

# Accessories

# 7



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# Accessories

## Power supply units

### Overview

#### 4AV21 02, 4AV23 02 unstabilized DC power supplies

The power supply units are suitable for connection to public and industrial supply networks in accordance with EN 61000-3-2, -3-3.

The devices are suitable for installation in enclosed controls and electronics cabinets.

Design:

- Output voltage DC 24 V according to EN 61131-2 for an input voltage of +6 to -10 % and a load of 0 to 100 %
- Safety transformer to EN 60742
- Varistor protection circuit
- LED status indication
- Emitted interference to EN 50081-1
- Interference immunity to EN 50082-2.

#### 4FD51 83 load/system power supply

This power supply functions according to the principle of a primary switched-mode regulator and supplies a controlled DC voltage of 24 V of high stability and with low residual ripple.

Design:

- Overload and short-circuit proof output, automatic switching off and on again
- Bridging of supply interruptions > 20 ms
- LED status indication
- Emitted interference to EN 50081-1
- Interference immunity to EN 50082-2.

### Area of application

The power supplies are suitable for supplying inductive and capacitive BERO proximity switches as well as the DC versions of Sonar-BERO ultrasonic proximity switches and Opto-BERO photoelectric proximity switches.

### Technical specifications



4AV21, 4AV23



4FD51 83

Type		4AV21 02	4AV23 02	4FD51 83-0AA00-1A
<b>Input</b>				
Rated voltage (AC)	V	–		230/115 switchable
• Connections 1–4, Bridge 2–3	V	230		–
• Connections 1–4, Bridges 1–3, 2–4	V	115		–
Voltage tolerance	%	+6 ... -10		+10 ... -10
Frequency	Hz	50 ... 60		50 ... 60
Short-circuit protection		External		G fuse link built in
• Fuse gL/gG (for 230/115 V)	A	1/2	2/4	–
• Circuit-breaker (for 230/115 V)	A	0.4/0.9	0.7/2	–
<b>Output</b>				
Rated output voltage	DC V	24		24
Ripple	%	≤ 3		≤ 1
Control accuracy	%	–		< 1
Rated output current	A	1	3.5	3
Short-circuit protection		Electronic, with auto. restart		Electronic, with auto. restart
Status indication		LEDs		Green LED for output voltage
Conductor cross-sections				
• Screw terminal, solid wire	mm <sup>2</sup>	0.5 ... 6		–
• Screw terminal, stranded wire	mm <sup>2</sup>	0.5 ... 4		–
• Tab terminal (DIN 46244)	mm <sup>2</sup>	A 6.3–0.8		–
• Cage Clamp, solid, stranded wire	mm <sup>2</sup>	–		0.8 ... 2.5
Mounting		Snap onto 35 mm mounting rail		Snap onto 35 mm mounting rail
Degree of protection		IP00		IP20
Ambient temperature	°C	0 ... +60		0 ... +55

Type		6EV2 300-4AK00
<b>Input</b>		
Rated voltage (AC)		230 V
• Connections A1–A2		
Voltage tolerance		+10 ... -15 %
Power consumption		34 VA
Frequency		50 ... 60 Hz
Conductor cross-sections		2 × 1.5 mm <sup>2</sup> (screw terminals)
<b>Output</b>		
Output voltage (DC), connections L+ (P)/L– (M)		24 V, stabilized
Ripple		≤ 10%
Rated output current		1000 mA
Short-circuit protection		Built-in
Degree of protection		IP20
Ambient temperature		0 ... +70 °C

### Selection and ordering data



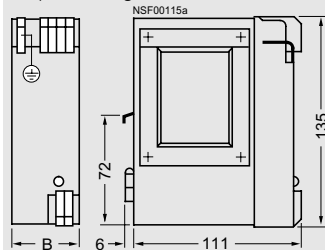
6EV2 300

Design	Input voltage	Output voltage	Output current	DT	Order No.	PS	Approx. weight per PU
	AC V	DC V	A				
SIDAC-S unstabilized DC power supply	115/230	24	1	▶	4AV21 02-2EB00-0A	1 unit	1.500
			3.5	▶			
SIDAC-S stabilized DC power supply	115/230	24	3	▶	4FD51 83-0AA00-1A	1 unit	0.800
Power supply unit	230	24	1	A	6EV2 300-4AK00	1 unit	0.405

For further SIDAC-S power supplies, see Catalog LV 10, Section 13.

