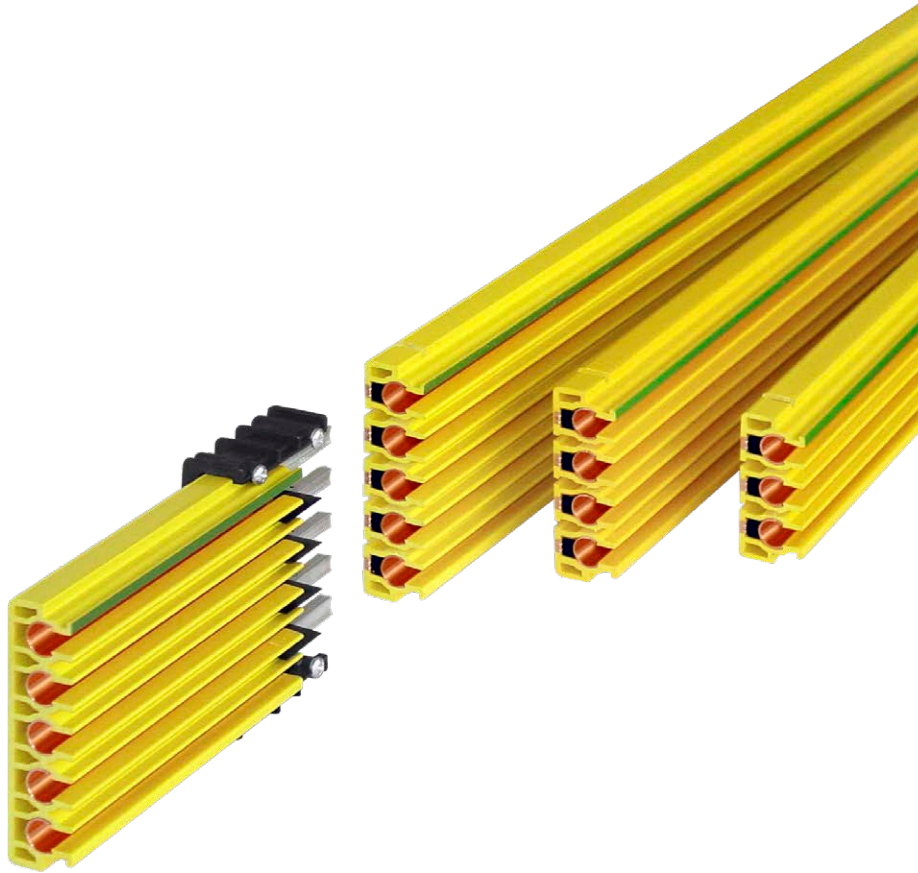
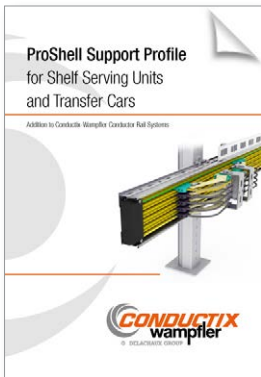


Multipole Conductor Rail

MultiLine Program 0831



CONDUCTIX
wampfler



ProShell - the modular carrier profile as a system supplement for program 0812 and 0831
ProShell catalog KAT0800-0003-E available for download at www.conductix.com

General Hints

We reserve the right to carry out any modification of the product at any time in the course of technical progress without prior notice. All our equipment is in accordance with CE. Our general terms of business are effective. We shall send them to you on request. Reprint, even of extracts, is only permitted with our approval.

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Description

Conductix-Wampfler Multipole Conductor Rail Program 0831

The Conductix-Wampfler multipole conductor rail program 0831 is protected against direct contact and designed as a flat profile. This system is recommended for high storage bays, cranes, transport trolleys and special machinery. The Conductix-Wampfler multipole conductor rail can be used for energy and data transmission on indoor and weather protected outdoor applications with straight track layouts.

- 3, 4 and 5-poles
- 10 - 125A (100% Duty cycle)
- protected against direct contact
- little space consumption / combinable with ProShell Support Profile
- installation vertical and horizontal
- quick installation due to connector plug-in system and universal steel clamp fasteners

CONDUCTOR RAILS

The conductor rail poles are enclosed in high-quality plastic profiles in 3, 4 and 5 pole type. There are different versions for a current load from 10 up to 125A nominal current. The phase spacing of the multipole profiles is 18 mm. With a combination of different multipole profiles every number of multipole conductor systems is possible.

The standard length is 4000 mm, shorter lengths are available. It is possible to combine different conductor rail types within the compact profiles. Datametal conductor rails will be used for a reliable data transmission. In special cases please ask for assistance.

SUPPORT / HANGER CLAMPS

The conductor rail segments have to be fastened at least at 2 points. The support distance is max. 1000 mm. The plastic hanger clamps can be mounted on customers supporting beams or runway profiles as well as on Conductix-Wampfler support arms. With universal steel clamp fasteners they can be mounted on the beam flanges. The multipole conductor rail will be snapped into the hanger clamps which are designed as sliding hanger clamps.

SUPPORT / ANCHOR CLAMPS

To control the expansion an anchor clamp will be installed, which holds the multipole conductor rail in position in the hanger clamp, due to an additional screw. The anchor clamp will preferably be located in the middle of an installation.

POWER FEED

Power feeds are available as end feed or in-line feed up to 35 mm² cross section, as well as flat centre feed up to 35 mm² cross section. In-line feeds can be installed at each rail joint. The power feeds are rail segments with a length of 1000 mm, except for the end feeds.

EXPANSION JOINTS

Expansion joints are used as expansion compensators in systems which are exceeding a total length of 200 m (see page 13/14). In case you need expansion joints please ask for assistance.

RAIL CONNECTORS

The rail segments are connected with a special connector plug-in system. The rail connector is already included at the end of each rail segment.

PICK-UP GUIDES FOR TRANSFER POINTS

A reduced travel speed will increase the lifetime. A limit of max. 85 m/min is recommended.

INSTALLATION

For detailed information please refer to our installation instruction (MV0831-0006-E).

Critical installation situations, optional locks / safety ropes are available.

Current Collectors

The current collector unit with or without terminal box is installed on the mobile power consumer. It consists of fully insulated current collectors which are moveable in all directions. The earth collector is marked green/yellow and not interchangeable with a phase collector. Collector shoes can be checked without disassembling and can be replaced quick and easily. In special cases please ask for assistance.

	Current Collectors		Current Collector Units				
			with Terminal Box	single without Terminal Box		double with Terminal Box	
Max. Current at 100% Duty Cycle [A]	55	80	55	55	80	68	110
Part No.	083102-... (page 15)	083106-... (page 16)	083103-... (page 20)	083103-... (page 18)	083107-... (page 19)	083104-... (page 22)	083104-... (page 21)
... also for Pick-up Guides ... for Transfer Points	yes	yes	no	yes	yes	no	no

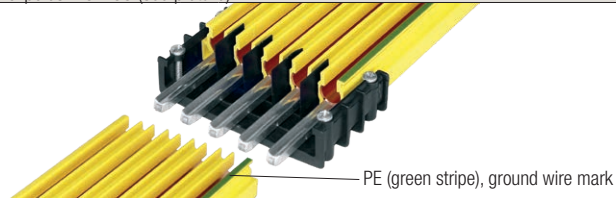
Technical Data

Conductix-Wampfler Multipole Conductor Rail Program 0831

Conductor Rail	Galvanized steel		Copper		Data-metal
Type	083112	083115	083116	083117	083118
Nominal Current at 100% duty cycle and 35°C [A]	32	60	100	125 ¹⁾	10
Cross Section of Conductor [mm ²]	25	16	25	35	25
Resistance at 35°C [Ω/m]	0.005506	0.001182	0.000745	0.000540	0.029313
Impedance at 18 mm rail spacing [Ω/m]	0.005507	0.001185	0.000750	0.000548	0.029314

1) 140 A at 80% duty cycle

Nominal Voltage [V]	500
Min. Operating Parameters	U _{min} 24V, I _{min} 1A (manufacturer recommendation)
Support Spacing max. [mm]	1000
Rail Length [mm]	Standard 4000; intermediate lengths 3000, 2000, 1000
External Dimensions [mm]	3-poles: 26 x 62 4-poles: 26 x 80 5-poles: 26 x 98 (see picture)



Speed max. [m/min]	400 (without cone)
Ambient Temperature max.	55°C
Ambient Temperature min.	6°C; -30° to +6°C solutions available on request
Max. Temperature Difference	50°K

Relevant Norms	<p>VDE 0110-1:2008-01 Insulation coordination for electrical equipment in low voltage systems - Part 1: Principles, requirements and tests (IEC 60664-1:2007); German version EN 60664-1:2007</p> <p>DIN EN 60204-1; VDE 0113-1:2007-06 Machine Safety - Electrical Equipment of Machines - Part 1: General requirements (IEC 60204-1:2005, modified); German version EN 60204-1:2006</p> <p>DIN EN 60529; VDE 0470-1:2000-09 Systems of protection through housing (IP-Code) (IEC 60529:1989 + A1:1999); German version EN 60529:1991 A1:2000</p> <p>DIN EN 60243-2; VDE 0303-22:2001-10 Electrical puncture strength of insulating materials - Test procedures - Part 2: Additional requirements for testing with direct current (IEC 60243-2:2001); German version EN 60243-2:2001</p> <p>DIN IEC 60093; VDE 0303-30:1993-12 Testing procedures for electrical insulating materials; specific puncture strength and specific surface strength of fest, electrical insulating materials (IEC 60093:1980); German version HD 429 S1:1983</p> <p>DIN IEC 60167; VDE 0303-31:1993-12 Test procedures for electrical insulating materials, insulation resistance of firm insulating materials (IEC 60167:1964); German version HD 568 S1:1990</p> <p>DIN EN 60112; VDE 0303-11:2003-11 Procedure for the determination of the test number and of the index number of the spark checking of firm insulating materials (IEC 60112:2003); German version EN 60112:2003</p>
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Flammability / fire safety	Meet requirements for insulation materials in UL 94 V-0; Flame retardant and self-extinguishing (IEC 60695-11-10)
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Air and Surface Creepage	depending on degree of pollution; surface creepage distance 30 mm to DIN VDE 0110 Part 1 + 2
--------------------------	--

Protection Type	IP23 with horizontal arrangement / IP21 with vertical arrangement
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Chemical Resistance of the Profile at an Ambient Temperature of +45°C	<table border="0"> <tr> <td>Benzine</td> <td>resistant</td> <td>Sodium hydroxide 25%</td> <td>resistant</td> </tr> <tr> <td>Mineral oil</td> <td>resistant</td> <td>Hydrochlorid acid</td> <td>resistant</td> </tr> <tr> <td>Grease</td> <td>resistant</td> <td>Sulphuric acid up to 50%</td> <td>resistant</td> </tr> </table>	Benzine	resistant	Sodium hydroxide 25%	resistant	Mineral oil	resistant	Hydrochlorid acid	resistant	Grease	resistant	Sulphuric acid up to 50%	resistant
Benzine	resistant	Sodium hydroxide 25%	resistant										
Mineral oil	resistant	Hydrochlorid acid	resistant										
Grease	resistant	Sulphuric acid up to 50%	resistant										

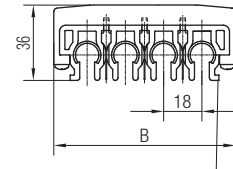
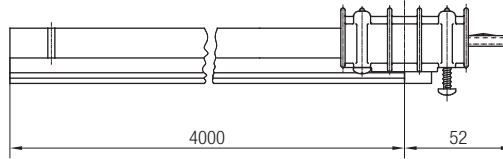
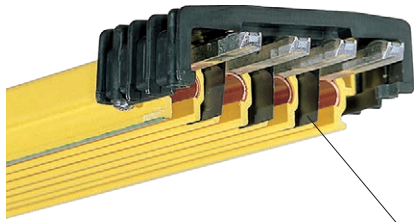
The materials of the conductor rail systems are weather resistant and have got a high resistance against certain chemicals. For special applications please contact us. Please be careful with solvents and contact sprays as well as flavors (Special material on request)

Local approvals	UL / CSA / GOST-R
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Note: Additional informations on request.

