# Wiring and Accessories

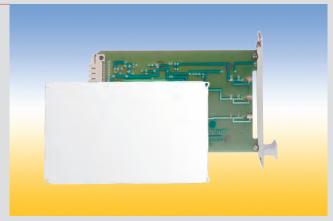
#### **Connectors and Accessories**

- √ 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

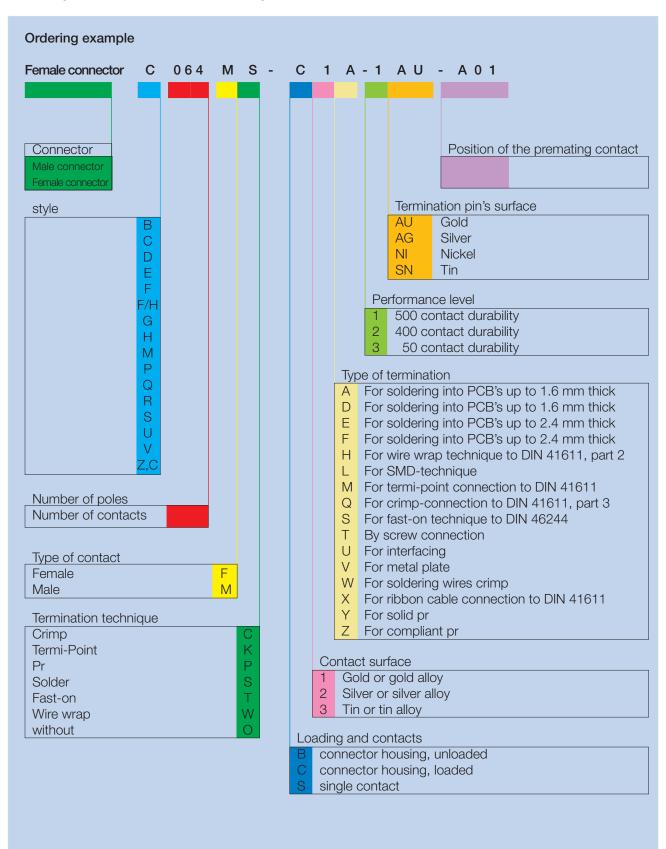
- √ High current capacity up to 120 A
- √ Two connection types
- √ 2 or 3-pole



#### 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

043586

105380



### Connectors style C Ordering details

no.poles: assignment:

064 ac 2...32 ac 1...32 096 abc 1...32

terminations [mm]

order no. 409

032

order no. 409

order no. 409

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

0.6 x 0.6 x 2.9 0.25 x 0.7 x 4 0.6 x 0.6 x 13

043598 045891 043606

068108

045894

043610 068089

045897



# Connectors style D Ordering details

no.poles: assignment: 032

ac 2...32

order no. 409

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

 $0.6 \times 0.6 \times 2.9$ 

f. male 0.6 x 0.6

f. male 0.6 x 1/1.5

1 x 1 x 20

terminations

[mm]

[mm]

043622

070323 031022 031031



#### 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

031021

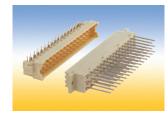
order no. 409

045235

Male connector E MS - C1A - 2 SN Female connector E FW - C1H - 1 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

# 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

[mm]

032 zb 2...32

070969

042219

048 zbd 2...32

order no. 409

order no. 409

022622

041660

f. male 0.6x1/1.5

024567 042218 031015



# Connectors style H Ordering details

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

terminations [mm]

order no. 409

order no. 409

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

FT - C2S - 1 AG

FT - C2S - 2 AG

1.2 x 0.8 x 2.9

1.2 x 0.8 x 3.5

6.3 x 0.8 x 8

098986

098989

101385

6.3 x 0.8 x 8

094628

6.3 x 0.8 x 8 6.3 x 0.8 x 8 098991

071015



# Connectors style R Ordering details

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

Male connector R

C1A - 2 SN

C1E - 2 SN C1H - 2 SN Female connector R  $0.6 \times 0.6 \times 4$ 0.6 x 0.6 x 13

terminations

[mm]

