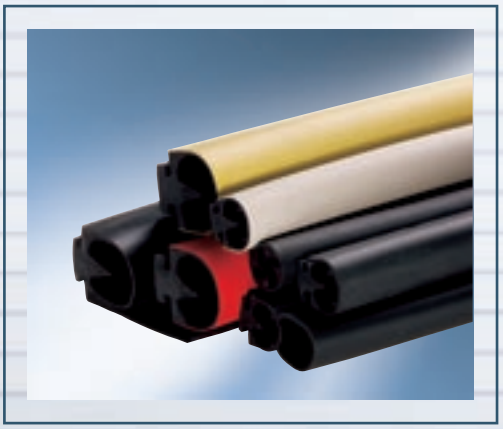
The right solution for each and every sector, whether it's gate systems, passenger doors or work platforms. Wherever they're used, the safety switching strips excel in terms of maximised availability, easy installation and dependability. Gelbau's comprehensive range of products for switching strips and accessories, plus its extensive portfolio of switchgear, cover all of our customers' safety requirements and guarantee maximum flexibility in designing safety-enhanced solutions.

PRODUCT OVERVIEW




Profile overview



Contact-Duo-Profiles – for dependable contacting

The Gelbau Contact-Duo-Profiles are ultra-flexible, one-piece rubber profiles made of EPDM or NBR, ideally matched to the closing edge of the gate or machine involved. The maximum actuating force lies well below the 150 N stipulated in the standard. In conjunction with the accessories offered and plug connection technology, the system can be easily and reliably assembled.

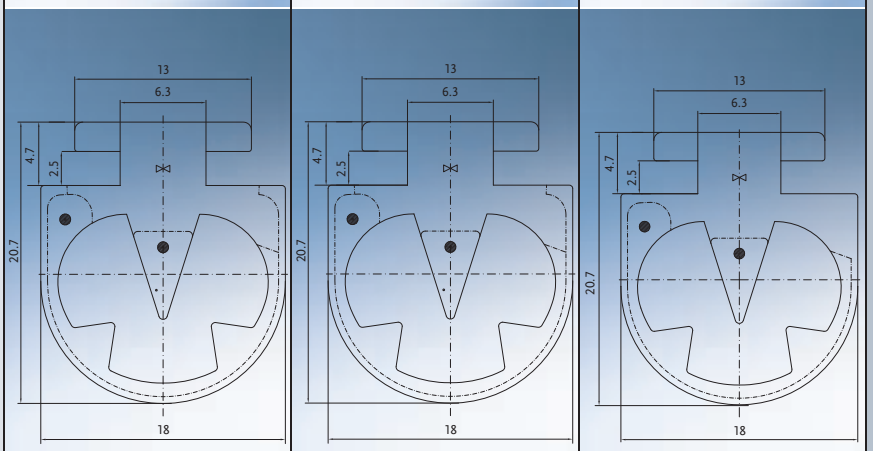
The maximum switching strip length is 100 m. Besides the use of prefabricated corner connectors with specified angles (90°, 120°, 135° and 150°) for the profiles 3100.0110I and 3100.0110N, all profile types can also be assembled with divergent angular dimensions requested by the customer. The switching strip can thus be optimally adapted to suit the contour of the closing edge concerned, enabling one-piece corner-switching solutions to be created. Plane offset and circular installation for a radius of at least 300 mm are possible.

A broad range of profiles is available for the various applications and requirements involved. All of them feature ultra-flexible, one-piece construction. Profile types with a compensation chamber guarantee the required compensation travel, depending on the overall height involved. The optional sealing lip compensates for any unevenness in the floor, and provides reliable sealing for the door. Two different profile feet (standard and Braselmann foot) ensure firm, secure attachment to standard mounting rails.

The rubber mixtures used, featuring EPDM and NBR, guarantee high functional reliability even under adverse conditions like moisture and dirt, as well as cold and heat. Thanks to their permanently resilient properties, they offer a high degree of protection against mechanical damage. Their good resistance to ageing guarantees these characteristics even over a lengthy period of time. NBR is, moreover, highly resistant to oils and lubricants.

The system components available for Gelbau Contact-Duo-Profiles are, in addition to other optional accessories: evaluator, plug connector with connecting cable, terminating plug connector with resistor, and end cap.

Contact-Duo-Profile overview

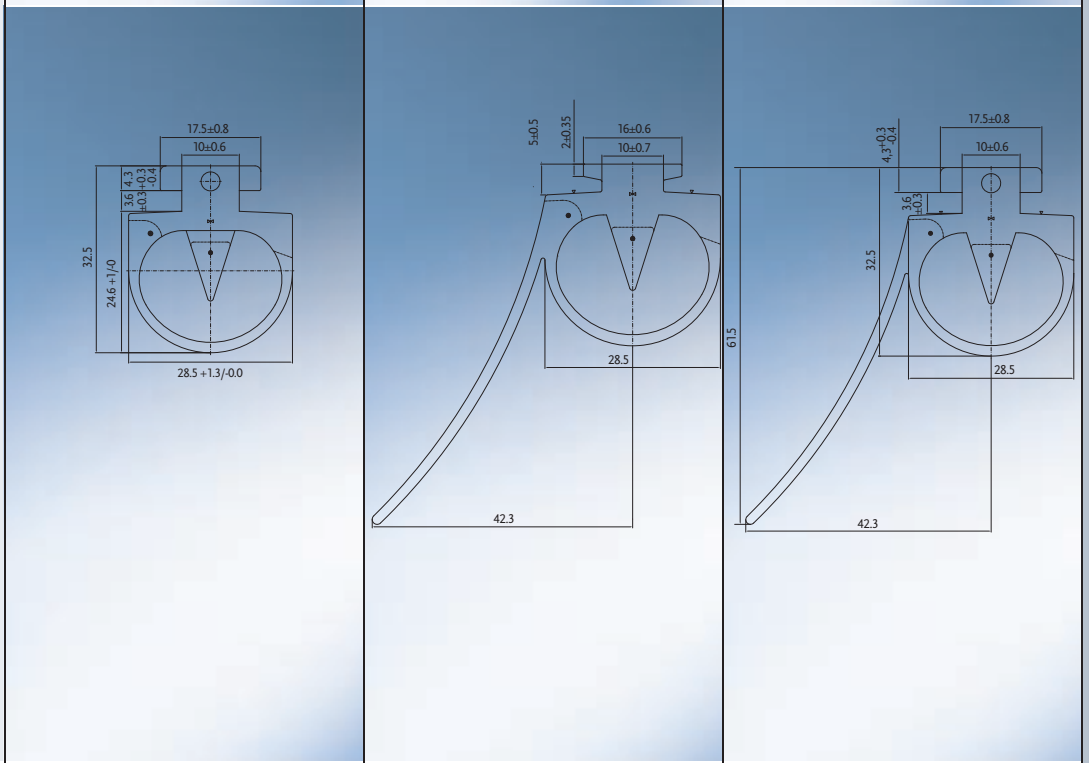


Profile overview

Type	018.10	018.10WHITE	018.10N
Article no.	3100.0118	3100.0118W	3100.0118N
Colour	Black	White	Black
Material	EPDM	EPDM	NBR
Profile foot	T-foot	T-foot	T-foot
Switching head, insulated	Yes	Yes	Yes
Sealing lip	No	No	No
Connection types	AAS/AOS	AAS/AOS	AAS/AOS
Delivery length	30 m	30 m	20 m
Min. diameter, sheath profile			

For dimensions without tolerance particulars, tolerance-free dimensions as per DIN ISO 3302-1 E2 shall apply.

