

Shell housings

Page

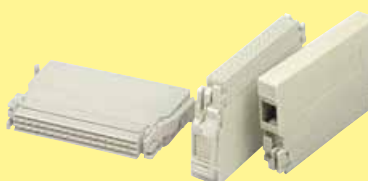
Summary of shell housings and accessories **20.02**

Shell housing C **20.03**



Shell housing A **20.08**

Shell housing B **20.10**



Shell housing D 15 **20.14**

Open hood G **20.17**



Junction element O **20.17**

Shell housings D 20/2 and D 20/4 **20.18**



EMC housing **20.24**

Shell housings D 20/2 and D 20/4 metallised **20.25**



Shell housing D 20 metal **20.28**



Electronic connectors in Heavy Duty Housings **20.30**

Summary shell housings and accessories



Appropriate connectors in shell housings	Types B, C, D, E	Type F	Types F, H, MH	Types F, H, MH	Types F, H, MH	Types E, F, H, MH	Types F, H, MH
<p>Check list: How to order shell housings and accessories.</p> <p>The Part No. is stated.</p>							
Shell housings	C 09 02 064 0501 09 02 064 0502 09 03 096 0501 09 05 048 0501	A 09 06 048 0501 09 06 048 0401 09 06 048 0402	B 09 06 048 0503 09 06 048 0504 09 06 048 0505	D 15 09 06 048 0515	D 20* 09 06 048 0521	G 09 06 000 9957	O 09 06 000 9968 09 06 000 9930° ° order 2 pieces
Cable insert	09 02 000 9910 09 02 000 9911		09 06 000 9914 09 06 000 9915		09 06 000 9988 09 06 000 9989		
Insert for LED			09 06 000 9917		09 06 000 9986 09 06 000 9987		
<p>Locking lever</p> <p>Order 2 pieces, in some cases each with different Part Nos. for left and right hand</p>	09 02 000 9902 09 02 000 9903	Supplied with the shell housing	09 06 000 9913 09 06 000 9919	Supplied with the shell housing			
<p>Locking screws</p> <p>Order 2 sets</p> <p>for fixing elements with male connectors</p>	09 02 000 9909 ⚙ M 2.5 x 16 ⚙ M 2.5	⚙ M 2.5 x 12 ⚙ M 2.5	09 06 000 9926 ⚙ M 2.5 x 20 ⚙ M 2.5	09 06 000 9926 ⚙ M 2.5 x 20 ⚙ M 2.5	Supplied with the shell housing	Supplied with the shell housing	09 06 000 9926 ⚙ M 2.5 x 20 ⚙ M 2.5
for interface connectors U	09 02 000 9909 ⚙ M 2.5 x 16 ⚙ M 2.5	09 02 000 9909 ⚙ M 2.5 x 16 ⚙ M 2.5	09 06 000 9926 ⚙ M 2.5 x 20 ⚙ M 2.5	—	—	Supplied with the shell housing	—
for interface connectors I	09 02 000 9909 ⚙ M 2.5 x 16 ⚙ M 2.5	⚙ M 2.5 x 22 Supplied with the interface connector I	09 06 000 9955 ⚙ M 2.5 x 26	—	—	Supplied with the shell housing	—
<p>Fixing brackets for 19" racks for male connectors</p>	C 	A 	B 	B 	B 	B 	B
Multiple fixing left	09 02 000 9919	09 06 000 9901	09 06 000 9907	09 06 000 9907	09 06 000 9907 09 06 000 9995 09 06 000 9997	09 06 000 9907	09 06 000 9907
Multiple fixing right	09 02 000 9920	09 06 000 9902	09 06 000 9908	09 06 000 9908	09 06 000 9908 09 06 000 9996	09 06 000 9908	09 06 000 9908
Single fixing left	09 02 000 9921	09 06 000 9905	09 06 000 9909	09 06 000 9909	09 06 000 9909	09 06 000 9909	09 06 000 9909
Single fixing right	09 02 000 9922	09 06 000 9906	09 06 000 9910	09 06 000 9910	09 06 000 9910	09 06 000 9910	09 06 000 9910
<p>for female connectors</p>			B 	B 			B
Multiple fixing left			09 06 000 9933 09 06 000 9933	09 06 000 9933 09 06 000 9933			only ... 9930 09 06 000 9933 09 06 000 9933
<p>Fixing brackets for inverse male connectors on pcb</p>	R 						
R 1	09 02 000 9953						
R 32	09 02 000 9954						
<p>Distance fixing brackets for piggyback connectors</p>							
Type D top	09 04 000 9907					09 04 000 9907	
Type E bottom	09 04 000 9906					09 04 000 9906	
Type F top	09 06 000 9936					09 06 000 9936	
Type F bottom	09 06 000 9937					09 06 000 9937	
<p>Protection strip for 20 mm shell housing</p>			09 06 000 9929				
<p>Protection and fixing strip for 20 mm shell housing</p>			09 06 001 9909		09 06 001 9909		

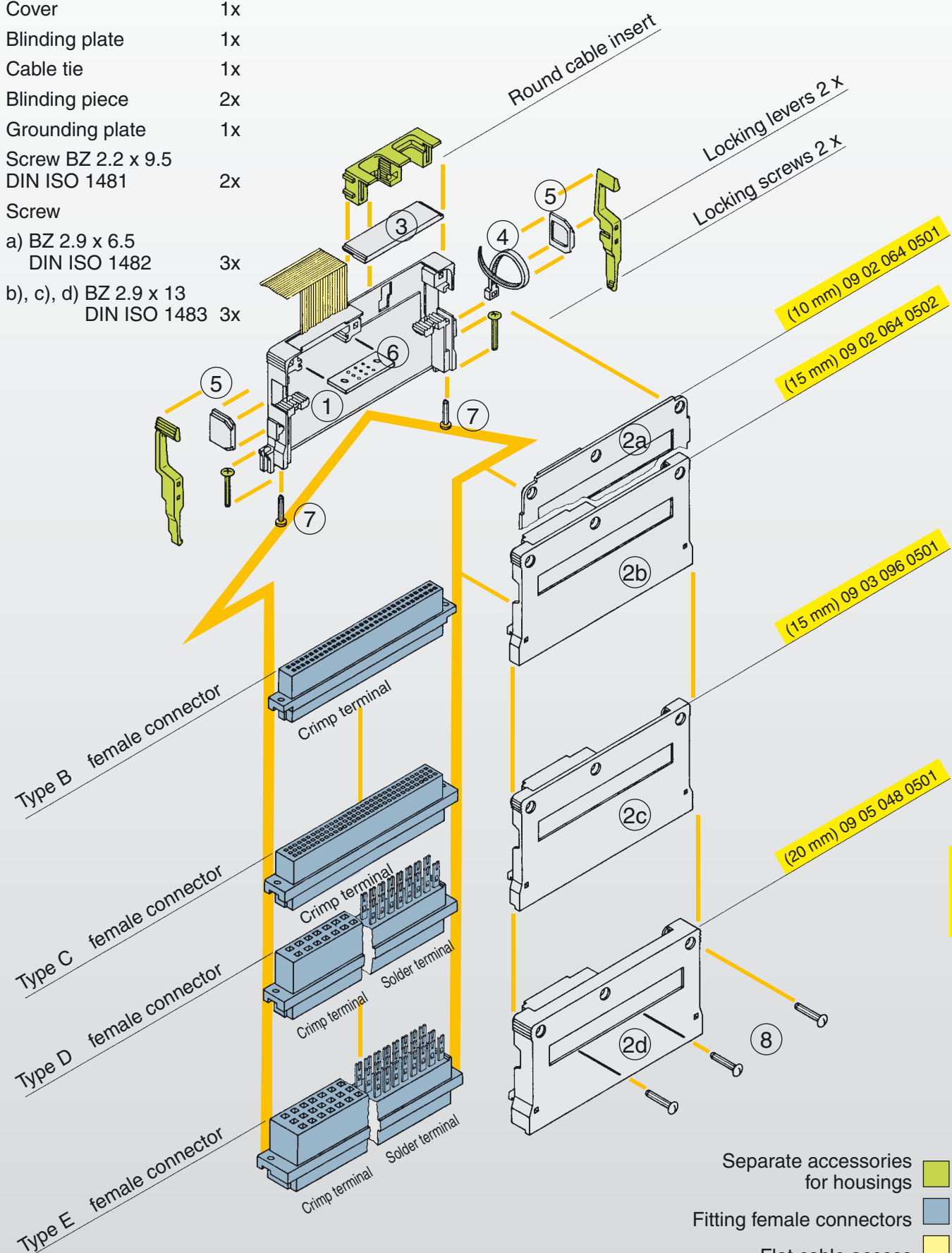
Female connectors Male connectors * metallised and full metal versions available

Detailed system description see chapter 00

Shell housing C for types B, C, D and E



- ① Shell 1x
- ② Cover 1x
- ③ Blinding plate 1x
- ④ Cable tie 1x
- ⑤ Blinding piece 2x
- ⑥ Grounding plate 1x
- ⑦ Screw BZ 2.2 x 9.5
DIN ISO 1481 2x
- ⑧ Screw
- a) BZ 2.9 x 6.5
DIN ISO 1482 3x
- b), c), d) BZ 2.9 x 13
DIN ISO 1483 3x



(10 mm) 09 02 064 0501
(15 mm) 09 02 064 0502

(15 mm) 09 03 096 0501

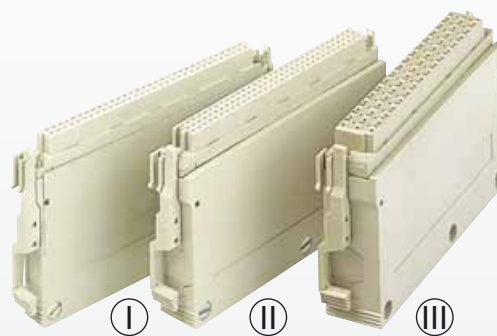
(20 mm) 09 05 048 0501

Shell housings

Separate accessories for housings ■
 Fitting female connectors ■
 Flat cable access ■ **20**
 Housing parts supplied ■ **03**

Moulding material: thermoplastic resin, glass-fibre filled, UL 94-V0

Shell housing C for types B, C, D and E

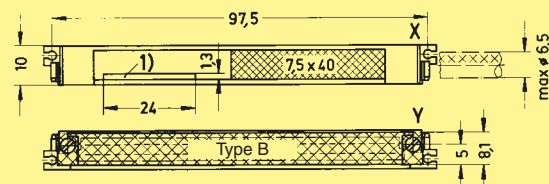


Identification Part No. Drawing Dimensions in mm

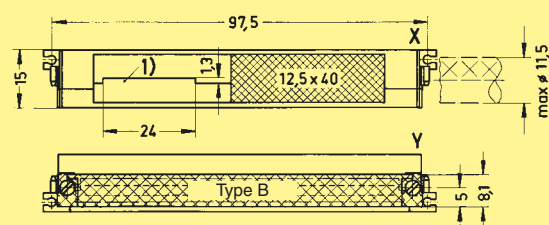
Shell housing C
for female connectors
type B

Ⓘ

10 mm
09 02 064 0501



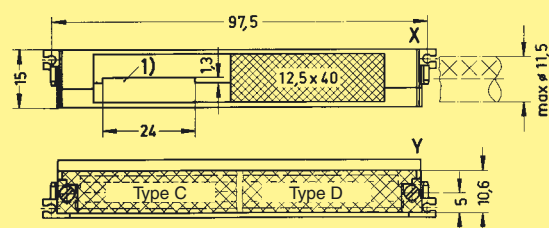
15 mm
09 02 064 0502



Shell housing C
for female connectors
types C, D

Ⓜ

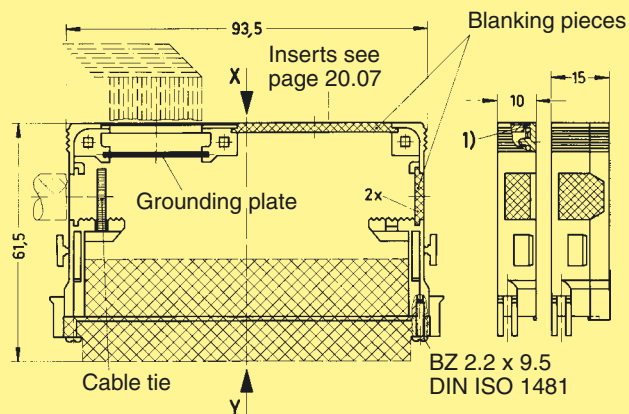
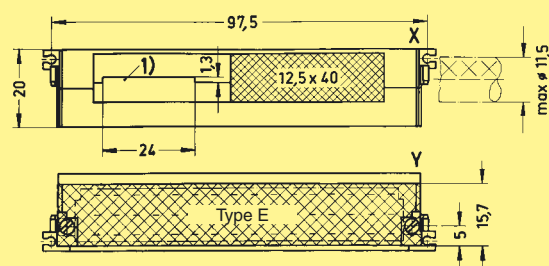
15 mm
09 03 096 0501



Shell housing C
for female connectors
type E

ⓂⓂ

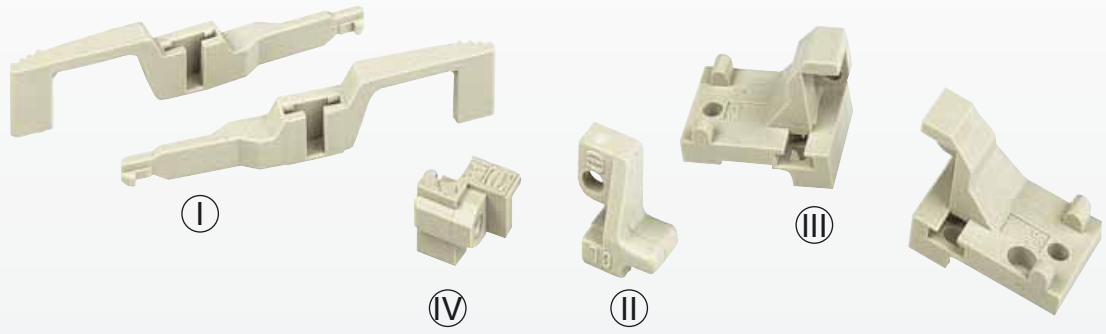
20 mm
09 05 048 0501



1) Possible access for flat cable (18 x Ø 1.27). Remove the blanking piece.