 $0.6 \times 0.6 \times 6$ 

order no. 409

077051

077045

order no. 409

077055

order no. 409

077038

074202 074203

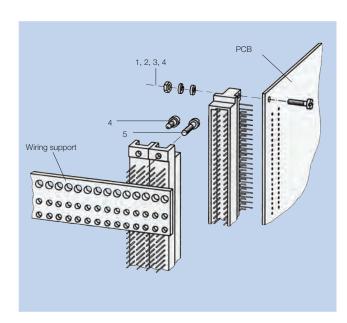
# Crimp-Snap-In-Contacts, Crimp-Pliers Accessories for Connectors



# 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.	Pliers order no. 409
Crimp-snap-in-male MC - S1Q - 2 NI	F	16 - 18	077112	035630
MC - S1Q - 2 NI	F	20 - 24	077111	035630
Crimp-snap-in-female for male contact 0.6x1/0.6x1.5				
FC - S1Q - 1 SN	D, E, F	16 - 18	031019	035630
FC - S1Q - 1 SN	D, E, F	20 - 26	031018	035630
FC - S1Q - 1 SN	D, E, F	26 - 28	031020	031120
Crimp-snap-in-female for male contact 1 x 1				
MC - S3Q - 3 SN	D, E, F	16 - 18	031024	035630
MC - S3Q - 3 SN	D, E, F	20 - 26	031023	035630
unlocking tool			031123	-



#### **Mounting of Connectors**

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

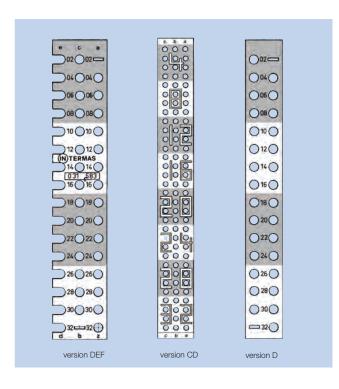
Using tapered screw, the connectors can be mounted in correct position without any adjustment or alignment.

#### Ordering details

Minimum order quantity each 100 pieces

	position	order no. 409
Hexagonal nut M 2.5 DIN439	1	013938
Spring washer 2.5 DIN 127	2	118506
Washer 2.7 DIN 433	3	111089
Pan head screw M 2.5x12 DIN 84	4	013904
Tapered screw M 2.5 x 6.5	5	032708
Tapered screw M 2.5 x 9	5	070476

#### **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  $1.0 \times 1.0$  and  $0.8 \times 1.6$  and  $0.8 \times 2.4$  mm and for connectors with the type of termination V.

the type of termination V. order no.: 409022714

for connectors styles C and

D with pin cross section

0.6 x 0.6 u.1,0 x 1,0 mm

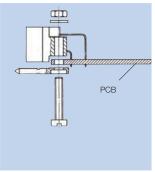
and for connectors with

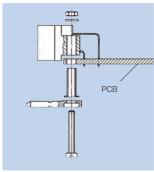
2. Type CD

order no.: 409031583

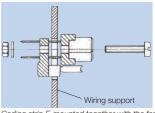
3. Typ *D* for connectors style D

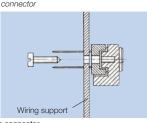
order no.: 409044214





Coding strip M, mounted together with the male connector





Coding strip F, mounted together with the female connector

#### **Coding Strips**

The coding strip is designed for attachment to connectors in accordance with IEC 60 603-2 / DIN 41 612 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

Oracining actains	
	order no. 409
Coding strip M 1)	033188
Coding strip F 1)	033189
Coding strip F-plate 1) 2)	070617
Coding strip F-plate 2 1) 3)	064740

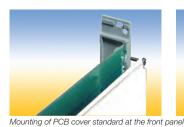
1) one functional unit comprises 1 coding strip M and one coding strip F 2) for attaching with self tapping screws 3) attaching at through hole

#### 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 <+60 °C

UL 94 V-0 at 0.8 mm

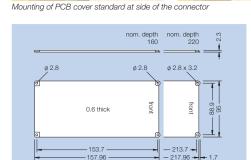
white



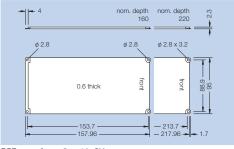




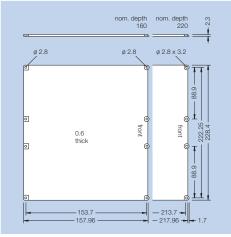
Mounting of PCB cover for coding strip jammed under the recess of the coding strip



