Wiring and Accessories

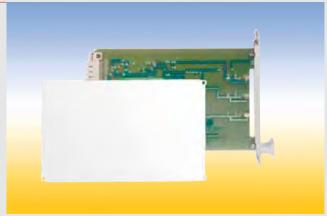
Connectors and Accessories

- √ In accordance with IEC 60 603-2 / DIN 41 612
- √ Designs supplementing the standards



Cover for Euroboards

- √ Self-extinguishing in accordance with UL 94-V0
- √ For use with or without a coding strip



Interface Housings for IEC 60 603-2 / DIN 41 612 Connectors

- √ Plastic version
- √ Metal version
- √ Shielding concept
- √ Also for railway applications in accordance with BN 74 016



SE Bus Bars

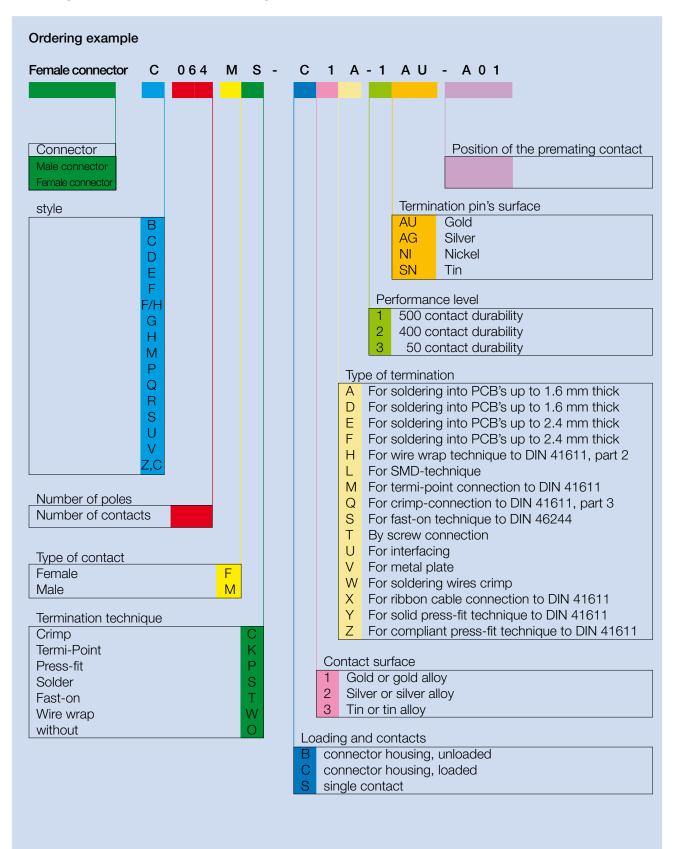
- √ High current capacity up to 120 A
- √ Two connection types
- √ 2 or 3-pole



Connectors

Coding key for IEC 60 603-2 / DIN 41 612 connectors

Since this catalog not only contains DIN 41612 connectors but also connectors which supplement the standard, the coding key has been extended accordingly.





Connectors style B Ordering details

no.poles: assignment: 064 ab 1...32

terminations [mm]

order no. 409.

Male connector B MS - C1A - 2 SN Female connector B FS - C1D - 2 SN

0.6 x 0.6 x 2.9

0.25 x 0.7 x 2.5

043 586

105 380



Connectors style C Ordering details

no.poles: assignment: 032 ac 2...32 064 ac 1...32 096 abc 1...32

order no.

Male connector C MS - C1A - 2 SN Female connector C FS - C1E - 2 SN FW - C1H - 2 SN

terminations [mm]

 $0.6 \times 0.6 \times 2.9$ 0.25 x 0.7 x 4

0.6 x 0.6 x 13

order no. 409.

043 598

order no. 409.

043 606

043 610

409.

068 108 045 891 045 894

068 089 045 897



Connectors style D Ordering details

no.poles: assignment: 032

ac 2...32

terminations

order no. 409.

