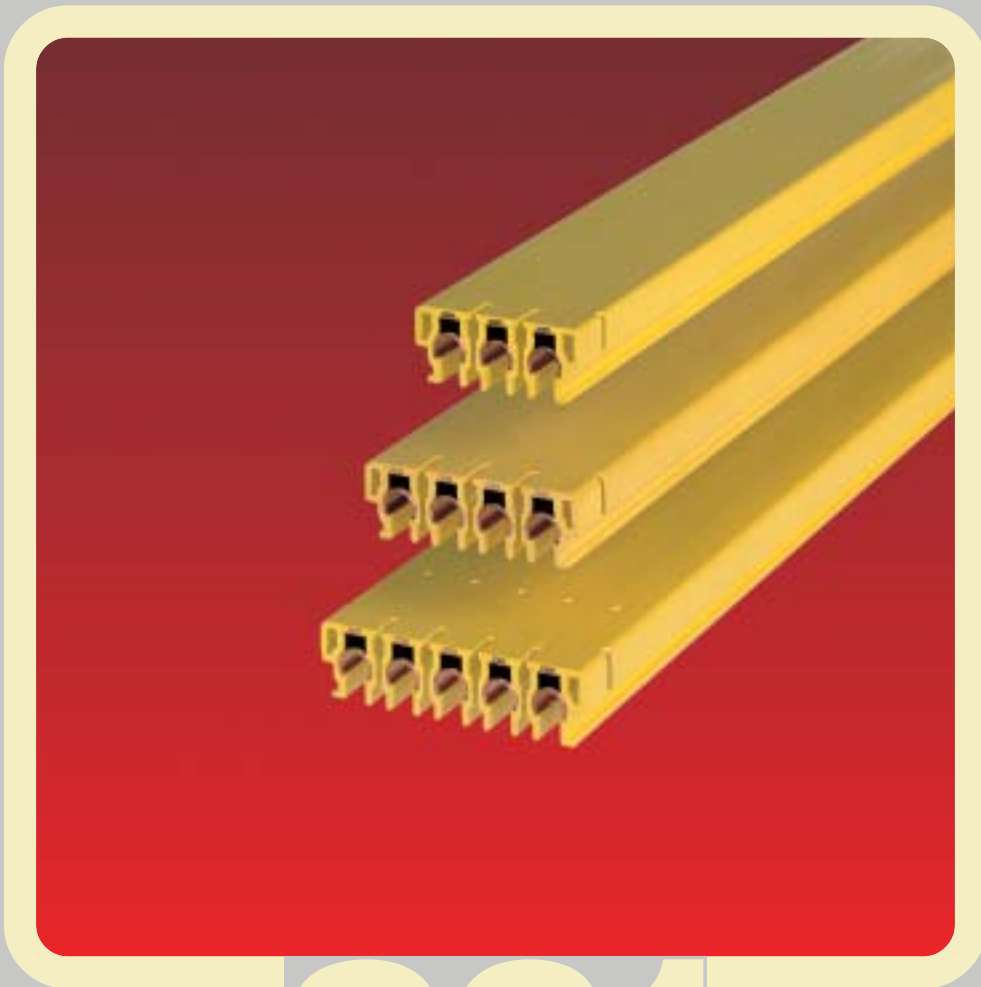


# Energy Supply Systems

MULTIPOLE CONDUCTOR RAIL



# 831

10-125 amps

**wampfler**  
solutions for a moving world



*13 pole multipole conductor rail in 33 package distribution centres of the postal service (Post AG)*



*9 pole multipole conductor rail with data transmission system Powertrans®*



*13 pole multipole conductor rail with double current collectors in the high bay storage of a warehouse.*



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# Description

## Wampfler multipole conductor rail programme 831

The Wampfler multipole conductor rail programme 831 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 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 - 125 Amps
- protected against direct contact

- little space consumption
- 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 which can have 3, 4 or 5 conductors. There are different versions for a current load from 10 up to 125 Amps 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 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 mm<sup>2</sup> cross section, as well as flat centre feed up to 35 mm<sup>2</sup> 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 12/13). 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 (MV0831-0002).

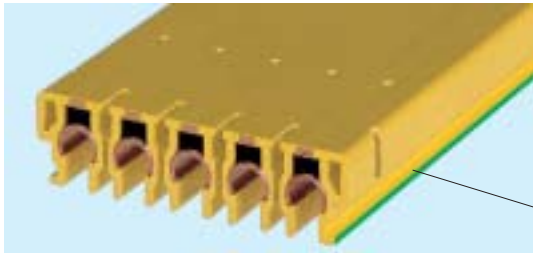
### CURRENT COLLECTORS

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				
			single			double	
			with terminal box	without terminal box		with terminal box	
max. current at 100% duty cycle [A]	55	80	55	55	80	68	110
Order-Number	083102-... (page 14)	083106-... (page 15)	083103-... (page 19)	083103-... (page 17)	083107-... (page 18)	083104-... (page 21)	083104-... (page 20)
... also for pick-up guides for transfer points	yes	yes	no	yes	yes	no	no

# Technical data

## Wampfler multipole conductor rail programme 831

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 <sup>1)</sup>	10												
Cross section of conductor	[mm <sup>2</sup> ]	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												
Nominal voltage	[V]	500																
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]	600																
Ambient temperature max.		55°C																
Ambient temperature min.		0 to -18°C; depends on the type of standard conductor rail; (special designs for deeper temperatures on request)																
Protection against direct contact		to VDE 0470 Part 1 / EN 60 529 / IEC 529 and DIN 57 100 Part 410 5.2.1 / 5.3 / VDE 0100 Part 410 and DIN / VDE 0100 Part 726.4 and EN 60 204 Part 1																
Other safety standards		to DIN VDE 0609 Part 101 / IEC 17B																
Dielectric strength		to VDE 0303 Part 21 / IEC 243 22,4 kV/mm																
Surface resistance		to DIN IEC 112 VDE 0303 T1 600 < CTI																
Combustibility of insulation cover		to UL 94 V - 0																
Air and surface creepage		depending on degree of pollution; surface creepage distance 30 mm to DIN VDE 0110 Part 1 + 2																
Protection type		IP 23 with horizontal arrangement IP 21 with vertical arrangement																
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> <p>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.</p>					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															

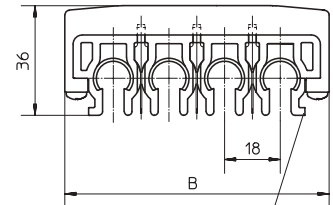
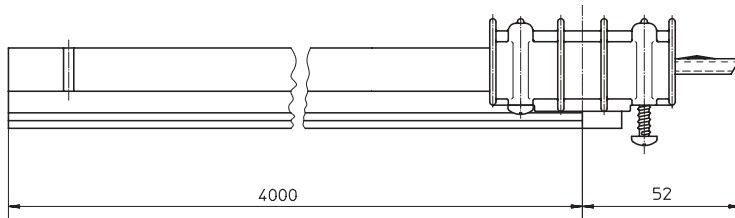
Note: Additional informations on request.

1) 140 A at 80% duty cycle

# Conductor rails

Complete with pre-mounted connector

083112-...  
 083115-...  
 083116-...  
 083117-...  
 083118-...



Protective conductor marking (PE)

Type	Order-Number		Poles	B [mm]	Weight [kg]
	Power supply with PE	Controls without PE			
Multipole conductor rail 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
Multipole conductor rail 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
Multipole conductor rail 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
Multipole conductor rail 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
Multipole conductor rail 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

- The table shows standard conductor rails.
- Intermediate lengths are available!

**Order example:** Multipole conductor rail programme 831  
 Steel 32 A  
 4-poles  
 For power supply  
 4 m long

**083112-4x4x12**

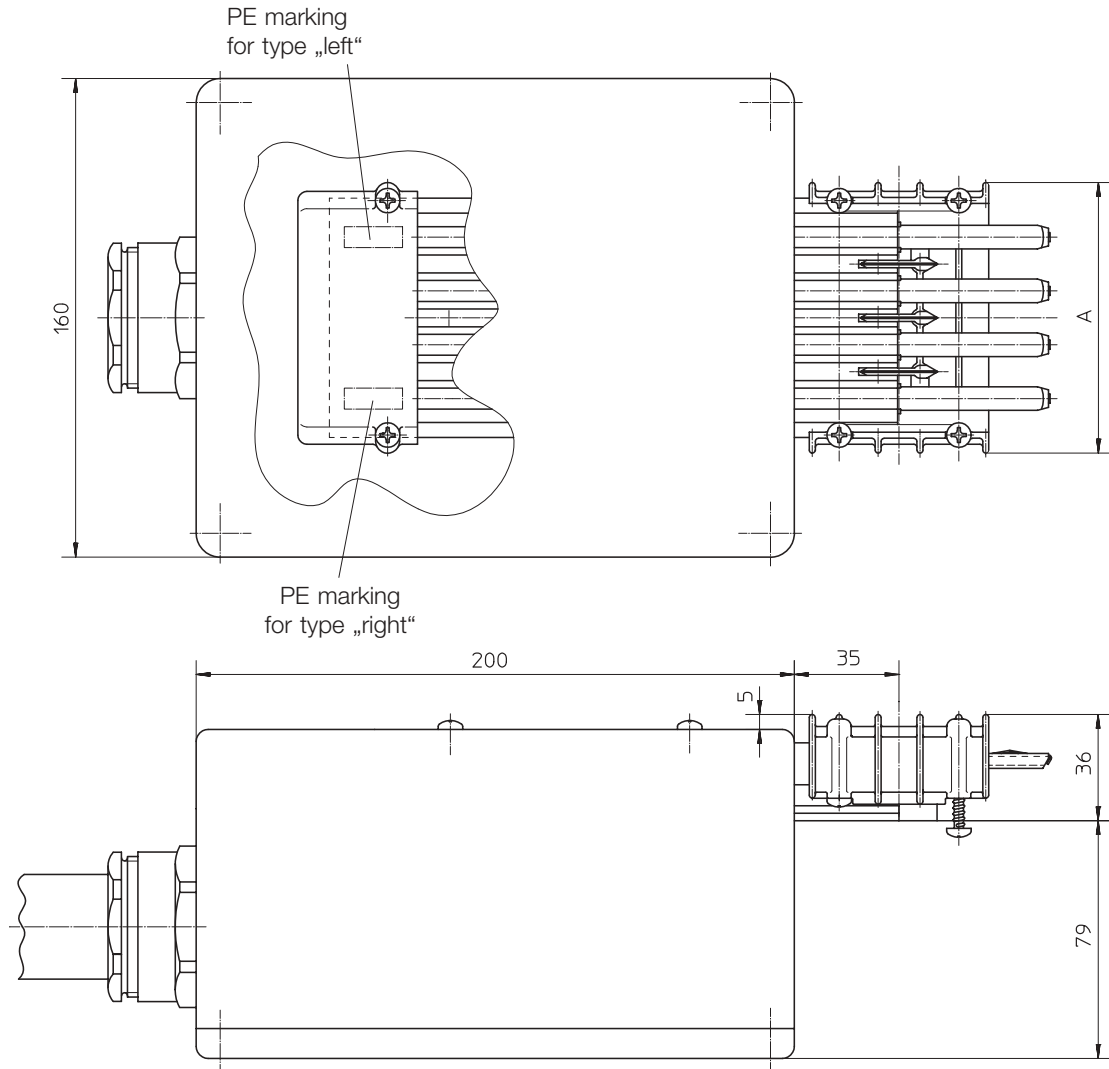
with PE = 12 (without PE = 11)  
 Number of poles = 4  
 Length = 4 m  
 Conductor rail for 32 A  
 Programme 831

# End feeds

Complete with pre-mounted connector

083153-...