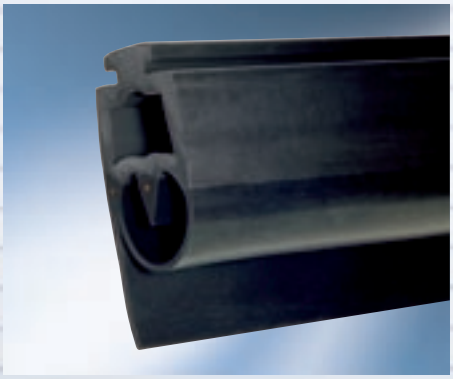
/ Contact-Duo-Profile overview

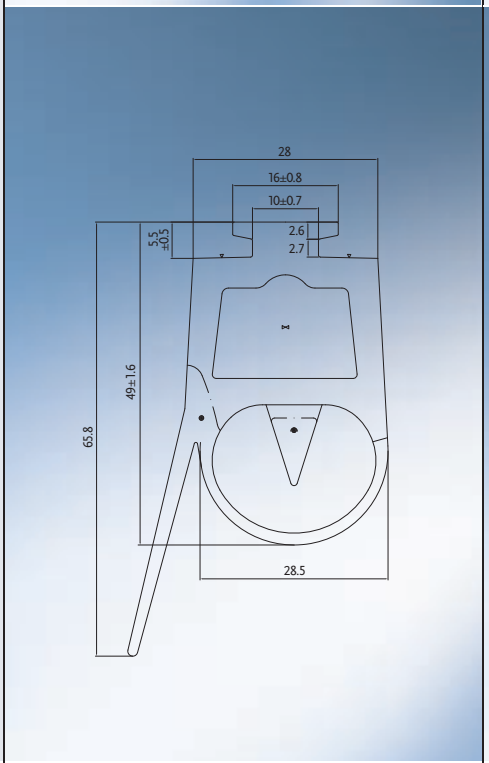


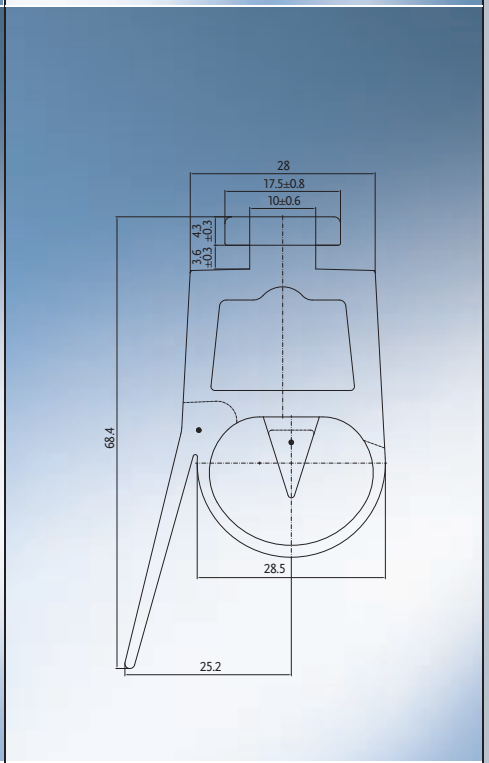
Profile overview			
Type	001.10N	005.02	005.10
Article no.	3100.0110N	3100.0502	3100.0510
Colour	Black	Black	Black
Material	NBR	EPDM	EPDM
Profile foot	T-foot	Braselmann	T-foot
Switching head, insulated	No	No	No
Sealing lip	No	Yes	Yes
Connection types	AAS/AOS/ASS	AAS/AOS/ASS	AAS/AOS/ASS
Delivery length	20 m	20 m	20 m
Min. diameter, sheath profile			

For dimensions without tolerance particulars, tolerance-free dimensions as per DIN ISO 3302-1 E2 shall apply.

/ Contact-Duo-Profile overview



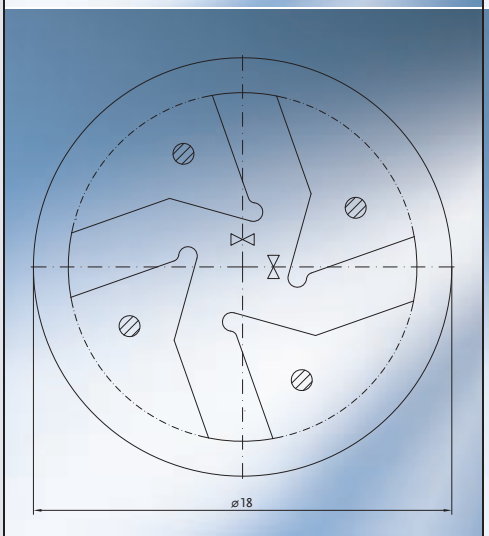


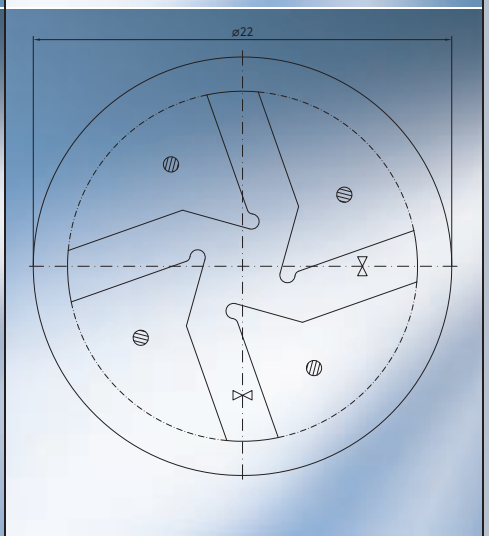


Profile overview		
Type	008.02	008.04
Article no.	3100.0802	3100.0804
Colour	Black	Black
Material	EPDM	EPDM
Profile foot	Braselmann	T-foot
Switching head, insulated	No	No
Sealing lip	Yes	Yes
Connection types	AAS/AOS (standard)	AAS/AOS (standard)
Delivery length	20 m	20 m
Min. diameter, sheath profile		

For dimensions without tolerance particulars, tolerance-free dimensions as per DIN ISO 3302-1 E2 shall apply.

Quadro-Profile overview

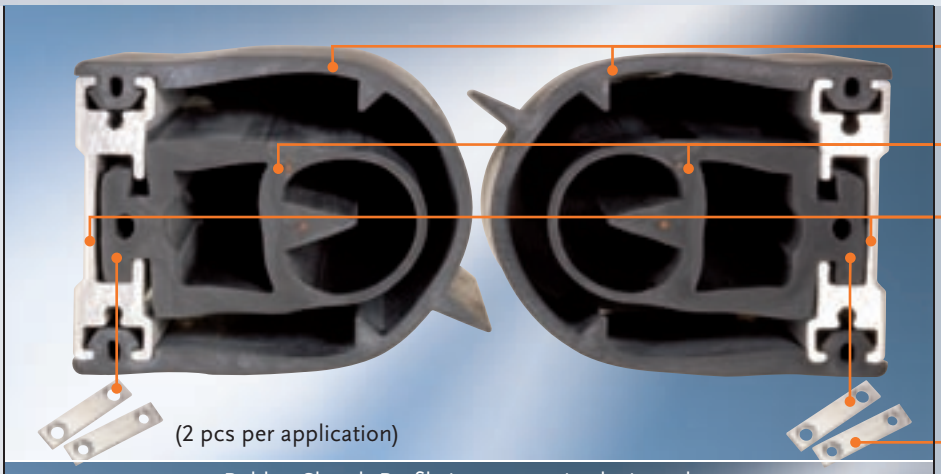




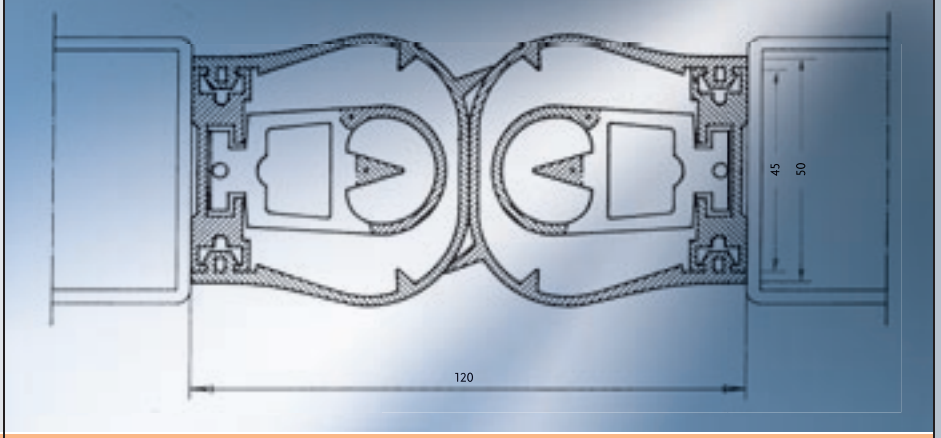
Profile overview		
Type	060.00	080.00
Article no.	3100.6000	3100.8000
Colour	Black	Black
Material	EPDM	EPDM
Profile foot		
Switching head, insulated	Yes	Yes
Sealing lip	No	No
Connection types	AAS	AAS
Delivery length	Max. 2.5 m	Max. 2.5 m
Min. diameter, sheath profile	21.5 mm	25.5 mm

For dimensions without tolerance particulars, tolerance-free dimensions as per DIN ISO 3302-1 E2 shall apply.

Rubber-Sheath-Profiles for special applications



Rubber-Sheath-Profile in use – main closing edge
with safety strip in installed state.
Materials required: see right-hand page.



Profile overview	
Type	
Article no.	
Colour	
Material	
Profile foot	
Switching head, insulated	
Connection types	
Delivery length	

For dimensions without tolerance particulars, tolerance-free dimensions as per DIN ISO 3302-1 E2 shall apply.

