

# ME-IO...

## Component housing



Data sheet  
105787\_en\_04

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### 1 Description

The housings of the ME-IO... product range consist of a **lower housing part** with space for the PCB assembly. The lower housing parts come in three overall widths.

The lower housing part can be combined with various housing covers and connectors. The lower housing part is subdivided into 9 or 10 units (1 unit = 11 mm).

The **connectors** correspond to a unit and have a Push-in connection. There are 4-pos. connectors for conductor cross sections of up to 2.5 mm<sup>2</sup>, and 6-pos. connectors for conductor cross sections of up to 1.5 mm<sup>2</sup>. Partially assembled or TWIN variants are also available. As a counter-part to the connectors, there are **headers** in 2 or 3 unit versions that are soldered onto the PCB.

The **housing covers** in 2 to 10 unit versions are especially suited for installing connection systems. For example, you can install USB or D-SUB connectors as well as display and operating elements. We would be glad to install the required openings for you.

The housings are snapped onto an NS 35 DIN rail.

It is possible to use the housing with a **DIN rail connector**. Communication can be established between the housings or the supply voltage can be transmitted by means of the DIN rail connector.



The 3D housing data can be found at [phoenixcontact.net/products](http://phoenixcontact.net/products).



Make sure you always use the latest documentation. It can be downloaded at [phoenixcontact.net/products](http://phoenixcontact.net/products).



This data sheet is valid for all products listed on page 5.

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## 2 Overview of the ME-IO... products

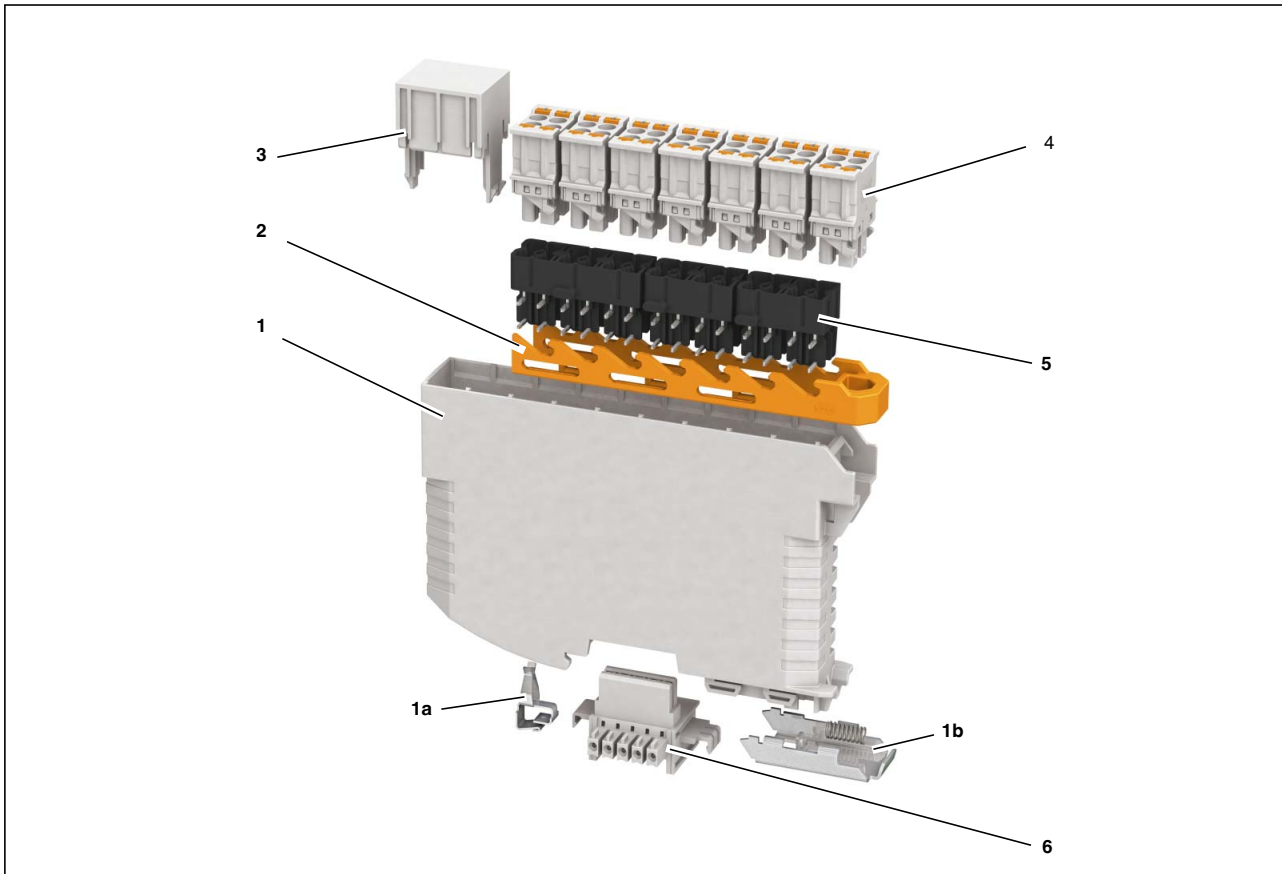


Figure 1 Example of housing structure

- 1 Lower housing part with base latch (1b) and optional FE contact (1a)
- 2 Lock and Release system
- 3 Housing cover
- 4 Push-in connectors
- 5 Header
- 6 DIN rail connector

The orange lever of the Lock and Release system is used for locking and unlocking the push-in connectors.

Three Push-in connector variants are available. They come fully and partially assembled, and as a TWIN connector.

Two positions each are bridged together with a TWIN connector.

The counter-part to the Push-in connectors are the headers.

The housing can be optionally combined with a DIN rail connector. Data or the power supply are transmitted from module to module via the DIN rail connector.

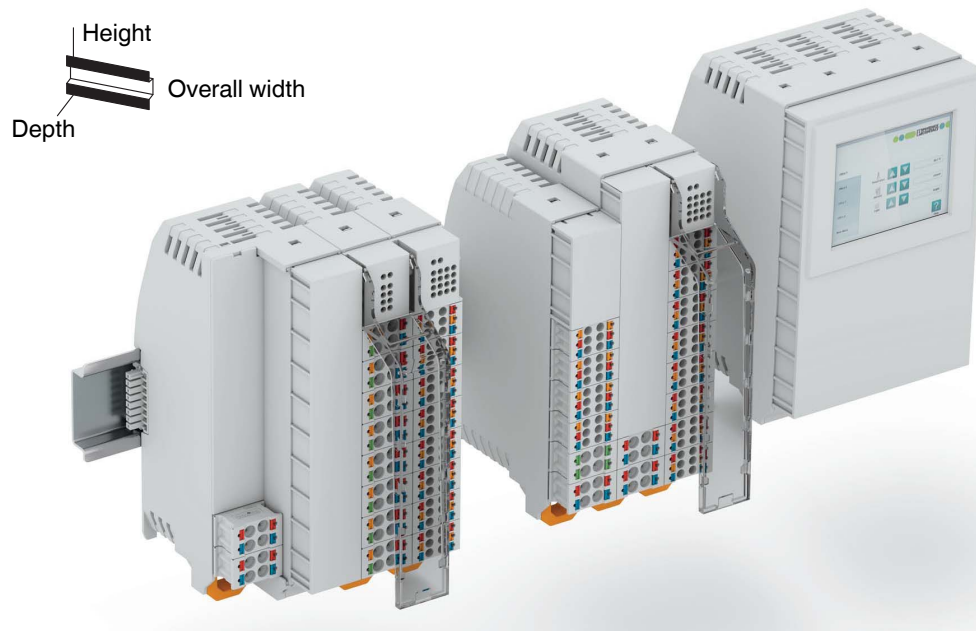


Figure 2 Examples for housing systems

The lower housing parts come in different designs.

- Overall width      18.8 mm (1x)  
                          37.6 mm (2x)  
                          75.2 mm (4x)
- Height              9 units (see Figure 5)  
                          10 units (see Figure 5)
- Depth                Uniform depth  
                          L-type

The housing covers are also available in different widths (1 to 4x) and heights (2U to 10U). The housing covers are also available as marking cover with a swiveling transparent holder for insert labels.

### 3 Ordering data

#### Lower housing parts

Description	Type	Order No.	Pcs./Pkt.
<b>Lower housing part, overall width 18.8 mm</b> , pre-assembled, with metal foot catch for DIN rail mounting, without DIN rail connector, color: similar to RAL 7035			
9 units (with integrated FE contact, see Chapter 7.5)	ME-IO 18,8 B/FE 9U TBUS 7035	2201809	10
10 units (without integrated FE contact, see Chapter 7.5)	ME-IO 18,8 B 10U TBUS 7035	2202506	10
<b>Lower housing part, overall width 37.6</b> , pre-assembled, with metal foot catch for DIN rail mounting, without DIN rail connector, color: similar to RAL 7035			
10 units, without integrated FE contact	ME-IO 37,6 B 10U TBUS 7035	2202663	10
10 units (L-type), without integrated FE contact,	ME-IO 37,6 LB 10U TBUS 7035	2202618	10
10 units (L-type), with integrated FE contact	ME-IO 37,6 LB/FE 10U TBUS 7035	2202619	10
<b>Lower housing part, overall width 75.2</b> , pre-assembled, with metal foot catch for DIN rail mounting, without integrated FE contact, without DIN rail connector, color: similar to RAL 7035			
10 units	ME-IO 75,2 B 10U TBUS 7035	2202664	10
10 units (L-type)	ME-IO 75,2 LB 10U TBUS 7035	2202620	10

#### Housing covers

Description	Type	Order No.	Pcs./Pkt.
<b>Housing cover, overall width 18.8</b> , for different units, color: similar to RAL 7035			
2 units	ME-IO 18,8 C 2U 7035	2201799	10
3 units	ME-IO 18,8 C 3U 7035	2201800	10
3 units (covers 2 units and 1 unit with header)	ME-IO 18,8 C 3U S1 7035	2201801	10
4 units	ME-IO 18,8 C 4U 7035	2201802	10
5 units	ME-IO 18,8 C 5U 7035	2201803	10
6 units	ME-IO 18,8 C 6U 7035	2201804	10
7 units	ME-IO 18,8 C 7U 7035	2201805	10
8 units	ME-IO 18,8 C 8U 7035	2202634	10
9 units	ME-IO 18,8 C 9U 7035	2201806	10
10 units	ME-IO 18,8 C 10U 7035	2202630	10
<b>Housing cover for larger overall widths</b> , 10 units, color: similar to RAL 7035			
<b>Overall width 37.6</b>	ME-IO 37,6 C 10U 7035	2202665	10
<b>Overall width 56.4</b>	ME-IO 56,4 C 10U 7035	2202662	10
<b>Overall width 75.2</b>	ME-IO 75,2 C 10U 7035	2202583	10
<b>Housing cover for L-type</b> , with side panel for the step			
Housing cover 8 units	ME-IO 18,8 LC 8U 7035	2202622	10
Housing cover 10 units	ME-IO 18,8 LC 10U 7035	2202626	10
<b>Marking cover</b> , moveable transparent holder for insert labels for snapping onto special housing covers, snap-on = 2 units	ME-IO 18,8 MC 8U TRANS	2202627	10
Housing cover for the marking lid, for overall width 18.8	ME-IO 18,8 C 2U MC 7035	2202616	10
Housing cover for the marking lid, for overall width 18.8, with bore holes for 10 light guides	ME-IO 18,8 C 2U MC10 7035	2202582	10
Housing cover for the marking lid, for overall width 18.8, with bore holes for 18 light guides	ME-IO 18,8 C 2U MC18 7035	2202581	10
Marking material, insert label	EMT (80X15.5)R	0804286	100

## Connection technology and accessories

Description	Type	Order No.	Pcs./Pkt.
<b>Header</b> , touch-proof, color: similar to RAL 9005			
2 units, 8 connections	HSCH 2,5-2U/ 8 9005	2201789	50
2 units, 6 connections	HSCH 2,5-2U-2220 9005	2201792	50
2 units, 4 connections	HSCH 2,5-2U-TTTT 9005	2201790	50
2 units, 2 connections	HSCH 2,5-2U-TT00 9005	2201791	50
3 units, 12 connections	HSCH 2,5-3U/12 9005	2201788	50
2 units, 12 connections	HSCH 1,5-2U/12 9005	2202233	50
3 units, 18 connections	HSCH 1,5-3U/18 9005	2202232	50
<b>Push-in connector</b> , for header with integrated test point, color: similar to RAL 7035			
1 unit, 4-pos., fully assembled	HSCP-SP 2,5-1U4-7035	2201780	50
1 unit, 4-pos., fully assembled, yellow test point (RAL 1018)	HSCP-SP 2,5-1U4-44/44-7035	2202567	50
1 unit, 4-pos., fully assembled, white test point (RAL 9010)	HSCP-SP 2,5-1U4-99/99-7035	2202568	50
1 unit, 4-pos., fully assembled, black test point (RAL 9005)	HSCP-SP 2,5-1U4-00/00-7035	2202569	50
1 unit, 4-pos., fully assembled, blue test point (RAL 5015)	HSCP-SP 2,5-1U4-66/66-7035	2202570	50
1 unit, 4-pos., fully assembled, green test point (RAL 6021)	HSCP-SP 2,5-1U4-55/55-7035	2202571	50
1 unit, 4-pos., fully assembled, red test point (RAL 3013)	HSCP-SP 2,5-1U4-22/22-7035	2202572	50
1 unit, 4-pos., fully assembled, two blue test points on bottom (RAL 5015), two white test points on top (RAL 9010)	HSCP-SP 2,5-1U4-69/69-7035	2202605	50
1 unit, 4-pos., fully assembled, two white test points on left (RAL 9010), blue test point on bottom right (RAL 5015), red test point on top right (RAL 3013)	HSCP-SP 2,5-1U4-99/62-7035	2202608	50
1 unit, 4-pos., fully assembled, two red test points on bottom (RAL 3013), two white test points on top (RAL 9010)	HSCP-SP 2,5-1U4-29/29-7035	2203192	50
1 unit, 4-pos., fully assembled, two blue test points (RAL 5015) on bottom, two green test points on top (RAL 6021)	HSCP-SP 2,5-1U4-65/65-7035	2203195	50
1 unit, 2 TWIN connections	HSCP-SP 2,5-1UTT-7035	2201781	50
1 unit, 2 TWIN connections, two blue test points on bottom (RAL 5015), two red test points on top (RAL 3013)	HSCP-SP 2,5-1UTT-62/62-7035	2202606	50
1 unit, 2 TWIN connections, green test point (RAL 6021)	HSCP-SP 2,5-1UTT-55/55-7035	2202607	50
1 unit, 2-pos., partially assembled	HSCP-SP 2,5-1U20-7035	2201782	50
1 unit, 0-pos., empty	HSCP-SP 2,5-1U00-7035	2202610	50
1 unit, 6-pos., fully assembled	HSCP-SP 1,5-1U6-7035	2202234	50
1 unit, 6-pos., fully assembled, two blue test points on bottom (RAL 5015), two red test points in the center (RAL 3013), two white test points on top (RAL 9010)	HSCP-SP 1,5-1U6-629/629-7035	2202609	50
<b>Lock and Release</b> , with included spring			
3 units	HSC-LR 3U KIT 2003	2201797	10
5 units	HSC-LR 5U KIT 2003	2201796	10
7 units	HSC-LR 7U KIT 2003	2201795	10
9 units	HSC-LR 9U KIT 2003	2201794	10
<b>FE contact</b>	ME BUS FE CONTACT	2278076	50
<b>DIN rail connector</b> , color: similar to RAL 7035			
5-pos.	ME 18,8 TBUS 1,5/5-ST-3,81KMGY	2201813	50
8-pos., 8 parallel contacts	TBUS8-18,8-PPPPPPPP-7035	2202396	50
8-pos., 7 parallel contacts, 1 serial contact	TBUS8-18,8-PPPPPPPS-7035	2202399	50
8-pos., 7 parallel contacts, 2 serial contacts	TBUS8-18,8-PPPPPPSS-7035	2202403	50
<b>Filler plug</b> , for closing the Lock and Release area (see Chapter 9.10)	ME-IO 18,8 F-LR	2202635	10
<b>Partition plate</b> , for supporting headers and housing covers	ME-IO P 10U 7035	2202629	10
<b>Coding profile</b> , for header and push-in plug, color: natural	CP-DMC 1,5-THR NAT	1790647	60
<b>Base latch</b> , for DIN rail mounting, with included spring	ME-IO 18,8 FOOT CATCH KIT	2201812	50

## 4 Technical data

### Electrical data

DIN rail connector, nominal voltage	125 V
DIN rail connector, nominal current	Maximum 8 A per position
Number of positions	5

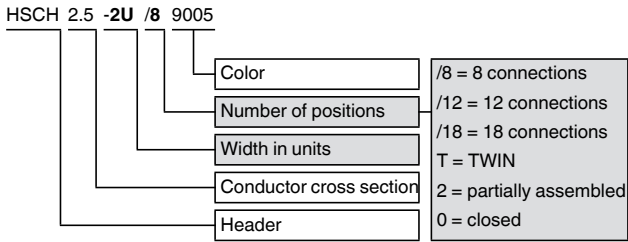
### Housing design

Insulation material	Polyamide
Flammability rating UL 94	V0
Color	Similar to RAL 7035, light gray
Power dissipation $P_V$ at 20°C in the horizontal mounting position	Approx. 2.8 W

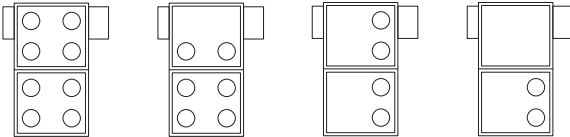
## 5 Combination of headers and connectors

### 5.1 Connections of headers and connectors

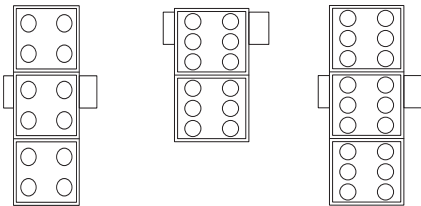
#### Headers



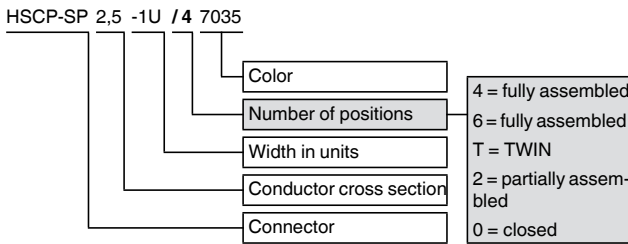
HSCH 2,5-2U/ 8    HSCH 2,5-2U-2220    HSCH 2,5-2U-TTTT    HSCH 2,5-2U-TT00



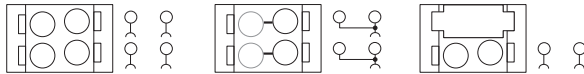
HSCH 2,5-3U/12    HSCH 1,5-2U/12    HSCH 1,5-3U/18



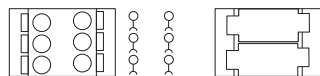
#### Connectors



HSCP-SP 2,5-1U4    HSCP-SP 2,5-1UTT    HSCP-SP 2,5-1U20



HSCP-SP 1,5-1U6    HSCP-SP 2,5-1U00



### 5.2 Selecting headers and connectors

The connectors correspond to a unit. For the connectors, there are matching headers in 2 or 3 units that are soldered onto the PCB.