Connection cable max. 35 mm<sup>2</sup>



- Suitable for all types of multipole conductor rails
- Use cable lugs for threaded connection M8 (not included)

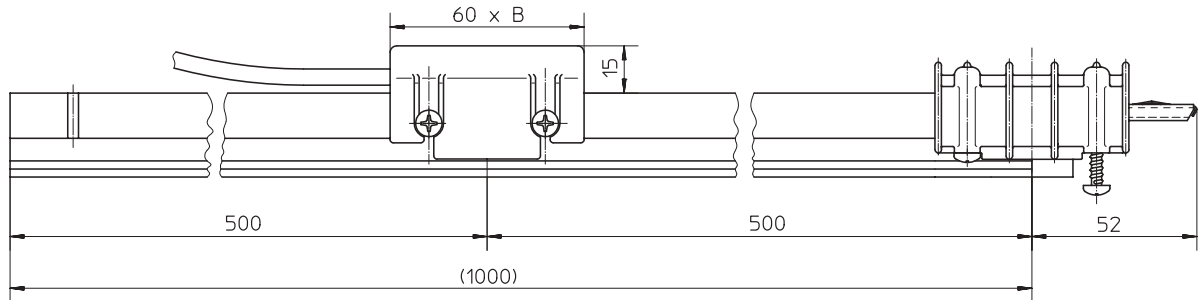
Type	Order-Number			Poles	Gland	A [mm]	Weight [kg]
	Power supply with PE type "right"	Power supply with PE type "left"	Controls without PE				
End feed	083153-310x12	083153-310x13	083153-310x11	3	Pg 36	72.5	1.460
	083153-311x12	083153-311x13	083153-311x11		Pg 29		1.430
	083153-312x12	083153-312x13	083153-312x11		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		

# In-line feeds

Complete with pre-mounted connector

## 083151-...

Connection cable max. 10 mm<sup>2</sup>

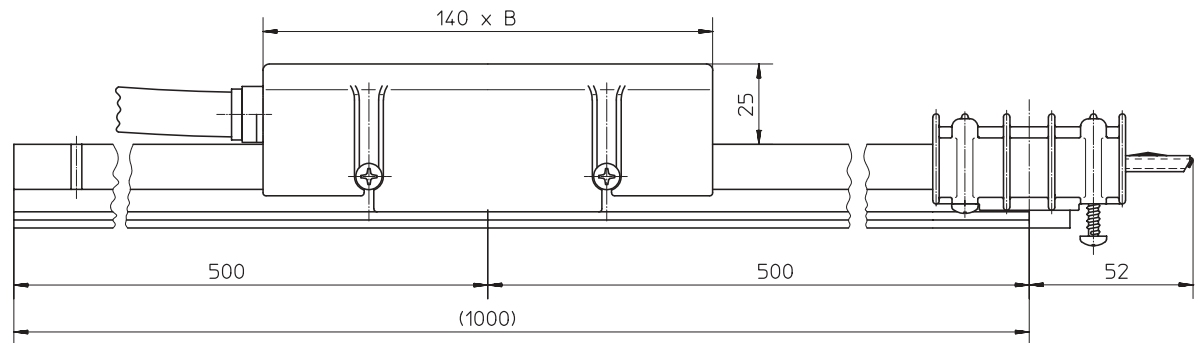


Cable lugs (according to nominal current) are included; connection screws M5

Type	Order-Number		Poles	B [mm]	Weight [kg]
	Power supply with PE	Controls without PE			
In-line feed 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
In-line feed 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
In-line feed 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

## 083154-...

Connection cable max. 35 mm<sup>2</sup>



Cable lugs (according to nominal current) are included; connection screws M6

Type	Order-Number		Poles	B [mm]	Weight [kg]
	Power supply with PE	Controls without PE			
In-line feed for 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
In-line feed for 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
In-line feed for 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
In-line feed for 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

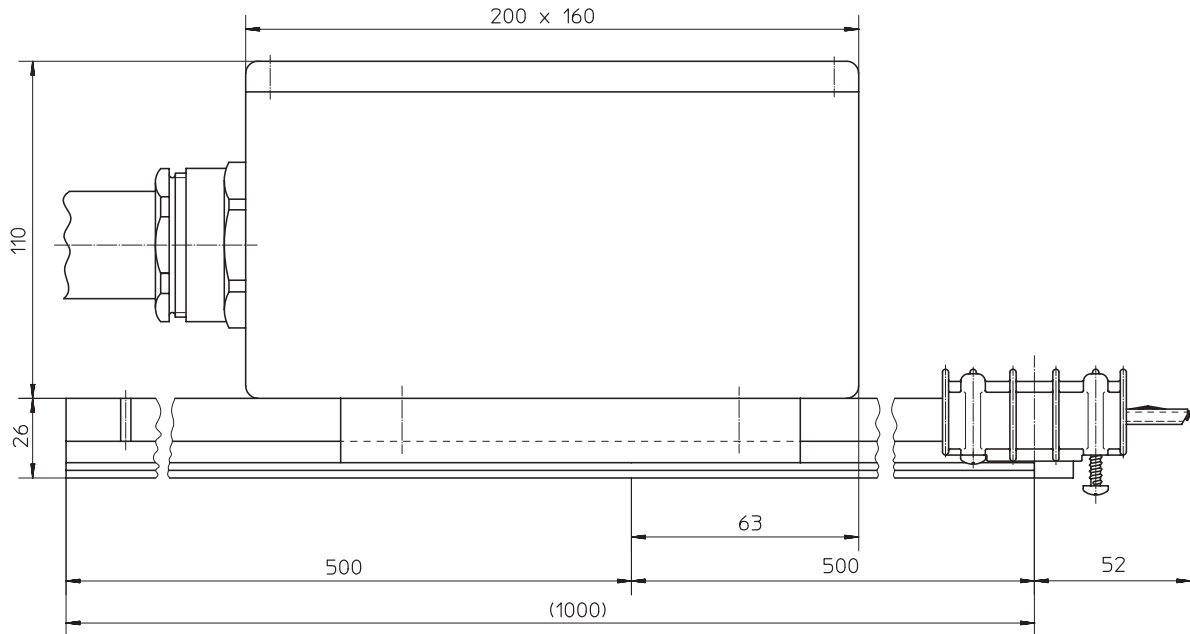


# In-line feeds

Complete with pre-mounted connector

083152-...

Connection cable max. 35 mm<sup>2</sup>



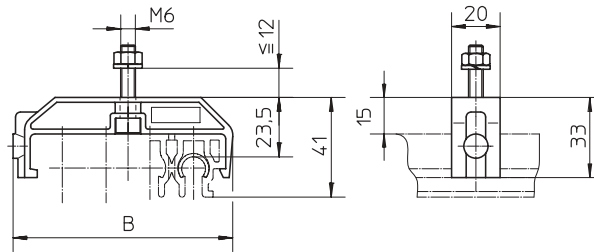
Use cable lugs for threaded connection M8 (not included)

Type	Order-Number		Poles	Gland	Weight [kg]
	Power supply with PE	Controls without PE			
In-line feed for 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
In-line feed for 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
In-line feed for 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
In-line feed for 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

# Hanger clamps

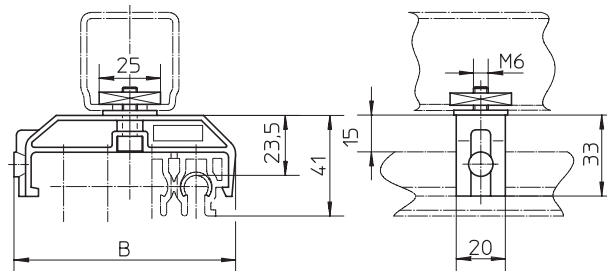
For conductor rail snap-in

## 083143-...



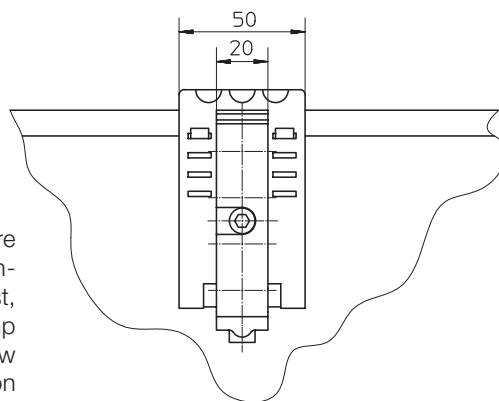
Type	Order-Number	Poles	Support spacing, max. [mm]	B [mm]	Weight [kg]
Hanger clamp with steel nut	083143-3	3	1000	72.5	0.023
	083143-4	4		90.5	0.025
	083143-5	5		108.5	0.028

## 083145-...

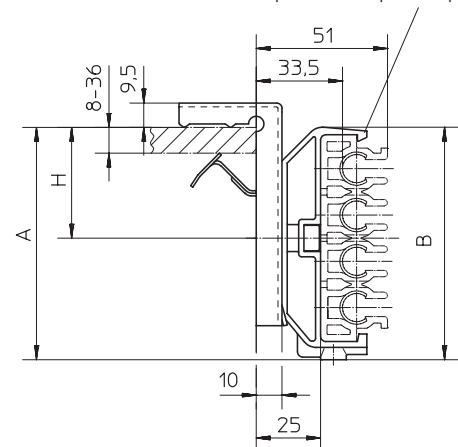


Type	Order-Number	Poles	Support spacing, max. [mm]	B [mm]	Weight [kg]
Hanger clamp for support arm installation	083145-3	3	1000	72.5	0.053
	083145-4	4		90.5	0.055
	083145-5	5		108.5	0.058

## 083146-...



Installation position: clip on top



For system lengths of more than 100 m it is recommended to secure at least, every tenth hanger clamp with an additional screw (see installation instruction MV0831-0003).