Male connector D MS - C1A - 2 SN Female connector D FW - C1H - 2 SN

0.6 x 0.6 x 2.9 1 x 1 x 20

[mm]

[mm]

043 622

FC - B FC - B

f. male 0.6 x 0.6 f. male 0.6 x 1/1.5

070 323 031 022 031 031



Connectors style E Ordering details

no.poles:

048 row separation 5,08 ace 2...32

048 row separation 2.54 ace 2...32

assignment: terminations

order no. 409.

order no. 409.

Male connector E MS - C1A - 2 SN Female connector E FW - C1H - 2 SN FW - C1H - 2 SN FC - B

FC - B

0.6 x 0.6 x 2.9 1 x 1 x 20 $0.6 \times 0.6 \times 13$ f. male 1 x 1 f. male 0.6x1/1.5

045 235

Connectors Styles F, H and R



Connectors style F Ordering details

Male connector F

MS - C1A - 2 SN Female connector F

FW - C1E - 2 SN

FW - C1H - 2 SN

FC - B

no.poles: assignment:

terminations

0.6 x 0.6 x 2.9

1 x 1 x 4.5

x 1 x 22

f. male 0.6x1/1.5

[mm]

032 zb 2...32

048 zbd 2...32

order no. 409.

order no. 409.

022 622

041 660

070 969 024 567 042 219 042 218 031 015



Connectors style H Ordering details

no.poles: assignment: 011 b 2.5,8...32 015 dz 4...32

order no. 409.

order no. 409.

1.2 x 0.8 x 3.5

terminations

[mm]

1.2 x 0.8 x 2.9

098 986

6.3 x 0.8 x 8

098 989

101 385

6.3 x 0.8 x 8

094 628

FT - C2S - 1 AG

FT - C2S - 2 AG

Male connector H MS -C2A - 1 AG

z32 at 3.5 mm premating MS - C2A - 1 SN

z32 at 1.5 mm premating MT - C2S - 1 AG

b32 at 3.5 mm premating MT - C2S - 1 AG

z32 at 1.5 mm premating Female connector H

> 6.3 x 0.8 x 8 6.3 x 0.8 x 8

098 991

071 015



Connectors style R Ordering details

no.poles: assignment: 032 ac 2...32

order no.

064 ac 1...32

409.

order no.

096 abc 1...32

order no.

409.

Male connector R C1E - 2 SN

C1H - 2 SN Female connector R C1A - 2 SN

terminations [mm]

 $0.6 \times 0.6 \times 13$

 $0.6 \times 0.6 \times 6$

409. $0.6 \times 0.6 \times 4$

077 051 077 045

077 038

077 055 074 202

077 058 077 048

077 042 074 203

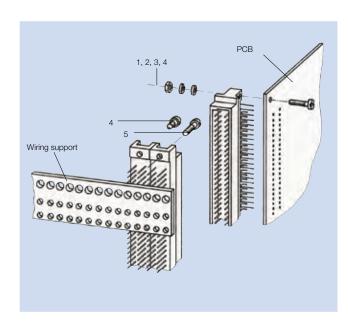
Crimp-Snap-In-Contacts, Crimp-Pliers Accessories for Connectors



Crimp-Snap-In-Contacts for Connectors style C, D, E, and F, Pliers and Unlocking Tool

Ordering details

	for connector style	conductor cross sec- tion [AWG]	order no. 409.	Pliers order no. 409.
Crimp-snap-in-male MC - S1Q - 2 NI	F	16 - 18	077 112	035 630
MC - S1Q - 2 NI	F	20 - 24	077 111	035 630
Crimp-snap-in-female for male contact 0.6x1/0.6x1.5				
FC - S1Q - 1 SN	D, E, F	16 - 18	031 019	035 630
FC - S1Q - 1 SN	D, E, F	20 - 26	031 018	035 630
FC - S1Q - 1 SN	D, E, F	26 - 28	031 020	031 120
Crimp-snap-in-female for male contact 1 x 1				
MC - S3Q - 3 SN	D, E, F	16 - 18	031 024	035 630
MC - S3Q - 3 SN	D, E, F	20 - 26	031 023	035 630
unlocking tool			031 123	-



Mounting of Connectors

Connectors in accordance to DIN 41612 can be mounted with commercial DIN screws.

