

Modular Electronic Housing ME.../TBUS

1. Description

The ME...TBUS modular electronic housings have been designed especially for bus applications in which it is frequently necessary to disconnect entire individual modules from the whole.

Mounting rail bus connectors ME 17,5 or ME 22,5 TBUS 1,5/5-ST-3,81 are positioned in the DIN rail and snapped together to contact the communication and power signals in parallel with one another. The ME...TBUS modular electronic housings with widths of 17.5, 22.5, 35 and 45 mm can be combined with these bus connectors. The housing is mounted on the rail by swinging it in the familiar manner and is mechanically guided by the DIN rail connector.

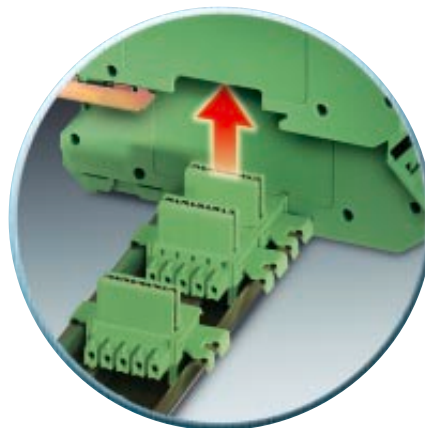
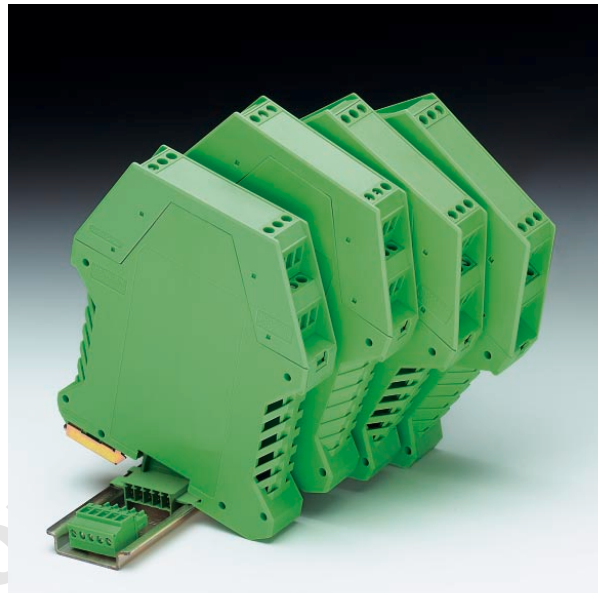
This concept allows entire individual devices to be removed from the whole without interrupting the signal chain.

The DIN rail bus connector is designed as 5-pos. with a 3.81 mm pitch. Gold-plated contacts guarantee high reliability of transmission. An extensive MINI COMBICON range and matching cable housings are available for supplying the signals.

Owing to the position of the plug deep inside the DIN rail, more assembly space is available on the printed circuit board with the same external dimensions for the ME housing.

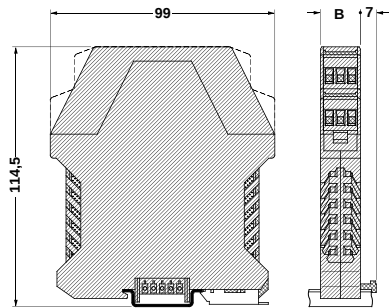
Versions with integrated function earth contact can be supplied to improve electromagnetic compatibility.

To guarantee optimum heat regulation, there are both open and closed housing versions. Flexible wiring options with p.c. terminal blocks or plug connection systems, with either spring cage or screw connection systems round off the range.



2. Technical Data

Dimensional drawing ME...TBUS...



Housing width [B]: 17.5 or 35 mm

Figure 03

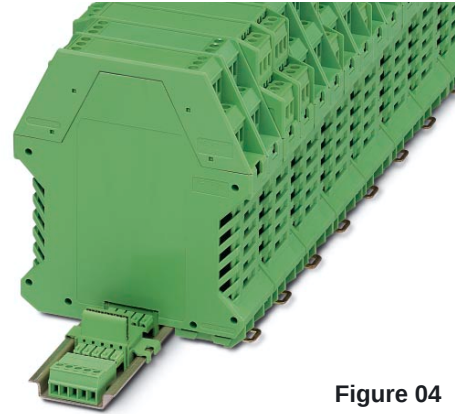


Figure 04

ME.../TBUS

17.5 or 35 mm wide, 12 or 24-pos.