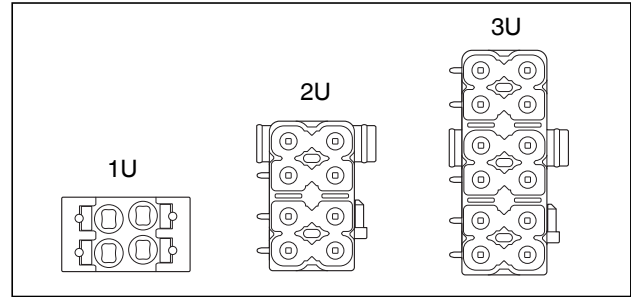


Figure 3 Connector 1U and header 2U and 3U (Pitch 5 mm)

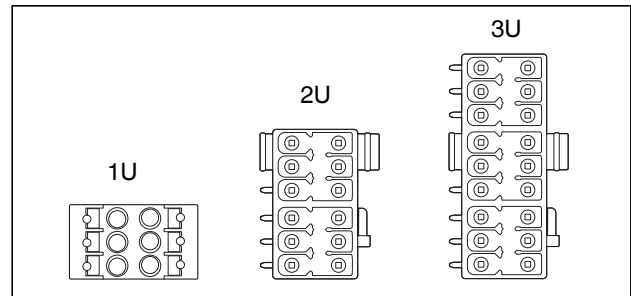


Figure 4 Connector 1U and header 2U and 3U (Pitch 3.45 mm)

Different connector variants are available. Please make sure that connectors and headers match. In the case of the partially assembled connector with two connections, 1U/20, you must observe the position in the header.

Headers		Suitable connectors	
Connections		Number	
HSCH 2,5- 2U/ 8 ...	8	HSCP-SP 2,5- 1U4 ...	2x
HSCH 2,5- 2U-2220 ...	6	HSCP-SP 2,5- 1U4 ...	1x
		1U20 ...	1x
HSCH 2,5- 2U-TTTT ...	4	HSCP-SP 2,5- 1UTT ...	2x
HSCH 2,5- 2U-TT00 ...	6	HSCP-SP 2,5- 1UTT ...	1x
		1U00 ...	1x
HSCH 2,5- 3U/12 ...	12	HSCP-SP 2,5- 1U4 ...	3x
HSCH 1,5- 2U/12 ...	12	HSCP-SP 1,5- 1U6 ...	2x
HSCH 1,5- 3U/18 ...	18	HSCP-SP 1,5- 1U6 ...	3x

You can code the connectors and the headers in order to prevent them from being connected unintentionally. (See "Coding the connectors" on page 40.)



### 5.3 Concatenating headers

You must concatenate the headers in such a way that you can attach the Lock and Release system. The Lock and Release system is available in different lengths (3U – 9U).

The headers have guide pins, which have to fit into the recesses of the Lock and Release system.

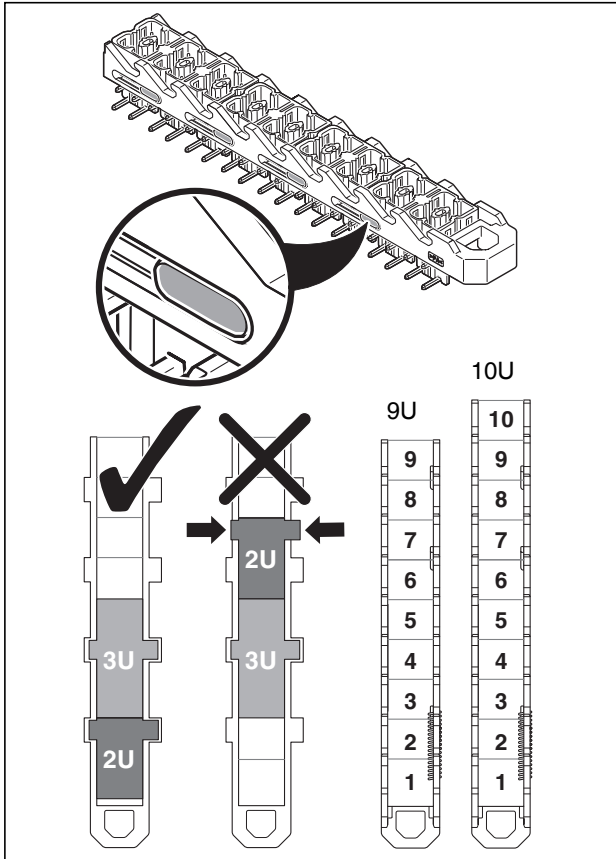


Figure 5 Guide pin and Lock and Release system

The housing is designed for 9 or 10 units. You can only concatenate the headers at certain positions. In order for the guide pins to fit into the Lock and Release system, you must observe the combination of the headers.

It is therefore not possible to concatenate the 3U headers directly, because the guide pins will then no longer fit into the Lock and Release system. For the same reason, the 2U headers must always be positioned **in front of** the 3U headers. Set the 2U header to position 1 and 2 for example, and the 3U header to position 3 – 5.

In addition to the headers, you can also position housing covers, which are available in 2 to 10 unit versions. The position of the housing covers can be chosen freely.

### Possible positions of 3U headers

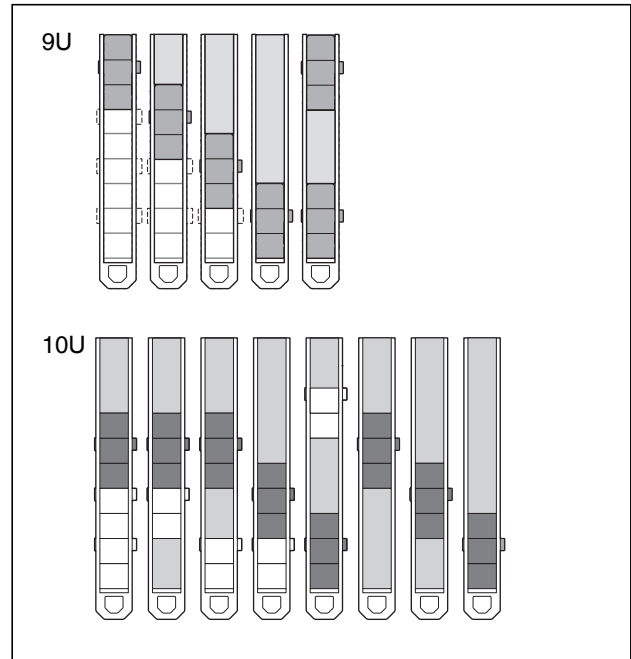


Figure 6 Possible positions and combinations of 3U headers HSCH ...-3U...

In Figure 6 the possible positions of the 3U headers are displayed. It shows that a direct concatenation of 3U headers is not possible.

In front of the 3U headers it is possible to concatenate 2U headers; housing covers are equipped behind and between them.

**Possible positions of 2U headers**

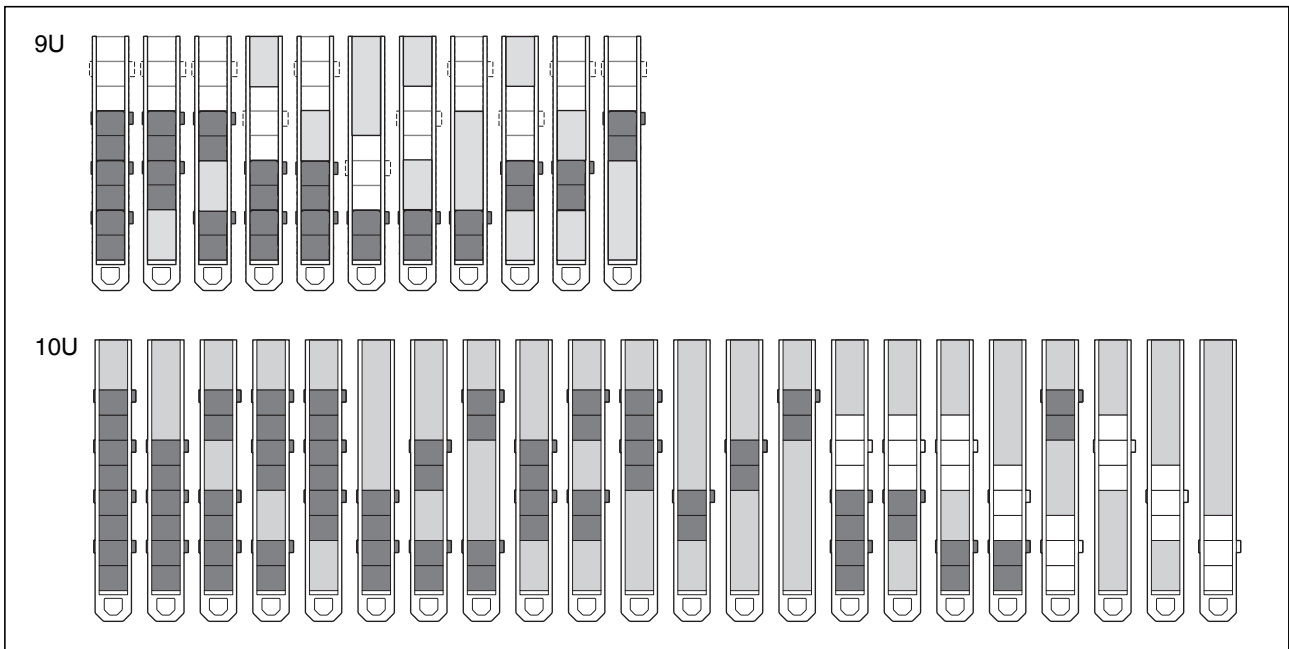


Figure 7 Possible positions and combinations of 2U headers HSCH ...-2U...

You can directly concatenate the 2U headers. Figure 7 shows all possible positions. You can use the different variants of the 2U headers for this purpose.

3U headers fit to some extent on the unoccupied positions behind the 2U headers (see Figure 5 and Figure 6). Otherwise, housing covers can be equipped. When doing so, make sure that there are no 1U housing covers.

**Possible positions of headers with 3U S1 housing cover**

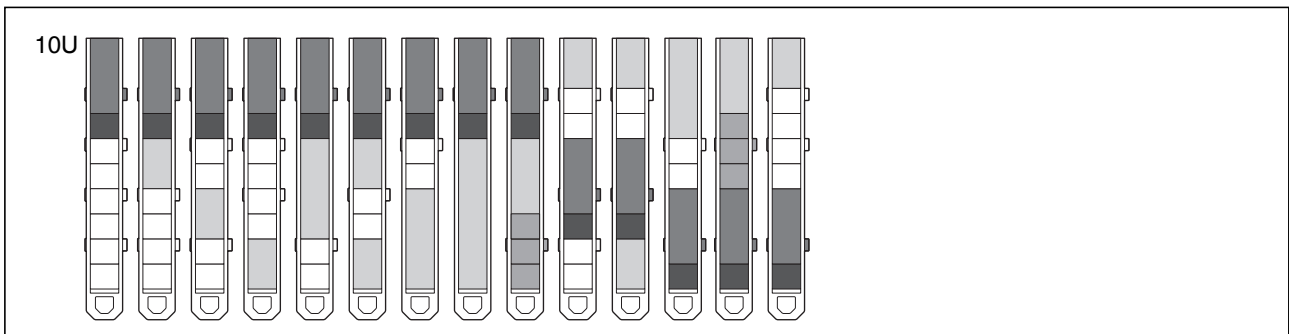


Figure 8 Possible positions and combinations of headers with ME-IO 18,8 C 3U S1 7035

The housing cover ME-IO 18,8 C 3U S1 7035 is used for covering a unit of the header. The snap-in hook is therefore positioned at an offset of 1 unit. At the position to be covered there are no connectors in the header.

## 6 Dimensions

### 6.1 External dimensions

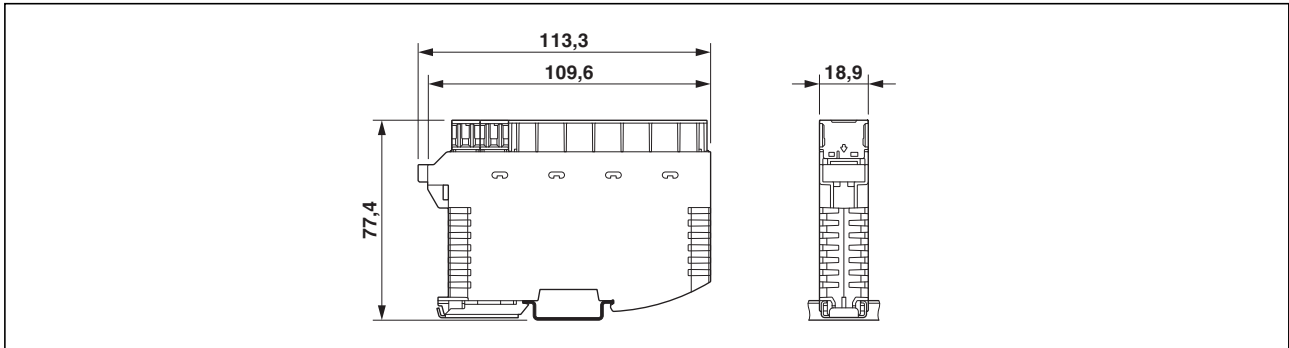


Figure 9 Lower housing part 9U with housing cover

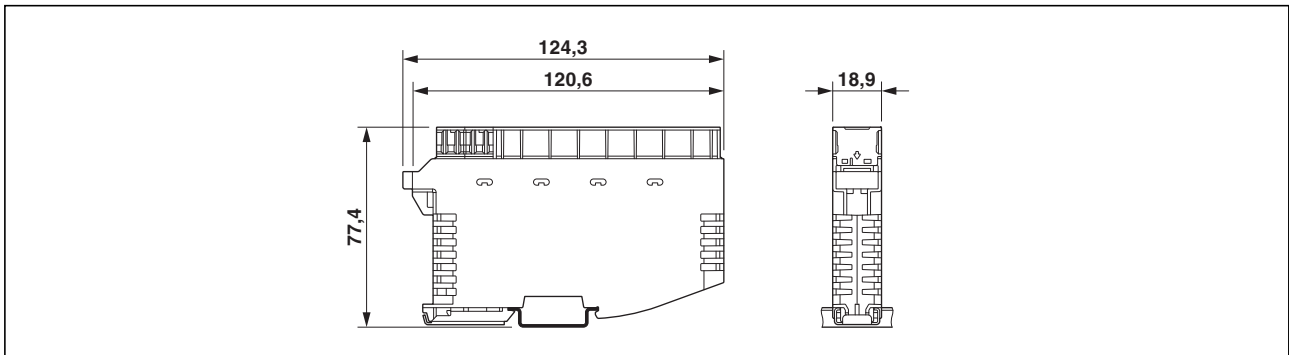


Figure 10 Lower housing part 10U with housing cover

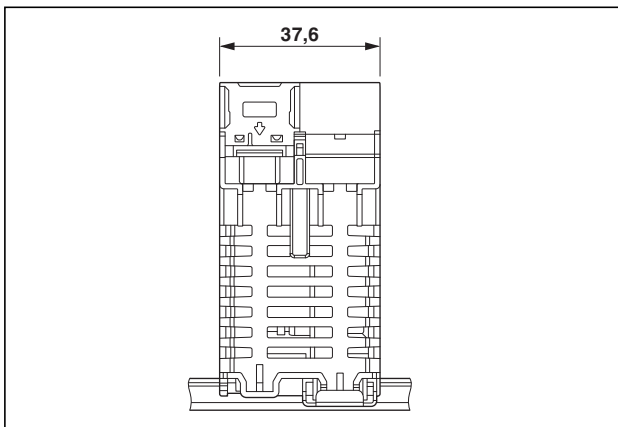


Figure 11 ME-IO 37,6 B 10U TBUS 7035

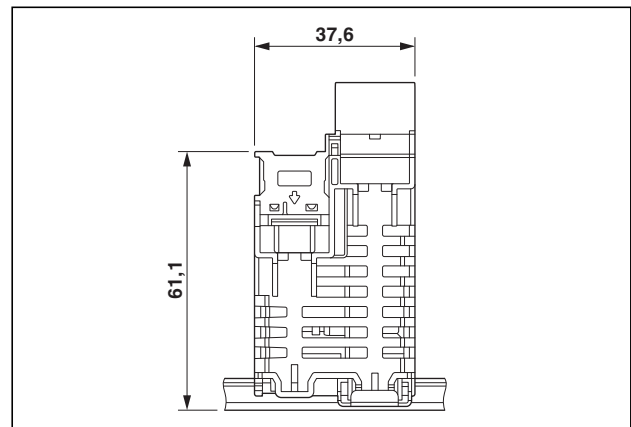


Figure 12 ME-IO 37,6 LB 10U TBUS 7035

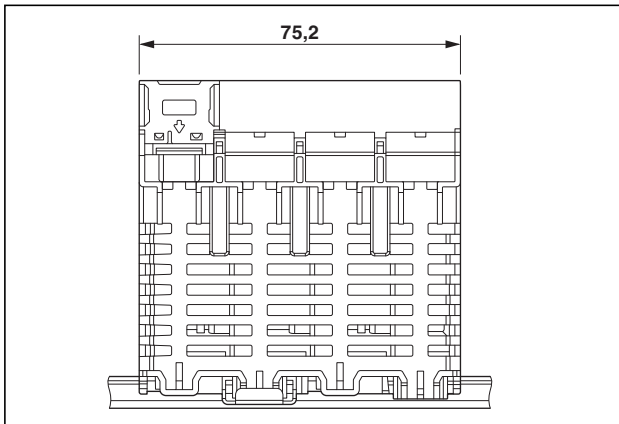


Figure 13 ME-IO 75,2 B 10U TBUS 7035

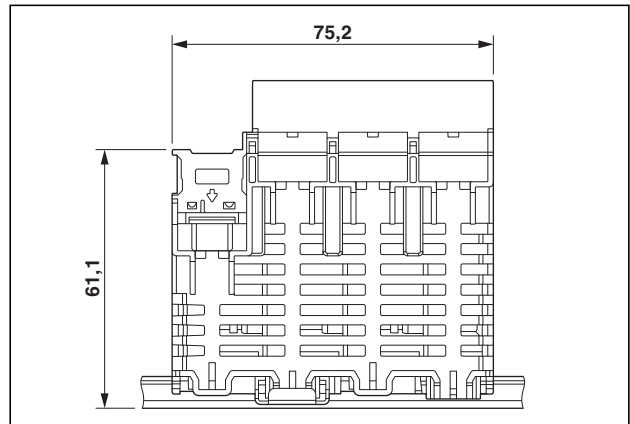


Figure 14 ME-IO 75,2 LB 10U TBUS 7035

**6.2 Internal dimensions of lower housing part  
With vertical PCBs**

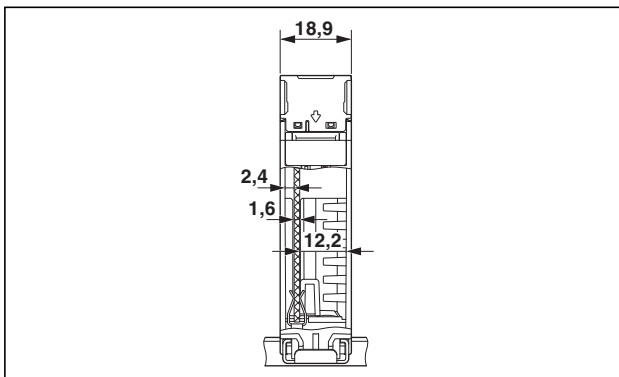


Figure 15 Inside view (overall width 18.8)