ACCESSORIES

Accessory overview

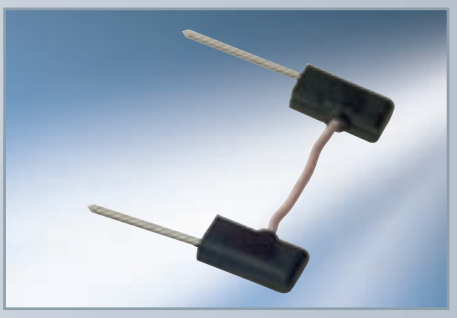
- Terminating plug connectors with resistor
- Flexible wire jumpers
- Connecting cables with plug connector
- End caps with circumferential edge

Terminating plug connectors with resistor – the termination with 8.2 kΩ

The terminating plug connector with resistor is a system component that constitutes the switching strip's electrical termination in conjunction with a resistance evaluator. The resistance value is 8.2 kΩ.

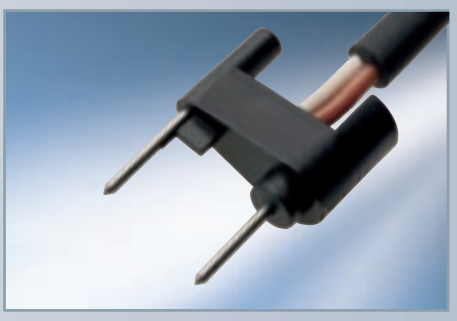
Flexible wire jumpers – a link for the Quadro-Profile

The wire jumpers are used for the Quadro-Profiles, and are here a part of the system. They form the cross-connection at the termination side.



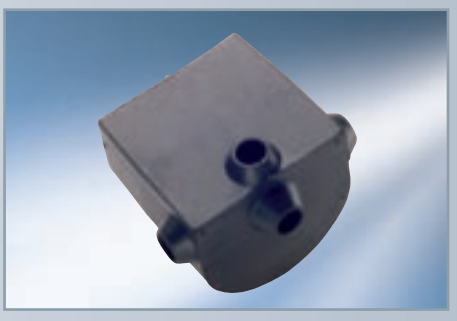
Connecting cable with plug connector – always in touch

The connecting cable with plug connector is a system component that is used to establish the link between the switching strip and the evaluator or control system on the connection side. It is available in lengths from 0.35 m to 15 m.



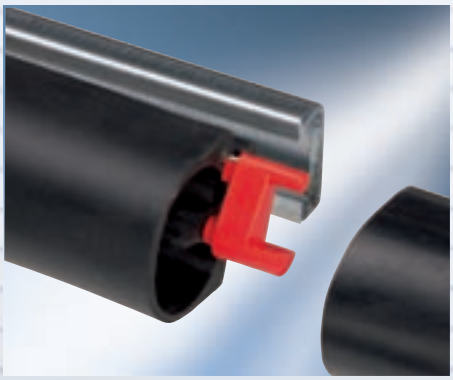
End caps with circumferential edge – dependable protection

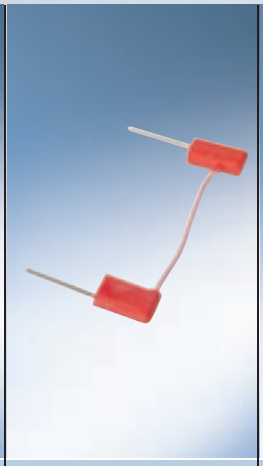
The end caps are a part of the system components of the Gelbau Contact-Duo and Quadro-Profiles. They serve to seal off the ends of the switching strips in a moisture-proof configuration. Various types of connection are available. The caps can be supplied in NBR and EPDM, and in different colours, to suit the profiles concerned.

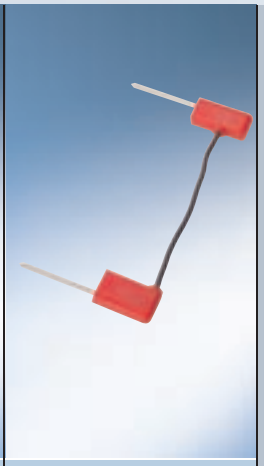


ACCESSORIES

/ Terminating plug connector with resistor overview





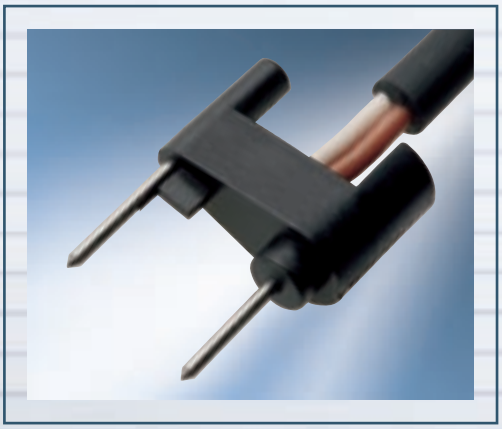


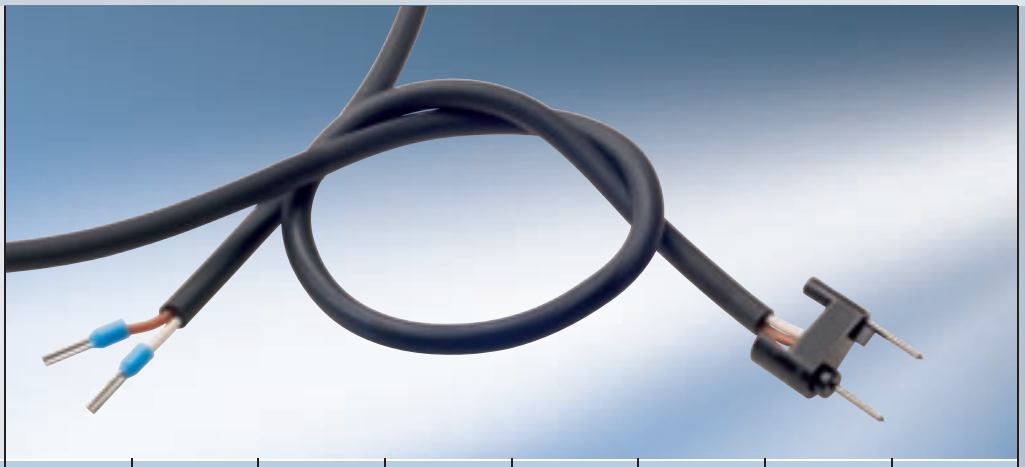
Accessories
Terminating plug connectors with resistor

Electrical termination of the switching strip in conjunction with a resistance evaluator

Article description		8.2 kΩ	8.2 kΩ	8.2 kΩ	8.2 kΩ
Article no.		3031.1306B	3031.1186	3031.1806	3031.2206
For switching strip profile					
Type	Article no.				
001.02	3100.0102	X			
001.10I	3100.0110I	X			
001.10N	3100.0110N	X			
001.10RED	3100.0110RED	X			
001.10YELLOW	3100.0110Y	X			
018.10	3100.0118		X		
018.10N	3100.0118N		X		
018.10WHITE	3100.0118W		X		
002.10	3100.0210	X			
003.10I	3100.0310I	X			
003.10N	3100.0310N	X			
005.02	3100.0502	X			
005.10	3100.0510	X			
006.02	3100.0602	X			
006.10	3100.0610	X			
008.02	3100.0802	X			
008.04	3100.0804	X			
016.10	3100.1610	X			
016.10N	3100.1610N	X			
018.30	3100.1830		X		
060.00	3100.6000			X	
080.00	3100.8000				X

Connecting cable with plug connector overview





Accessories
Connecting cables with plug connector

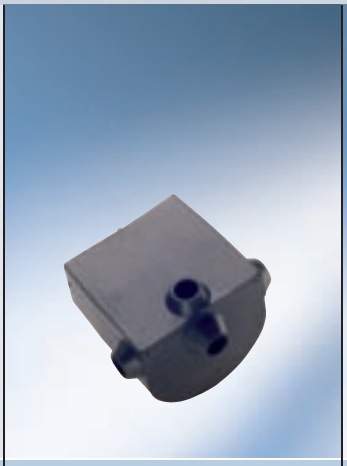
For establishing the connection between the switching strip and the evaluator/control system