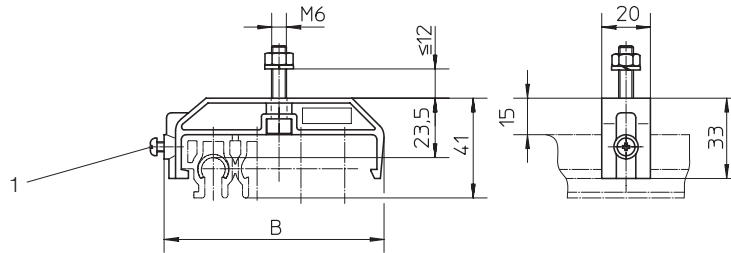
Type	Order-Number	Poles	Support spacing, max. [mm]	A [mm]	B [mm]	H [mm]	Weight [kg]
Hanger clamp with universal steel clamp fastener* for vertical installation	083146-3	3	1000	81.5	72.5	43	0.113
	083146-4	4		90.5	90.5	43	0.115
	083146-5	5		111.5	108.5	55	0.118

\* = Universal steel clamp fastener; galvanized; clamping range 8 to 36 mm

# Anchor clamps

For conductor rail snap-in and fixation

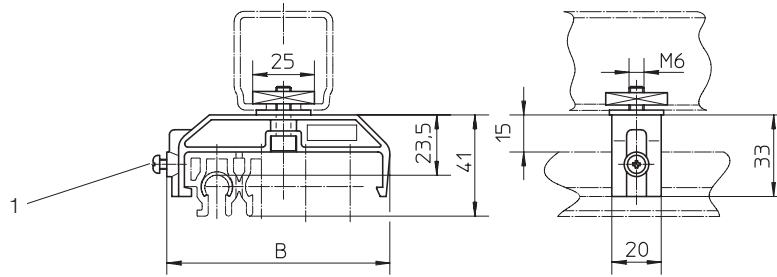
## 083133-...



1) Fixing screw

Type	Order-Number	Poles	B [mm]	Weight [kg]
Anchor clamp with steel nut	083133-3	3	72.5	0.027
	083133-4	4	90.5	0.030
	083133-5	5	108.5	0.033

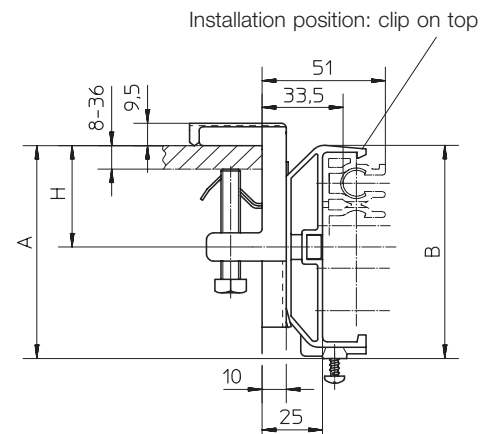
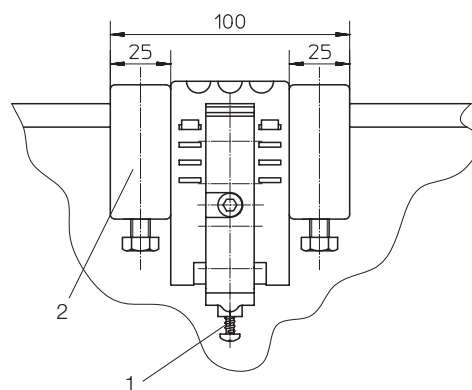
## 083135-...



1) Fixing screw

Type	Order-Number	Poles	B [mm]	Weight [kg]
Anchor clamp for support arm installation	083135-3	3	72.5	0.057
	083135-4	4	90.5	0.060
	083135-5	5	108.5	0.063

## 083136-... 083137-...



Installation position: clip on top

The anchor clamp 083137-... is identical with 083136-..., but without clamping brackets (2).

1) Fixing screw

Type	Order-Number	Poles	A [mm]	B [mm]	H [mm]	Weight [kg]
Anchor clamp with shim and universal clamp fastener*	083136-3	3	81.5	72.5	43	0.337
	083136-4	4	90.5	90.5	43	0.340
	083136-5	5	111.5	108.5	55	0.343
Anchor clamp with universal clamp fastener* for systems up to 60 m length	083137-3	3	81.5	72.5	43	0.117
	083137-4	4	90.5	90.5	43	0.120
	083137-5	5	111.5	108.5	55	0.123

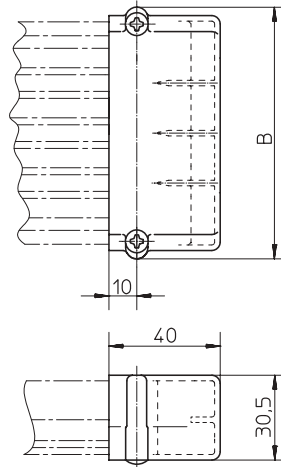
\* = Universal steel clamp fastener; galvanized; clamping range 8 to 36 mm

The plastic parts are coloured in orange!

# End caps

## End caps for system ends

### 083171-...

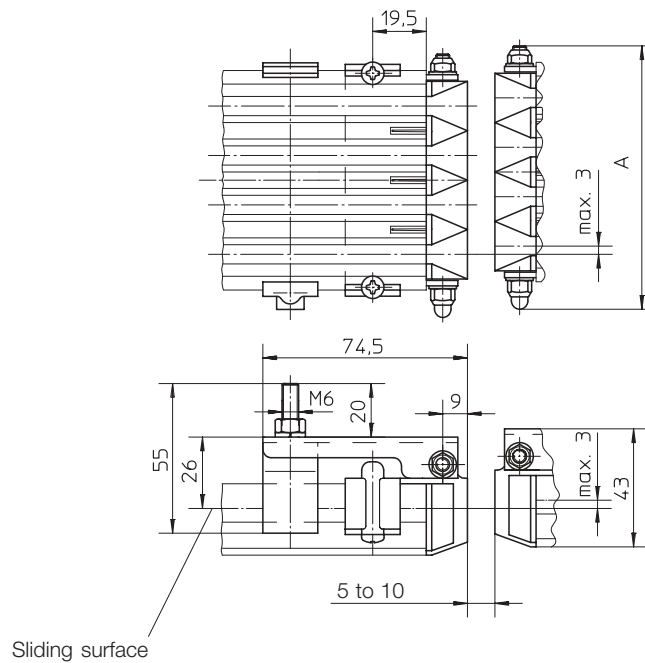


Type	Order-Number	Poles	B [mm]	Weight [kg]
End cap	083171-3	3	72.5	0.040
	083171-4	4	90.5	0.045
	083171-5	5	108.5	0.050

## End caps for transfer points

### 083172-...

The end cap for transfer points centres the current collector and compensates horizontal and vertical deflections of max.  $\pm 3$  mm.

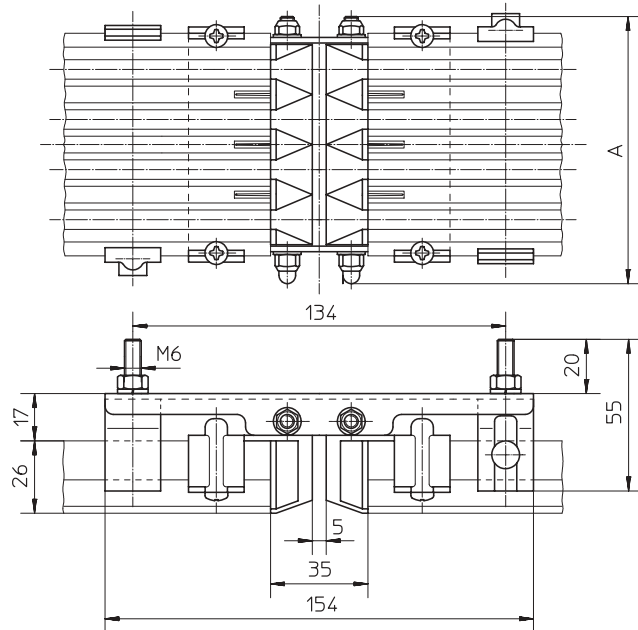


Type	Order-Number	Poles	A [mm]	Weight [kg]
End cap for transfer points	083172-3	3	77	0.160
	083172-4	4	95	0.200
	083172-5	5	113	0.240

# Air gap insulating sections, Pick-up guides

## Air gap insulating sections

### 083195-...



Type	Order-Number	Poles	A [mm]	Weight [kg]
Air gap insulating section	083195-3	3	77	0.342
	083195-4	4	95	0.418
	083195-5	5	113	0.494

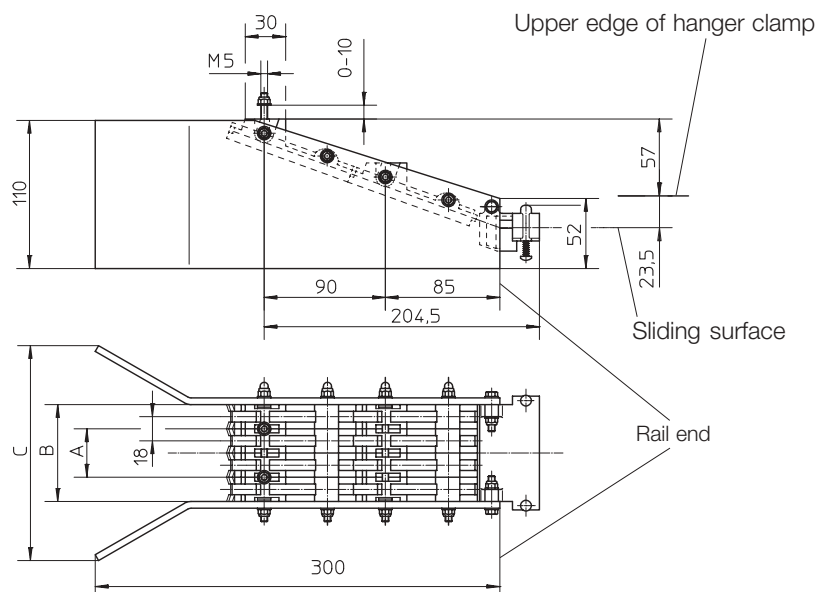
## Pick-up guides for transfer points

### 083181-...

**Note:**

Use pick-up guides only with „pick-up guide current collector“.

The pick-up guide centres the current collector and compensates horizontal and vertical deflections of max.  $\pm 25$  mm.

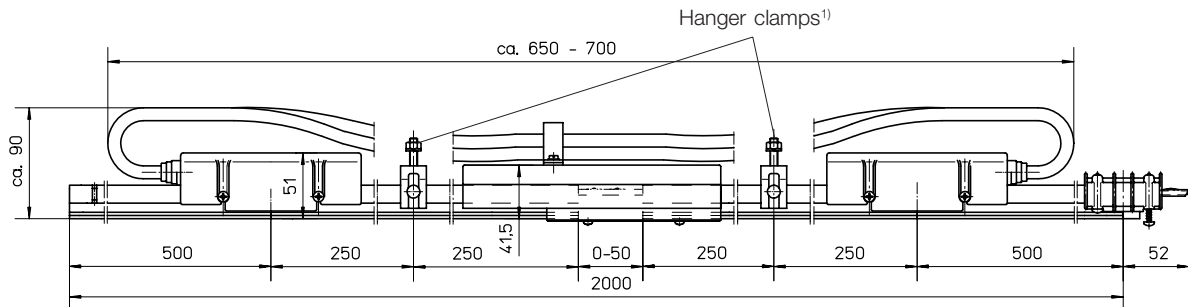


Type	Order-Number	Poles	A [mm]	B [mm]	C [mm]	Weight [kg]
Pick-up guide for transfer points	083181-3x25	3	18	54	142	0.650
	083181-4x25	4	36	72	160	0.700
	083181-5x25	5	54	90	178	0.800

# Expansion joints

Complete with pre-mounted connector

## 083161-...



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

Type	Material	Order-Number		Poles	Weight [kg]
		with PE	without PE		
Expansion joint	Copper	083161-2x6372	083161-2x6371	3	5.610
		083161-2x6472	083161-2x6471	4	7.480
		083161-2x6572	083161-2x6571	5	9.350
	Datametal	083161-2x2382	083161-2x2381	3	2.810
		083161-2x2482	083161-2x2481	4	3.720
		083161-2x2582	083161-2x2581	5	4.680

Hint: Copper-Expansion joints can be used for all copper and steel conductor rails up to 125 A.