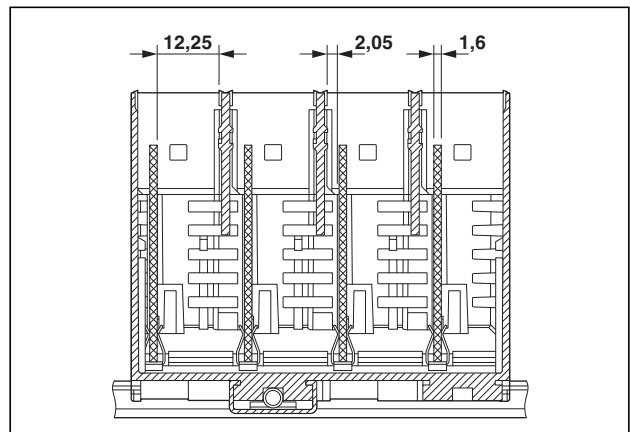


Figure 17 Inside view (overall width 75.2)

Recommended PCB thickness 1.4 mm ... 1.8 mm

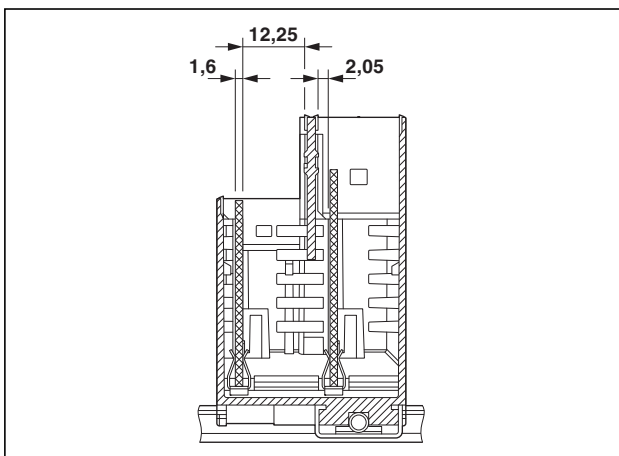


Figure 16 Inside view (overall width 37.6, L-design)

With horizontal PCBs

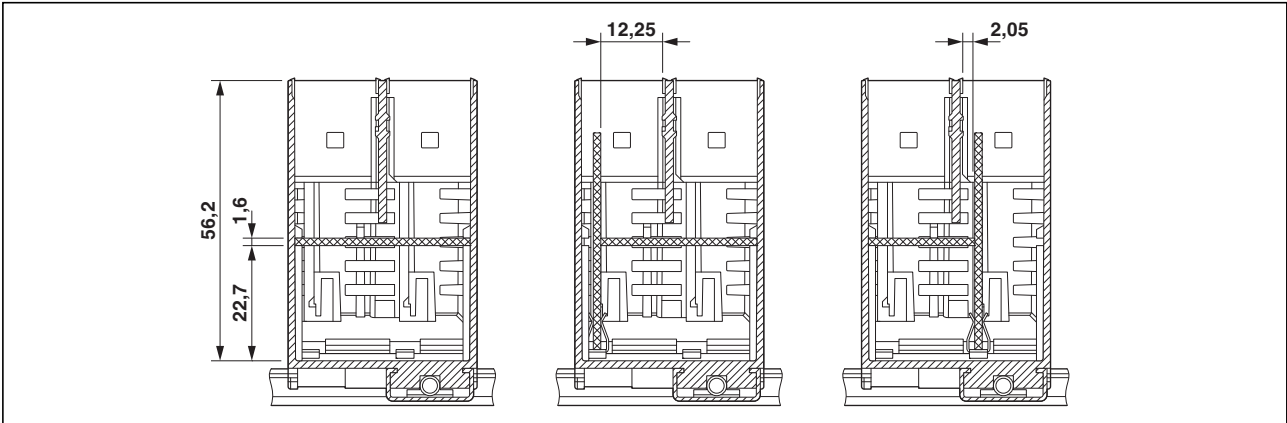


Figure 18 Inside view (PCB, overall width 37.6)

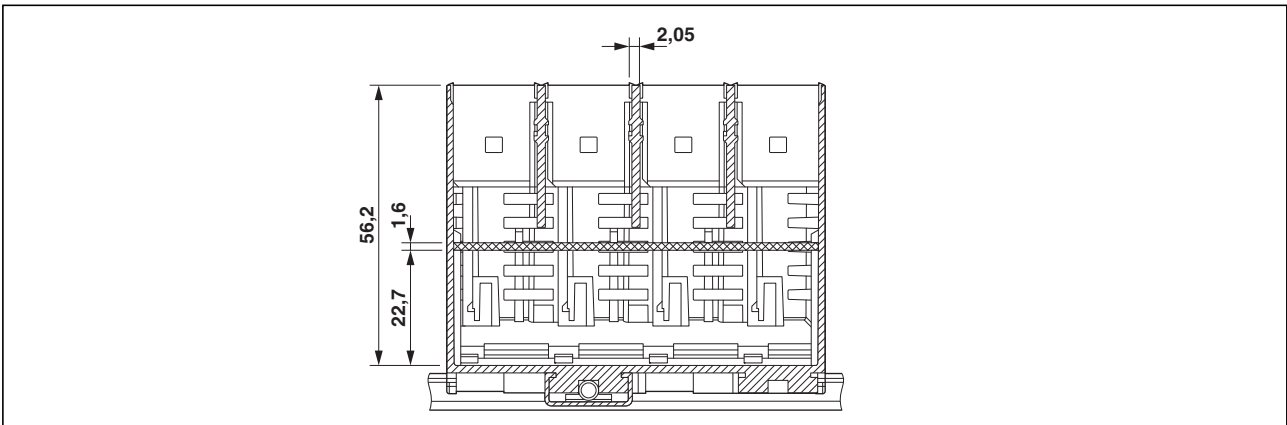


Figure 19 Inside view (horizontal PCB, overall width 75.2)

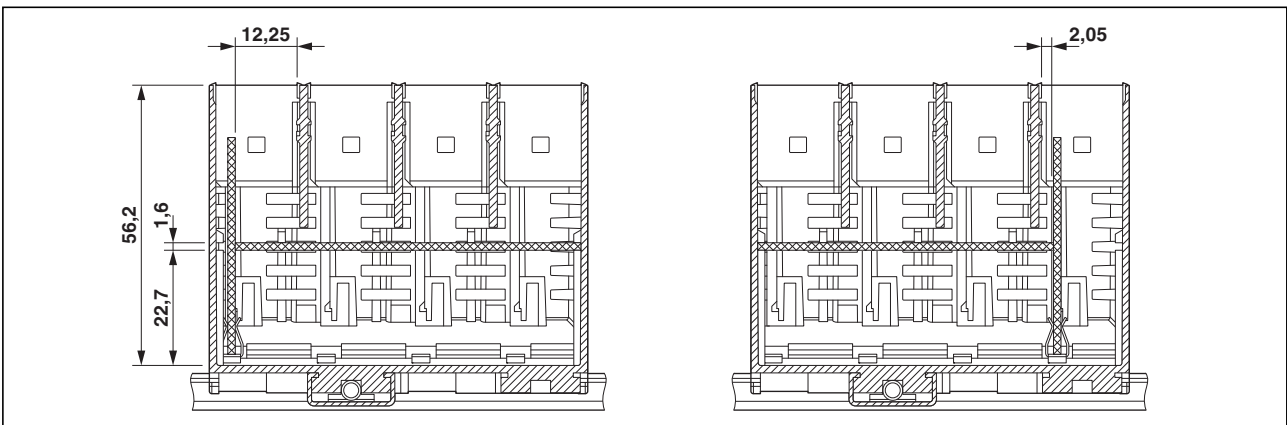


Figure 20 Inside view (horizontal and vertical PCB, overall width 75.2)

Recommended PCB thickness 1.4 mm ... 1.8 mm

6.3 Dimensions of the housing cover

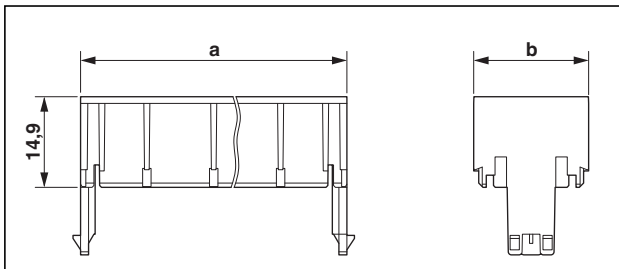


Figure 21 Dimensions of the housing cover

	a	b
ME-IO 18,8 C 2U 7035	22 mm	18.9 mm
ME-IO 18,8 C 3U 7035	33 mm	18.9 mm
ME-IO 18,8 C 3U S1 7035	33 mm	18.9 mm
ME-IO 18,8 C 4U 7035	44 mm	18.9 mm
ME-IO 18,8 C 5U 7035	55 mm	18.9 mm
ME-IO 18,8 C 6U 7035	66 mm	18.9 mm
ME-IO 18,8 C 7U 7035	77 mm	18.9 mm
ME-IO 18,8 C 8U 7035	88 mm	18.9 mm
ME-IO 18,8 C 9U 7035	99 mm	18.9 mm
ME-IO 18,8 C 10U 7035	110 mm	18.9 mm
ME-IO 37,6 C 10U 7035	110 mm	37.9 mm
ME-IO 56,4 C 10U 7035	110 mm	56.9 mm
ME-IO 75,2 C 10U 7035	110 mm	75.9 mm

Housing cover 3U S1

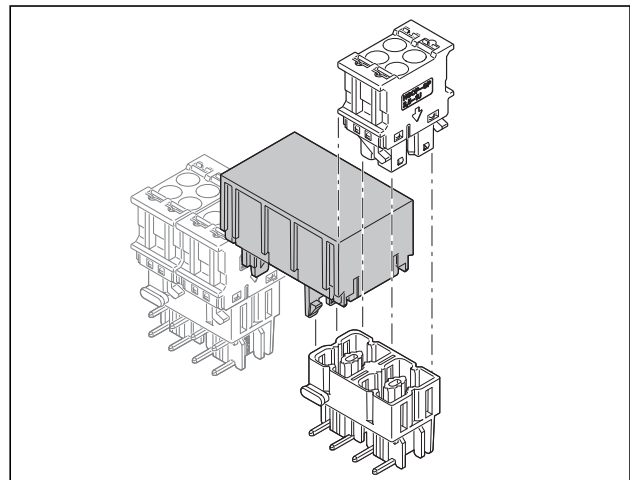


Figure 22 Housing cover ME-IO 18,8 C 3U S1 7035

The housing cover ME-IO 18,8 C 3U S1 7035 is used for covering a unit of the header. The snap-in hook is therefore positioned at an offset of 1 unit. At the position to be covered there are no connectors in the header.

You can however use the housing cover for all further headers.

Marking lid

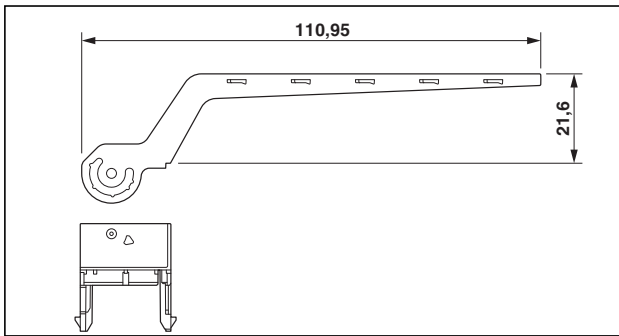


Figure 23 Marking lid dimensions  
ME-IO 18,8 MC 8U TRANS with housing  
cover ME-IO 18,8 C 2U MC...

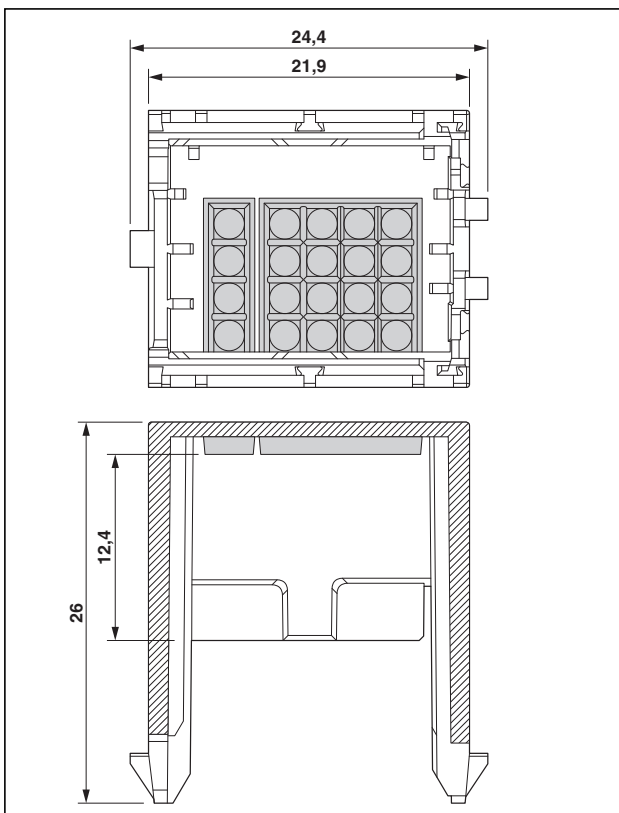


Figure 24 Inner dimensions of the housing cover  
ME-IO 18,8 C 2U MC 7035

Each of the three housing covers for the marking lid has a honeycomb structure for the light guide on the inner side. This honeycomb structure fits for the specified light guide. If you wish to use the housing cover for other applications, you have to consider the height of the honeycomb structure.

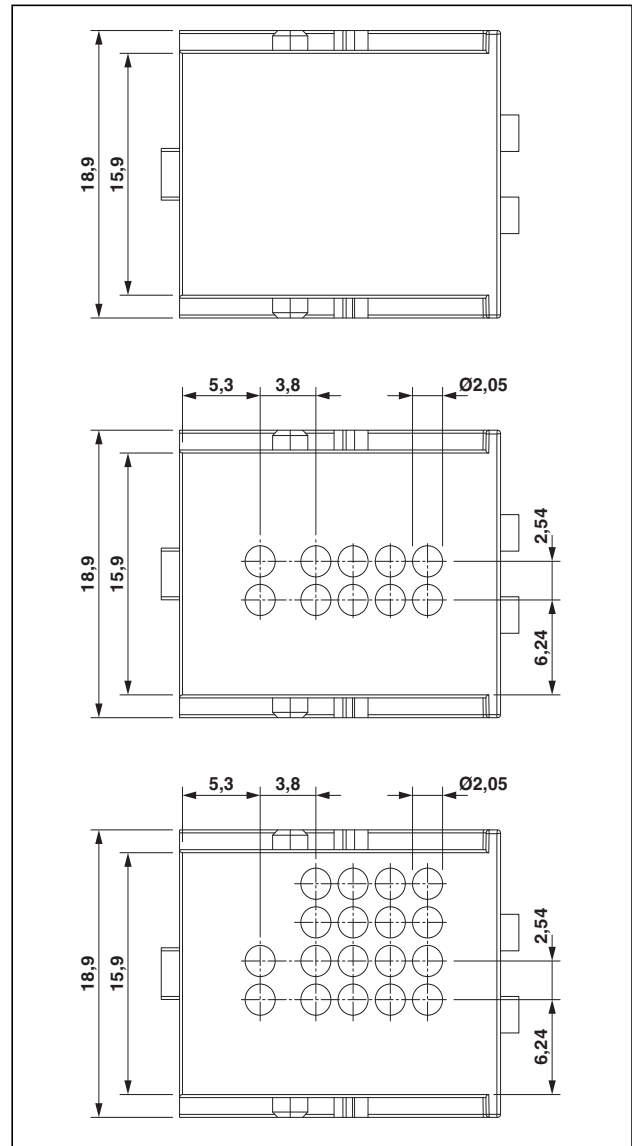


Figure 25 External dimensions of the housing cover  
ME-IO 18,8 C 2U MC...

Suitable for the light guides

- HS LC-H-D2/ R2xC1-2,54, 2202316
- HS LC-H-D2/ R2xC4-2,54, 2202531
- HS LC-H-D2/ R4xC4-2,54, 2202532

## 7 PCB dimensions



The PCB dimensions are located in the housing selector under [phoenixcontact.net/product](http://phoenixcontact.net/product), Webcode: #0512.

### 7.1 Maximum PCB dimensions in the 9U lower housing part

Without DIN rail connector

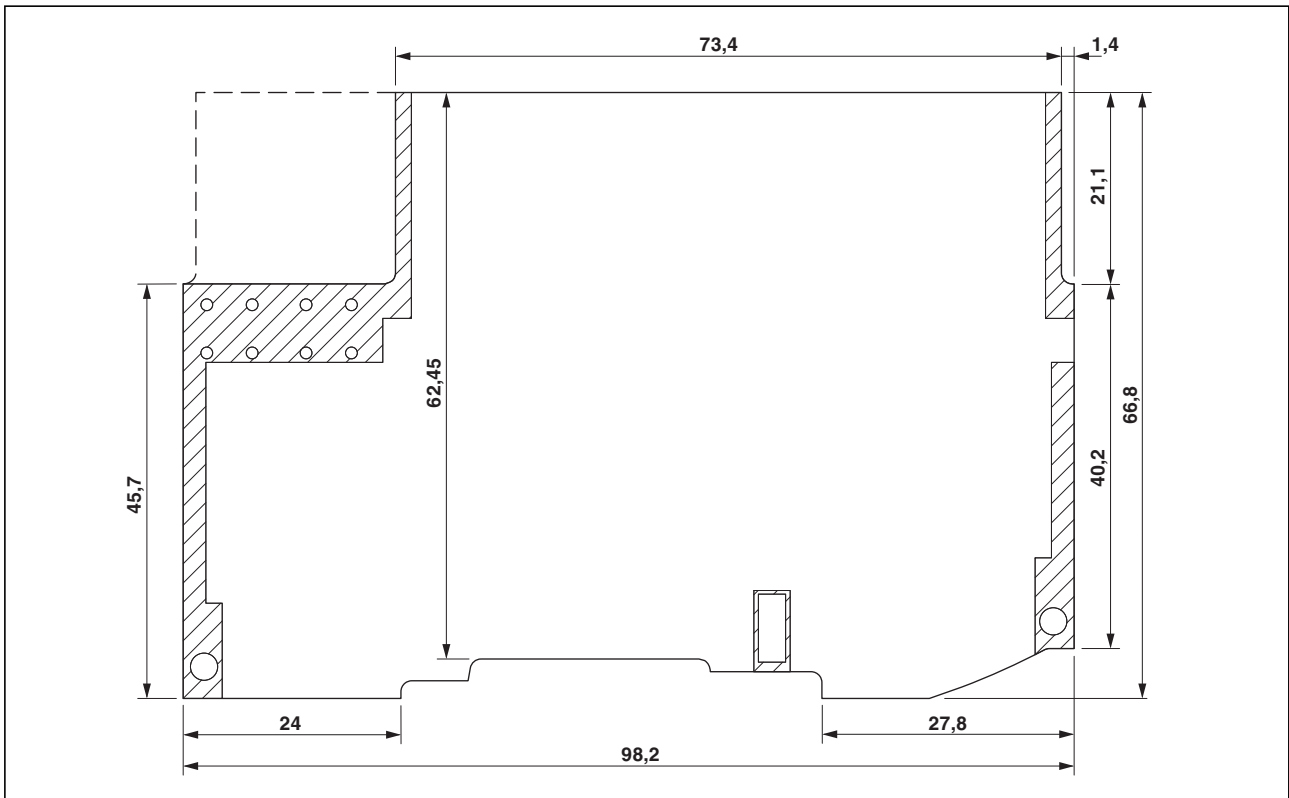


Figure 26 Maximum dimensions of the PCB of the 9U lower housing part **without** use of the DIN rail connector, with housing cover 7U and 9U