Article description	Length	0.35 m	1 m	2 m	3 m	4 m	5 m	10 m	15 m
Article no.		3020.1300B	3020.1301B	3020.1302B	3020.1303B	3020.1304B	3020.1305B	3020.1306B	3020.1307B
For switching strip profile									
Type	Article no.								
001.02	3100.0102	X	X	X	X	X	X	X	X
001.10I	3100.0110I	X	X	X	X	X	X	X	X
001.10N	3100.0110N	X	X	X	X	X	X	X	X
001.10RED	3100.0110RED	X	X	X	X	X	X	X	X
001.10YELLOW	3100.0110Y	X	X	X	X	X	X	X	X
018.10	3100.0118								
018.10N	3100.0118N								
018.10WHITE	3100.0118W								
002.10	3100.0210	X	X	X	X	X	X	X	X
003.10I	3100.0310I	X	X	X	X	X	X	X	X
003.10N	3100.0310N	X	X	X	X	X	X	X	X
005.02	3100.0502	X	X	X	X	X	X	X	X
005.10	3100.0510	X	X	X	X	X	X	X	X
006.02	3100.0602	X	X	X	X	X	X	X	X
006.10	3100.0610	X	X	X	X	X	X	X	X
008.02	3100.0802	X	X	X	X	X	X	X	X
008.04	3100.0804	X	X	X	X	X	X	X	X
016.10	3100.1610	X	X	X	X	X	X	X	X
016.10N	3100.1610N	X	X	X	X	X	X	X	X
018.30	3100.1830								
060.00	3100.6000								
080.00	3100.8000								

End cap with circumferential edge overview

Accessories
End caps with circumferential edge

For sealing the switching strip ends against dust and moisture

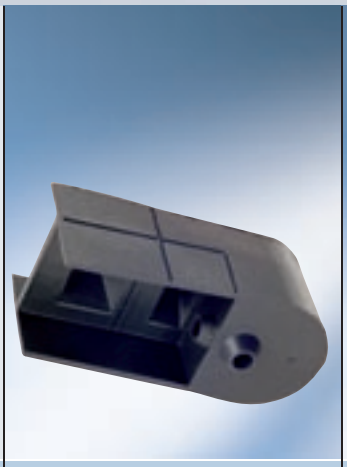


Article description		EPDM cap with four possible cable outlets*	EPDM cap with two possible cable outlets*	EPDM cap with four possible cable outlets, red*
Article no.		3050.1302	3050.1302-2	3050.1302R
For switching strip profile				
Type	Article no.			
001.02	3100.0102	X	X	
001.10I	3100.0110I	X	X	
001.10N	3100.0110N			
001.10RED	3100.0110RED			X
001.10YELLOW	3100.0110Y			
018.10	3100.0118			
018.10N	3100.0118N			
018.10WHITE	3100.0118W			
002.10	3100.0210			
003.10I	3100.0310I			
003.10N	3100.0310N			
005.02	3100.0502	X	X	
005.10	3100.0510	X	X	
006.02	3100.0602	X	X	
006.10	3100.0610	X	X	
008.02	3100.0802			
008.04	3100.0804			
016.10	3100.1610			
016.10N	3100.1610N			
018.30	3100.1830			
060.00	3100.6000			
080.00	3100.8000			

End cap with circumferential edge overview

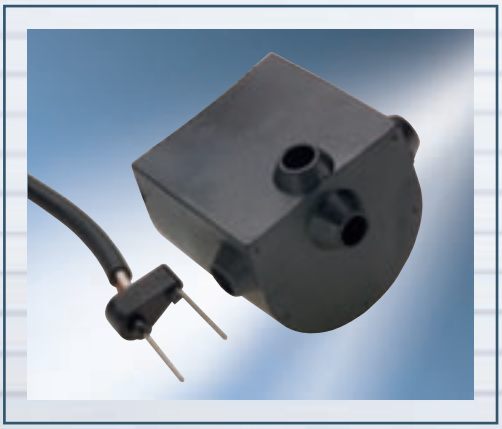
Accessories
End caps with circumferential edge

For sealing the switching strip ends against moisture

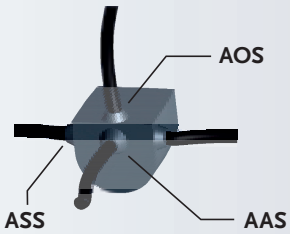
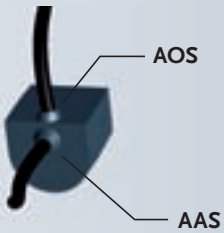
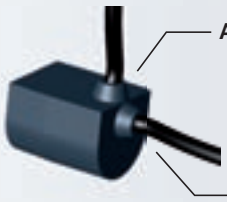
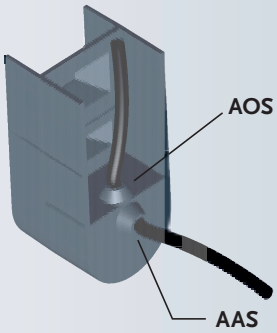


Article description		NBR cap with two possible cable outlets*	EPDM cap with two possible cable outlets*	EPDM cap with one possible cable outlet*
Article no.		3050.1303N	3050.1318	3050.1318-1
For switching strip profile				
Type	Article no.			
001.02	3100.0102			
001.10I	3100.0110I			
001.10N	3100.0110N			
001.10RED	3100.0110RED			
001.10YELLOW	3100.0110Y			
018.10	3100.0118		X	X
018.10N	3100.0118N			
018.10WHITE	3100.0118W			
002.10	3100.0210			
003.10I	3100.0310I			
003.10N	3100.0310N	X		
005.02	3100.0502			
005.10	3100.0510			
006.02	3100.0602			
006.10	3100.0610			
008.02	3100.0802			
008.04	3100.0804			
016.10	3100.1610			
016.10N	3100.1610N	X		
018.30	3100.1830		X	X
060.00	3100.6000			
080.00	3100.8000			

/ Connection types for end caps



Selection of connection type with assembly in the factory

Connection types/Cap type				Profile types
Article no.		Article no.		Article no.
3050.1302 3050.1302R 3050.1302Y 3050.1302N		3050.1302-2 3050.1302N-2		3100.0102 3100.0110I 3100.0110N 3100.0110RED 3100.0110Y 3100.0502 3100.0510 3100.0602 3100.0610
3050.1318 3050.1318W 3050.1318N		3050.1318-1		3100.0118 3100.0118N 3100.0118W 3100.1830
		3050.1303B 3050.1303N		3100.0210 3100.0310I 3100.0310N 3100.0802 3100.0804 3100.1610 3100.1610N
3050.1802 3050.2202				3100.6000 3100.8000

ASS: The side must always be specified (left or right).
AOS/AAS: Specifying the side is necessary only for profiles with a sealing lip.

The side must always be specified as if viewing the gate from the inside. For profiles with sealing lip, the lip is always outside.

/ Corner connector overview

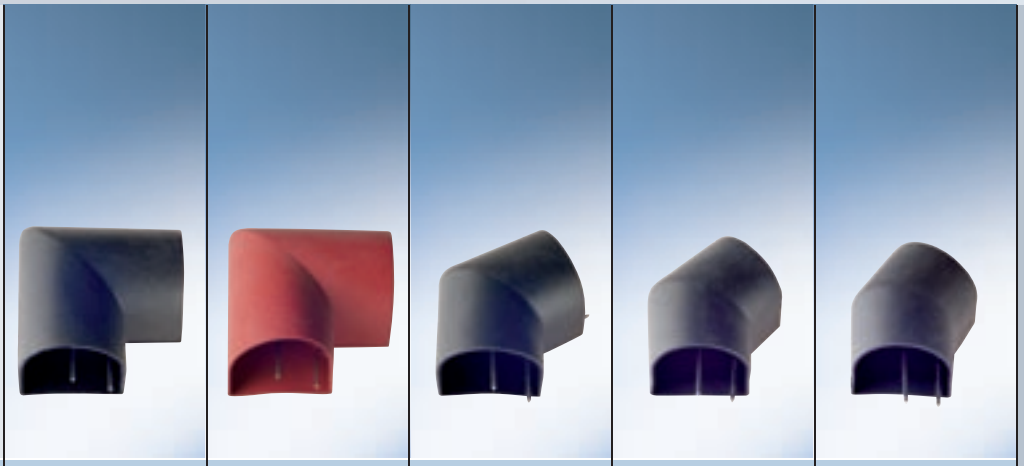

Horizontal

Accessories
Corner connectors

For establishing switching corner connections

Horizontal: for connecting parts with directional changes without plane offset

Vertical: for connecting parts with plane offset



Article description		EPDM, 90° horizontal	EPDM, red, 90° horizontal	EPDM, 120° horizontal	EPDM, 135° horizontal	EPDM, 150° horizontal
Article no.		3050.0071	3050.0071R	3050.0071A	3050.0071B	3050.0071C
For switching strip profile						
Type	Article no.					
001.02	3100.0102					
001.10I	3100.0110I	X		X	X	X
001.10N	3100.0110N					
001.10RED	3100.0110RED		X			
001.10YELLOW	3100.0110Y					
018.10	3100.0118					
018.10N	3100.0118N					
018.10WHITE	3100.0118W					
002.10	3100.0210					
003.10I	3100.0310I					
003.10N	3100.0310N					
005.02	3100.0502					
005.10	3100.0510					
006.02	3100.0602					
006.10	3100.0610					
008.02	3100.0802					
008.04	3100.0804					
016.10	3100.1610					
016.10N	3100.1610N					
018.30	3100.1830					
060.00	3100.6000					
080.00	3100.8000					

/ Stop buffer overview

Accessories
Stop buffers

Prevents the switching strip impacting on the ground when the gate is lowered, thus extending the switching strip's lifetime.