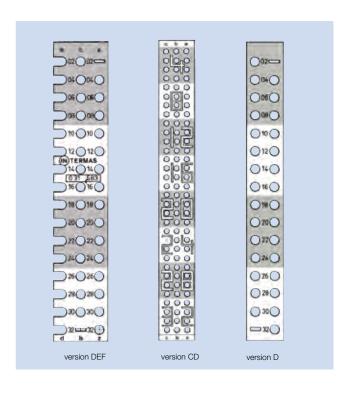
Using tapered screw, the connectors can be mounted in correct position without any adjustment or alignment.

Ordering details

Minimum order quantity each 100 pieces

	position	order no. 409.
Hexagonal nut M 2.5 DIN439	1	013 938
Spring washer 2.5 DIN 127	2	013 910
Washer 2.7 DIN 433	3	018 028
Pan head screw M 2.5x12 DIN 84	4	013 904
Tapered screw M 2.5 x 6.5	5	032 708
Tapered screw M 2.5 x 9	5	070 476

Accessories for Connectors



Marking Strips

IEC 60603-2 / DIN 41612 provides labeling for connectors on their wiring side.

Marking strips, made of thin plastic foil (Astralon), ensure the perfect designation of pin positions.

1. Type *DEF* for connectors styles D, E and F with pin cross section 1.0×1.0 and 0.8×1.6 and 0.8×2.4 mm and for connectors with the type of termination V.

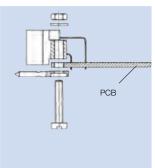
order no.: **409. 031 583**

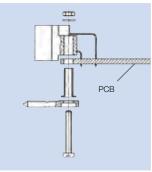
2. Type CD for connectors styles C and D with pin cross section 0.6×0.6 u.1,0 x 1,0 mm and for connectors with the type of termination V.

order no.: 409. 022 714

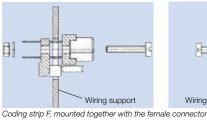
3. Typ *D* for connectors style D

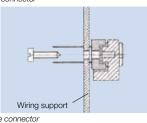
order no.: 409. 044 214





Coding strip M, mounted together with the male connector





Coding Strips

The coding strip is designed for attachment to connectors in accordance with IEC 60603-2 /

DIN 41612 and is to be mounted together with the connector to the PCB. Also the mating coding part is mounted together with the connector to the wiring support. Each coding strip has 16 coding teeth, that can be broken off as necessary

Ordering details

Ordering details	
	order no. 409.
Coding strip M 1)	033 188
Coding strip F 1)	033 189
Coding strip F-plate 1)2)	070 617
Coding strip F-plate 2 1) 3)	064 740

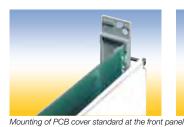
1) one functional unit comprises 1 coding strip M and one coding strip F 2) for attaching with self tapping screws 3) attaching at through hole

Cover for Euroboards

Description

This PCB cover protect the soldered side against dirt and contact. Two versions are available: A standard PCB cover and a PCB cover for use with a coding strip.

The coding strip PCB cover can be used in connection with a coding strip on the connector.





Technical data

Material

Continous temperature

Fire protection class

Color

PBT (Polyester)
-40 °C to +100 °C
UL 94 V-0 at 0.8 mm

white

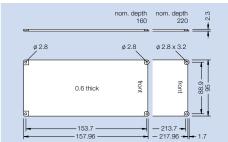


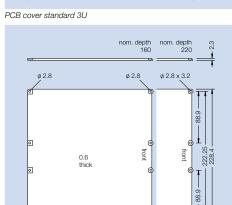


Mounting of PCB cover for coding strip jammed under the recess of the coding strip



Mounting of PCB cover standard at side of the connector



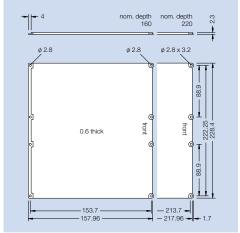


- 213.7 -- 217.96 -

PCB cover standard 6U

nom. depth nom. depth front 0.6 thick - 213.7 -- 217.96

PCB cover for coding strip 3U



PCB cover for coding strip 6U

Ordering details

	height [mm]
Cover for Euroboards	_
3-160	100
3-220	100
6-160	233.35
6-220	233.35

standard order no. 409.
100 652
100 662

102 110 102 113

order no.
1400.
100 650
100 660
102 109
102 112

Metallized PCB cover on request.