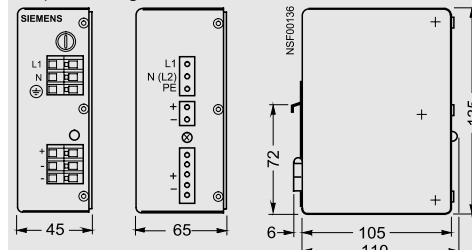
### Dimension drawings

**4AV21 02, 4AV23 02**  
for any arrangement,  
snap-mounting on DIN rail to EN 50022 – 35 × 7.5

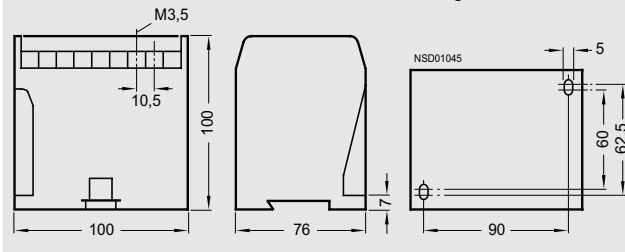


4AV21: dimension B = 45  
4AV23: dimension B = 72

**4FD51 83**  
for any arrangement,  
snap-mounting on DIN rail to EN 50022 – 35 × 7.5

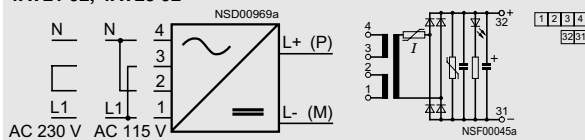


**6EV2 300-4AK00** Mounting dimensions

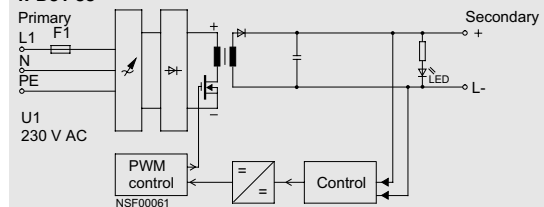


### Circuit diagrams

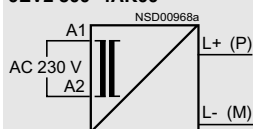
**4AV21 02, 4AV23 02**



**4FD51 83**

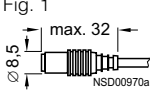
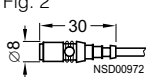
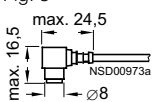
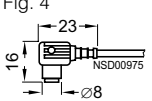
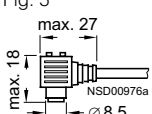

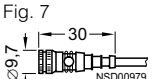
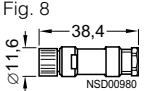
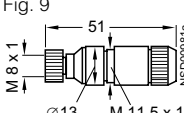
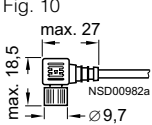
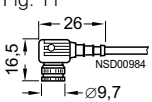
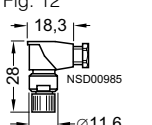
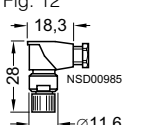
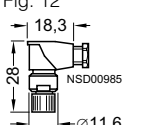


**6EV2 300-4AK00**



## Connectors

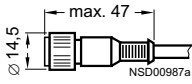
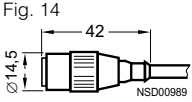
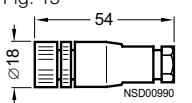
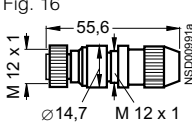
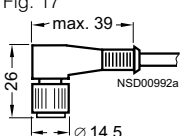
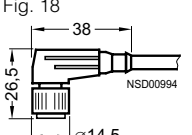
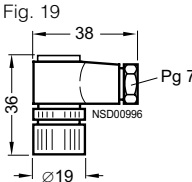
### Selection and ordering data