(IEC) [mm ²]	rigid solid	flexible stranded	AWG	U [V]	I [A]
MSTBT 2,5/...	0.2-2.5	0.2-2.5	24-12	250	12
MSTBT 2,5 HC/...	0.2-2.5	0.2-2.5	24-12	250	16
MKDSO 2,5/...	0.14-2.5	0.14-2.5	26-14	320	24
ME...TBUS 1,5...	—	—	—	125	8

The connection cross section refers to untreated conductors without ferrules.

Description

Housing base, 17.5 mm wide completely preassembled, w/o bus connector	open closed
Housing base, 35 mm wide, completely preassembled, w/o bus connector	open closed
Bus connector¹⁾, gold-plated contacts, for DIN rail mounting	5-pos.
Housing upper part set, double-level, complete with COMBICON headers and screw plugs for full equipment	
Housing upper part set, double-level, complete with printed circuit termination blocks for full equipment	
Housing upper part set, double-level, complete with COMBICON headers and screw plugs for full equipment	

¹⁾ An extensive range of printed circuit board connection systems is available for supplying the signals. Please refer to the COMBICON catalog or visit us on the Internet under www.select.phoenixcontact.com.

Type	Order No.	Pcs. Pkt.
ME 17,5 UT TBUS GN	27 09 51 6	10
ME 17,5 UTG TBUS GN	27 09 52 9	10
ME 35 UT TBUS GN	27 09 53 2	10
ME 35 UTG TBUS GN	27 09 54 5	10
ME 17,5 TBUS 1,5/5-ST-3,81	27 09 56 1	10
ME 17,5 OT-MSTBO SET	29 07 43 1	1
ME 17,5 OT-MKDSO SET	29 07 46 0	1
ME 35 OT-MSTBO SET	27 07 73 8	1

2. Technical Data

Dimensional drawing ME...TBUS...

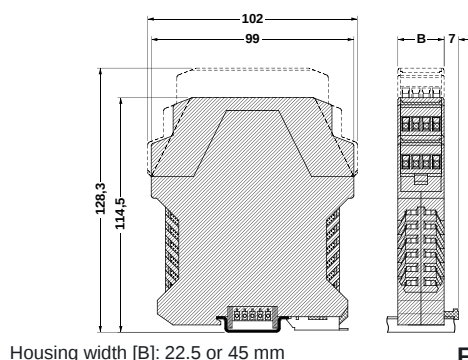


Figure 05

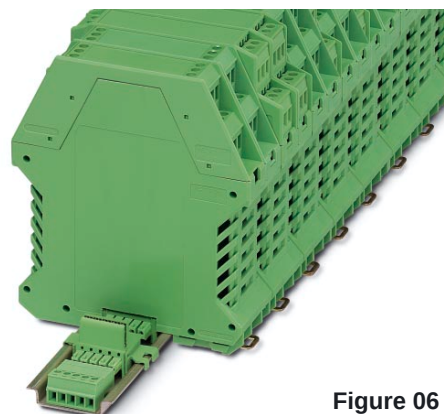


Figure 06

ME.../TBUS

22.5 or 45 mm wide, 4/8/16/24/32-pos.

(IEC) [mm ²]	rigid solid	flexible stranded	AWG	U [V]	I [A]
MSTBT 2,5/...	0.2-2.5	0.2-2.5	24-12	250	12
MSTBT 2,5 HC/...	0.2-2.5	0.2-2.5	24-12	250	16
MKDSO 2,5/...	0.14-2.5	0.14-2.5	26-14	320	24
ME...TBUS 1,5/...	—	—	—	125	8

The connection cross section refers to untreated conductors without ferrules.