Plastic Interface Housings



Description

This compact and insulating interface housing is designed to accommodate DIN 41 612 / IEC 60 603-2 connectors. It is physically clamped into position between guide elements. The interface housings have the following advantages:

- √ Accommodation of either female or male connectors of any type of connection technology.
- \checkmark Protects the connector during insertion and operation.
- √ Lifting screws ease insertion and removal.
- √ Three cable feed apertures.
- √ Strain relief.
- Allows installation of display and operating elements.
- √ Codable.

Metallized plastic interface housing for RFI-shielding available.

Technical data

Dimensions	IEC 60297 / DIN 41494
Material	interface housing: Makrolon, pebble gray guide components: Makrolon, black
Fire characteristics:	UL 94 V-1
Utilization category:	-25 °C. 100 °C. 90% relative humidity

Delivery kit interface housing

pieces per kit style B	pieces per kit style C, E, F1, F	pieces per kit style C1, F2
2	2	2
1	-	-
2	2	-
2	2	-
1	1	-
1	1	1
	per kit style B 2 1 2	per kit per kit style style C, E, F1, F 2 2 1 - 2 2

Delivery

Interface housings: As a kit of unassembled components, without guide components.

Guide components: As an assembled kit.

Delivery kit guide elements

Bonvory hat garde cromen	
	pieces per kit
Guide element top	1
Guide element bottom	1
Mounting parts	1

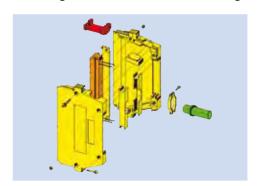
Color code:

yellow: interface housing orange: male connector blue: female connector red: guide components

green: accessories

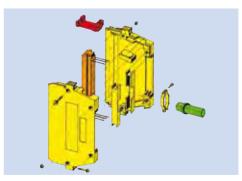
Plastic Interface Housings

Ordering details for interface housing kits (yellow: interface housing kit)



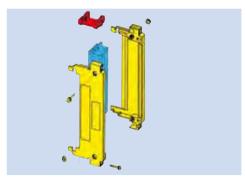
Interface Housing B

order no.: 409. 077 516



Interface Housing E

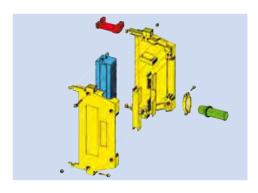
order no.: 409. 031 125



Interface Housing F2

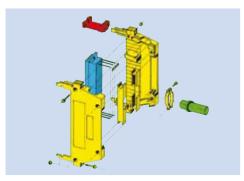
for termination technique with ribbon cable

order no.: 409. 073 659



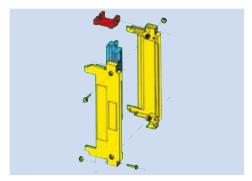
Interface Housing C

order no.: 409. 031 124



Interface Housing F

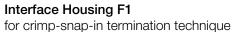
order no.: 409. 070 620



Interface Housing C1

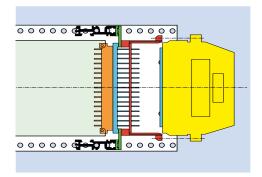
for termination technique with ribbon cable

order no.: 409. 070 621



order no.: 409. 071 876

Plastic Guide Components

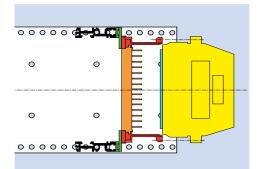


Application

For interface housings with female connector, to attach on the connecting pins of a female connector. Installation in the wiring field of the subrack.