Fig.	Type <sup>1)</sup>	Cable	Length m	Color	DT	Order No.	PS	Approx. weight per PU kg
<b>8 mm cable plugs for snap-on mounting, degree of protection IP65</b>								
Fig. 1 	3-pole, 3 × 0.25 mm <sup>2</sup>		5	black	A	A <b>3RX1 518</b>	1 unit	0.135
	1	A				PUR	A <b>3RX1 521</b>	1 unit
Fig. 2 	4-pole, 4 × 0.25 mm <sup>2</sup>		5	black	A	A <b>3RX1 522</b>	1 unit	0.145
	1	B				PUR	A <b>3RX1 524</b>	1 unit
<b>8 mm angled cable plugs for snap-on mounting, degree of protection IP65</b>								
Fig. 3 	3-pole, 3 × 0.25 mm <sup>2</sup>		5	black	A	A <b>3RX1 525</b>	1 unit	0.147
	3	A				PUR	A <b>3RX1 527</b>	1 unit
Fig. 4 	4-pole, 4 × 0.25 mm <sup>2</sup>		5	black	A	A <b>3RX1 528</b>	1 unit	0.143
	3	B				PUR	D <b>3RX1 552</b>	1 unit
Fig. 5 	3-pole, 3 × 0.25 mm <sup>2</sup> , with 2 LEDs for pnp BERO (NO)		5	black/clear	A	A <b>3RX1 531</b>	1 unit	0.140
	4	C				PUR	D <b>3RX1 517</b>	1 unit
<b>M8 cable plugs for screw mounting, degree of protection IP67</b>								
Fig. 6 	3-pole, 3 × 0.25 mm <sup>2</sup>		5	black	A	A <b>3RX1 578</b>	1 unit	0.147
	6	A				PUR	A <b>3RX1 560</b>	1 unit
Fig. 7 	8		5	black	A	A <b>3RX1 583</b>	1 unit	0.008
	8	A				Coupling plug with soldering pins max. 0.25 mm <sup>2</sup>	A <b>3RX1 683</b>	1 unit
Fig. 8 	4-pole, 4 × 0.25 mm <sup>2</sup>		5	black	A	A <b>3RX1 577</b>	1 unit	0.143
	6	B				PUR	A <b>3RX1 561</b>	1 unit
Fig. 9 	9		5	black	A	A <b>3RX1 581</b>	1 unit	0.009
	9	B				Coupling plug with soldering pins max. 0.25 mm <sup>2</sup>	A <b>3RX1 685</b>	1 unit
<b>M8 angled cable plugs for screw mounting, degree of protection IP67</b>								
Fig. 10 	3-pole, 3 × 0.25 mm <sup>2</sup>		5	black	A	A <b>3RX1 576</b>	1 unit	0.150
	10	A				PUR	A <b>3RX1 562</b>	1 unit
Fig. 11 	3-pole, 3 × 0.25 mm <sup>2</sup> , with LEDs		5	black	A	A <b>3RX1 582</b>	1 unit	0.009
	10	A				Coupling plug with soldering pins max. 0.25 mm <sup>2</sup>	A <b>3RX1 666</b>	1 unit
Fig. 12 	4-pole, 4 × 0.25 mm <sup>2</sup>		5	black	A	A <b>3RX1 564</b>	1 unit	0.176
	11	C				PUR	D <b>3RX1 565</b>	1 unit
Fig. 12 	4-pole, 4 × 0.25 mm <sup>2</sup>		5	black	A	A <b>3RX1 575</b>	1 unit	0.146
	10	B				PUR	A <b>3RX1 563</b>	1 unit
Fig. 12 	4-pole, 4 × 0.25 mm <sup>2</sup>		5	black	A	A <b>3RX1 580</b>	1 unit	0.009
	12	B				Coupling plug with soldering pins max. 0.25 mm <sup>2</sup>	A <b>3RX1 580</b>	1 unit

Cable plugs with special lengths available as options:

- Minimum ordering quantity 50 units
- Delivery time on request.
- Extra charge per m.

1) For terminal assignment, see Page 7/8.