Shell housings

Shell housing C



Accessories

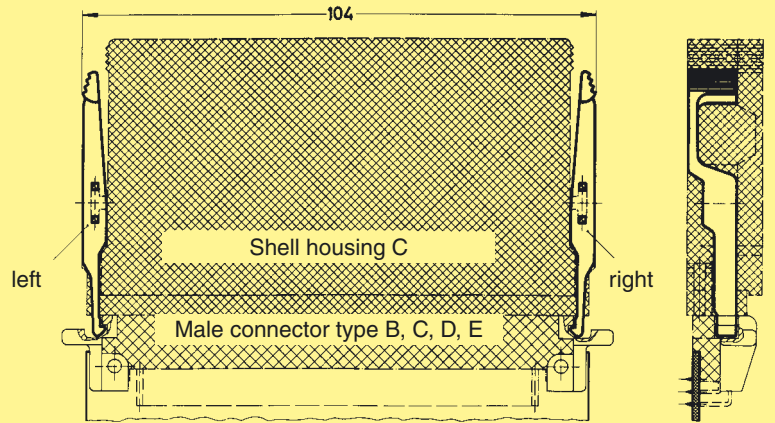
Identification Part No. Drawing Dimensions in mm

Locking lever for shell housing C

Ⓘ

left
09 02 000 9902

right
09 02 000 9903



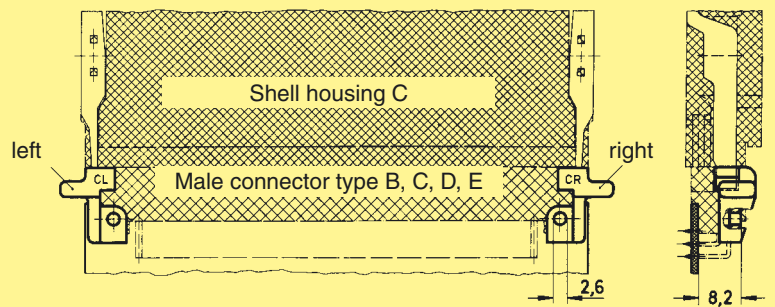
Fixing brackets C for male connectors for 19" racks according to DIN 41 494, sheet 5

Multiple fixing

Ⓜ

left
09 02 000 9919

right
09 02 000 9920

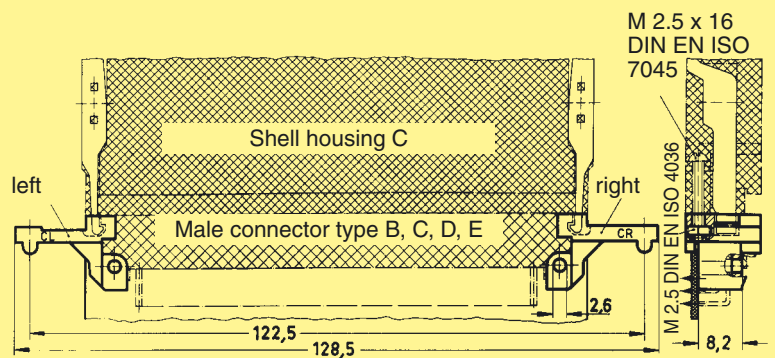


Single fixing

ⓂⓂ

left
09 02 000 9921

right
09 02 000 9922

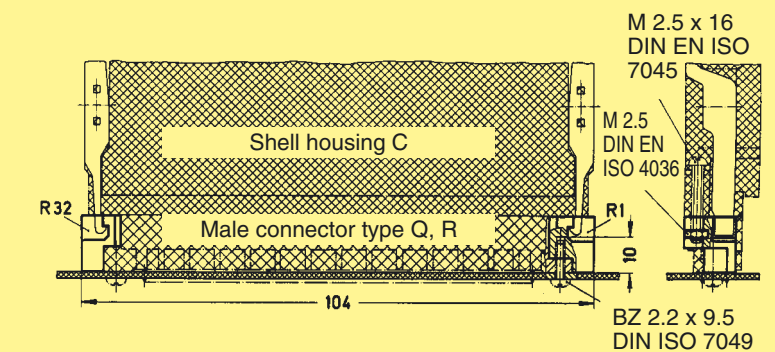


Fixing brackets R for inverse male connectors on pcb's

Ⓕ

R 1
09 02 000 9953

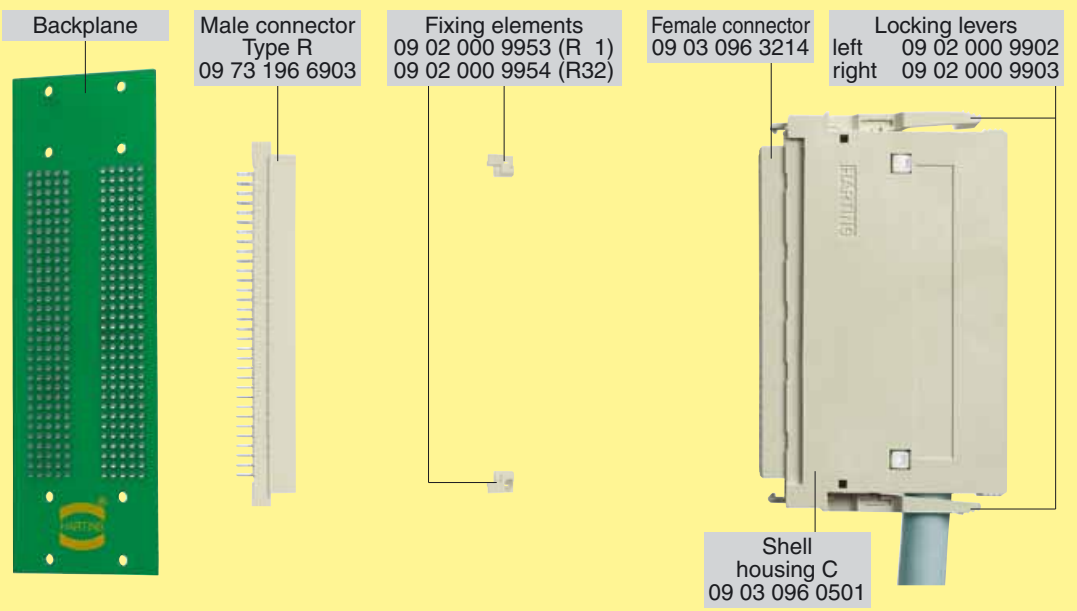
R 32
09 02 000 9954



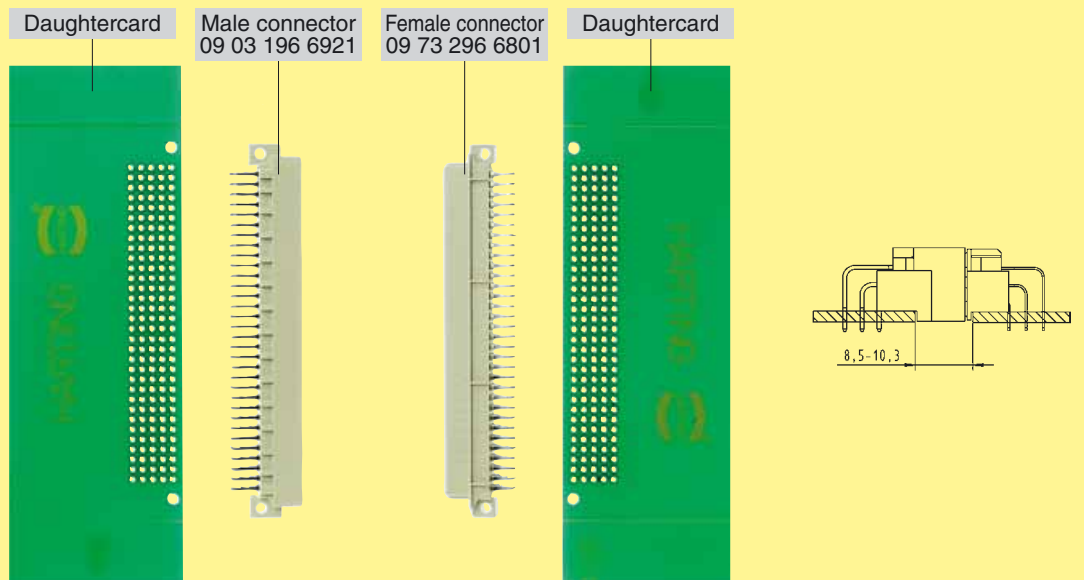
Shell housings

Application examples

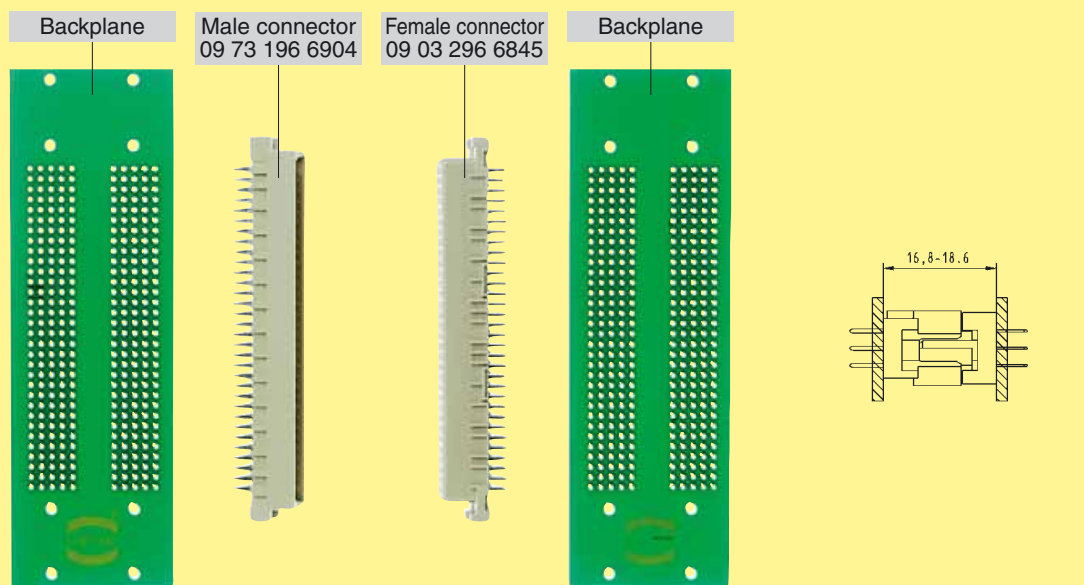
Application 1



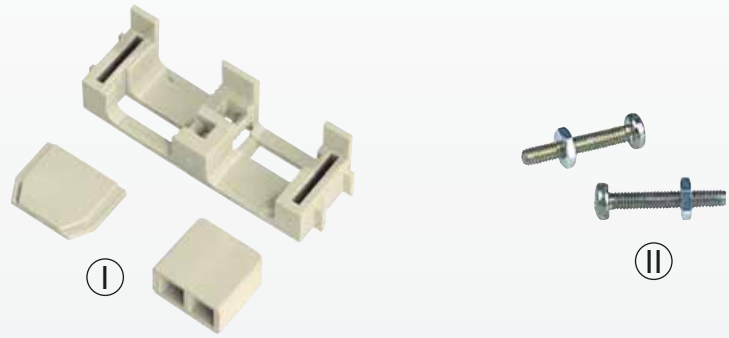
Application 2



Application 3



Shell housings



Accessories

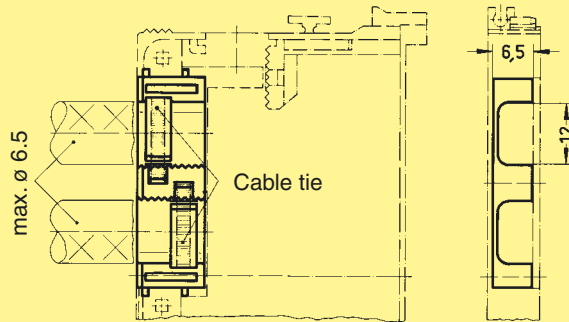
Identification Part No. Drawing Dimensions in mm