Ordering details for kits

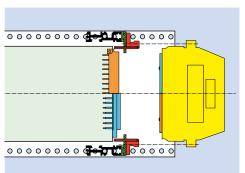
	length spacer	for interface housings	order no. 409.
Guide component C-Huk 13	6	C, C1	032 563
Guide component C-Huk 17	9	C, C1	032 564
Guide component D-Huk 20	11	D	032 565
Guide component D-Huk 26	17.5	D	032 566
Guide component E-Huk 20	11	E	032 567
Guide component E-Huk 26	17.5	E	032 568
Guide component F-Huk 22	22	E	032 569



Application

For interface housings with female connector, to attach on the connecting pins of a *U-element*. Installation in the wiring field of the subrack.

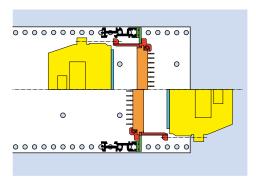
Ordering details for kits		
	for interface housings	order no. 409.
Guide component U-element	F, F1, F2	035 207



Application

For interface housings with female or male connector, for mating directly to the PCB (LP) connector. Installation in the wiring field of the subrack.

Ordering details for kits		
	for interface housings and connectors	order no. 409.
Guide component CDFHR-LP	C, C1, D, M, F, F1, F2, H, R	032 553
Guide component E-LP	E	032 554



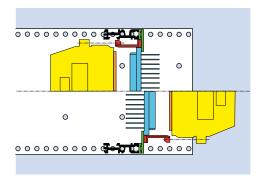
Application

For interface housings with female connector, for mating with a male connector, who is installed on the connector attachment (SB).

rdoring dotails for kits

	for interface housings and connectors	order no. 409.	
Guide component CDR-M-SB/FP	B, Q, C, C1, R, D, M	032 520	
Guide component E-M-SB/FP	E	032 551	
Guide component F-M-SB/FP	F, F1, F2, U, H	032 575	

Plastic Guide Components



Application

For interface housings with male connector, for mating with a male connector, that is installed on the *connector attachment* (SB).

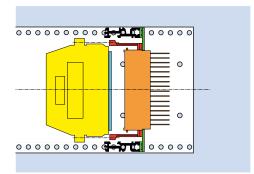
Ordering details for kits

for interface housings and connectors

order no. **409.**

Guide component CDHR-F-SB Guide component E-M-F-SB C, C1, R, D, M, H, B, Q

032 555 032 556



Application

For interface housings with female connector, for mating with an *I-element*. Installation in the wiring field of the subrack.

Ordering details for kits

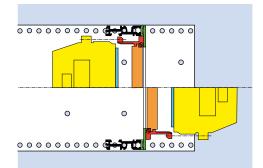
Guide component I-unit

for interface housings and connectors

order no. **409.**

F. F1. F2

035 206

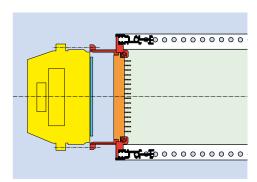


Application

For interface housings with female connector, for mating with a male connector, on *Backplane* (BP).

Ordering details for kits

Guide component
CDHR-M-BP
Guide component E-M-BP
072 620
072 619



Application

For interface housings with female connector, for mating with a male connector, serves as a handle (GL), mounted on the service side of the subracks.

Ordering details for kits

Guide component
CDR-M-GL
Guide component E-M-GL
Guide component F-M-GL

for interface housings and connectors

order no. **409.**

B, C, C1, R, Q, D, M

032 518

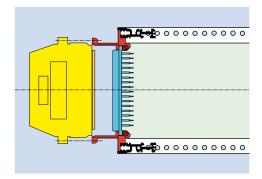
F, F1, F2, U, H

032 549 032 574

Color code:

yellow: interface housing orange: male connector blue: female connector red: guide components accessories

Plastic Guide Components



Application

For interface housings with male connector, for mating with a female connector, serves as a handle (GL), mounted on the service side of the subracks.

Ordering details for kits

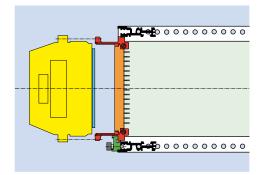
Guide component CDHR-F-GL Guide component E-F-GL

for interface housings and connectors

B, Q, C, C1, R, D, M

order no. **409.**

032 519 032 550



Application

For interface housings with female connector, for mating with a male connector, serves as a handle *(GL)*. Installation in the wiring field of the subrack.