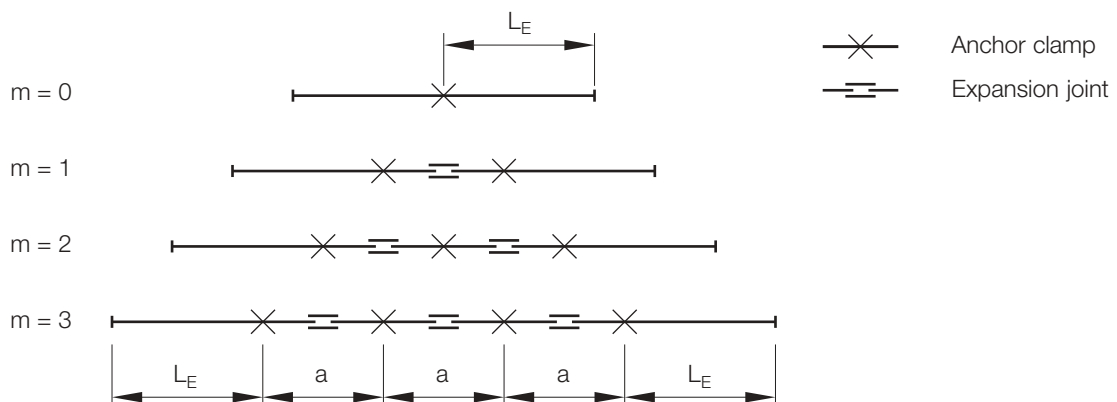
### How to select expansion joints

The general principles how to select expansion joints are shown below:

Expansion joints are installed in systems exceeding a total system length of 200 m as shown below, if the ambient temperature variation ( $\Delta T$ ) 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 ( $\Delta T$ ) 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 (page 24).

#### Determination of system length L:



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

$m$  = number of system part lengths with one expansion joint

Number of expansion joints:  $m = \frac{L-200}{a}$  (rounded)

# Expansion joints

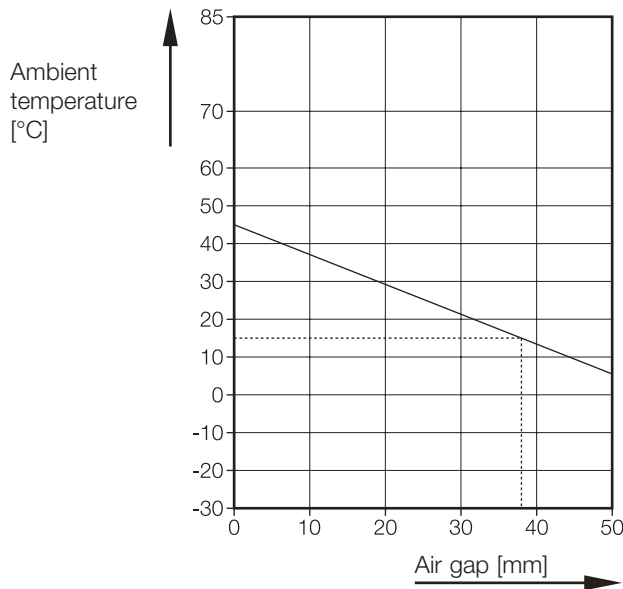
## How to select expansion joints

Determination quantity of expansion joints:

$\Delta T$ [°C]	a [m]	System length [m]							
		220	240	260	280	300	320	340	360
		m = Expansion joint number							
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

Diagram to set the air gap of expansion joints:

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

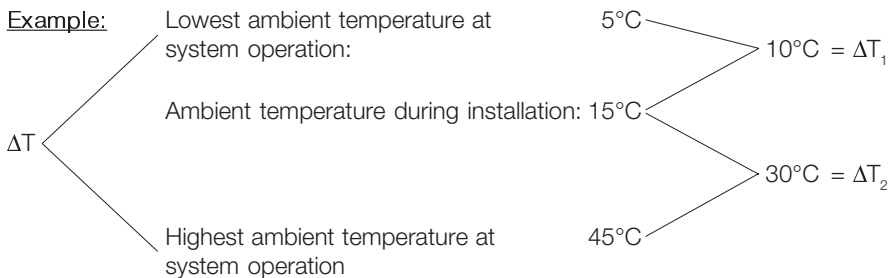


How to use the diagram (Example below):

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

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.



Air gap read from diagram: ~ 38 mm

Air gap calculated: 
$$s = 50 \cdot \frac{\Delta T_2}{\Delta T_1 + \Delta T_2} = 38 \text{ mm}$$

# Current collectors with accessories

## Current collectors

### 083102-...

Shown is the version for „pick-up guides for transfer points“

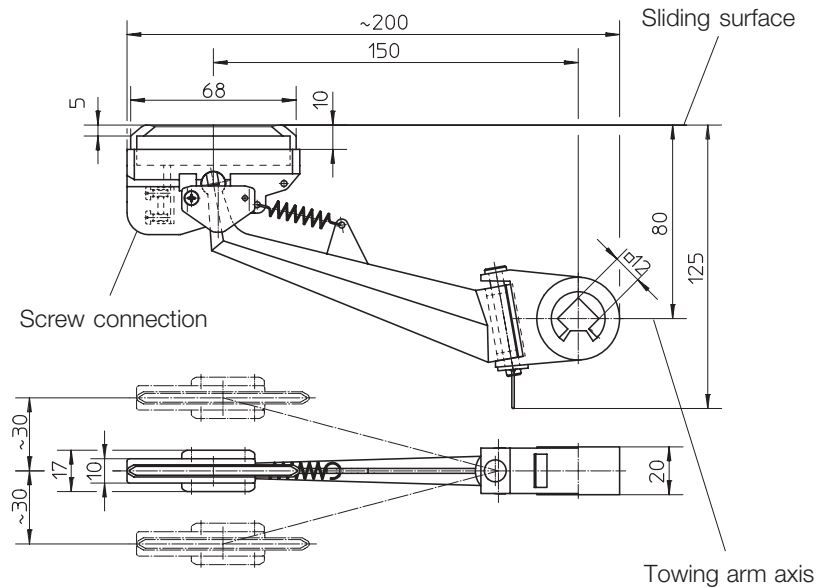
Connection cables (highly flexible) to be ordered separately (see page 16)

Collector shoe material: copper graphite

Max. wearing height: 5 mm

Contact pressure: 5 N

Deflection  
horizontal:  $\pm 30$  mm  
vertical:  $\pm 30$  mm



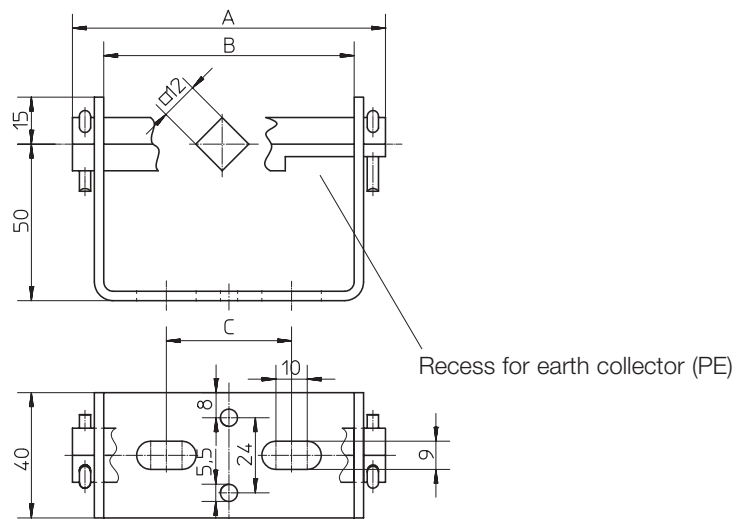
Type	Order-Number		Amps max.*	Weight [kg]
	Phase (PH)	Earth (PE)		
Current collector	083102-0021	083102-0022	55	0.120
Current collector for transfer points	083102-3021	083102-3022	55	0.125

\* = depending on cross section of connection cable; but not more than 55 A.

The current collectors are **not** for use with programme 811!

## Collector support brackets for current collector 083102-...

### 081050-...



Type	Order-Number	Poles	A [mm]	B [mm]	C [mm]	Weight [kg]
Collector support bracket	081050-20x3	3	80	60	30	0.300
	081050-20x4	4	100	80	40	0.370
	081050-20x5	5	120	100	50	0.440



# Current collectors with accessories

## Current collectors

### 083106-...

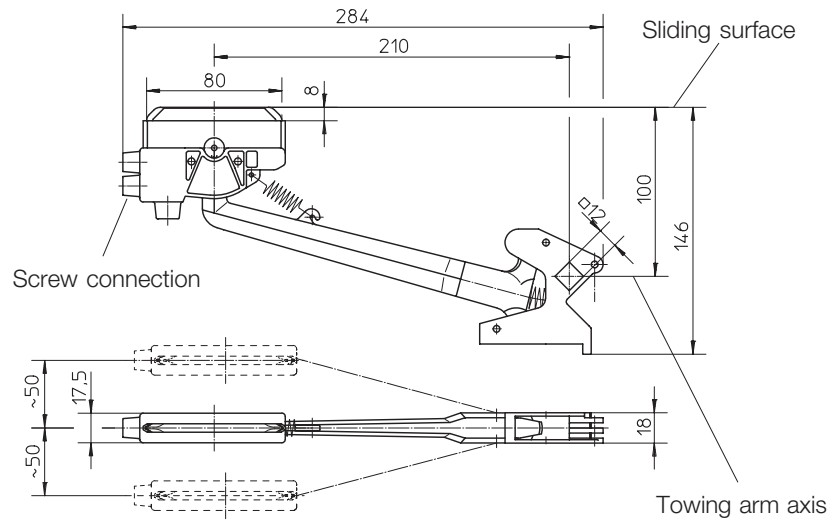
Connection cables  
(highly flexible) to be  
ordered separately  
(see page 16)

Collector shoe material:  
copper graphite

Max. wearing height: 8 mm

Contact pressure: 10 N

Deflection  
horizontal:  $\pm 50$  mm  
vertical:  $\pm 50$  mm



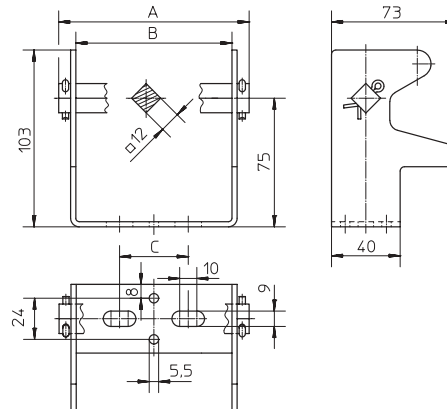
Type	Order-Number		Amps max.*	Weight [kg]
	Phase (PH)	Earth (PE)		
Current collector	083106-0021	083106-0022	80	0,270

\* = depending on cross section of connection cable;  
but not more than 80 A.