Article description		Size 30 x 35 x 30 mm Scope of delivery: stop buffer and hammerhead screw for mounting	Size 30 x 35 x 46 mm Scope of delivery: stop buffer and hammerhead screw for mounting	Size 30 x 35 x 70 mm Scope of delivery: stop buffer and hammerhead screw for mounting
Article no.		3090.1150	3090.1151	3090.1152
For switching strip profile				
Type	Article no.			
001.02	3100.0102			
001.10I	3100.0110I	X		
001.10N	3100.0110N	X		
001.10RED	3100.0110RED	X		
001.10YELLOW	3100.0110Y	X		
018.10	3100.0118			
018.10N	3100.0118N			
018.10WHITE	3100.0118W			
002.10	3100.0210			X
003.10I	3100.0310I			X
003.10N	3100.0310N			
005.02	3100.0502			
005.10	3100.0510	X		
006.02	3100.0602			
006.10	3100.0610	X		
008.02	3100.0802			
008.04	3100.0804		X	
016.10	3100.1610		X	
016.10N	3100.1610N			
018.30	3100.1830			
060.00	3100.6000			
080.00	3100.8000			

Switchgear overview

Switchgear in housing types A, B, C and D

Switchgear – full monitoring

The switching devices monitor the switching strip connected in regard to actuation and interruption. They provide a potential-isolated safety relay contact for “Stop”.

Switching strips with a length of up to 100 m can be connected to the switchgear. Monitoring is performed on the closed circuit current principle with an 8.2 kΩ resistor as the electrical termination. The switchgears possess three LEDs (green, yellow, red), which are used to indicate different states:

- **Green:** switching strip connected, system ready for operation, safety contacts closed
- **Yellow:** error message “Open sensor circuit”, safety contacts opened
- **Red:** switching strip actuated, safety contacts opened

If, in the case of fail-safe (redundant) devices (Safety Category 3), the channels indicate a differing status; this signals a system malfunction and the safety contacts will be opened.

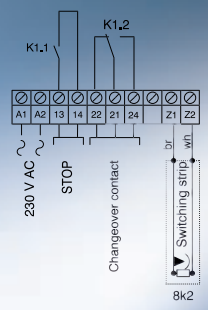
When the switching strip is actuated, the relay will drop out and the safety contacts will be opened.

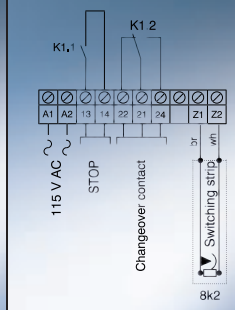
Housing type A

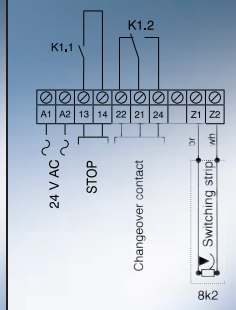
Housing type B

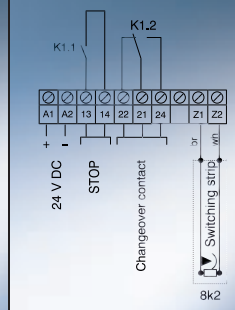
Switchgear overview

Housing type A





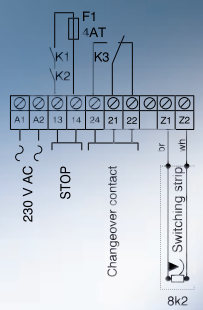


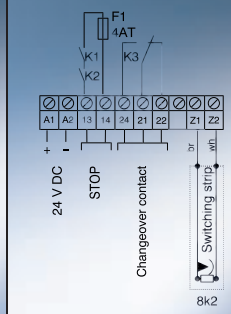


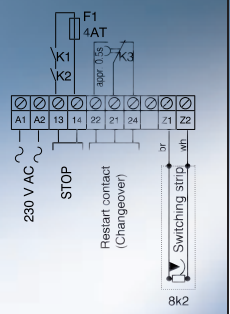
Type	212.00	212.01	212.04	212.06
Article no.	3002.1200	3002.1201	3002.1204	3002.1206
Safety category to EN 954-1	1	1	1	1
Functions				
Input:				
1 switching strip	X	X	X	X
2 switching strips				
Output:				
1 output with 2 relays each with 1 NC contact in series, forced				
2 outputs with 2 relays each with 1 NC contact in series, forced				
1 output with 2 relays, NC contact available separately, forced				
1 output with 1 relay contact (NC)	X	X	X	X
2 outputs each with 1 relay contact (NC)				
Additional functions:				
Changeover contact	X	X	X	X
Changeover contact approx. 0.5 s time delayed				
Reset				
Slip-door contact				
Supply voltage A1 – A2	230 V AC	115 V AC	24 V AC	24 V DC
Rated power	4 VA	4 VA	4 VA	1.5 VA
Power pack potential-isolated	X	X	X	X
Relay contacts 13 – 14; 21 – 24				
Max. switching voltage AC/DC	250 V/24 V	250 V/24 V	250 V/24 V	250 V/24 V
Max. switching current AC/DC	6 A/2 A	6 A/2 A	6 A/2 A	6 A/2 A
Perm. operating temperature	–20..+55 °C	–20..+55 °C	–20..+55 °C	–20..+55 °C
Housing:				
Dimensions (W x H x D) in mm	45 x 75 x 120	45 x 75 x 120	45 x 75 x 120	45 x 75 x 120
Degree of protection for housing/contacts	IP 40/IP 20	IP 40/IP 20	IP 40/IP 20	IP 40/IP 20
Weight	390 g	390 g	390 g	390 g
Tests:				
EN 954-1	X	X	X	X
EN 50121-3-2				
EN 50155				

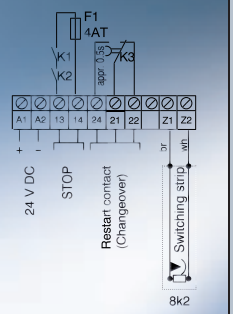
Diode evaluators are available as an option.

Switchgear overview





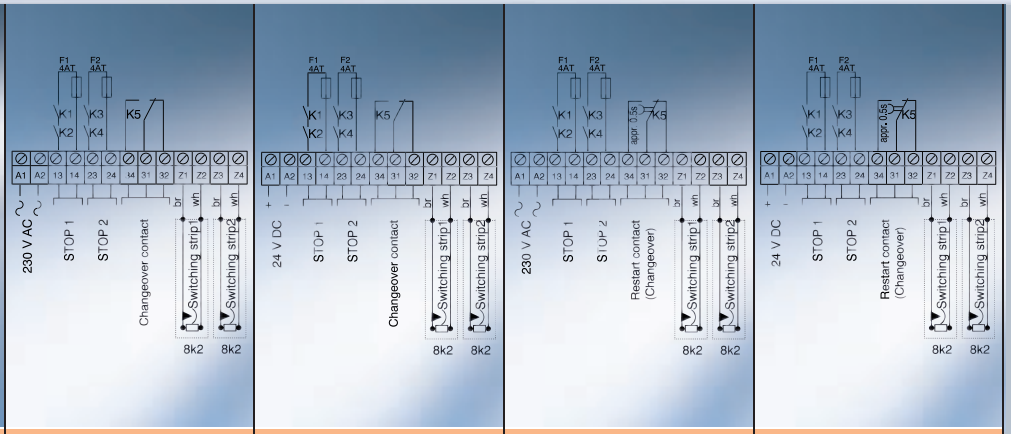




Housing type A

Type	252.00Z	252.06Z	252.10Z	252.16Z
Article no.	3002.5200Z	3002.5206Z	3002.5210Z	3002.5216Z
Safety category to EN 954-1	3	3	3	3
Functions				
Input:				
1 switching strip	X	X	X	X
2 switching strips				
Output:				
1 output with 2 relays each with 1 NC contact in series, forced	X	X	X	X
2 outputs with 2 relays each with 1 NC contact in series, forced				
1 output with 2 relays, NC contact available separately, forced				
1 output with 1 relay contact (NC)				
2 outputs each with 1 relay contact (NC)				
Additional functions:				
Changeover contact	X	X		
Changeover contact approx. 0.5 s time delayed			X	X
Reset				
Slip-door contact				
Supply voltage A1 – A2	230 V AC	24 V DC	230 V AC	24 V DC
Rated power	3 VA	3 VA	3 VA	3 VA
Power pack potential-isolated	X	X	X	X
Relay contacts 13 – 14; 21 – 24				
Max. switching voltage AC/DC	250 V/24 V	250 V/24 V	250 V/24 V	250 V/24 V
Max. switching current AC/DC	4 A/2 A	4 A/2 A	4 A/2 A	4 A/2 A
Perm. operating temperature	–20..+55 °C	–20..+55 °C	–20..+55 °C	–20..+55 °C
Housing:				
Dimensions (W x H x D) in mm	45 x 75 x 120	45 x 75 x 120	45 x 75 x 120	45 x 75 x 120
Degree of protection for housing/contacts	IP 40/IP 20	IP 40/IP 20	IP 40/IP 20	IP 40/IP 20
Weight	390 g	390 g	390 g	390 g
Tests:				
EN 954-1	X	X	X	X
EN 50121-3-2				
EN 50155				