Fig.	Type <sup>1)</sup>	Cable	Length m	Color	DT	Order No.	PS	Approx. weight per PU kg
<b>M12 cable plugs for screw mounting, degree of protection IP67</b>								
Fig. 13		3-pole, 3 × 0.34 mm <sup>2</sup>						
	13	E	PUR	5	black	A <b>3RX1 533</b>	1 unit	0.154
	14					A <b>3RX1 535</b>	1 unit	0.181
Fig. 14		4-pole, 4 × 0.34 mm <sup>2</sup>						
	13	F	PUR	5	black	A <b>3RX1 536</b>	1 unit	0.214
	15	F	Coupling plug with terminal compartment, preassembly possible		black	A <b>3RX1 505</b>	1 unit	0.015
Fig. 15		4-pole, 4 × 0.25 mm <sup>2</sup>						
	16	F	Coupling plug for HARAX connection		black	A <b>3RX1 687</b>	1 unit	0.023
	14	F	PUR	5		A <b>3RX1 513</b>	1 unit	0.189
Fig. 16		5-pole, 5 × 0.34 mm <sup>2</sup>						
	13	G	PUR	5	black	A <b>3RX1 630</b>	1 unit	0.182
	14				black	A <b>3RX1 570</b>	1 unit	0.250
	15	G	Coupling plug with terminal compartment, preassembly possible		black	A <b>3RX1 584</b>	1 unit	0.016
<b>M12 angled cable plugs for screw mounting, degree of protection IP67</b>								
Fig. 17		3-pole, 3 × 0.34 mm <sup>2</sup>						
	17	E	PUR	5	black	A <b>3RX1 538</b>	1 unit	0.185
	18					A <b>3RX1 541</b>	1 unit	0.174
	17	H	3-pole, 3 × 0.34 mm <sup>2</sup> , with LEDs for pnp BERO, only NO	5	black	A <b>3RX1 546</b>	1 unit	0.182
	18					A <b>3RX1 548</b>	1 unit	0.188
Fig. 18		3-pole, 3 × 0.34 mm <sup>2</sup> , with LEDs for pnp BERO, NO or NC						
	17	J	PUR	5	black	A <b>3RX1 544</b>	1 unit	0.159
	18					A <b>3RX1 515</b>	1 unit	0.187
Fig. 19		4-pole, 4 × 0.34 mm <sup>2</sup>						
	17	F	PUR	5	black	A <b>3RX1 542</b>	1 unit	0.174
	19	F	Coupling plug with terminal compartment, preassembly possible		black	A <b>3RX1 502</b>	1 unit	0.016
	18	F	4-pole, 4 × 0.25 mm <sup>2</sup>	5		A <b>3RX1 512</b>	1 unit	0.183
	17	K	4-pole, 4 × 0.34 mm <sup>2</sup> , with LEDs	5	black	A <b>3RX1 568</b>	1 unit	0.212
	18					A <b>3RX1 567</b>	1 unit	0.182
	17	G	5-pole, 5 × 0.34 mm <sup>2</sup>	5	black	A <b>3RX1 631</b>	1 unit	0.257
	18				black	A <b>3RX1 571</b>	1 unit	0.254
	19	G	Coupling plug with terminal compartment, preassembly possible		black	A <b>3RX1 585</b>	1 unit	0.017

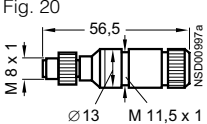
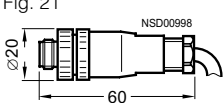
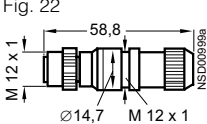
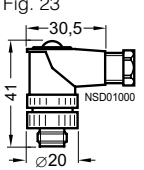
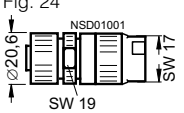
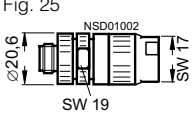
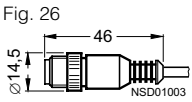
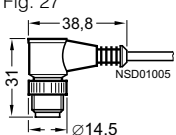
Cable plugs with special lengths available as options:

- Minimum ordering quantity 50 units
- Delivery time on request.
- Extra charge per m.

1) For terminal assignment, see Page 7/8.

# Accessories

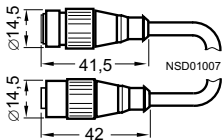
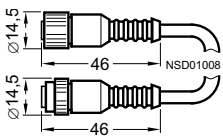
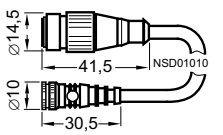
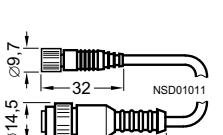
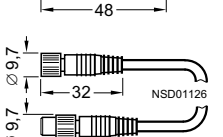
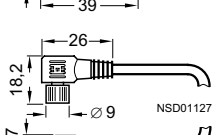
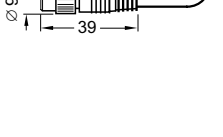
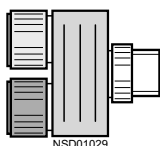
## Connectors