The current collectors can also be used for transfer points.

## Collector support brackets for current collector 083106-...

### 083050-...

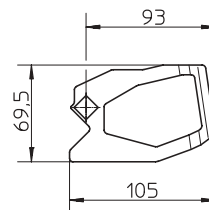


Type	Order-Number	Poles	A [mm]	B [mm]	C [mm]	Weight [kg]
Collector support bracket	083050-18x3	3	74	55	30	0.300
	083050-18x4	4	92	73	40	0.370
	083050-18x5	5	110	91.5	50	0.440

## Support spring plates

### 08-F030-...

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



Type	Order-Number		Weight [kg]
Support spring plate	left	08-F030-0082	0.013
	right	08-F030-0079	0.013

# Current collector accessories

## Connection cable with multicore cable end jacket

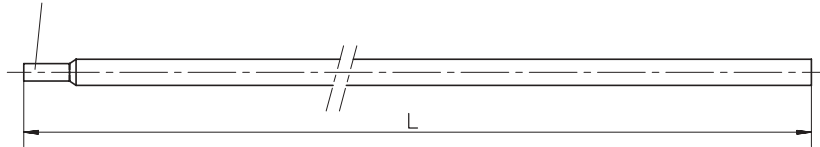
**Please note:**

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.

### 081109-...

use for  
083102-...  
083103-...  
083104-...  
083106-...  
083107-...

Multicore cable end jacket



Cross section [mm <sup>2</sup> ]	Order-Number		Length [m]	Weight [kg/m]	Cable diameter [mm]	Amps at 100% duty cycle [A]
	Phase (PH)	Earth (PE)				
1.5	081109-1x1.5x11	081109-1x1,5x32	1	0.014	4	24
2.5	081109-1x2.5x11	081109-1x2,5x32	1	0.023	4	32
4	081109-1x4 x11	081109-1x4 x32	1	0.037	5	42
6	081109-1x6 x11	081109-1x6 x32	1	0.056	6	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	32
4	081109-2x4 x11	081109-2x4 x32	2	0.037	5	42
6	081109-2x6 x11	081109-2x6 x32	2	0.056	6	54

Intermediate lengths are available

## Connection cable

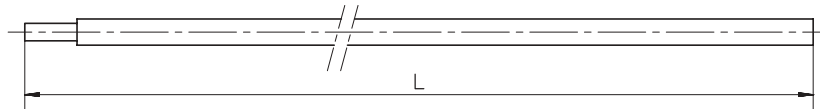
**Please note:**

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.

### 081109-...

### 081209-...

use for  
083106-...  
083107-...



Cross section [mm <sup>2</sup> ]	Order-Number		Length [m]	Weight [kg/m]	Cable diameter [mm]	Amps at 100% duty cycle [A]
	Phase (PH)	Earth (PE)				
10	081109-1x10 x91	081109-1x10 x92	1	0.098	7	73
16	081209-1x16 x81	081209-1x16 x82	1	0.156	10	98
10	081109-2x10 x91	081109-2x10 x92	2	0.098	7	73
16	081209-2x16 x81	081209-2x16 x82	2	0.156	10	98

Intermediate lengths are available

# Current collector units

## Current collector units without terminal boxes

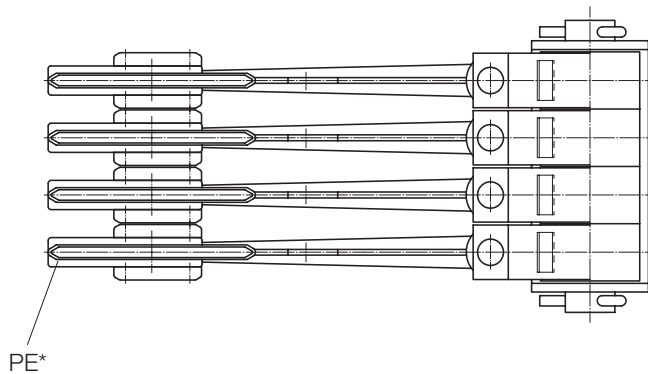
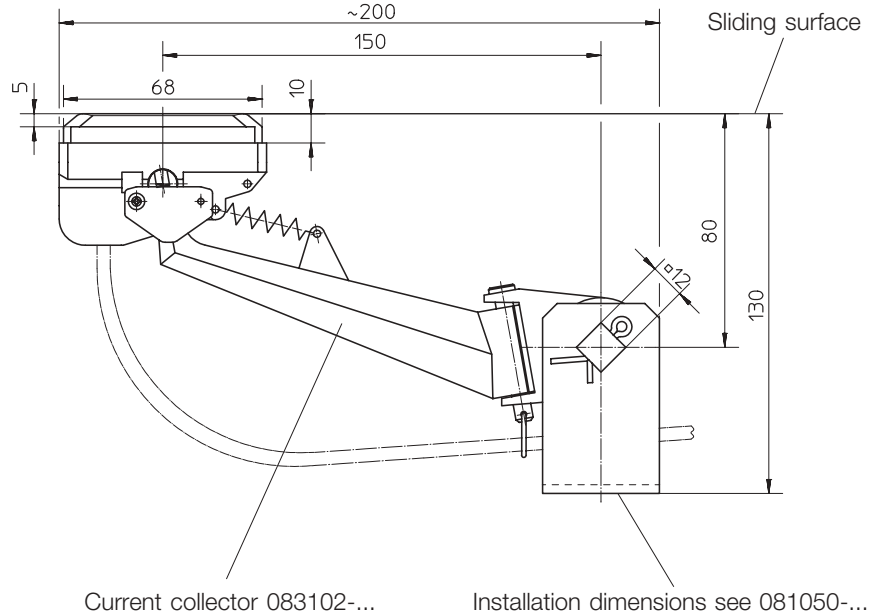
### 083103-...

Shown is the version for „pick-up guides for transfer points“

Collector shoe material: copper graphite

Contact pressure per collector arm: 5 N

Deflection  
horizontal:  $\pm 30$  mm  
vertical:  $\pm 30$  mm



Max. current load: 55 A with 6 mm<sup>2</sup> connection cable at 100% duty cycle  
34 A with 2.5 mm<sup>2</sup> connection cable at 100% duty cycle

Type	Order-Number		Poles	Weight [kg]
	Standard	for transfer points		
Current collector unit for power supply; with PE; connection cable 6 mm <sup>2</sup> , 1 m long	083103-030023	083103-033023	3	0.690
	083103-040023	083103-043023	4	0.890
	083103-050023	083103-053023	5	1.090
Current collector unit for controls; without PE; connection cable 2.5 mm <sup>2</sup> , 1 m long	083103-030021	083103-033021	3	0.690
	083103-040021	083103-043021	4	0.890
	083103-050021	083103-053021	5	1.090

- The current collector units are **not** for use with programme 811!
- Other connection cable cross sections on request.

\* = Position of earth collectors for version „with PE“

To arrange above as double-current-collectors separate order no. for the complementary units are required due to PE-orientation. Please contact sales dpt.

# Current collector units

## Current collector units without terminal boxes

### 083107-...

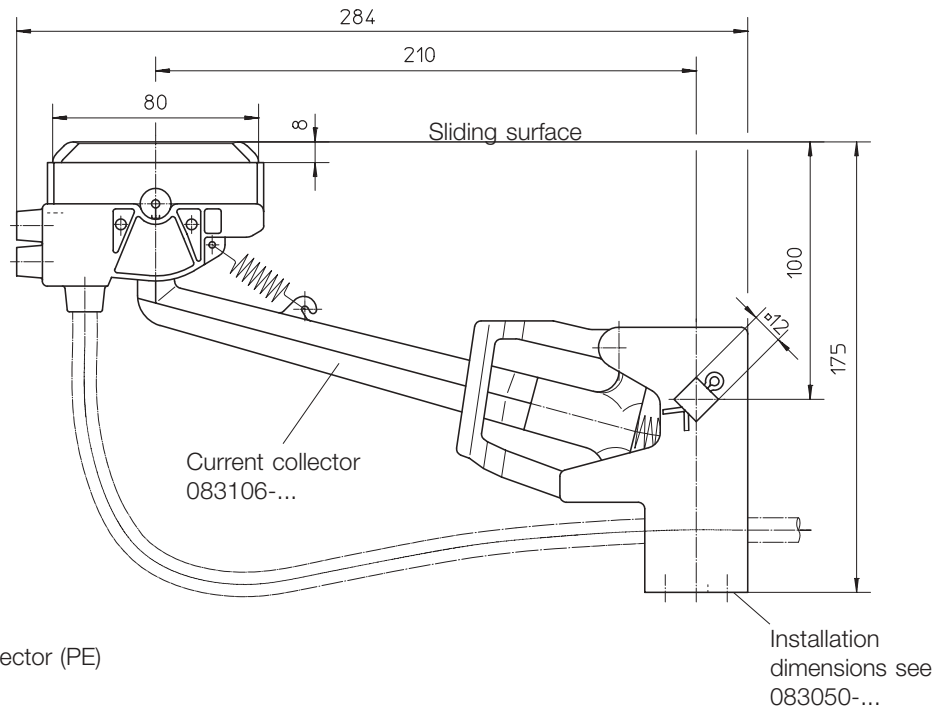
Connection cables  
(highly flexible) to be  
ordered separately  
(see page 16)

Collector shoe material:  
copper graphite

Contact pressure  
per collector arm: 10 N

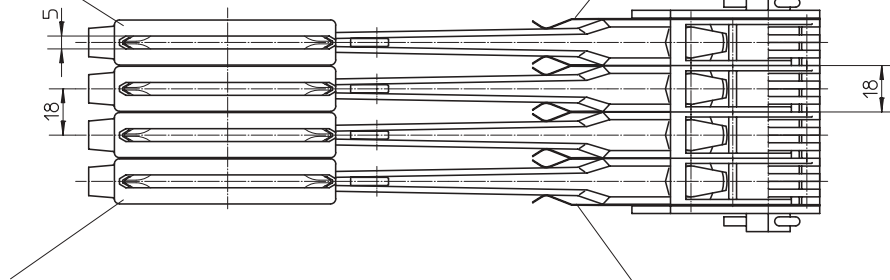
Deflection  
horizontal:  $\pm 50$  mm  
vertical:  $\pm 50$  mm

Shown is the version for  
horizontal operation.