Switchgear overview

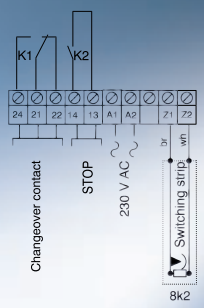


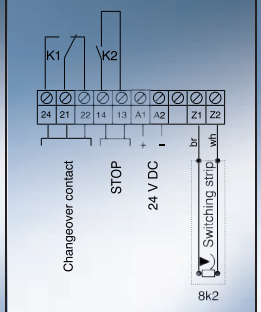
Housing type A

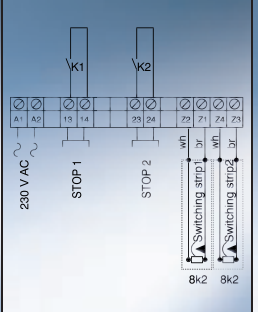
Type	262.00Z	262.06Z	262.10Z	262.16Z
Article no.	3002.6200Z	3002.6206Z	3002.6210Z	3002.6216Z
Safety category to EN 954-1	3	3	3	3
Functions				
Input:				
1 switching strip				
2 switching strips	X	X	X	X
Output:				
1 output with 2 relays each with 1 NC contact in series, forced				
2 outputs with 2 relays each with 1 NC contact in series, forced	X	X	X	X
1 output with 2 relays, NC contact available separately, forced				
1 output with 1 relay contact (NC)				
2 outputs each with 1 relay contact (NC)				
Additional functions:				
Changeover contact	X	X		
Changeover contact approx. 0.5 s time delayed			X	X
Reset				
Slip-door contact				
Supply voltage A1 – A2	230 V AC	24 V DC	230 V AC	24 V DC
Rated power	5 VA	5 VA	5 VA	5 VA
Power pack potential-isolated	X	X	X	X
Relay contacts 13 – 14; 21 – 24				
Max. switching voltage AC/DC	250 V/24 V	250 V/24 V	250 V/24 V	250 V/24 V
Max. switching current AC/DC	4 A/2 A	4 A/2 A	4 A/2 A	4 A/2 A
Perm. operating temperature	–20..+55 °C	–20..+55 °C	–20..+55 °C	–20..+55 °C
Housing:				
Dimensions (W x H x D) in mm	45 x 75 x 120	45 x 75 x 120	45 x 75 x 120	45 x 75 x 120
Degree of protection for housing/contacts	IP 40/IP 20	IP 40/IP 20	IP 40/IP 20	IP 40/IP 20
Weight	390 g	390 g	390 g	390 g
Tests:				
EN 954-1	X	X	X	X
EN 50121-3-2				
EN 50155				

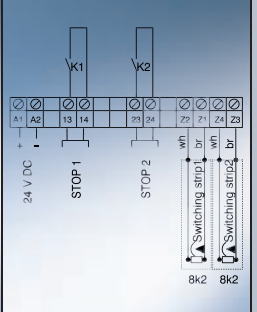
/ Switchgear overview

Housing type B





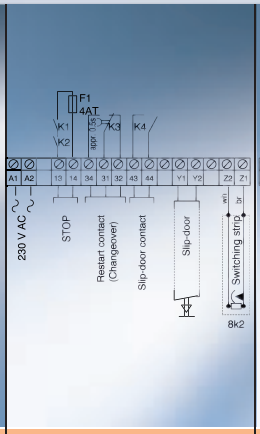


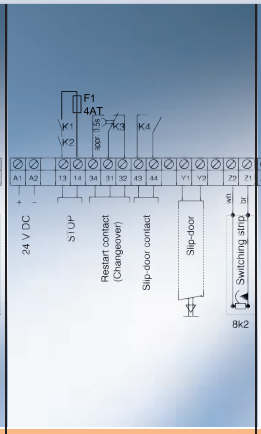


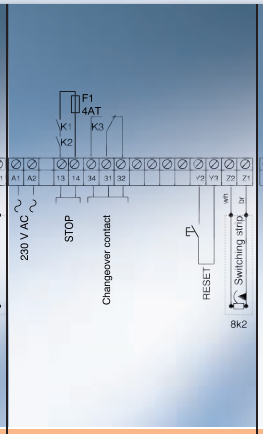
Type	312.00	312.06	332.00	332.06
Article no.	3003.1200	3003.1206	3003.3200	3003.3206
Safety category to EN 954-1	1	1	1	1
Functions				
Input:				
1 switching strip	X	X		
2 switching strips			X	X
Output:				
1 output with 2 relays each with 1 NC contact in series, forced				
2 outputs with 2 relays each with 1 NC contact in series, forced				
1 output with 2 relays, NC contact available separately, forced				
1 output with 1 relay contact (NC)	X	X		
2 outputs each with 1 relay contact (NC)			X	X
Additional functions:				
Changeover contact	X	X		
Changeover contact approx. 0.5 s time delayed				
Reset				
Slip-door contact				
Supply voltage A1 – A2	230 V AC	24 V DC	230 V AC	24 V DC
Rated power	3.6 VA	1 VA	5 VA	3 VA
Power pack potential-isolated	X	X	X	X
Relay contacts 13 – 14; 21 – 24				
Max. switching voltage AC/DC	230 V/24 V	230 V/24 V	230 V/24 V	230 V/24 V
Max. switching current AC/DC	6 A/2 A	6 A/2 A	6 A/2 A	6 A/2 A
Perm. operating temperature	–20..+55 °C	–20..+55 °C	–20..+55 °C	–20..+55 °C
Housing:				
Dimensions (W x H x D) in mm	94 x 94 x 57	94 x 94 x 57	130 x 130 x 75	130 x 130 x 75
Degree of protection for housing/contacts	IP 65	IP 65	IP 65	IP 65
Weight	300 g	300 g	600 g	600 g
Tests:				
EN 954-1	X	X	X	X
EN 50121-3-2				
EN 50155				