Ordering details for kits

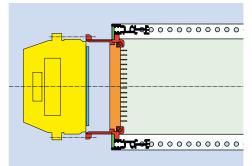
for interface housings and connectors

Guide component F-M-GL

F, H15, U

order no. **409.**

035 316



Application

For interface housings with female connector, for mating with a male connector, that is mounted on a *front panel (FP)*.

Ordering details for kits

Guide component CDR-M-SB/FP Guide component E-M-SB/FP Guide component F-M-SB/FP for interface housings and connectors

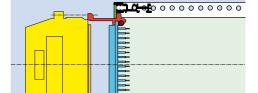
order no. **409.**

B, Q, C, C1, R, D, M

032 520 032 551

F, F1, F2, H, U

032 575



Application

For interface housings with male connector, for mating with a female connector, that is mounted on a *front panel (FP)*.

Ordering details for kits

Guide component CDFHR-FP Guide component E-FP for interface housings and connectors

order no. **409.**

B, C, C1, D, M, H11, Q, R

032 523

032 552

Color code:

yellow: interface housing orange: male connector blue: female connector red: guide components

green:

accessories

Accessories for Plastic Interface Housings



Cable Sleeve

Material: black rubber

for housing styles C, F, B order no.: 409. 032 766

for housing style E

order no.: 409. 032 767



Cable Clamp Kit

consists of:

2 brackets and mounting parts

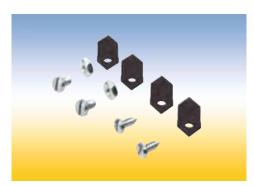
Material: metal

for housing styles C,D, F, H

order no.: 409. 034 532

for housing style E

order no.: 409. 034 533



Coding Kit

with 16 possibilities consists of:

4 coding elements and mounting parts

Material: plastic

order no.: 409. 069 755



Coding Kit

with 32 possibilities

consists of:

4 coding elements and mounting parts

Material: metal

order no.: 409. 034 724

Metal Interface Housings



Description

The metal interface housing was developed on the basis of the plastic interface housing design as a totally metal housing with metal guide elements for heavy-duty use. It has the following advantages:

- ✓ Suitable for all 19" front panels in accordance with IEC 60 297-3 and IEEE fronts in accordance with P1101.10.
- √ For shielding between the interface housing and the front panel, in the E and F1 style RFI shielding panels can be added at the transfer side
- √ Coding already integrated or can be added, depending on the style
- √ Three cable feed apertures
- √ For cable diameters up to 17 mm
- √ For heavy-duty applications such as railway engineering, power station engineering etc.

Technical data

Dimensions	IEC 60297 / DIN 41494
Material	housing shells: die-cast zinc guide components: die-cast zinc or metallized plastic other parts: stainless steel, steel, brass
Finish:	housing shells: drum-polished or galvanized and chromated or or nickel plated other parts: galvanized, nickel-plated

Delivery kit interface housings metal

	pieces per kit standard	pieces per kit shielded
Interface housing shells	2	2
Cable clamps	1	1
Blind plug	2	2
Shielding plate	-	1
RFI-spring	-	1
Mounting parts	1	1

Delivery

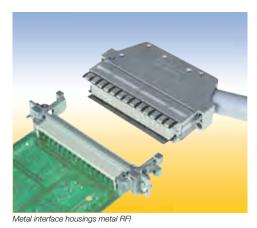
Interface housings: As a kit of unassembled components, without guide components.

Guide components: As an assembled kit.

Delivery kit guide element

	pieces per kit
Guide component top	1
Guide component bottom	1
Mounting parts	1

Metal Interface Housings RFI



Metal Interface Housings RFI E

For connectors styles E 48 and E 160.

Ordering details for kits

Oracining actains for Kito			
		drum-	galvanized+
		polished	chromated
	width	order no.	order no.
	[HP]	409.	409.
Metal interface housings			
RFI E-standard	4	113 860	113 824
RFI E-shielded	4	-	113 849

Metal Interface Housings RFI F1

For connector styles F 48, C96, H11, H15, and F24/H7.