Conductor Rails

Rails complete with pre-mounted Connector (083112-... / 083115-... / 083116-... / 083117-... / 083118-...)



Ground wire
PE mark

Technical details

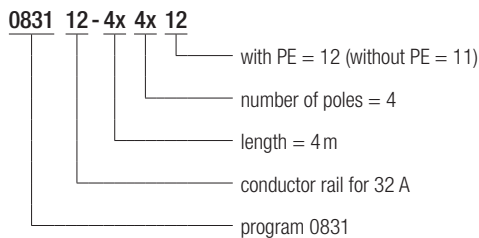
- The table below refers to standard insulation fins.
- Intermediate lengths are available!

Multipole Conductor Rail	Power Supply with PE Part No.	Controls without PE Part No.	Poles	B [mm]	Weight [kg]
Galvanized Steel 32 A	083112-4x3x12	083112-4x3x11	3	72.5	6.280
	083112-4x4x12	083112-4x4x11	4	90.5	8.370
	083112-4x5x12	083112-4x5x11	5	108.5	10.460
Copper 60 A	083115-4x3x12*	083115-4x3x11*	3	72.5	5.600
	083115-4x4x12*	083115-4x4x11*	4	90.5	7.474
	083115-4x5x12*	083115-4x5x11*	5	108.5	9.348
Copper 100 A	083116-4x3x12*	083116-4x3x11*	3	72.5	6.590
	083116-4x4x12*	083116-4x4x11*	4	90.5	8.786
	083116-4x5x12*	083116-4x5x11*	5	108.5	10.982
Copper 125 A	083117-4x3x12*	083117-4x3x11*	3	72.5	7.520
	083117-4x4x12*	083117-4x4x11*	4	90.5	10.034
	083117-4x5x12*	083117-4x5x11*	5	108.5	12.540
Datametal 10 A	083118-4x3x12	083118-4x3x11	3	72.5	6.300
	083118-4x4x12	083118-4x4x11	4	90.5	8.402
	083118-4x5x12	083118-4x5x11	5	108.5	10.504

* Standard range

Short lengths (SAP CONFIG 3129410)

Order Example: Multipole conductor rail program 0831
steel 32 A
4-poles
for power supply
4 m long



Note

Plastic and metal (conductive material) have a different expansion behavior. To compensate for rail- and insulation at the reference temperature of 20° C are of different lengths (2 mm shorter rail, as insulation).

A gap in the assembled state, between the rails, of 2 to max. 8 mm. is possible, depending on temperature.

For applications below + 5 ° C (cooling applications), there are special rails are available. Please contact us.

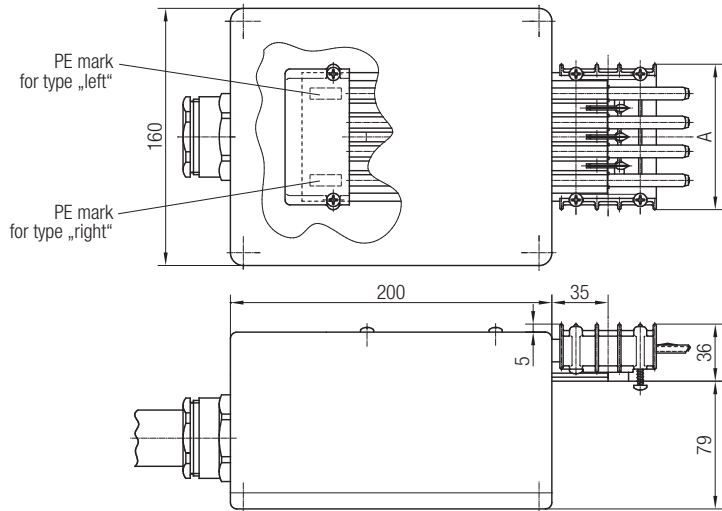
Power Feeds

End Feed complete with pre-mounted Connector and Terminal Box (083153-...)



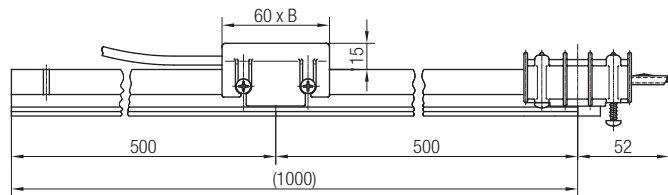
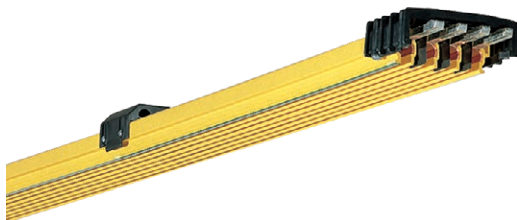
Technical details

- Connection cable max. 35 mm²
- Suitable for all types of multipole conductor rails
- Use cable lugs for threaded connection M8 (not included)



Power Supply with PE type "right" Part No.	Power Supply with PE type "left" Part No.	Controls without PE Part No.	Poles	Gland	A [mm]	Weight [kg]
083153-310x12	083153-310x13	083153-310x11	3	Pg 36	72.5	1.460
083153-311x12	083153-311x13	083153-311x11		Pg 29		1.430
083153-312x12	083153-312x13	083153-312x11		Pg 16		1.410
083153-410x12	083153-410x13	083153-410x11	4	Pg 36	90.5	1.985
083153-411x12	083153-411x13	083153-411x11		Pg 29		1.955
083153-412x12	083153-412x13	083153-412x11		Pg 16		1.935
083153-510x12	083153-510x13	083153-510x11	5	Pg 36	108.5	2.330
083153-511x12	083153-511x13	083153-511x11		Pg 29		2.300
083153-514x12	083153-514x13	083153-514x11		Pg 42		2.365

Line Feed complete with pre-mounted Connector (083151-...)



Technical details

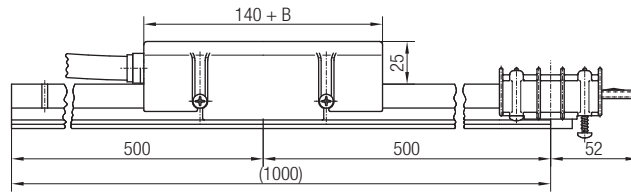
- Connection cable max. 10 mm²
- Cable lugs (according to nominal current) are included
- connection screws M5

In-line Feed	Power Supply with PE Part No.	Controls without PE Part No.	Poles	B [mm]	Weight [kg]
for Steel Rail 32 A	083151-32x12	083151-32x11	3	72.5	1.800
	083151-42x12*	083151-42x11	4	90.5	2.400
	083151-52x12	083151-52x11	5	108.5	3.000
for Copper Rail 60 A	083151-35x12*	083151-35x11*	3	72.5	1.630
	083151-45x12*	083151-45x11*	4	90.5	2.175
	083151-55x12*	083151-55x11*	5	108.5	2.720
for Datametal Rail 10 A	083151-38x12	083151-38x11*	3	72.5	1.800
	083151-48x12	083151-48x11*	4	90.5	2.400
	083151-58x12	083151-58x11*	5	108.5	3.000

* Standard range

Power Feeds

Line Feed complete with pre-mounted Connector (083154-...)



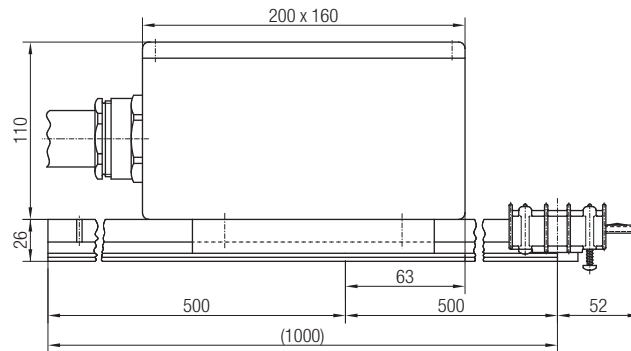
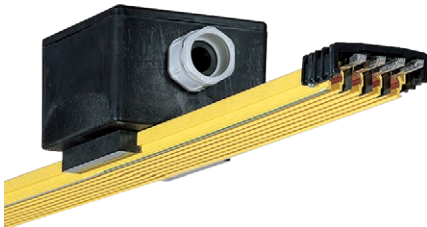
Technical details

- Connection cable max. 35 mm²
- Cable lugs (according to nominal current) are included
- connection screws M6

In-line feed	Power Supply with PE Part No.	Controls without PE Part No.	Poles	B [mm]	Weight [kg]
Steel Rail 32 A	083154-32x12	083154-32x11	3	72.5	1.925
	083154-42x12	083154-42x11	4	90.5	2.525
	083154-52x12	083154-52x11	5	108.5	3.120
Copper Rail 60 A	083154-35x12*	083154-35x11*	3	72.5	1.750
	083154-45x12*	083154-45x11*	4	90.5	2.300
	083154-55x12*	083154-55x11*	5	108.5	2.850
Copper Rail 100 A	083154-36x12*	083154-36x11*	3	72.5	2.010
	083154-46x12*	083154-46x11*	4	90.5	2.630
	083154-56x12*	083154-56x11*	5	108.5	3.250
Copper Rail 125 A	083154-37x12*	083154-37x11	3	72.5	2.240
	083154-47x12*	083154-47x11	4	90.5	2.940
	083154-57x12*	083154-57x11	5	108.5	3.650

* Standard range

Line Feed complete with pre-mounted Connector and Terminal Box (083152-...)