Round cable insert
2 x \varnothing 6.5

for shell housing C
09 02 064 0501

Supplied with:
Round cable insert 1x
Blinding piece A 1x
Blinding piece B 1x
Cable tie 1x

09 02 000 9910



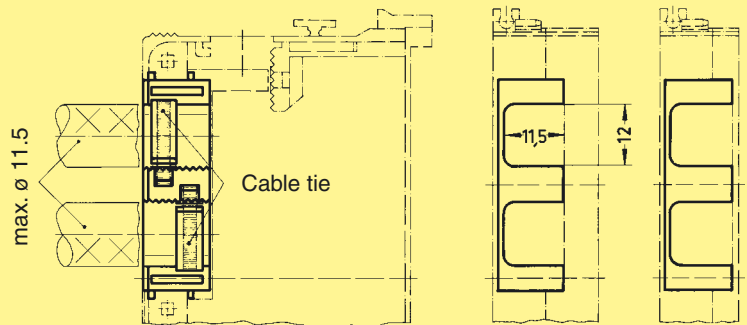
Round cable insert
2 x \varnothing 11.5

(I)

for shell housings C
09 02 064 0502
09 03 096 0501
09 05 048 0501

Supplied with:
Round cable insert 1x
Blinding piece A 1x
Blinding piece B 1x
Cable tie 1x

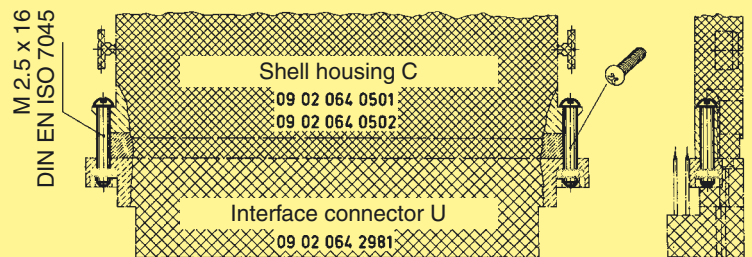
09 02 000 9911



Locking
screws

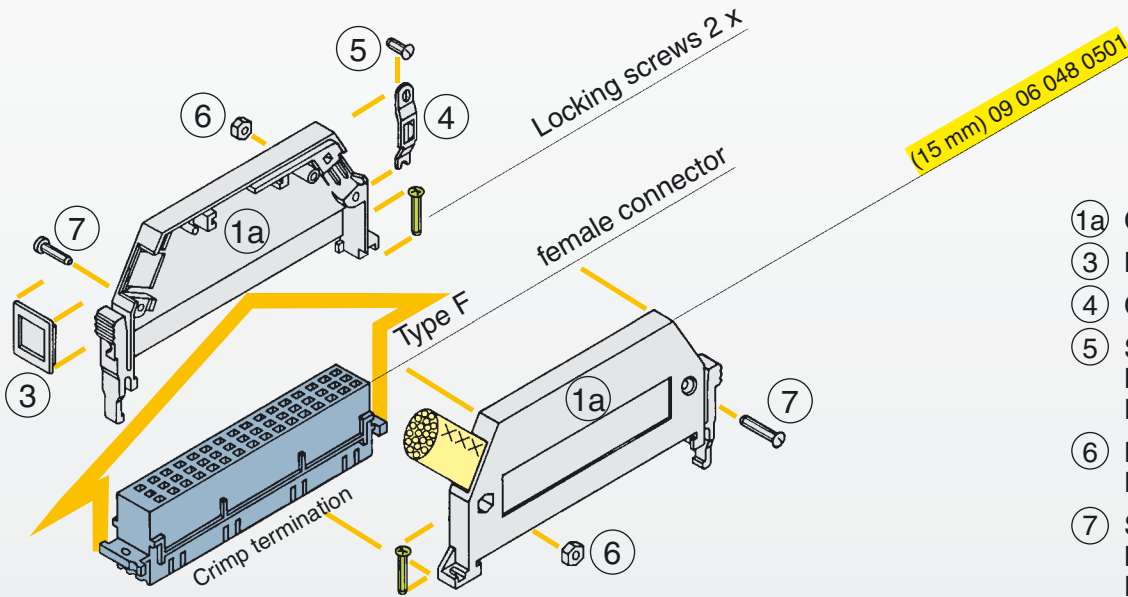
(II)

09 02 000 9909¹⁾

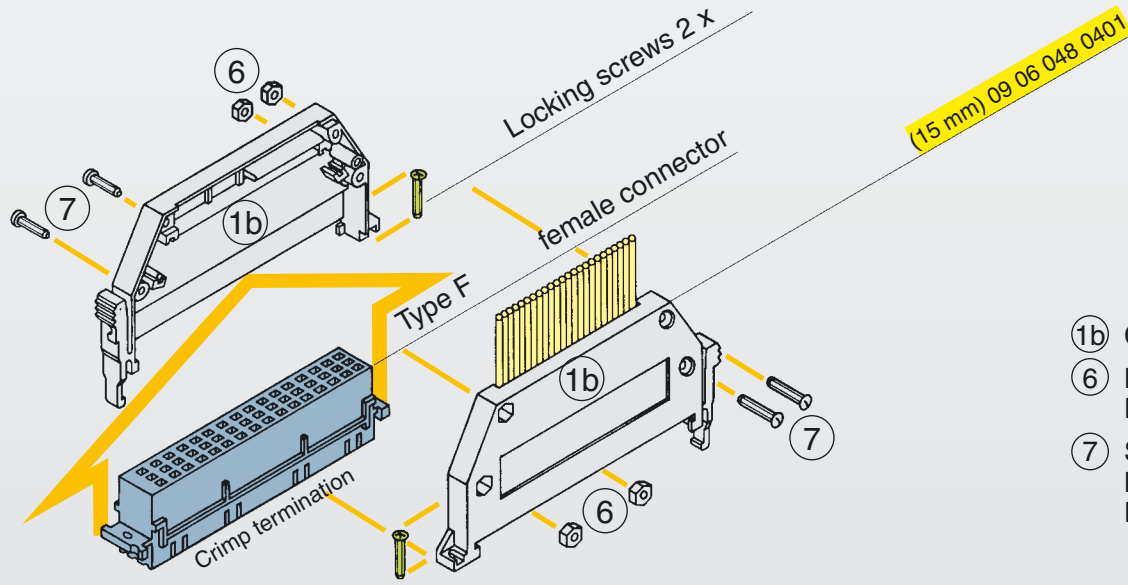


¹⁾ Order 2 pieces for one shell housing

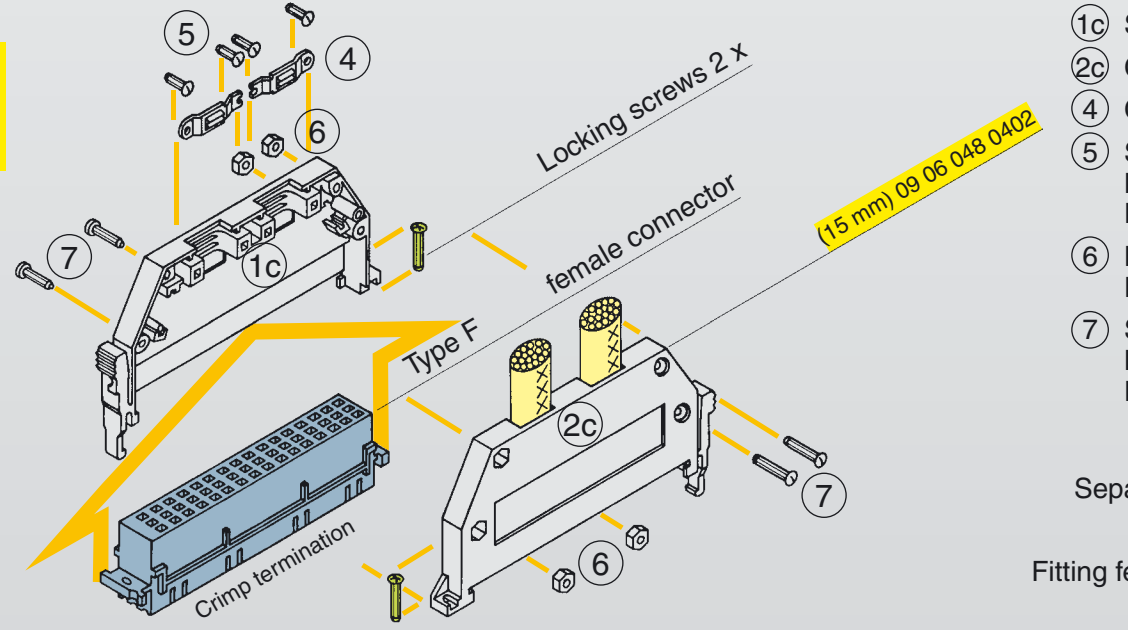
Shell housing A for type F



- ①a Casing shell 2x
- ③ Blinding piece 1x
- ④ Cable clamp 1x
- ⑤ Screw BZ 2.9 x 9.5 DIN ISO 1481 1x
- ⑥ Hexagonal nut M3 DIN EN ISO 4032 2x
- ⑦ Screw M3 x 12 DIN EN ISO 1207 2x



- ①b Casing shell 2x
- ⑥ Hexagonal nut M3 DIN EN ISO 4032 4x
- ⑦ Screw M3 x 12 DIN EN ISO 1207 4x

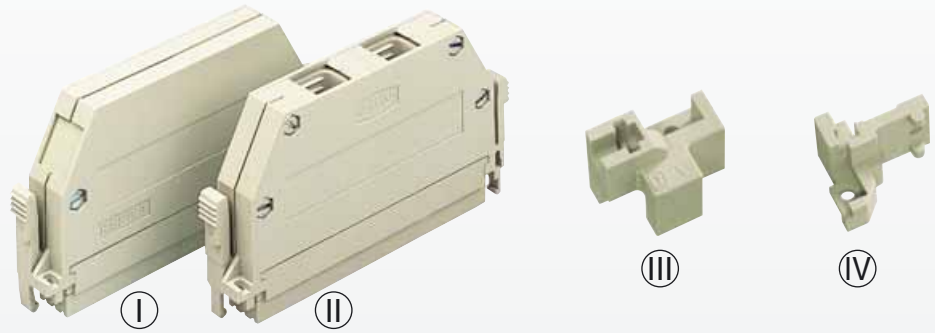


- ①c Shell 1x
- ②c Cover 1x
- ④ Cable clamp 2x
- ⑤ Screw BZ 2.9 x 9.5 DIN ISO 1481 4x
- ⑥ Hexagonal nut M3 DIN EN ISO 4032 4x
- ⑦ Screw M3 x 12 DIN EN ISO 1207 4x

- Separate accessories for housings
- Fitting female connectors
- Cable access
- Housing parts supplied

Shell housings

Shell housing A for type F

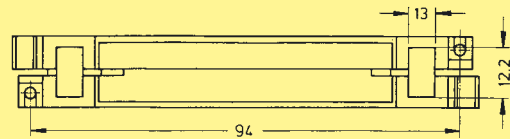


Identification Part No. Drawing Dimensions in mm

Shell housing A

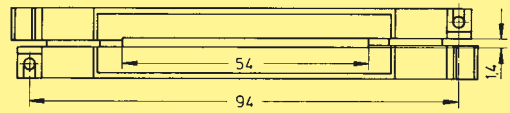
Side entry
 (I)

15 mm
 09 06 048 0501



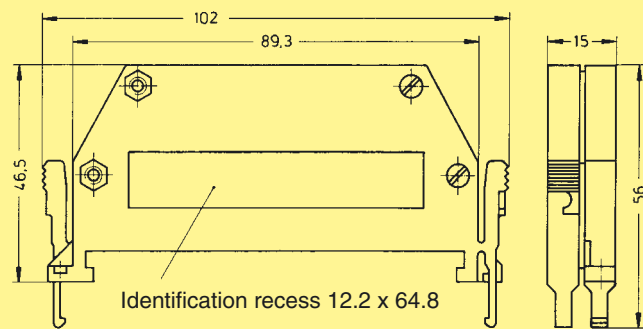
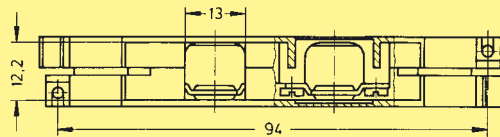
Flat cable entry

15 mm
 09 06 048 0401



Top entry
 (II)