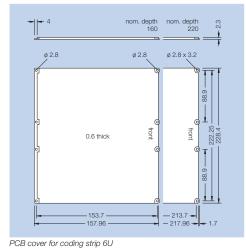
PCB cover standard 3U







PCB cover standard 6U



#### Ordering details

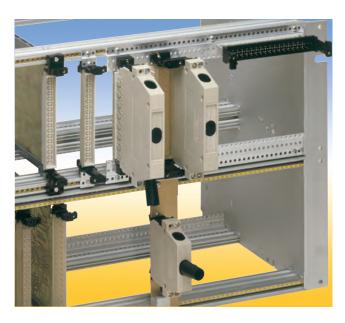
	PCB height [mm]
Cover for Euroboards	
3-160	100
3-220	100
6-160	233.35
6-220	233.35

	standard
	order no.
	409
	100652
	100662
5	102110

coding strip order no. 409
100650 100660 102109
102112

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.
- √ Protects the connector during insertion and operation.
- √ Lifting screws ease insertion and removal.
- √ Three cable feed apertures.
- $\sqrt{}$  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: PC, pebble gray guide components: PC, 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
Interface housing shells	2	2	2
Cover strip	1	-	-
Cable clamp	2	2	-
Blind plug	2	2	-
Strain relief kit	1	1	-
Mounting parts	1	1	1

#### Delivery

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

Guide components: As an assembled kit.

#### Delivery kit guide elements

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

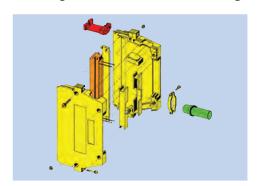
#### Color code:

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

green: accessories

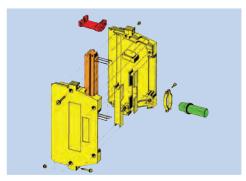
# Plastic Interface Housings

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



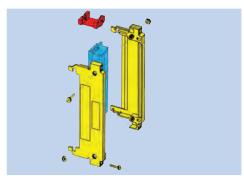
Interface Housing B

order no.: 409077516



Interface Housing E

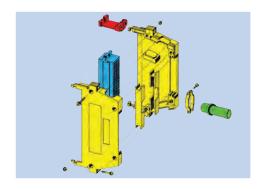
order no.: 409031125



Interface Housing F2

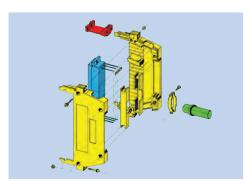
for termination technique with ribbon cable

order no.: 409073659



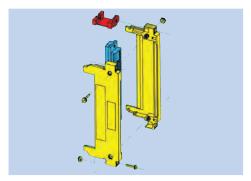
Interface Housing C

order no.: 409031124



Interface Housing F

order no.: 409070620



Interface Housing C1

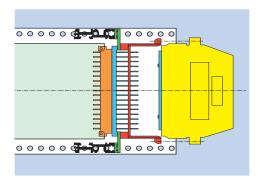
for termination technique with ribbon cable

order no.: 409070621



order no.: 409071876

# **Plastic Guide Components**

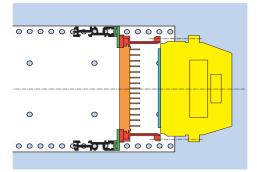


#### Application

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

#### Ordering details for kits

	length spacer	for interface housings	order no. <b>409</b>
Guide component C-Huk 13	6	C, C1	032563
Guide component C-Huk 17	9	C, C1	032564
Guide component D-Huk 20	11	D	032565
Guide component D-Huk 26	17.5	D	032566
Guide component E-Huk 20	11	E	032567
Guide component E-Huk 26	17.5	E	032568
Guide component F-Huk 22	22	E	032569

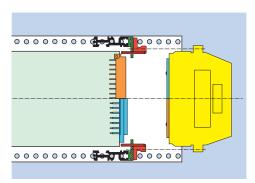


#### **Application**

For interface housings with female connector, to attach on the connecting pins of a *U-element* rack.