Technical details

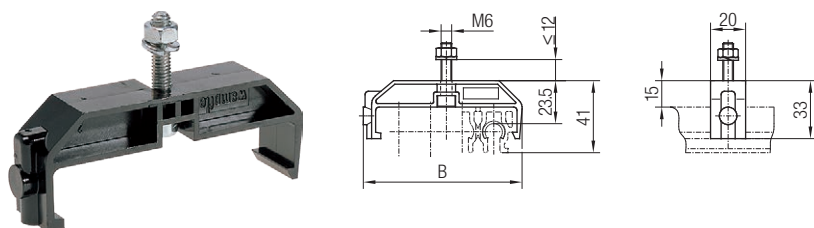
- Connection cable max. 35 mm²
- Use cable lugs for threaded connection M8 (not included)

In-line feed	Power Supply with PE Part No.	Controls without PE Part No.	Poles	Gland	Weight [kg]
Steel Rail 32 A	083152-323x12	083152-323x11	3	Pg 21	3.000
	083152-421x12	083152-421x11	4	Pg 29	3.720
	083152-521x12	083152-521x11	5	Pg 29	4.600
Copper Rail 60 A	083152-353x12*	083152-353x11	3	Pg 21	2.430
	083152-451x12*	083152-451x11	4	Pg 29	3.190
	083152-551x12*	083152-551x11	5	Pg 29	3.950
Copper Rail 100 A	083152-360x12*	083152-360x11	3	Pg 36	2.680
	083152-460x12*	083152-460x11	4	Pg 36	3.520
	083152-564x12*	083152-564x11	5	Pg 42	4.350
Copper Rail 125 A	083152-370x12	083152-370x11	3	Pg 36	2.920
	083152-470x12	083152-470x11	4	Pg 36	3.830
	083152-574x12	083152-574x11	5	Pg 42	4.730

* Standard range

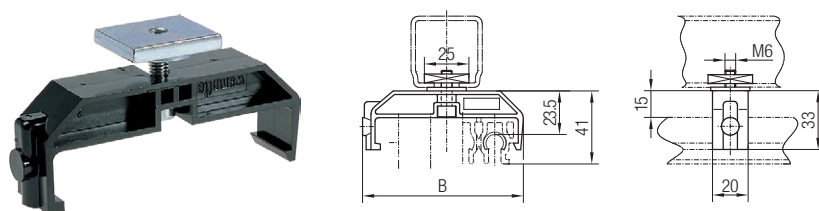
Hanger Clamps

For Conductor Rail Snap-in with Steel Nut (083143-...)



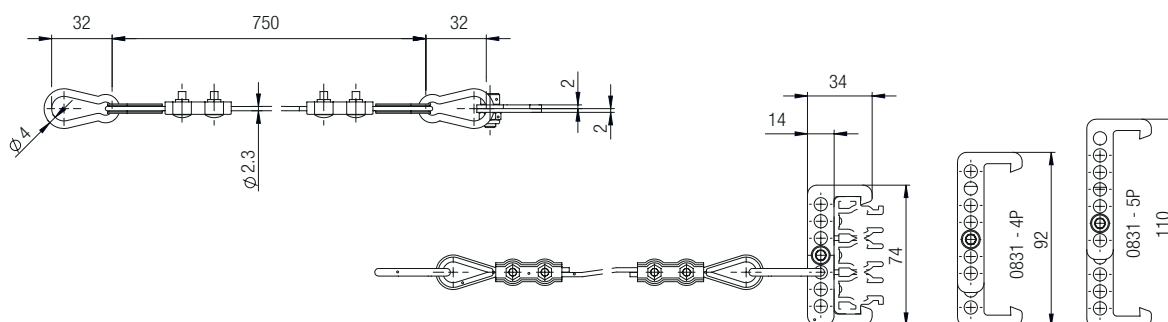
Part No.	Poles	Max. Support Spacing [mm]	B [mm]	Weight [kg]
083143-3*	3	1000	72.5	0.023
083143-4*	4		90.5	0.025
083143-5*	5		108.5	0.028

For Conductor Rail Snap-in for Support Arm Installation (083145-...)



Part No.	Poles	Max. Support Spacing [mm]	B [mm]	Weight [kg]
083145-3*	3	1000	72.5	0.053
083145-4*	4		90.5	0.055
083145-5*	5		108.5	0.058

Safety gear for horizontal installation and installation height > 3 m



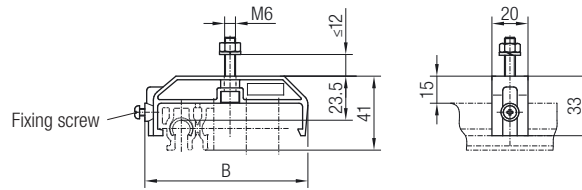
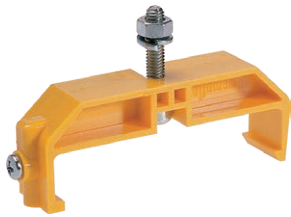
Note

The safety rope is attached to the substructure. It serves as a collecting protection of the conductor line eg in the telegrams based with a forklift or other influences such as chemical damage to the holder. The safety cable prevents the full system crash. For vertical installation, please contact us.

Part No.	Poles	Quantity per System	B [mm]	Weight [kg]
08-S280-0613	3-5	every second rail	74-110	0.07

Anchor Clamps

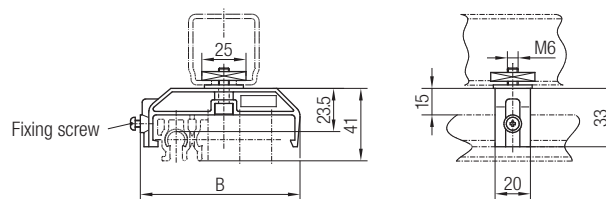
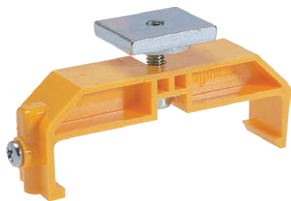
For Conductor Rail Snap-in and Fixation with Steel Nut (083133-...)



Part No.	Poles	B [mm]	Weight [kg]
083133-3*	3	72.5	0.027
083133-4*	4	90.5	0.030
083133-5*	5	108.5	0.033

* Standard range

For Conductor Rail Snap-in and Fixation for Support Arm Installation (083135-...)



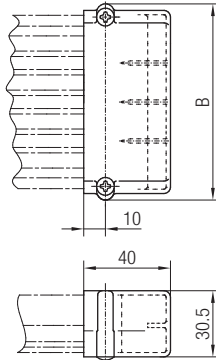
Part No.	Poles	B [mm]	Weight [kg]
083135-3	3	72.5	0.057
083135-4	4	90.5	0.060
083135-5	5	108.5	0.063

Note

The color coding of the fixed points allowed in a simple server failure detection system and strain concept. Installation position in the vicinity of the feed, unless otherwise stated in the project design.

End Caps

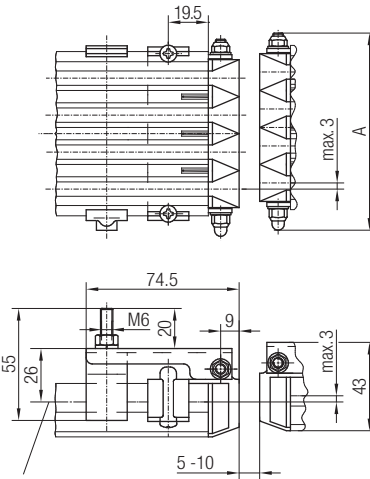
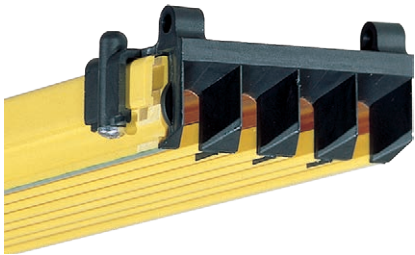
For System Ends (083171-...)



Part No.	Poles	B [mm]	Weight [kg]
083171-3*	3	72.5	0.040
083171-4*	4	90.5	0.045
083171-5*	5	108.5	0.050

* Standard range

For Transfer Points (083172-...)



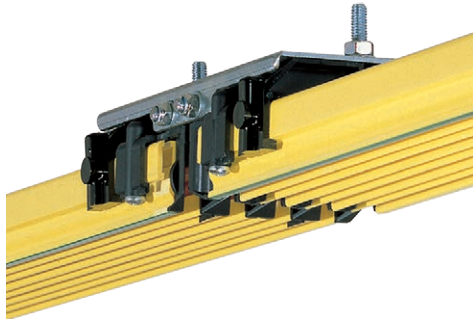
Technical details

- The end cap for transfer points centres the current collector and compensates horizontal and vertical deflections of max. ± 3 mm.
- Not usable in combination with current collector 083102

Part No.	Poles	B [mm]	Weight [kg]
083172-3	3	77	0.160
083172-4	4	95	0.200
083172-5	5	113	0.240

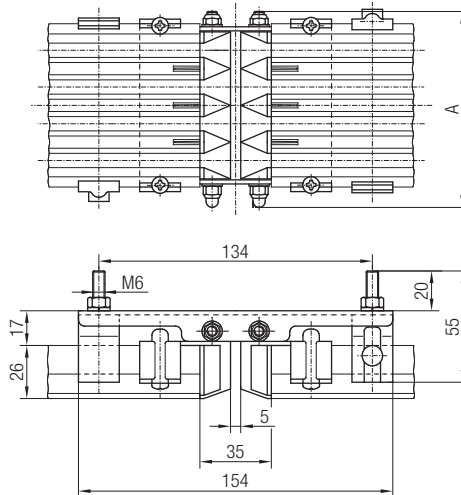
Air Gap Insulating Sections Pick-up Guides

Air Gap Insulating Sections (083195-...)