15 mm
 09 06 048 0402

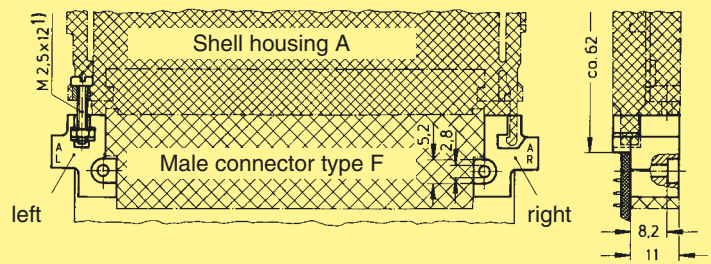


Fixing brackets A for male connectors for 19" racks according to DIN 41 494, sheet 5

Multiple fixing
 (III)

left
 09 06 000 9901

right
 09 06 000 9902

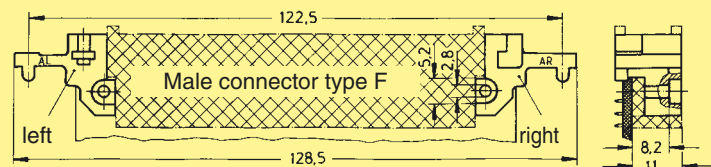


1) not supplied with bracket

Single fixing
 (IV)

left
 09 06 000 9905

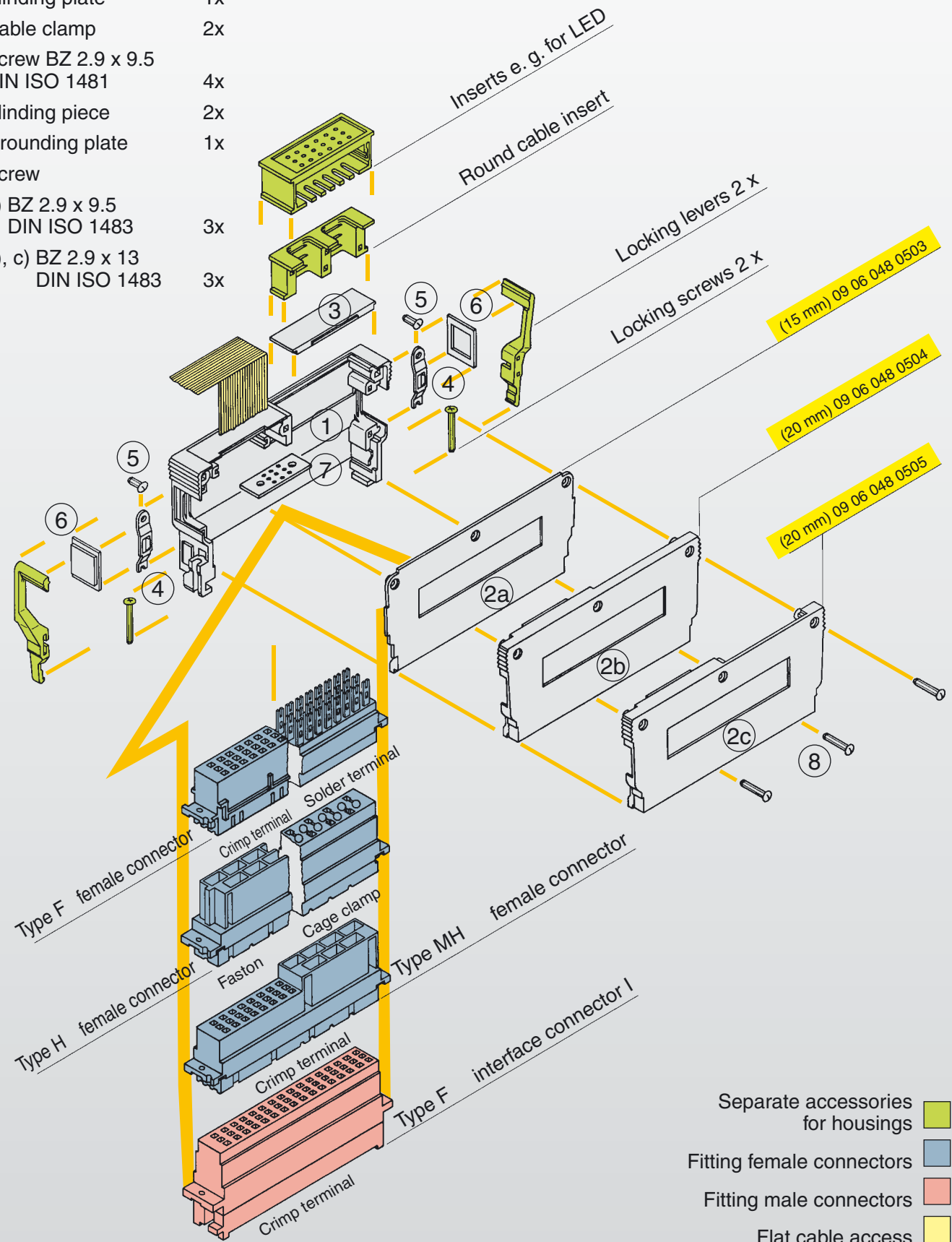
right
 09 06 000 9906



Shell housing B for types F, H and MH



- ① Shell 1x
- ② Cover 1x
- ③ Blinding plate 1x
- ④ Cable clamp 2x
- ⑤ Screw BZ 2.9 x 9.5
DIN ISO 1481 4x
- ⑥ Blinding piece 2x
- ⑦ Grounding plate 1x
- ⑧ Screw
- a) BZ 2.9 x 9.5
DIN ISO 1483 3x
- b), c) BZ 2.9 x 13
DIN ISO 1483 3x

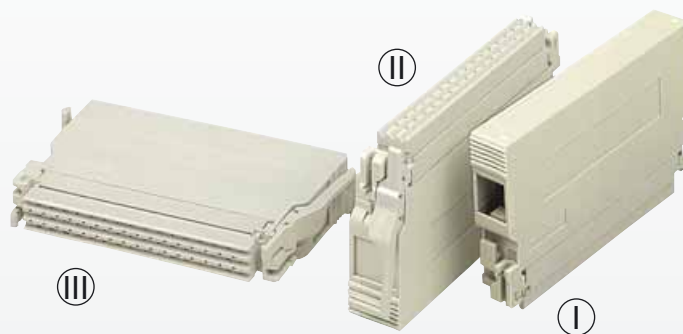


Shell housings

20
10 Moulding material: thermoplastic resin, glass-fibre filled, UL 94-V0

- Separate accessories for housings ■
- Fitting female connectors ■
- Fitting male connectors ■
- Flat cable access ■
- Housing parts supplied ■

Shell housing B for types F, H and MH

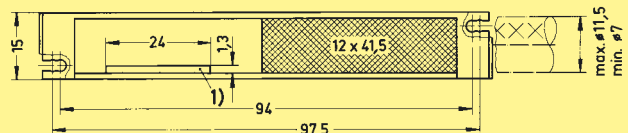


Identification Part No. Drawing Dimensions in mm

Shell housing B

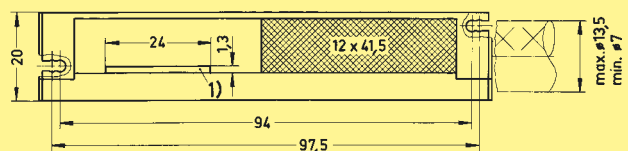
Ⓘ

15 mm
09 06 048 0503



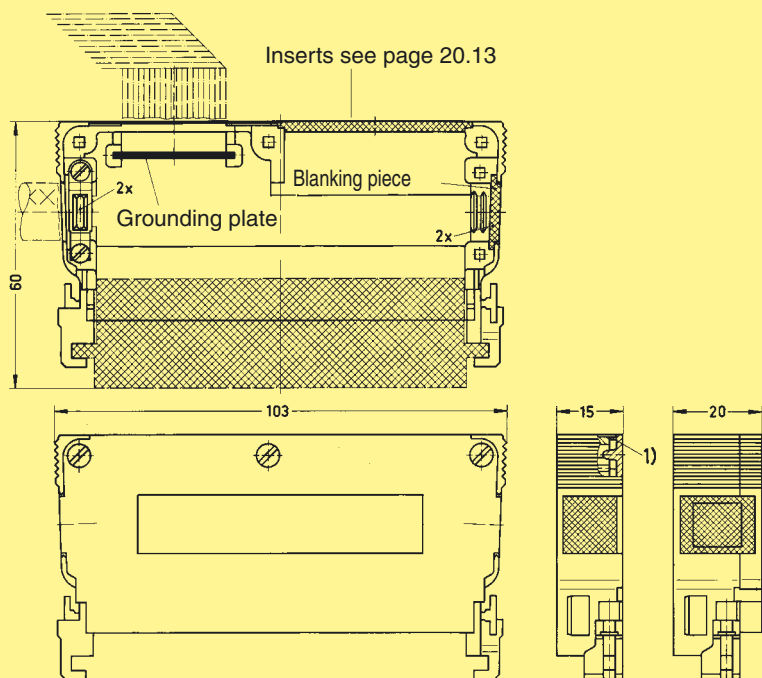
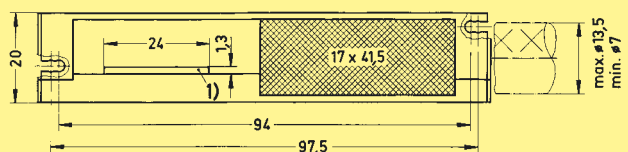
Ⓙ