Keep-out zone, no components at these positions



With DIN rail connector

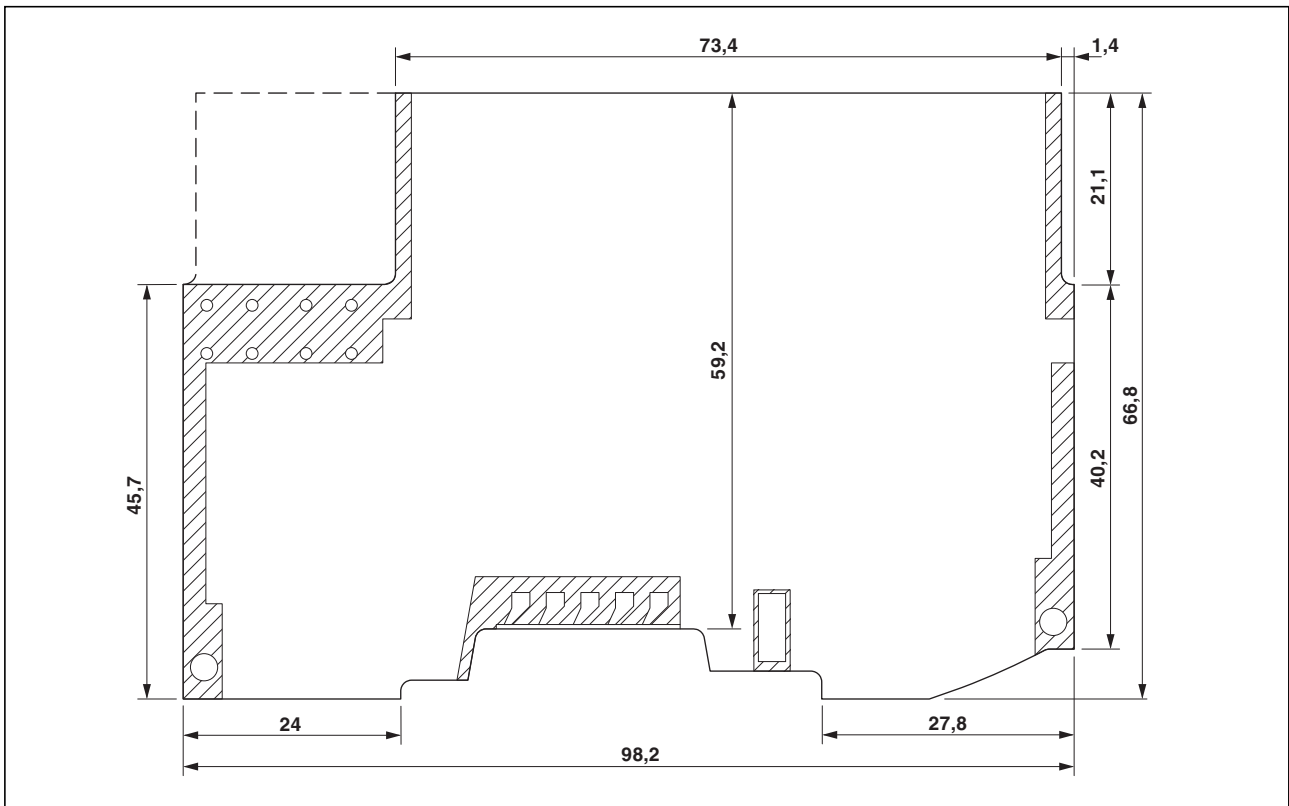



Figure 27 Maximum dimensions of the PCB of the 9U lower housing part **with** use of the DIN rail connector, with housing cover 7U and 9U

The dimensions of the contact pads can be found in "DIN rail connector" on page 32.

	Keep-out zone, no components at these positions
---	---

7.2 Maximum PCB dimensions in the 10U lower housing part

Without DIN rail connector

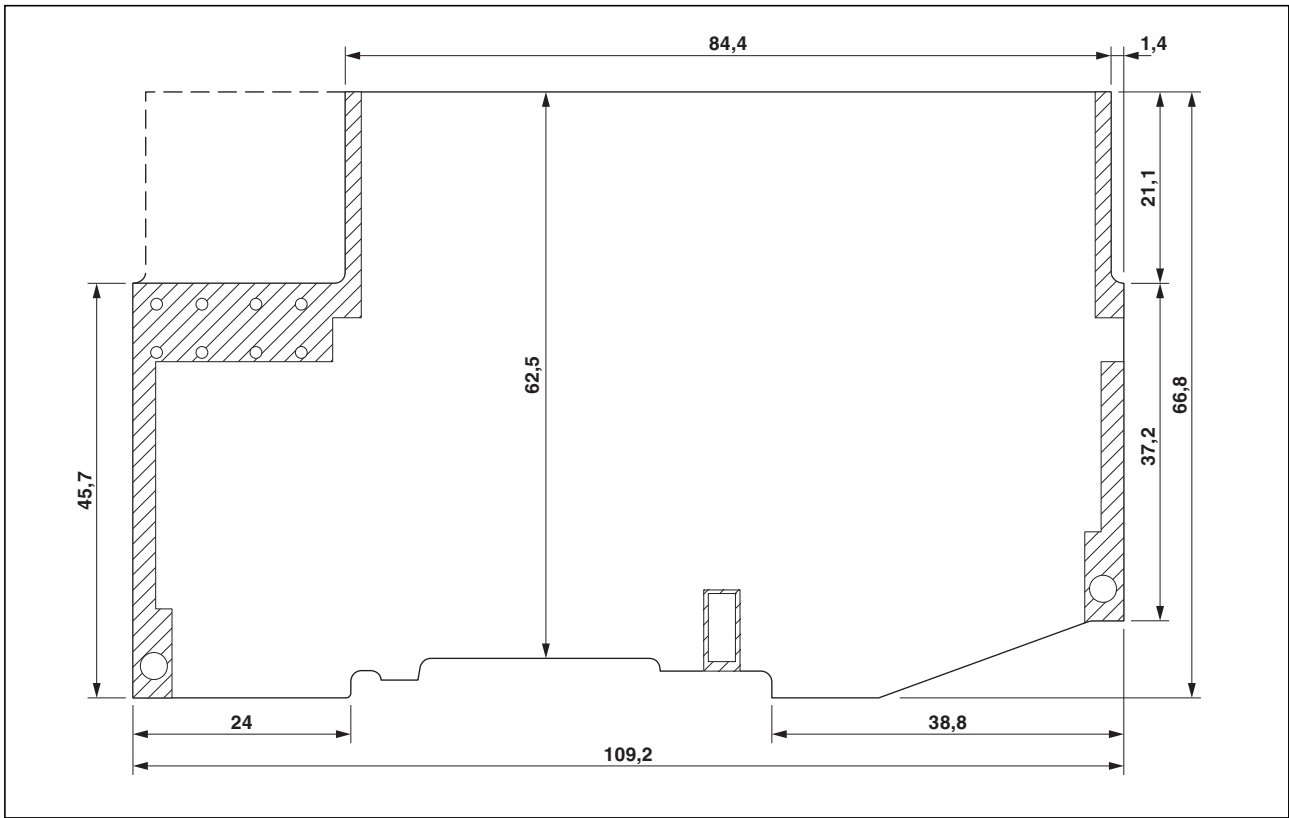



Figure 28 Maximum dimensions of the PCB of the 10U lower housing part **without** use of the DIN rail connector, with housing cover 8U and 10U

 Keep-out zone, no components at these positions

With DIN rail connector

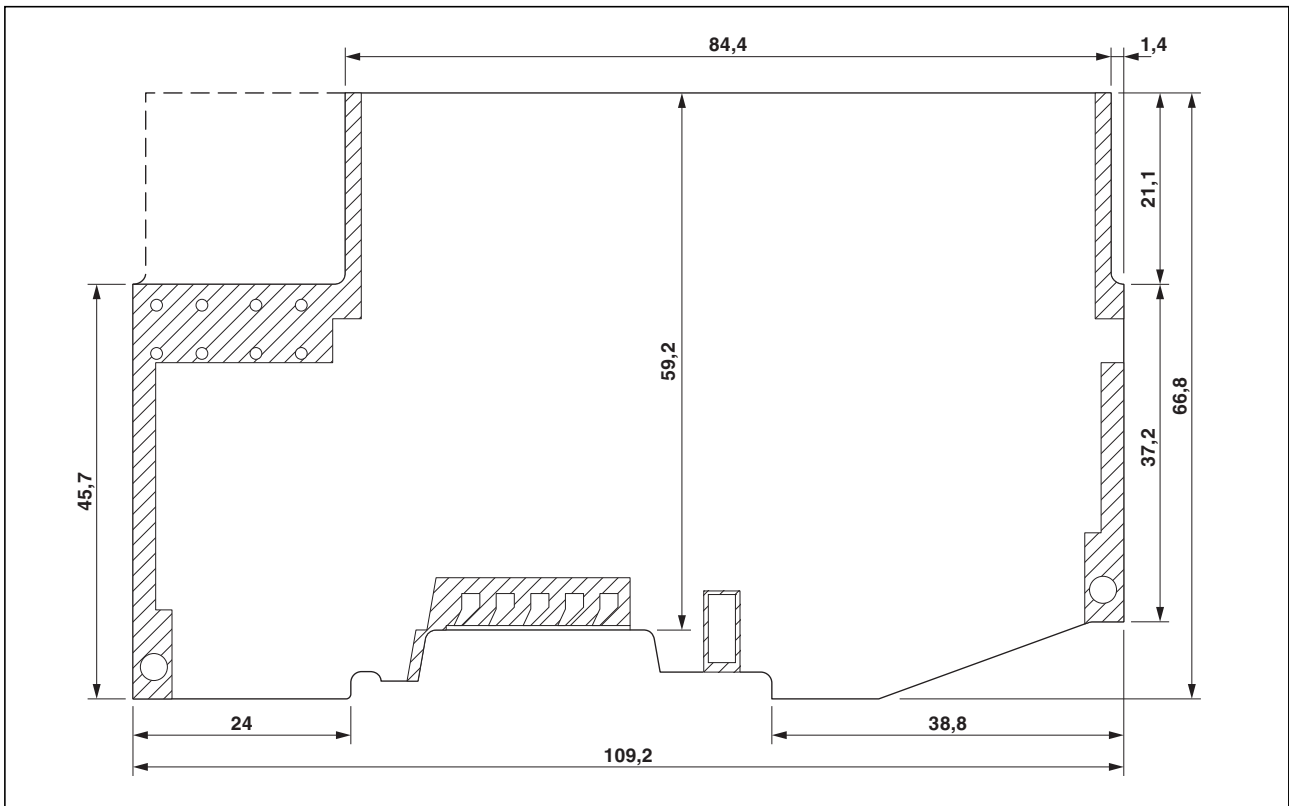



Figure 29 Maximum dimensions of the PCB of the 10U lower housing part **with** use of the DIN rail connector, with housing cover 8U and 10U

The dimensions of the contact pads can be found in "DIN rail connector" on page 32.

	Keep-out zone, no components at these positions
---	---

7.3 Maximum PCB dimensions in the 10U-L design

Without DIN rail connector (lower housing part in 37.6 L and 75.2 L)

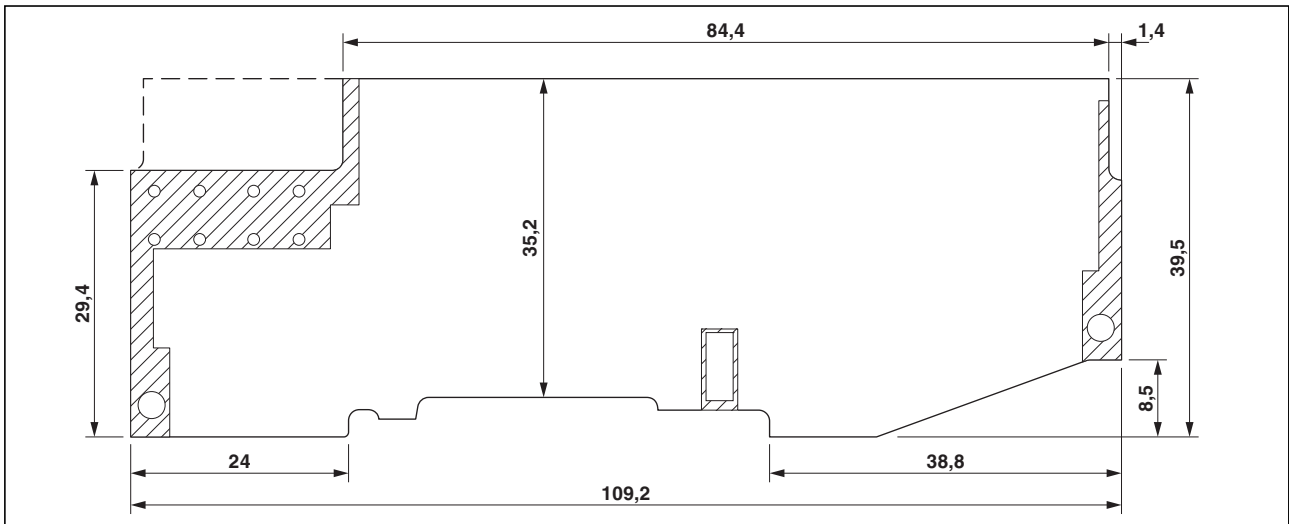


Figure 30 Maximum dimensions of the vertical low PCB of the 10U L lower housing part **without** use of the DIN rail connector, with housing cover 8U and 10U

If you wish to use the RJ45 Ethernet socket, we recommend the RJ45 socket insert CUC-V04-BU-90, 1407408.

With DIN rail connector (lower housing part in 37.6 L and 75.2 L)

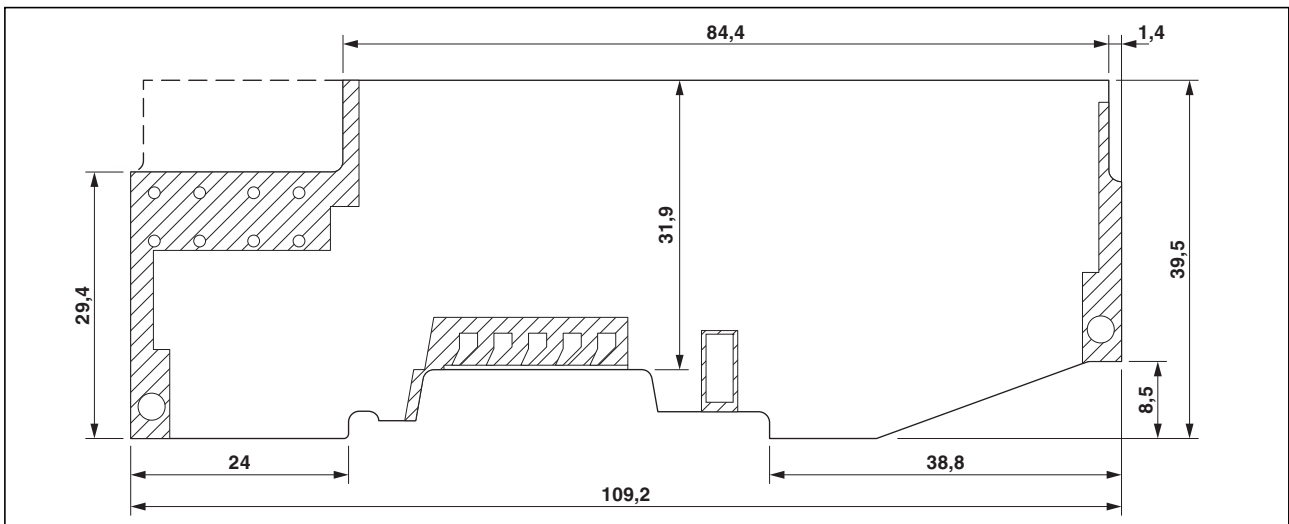



Figure 31 Maximum dimensions of the vertical low PCB of the 10U L lower housing part **with** use of the DIN rail connector, with housing cover 8U and 10U

 Keep-out zone, no components at these positions

Horizontal PCBs for lower housing part 37.5

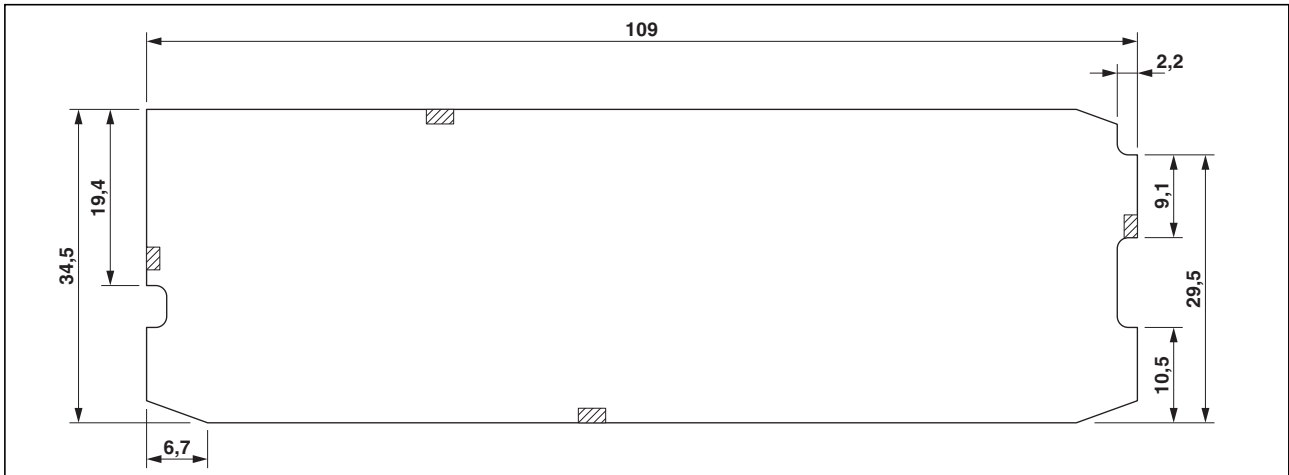


Figure 32 Maximum dimensions of the horizontal PCB of the 37.5 lower housing part