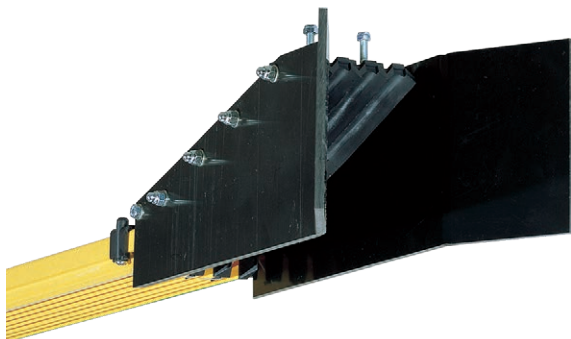
Technical details

- Not usable in combination with current collector 083102



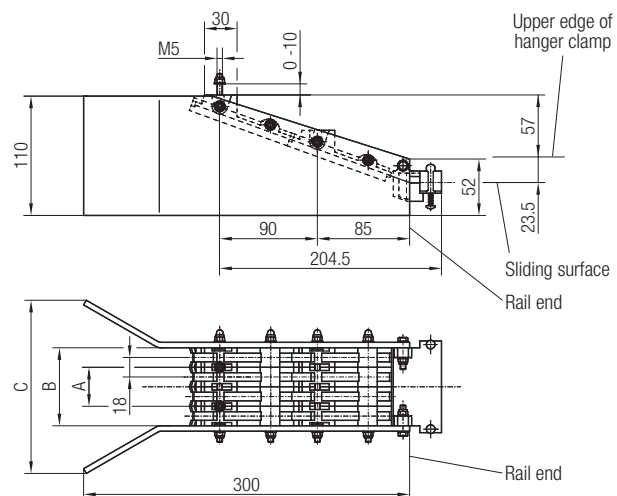
Part No.	Poles	A [mm]	Weight [kg]
083195-3	3	77	0.342
083195-4	4	95	0.418
083195-5	5	113	0.494

Pick-up Guides for Transfer Points (083181-....)



Technical details

- Use pick-up guides only with "pick-up guide current collector".
- The pick-up guide compensates vertical or horizontal misalignments up to ± 15 mm. Assembly tolerances below ± 3 mm are recommended.



Guides: to be fixed to the substructure and represent a fixed point. A „floating“ use is not recommended.

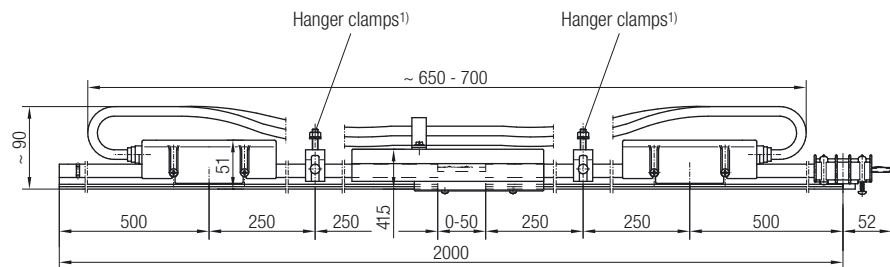
Part No.	Poles	A [mm]	B [mm]	C [mm]	Weight [kg]
083181-3x25	3	18	54	142	0.160
083181-4x25	4	36	72	160	0.200
083181-5x25	5	54	90	178	0.240

Expansion Element

Complete with pre-mounted Connector (083161-...)



Note
Copper-Expansion Element can be used for all copper and steel conductor rails up to 125 A



¹) Hanger clamps to be ordered separately! Connecting cables have to be installed flexible.

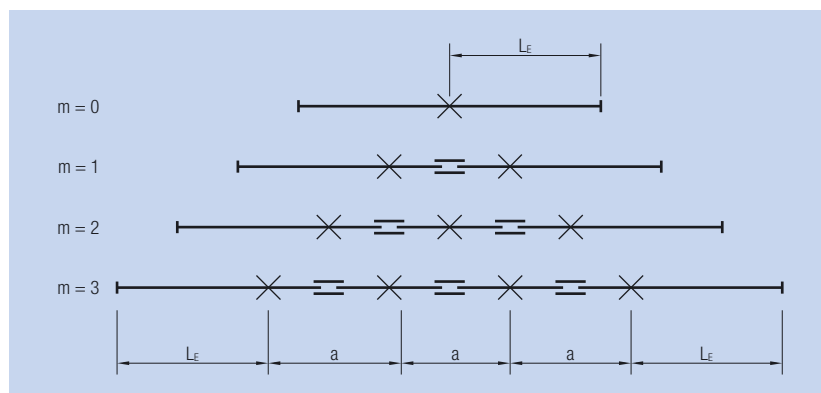
Expansion Elements with PE Part No.	without PE Part No.	Poles	Material	Weight [kg]
083161-2x6372	083161-2x6371	3	Copper	5.610
083161-2x6472	083161-2x6471	4		7.480
083161-2x6572	083161-2x6571	5		9.350
083161-2x2382	083161-2x2381	3	Datametal	2.810
083161-2x2482	083161-2x2481	4		3.720
083161-2x2582	083161-2x2581	5		4.680

See hints page 14 (dimensioning / quantity).

How to select Expansion Elements

Expansion elements are installed in systems exceeding a total system length of 200 m as shown below, if the ambient temperature variation (ΔT) is more than 20°C during operation. Expansion joints are not required if the total system length is shorter than 200 m or if the ambient temperature variation (ΔT) is below 20°C during operation. An anchor clamp in the middle of the system halves the expansion travel and eases positioning of the hanger clamps. Pay attention to the distance between the hanger clamps and the rail connectors (System sketch, page 25).

Determination of System Length L:



System length L:
 $L = 2 \cdot L_E + m \cdot a$

Number of expansion elements:

$$m = \frac{L - 200}{a} \text{ (rounded)}$$

m = number of system part lengths with one expansion element

Anchor clamp
 Expansion element

Expansion Element

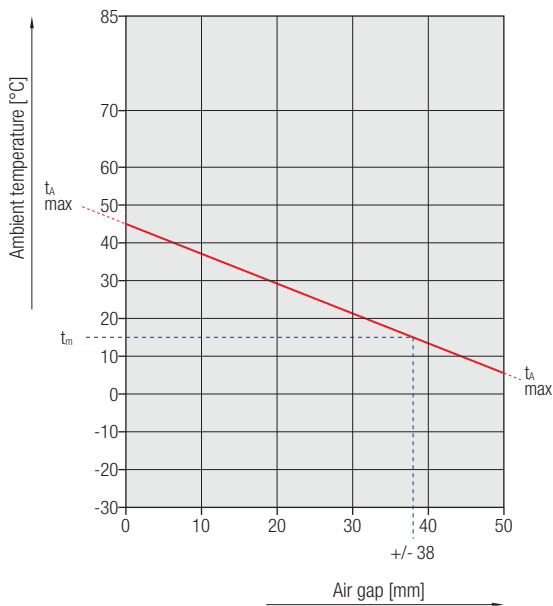
Determination Quantity of Expansion Elements

ΔT [°C]	a [m] ¹⁾	System length [m]							
		220	240	260	280	300	320	340	360
65	11	2	4	6	8	10	11	13	15
60	12	2	4	5	7	9	10	12	14
55	14	2	3	5	6	8	9	10	12
50	15	2	3	4	6	7	8	10	11
45	17	2	3	4	5	6	8	9	10
40	20	1	2	3	4	5	6	7	8
35	24	1	2	3	4	5	5	6	7
30	31	1	2	2	3	4	4	5	6
25	40	1	1	2	2	3	3	4	4
20	60	1	1	1	2	2	2	3	3

1) number of needed expansion elements

Diagram to set the Air Gap of Expansion Elements

Air gap to be set 0 - 50 mm during system installation.



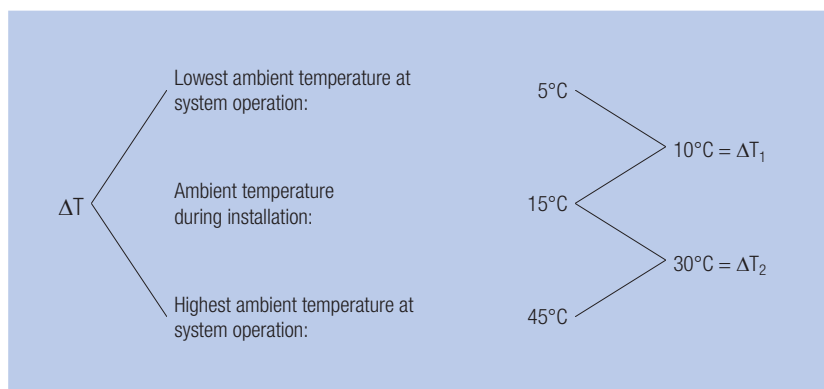
How to use the diagram (Example below):

1. Draw a connection line from min. to max. ambient temperature t_A (e.g. 5°C to 45°C).
2. Mark the ambient temperature during installation t_m (horizontal dotted line).
3. Draw a line from the intersection vertically down and read the air gap to adjust.

Technical details

- Highest ambient temp.: 55°C
- Lowest ambient temp.: 0 to -18°C; depends on the type of conductor rail. Special designs for deeper temperatures on request.

Example



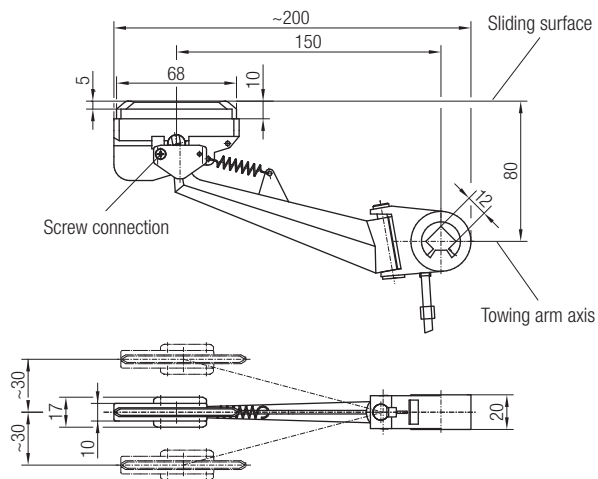
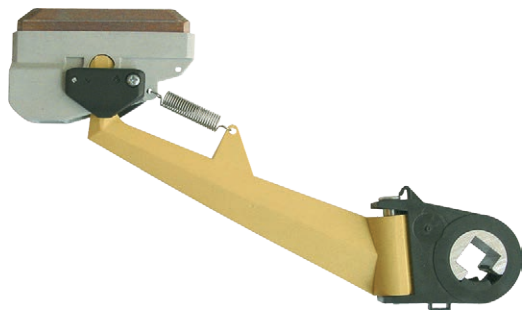
Air gap read from diagram: ~ 38 mm

Air gap calculated:

$$s = 50 \frac{\Delta T_2}{\Delta T_1 + \Delta T_2} = 38 \text{ mm}$$

Current Collectors with Accessories

Current Collectors (083102-...)