20 mm
09 06 048 0504



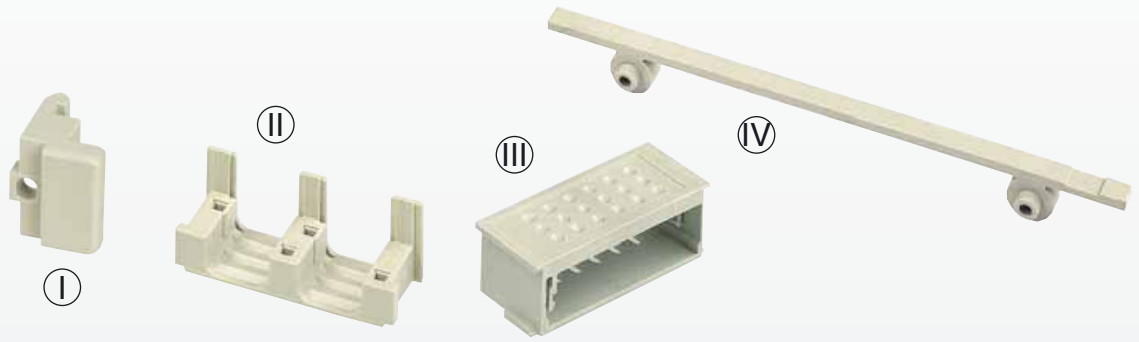
Ⓚ

20 mm
09 06 048 0505



1) Possible access for flat cable (18 x ø 1.27). Remove the blanking piece

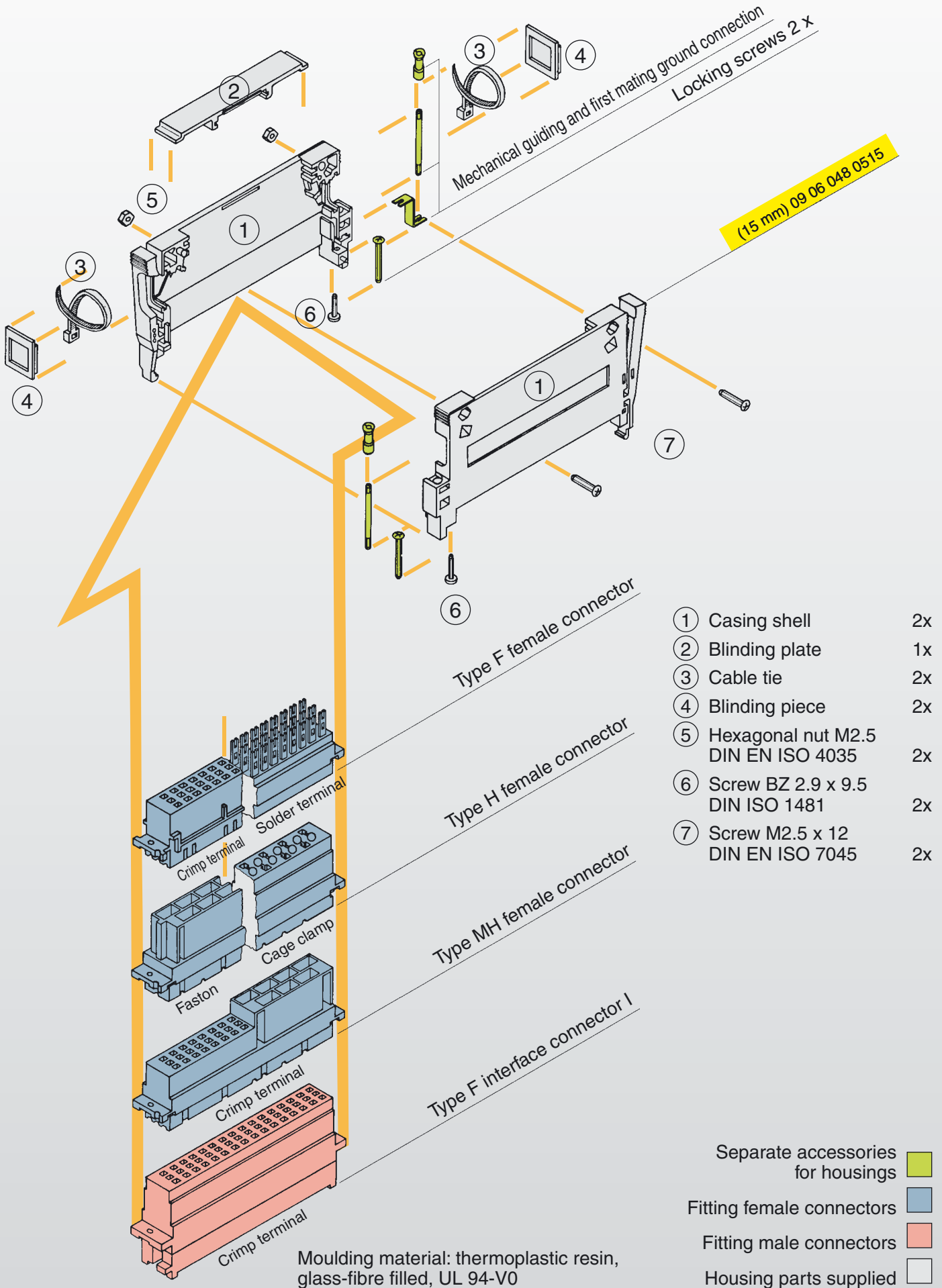
Shell housing B



Accessories

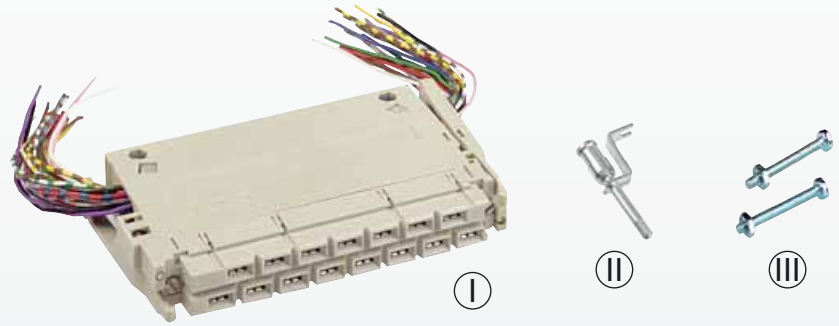
Identification	Part No.	Drawing	Dimensions in mm
<p>Fixing brackets B for female connectors for 19" racks according to DIN 41 494, sheet 5</p> <p>Multiple fixing</p> <p>Ⓚ</p> <p>¹⁾ Order 2 pieces for one female connector</p>	09 06 000 9933 ¹⁾		
<p>Round cable insert 2 x ø 10</p> <p>for shell housings B 09 06 048 0503 09 06 048 0504</p> <p>Supplied with: Round cable insert 1x Blinding piece 1x</p>	09 06 000 9914		
<p>Round cable insert 2 x ø 12.5</p> <p>Ⓛ</p> <p>for shell housing B 09 06 048 0505</p> <p>Supplied with: Round cable insert 1x Blinding piece 1x</p>	09 06 000 9915		
<p>Insert for LED</p> <p>Ⓛ</p> <p>for shell housing B 09 06 048 0505</p>	09 06 000 9917		
<p>Protection strip</p> <p>Ⓧ</p> <p>Used with shell housings type B for front side access 09 06 048 0504 09 06 048 0505</p>	09 06 000 9929		

Shell housings



Shell housings

Shell housing D 15 for types F, H and MH



Identification

Part No.

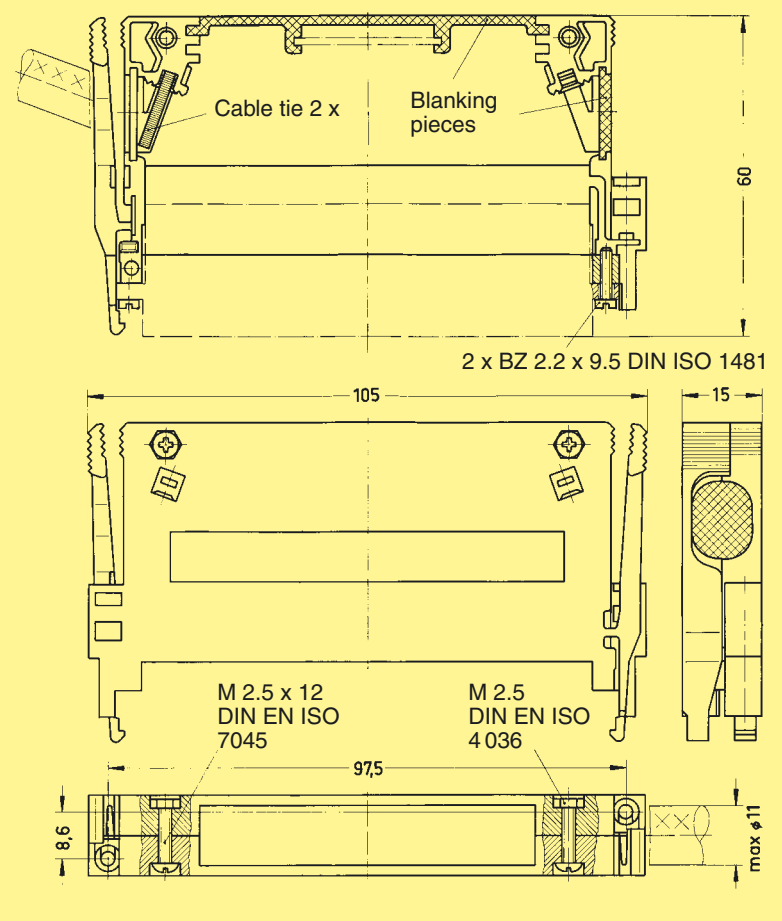
Drawing

Dimensions in mm

Shell housing D 15

Ⓘ

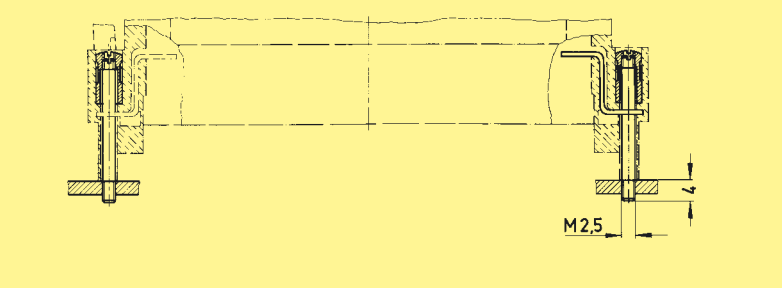
15 mm
09 06 048 0515



Mechanical guiding and first mating ground connection

Ⓜ

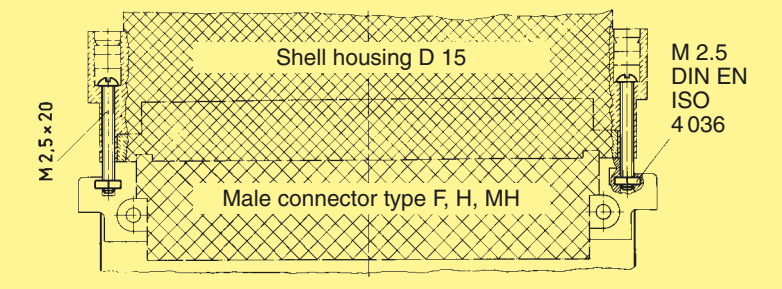
09 06 000 9961



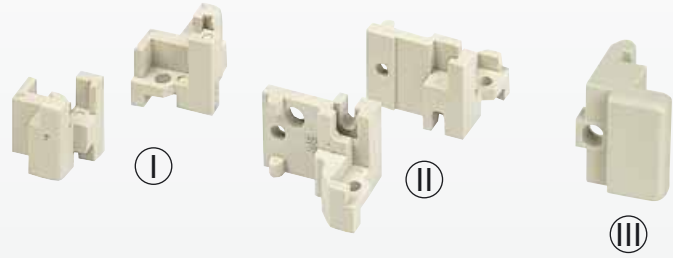
Locking screws

ⓂⓂ

09 06 000 9926¹⁾



¹⁾ Order 2 pieces for one shell housing



Accessories

Identification Part No. Drawing Dimensions in mm

Fixing brackets B for male connectors
for 19" racks according to
DIN 41 494, sheet 5

Multiple fixing

without nut



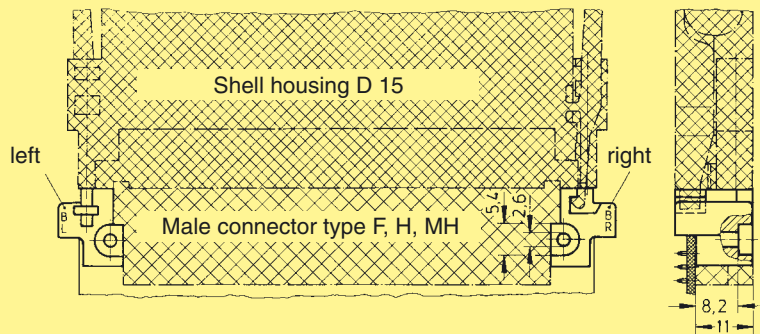
left
09 06 000 9907

right
09 06 000 9908

with nut
M 2.5 DIN 562

left
09 06 000 9966

right
09 06 000 9967



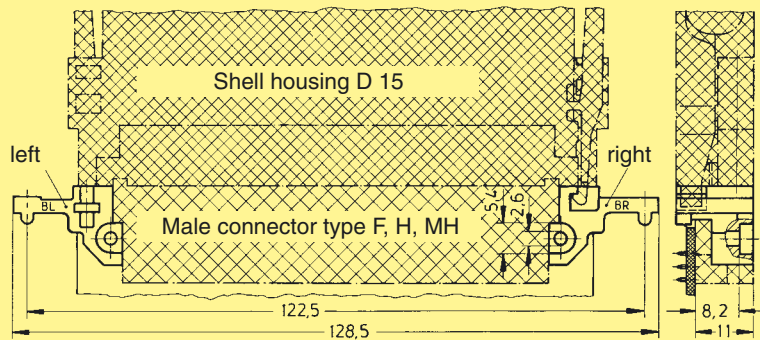
Single fixing

without nut



left
09 06 000 9909

right
09 06 000 9910

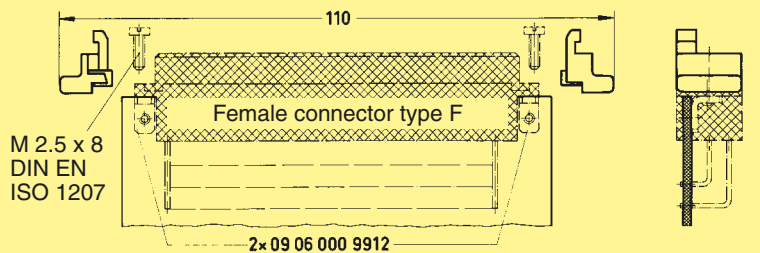


Fixing brackets B for female connectors
for 19" racks according to
DIN 41 494, sheet 5

Multiple fixing

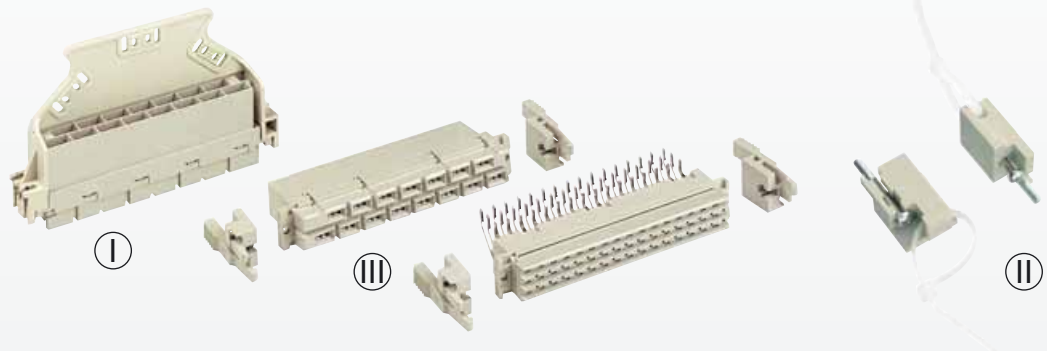


09 06 000 9933¹⁾



¹⁾ Order 2 pieces
for one female connector

Open hood G, junction element O, locking lever



Identification

Part No.