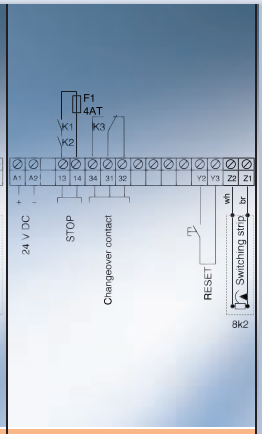
/ Switchgear overview

Housing type B





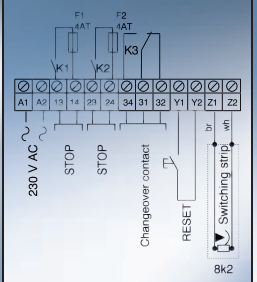


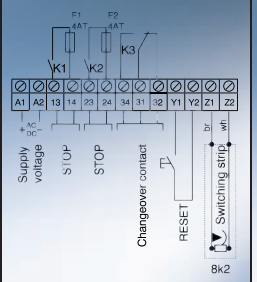


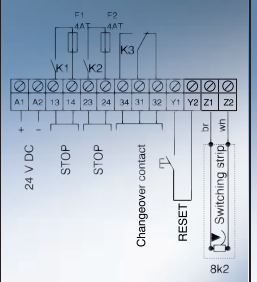
Type	352.30Z	352.36Z	352.40Z	352.46Z
Article no.	3003.5230Z	3003.5236Z	3003.5240Z	3003.5246Z
Safety category to EN 954-1	3	3	3	3
Functions				
Input:				
1 switching strip	X	X	X	X
2 switching strips				
Output:				
1 output with 2 relays each with 1 NC contact in series, forced	X	X	X	X
2 outputs with 2 relays each with 1 NC contact in series, forced				
1 output with 2 relays, NC contact available separately, forced				
1 output with 1 relay contact (NC)				
2 outputs each with 1 relay contact (NC)				
Additional functions:				
Changeover contact			X	X
Changeover contact approx. 0.5 s time delayed	X	X		
Reset			X	X
Slip-door contact	X	X		
Supply voltage A1 – A2	230 V AC	24 V DC	230 V AC	24 V DC
Rated power	5 VA	5 VA	5 VA	5 VA
Power pack potential-isolated	X	X	X	X
Relay contacts 13 – 14; 21 – 24				
Max. switching voltage AC/DC	250 V/24 V	250 V/24 V	250 V/24 V	250 V/24 V
Max. switching current AC/DC	4 A/2 A	4 A/2 A	4 A/2 A	4 A/2 A
Perm. operating temperature	–20..+55 °C	–20..+55 °C	–20..+55 °C	–20..+55 °C
Housing:				
Dimensions (W x H x D) in mm	130 x 130 x 75	130 x 130 x 75	130 x 130 x 75	130 x 130 x 75
Degree of protection for housing/contacts	IP 65	IP 65	IP 65	IP 65
Weight	600 g	600 g	600 g	600 g
Tests:				
EN 954-1	X	X	X	X
EN 50121-3-2				
EN 50155				

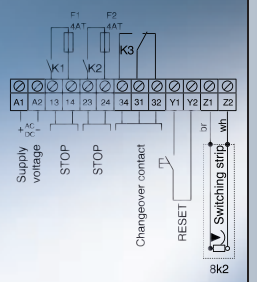
Switchgear overview

Housing type C





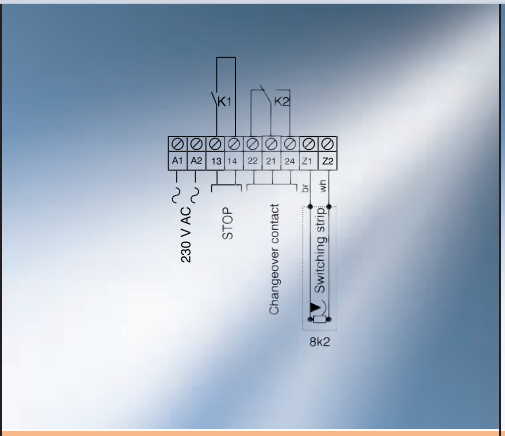


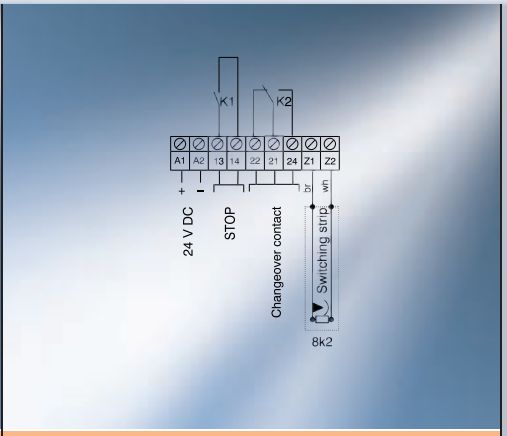


Type	452.40	452.42	452.46	452.49
Article no.	3004.5240	3004.5242	3004.5246	3004.5249
Safety category to EN 954-1	3	3	3	3
Functions				
Input:				
1 switching strip	X	X	X	X
2 switching strips				
Output:				
1 output with 2 relays each with 1 NC contact in series, forced	X	X	X	X
2 outputs with 2 relays each with 1 NC contact in series, forced				
1 output with 2 relays, NC contact available separately, forced				
1 output with 1 relay contact (NC)				
2 outputs each with 1 relay contact (NC)				
Additional functions:				
Changeover contact	X	X	X	X
Changeover contact approx. 0.5 s time delayed				
Reset	X	X	X	X
Slip-door contact				
Supply voltage A1 – A2	230 V AC	24–230 V AC/24–110 V DC	24 V DC	24 – 60 V AC/DC
Rated power	3 VA	4 VA/6 VA	3 VA	4 VA/6 VA
Power pack potential-isolated	X	X	X	X
Relay contacts 13 – 14; 21 – 24				
Max. switching voltage AC/DC	250 V/24 V	250 V/24 V	250 V/24 V	250 V/24 V
Max. switching current AC/DC	4 A/2 A	4 A/2 A	4 A/2 A	4 A/2 A
Perm. operating temperature	–20..+55 °C	–20..+55 °C	–20..+55 °C	–20..+55 °C
Housing:				
Dimensions (W x H x D) in mm	22.5 x 100 x 110	22.5 x 100 x 110	22.5 x 100 x 110	22.5 x 100 x 110
Degree of protection for housing/contacts	IP 20	IP 20	IP 20	IP 20
Weight	250 g	190 g	175 g	190 g
Tests:				
EN 954-1	X	X	X	X
EN 50121-3-2				X
EN 50155				X

/ Switchgear overview

Housing type D





Type	B212.00	B212.06
Article no.	30B2.1200	30B2.1206
Safety category to EN 954-1	1	1
Functions		
Input:		
1 switching strip	X	X
2 switching strips		
Output:		
1 output with 2 relays each with 1 NC contact in series, forced		
2 outputs with 2 relays each with 1 NC contact in series, forced		
1 output with 2 relays, NC contact available separately, forced		
1 output with 1 relay contact (NC)	X	X
2 outputs each with 1 relay contact (NC)		
Additional functions:		
Changeover contact	X	X
Changeover contact approx. 0.5 s time delayed		
Reset		
Slip-door contact		
Supply voltage A1 – A2	230 V AC	24 V DC
Rated power	3 VA	1.5 VA
Power pack potential-isolated	X	X
Relay contacts 13 – 14; 21 – 24		
Max. switching voltage AC/DC	250 V/24 V	250 V/24 V
Max. switching current AC/DC	4 A/2 A	4 A/2 A
Perm. operating temperature	–20..+55 °C	–20..+55 °C
Housing:		
Dimensions (W x H x D) in mm	22.5 x 75 x 111	22.5 x 75 x 111
Degree of protection for housing/contacts	IP 20	IP 20
Weight	100 g	65 g
Tests:		
EN 954-1	X	X
EN 50121-3-2		
EN 50155		

Mounting rail overview

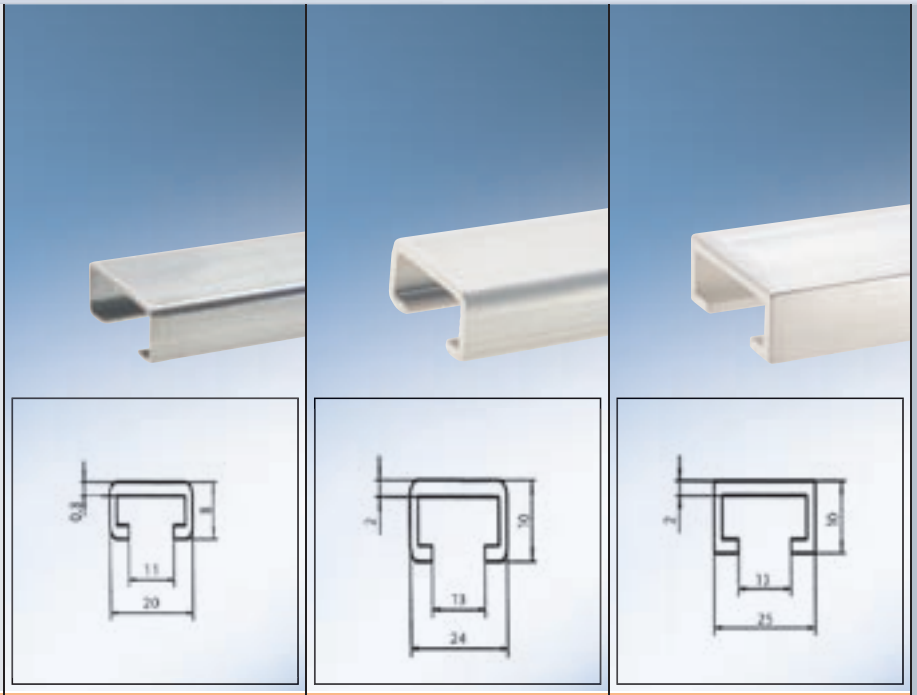
C-rails

C-rails – for secure mounting

To affix the safety switching strips to the gate, machine or system involved, you can choose from a wide range of mounting rails. Depending on the application and profile types concerned, the mounting rails can be supplied in steel or aluminium. Different models (e. g. with and without a flange) provide multifarious options for mounting configurations.