Horizontal PCBs for lower housing part 75.2

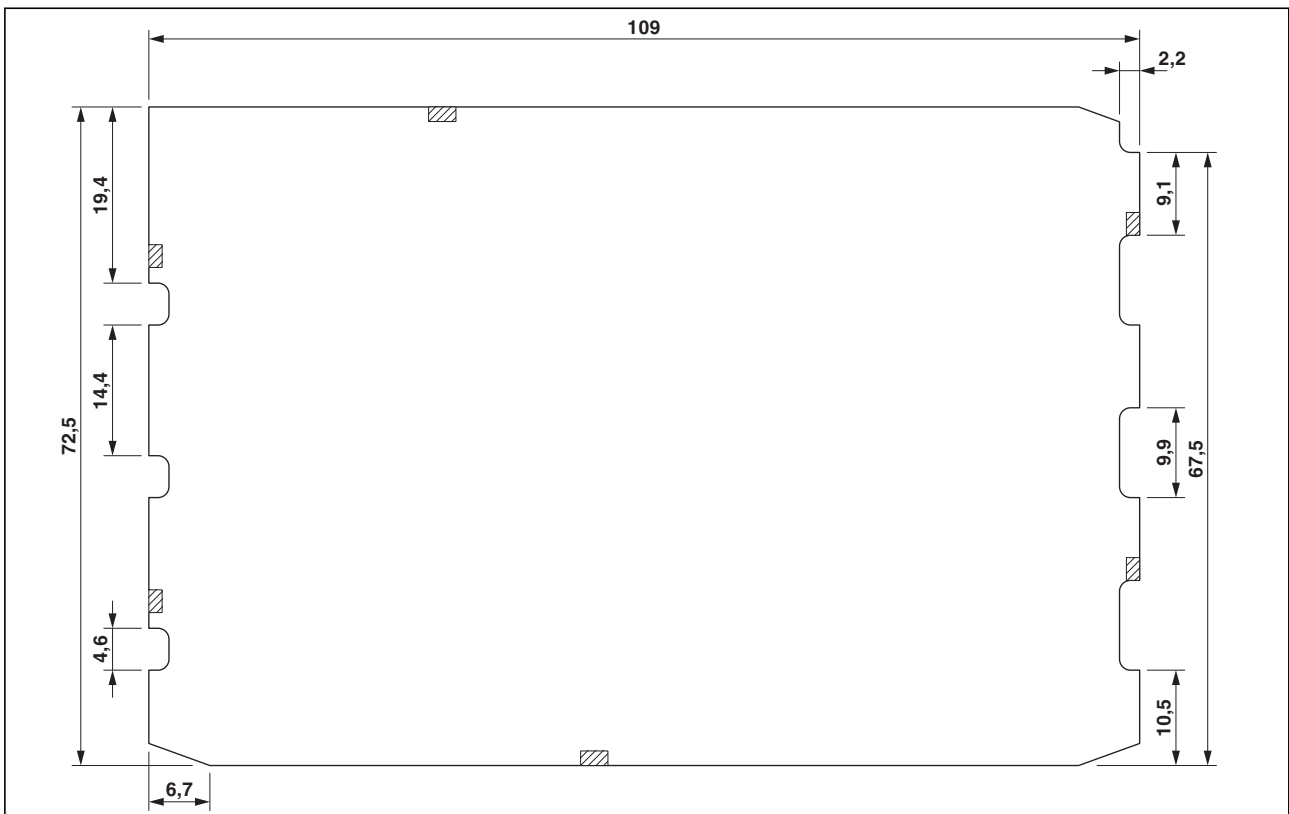


Figure 33 Maximum dimensions of the horizontal PCB of the 75.2 lower housing part

## 7.4 PCB dimensions according to housing cover

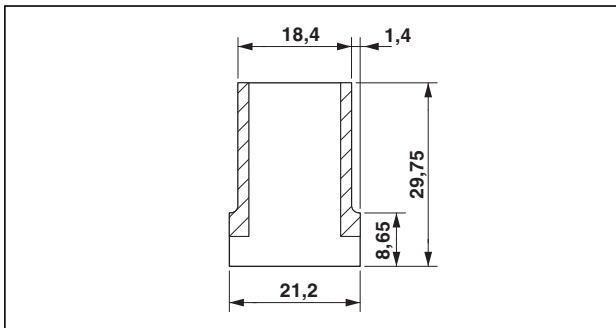


Figure 34 Dimensions of the PCB for housing cover  
ME-IO 18,8 C 2U 7035 and  
ME-IO 18,8 C 3U S1 7035

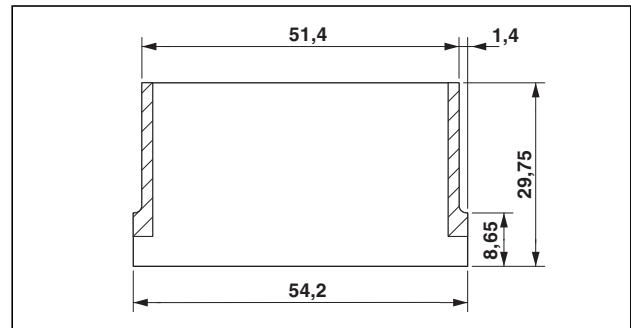


Figure 37 Dimensions of the PCB for housing cover  
ME-IO 18,8 C 5U 7035

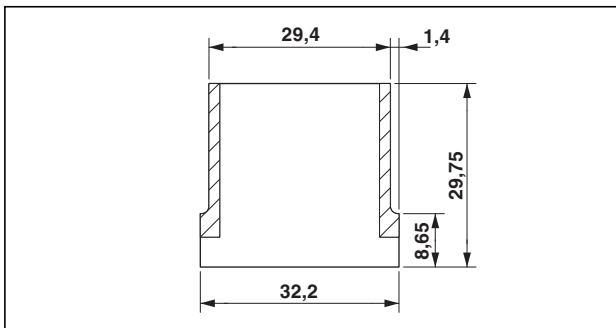


Figure 35 Dimensions of the PCB for housing cover  
ME-IO 18,8 C 3U 7035

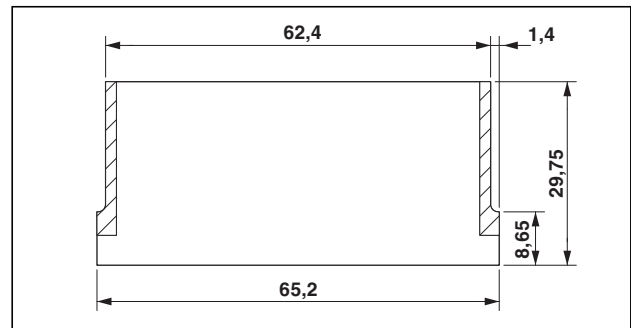


Figure 38 Dimensions of the PCB for housing cover  
ME-IO 18,8 C 6U 7035

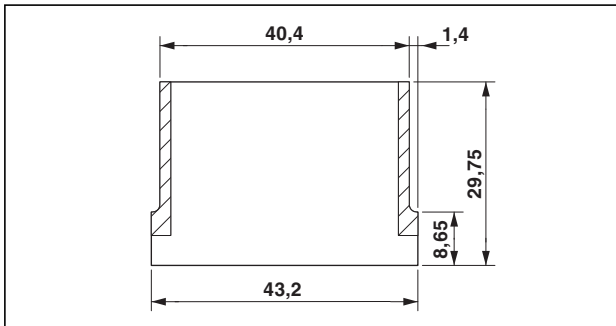


Figure 36 Dimensions of the PCB for housing cover  
ME-IO 18,8 C 4U 7035

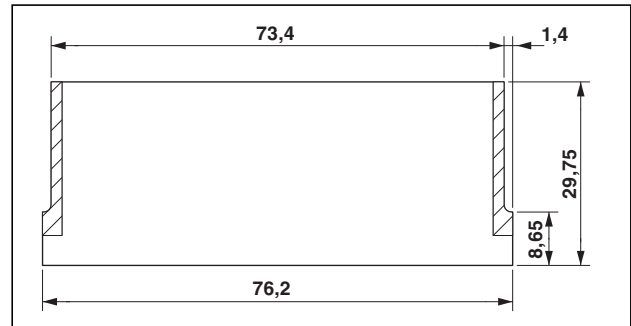


Figure 39 Dimensions of the PCB for housing cover  
ME-IO 18,8 C 7U 7035

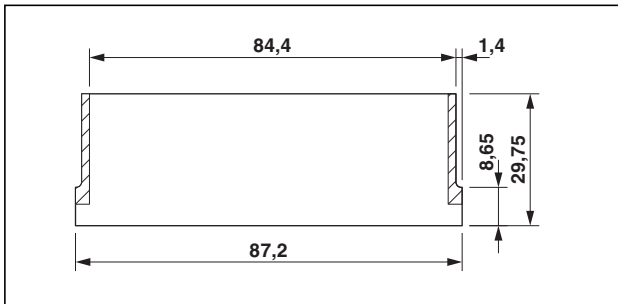


Figure 40 Dimensions of the PCB for housing cover ME-IO 18,8 C 8U 7035

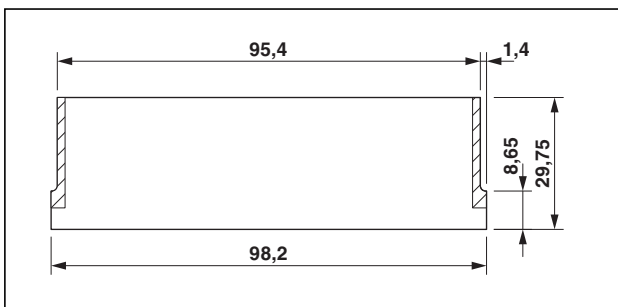


Figure 41 Dimensions of the PCB for housing cover ME-IO 18,8 C 9U 7035

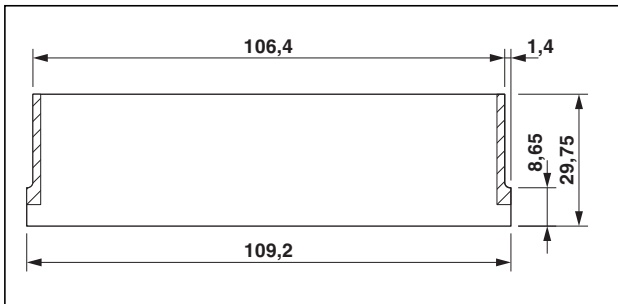



Figure 42 Dimensions of the PCB for housing cover ME-IO 18,8 C 10U 7035

 Keep-out zone, no components at these positions





## 8 Connection technology

### 8.1 Headers (Pitch 5 mm)

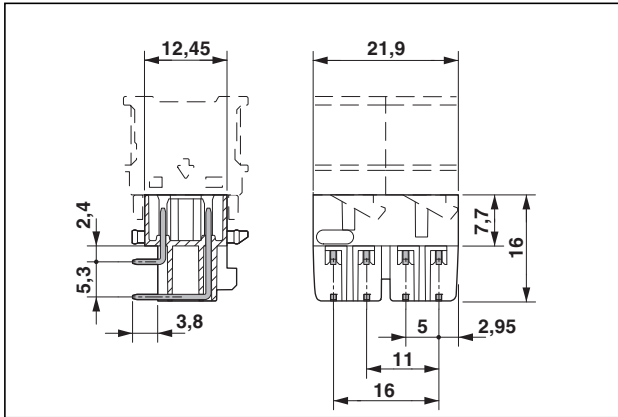


Figure 44 Dimensions of header  
HSCH 2,5-2U/ 8 9005

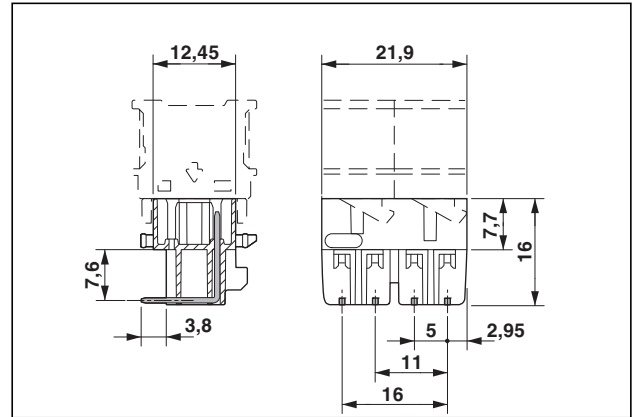


Figure 46 Dimensions of header  
HSCH 2,5-2U-TTTT 9005

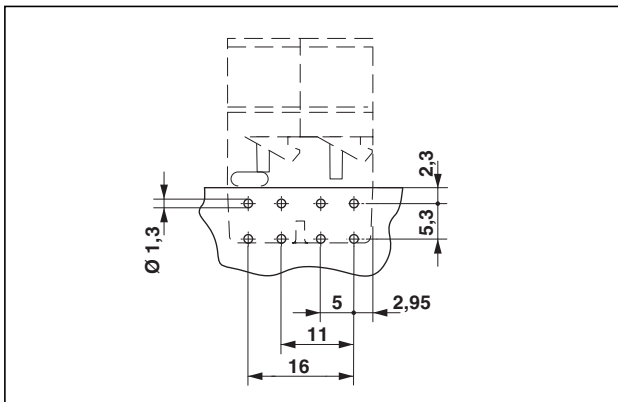


Figure 45 Drilling diagram of header  
HSCH 2,5-2U/ 8 9005

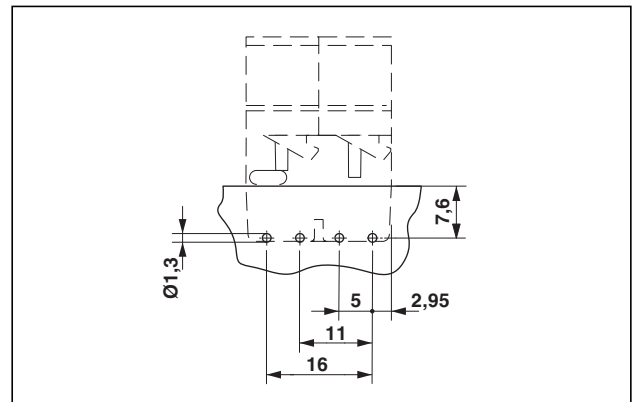


Figure 47 Drilling diagram of header  
HSCH 2,5-2U-TTTT 9005

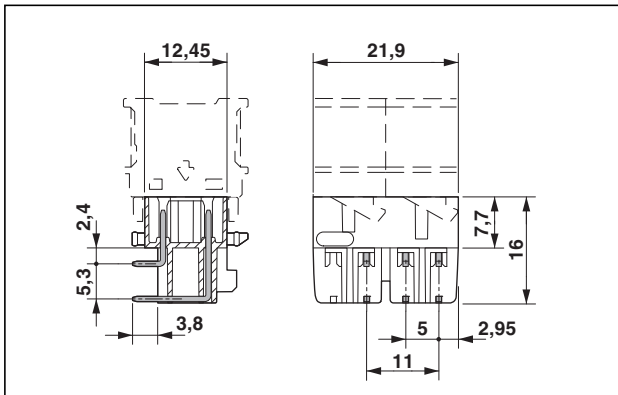


Figure 48 Dimensions of header HSCH 2,5-2U-2220 9005

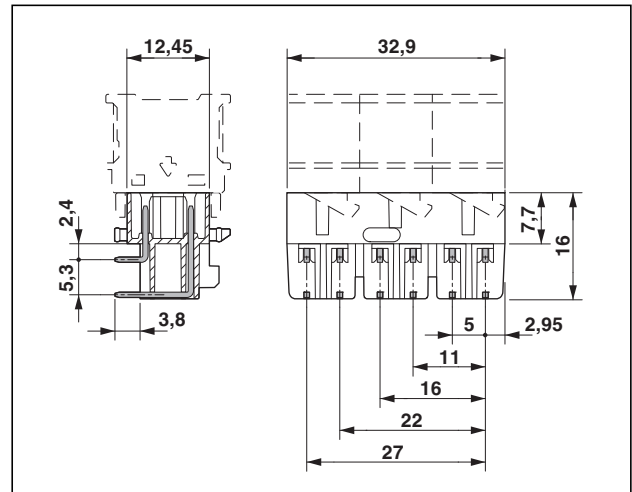


Figure 50 Dimensions of header HSCH 2,5-3U/12 9005

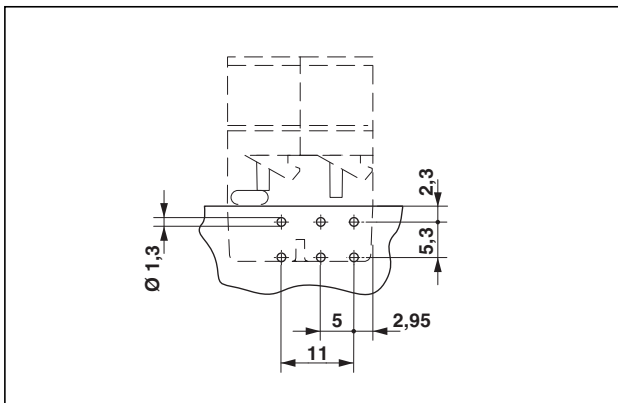


Figure 49 Drilling diagram of header HSCH 2,5-2U-2220 9005

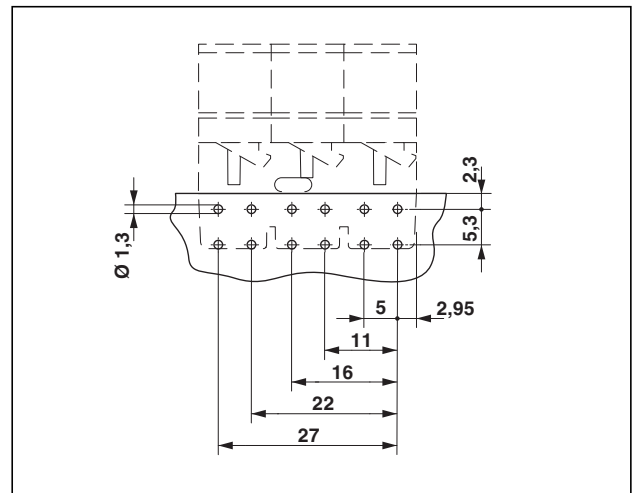


Figure 51 Drilling diagram of header HSCH 2,5-3U/12 9005

**HSCH 2,5-...****Dimensions / positions**

Pitch	5 mm
Number of positions	
HSCH 2,5-2U/ 8 9005	8
HSCH 2,5-2U-TTTT 9005	4
HSCH 2,5-2U-2220 9005	6
HSCH 2,5-3U/12 9005	12

**Technical data**

Insulation material group	I (CTI 600)
Rated surge voltage (III/3)	4 kV
Rated surge voltage (III/2)	4 kV
Rated surge voltage (II/2)	2.5 kV
Rated voltage (III/3)	250 V
Rated voltage (III/2)	300 V
Rated voltage (II/2)	600 V
Connection according to standard	DIN EN 61984
Nominal current $I_N$ , depending on the connector used	8 A
Insulation material	PA
Flammability rating UL 94	V0
Color	RAL 9005, black

**Mask for wave soldering process**

The header protrudes from the PCB on the soldering side. Be aware of this protrusion during the wave soldering process. The protrusion has to be covered by the soldering mask.