Drawing

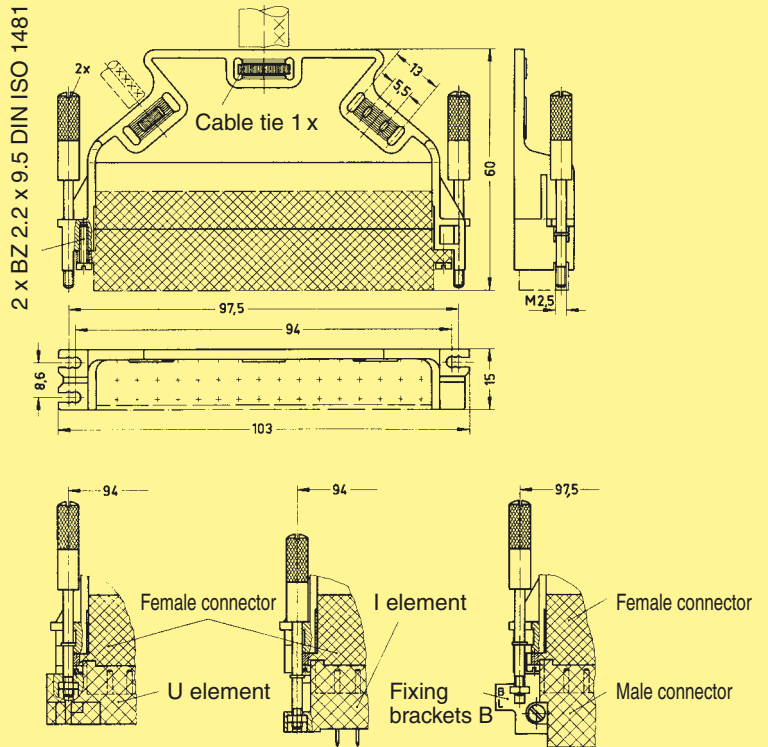
Dimensions in mm

Open hood G
for types E, F, H
and MH



Supplied with:
Open hood 1x
Locking screw 2x
(09 06 000 9958)
Cable tie 1x
Screw 2x

09 06 000 9957

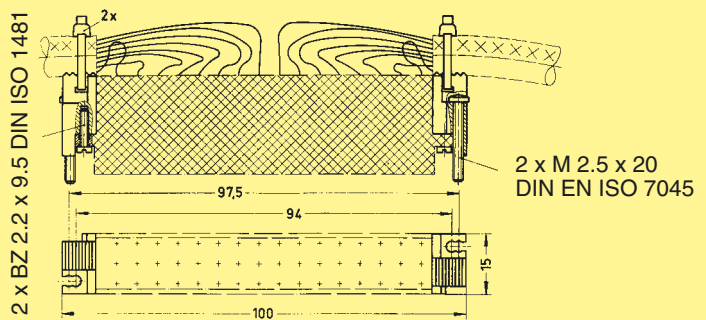


Junction element O
for type F



Supplied with:
Junction element 2x
Cable tie 2x
Screw 2x
Screw M2.5 x 20 2x

09 06 000 9968

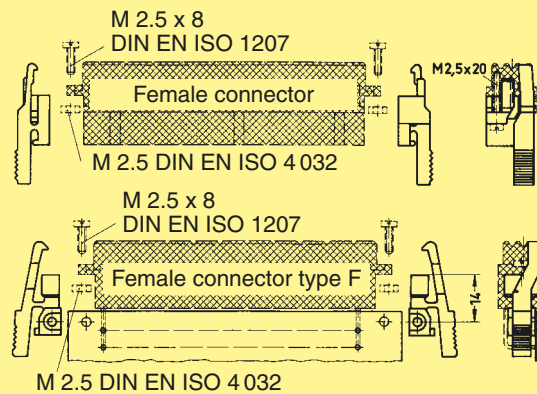


Locking lever
for type F

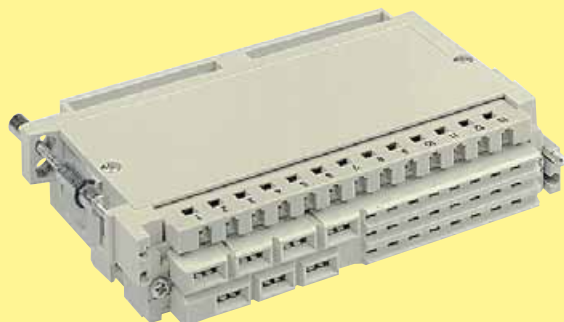


09 06 000 9930¹⁾

09 06 000 9911¹⁾



¹⁾ Order 2 pieces
for one female connector



Fitting female connectors

Part-No.	Type	D 20/2	D 20/4	D 20 metal	D 20 metal HF
09 06 2__ _823	F with open solder lugs	X		X	X
09 06 2__ _853	F with closed solder lugs	X		X	X
09 06 248 3201	F moulding for crimp contacts	X	X	X	X
09 06 215 2871	H for faston	X		X	X
09 06 015 2813	H with cage clamps	X		X	X
09 06 231 2881	MH moulding for crimp contacts	X		X	X

Order example:

09 06 2__ _853

32 = 32 contacts
48 = 48 contacts



7 = performance level 3
6 = performance level 2
2 = performance level 1

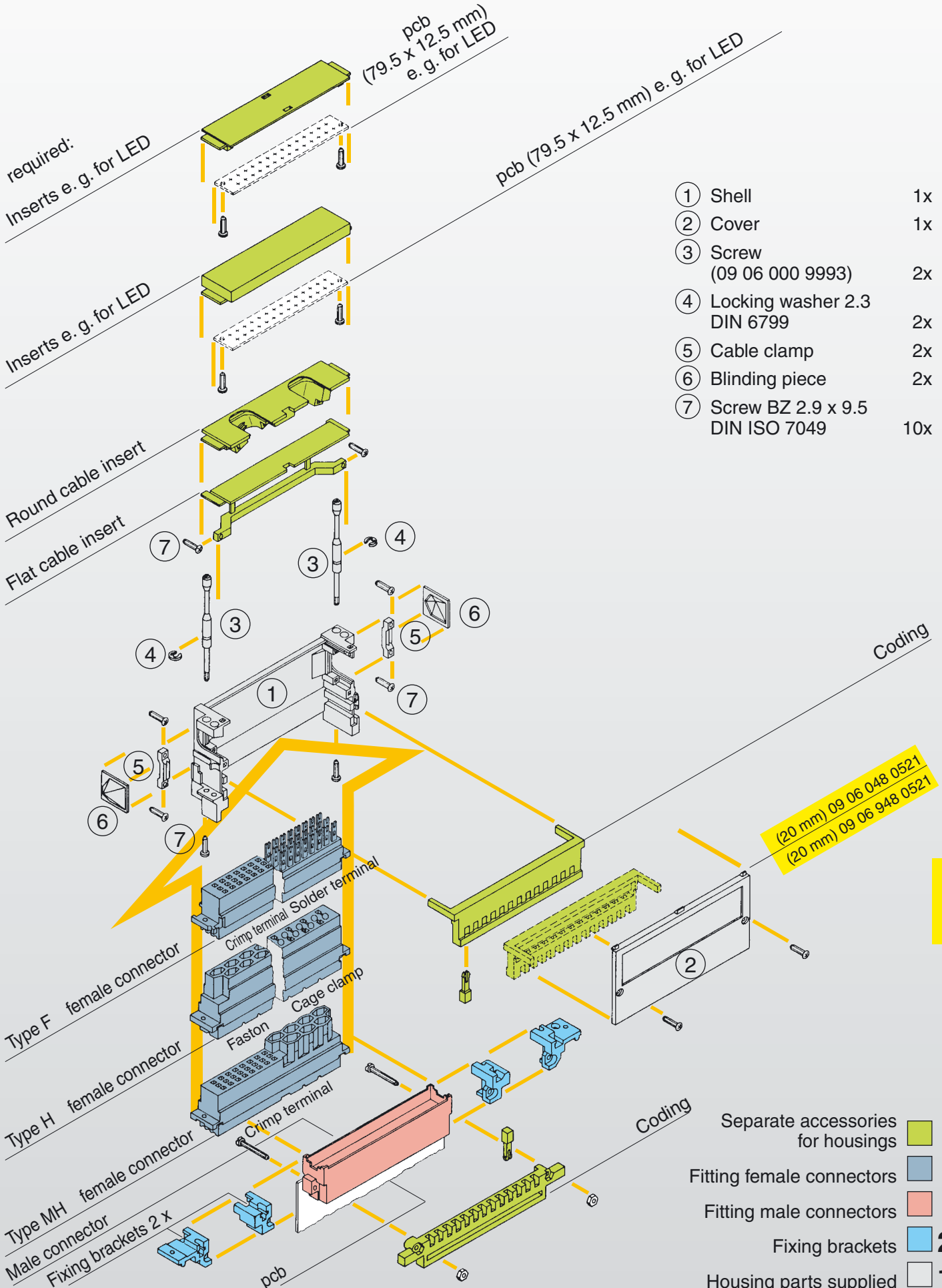
Technical characteristics

	D 20/2	D 20/2 metallised ¹⁾	D 20/4	D 20/4 metallised ¹⁾	D 20 metal	D 20 metal HF
Part No.	09 06 048 0521	09 06 948 0521	09 06 048 0522	09 06 948 0522	09 06 848 0521	09 06 848 1521
Material	Polycarbonate	Polycarbonate	Polycarbonate	Polycarbonate	Zinc alloy	Zinc alloy
Surface	none	nickel/copper	none	nickel/copper	none	nickel-plated ²⁾
Weight [g]	36	44	43	52	190	214
Cable entries	side (2 x), top round cable insert see page 20.19	side (2 x), top round cable insert see page 20.19	side (4 x)	side (4 x)	side (2 x), top	side (2 x) top
Protection	IP 20	IP 20	IP 20	IP 20	IP 20	IP 20

¹⁾ upper temperature limit is +105 °C

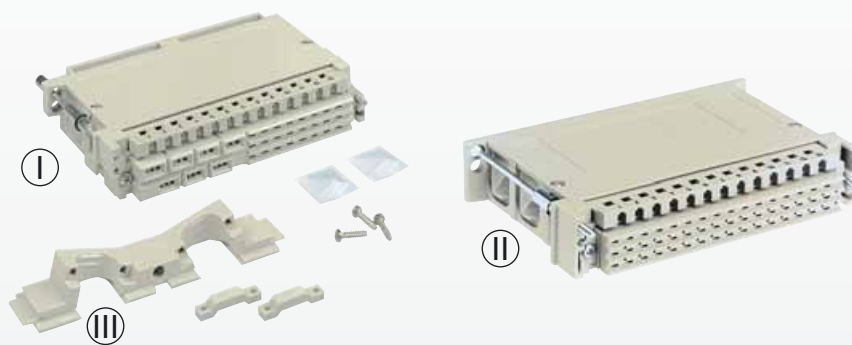
²⁾ zinc-plated on request

Shell housing D 20/2 for types F, H and MH



Moulding material: thermoplastic resin, glass-fibre filled, UL 94-V0

Shell housing D 20 for types F, H and MH



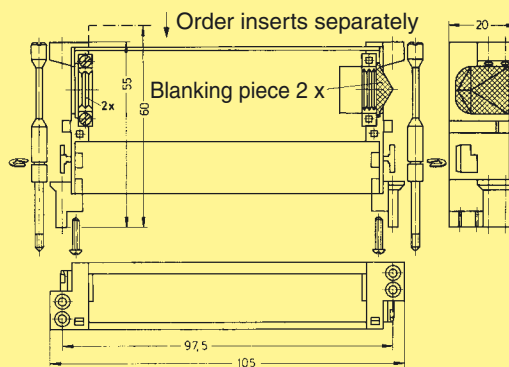
Identification Part No. Drawing Dimensions in mm

Shell housing D 20/2

Two side cable entries



20 mm
09 06 048 0521



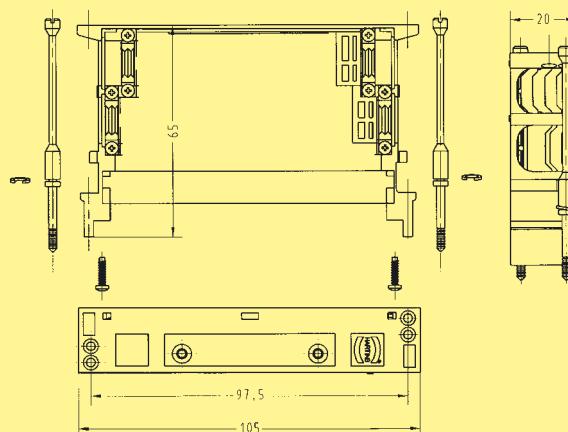
Shell housing D 20/4

Four side cable entries



Supplied with:
Shell 1x
Cover 1x
Locking screw 2x
Locking washer 2.3 2x
Screw BZ 2.2x9.5 12x
Blinding piece 3x
Cable clamp 2x