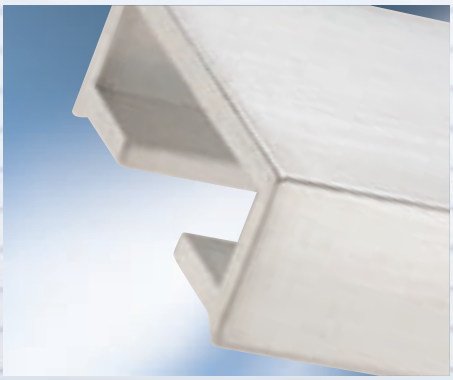
If the customer so requests, Gelbau also offers an option for supplying the C-rails with boreholes, press-fit threaded bolts or press-fit nuts.

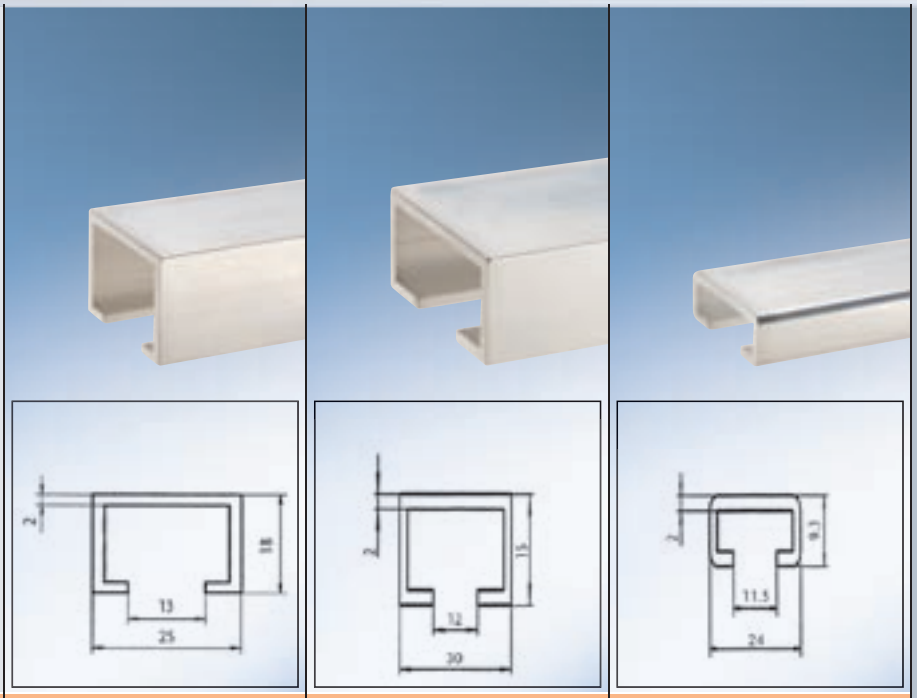
/ C-rail overview



Type		C-rail 112/KS	C-rail 112/S	C-rail 112/A
Article no.		3045.1111	3045.1112	3045.1212
Material		Steel galvanised	Steel galvanised	Aluminium Al Mg Si 0.5 F 22
Delivery lengths		2 m	2 m	2 m/4 m
For switching strip profile/rubber-sheath-profile				
Type	Article no.			
001.02	3100.0102	X		
001.10I	3100.0110I		X	X
001.10N	3100.0110N		X	X
001.10RED	3100.0110RED		X	X
001.10YELLOW	3100.0110Y		X	X
018.10	3100.0118			
018.10N	3100.0118N			
018.10WHITE	3100.0118W			
002.10	3100.0210		X	X
003.10I	3100.0310I		X	X
003.10N	3100.0310N		X	X
005.02	3100.0502	X		
005.10	3100.0510		X	X
006.02	3100.0602	X		
006.10	3100.0610		X	X
008.02	3100.0802	X		
008.04	3100.0804		X	X
016.10	3100.1610		X	X
016.10N	3100.1610N		X	X
018.30	3100.1830			
01.111	3100.1111			

/ C-rail overview





Type		C-rail 112/A4	C-rail 112/A5	C-rail 112/A6
Article no.		3045.1216	3045.1217	3045.1218
Material		Aluminium Al Mg Si 0.5 F 22	Aluminium Al Mg Si 0.5 F 22	Aluminium Al Mg Si 0.5 F 22
Delivery lengths		2 m/4 m	2 m/4 m	2 m/4 m
For switching strip profile/rubber-sheath-profile				
Type	Article no.			
001.02	3100.0102			
001.10I	3100.0110I	X	X	X
001.10N	3100.0110N	X	X	X
001.10RED	3100.0110RED	X	X	X
001.10YELLOW	3100.0110Y	X	X	X
018.10	3100.0118			
018.10N	3100.0118N			
018.10WHITE	3100.0118W			
002.10	3100.0210	X	X	X
003.10I	3100.0310I	X	X	X
003.10N	3100.0310N	X	X	X
005.02	3100.0502			
005.10	3100.0510	X	X	X
006.02	3100.0602			
006.10	3100.0610	X	X	X
008.02	3100.0802			
008.04	3100.0804	X	X	X
016.10	3100.1610	X	X	X
016.10N	3100.1610N	X	X	X
018.30	3100.1830			
01.111	3100.1111			

/ Installation instructions for Contact-Duo-Profiles

as exemplified by a profile without compensation chamber and without sealing lip

Step	Detailed description	Notes
0	**Tools required** Rubber scissors, knife, electronic side-cutter, sandpaper (grain size 80), belt punch, pointed pliers	
1 **Cutting the profile to size**	**Cutting the profile to length** 1.1 Total length of the switching strip minus 34 mm for the end caps (17 mm per cap). 	When cutting to size, make sure the cut edges are straight, smooth and right-angled.
2 **Shortening the foot by the dimension of the end cap's circumferential edge**	**Right-angled cross-section** 2.1 Cut at right angles into the foot after 12 mm. 	Take care to ensure that you do not damage the profile when making the right-angled cut. 
	Axial cross-section 2.2 Cut off the foot after 12 mm up to the right-angled cut. Any protruding remains of the foot will have to be sanded off later. 	
		
3 **Shortening the copper wires**	**Shortening** 3.1 Shorten the copper wire with flush precision. 	This step enables you to achieve a smooth sanding surface.
4 **Sanding the profile**	**Cut surface** 4.1 Sand the cut surface until it is even and matt. 	Important: the edges must not be sanded until they are round. Straight-cut edges guarantee reliable adhesion. During this procedure, take care to ensure that soiling (grinding dust, foreign bodies, adhesive, etc.) does not penetrate into the switching chamber. 
	Profile foot 4.2 The remaining rib of the profile foot must be completely sanded until it is even. 	Sanding the end of the profile prepares the surface for gluing.

/ Installation instructions for Contact-Duo-Profiles

as exemplified by a profile without compensation chamber and without sealing lip

Step	Detailed description	Notes
7 **Wetting the interior rib with adhesive**	**Wetting** Apply a thin but even film of adhesive to the rib. Applying too much adhesive will impair the adhesion properties. 7.1  	Important: when wetting the rib with adhesive, make sure that no adhesive gets onto the inner sealing edge of the end cap and on the cable of the plug connector. The adhesive sets immediately, and then it will no longer be possible to shift the parts. Use the adhesive with the utmost care. Avoid any contact with skin and eyes, and always comply with the safety instructions on the tube. Only our adhesive is matched to the components involved.
8 **Fitting the end cap**	**Fitting** Place the end cap on the profile from the profile foot side. It is particularly important to make sure the corners are positioned correctly, so that the cap does not jam when being pushed on. Then press the cap firmly for about 10 seconds. Only a short time should elapse between applying the adhesive and pressing on the cap. 8.1  	When fitting the cap, the cable must also be pulled through the bushing, without withdrawing the plug connector from the copper wires. We recommend practising this procedure several times without adhesive. With adhesive, there will no longer be any opportunity to make a correction. When practising, repeatedly pull the plug connector approx. 50 mm out of the end cap again, then plug the plug connector into the copper wires, and then fit the end cap.
9 **Gluing the end cap in place**	**Gluing on the foot side of the profile** Fold back the circumferential edge and apply a thin, even film of adhesive to the adhesive surface of the foot. Fold the sealing edge back into position, first press the two corners down so that the end cap cannot shift, and for approximately 10 seconds press onto the entire adhesion surface. 9.1  	
	Gluing the switching chamber Fold back the circumferential edge, and apply a thin, even coating of adhesive to the right or left half as far as the centre, all the way into the corners. Fold the circumferential edge back into position and for approx. 10 seconds press the adhesion surface. Then fold back the circumferential edge again... 9.2 	

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