Description

Housing base , 22,5 mm wide completely preassembled, w/o bus connector	open closed
Housing base , 45 mm wide, completely preassembled, w/o bus connector	open closed
Bus connector¹⁾ , gold-plated contacts, for DIN rail mounting	5-pos.
Housing upper part set , single-level, complete with COMBICON headers and screw plugs for full equipment, width: 22.5 mm	1 x 4 positions
Housing upper part set , as above, however, double-level	4 x 4 positions
Housing upper part set , as above, however, three-level	6 x 4 positions
Housing upper part set , double-level, complete with printed circuit termination blocks for full equipment, width: 22.5 mm	4 x 4 positions
Housing upper part set , as above, however, width: 45 mm	8 x 4 positions
Housing upper part set , double-level, complete with COMBICON headers and screw plugs for full equipment, width: 45 mm	8 x 4 positions
Housing upper part set , as above, however, single-level	2 x 4 positions

¹⁾ An extensive range of printed circuit board connection systems is available for supplying the signals. Please refer to the COMBICON catalog or visit us on the Internet under www.select.phoenixcontact.com.

Type	Order No.	Pcs. Pkt.
ME 22,5 UT TBUS GN	27 07 38 5	10
ME 22,5 UTG TBUS GN	27 07 40 8	10
ME 45 UT TBUS GN	27 13 01 0	10
ME 45 UTG TBUS GN	27 13 02 3	10
ME 22,5 TBUS 1,5/5-ST-3,81	27 07 43 7	10
ME 22,5 OT-1MSTBO SET	27 07 74 1	1
ME 22,5 OT-MSTBO SET	29 07 44 4	1
ME 22,5 OT-3MSTBO SET	27 07 76 7	1
ME 22,5 OT-MKDSO SET	29 07 47 3	1
ME 45 OT-MKDSO SET	29 09 34 5	1
ME 45 OT-MSTBO SET	29 09 90 5	1
ME 45 OT-1MSTBO SET	27 07 75 4	1

General Data

Type of housing/insulation material
Inflammability class
Color

Polyamide PA 6.6
V0 (UL94)
Green

Power loss as a function of the
ambient temperature with vents ME... UT...

mounted in rows without/with spacing (≥ 20 mm)
power loss P_V [W] at 20°C

	ME 17,5	ME 35	ME 22,5	ME 45
	5.2	7.9	6.1	8.2
	10.8	16.3	12.1	16.5

Power loss as a function of the
ambient temperature without vents ME... UTG...

mounted in rows without/with spacing (≥ 20 mm)
power loss P_V [W] at 20°C

	ME 17,5	ME 35	ME 22,5	ME 45
	4.9	7.5	5.7	7.6
	8.9	13.8	10.1	14.1

Equation for the calculation of power loss
dependent upon the ambient temperature
 $P_{vtu} = P_{vt} \times K_1$

Explanations: P_V = power loss
 t_u = ambient temperature
 t = 20 °C
 K_1 = reduction factor

Example: Power loss at 40 °C in ME 35
with vents, mounted in rows with spacing.
 $P_{V40\text{ °C}} = P_{V20\text{ °C}} \times K_1 = 16.3\text{ W} \times 0.81 = 13.20\text{ W}$

Reduction factor dependent
upon the ambient temperature

As the maximum permissible power loss decreases with an increase in the ambient temperature, the listed reduction factor (K_1) must be taken into account when calculating the permissible power loss.

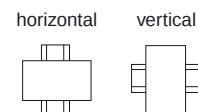
Ambient temperature [°C]

	20	30	40	50	60
K_1	1	0.91	0.81	0.7	0.57

Notes on power loss

The given power loss variables are dependent to a large extent on

- the arrangement of the printed circuit boards in the housing
- the position of the components (as a source of warmth)
- the number of equipped printed circuit terminal blocks in the housing.
- the housing installation position:



Notes

COMBICON plug connectors may only be actuated in the no-load condition. If smaller loads need to be switched for operational reasons, experimental values are available on request. (See also COMBICON and P.C. Terminal Blocks).

At least one COMBICON pin strip or one p.c. terminal block per side must be mounted on the p.c.b.