Position of earth collector (PE)  
for version „right“

Position of support spring plates for version „right“



Position of earth collector (PE)  
for version „left“

Position of support spring plates for version „left“

Max. current load: 80 A with 16 mm<sup>2</sup> connection cable at 100% duty cycle

Type	Order-Number		Poles	Weight [kg]
	Version with PE	Version without PE		
Current collector unit; vertical operation	083107-030023	083107-030021	3	0.860
	083107-040023	083107-040021	4	1.410
	083107-050023	083107-050021	5	1.960
Current collector unit; 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
Current collector unit; 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

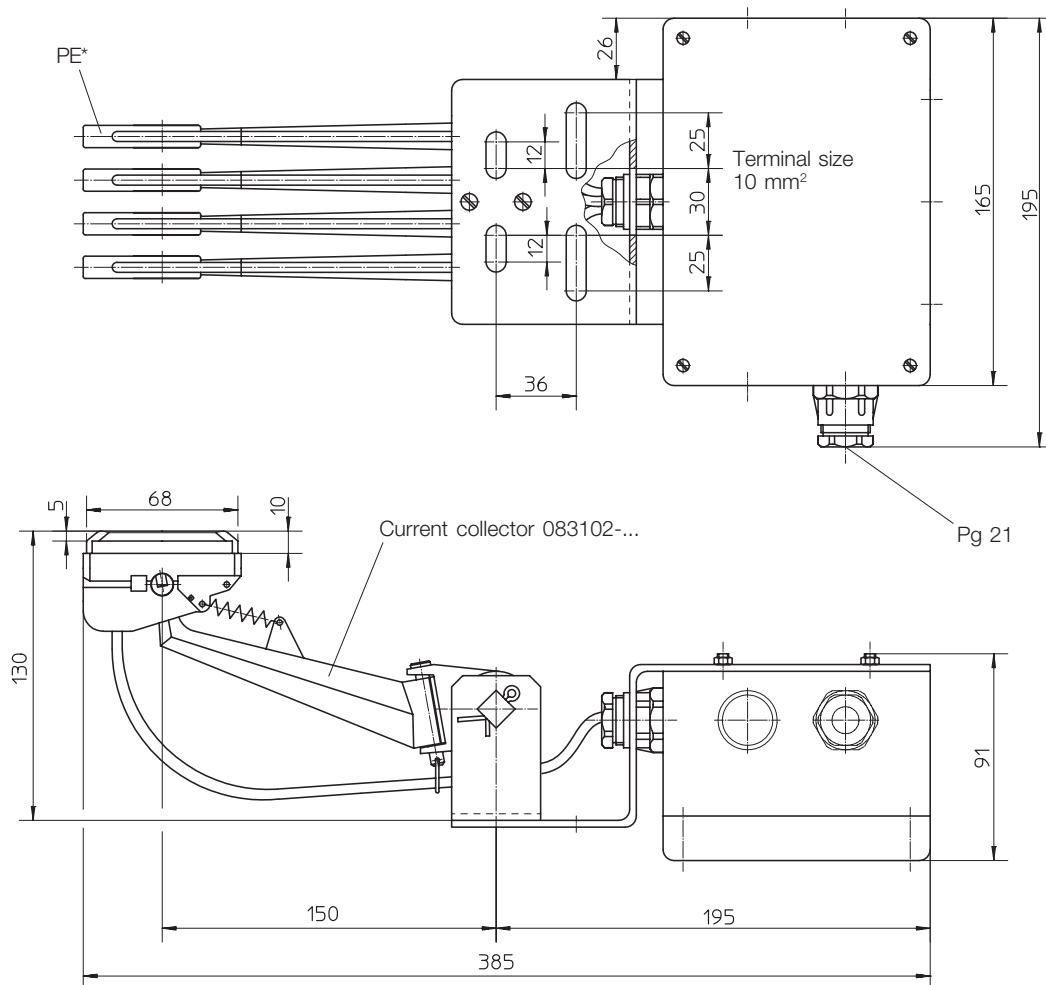
The current collector units can also be used for „pick-up guides for transfer points“

To arrange above as double-current-collectors separate order no. for the complementary units are required due to PE-orientation. Please contact sales dpt.

# Current collector units

## Current collector units with terminal boxes

### 083103-...



Collector shoe material: copper graphite

Contact pressure per collector arm: 5 N

Deflection            horizontal:  $\pm 30$  mm  
                           vertical:      $\pm 30$  mm

Max. current load: 55 A with 6 mm<sup>2</sup> connection cable at 100% duty cycle  
 34 A with 2.5 mm<sup>2</sup> connection cable at 100% duty cycle

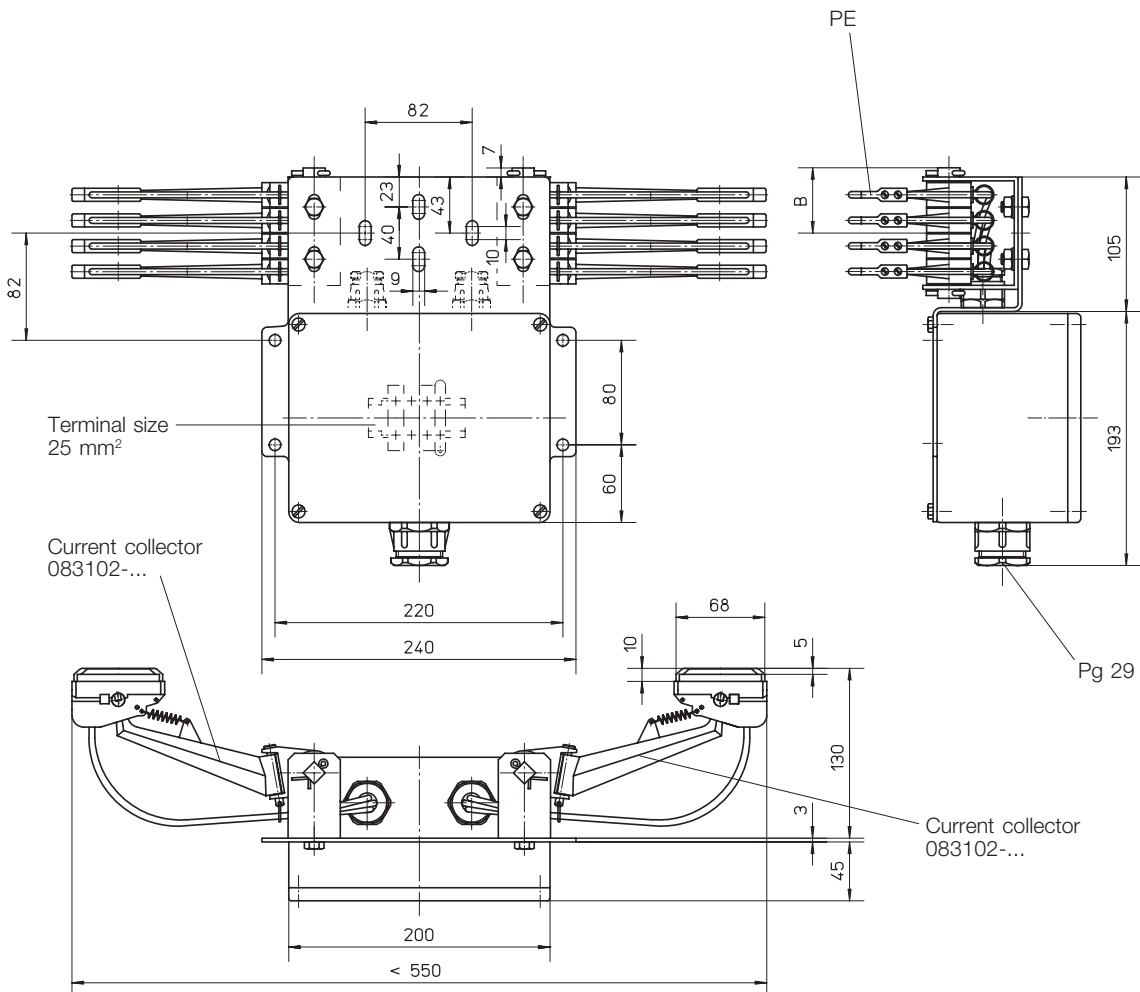
Type	Order-Number		Poles	Weight [kg]
	Version with PE	Version without PE		
Current collector unit for power supply; connection cable 6 mm <sup>2</sup>	083103-130023	083103-130024	3	2.010
	083103-140023	083103-140024	4	2.130
	083103-150023	083103-150024	5	2.250
Current collector unit for controls; connection cable 2.5 mm <sup>2</sup>	---	083103-130021	3	2.010
	---	083103-140021	4	2.130
	---	083103-150021	5	2.250

\* = Position of earth collector for version „with PE“.

# Current collector units

Double current collector units for power supply; with terminal boxes

083104-...



Collector shoe material: copper graphite

Contact pressure per collector arm: 5 N

Deflection horizontal:  $\pm 30$  mm  
vertical:  $\pm 30$  mm

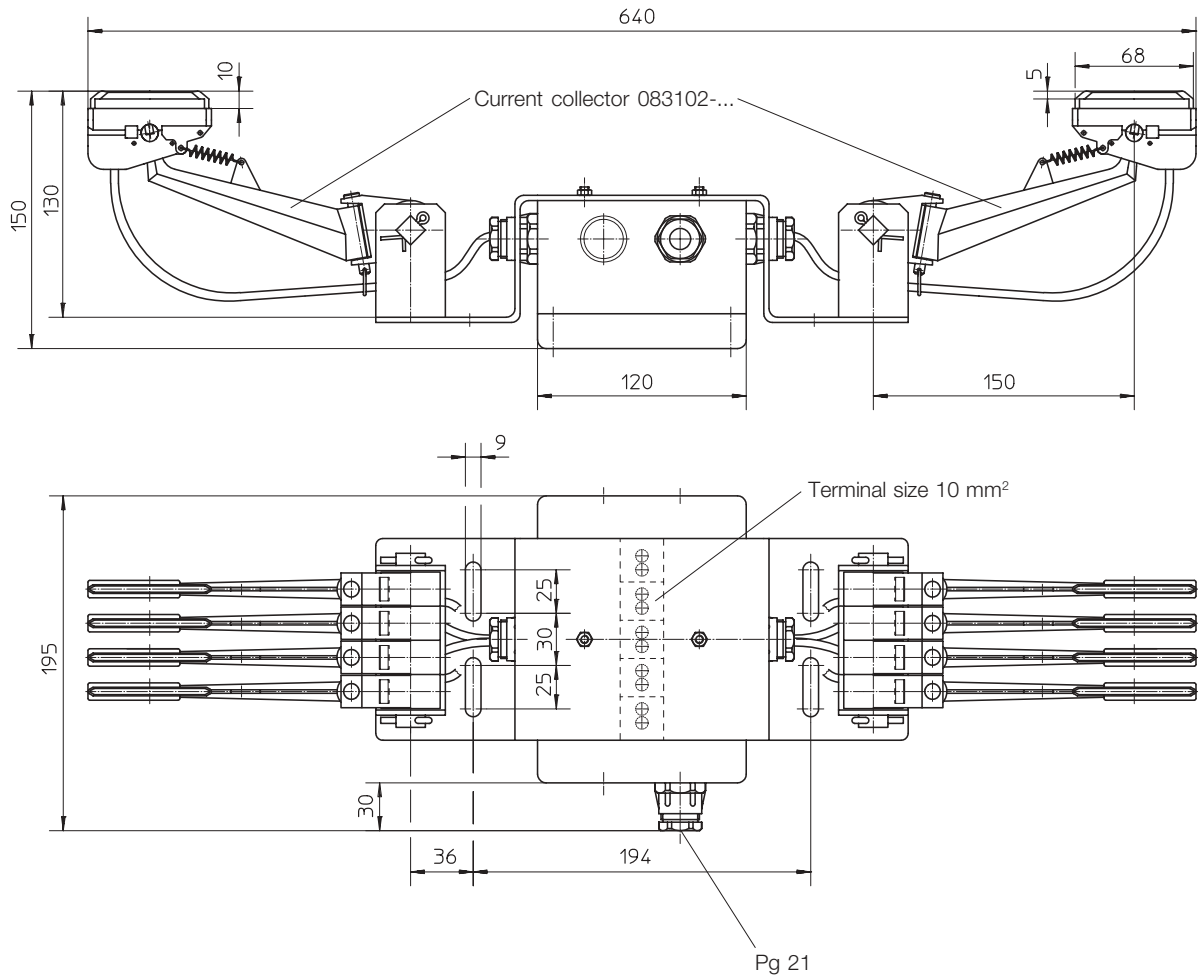
Max. current load: 110 A (2 x 55 A) with 6 mm<sup>2</sup> connection cable at 100% duty cycle