#### Ordering details for kits

	for interface housings	order no.
Guide component U-element	F, F1, F2	035207

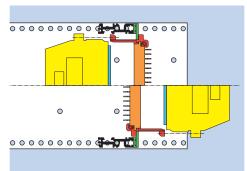


#### Application

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

#### Ordering details for kits

	for interface housings and connectors	order no.
Guide component CDFHR-LP	C, C1, D, M, F, F1, F2, H, R	032553
Guide component E-LP	E	032554

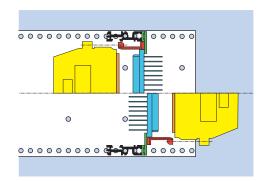


#### Application

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

or interface housings and onnectors	order no. <b>409</b>
s, Q, C, C1, R, D, M	032520
	032551
F1, F2, U, H	032575
,	Q, C, C1, R, D, M

# **Plastic Guide Components**



#### Application

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

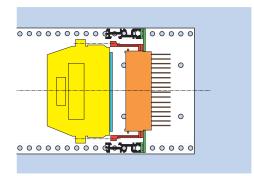
#### Ordering details for kits

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

032555 032556



#### 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

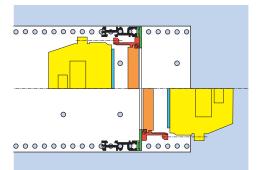
for interface housings and connectors

order no. **409** 

Guide component I-unit

F, F1, F2

035206

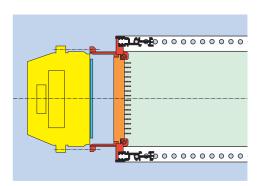


#### Application

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
072620
072619



#### 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.

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

F, F1, F2, U, H

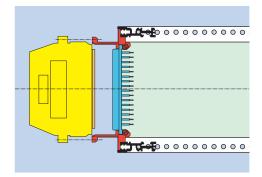
032518

032549 032574

#### 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.

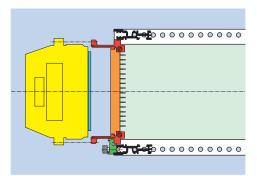
#### Ordering details for kits

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

for interface housings and connectors

order no. 409 032519

B, Q, C, C1, R, D, M 032550



#### Application

For interface housings with female connector, for mating with a male connector, serves as a handle (GL) the subrack.

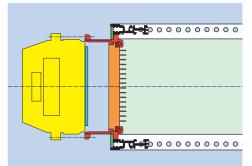
#### Ordering details for kits

Guide component F-M-GL

for interface housings and connectors

order no. 409

035316 F, H15, U



#### **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

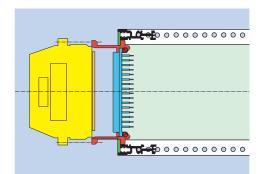
order no. 409

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

F, F1, F2, H, U

032520

032551 032575



#### **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

032523 032552

Color code:

blue: female connector guide components red:

green: accessories

# **Accessories for Plastic Interface Housings**



#### Cable Sleeve

Material: black rubber

for housing styles C, F, B

order no.: 409032766

for housing style E

order no.: 409032767



#### Cable Clamp Kit

consists of:

2 brackets and mounting parts

Material: metal

for housing styles C,D, F, H

order no.: 409034532

for housing style E

order no.: 409034533



#### **Coding Kit**

with 16 possibilities consists of:

4 coding elements and mounting parts

Material: plastic

order no.: 409069755



#### **Coding Kit**

with 32 possibilities

consists of:

4 coding elements and mounting parts

Material: metal

order no.: 409034724

# **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 passivated 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

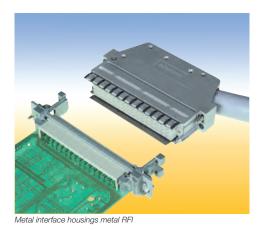
Interface housings: As a kit of unassembled components, without guide components.

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

	width [HP]	drum- polished order no. 409	galvanized+ passivated order no. 409
Metal interface housings			
RFI E-standard	4	113860	113824
RFI E-shielded	4	-	113849

#### 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+ passivated order no. 409
3	113838	111775
4	113840	111245
4	-	113841
	[HP] 3 4	polished order no. 409  3 113838 4 113840

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

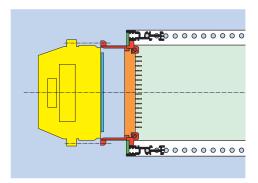
The Metal interface housings RFI 20 - standard are not supplied with RFI springs.