Ordering details for kits

	width [HP]	drum- polished order no. 409.	galvanized+ chromated order no. 409.
Metal interface housings			
RFI F1-standard	3	113 838	111 775
RFI F1-standard	4	113 840	111 245
RFI F1-shielded	4	-	113 841

Nickel plated metal interface housings RFI F1 on request.



RFI 20 COD-standard, codable with marketables coding elements

RFI 20 COD-shielded, codable

Metal Interface Housings RFI 20 COD

With integrated coding, for connector styles F 48, H15 and F24/H7

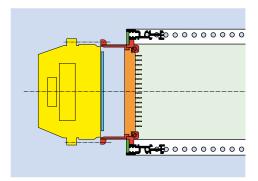
The Metal interface housings RFI 20 - standard are *not* supplied with RFI springs.

Ordering details for kits

	width [HP]	drum- polished order no. 409.	galvanized+ chromated order no. 409.
Metal interface housings			
HF20COD-standard	4	166 286	166 287
HF20COD-shielded	4	-	166 288

Nickel plated metal interface housings RFI 20 COD - standard on request.

Metallized Guide Components



Application

Guide component F for mounting of a 3 HP metal interface housing in any position of the mounting area.

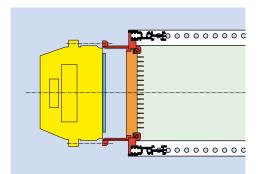
Ordering details for kits

for metal interface housing RFI

Guide component F metallized

114 122

order no. **409.**



Application

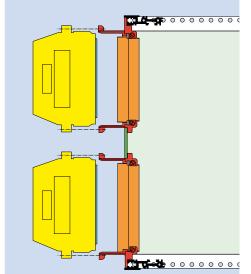
Guide component F with integrated front panel for mounting of a 3 HP metal interface housing RFI in a 3 U subrack..

Ordering details for kits

for metal interface housing RFI

Guide component F metallized order no. **409.**

114 121



Application

Guide component F for mounting of a 3 HP metal interface housing RFI in the upper or lower area of 6 U subracks.gers.

Ordering details

Guide component F metaltop - F1- 3 HP

lized
Guide component F metallized

bottom - F1- 3 HP

order no. **409.**

114 119

114 120

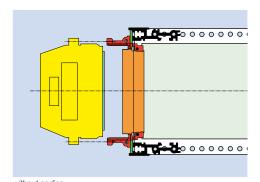
Color code:

yellow: interface housing orange: male connector blue: female connector red: guide components

green: accessories

Wiring and Accessorie

Metal Guide Components



Application

Guide component F/E for mounting of a 4 HP metal interface housing RFI in any position of the mounting area.

Ordering details for kits

Guide component F/E metal Guide component F/E metal with coding for metal interface housing RFI

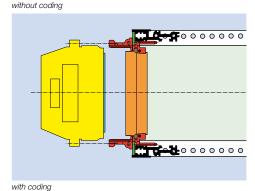
E, F1- 4 HP

E, F1- 4 HP

order no. **409.**

114 933

114 007



Application

Guide component F/E with integrated front panel for mounting of a 4 HP metal interface housing RFI in a 3 U subrack.

Ordering details for kits

Guide component F/E metal

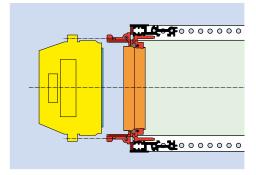
for metal interface housing RFI

409.

....

order no.

F1- 4 HP **113 826**



Application

Guide component F/E for mounting of a 4 HP metal interface housing RFI in the upper or lower area of 6 U subracks.

Ordering details for kits

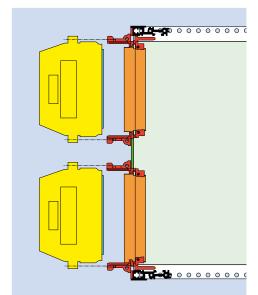
Guide component F/E metal Guide component F/E metal for metal interface housing RFI

top - F1- 4 HP

bottom - F1- 4 HP

order no. **409.**

113 830 113 828



Accessories for Metal Interface Housings RFI E and F



Cable Clamp Kit

consists of:

2 brackets and mounting parts

Material: zink die-cast Finish: galvanized

Ordering details for kits

order no. 409.