Fig.	Type <sup>1)</sup>	Cable	Length m	Color	DT	Order No.	PS	Approx. weight per PU kg
<b>M8 coupling plugs, degree of protection IP67</b>								
For extension cable (union nut of metal) for HARAX connection								
Fig. 20 		3-pole	–	black	A	<b>3RX1 684</b>	1 unit	0.016
		4-pole	–	black	A	<b>3RX1 686</b>	1 unit	0.017
<b>M12 coupling plug, degree of protection IP67</b>								
For extension cable (union nut of metal) with terminal compartment, screw terminal max. 0.75 mm <sup>2</sup> cable gland max. 6 mm								
Fig. 21 	21	L	4-pole	–	black	A	<b>3RX1 586</b>	1 unit 0.024
	21	M	5-pole	–	black	A	<b>3RX1 667</b>	1 unit 0.026
	22	L	4-pole	For HARAX connection		A	<b>3RX1 688</b>	1 unit 0.022
Fig. 22 								
<b>M12 angled coupling plug, degree of protection IP67</b>								
For extension cable (union nut of metal) with terminal compartment, screw terminal max. 0.75 mm <sup>2</sup> cable gland max. 6 mm								
Fig. 23 	23	L	4-pole	–	black	A	<b>3RX1 587</b>	1 unit 0.026
	23	M	5-pole	–	black	A	<b>3RX1 668</b>	1 unit 0.027
<b>M12 cable plug for screw mounting, degree of protection IP67</b>								
Fig. 24 	24	–	4-pole	Preassembly possible, QUICKON	A	<b>3RX1 677</b>	1 unit	0.019
<b>M12 coupling plug, degree of protection IP67</b>								
Fig. 25 	25	–	4-pole	Preassembly possible, QUICKON	A	<b>3RX1 678</b>	1 unit	0.015
<b>For AS-Interface, degree of protection IP67</b>								
<b>M12 cable plugs</b>								
4 × 0.34 mm <sup>2</sup> (metal union nut)								
Fig. 26 	26	L	PUR	5	black	A	<b>3RX1 672</b>	1 unit 0.172
<b>M12 angled cable plug</b>								
4 × 0.34 mm <sup>2</sup> (union nut of metal)								
Fig. 27 	27	L	PUR	5	black	A	<b>3RX1 674</b>	1 unit 0.171

Cable plugs with special lengths available as options:

- Minimum ordering quantity 50 units
- Delivery time on request.
- Extra charge per m.

1) For terminal assignment, see Page 7/8.

Design	Type <sup>1)</sup>	Conductor cross-section/color	Length m	DT	Order No.	PS	Approx. weight per PU kg
	E, L	3 × 0.34 mm <sup>2</sup>	0.6	A	<b>3RX1 633</b>	1 unit	0.050
			1	A	<b>3RX1 634</b>	1 unit	0.064
			1.5	A	<b>3RX1 635</b>	1 unit	0.082
	F, L	4 × 0.34 mm <sup>2</sup> black	0.5	A	<b>3RX1 641</b>	1 unit	0.044
			1	A	<b>3RX1 640</b>	1 unit	0.060
			1.5	A	<b>3RX1 642</b>	1 unit	0.080
	A, L	3 × 0.34 mm <sup>2</sup>	0.6	D	<b>3RX1 636</b>	1 unit	0.039
			1	D	<b>3RX1 637</b>	1 unit	0.054
			1.5	A	<b>3RX1 638</b>	1 unit	0.070
	A, L	3 × 0.34 mm <sup>2</sup> black	0.5	D	<b>3RX1 647</b>	1 unit	0.033
			1	D	<b>3RX1 646</b>	1 unit	0.047
			1.5	A	<b>3RX1 648</b>	1 unit	0.064
	B, L	4 × 0.34 mm <sup>2</sup> black	0.6	D	<b>3RX1 644</b>	1 unit	0.030
			1	D	<b>3RX1 643</b>	1 unit	0.057
			1.5	A	<b>3RX1 645</b>	1 unit	0.066
	A	3 × 0.25 mm <sup>2</sup>	1	D	<b>3RX1 690</b>	1 unit	0.038
			2	A	<b>3RX1 691</b>	1 unit	0.069
	A	3 × 0.25 mm <sup>2</sup>	1	D	<b>3RX1 692</b>	1 unit	0.039
			2	D	<b>3RX1 693</b>	1 unit	0.066
<b>Cables, 20 m, black</b> According to the number of conductors, the cables can be used for all inductive BEROs, Sonar-BEROs and Opto-BEROs.							
• PUR		3 × 0.34 mm <sup>2</sup>		D	<b>3RX1 554</b>	1 unit	0.551
		4 × 0.34 mm <sup>2</sup>		D	<b>3RX1 555</b>	1 unit	0.611
• PVC, shielded		4 × 0.34 mm <sup>2</sup>		D	<b>3RX1 556</b>	1 unit	0.820
<b>T-distributor, M12 plug connection</b>				C	<b>3RX1 682</b>	1 unit	0.026
For connection of thru-beam sensors to AS-Interface modules							
							

1) For terminal assignment, see Page 7/8.