Ordering example:
ME 35 for mounting rail bus and p.c. terminal block connection systems

- | | |
|--|-----------------------|
| 1 x Housing base
ME 35 UT TBUS GN | Order No.: 27 09 53 2 |
| 2 x Housing upper part for
p.c. terminal block connection
ME 17,5 OT-MKDSO SET | Order No.: 29 07 46 0 |
| 2 x Bus connector for DIN rail
mounting
ME 17,5 TBUS 1,5/5-ST-3,81 | Order No.: 27 09 56 1 |

3. Notes on Connecting

Dimensional drawing of the p.c.b. ME.../TBUS for single-level upper part

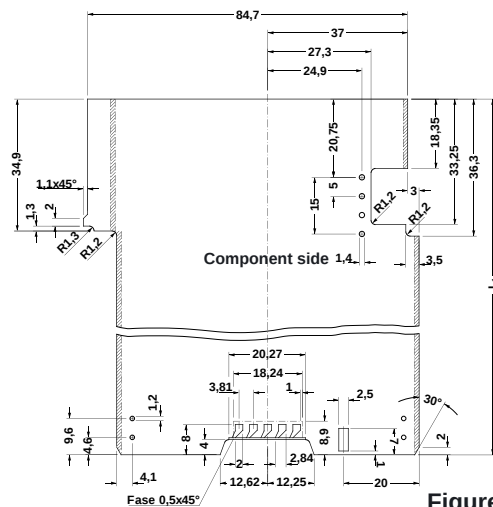


Figure 07

Pin assignment right and left

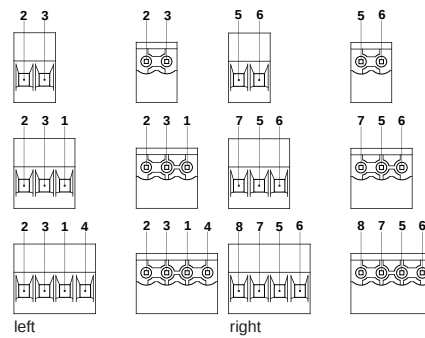


Figure 08

Dimensional drawing of the p.c.b. ME.../TBUS for double-level upper part

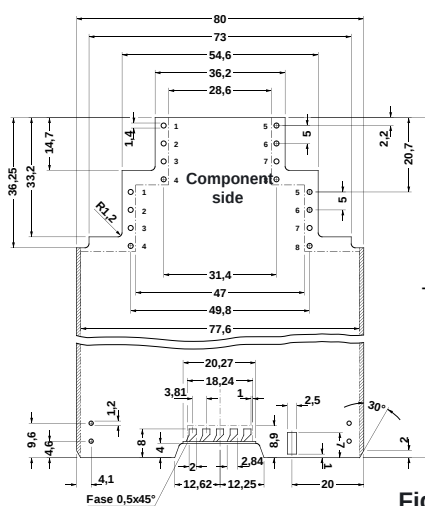


Figure 09

Inside view of the ME.../TBUS housing

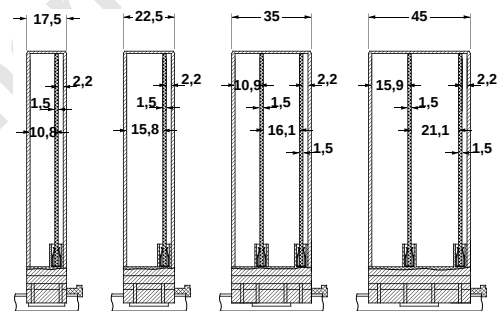


Figure 10

Dimensional drawing of the p.c.b. ME.../TBUS for three-level upper part

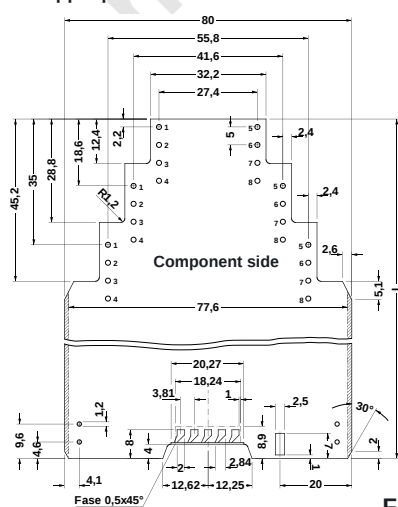


Figure 11