Technical details

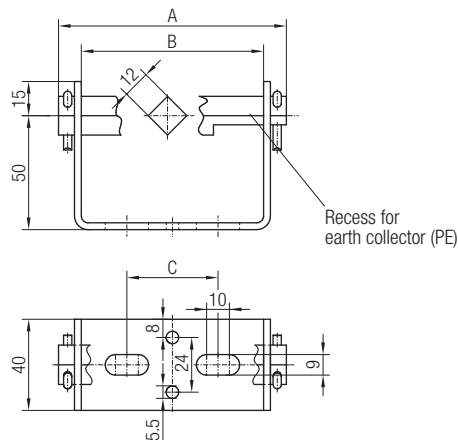
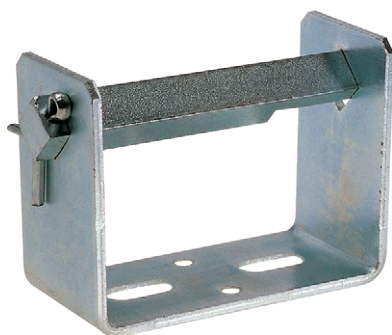
- Collector shoe material: copper graphite
- Max. wearing height: 5 mm
- Contact pressure: 5 N
- Deflection (horizontal/vertical): ± 30 mm
- Assembly tolerances below ± 10 mm recommended
- **Connection cables (highly flexible) to be ordered separately** (see page 17)
- **The current collectors are not for use with program 0811!**
- **Do not use in combination with air gap insulation 083195 and transfer points 083172**

Type	with Phase (PH) Part No.	with Earth (PE) Part No.	I max. ¹⁾ [A]	Weight [kg]
Current Collector	083102-0021*	083102-0022	55	0.120
Current Collector for Transfer Points	083102-3021*	083102-3022	55	0.125

* Standard range

¹⁾ Depending on cross section of connection cable; limit 55A

Collector Support Brackets 081050-.... (for current collector 083102-...)

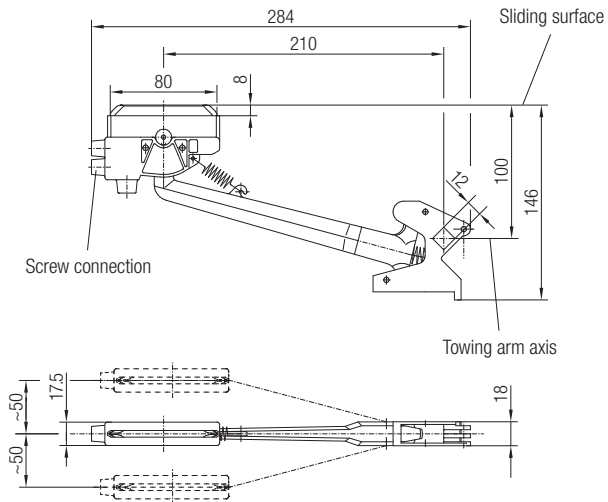
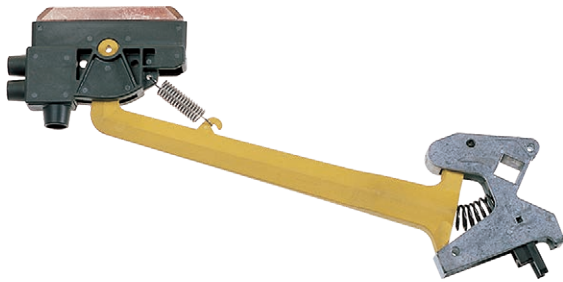


Part No.	Poles	A [mm]	B [mm]	C [mm]	Weight [kg]
081050-20x3*	3	80	60	30	0.300
081050-20x4*	4	100	80	40	0.370
081050-20x5*	5	120	100	50	0.440

* Standard range

Current Collectors and Accessories

Current Collectors 083106-...



Technical details

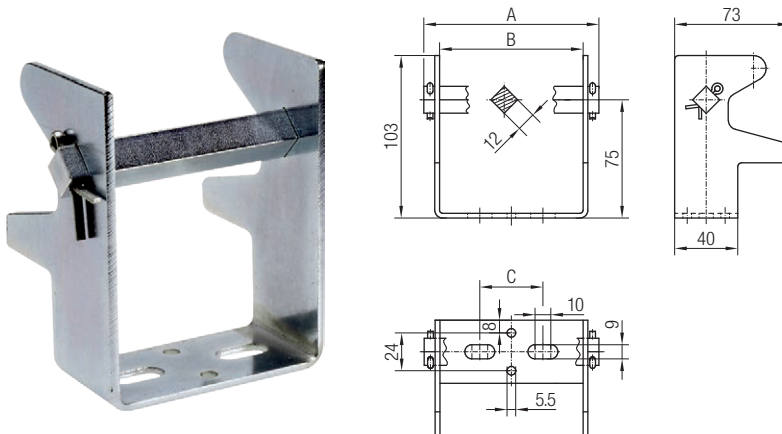
- Collector shoe material: copper graphite
- Max. wearing height: 8 mm
- Contact pressure: 10 N
- Deflection (horizontal/vertical): ± 50 mm
- Assembly tolerances below ± 10 mm recommended
- **Connection cables (highly flexible) to be ordered separately** (see page 17)
- **The current collectors can also be used for transfer points**

Current collectors with Phase (PH) Part No.	Earth (PE) Part No.	I max. ¹⁾ [A]	Weight [kg]
083106-0021*	083106-0022*	80	0.270

* Standard range

¹⁾ Depending on cross section of connection cable; limit 80 A.

Collector Support Brackets 083050-... (for current collector 083106-...)

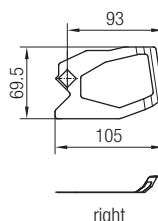
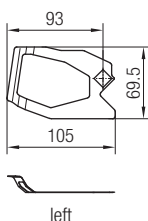
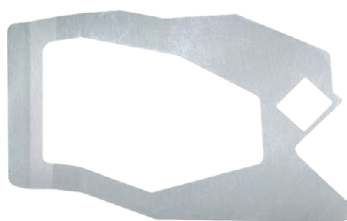


Part No.	Poles	A [mm]	B [mm]	C [mm]	Weight [kg]
083050-18x3*	3	74	55.0	30	0.300
083050-18x4*	4	92	73.0	40	0.370
083050-18x5*	5	110	91.5	50	0.440

* Standard range

Current Collectors and Accessories

Support Spring Plates 08-F030-...



Technical details

- Position and type see current collector unit 083107-...
- For horizontal operation of the current collector unit
- Use only with collector support bracket 083050-...

Part No.	Support Spring Plate	Weight [kg]
08-F030-0082	left	0.013
08-F030-0079	right	

Connection Cable with Multicore Cable End Jacket 081109-...



Cross Section [mm ²]	Phase (PH) Part No.	Connection Cable with Earth (PE) Part No.	Length ¹⁾ [m]	Weight [kg/m]	Cable Diameter [mm]	I at 100% Duty Cycle [A]	Use for
1.5	081109-1x1,5x11	081109-1x1,5x32	1	0.014	4	24	083102-... 083103-... 083104-... 083106-... 083107-...
2.5	081109-1x2,5x11	081109-1x2,5x32	1	0.023	4	34	
4	081109-1x4x11	081109-1x4x32	1	0.037	5	42	
6	081109-1x6x11	081109-1x6x32	1	0.056	8	54	
1.5	081109-2x1,5x11*	081109-2x1,5x32*	2	0.014	4	24	
2.5	081109-2x2,5x11*	081109-2x2,5x32*	2	0.023	4	34	
4	081109-2x4x11*	081109-2x4x32*	2	0.037	5	42	
6	081109-2x6x11*	081109-2x6x32*	2	0.056	6	54	

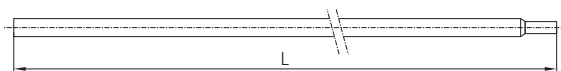
* Standard range (SAP KONFIG 3126191)

¹⁾ Intermediate lengths are available

Please note:

The connection cable is highly flexible and double insulated and must be ordered in the required length and size. Amperage for single-core cables installed free in air according to DIN VDE 57 100 part 523.

Connection Cable 081109-..., 081209-...



Cross Section [mm ²]	Phase (PH) Part No.	Connection Cable with Earth (PE) Part No.	Length ¹⁾ [m]	Weight [kg/m]	Cable Diameter [mm]	I at 100% Duty Cycle [A]	Use for
10	081109-1x10x91	081109-1x10x92	1	0.098	7	73	083106-... 083107-...
16	081209-1x16x81	081209-1x16x82	1	0.156	10	98	
10	081109-2x10x91*	081109-2x10x92	2	0.098	7	73	
16	081209-2x16x81*	081209-2x16x82	2	0.156	10	98	

* Standard range (SAP KONFIG 3126191)

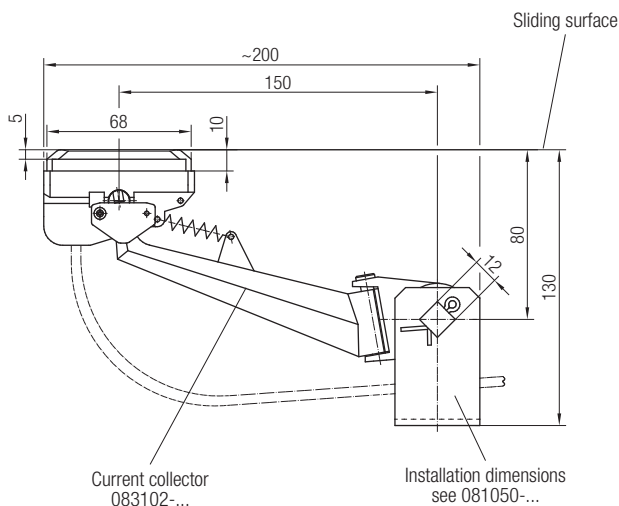
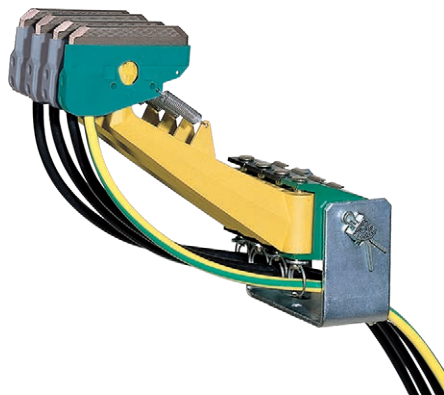
¹⁾ Intermediate lengths are available

Please note:

The connection cable is highly flexible and double insulated and must be ordered in the required length and size. Amperage for single-core cables installed free in air according to DIN VDE 57 100 part 523.