Type	Order-Number	Poles	B [mm]	Weight [kg]
Double current collector unit for power supply with PE; connection cable 6 mm <sup>2</sup>	083104-130023	3	40	4.130
	083104-140023	4	50	4.245
	083104-150023	5	60	4.370

# Current collector units

Double current collector units for control; with terminal boxes

083104-...



Collector shoe material: copper graphite

Contact pressure per collector arm: 5 N

Deflection            horizontal:  $\pm 30$  mm  
                          vertical:      $\pm 30$  mm

Max. current load: 68 A (2 x 34 A) with 2.5 mm<sup>2</sup> connection cable at 100% duty cycle

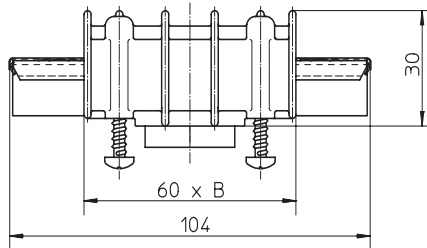
Type	Order-Number	Poles	Weight [kg]
Double current collector unit for control without PE; connection cable 2.5 mm <sup>2</sup>	083104-130021	3	4.040
	083104-140021	4	4.155
	083104-150021	5	4.270

# Spare parts

## Rail connectors

### 083121-...

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



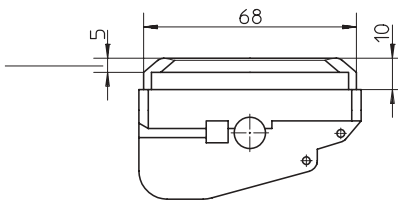
Type	Order-Number		Poles	B [mm]	Weight [kg]
	Steel and datametal rail	Copper rail			
Rail connector	083121-32	083121-36	3	72.5	0.120
	083121-42	083121-46	4	90.5	0.150
	083121-52	083121-56	5	108.5	0.180

## Collector shoes 55 A

### 083002-...

for current collectors and current collector units  
083102-...  
083103-...  
083104-...

max. wearing height



Not interchangeable with collector shoes programme 811

Colours  
PH: grey  
PE: turquoise

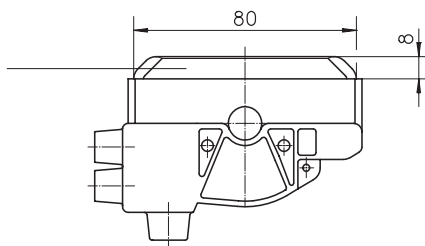
Type	Material	Order-Number		Amps [A]	Weight [kg]
		Phase (PH)	Earth (PE)		
Collector shoe	Copper-Graphite	083002-1x4	083002-2x4	55	0.045
	Silver-Graphite	083002-1x5	083002-2x5	55	0.050

## Collector shoes 80 A

### 081001-...

for current collectors and current collector units  
083106-...  
083107-...

max. wearing height



Colours  
PH: black  
PE: green

Type	Order-Number		Amps [A]	Weight [kg]
	Phase (PH)	Earth (PE)		
Collector shoe	081001-12	081001-22	80	0.090
Collector shoe without insulating	08-K154-0116		80	0.045

## Stabilizing springs for current collector head

### RZ-...

Type	for current collector	Order-Number	Carbon length [mm]
Stabilizing spring	083102- / 083103- / 083104-	RZ-056I	68
	083106- / 083107-	RZ-081GI	80



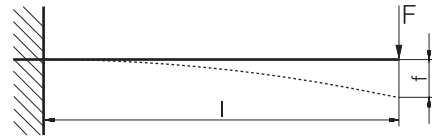
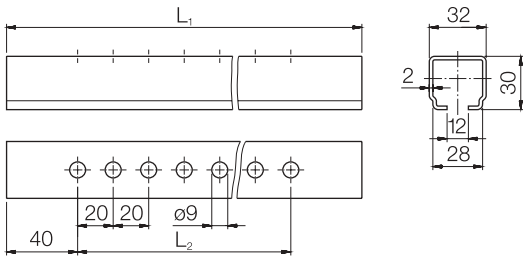


# Accessories

## Support arm

### 020185-...

### PERMISSIBLE LOADING



	l [m]							
	0.25	0.32	0.40	0.50	0.63	0.80	1.00	1.25
F[daN] <sup>1)</sup>	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

Static values:

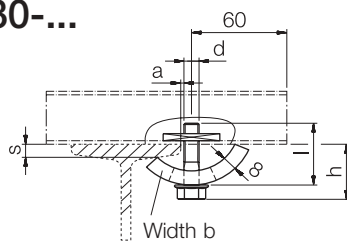
$$I_x = 2,11 \text{ cm}^4; W_x = 1,36 \text{ cm}^3$$

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

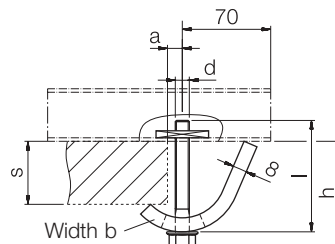
Type	Order-Number	L <sub>1</sub> [mm]	L <sub>2</sub> [mm]	Weight [kg]	Material
Support arm	020185-0250	250	200	0.390	Galvanized steel
	020185-0315	315	260	0.500	
	020185-0400	400	340	0.625	
	020185-0500	500	340	0.780	
	020185-0630	630	340	0.980	
	020185-0800	800	340	1.245	
	020185-1000	1000	340	1.550	
	020185-1250	1250	340	1.945	

## Girder clip

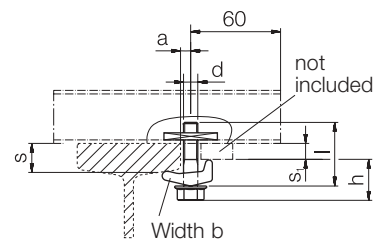
### 020180-...



020180-08



020180-08x36



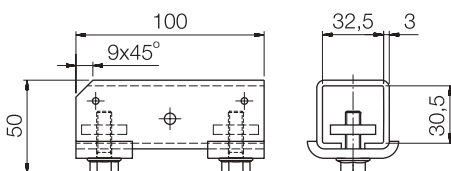
020180-10 / 020180-12

Type	Order-Number	Clamping range s [mm]	d	l [mm]	Installation high h [mm]	b [mm]	a [mm]	s <sub>1</sub> [mm]	Weight [kg]
Girder clip	020180-08	4 - 20	M8	50	31 - 40	30	6	-	0.150
	020180-08x36	18 - 36	M8	65	42 - 60	30	6	-	0.220
	020180-10	6 - 11	M10	50	35 - 41	32	8	-	0.170
		11 - 16			41 - 46			5	
	020180-12	16 - 21	M12	60	46 - 51	38	10	10	0.240
		6 - 14			39 - 47			-	
14 - 22		47 - 55			8				
	22 - 30			55 - 63			16		

Material: steel, galvanized

## Weld-on bracket

### 020285



Type	Order-Number	Weight [kg]
Weld-on bracket <sup>2)</sup>	020285	0,420

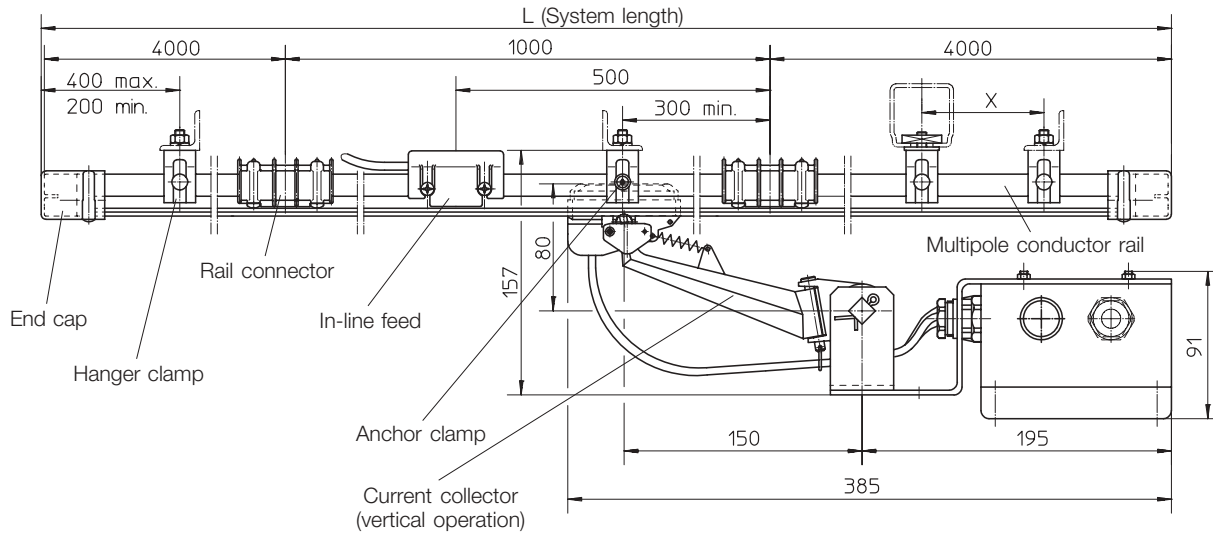
2) for support arm 020185

### Material

bracket: steel, plain; counter plate: steel, galv.; Hardware: steel, galv.