 Cable clamp 3 HP
 113 788

 Cable clamp 4 HP
 112 279



Coding Kit

with 32 possibilities consists of:

4 coding elements and mounting parts

Material: metal

order no.: 409. 034 724

Wiring and Accessories

Accessories for Metal Interface Housings RFI 20 COD



Retaining Parts Kit

for mounting in subrack

Material: plastic Finish: metallized

order no.: 409. 114 983

Coding Strip RFI 20

for the male connector

Material: plastic **Finish:** metallized

order no.: 409. 114 985

Coding Pin RFI 20 Material: plastic

Packing unit: 100 pieces

order no.: 409. 115 095



Cable Clamp Kit 4 HP - RFI 20

consists of: 2 brackets and mounting parts

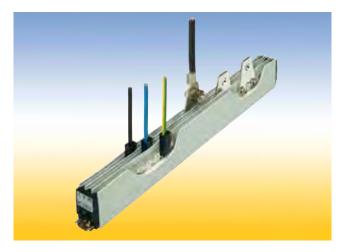
Material:zinc die-castFinish:metallized

Ordering details for kits

order no. 409.

Cable clamp smal Cable clamp wide 114 982 117 108

Insulated Bus Bar



Two connection versions are available:

1. Connection version A: Alternating terminal lugs for A 6.3 x 0.3 flat push-on connectors and screw attachment

Description

Insulated bus bar kit for the power supply in housings and cabinets.

The features of the bus bars:

- √ High current capacity up to 120 A.
- √ Safe against accidental hand contact up to 500 V in accordance with VDE 0106.
- √ The protective profile makes the bus bar safe against accidental finger contact up to 220 V in accordance with VDE 0470.
- ✓ Deliverable in any desired length.
- ✓ With a width of 25 mm, 3-pole use is possible.
- √ Insulating materials in accordance with the stipulations of VDE 0606.

2. Connection version B:

Alternating terminal lugs for A 6.3×0.3 flat push-on connectors and double terminal lugs for A 2.8×0.8 flat push-on connectors or one A 6.3×0.8 flat push-on connector. Intermediate lengths can be produced by simply sawing.

Technical data				Delivery			
Number of poles	2- or 3-pole			assembled			
Connection version A	A 6.3 x 0.8 DI	A 6.3 x 0.8 DIN 46244/connection Ø 4.2 mm			Kit consists of:		
Connection version B	A 6.3 x 0.8 / 2	2 x A 2.8 x 0.8 [DIN 46244	Rails 1 Plastic body 2 End caps Mounting parts			
Utilization category	-25 °C, +70°C	C, no condensa	tion				
Phase current		mbient tempera ; 70 A at 70 °C	ture of 20 °C;				
Max. operating voltage	500 V						
Insulation class	group C in acc	cordance with [DIN/VDE 0110	Accessories			
Test voltage	3.1 kV	3.1 kV				order no.	
Amp capacity at 20°C	25 A per pin connection A 6.3 x 0.8					409.	
	bus bar: SE-C	bus bar: SE-Cu F37, hot-dip tinned			Mounting parts 401 (2 position points)		
Material		insulating body: Luvogard COM PP8 end cap: PC, black mounting parts: steel, galvanized, colorless chromated		Mounting parts from 1600 mm (4 position points) Connection lug 100 A		059 270	
	0 1					057 680	
Fire protection class	insulating UL 9						
Ordering details for kits							
	nom. length	for cabinet	A 2poles order no. 409.	A Spoles order no. 409.	B 2poles order no. 409.	B 3poles order no. 409.	
Bus bar 100 A-	401	-	-	061 443	-	080 695	
Bus bar 100 A-	1600	1800	062 093	058 447	-	080 939	
Bus bar 100 A-	1800	2000	062 094	058 449	080 696	080 941	

062 095

058 451

080 697

080 943

Bus bar 100 A-

2200

2000