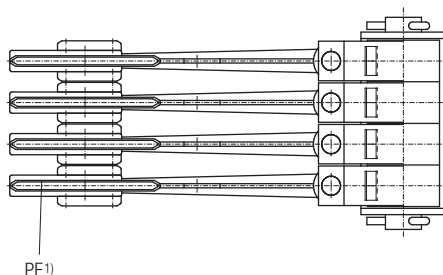
Current Collector Units

Current Collector Units without Terminal Boxes 083103-...



Technical details

- Shown is the version for „pick-up guides for transfer points“
- Collector shoe material: copper graphit
- Contact pressure per collector arm: 5 N
- Max. current load:
55A with 6 mm² connection cable at 100% duty cycle
34A with 2.5 mm² connection cable at 100% duty cycle
- Deflection (horizontal/vertical): ±30 mm
- Assembly tolerances below ±10 mm recommended
- **The current collector units are not for use with program 0811!**
- **Other connection cable cross sections on request**
- To arrange above as double-current-collectors separate part no. for the complementary units are required due to PE-orientation. Please contact sales dpt.



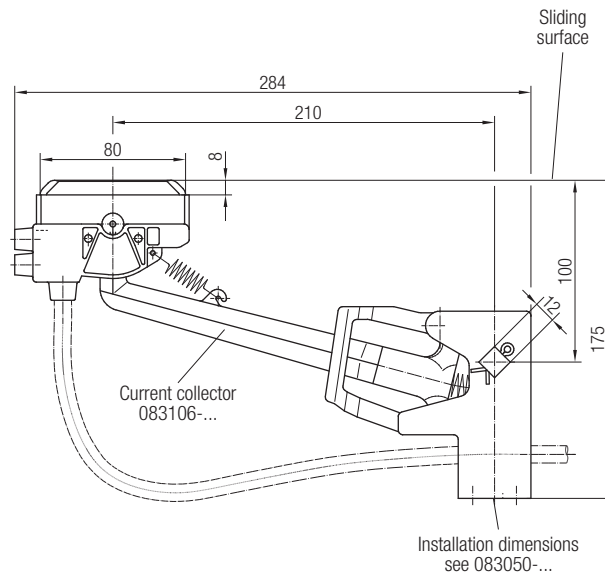
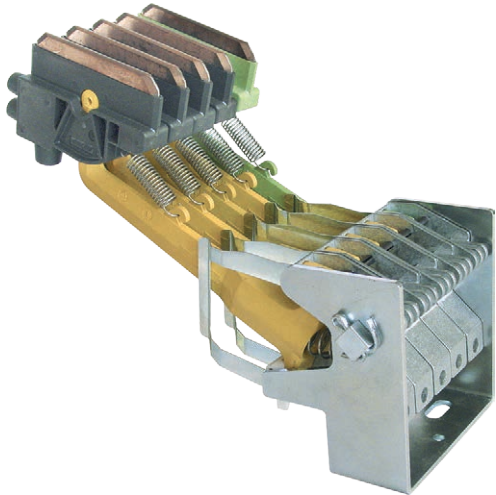
1) Position of earth collectors for version „with PE“

Current Collector Unit	Standard Part No.	for Transfer Points Part No.	Poles	Weight [kg]
for power supply; with PE; connection cable 6 mm ² , 1 m long	083103-030023*	083103-033023	3	0.690
	083103-040023*	083103-043023	4	0.890
	083103-050023*	083103-053023	5	1.090
for controls; without PE; connection cable 2.5 mm ² , 1 m long	083103-030021*	083103-033021	3	0.690
	083103-040021	083103-043021	4	0.890
	083103-050021	083103-053021	5	1.090

* Standard range

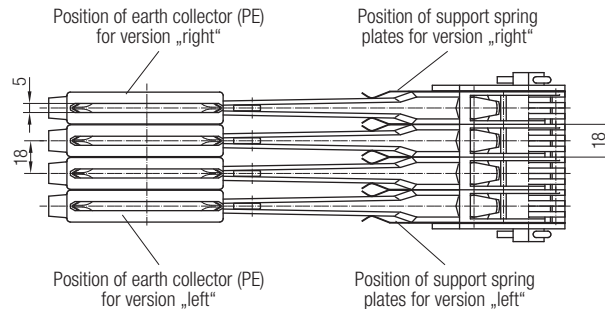
Current collector Units

Current Collector Units without Terminal Boxes 083107-...



Technical details

- Shown is the version for horizontal operation
- Collector shoe material: copper graphit
- Contact pressure per collector arm: 10N
- Max. current load: 80 A with 16 mm² connection cable at 100% duty cycle
- Deflection (horizontal/vertical): ± 50 mm
- Assembly tolerances below ± 10 mm recommended
- **Connection cables (highly flexible) to be ordered separately** (see page 17)
- **The current collector units can also be used for „pick-up guides for transfer points“**
- **Other connection cable cross sections on request**
- To arrange above as double-current-collectors separate part no. for the complementary units are required due to PE-orientation. Please contact sales dpt.



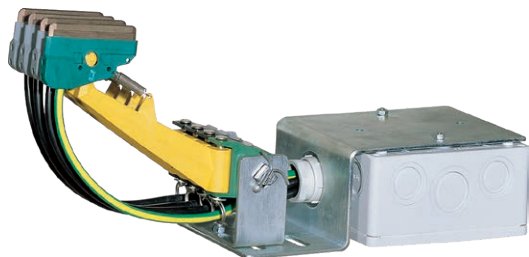
Current Collector Unit	with PE Part No.	without PE Part No.	Poles	Weight [kg]
for vertical operation	083107-030023*	083107-030021*	3	0.860
	083107-040023*	083107-040021*	4	1.410
	083107-050023*	083107-050021*	5	1.960
for horizontal operation with support spring plates "right"	083107-036023	083107-036021	3	0.890
	083107-046023*	083107-046021	4	1.440
	083107-056023*	083107-056021	5	1.990
for horizontal operation with support spring plates "left"	083107-037023	083107-037021	3	0.890
	083107-047023*	083107-047021	4	1.440
	083107-057023*	083107-057021	5	1.990

* Standard range

Delivery without connection cable

Current Collector Units

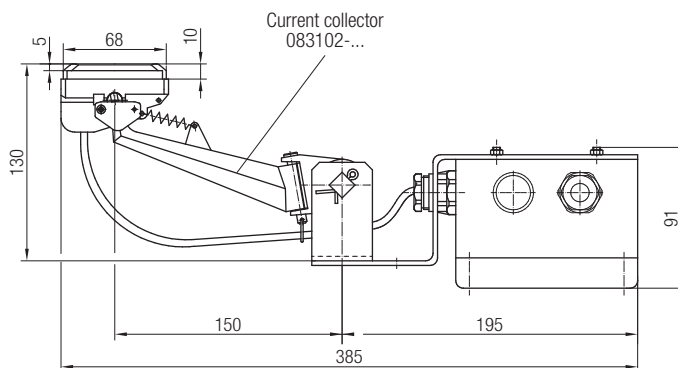
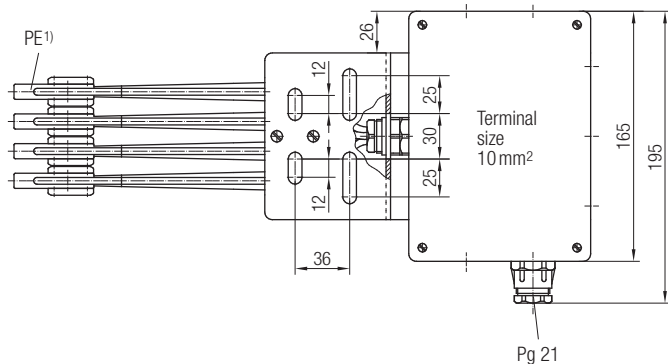
Current Collector Units with Terminal Boxes 083103-... (only for spare parts recommended)



Technical details

- Collector shoe material: copper graphit
- Contact pressure per collector arm: 5 N
- Max. current load:
55 A with 6 mm² connection cable at 100% duty cycle
34 A with 2.5 mm² connection cable at 100% duty cycle
- Deflection (horizontal/vertical): ± 30 mm
- Assembly tolerances below ± 10 mm recommended

Note: only use for existing installations (phase-out model)

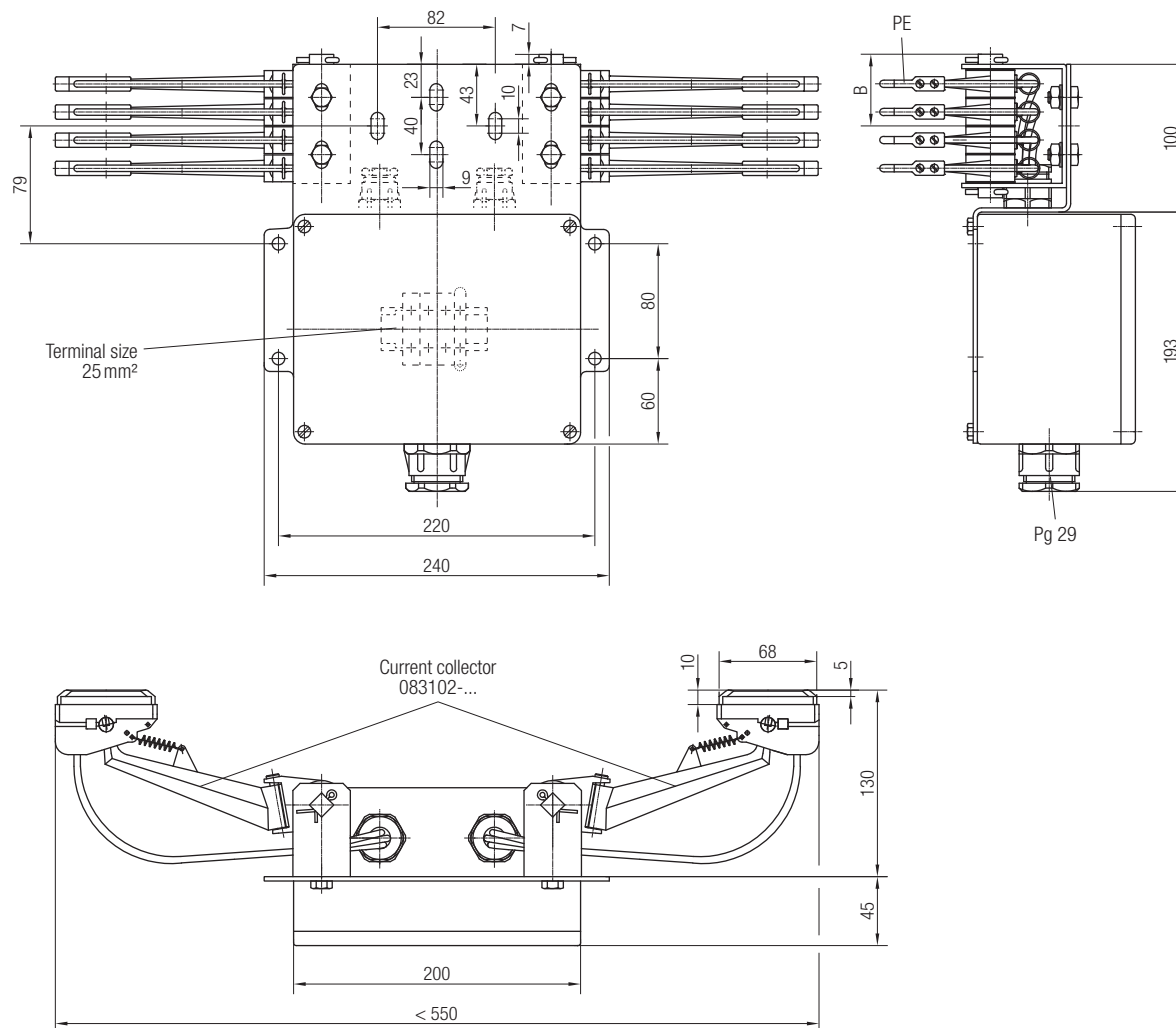


1) Position of earth collector for version „with PE“.