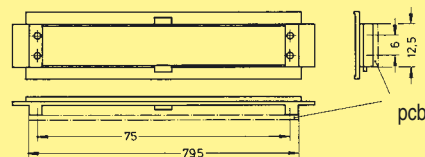
20 mm
09 06 048 0522



Inserts e. g. for LED*

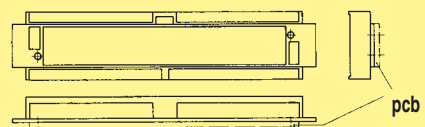
for 55 mm height

09 06 000 9986



for 60 mm height

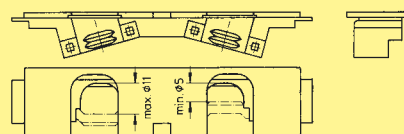
09 06 000 9987



Round cable insert* 2 x ø 11

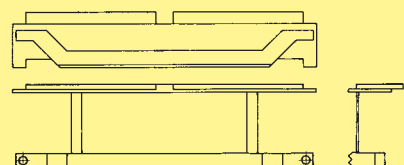


09 06 000 9988



Flat cable insert*

09 06 000 9989



Shell housings

20
-
20

* Fits D 20/2



Coding

Identification	Part No.	Drawing	Dimensions in mm
<p>Code comb for shell housing³⁾ (can also be used as a blanking cover)</p> <p>Ⓚ</p>	09 06 000 9984		
<p>Coding pin³⁾</p> <p>Ⓛ</p> <p>¹⁾ Order 13 pieces per code comb</p>	09 06 001 9905 ¹⁾		
<p>Code comb for male connectors³⁾</p> <p>Ⓜ</p>	09 06 000 9985		
<p>Mounting possibilities for the code comb in the shell housing D 20/2</p>		<p>²⁾ Use the lower slot when coding the male connector with fixing brackets</p> <p>Mounting example A max. cable entry \varnothing 14 mm to the top, see page 20.23</p> <p>Mounting example B max. cable entry \varnothing 14 mm to the bottom, see page 20.23</p>	

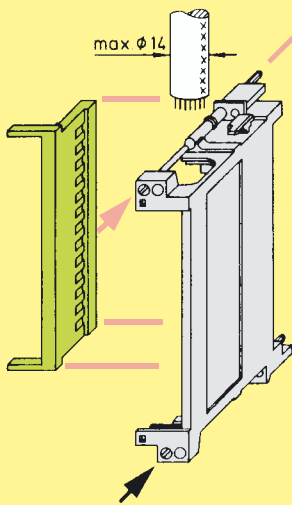
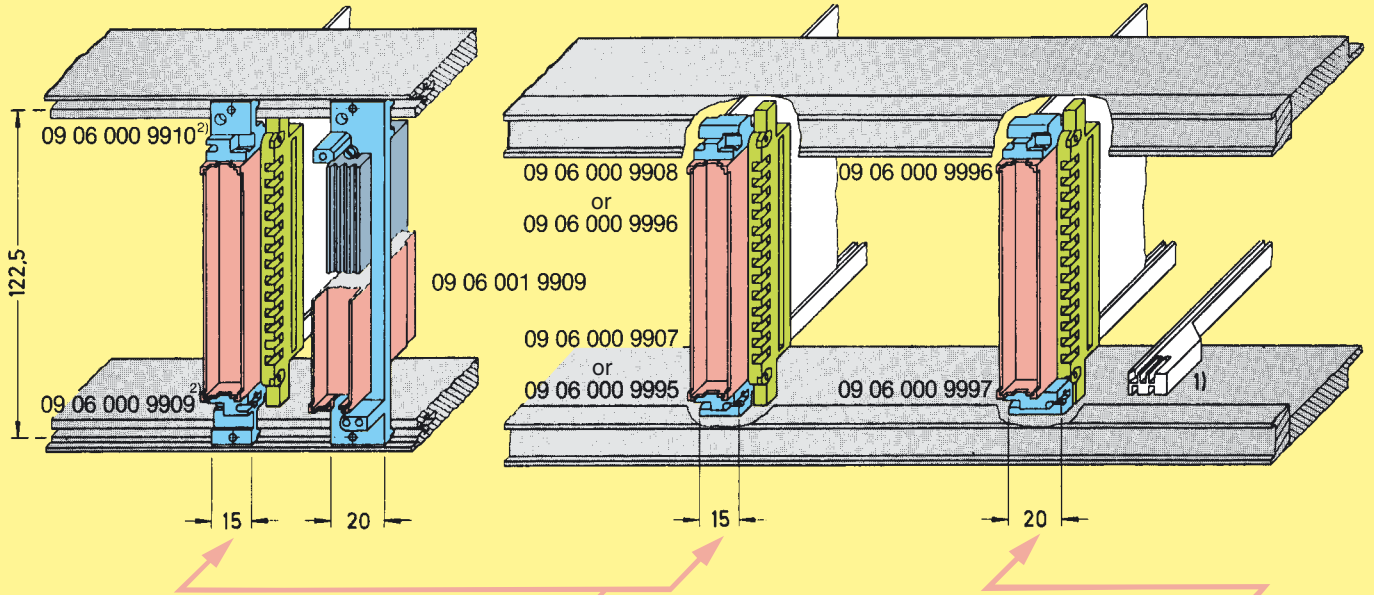
³⁾ Fits D 20/2 and D 20/4

Mounting examples

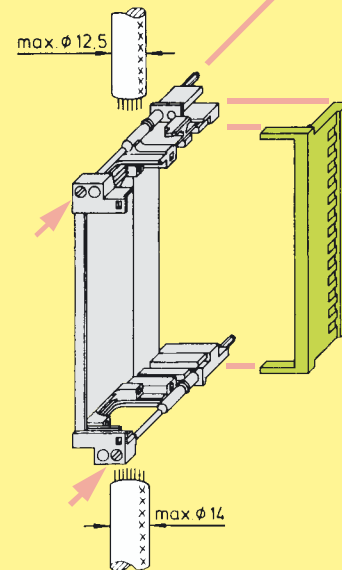
Dimensions in mm

Single fixing

Multiple fixing



Mounting example A²⁾
max. cable entry to the top



Mounting example B
max. cable entry to the bottom

Separate accessories for housings

Fitting female connectors

Fitting male connectors

Fixing brackets

Housing parts supplied

¹⁾ Specific coding between the fixing bracket and the pcb guiding rail

²⁾ Max. cable entry (ϕ 14 mm) from the bottom with fixing brackets 09 06 901 9924/...9925 possible. See page 20.29.



EMC with HARTING connectors

HARTING offers metallised D20 housings and full metal housings for EMC connectors according to IEC 60603-2. Its strong EMI characteristics and metallised fixing elements offers optimal shielding and grounding.

The connection of the cable braid to different types of connector housings, as well as the influence of the connector itself on EMC characteristics of an instrument application, were analysed in regard to **the shielding effectiveness against electromagnetic radiation**. The shielded signal data lines of a railway application were carried via two eurocard pcb's installed into a 19"-rack. The fixing of the cable braid was realised with different HARTING D20 housings.

The application including the connectors was then exposed to RF signals, transient bursts and electrostatic discharges.

The standard plastic housings showed minimal EMC performance. The EMC performance of metallised and full metal housings showed significant improvements.

One advantage of metallised housings is their reduced weight (40 grams compared to 200 grams of a full metal housing). Therefore, minimal interference is applied to the pcb in applications where strong vibration is occurring. The HARTING housings are comparatively light through the use of metallised plastic.

The main advantages of a full metal housing are improved cable braid fixing, easy mounting and robustness.

In general, one should keep in mind that an unshielded cable entry leads to loss of the shielding against electromagnetic interference.

“A high-resistance interruption of the cable shield (e.g. by using “pigtailed” via twisted stranded wires of the cable shield) may affect the EMC performance and therefore cause unacceptable effects to the electromagnetic environment.”

Shell housings

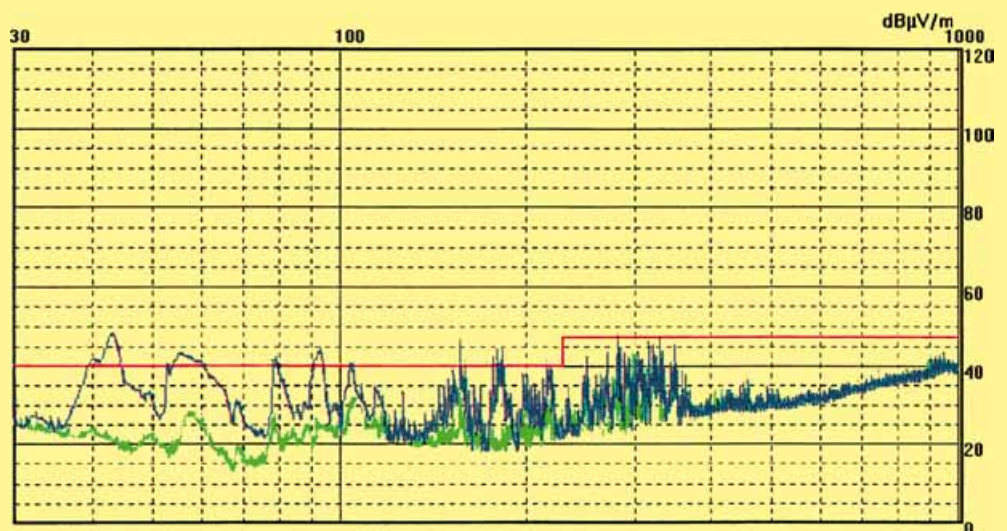


Diagram:
Radiated emission in the shielded chamber – vertical antenna polarisation

Comparison:
D 20 housing metallised (green)
and D 20 housing standard (blue)

Shell housing D 20 metallised



Ⓛ



Ⓜ

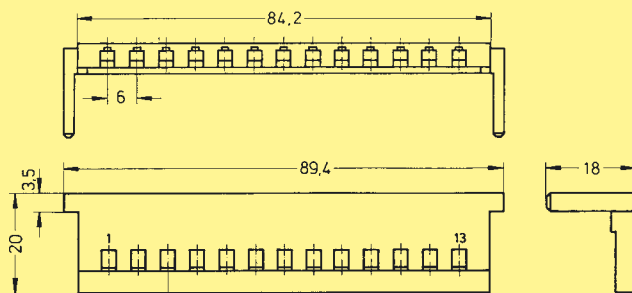
Coding

Identification Part No. Drawing Dimensions in mm

Metallised code comb for shell housing³⁾
(can also be used as blanking cover)

Ⓛ

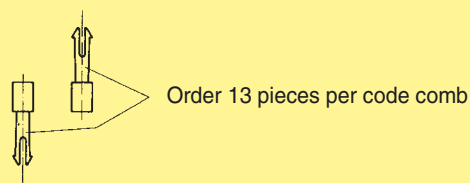
09 06 900 9984



Code pin³⁾

09 06 001 9905¹⁾

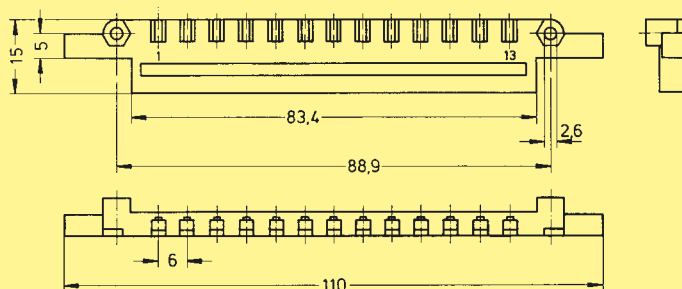
¹⁾ Order 13 pieces per code comb



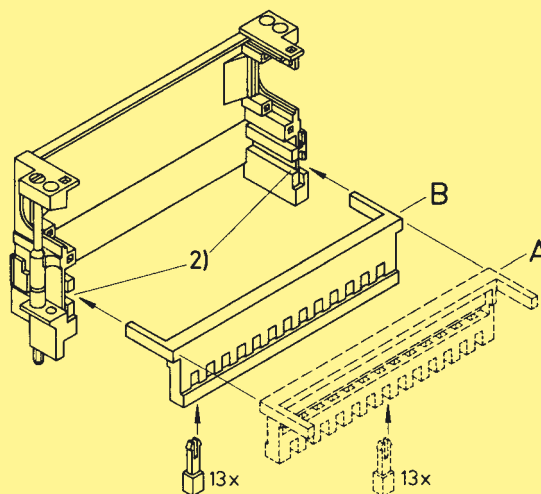
Metallised code comb for male connector³⁾

Ⓜ

09 06 900 9985



Mounting possibilities for the code comb in shell housing D 20/2 metallised



²⁾ Use the lower slot when coding the male connector with fixing brackets

Mounting example **A** max. cable entry \varnothing 14 mm to the top, see page 20.23

Mounting example **B** max. cable entry \varnothing 14 mm to the bottom, see page 20.23

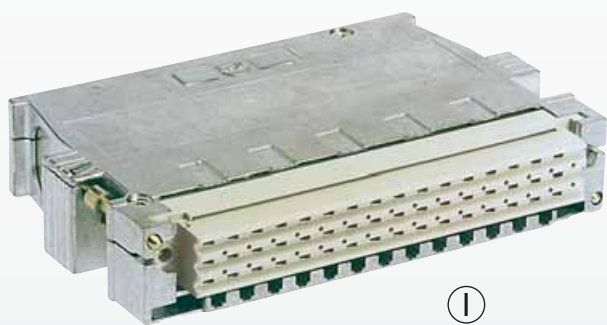
³⁾ Fits D 20/2 and D 20/4 metallised

Identification	Part No.	Drawing	Dimensions in mm
<p>Mounting possibilities for coding at the male connector with fixing brackets</p>			
<p>Fixing brackets B metallised for male connectors* for 19" racks according to DIN 41 494, sheet 5</p> <p>Single fixing* without nut</p> <p>with nut M 2.5 DIN EN ISO 4 036</p>	<p>left 09 06 900 9909 right 09 06 900 9910</p> <p>left 09 06 901 9934 right 09 06 901 9935</p>		
<p>Multiple fixing* without coding at fixing bracket without nut</p> <p>without coding at fixing bracket with nut M 2.5 DIN 562</p> <p>with coding at fixing bracket¹⁾ with nut M 2.5 DIN 562</p>	<p>left 09 06 900 9907 right 09 06 900 9908</p> <p>left 09 06 900 9966 right 09 06 900 9967</p> <p>left 15 mm 09 06 900 9995 20 mm 09 06 900 9997</p> <p>right 15 mm 09 06 900 9996</p>		<p>mounting examples</p> <p>09 06 900 9995 09 06 900 9997</p>
<p>Protection and fixing* strip for 20 mm shell housing</p> <p>Single fixing fits female connectors and I element crimp</p>	<p>09 06 001 9909</p>		<p>2) supplied with fixing</p>

* Fits D 20/2 and D 20/4 metallised

¹⁾ Specific coding between the fixing bracket and pcb guiding rail

Shell housing D 20 metal for types F, H and MH



Ⓘ



Ⓜ

Identification

Part No.