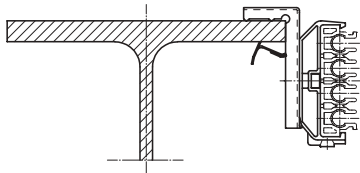
# Arrangement examples

## System sketch



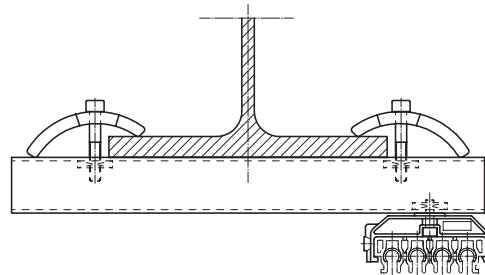
$x$  = Support spacing, max. 1000 mm

## Multipole conductor rail arrangements



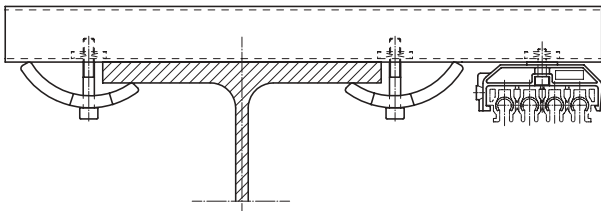
### Vertical arrangement

Installation with universal steel clamp fastener  
-clamping range 8 to 36 mm



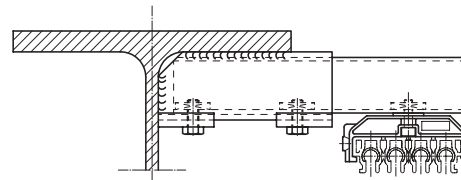
### Horizontal arrangement

Mounting on support arms with hanger clamps for support arm installation



### Horizontal arrangement

Mounting on support arms with hanger clamps for support arm installation



### Horizontal arrangement

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

# Questionnaire

for determining the Wampfler multipole conductor rail programme 831

**1. Type of consumer:**

Crane, hoist, shunting trolleys, etc.:

---

**2. Length of the conductor rail system:**

---

**3. Arrangement of conductor rail system:**

---

vertical

horizontal

For special applications please enclose sketch and description!

**4. Number of conductor rail poles:**

\_\_\_\_\_ Phases

\_\_\_\_\_ Control

\_\_\_\_\_ Earth

\_\_\_\_\_ Data

**5. Operation voltage:**

\_\_\_\_\_ V  $\approx$  / =

\_\_\_\_\_ Phases

\_\_\_\_\_ Hz

**6. Kind of application:**

Indoor installation

Outdoor installation

**7. Operation conditions:**

\_\_\_\_\_ (dampness, dust, chemical influences, etc.)

**8. Ambient temperatures:**

min. \_\_\_\_\_ °C

max. \_\_\_\_\_ °C

**9. Travelling speed:**

\_\_\_\_\_ m/min

**10. Position/Number of power feeds:**

---

**11. Position/Number of insulating sections:**

---

**12. Number of consumers:**

---

**13. Consumption of consumers:**

Please note in table on bottom!

**14. Max. permissible voltage drops:**

\_\_\_\_\_ %

\_\_\_\_\_ V

**Consumptions and number of consumers:**

Motors	Crane 1			Crane 2			Crane 3		
	Power consumption [kW]	Current consumption [A]	% duty cycle	Power consumption [kW]	Current consumption [A]	% duty cycle	Power consumption [kW]	Current consumption [A]	% duty cycle
Main hoist									
Aux. hoist									
Cross travel									
Long travel									

# System review

## Single parts



Hanger clamp with steel nut



Hanger clamp for support arm installation



Hanger clamp with universal steel clamp fastener for vertical installation



Anchor clamp with steel nut



Anchor clamp for support arm installation



Anchor clamp with shims and universal steel clamp fastener



End cap



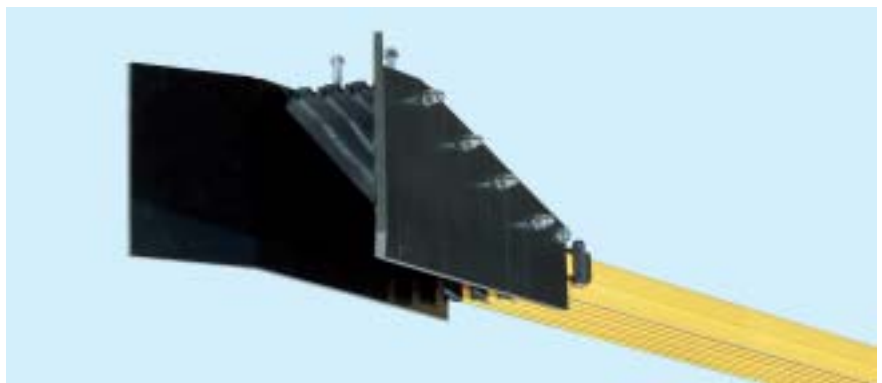
End cap for transfer points



Air gap insulating section



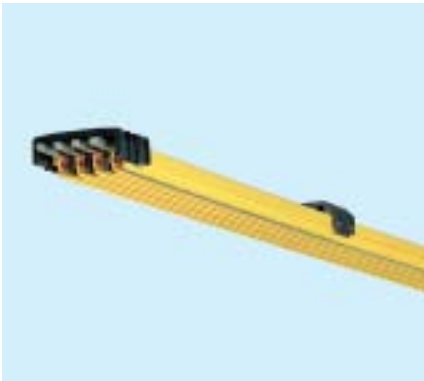
Rail connector



Pick-up guide for transfer points

# System review

## Single parts, units



In-line feed  
(max. 10 mm<sup>2</sup>)



In-line feed  
(max. 35 mm<sup>2</sup>)



In-line feed  
(max. 35 mm<sup>2</sup>)



End feed  
(max. 35 mm<sup>2</sup>)



Expansion joint



Current collector for 80 A



Current collector unit for 55 A  
for each pole



Collector support bracket




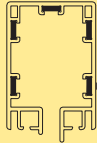





Collector shoe for 80 A (spare part)



Current collector unit for 55 A for each pole with terminal box

# Programme overview / General hints

## Programme overview

System Designs	Enclosed Cond. Rail	Multipole Cond. Rail	Single Pole Insulated Conductor Rail			
Conductor Rail System	Progr. 842	Progr. 831	Progr. 815	Progr. 811	Progr. 812	Progr. 813
						
<b>Nominal Current<sup>1)</sup></b> [A]	35 -140 <sup>3)</sup>	10-125 <sup>4)</sup>	100	10-100	25-400	200-1250
<b>Voltage Grade</b> [V]	600	500	500	500	660	660
<b>Support Spacing</b> [m]	2	1	0.5	0.4-1.0	1.5	2,5
<b>Rail Length<sup>2)</sup></b> [mm]	4000	4000	4000	4000	4000	5000
<b>Outside-Dimensions</b> [mm]	5-pol.: 7-pol.: 56 x 90	3-pol.: 26 x 62 4-pol.: 26 x 80 5-pol.: 26 x 98	9.6 x 15.2	14.7 x 15.5	18 x 26	32 x 42

1) at 100% duty cycle and 35°C; 2) Standard; 3) 160 Amps at 80% duting cycle; 4) 140 Amps at 80% duty cycle

## 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.

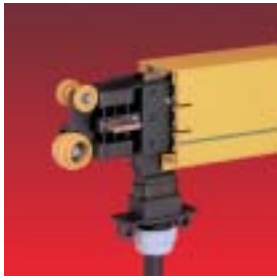
All our equipment is in accordance with CE.



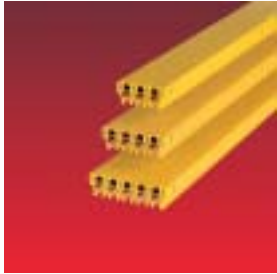
Our general terms of business are effective. We shall send them to you on request.

Reprint, even of extracts, is only permitted with our approval.

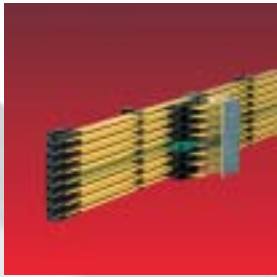




Programme 842



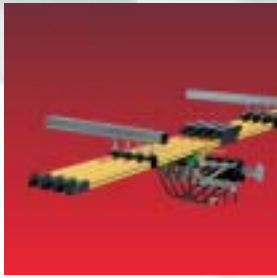
Programme 831



Programme 815



Programme 811



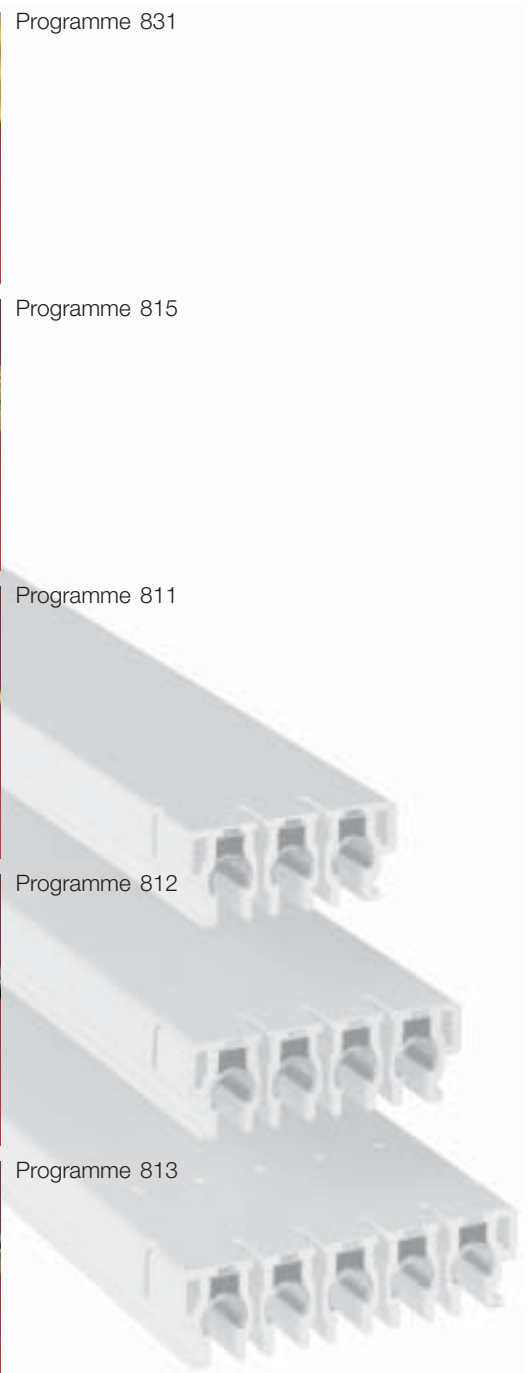
Programme 812



Programme 813



Programme 814





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