Current Collector Unit	with PE Part No.	without PE Part No.	Poles	Weight [kg]
for power supply; connection cable 6 mm ²	083103-130023	083103-130024	3	2.010
	083103-140023	083103-140024	4	2.130
	083103-150023	083103-150024	5	2.250
for controls; connection cable 2.5 mm ²	-	083103-130021	3	2.010
	-	083103-140021	4	2.130
	-	083103-150021	5	2.250

Current Collector Units

Double Current Collector Units for Power Supply; with Terminal Boxes 083104-... (only for spare parts recommended)



Technical details

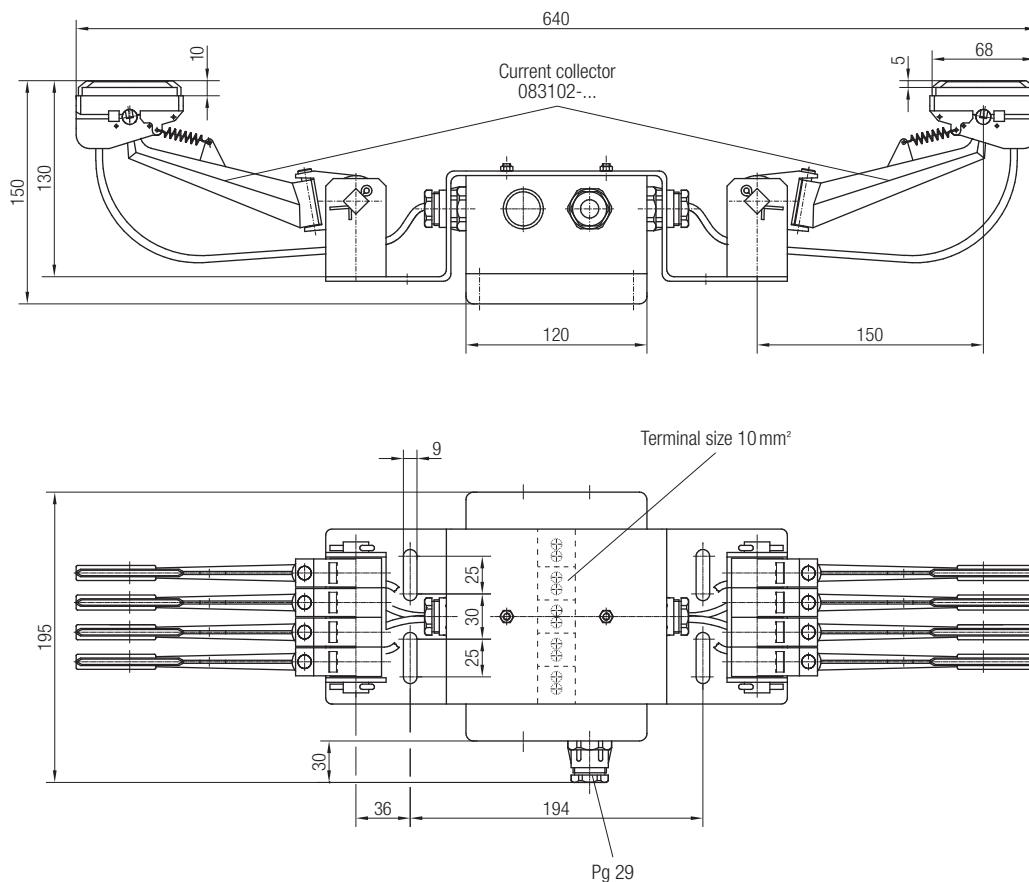
- Collector shoe material: copper graphit
- Contact pressure per collector arm: 5 N
- Deflection (horizontal/vertical): ± 30 mm
- Assembly tolerances below ± 10 mm recommended
- Max. current load:
110 A (2 x 55 A) with 6 mm² connection cable at 100% duty cycle
34 A with 2.5 mm² connection cable at 100% duty cycle

Double Current Collector Unit	Part No.	Poles	B [mm]	Weight [kg]
for power supply with PE; connection cable 6 mm ²	083104-130023	3	40	4.130
	083104-140023	4	50	4.245
	083104-150023	5	60	4.370

Note: only use for existing installations (phase-out model)

Current Collector Units

Double Current Collector Units for Control; with Terminal Boxes (083104-...) (only for spare parts recommended)



Technical details

- Collector shoe material: copper graphit
- Contact pressure per collector arm: 5 N
- Deflection (horizontal/vertical): ± 30 mm
- Assembly tolerances below ± 10 mm recommended

- Max. current load: 68 A (2 x 34 A) with 2.5 mm² connection cable at 100% duty cycle

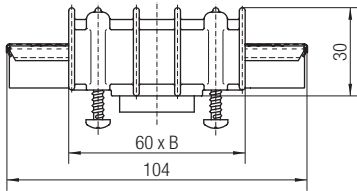
- The current collector units are not for use with program 0811!
- Do not use in combination with air gap insulation 083195 and transfer points 083172

Note: only use for existing installations (phase-out model)

Double Current Collector Unit	Part No.	Poles	Weight [kg]
for control without PE; connection cable 2.5 mm ²	083104-130021	3	4.040
	083104-140021	4	4.155
	083104-150021	5	4.270

Wearing and Spare Parts

Rail Connectors (083121-...)

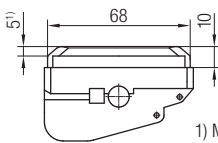


Technical details

- The rail connector is enclosed in the delivery of the rail segments but can be ordered separately.

Steel and Datametal Rail Part No.	Copper Rail Part No.	Poles	B [mm]	Weight [kg]
083121-32	083121-36	3	72.5	0.120
083121-42	083121-46	4	90.5	0.150
083121-52	083121-56	5	108.5	0.180

Current Collector Head 55A (083002-...)



1) Max. wearing height

Technical details

- Not interchangeable with collector shoes program 0811

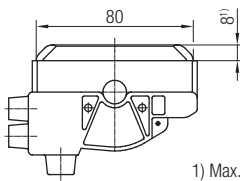
Note:

In plants with transfer points 1 set of spacer pieces with screws Art. No. 08-D002-0592 is to be planned per collector shoe.

Collector Shoes with Phase (PH) Part No.	with Earth (PE) Part No.	Material	Colours	I [A]	for Current Collectors and Current Collector Untis	Weight [kg]
083002-1x4*	083002-2x4*	Copper-Graphite	PH: grey PE: turquoise-green	55	083102-... / 083103-... 083104-...	0.045
083002-1x5*	083002-2x5*	Silver-Graphite		10		0.050

* Standard Range

Current Collector Head 80A (081001-...)

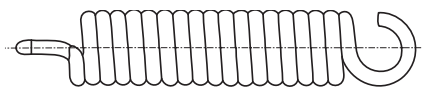


1) Max. wearing height

Collector Shoes with Phase (PH) Part No.	with Earth (PE) Part No.	Colours	I [A]	for Current Collectors and Current Collector Untis	Weight [kg]
081001-12*	081001-22*	PH: black; PE: green	80	083106-... / 083107-...	0.090

* Standard Range

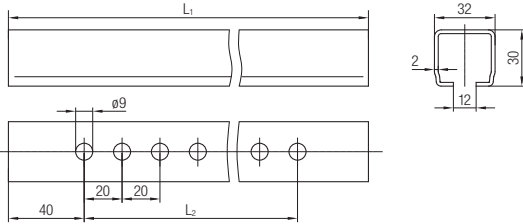
Stabilizing Springs for Current Collector Head (RZ-...)



Part No.	for Current Collector	Carbon Length [mm]
08-RZ-056I	083102-... / 083103-... / 083104-...	68
08-RZ-081GI	083106-... / 083107-...	80

Mounting Accessories

Support Arm (020185-....)

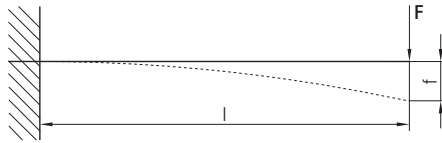


Part No.	L ₁ [mm]	L ₂ [mm]	Weight [kg]
020185-0250	250	200	0.390
020185-0315	315	260	0.500
020185-0400	400	340	0.625
020185-0500	500	340	0.780
020185-0630	630	340	0.980
020185-0800	800	340	1.245
020185-1000	1000	340	1.550
020185-1250	1250	340	1.945

Technical details

- Material: galvanized steel
- Static values: $I_x = 2.11 \text{ cm}^4$
 $W_x = 1.36 \text{ cm}^3$

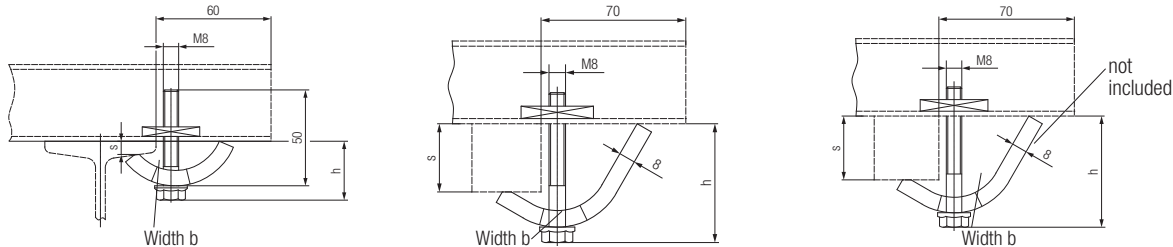
Permissible Loading for Support Arm



	l [m]							
	0.25	0.32	0.40	0.50	0.63	0.80	1.00	1.25
F [daN] 1)	76.0	59.5	47.5	38.0	30.0	24.0	19.0	15.2
f [cm]	0.08	0.13	0.20	0.32	0.50	0.80	1.25	2.23

1) Calculated with $\sigma = 140 \text{ N/mm}^2$; f = corresponding max. deflection

Girder Clip (020180-...)