8.2 Headers (Pitch 3.45 mm)

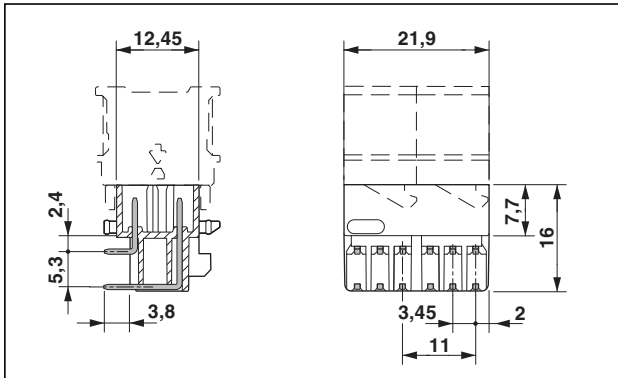


Figure 52 Dimensions of header HSCH 1,5-2U/12 9005

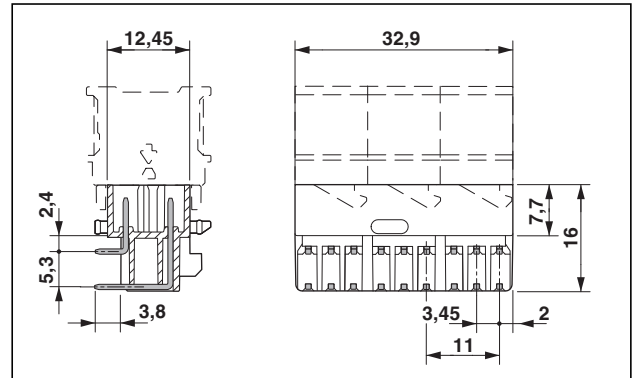


Figure 54 Dimensions of header HSCH 1,5-3U/18 9005

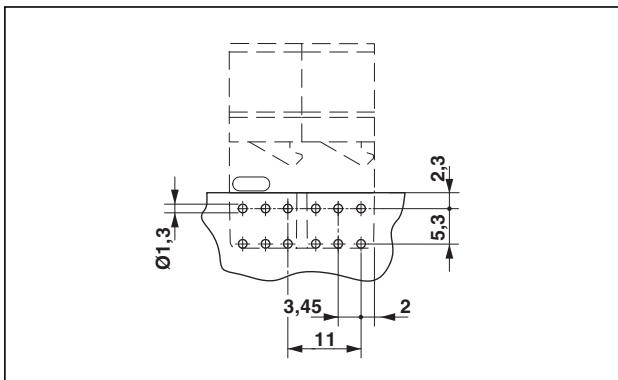


Figure 53 Drilling diagram of header HSCH 1,5-2U/12 9005

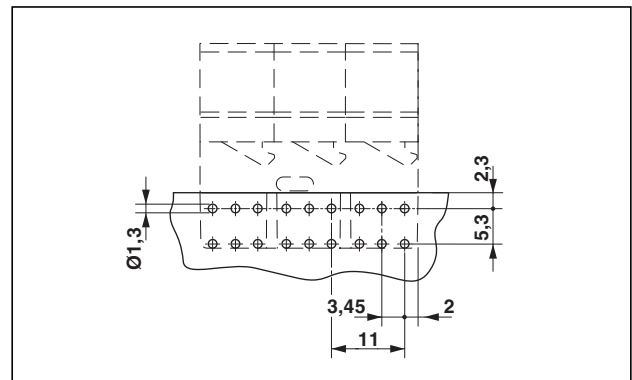


Figure 55 Drilling diagram of header HSCH 1,5-3U/18 9005

## HSCH 1,5-...

**Dimensions / positions**

Pitch	3.45 mm
Number of positions	
HSCH 1,5-2U/12	12
HSCH 1,5-3U/18	18

**Technical data**

Insulation material group	I (CTI 600)
Rated surge voltage (III/3)	2.5 kV
Rated surge voltage (III/2)	2.5 kV
Rated surge voltage (II/2)	2.5 kV
Rated voltage (III/3)	63 V
Rated voltage (III/2)	320 V
Rated voltage (II/2)	320 V
Connection according to standard	DIN EN 61984
Nominal current $I_N$ , depending on the connector used	8 A
Insulation material	PA
Flammability rating UL 94	V0
Color	RAL 9005, black

8.3 Connector (Pitch 5 mm)

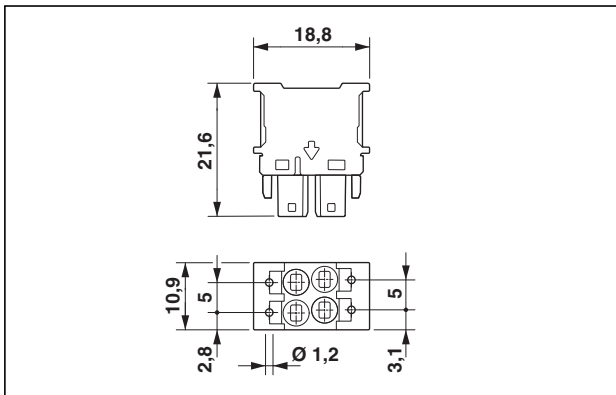


Figure 56 Dimensions of the connector HSCP-SP 2,5-UTT-7035

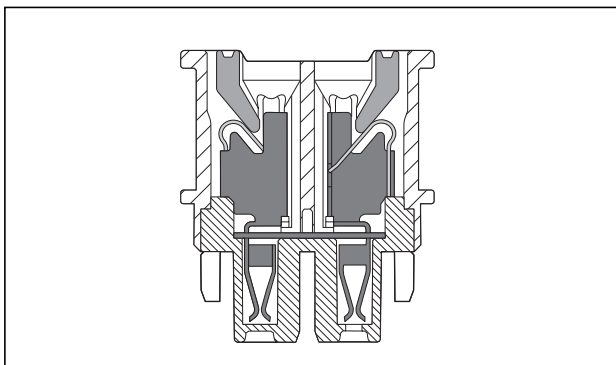


Figure 57 Cross section connector with TWIN connection HSCP-SP 2,5-UTT-7035

Derating

Representation in accordance with DIN EN 60512-5-2

- Reduction factor: 0.8
- Number of positions: 4

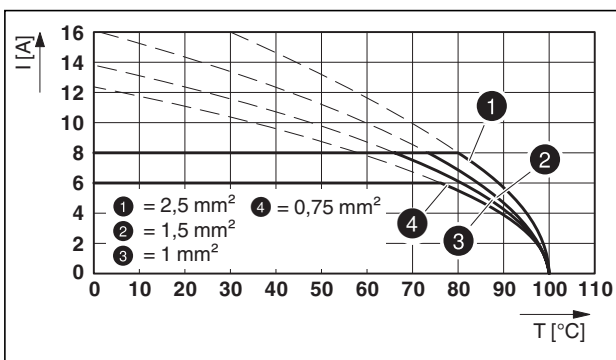


Figure 58 Derating (current strength I [A], ambient temperature T [°C])

HSCP-SP 2,5-...

Dimensions / positions

Number of positions	
HSCP-SP 2,5-1U4-7035	4
HSCP-SP 2,5-1UTT-7035	2 TWIN
HSCP-SP 2,5-1U20-7035	2

Technical data

Insulation material group	I (CTI 600)
Rated surge voltage (III/3)	4 kV
Rated surge voltage (III/2)	4 kV
Rated surge voltage (II/2)	2.5 kV
Rated voltage (III/3)	250 V
Rated voltage (III/2)	300 V
Rated voltage (II/2)	600 V
Connection in acc. with standard	DIN EN 61984
Nominal current I <sub>N</sub>	8 A
Nominal cross section	2.5 mm <sup>2</sup>
Insulation material	PA
Flammability rating UL 94	V0

Connection data

Stripping length w/o ferrule	8 mm ... 9.5 mm
Ferrule	8 mm ... 10 mm
Conductor cross section, solid	0.20 mm <sup>2</sup> ... 1.5 mm <sup>2</sup> AWG 24 ... 16
Conductor cross section, stranded	0.20 mm <sup>2</sup> ... 2.5 mm <sup>2</sup> AWG 24 ... 14
Conductor cross section, stranded, with ferrule, w/o plastic sleeve	0.25 mm <sup>2</sup> ... 1.5 mm <sup>2</sup> AWG 24 ... 16
Conductor cross section, stranded, with ferrule, with plastic sleeve	0.25 mm <sup>2</sup> ... 1.5 mm <sup>2</sup> AWG 24 ... 16

Test point

**i** For the test point we recommend the test probe MPS-MT 1-S4-B RD, 1982800. Observe the rated voltage of the test probe of 60 V.

Color variants and labeling

**i** You can request the spring levers and the connector housing in different colors.  
The connector surface can be labeled.

8.4 Connector (Pitch 3.45 mm)

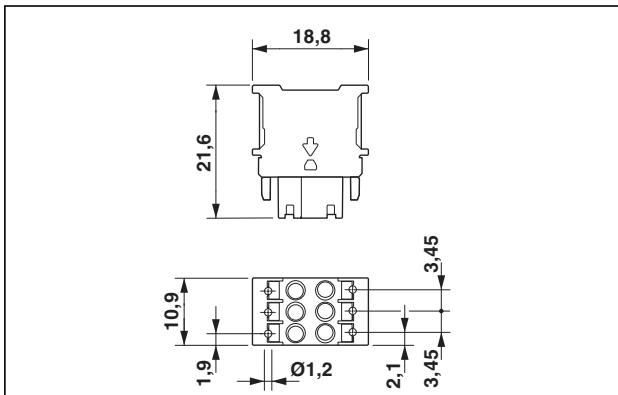


Figure 59 Dimensions of the connector HSCP-SP 1,5-1U6-7035

Derating

Representation in accordance with DIN EN 60512-5-2

- Reduction factor: 0.8
- Number of positions: 6

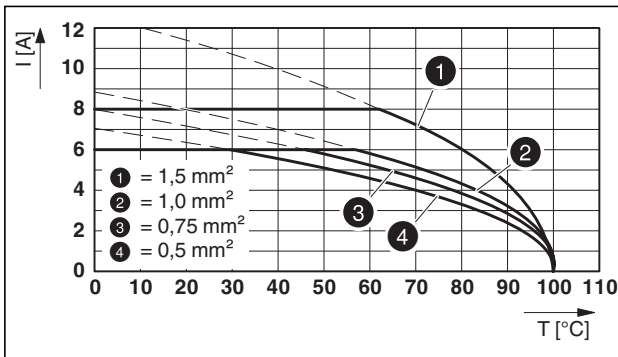


Figure 60 Derating (current strength I [A], ambient temperature T [°C])



We recommend using trapezoidal crimp contacts, and crimping them using the CRIMPFOX 6 (1212034) crimping pliers.



HSCP-SP 1,5-...

Dimensions / positions

Number of positions

HSCP-SP 1,5-1U6-7035	6
----------------------	---

Technical data

Insulation material group I (CTI 600)

Rated surge voltage (III/3) 2.5 kV

Rated surge voltage (III/2) 2.5 kV

Rated surge voltage (II/2) 2.5 kV

Rated voltage (III/3) 63 V

Rated voltage (III/2) 320 V

Rated voltage (II/2) 320 V

Connection in acc. with standard DIN EN 61984

Nominal current I<sub>N</sub> 8 A

Nominal cross section 1.5 mm<sup>2</sup>

Insulation material PA

Flammability rating UL 94 V0

Connection data

Stripping length w/o ferrule 10 mm

Ferrule 10 mm

Conductor cross section, solid 0.2 mm<sup>2</sup> ... 1.5 mm<sup>2</sup>  
AWG 24 ... 16

Conductor cross section, stranded 0.25 mm<sup>2</sup>... 1.5 mm<sup>2</sup>  
AWG 24 ... 18

Conductor cross section, stranded, with ferrule, w/o plastic sleeve 0.25 mm<sup>2</sup> ... 1.5 mm<sup>2</sup>  
AWG 24 ... 16

Conductor cross section, stranded, with ferrule, with plastic sleeve 0.25 mm<sup>2</sup> ... 1.0 mm<sup>2</sup>  
AWG 24 ... 18

Test point



For the test point we recommend the test probe MPS-MT 1-S4-B RD, 1982800. Observe the rated voltage of the test probe of 60 V.

Color variants and labeling



You can request the spring levers and the connector housing in different colors.  
The connector surface can be labeled.

### 8.5 DIN rail connector

The housing can be combined with a DIN rail connector (TBUS). Data or the power supply are transmitted from module to module via the DIN rail connector.

The DIN rail connector is simply laid into the DIN rail NS 35/7.5 and the housing is snapped onto it.

This concept allows complete individual devices to be removed from the group without interrupting the contact chain.

This concept allows complete individual devices to be removed from the group without interrupting the contact chain.

The DIN rail connector is available with five or eight positions.

#### 8.5.1 DIN rail connector, 5-pos.

The 5-pos. DIN rail connector is compatible with the ME-IO with 9U, ME-MAX and ME-TBUS housing ranges.

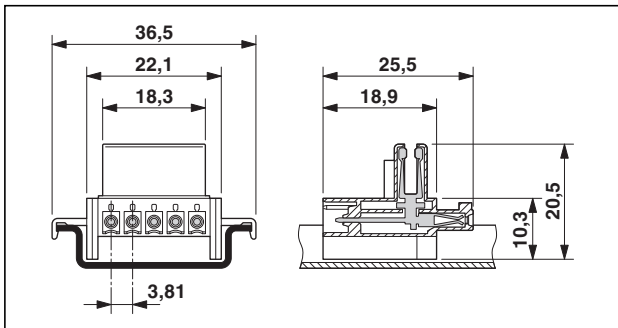


Figure 61 Dimensions of 5-pos. DIN rail connector

#### ME 18,8 TBUS 1,5/5-ST-3,81KMGY

##### Dimensions / positions

Pitch	3.81 mm
Number of positions	5

##### Technical data

Insulation material group	I (CTI 600)
Rated surge voltage (III/3)	2.5 kV
Rated surge voltage (III/2)	2.5 kV
Rated surge voltage (II/2)	2.5 kV
Rated voltage (III/3)	125 V
Rated voltage (III/2)	160 V
Rated voltage (II/2)	320 V
Connection acc. to standard	DIN EN 61984
Nominal current $I_N$	8 A
Nominal voltage $U_N$	125 V
Insulation material	PA
Flammability rating UL 94	V0

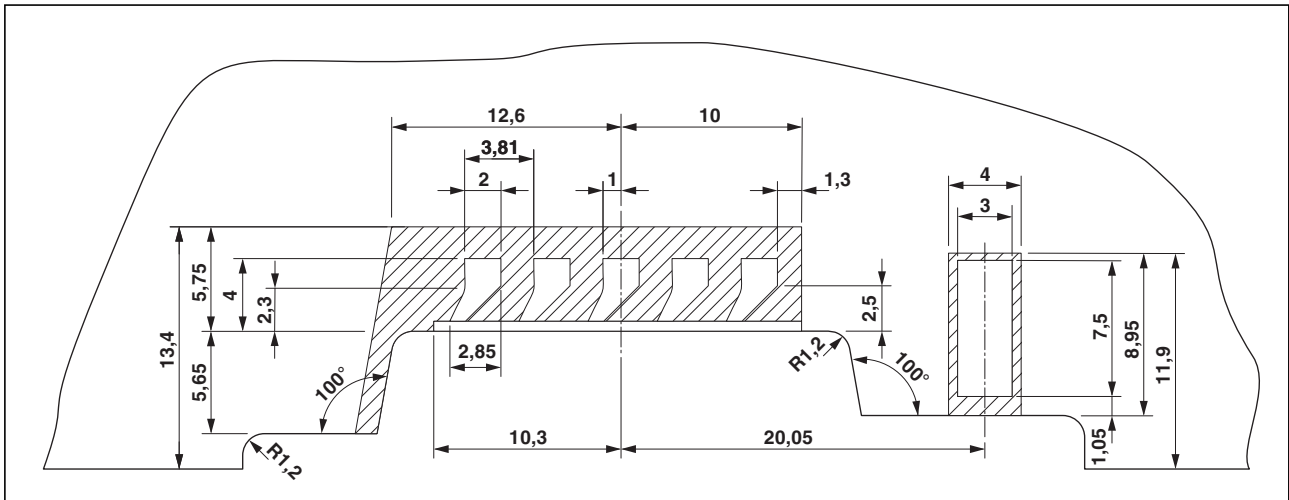


Figure 62 Detailed dimensional drawing of the contact pads of the 5-pos. DIN rail connector for 9U housing with FE contact



**8.5.2 DIN rail connector, 8-pos.**

The 8-pos. DIN rail connector is compatible with the ME-IO with 10U housing range.

The TBUS8-18,8 is available with different contacts. "P" and "S" in the order designation stand for the type of the eight contacts.

- P = parallel contact  
The same signal and voltage are applied to each parallel contact.
- S = serial contact  
A serial contact makes contact with the front of the printed-circuit board. The signal is routed across the printed-circuit board, and processed. On the rear of the printed-circuit board, the signal is connected to the mating contact. When you remove a housing, the voltage and signal flow is interrupted.

You can combine the different TBUS8-18,8 variants. However, the variants are not coded against incorrect plugging of the differently contacted printed-circuit boards.

The serial contacts are located in counting direction at positions 8 or 7 and 8.

The printed-circuit board contacts the serial contacts last when the housing is pivoted out.

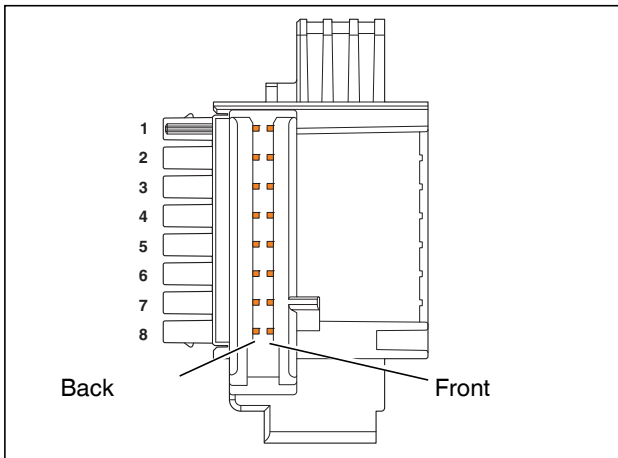


Figure 63 Position of printed-circuit board

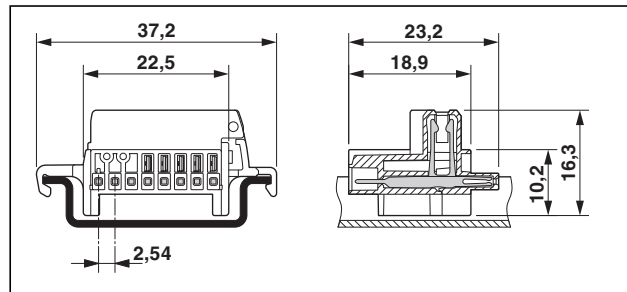


Figure 64 Dimensions of 8-pos. DIN rail connector

**TBUS8-18,8-....**

**Dimensions / positions**

Pitch	2.54 mm
Number of positions	8

**Technical data**

Insulation material group	I (CTI 600)
Rated surge voltage (III/2)	1.5 kV
Rated surge voltage (II/2)	1.5 kV
Rated voltage (III/3)	32 V
Rated voltage (III/2)	32 V
Connection acc. to standard	DIN EN 61984
Nominal current $I_N$ , parallel contacts	6 A
Nominal current $I_N$ , serial contacts	4 A
Nominal voltage $U_N$ , maximum	30 V
Insulation material	PA
Flammability rating UL 94	V0