#### Ordering details for kits

	width [HP]	drum- polished order no. 409	galvanized+ passivated order no. 409
Metal interface housings			
HF20COD-standard	4	114775	112321
HF20COD-shielded	4	-	114255

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

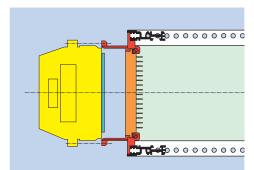
for metal interface housing RFI

order no. **409** 

Guide component F metallized

F1-3 HP

114122



#### **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

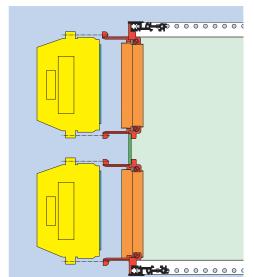
for metal interface housing RFI

order no. 409

Guide component F metallized

F1-3 HP

114121



#### **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 metal-

Guide component F metallized

for metal interface housing RFI

top - F1-3 HP

bottom - F1-3 HP

order no. 409

114119

114120

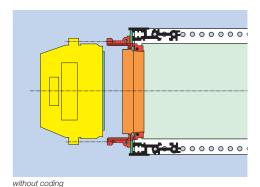
#### Color code:

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

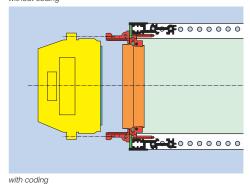
E, F1- 4 HP 114

E, F1- 4 HP

order no. **409** 

114933

114007



**L0 = 0** 0 0 0 0 0 0 0

#### Application

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

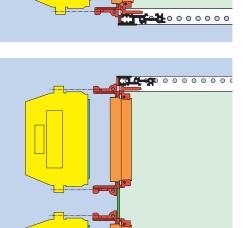
#### Ordering details for kits

| for metal interface housing RFI | Guide component F/E metal | F1- 4 HP |

409

113826

order no.



#### **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.

bottom - F1- 4 HP

#### Ordering details for kits

Guide component F/E metal

| for metal interface housing RFI | Guide component F/E metal | top - F1- 4 HP |

order no. **409** 

# 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 113788 Cable clamp 4 HP 112279



#### Coding Kit

with 32 possibilities consists of:

4 coding elements and mounting parts

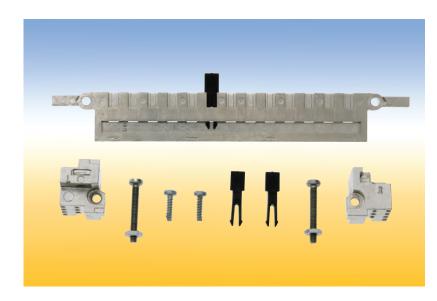
Material: metal

order no.: 409034724

7.18

# Wiring and Accessories

# Accessories for Metal Interface Housings RFI 20 COD



#### **Retaining Parts Kit**

for mounting in subrack

Material: plastic Finish: metallized

order no.: 409114983

#### Coding Strip RFI 20

for the male connector

**Material:** plastic **Finish:** metallized

order no.: 409114985

# Coding Pin RFI 20 Material: plastic

Packing unit: 100 pieces

order no.: 409115095



#### Cable Clamp Kit 4 HP - RFI 20

consists of: 2 brackets and mounting parts

Material: zinc die-cast Finish: metallized

#### Ordering details for kits

order no. **409** 

Cable clamp smal Cable clamp wide

#### 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  $6.3 \times 0.3$  flat push-on connectors and double terminal lugs for A  $2.8 \times 0.8$  flat push-on connectors or one A  $6.3 \times 0.8$  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 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		
Utilization category	-25 °C, +70°C	C, no condensat	tion			
Phase current	120 A at an ambient temperature of 20 °C; 80 A at 55 °C; 70 A at 70 °C			2 End caps Mounting parts		
Max. operating voltage	500 V					
Insulation class	group C in acc	cordance with D	DIN/VDE 0110	Accessorie	es	
Test voltage	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-Cu F37, hot-dip tinned		Mounting parts 401 (2 position points) Mounting parts from 1600 mm (4 position points) Connection lug 100 A		065430	
N.AAd-I	insulating body: PP end cap: PC, black mounting parts: steel, galvanized, passivated				059270	
Material					057680	
					037080	
Fire protection class	insulating UL 9	94 V-0				
Ordering details for kits						
			A 2poles	A 3poles	B 2poles	B 3poles
	nom. length	for cabinet	order no.	order no.	order no.	order no.
	[mm]	height	409	409	409	409
Bus bar 100 A-	401	-	-	061443	-	080695
Bus bar 100 A-	1600	1800	062093	058447	-	080939
Bus bar 100 A-	1800	2000	062094	058449	080696	080941
Bus bar 100 A-	2000	2200	062095	058451	080697	080943