Drawing

Dimensions in mm

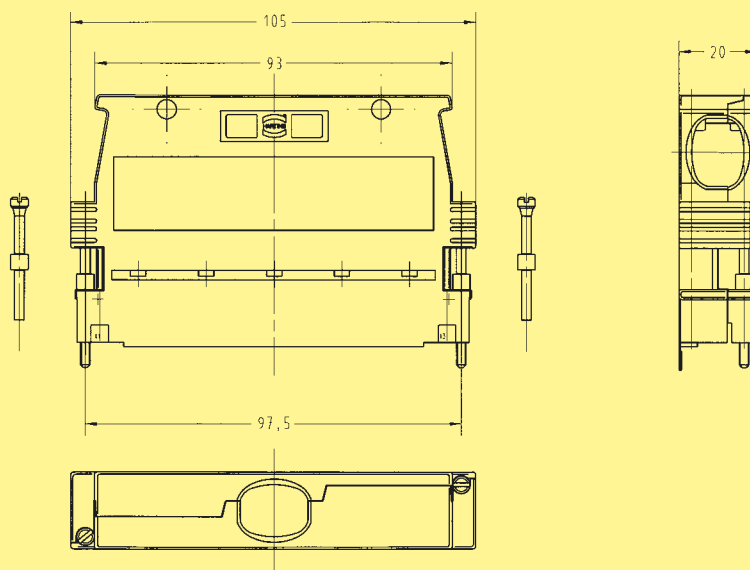
Shell housing
D 20 metal

Ⓘ

Supplied with:

- Shell with coding 1x
- Cover 1x
- Locking screw 2x
- Blinding piece 2x
- Screw M2.5 x 16 6x
- Lower cable clamp (wide) 1x
- Upper cable clamp (wide) 1x
- Screw M3 x 5 1x

09 06 848 0521



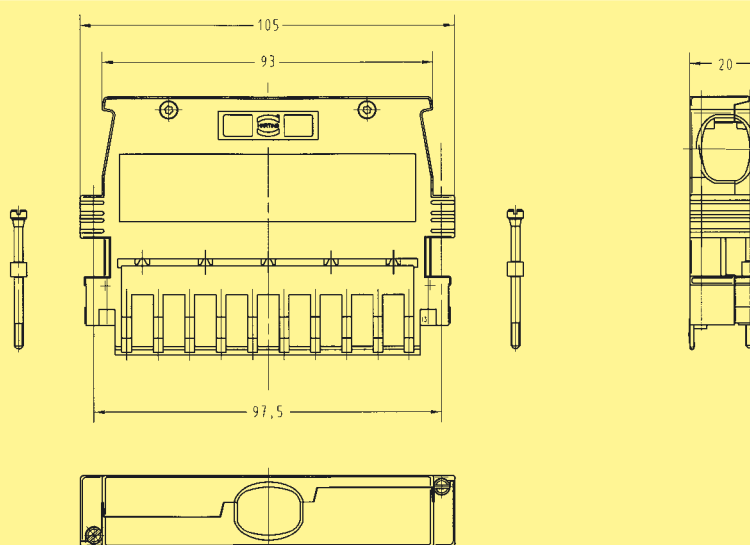
Shell housing
D 20 metal HF
with nickel-plated
surface

Ⓜ

Supplied with:

- Shell with coding and HF-sealing spring 1x
- Cover with shielding plate 1x
- Locking screw 2x
- Blinding piece 2x
- Screw M2.5 x 16 6x
- Lower cable clamp (wide) 1x
- Upper cable clamp (wide) 1x
- Screw M3 x 5 1x

09 06 848 1521



Shell housing D 20 metal HF for types F, H and MH



Identification

Part No.

Drawing

Dimensions in mm

Fixing brackets B metallised for male connectors for 19" racks according to DIN 41 494, sheet 5

Single fixing

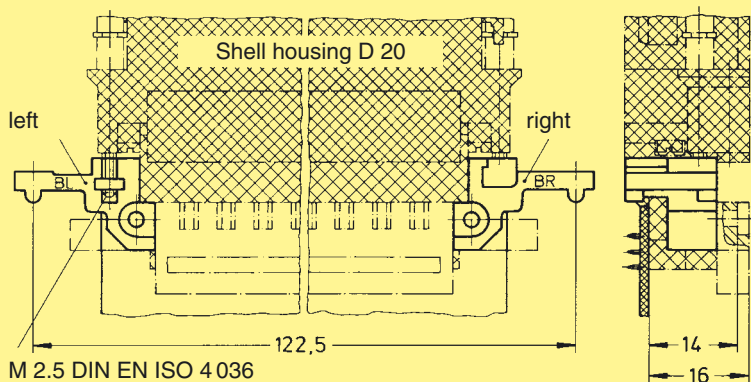
with nut
M 2.5 DIN EN ISO 4036



left
20 mm
09 06 901 9924



right
20 mm
09 06 901 9925



Multiple fixing

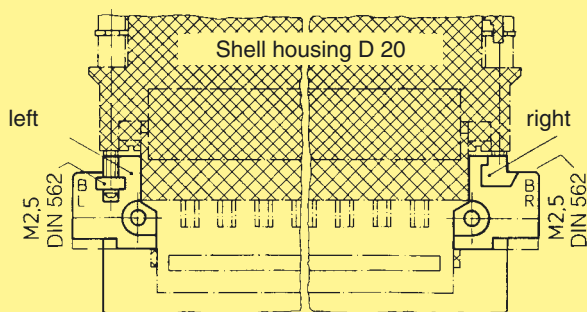
with coding at fixing bracket with nut
M 2.5 DIN 562



left
20 mm
09 06 900 9997



right
15 mm
09 06 900 9996



Cable clamp

small



09 06 800 9992

wide



09 06 800 9993

Code pin

for D 20 metal



09 06 001 9905

for D 20 metal HF



09 06 001 9906

Order 13 pieces per code comb



For applications where robust, high density, splash-proof connectors are required, e.g. in the automated control and industrial processing systems, HARTING have combined the proven reliability of DIN 41 612 connectors with standard Han® 24 B heavy duty hoods and housings, to bring forward a connector system with up to 96 ways and various contact plating thicknesses to suit the individual requirements.

Advantages

- The combination enhances design flexibility, as it permits an identical wiring interface between the standard 19" racking systems and the peripheral equipment.
- Simplified stock-holding, identical operating tools.

Inserts

Female	2 x 48 way type F female connectors with crimp contact elements see chapter 02
Male	2 x 48 way type F interface connectors I with crimp contact elements see chapter 02

Hoods and housings

see catalogue "Heavy Duty Han® Connectors"

chapter 30
size 24 B

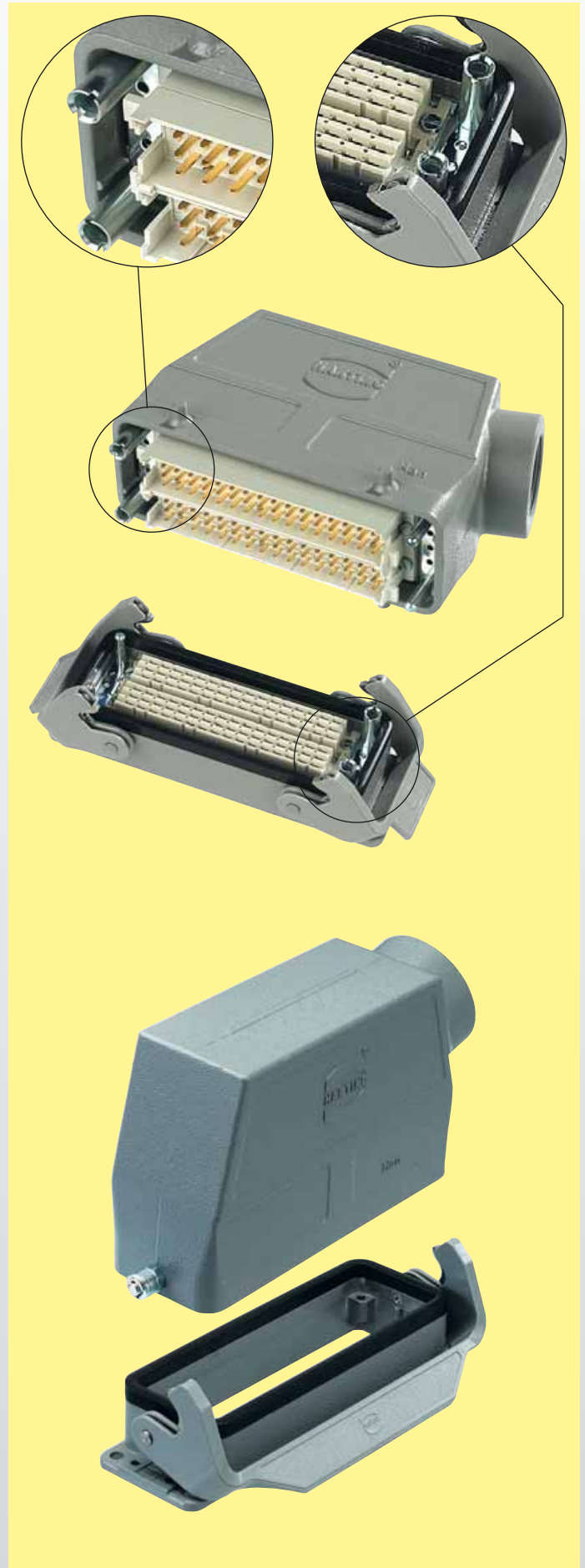
Degree of protection for hoods and housings: IP 65

Retaining frames

For fixing the inserts into the housing.

Alternative versions with pre-mating contacts and ground termination.

If the working voltages are in excess of 42 V (50 V) it is essential to use retaining frames which have pre-mating ground contacts.



Shell housings



Identification

Part No.

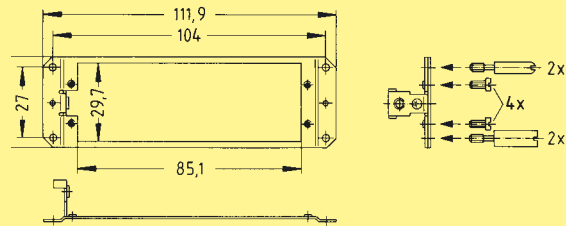
Drawing

Dimensions in mm

Retaining frame without contact elements

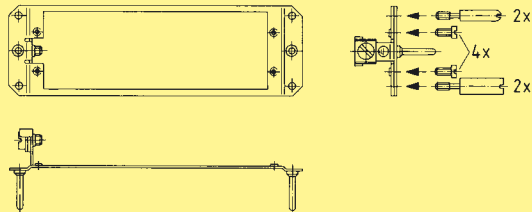
Ⓛ

09 06 001 9904



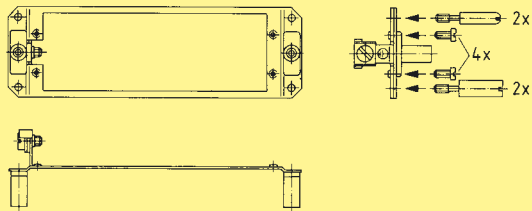
Retaining frame with 2 contact pins and ground termination

09 06 001 9902



Retaining frame with 2 contact sockets and ground termination

09 06 001 9903



Ⓜ

Each retaining frame is supplied with 4 fixing screws for mounting the inserts and with 2 guide pins and sockets that provide mechanical protection for the contacts during mating and disconnection. These can also be used as a coding system to prevent cross plugging of adjacent connectors.

Mounting example

Connectors in the retaining frame with contact sockets