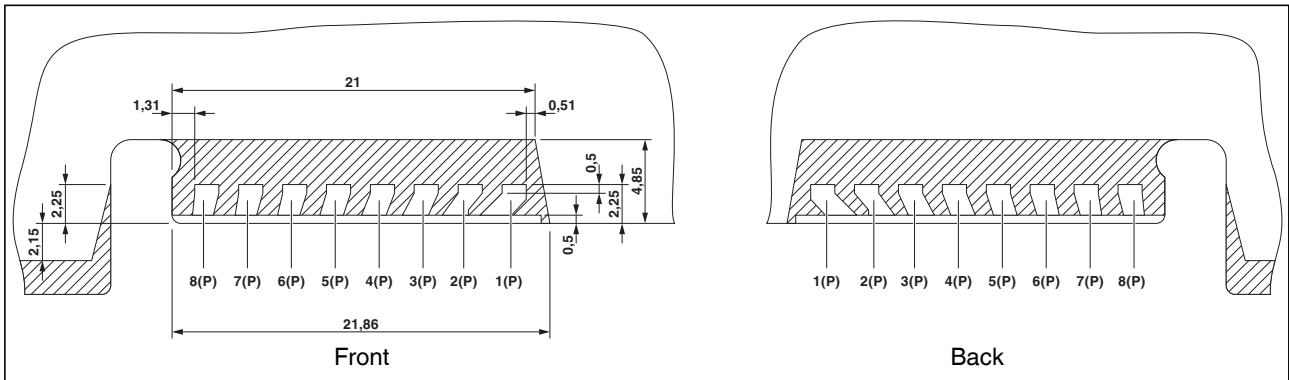


Figure 65 Detailed dimensional drawing of contact pads TBUS8-18,8-PPPPPPPP

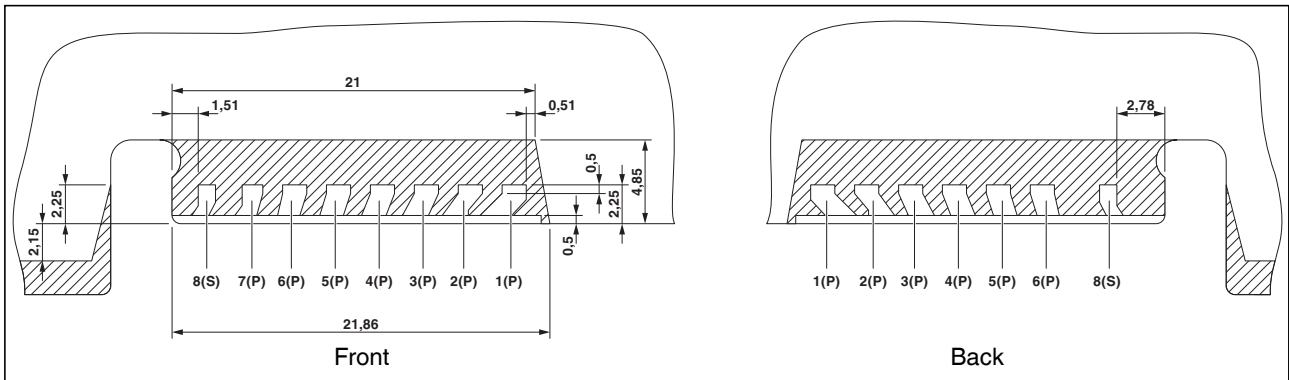


Figure 66 Detailed dimensional drawing of contact pads TBUS8-18,8-PPPPPPPS

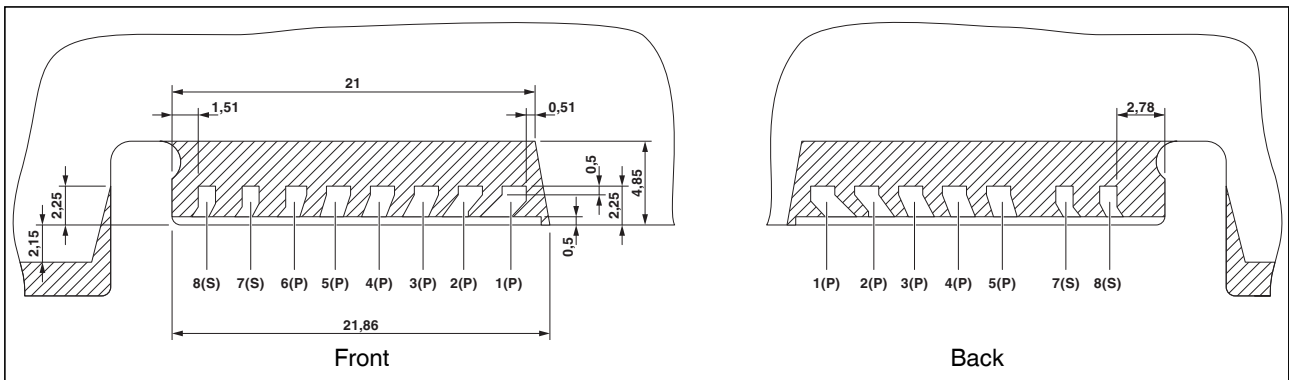


Figure 67 Detailed dimensional drawing of contact pads TBUS8-18,8-PPPPPPSS

## 9 Mounting the housing

### 9.1 Mounting the FE contact

If the lower housing part is delivered without FE contact, you have to mount the FE contact.

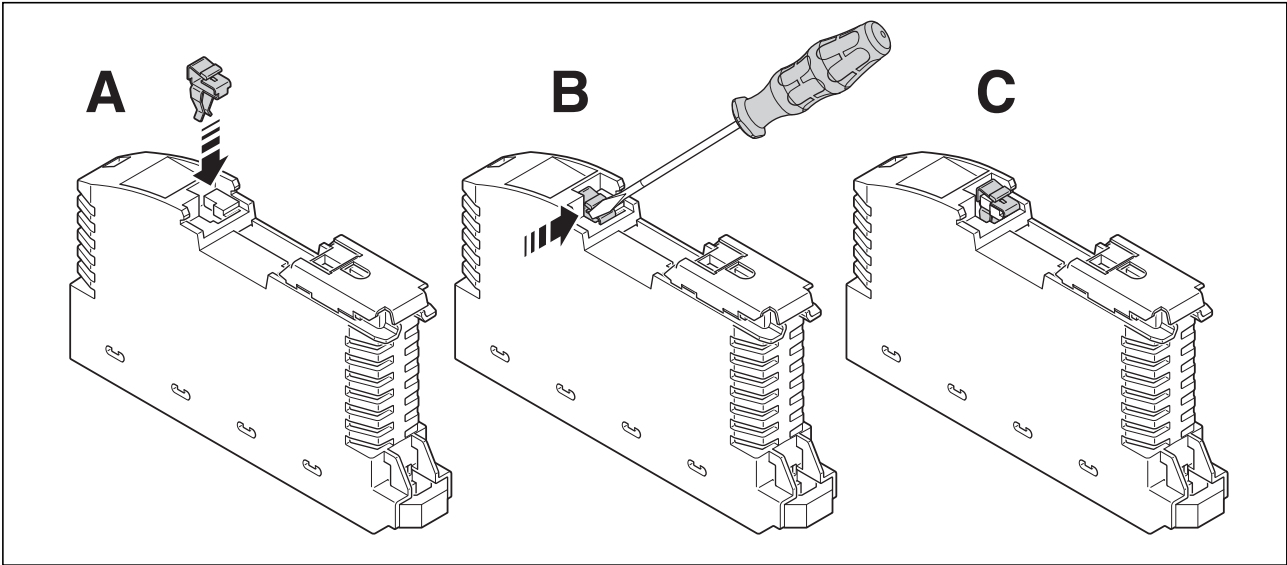


Figure 68 Mounting the FE contact (ME BUS FE CONTACT, 2278076)

- Set the FE contact at the intended location in the lower housing part.
- Using a screwdriver, push in the FE contact as far as possible.

### 9.2 Assembling the Lock and Release system

When the PCB is completely equipped, you must assemble the orange Lock and Release system.



Pay attention to the positioning of the connectors and the header (see page 8).

To do this, proceed as follows:

- Solder the header onto the PCB.

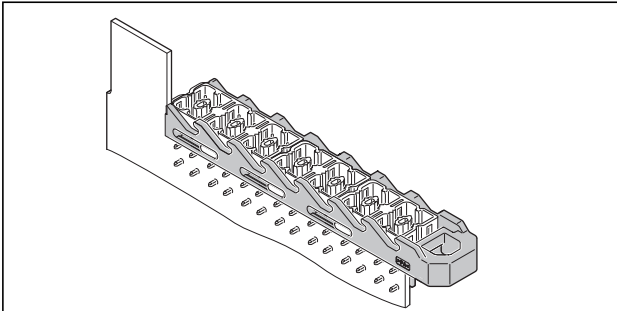


Figure 69 Attaching the Lock and Release system

- Attach the orange Lock and Release system onto the header. The recesses of the Lock and Release system have to fit over the protruding guide pins of the header. Press the Lock and Release system against the header.

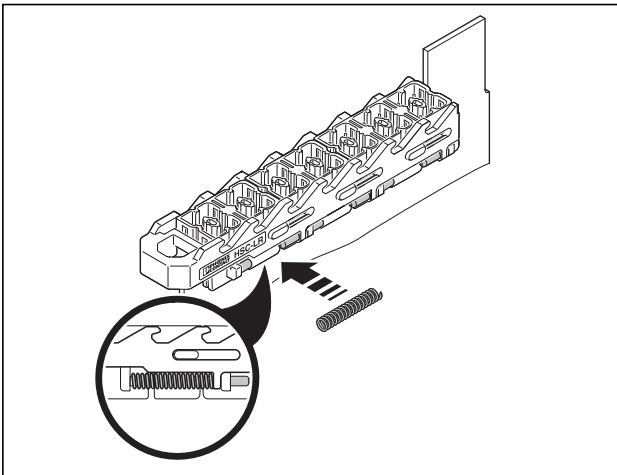


Figure 70 Attaching the spring

- Attach the spring which is included in the scope of delivery. The spring is inserted at one of the possible positions.

### 9.3 Inserting partition plate

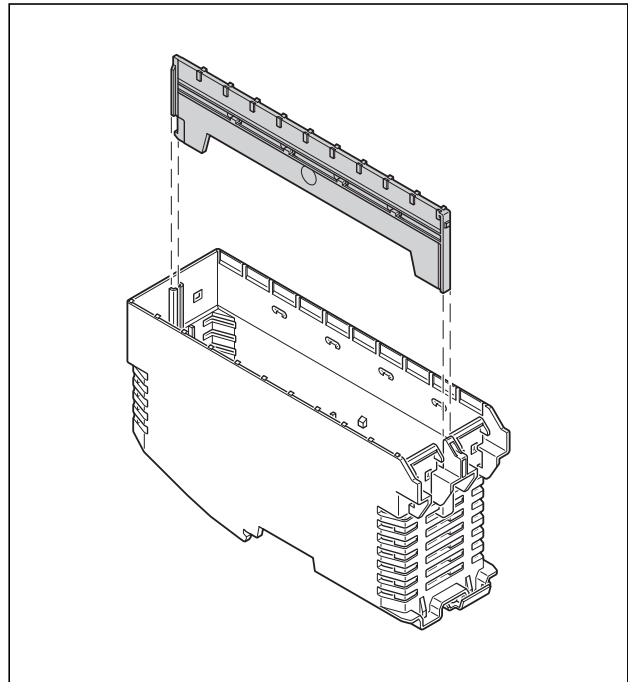


Figure 71 Inserting partition plate

You can insert partition plates when the housings are wider. The partition plates are for supporting headers and housing covers. Otherwise a support is missing between two PCBs.

- Push the partition plate from above straight into the guide.  
The snap-in lug has to hook in behind in the ventilation grid.

9.4 Inserting the PCB

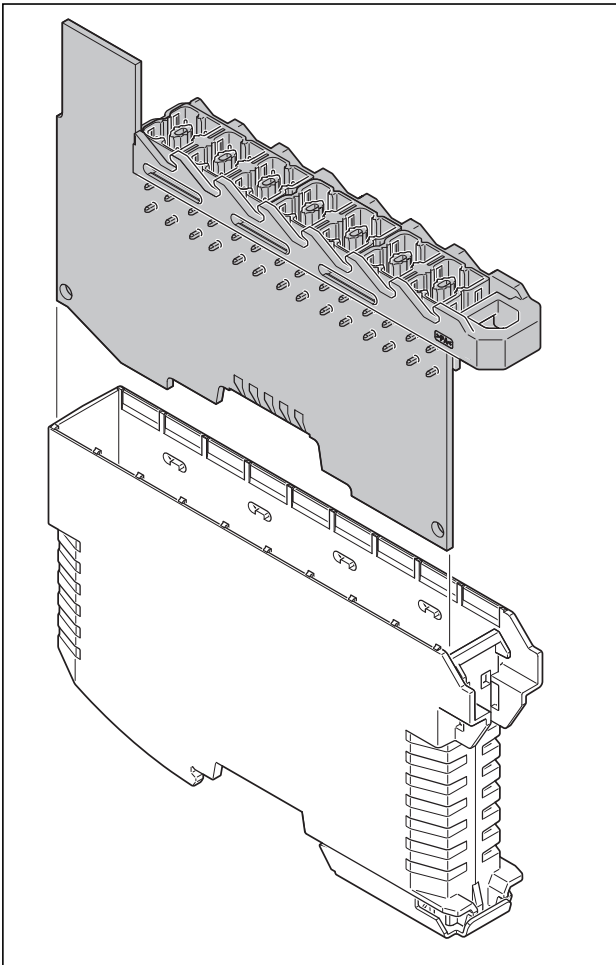


Figure 72 Inserting the PCB

- Insert the PCB into the guide slot of the housing.
- Push the PCB downwards until it audibly snaps in.

9.5 Mounting the housing cover

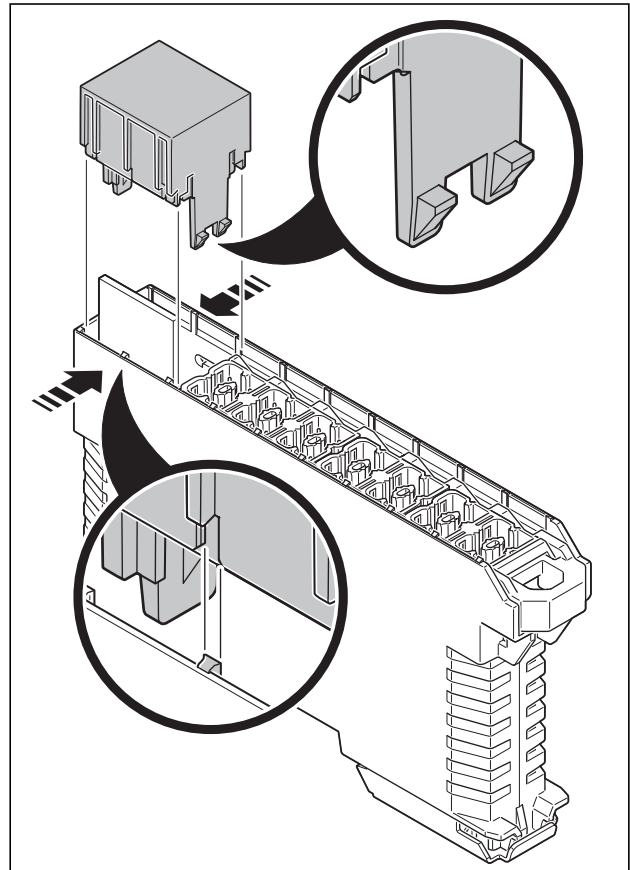


Figure 73 Attaching the housing cover

- Attach the housing covers if they are equipped.  
The housing cover has two snap-in hooks on one side and only one on the other side. The side with the two snap-in hooks has to be facing the base latch. Make sure that the concealed side guides are also snapped in. To do so, it helps if you lightly push the sides of the housing together.

Mounting wider housing covers

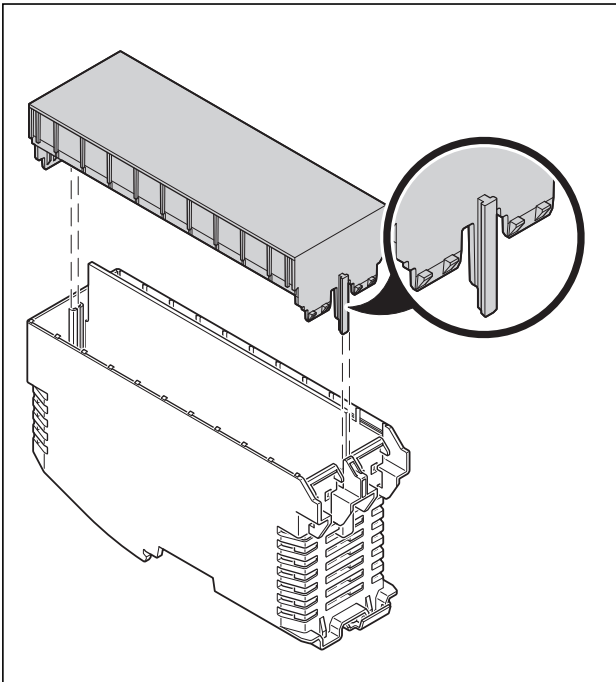


Figure 74 Attaching wide housing cover

The wider housing covers have additional tabs.

- Push the tabs forward and back into the guides.

Mounting the covers for L-design

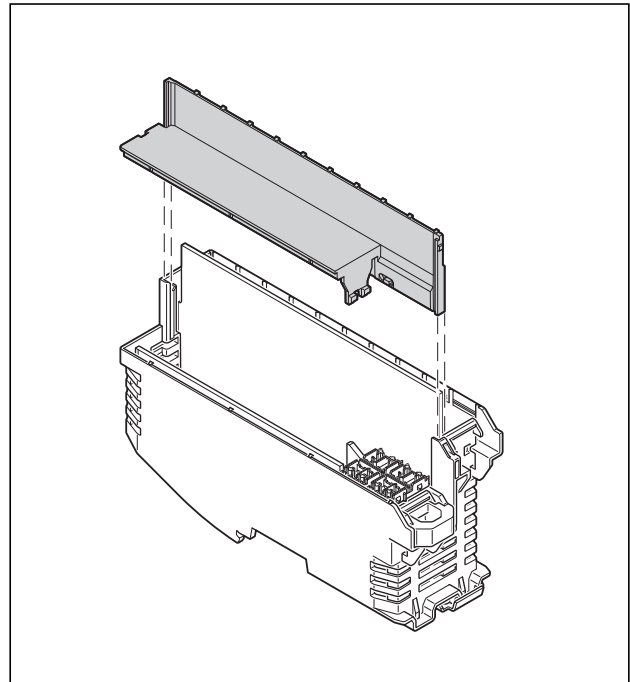


Figure 75 Attaching the housing cover for L-design

For the L-design there are special housing covers (ME-IO 18,8 LC...) which cover the open side panel of the step.

- Push the housing cover from above into the guide.

9.6 Mounting the connectors

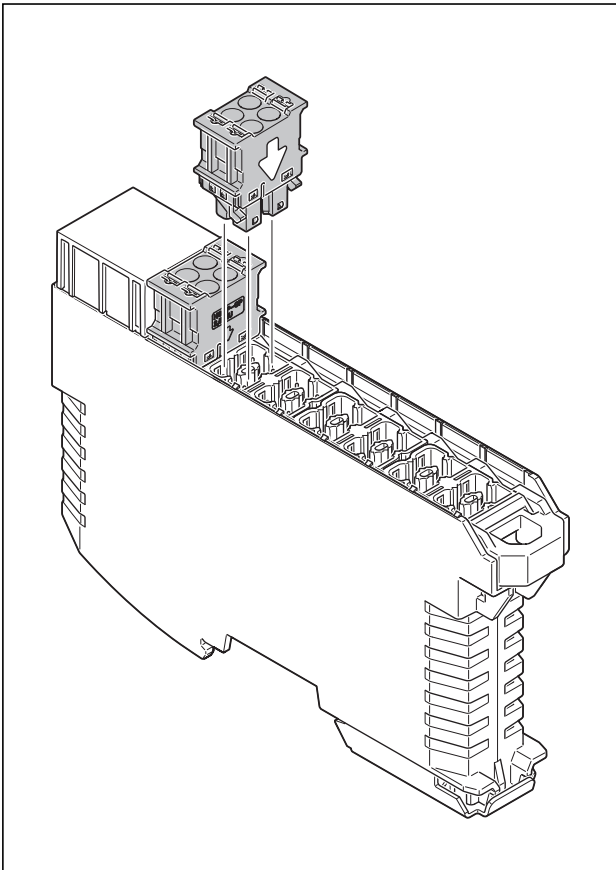


Figure 76 Inserting the connectors

- Insert the connectors.  
The connectors only fit with certain headers. You can also code the connectors.  
Each connector has an engraved arrow that has to be facing the base latch.