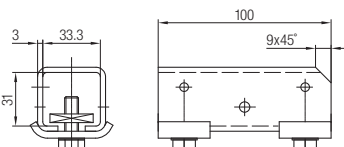
020180-08

020180-08x36

020180-10 / 020180-12

Part No.	Clamping Range s [mm]	d	l [mm]	Installation High h [mm]	b [mm]	a [mm]	s1 [mm]	Material	Weight [kg]
020180-08	04 - 20	M80	50	31 - 40	30	06	-	Galvanized Steel	0.150
020180-08x36	18 - 36	M80	65	42 - 60	30	06	-		0.220
020180-10	06 - 11	M10	50	35 - 41	32	08	-	Galvanized Steel	0.170
	11 - 16			41 - 46			05		
020180-12	16 - 21	M12	60	46 - 51	38	10	10		0.240
	06 - 14			39 - 47			-		
	14 - 22			47 - 55			08		
	22 - 30			55 - 63			16		

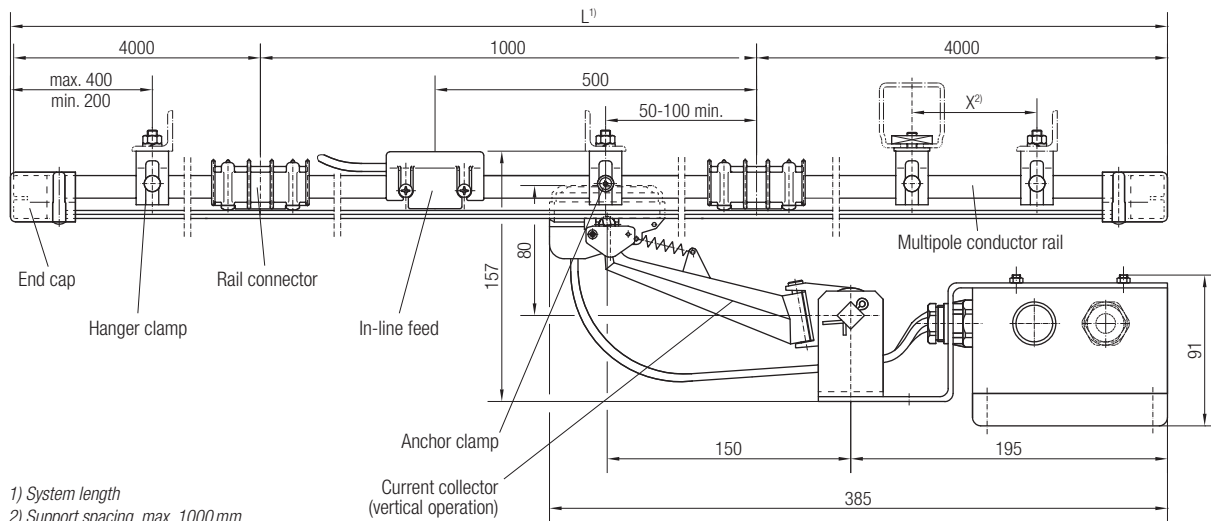
Weld-on Bracket (020285) for Support Arm 020185



Part No.	Material			Weight [kg]
	Bracket	Counter Plate	Hardware	
020285	Steel, Plain	Galvanized Steel	Galvanized Steel	0.420

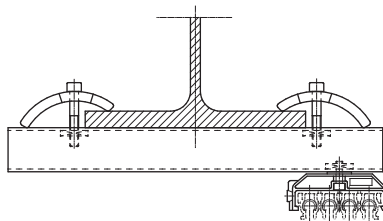
Arrangement Examples

System Sketch



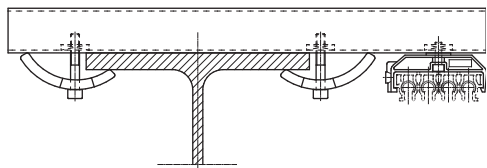
Only fine stranded, highly flexible cables should be used as connecting cables. The cables must be installed without deflecting forces, and must not be clipped. Bundling or additional fixing on the arm is not permitted.

Multipole Conductor Rail Horizontal Arrangements



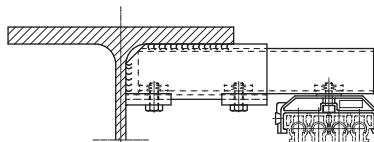
Mounting on support arms with hanger clamps for support arm installation.

Multipole Conductor Rail Horizontal Arrangements



Mounting on support arms with hanger clamps for support arm installation.

Multipole Conductor Rail Horizontal Arrangements


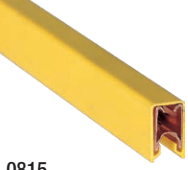

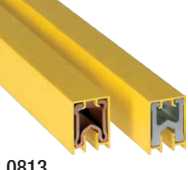



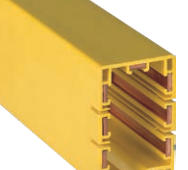


Mounting on support arms with weld-on brackets with hanger clamps for support arm installation

Note: For horizontal installation and installation heights of more than 3 m, additional safeguards, part no.: 08-S280-0613, need to be installed on every other rail

Program Overview

Conductor Rails

	Program	Nominal Current ¹⁾	Voltage Grade	Support Spacing	Rail Length	Outside-Dimensions
Single Pole Insulated Conductor Rail	 0811	10-100 A	500 V	0.4-1.0 m	4 m	14.7 x 15.5 mm
	 0815	100 A	500 V	0.5 m	4 m	9.6 x 15.2 mm
	 0812	25-400 A	690 V	1,5 m (3,2 m) ¹⁾	4 m	18 x 26 mm
	 0813	200-1250 A	690 V	2.5 m	5 m	32 x 42 mm
Multipole Conductor Rail	 0831	10-125 A (140 A at 80% duty cycle)	500 V	1 m (3,2 m) ¹⁾	4 m	3-pole: 26 x 62 mm 4-pole: 26 x 80 mm 5-pole: 26 x 98 mm
	 0832	25-200 A (200 A at 80% duty cycle)	690 V	3.2 m	4 m	4-pole 200 x 50 mm
	 0835	Complete system: 32 A Rail system: 100 A	AC Voltage: 230/400 V AC Earth/Low voltage: min. 24 up to 48 V DC/AC	0.8 m	4 m	196 x 48 mm (incl. System support 220 x 50 mm)
Enclosed Conductor Rail	 0842	35-140 (160 A at 80% duty cycle)	600 V	2 m	4 m	56 x 90 mm

¹⁾ 3.2 m in combination with support structure ProShell

Your Applications – our Solutions

The products described in this catalog represent a few of the products from the broad spectrum of Conductix-Wampfler components and systems for the transfer of energy, data, gases, and fluids. The solutions we deliver for your applications are based on your specific requirements. In many cases, a combination of several different Conductix-Wampfler products are needed to fill the application. You can count on all of Conductix-Wampfler's business units for hands-on engineering support - coupled with the perfect solution to meet your energy management and control needs.



Motor driven cable reels

Motor driven reels by Conductix-Wampfler are the perfect solution for managing long lengths of heavy cable and hoses in very demanding industrial applications. Monospiral, level wind, and random wind spools.



Slip ring assemblies

Whenever powered machinery needs to rotate 360°, field proven slip ring assemblies by Conductix-Wampfler can flawlessly transfer energy and data. Here, everything revolves around flexibility and reliability.



Conductor bar

Whether they are enclosed conductor rails, expandable single-pole bar systems, or high amperage bar for demanding steel mill use up to 6000 amps. Conductix-Wampfler's conductor bar is the proven solution to reliably move people and material.



Spring driven cable reels

We have 60 years experience and trusted brands such as Insul-8, Wampfler, and IER. We offer small cord reels all the way to large multi-motor units, a wide range of accessories, and hazardous location reels.



Cable Festoon systems

It's hard to imagine Conductix-Wampfler cable trolleys not being used in virtually every industrial application. They are reliable and robust and available in an enormous variety of sizes and models.



Push Button Pendants

Our ergonomic pendants are ideally suited for industrial control applications. They are available in a wide range of configurations for overhead cranes and other machinery.



Radio remote controls

Safe, secure, and reliable radios use the latest in microprocessor technology. Available in several models for overhead crane control and other types of machinery.



Inductive Power Transfer IPT®

The contact-less system for transferring energy and data. For all tasks that depend on high speeds and absolute resistance to wear.



Energy guiding chains

The "Jack of all Trades" when it comes to managing energy and data cables and air and fluid hoses. A wide range of energy guiding chains are available for many industrial applications.



Air hoists and balancers

ENDO Air hoists accurately place delicate loads and continuously vary the speed for precise positioning. They run cool in continuous operations.



Bumpers

Conductix-Wampfler offers a complete range of bumpers for the auto industry, cranes, and heavy machinery. These include rubber, rubber/metal, and cellular types.



Spring balancers and retractors

ENDO spring balancers by Conductix-Wampfler are rugged, reliable high-precision positioning devices that reduce operator fatigue and assist with accurate tool placement.

www.conductix.us

USA / LATIN AMERICA

10102 F Street
Omaha, NE 68127

Customer Support
Phone +1-800-521-4888

Phone +1-402-339-9300
Fax +1-402-339-9627

info.us@conductix.com
latinamerica@conductix.com

CANADA

1435 Norjohn Court
Unit 5
Burlington, ON L7L 0E6

Customer Support
Phone +1-800-667-2487

Phone +1-450-565-9900
Fax +1-450-951-8591

info.ca@conductix.com

MÉXICO

Calle Treviño 983-C
Zona Centro
Apodaca, NL México 66600

Customer Support
Phone (+52 81) 1090 9519
(+52 81) 1090 9025
(+52 81) 1090 9013

Fax (+52 81) 1090 9014

info.mx@conductix.com

BRAZIL

Rua Luiz Pionti, 110
Vila Progresso
Itu, São Paulo, Brasil
CEP: 13313-534

Customer Support
Phone (+55 11) 4813 7330

Fax (+55 11) 4813 7357

info.br@conductix.com

Contact us for our Global Sales Offices