## Connectors

### Circuit diagrams

#### Plug connections

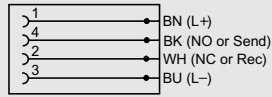
##### Types A, E



NSD01032a

BERO with NO

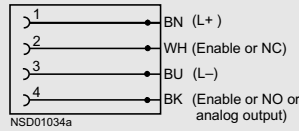
##### Types B, F, L, N, P



NSD01033a

BERO with NC/NO

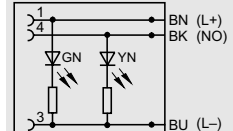
##### Types B, F, L, N, P



NSD01034a

Sonar-BERO compact range M18

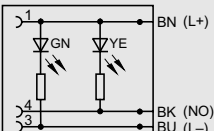
##### Types C, H



NSD01035a

BERO with NO, pnp

##### Type D



NSD01036a

BERO with NO, npn

BN = Brown  
BK = Black  
WH = White

##### Type G, M

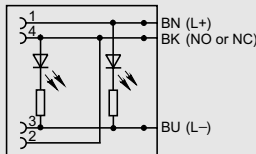


NSD01037a

BERO with NC/NO  
Sonar-BERO compact range II and III

BU = Blue  
GR = Gray

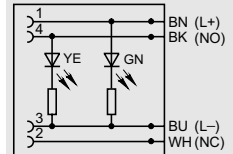
##### Type J



NSD01038a

BERO with NC or NO, pnp

##### Type K



NSD01039a

BERO with NO or NC/NO, pnp

#### Pin assignments

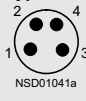
8 mm connection for cable plugs and right-angle cable plugs  
(view on contact pins)

##### Type A, C, D



NSD01040a

##### Type B



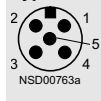
NSD01041a

##### Type E, F, H, J, K, L, N



NSD01042a

##### Type G, M



NSD00763a

M12 connection for cable plugs and right-angle cable plugs  
(view on contact pins)

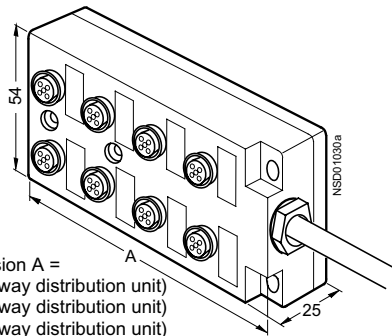


### Technical specifications

Type	3RX1 660	
Operating voltage range	DC V	24
Max. current per switching output A	2	
Connections	M12 plug-in connections (socket in distribution unit)	
Conductor identification, PUR cable	Black with white numbers	
Display	Yellow LED	
• Per output	Green LED	
• Operating voltage range		
Enclosure material	Molded plastic	
Degree of protection	IP65, in inserted and locked state	
Operating temperature °C	-5 ... +70	

### Selection and ordering data

Design	DT	Order No.	PS*	Approx. weight per PU kg
<b>Distribution units, quadruple</b>				
• 3 m cable	A	<b>3RX1 660-4D</b>	1 unit	0.570
• 5 m cable	A	<b>3RX1 660-4E</b>	1 unit	0.758
• 10 m cable	A	<b>3RX1 660-4F</b>	1 unit	1.350
<b>Distribution units, sixfold</b>				
• 3 m cable	D	<b>3RX1 660-6D</b>	1 unit	0.658
• 5 m cable	A	<b>3RX1 660-6E</b>	1 unit	0.877
• 10 m cable	A	<b>3RX1 660-6F</b>	1 unit	1.540
<b>Distribution units, eightfold</b>				
• 3 m cable	C	<b>3RX1 660-8D</b>	1 unit	0.764
• 5 m cable	A	<b>3RX1 660-8E</b>	1 unit	0.877
• 10 m cable	A	<b>3RX1 660-8F</b>	1 unit	1.540
<b>Dummy plugs</b> for unused connections (pack of 10)		<b>3RX9 802-0AA00</b>	1 set	0.008



Dimension A =  
 82 (4-way distribution unit)  
 100 (6-way distribution unit)  
 127 (8-way distribution unit)

### Circuit diagrams