9.7 Releasing the connectors (Lock and Release)

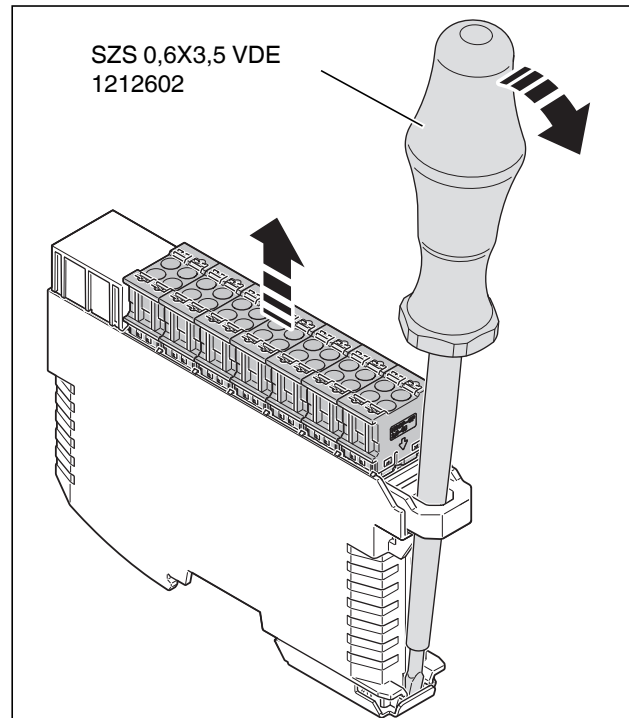


Figure 77 Releasing the connectors



**WARNING: Electric shock**

Make sure that the module is free of current.

- Insert a screwdriver through the opening of the Lock and Release system.
- Hook the tip of the screwdriver into the base latch.
- Pull the screwdriver forward to release the Lock and Release system.  
The connectors are lifted and the contact is released.  
But the connectors do not fall out.  
The housing cover remains in its position.

### 9.8 Coding the connectors

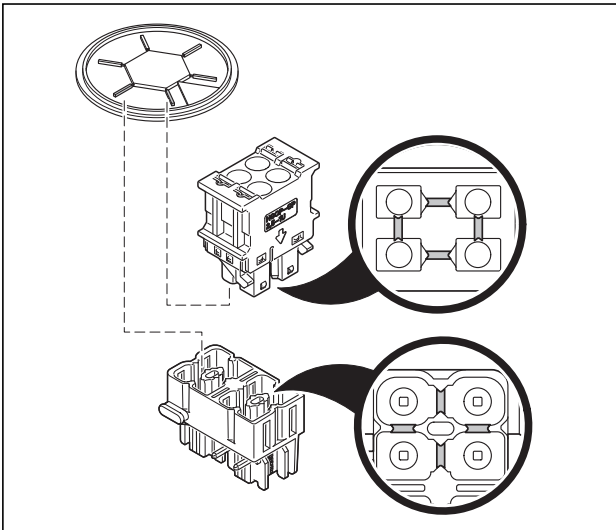


Figure 78 Coding connector (Pitch 5 mm)

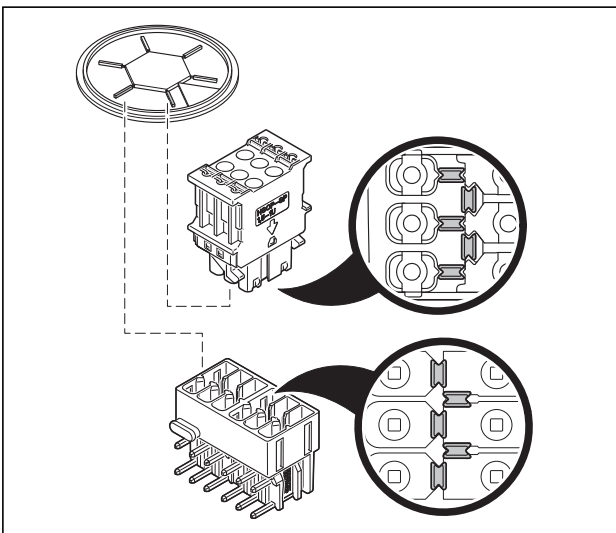


Figure 79 Coding connector (Pitch 3.45 mm)

You can code the connectors and the headers in order to prevent them from being connected unintentionally.

Each connector has four or five possible positions for attaching coding plates.

Use the coding profile CP-DMC 1,5-THR NAT, 1790647.

- Insert a coding plate at the correct position and twist it off the hexagonal holder.

### 9.9 Connecting conductors (Push-in connection)

**Solid conductor cross section 1.5 mm<sup>2</sup> ... 2.5 mm<sup>2</sup> or with ferrule**

- Insert the stripped conductor into the round opening of the terminal block without using a tool.

**Conductors with a smaller cross section or stranded conductors without ferrule**

- Push in the pushbutton with a screwdriver to open the spring.

#### Removal

- Push in the pushbutton with a screwdriver to release.
- Pull out the conductor.

We recommend the bladed screwdriver SZS 0,4X2,5 VDE, 1205037.



9.10 Mounting the filler plugs

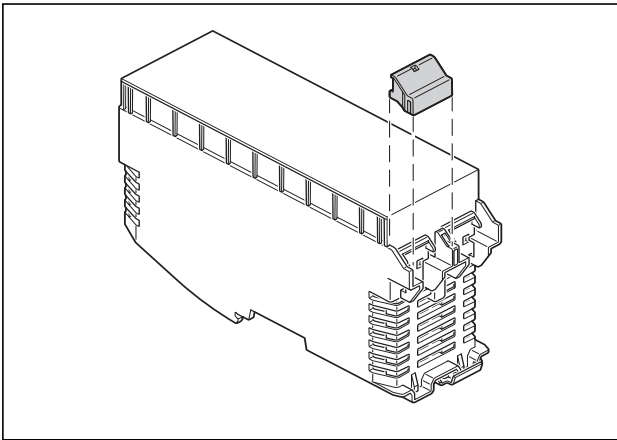


Figure 80 Mounting the filler plugs

If no Lock and Release system is used, you can close the space with a filler plug (ME-IO 18,8 F-LR, 2202635).

- Push the filler plug from above straight into the guide.

9.11 Mounting the marking lid

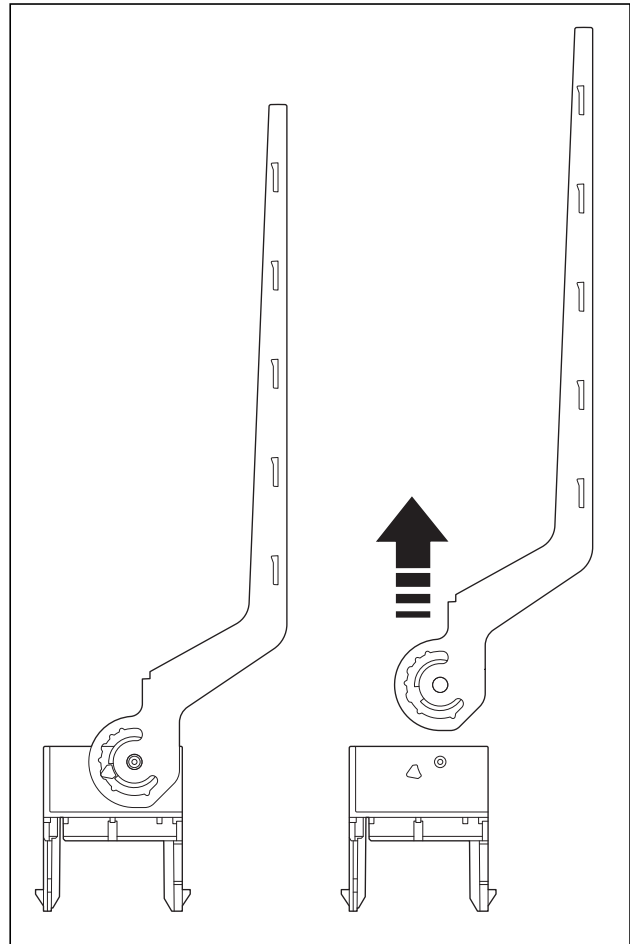


Figure 81 Mounting the marking lid

The marking lid is mounted on the housing cover  
ME-IO 18,8 C 2U MC...

- Bring the marking lid into a 90° angle to the housing cover.  
Only in this position can you mount or remove the marking lid.

### 9.12 Mounting the base latch

All lower housing parts are delivered with a mounted base latch.

For lower housing parts with an overall width of 75.2, you can move the base latch, or mount a second one.

Ordering data base latch: ME-IO 18,8 FOOT CATCH KIT, 2201812

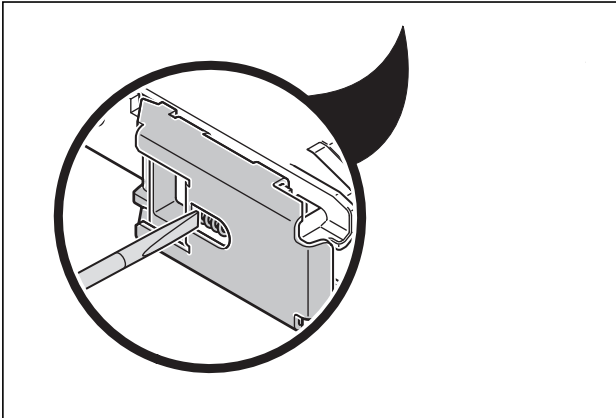


Figure 82 Mounting the base latch

- Set the base latch at the matching position.
- Push the spring into the base latch using a screwdriver.

### 9.13 Mounting the housing on a DIN rail

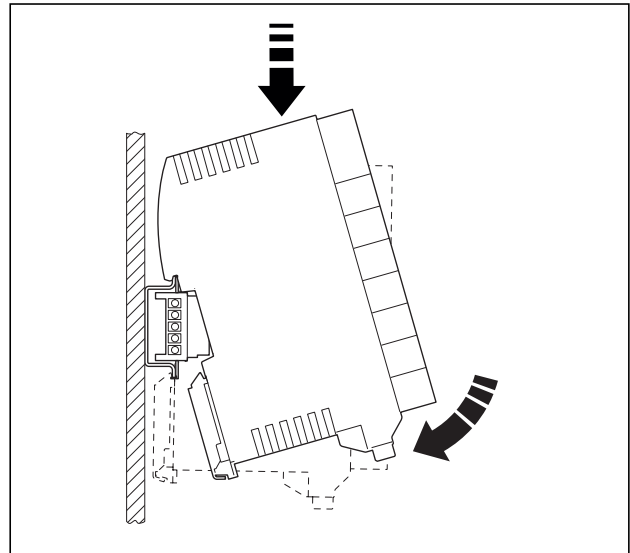


Figure 83 Snapping the housing onto the DIN rail

#### Assembly

- If you use a DIN rail connector, then lay it into the DIN rail. Make sure that the protruding connector side is facing left.
- Place the device onto a grounded 35 mm DIN rail from above. For this, hook the upper housing keyway onto the top edge of the DIN rail.
- Holding the device by the housing cover, carefully push towards the mounting surface.
- Once the snap-on foot has audibly snapped onto the DIN rail, check that it is fixed securely.

## 10 Removing the housing

### 10.1 Taking the housing off the DIN rail

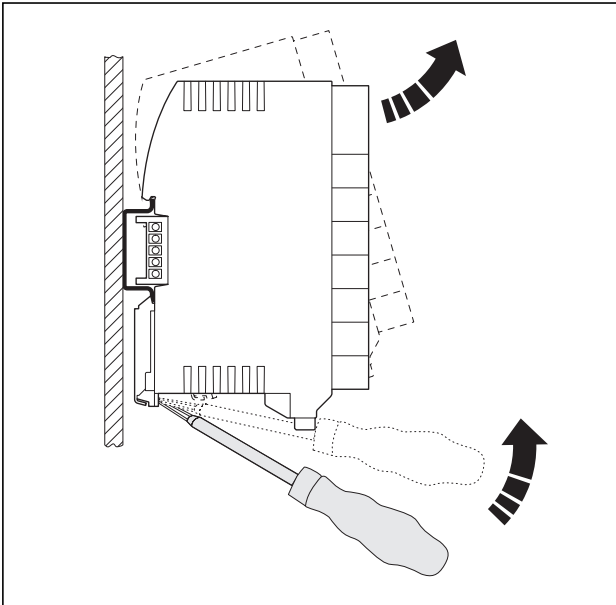


Figure 84 Releasing the housing from the DIN rail

- Release the connectors with the aid of the Lock and Release system (see page 39).
- Make sure that the module is free of current.
- Pry the module off the DIN rail.

### 10.2 Removing the housing covers

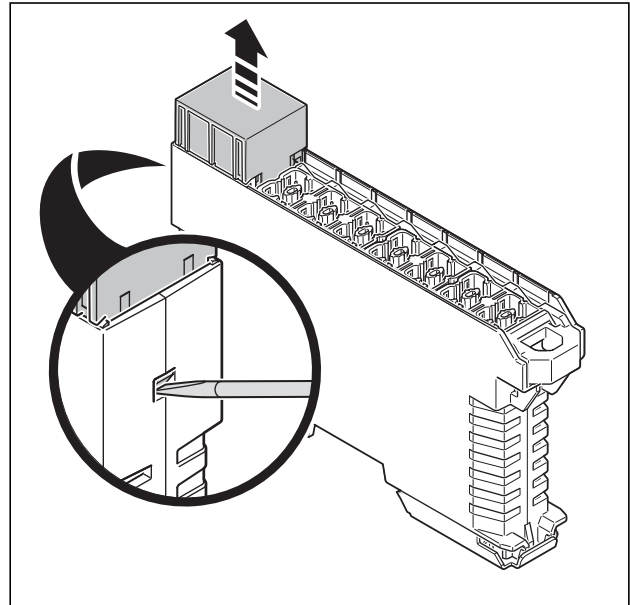


Figure 85 Removing the housing covers

#### Housing cover snapped into the lower housing part on one side

- Push in the snap-in hooks on the slim side of the housing with a screwdriver.

#### Housing cover is between headers

- A housing cover between the headers is removed together with the PCB.  
See "Taking out the PCB" on page 44.

10.3 Removing the base latch

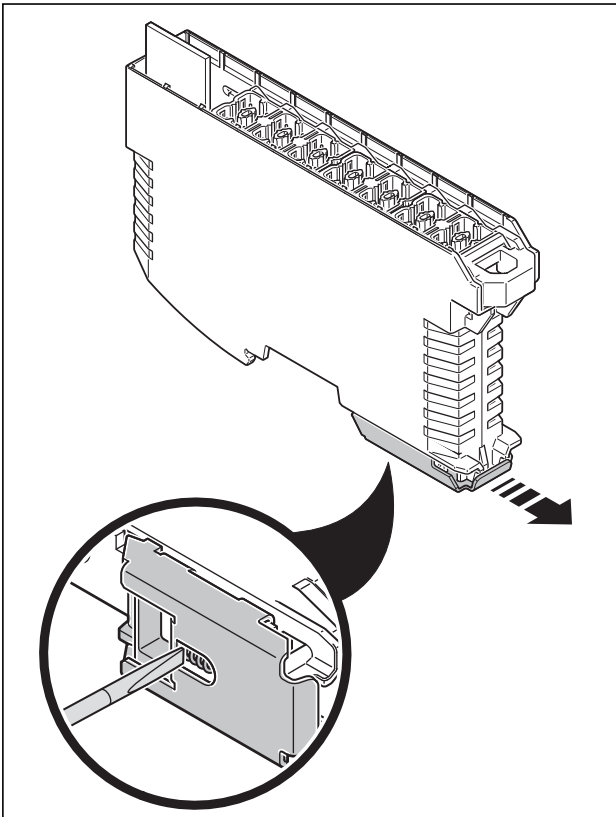


Figure 86 Removing the base latch

- To do so, you must first remove the spring, e.g. with a screwdriver.
- Then pull off the base latch.

10.4 Taking out the PCB

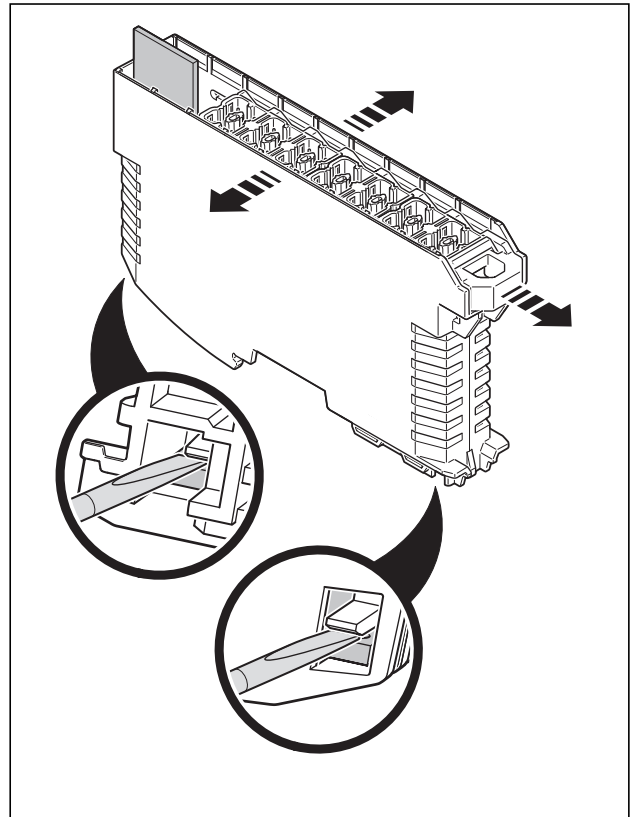


Figure 87 Taking out the PCB

- On the bottom of the housing there are two openings at the outermost ends. Release the latching there using a screwdriver. Keep both latchings open.
- To remove the PCB, you have to slightly bend the housing wall up while pulling the Lock and Release system forward at the same time.
- Pull the PCB out.

## 10.5 Taking off the Lock and Release system

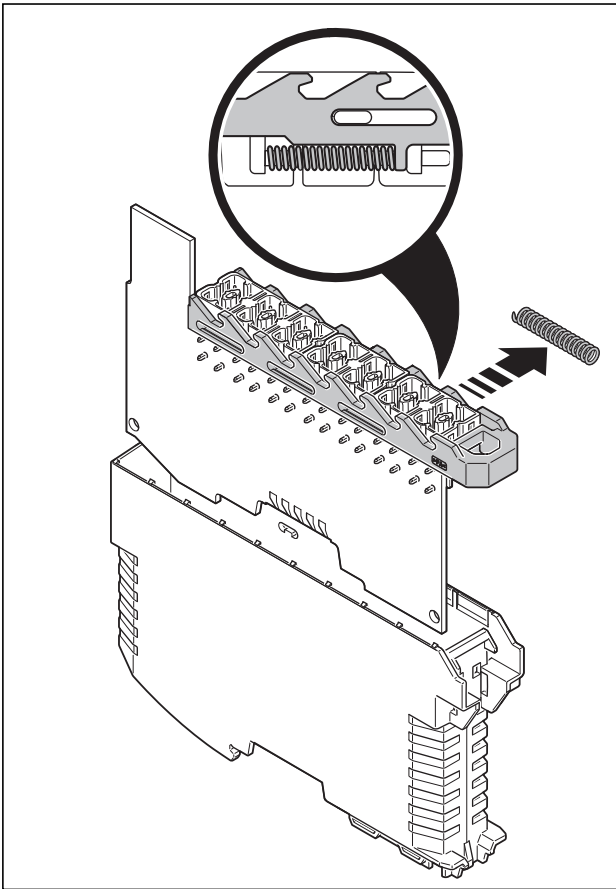


Figure 88 Taking off the Lock and Release system

- Remove the spring and take off the orange Lock and Release system.  
Push the Lock and Release system so that the guide pins of the header are positioned in the center of the recesses of the system.