In-Rail-Bus
Bus system in DIN-rail

Order reference
Carrier profile 15:
250 mm: KO 4303-257-5.4; Art.-Nr.: 0063838
500 mm: KO 4303-257-5.2; Art.-Nr.: 0061802
750 mm: KO 4303-257-5.7; Art.-Nr.: 0063866
1000 mm: KO 4303-257-1; Art.-Nr.: 0060632
Carrier profile 7,5:
250 mm: KO 4303-257-6.4; Art.-Nr.: 0063839
500 mm: KO 4303-257-6.2; Art.-Nr.: 0063864
750 mm: KO 4303-257-6.7; Art.-Nr.: 0063865
1000 mm: KO 4303-257-2; Art.-Nr.: 0060719
BUS PCB:
250 mm: KO 4303-256-1.6; Art.-Nr.: 0063837
500 mm: KO 4303-256-1.2; Art.-Nr.: 0061804
750 mm: KO 4303-256-1.7; Art.-Nr.: 0063861
1000 mm: KO 4303-256-1; Art.-Nr.: 0060631
Carrier rail cover:
250 mm: KO 4303-158-2.4; Art.-Nr.: 0063836
500 mm: KO 4303-158-2.2; Art.-Nr.: 0061806
750 mm: KO 4303-158-2.7; Art.-Nr.: 0063862
1000 mm: KO 4303-158-2.1; Art.-Nr.: 0060630
Safety cap, Right: KO 4303-158-3; Art.-Nr.: 0060722
Safety cap, Left: KO 4303-158-4; Art.-Nr.: 0060723
Spring contact block without coding: KO 4303-153.2; Art.-Nr.: 0060720 (with Au-contacts)
Spring contact block with coding: KO 4303-153.4; Art.-Nr.: 0060721 (with Au-contacts)

Plastics
Carrier profile: Polyamide (PA66) (1)
Carrier-rail cover: Polyamide (PA6) (2)
Spring contact block: Polyamide (PA6) and Polyamide (PA46) (3)
Safety cap (right/left): Polycarbonate (PC) (4)

Temperature withstand:
complying with Vicat
PA66: 205 °C (B50)
PA6: 144 °C
PA46: 138 °C
PC: > 290 °C
compl. with EN 75-1/-2 (0,45 MPa):
PA66: 250 °C
PA6: 80 °C
PA46: 190 °C
PC: > 290 °C

Flame retardancy
complying with UL 94: V-0
No. of BUS rails: 5; variants, on request
Spring contact material: copper, tinned gold plated
BUS PCBs
PCB thickness: 1,5 mm
Cu-coating thickness: min. 70 µm
Contact surface: HAL/Sn100 or Au 0,6 - 0,8 µm
Max. contact resistance
Spring contact block - Bus element: ≤ 20 mΩ
Max. current carrying capacity: 5 A (per BUS rail)
Max. voltage
BUS rail to BUS-rail: AC 63 V
BUS rail to DIN-rail: AC 63 V
BUS rail to BUS-rail: AC 30 V
BUS rail to DIN-rail: AC 30 V

All specifications correspond to the technology used at time of publication.
We reserve the right to make improvements and changes of a technical nature at any time.
Technical Data

Contact pressure
Spring contact to BUS rail: 100 cN (double contact)
Spring contact block fixing: The use of temperature stable materials allows soldering without the need for shielding cover

Creepage current resistance
Carrying profile, carrier rail cover
PA6: CTI 600 = insulating material I DIN EN 60 664-1
Spring contact block
PA6: CTI 375 = insulating material III a DIN EN 60 664-1
PA4.6: CTI < 400 = insulating material III a
Safety caps
PC6: CTI 175 = insulating material III a DIN EN 60 664-1
Carrier profile
PA66: CTI 500 = insulating material II DIN EN 60 664-1

Air gap and creepage distance:
Air gap: ≥ 0.8 mm
Creepage distance: ≥ 2 mm
Voltage $U_{eff}$: 63 V
Overvoltage category: II
Rated shock voltage $U_{bem}$: 0.8 kV
Contamination class: 3

DIN-rail:
DIN EN 60 715 TH35-7.5 or optionally DIN-rail 35 x 15 x 1.5 mm
Shock stability:
Amplitude 0.35 mm; 10 ... 55 Hz DIN EN 60 068-2-6
Swing test: 2 h
Swing direction: 3 axle

Net weight
Spring contact block: approx. 2.5 g / piece
Carrier profile: approx. 115 g / m
BUS cover: approx. 60 g / m
Safety caps (right/left): approx. 0.6 g / piece

Accessories:
- Carrier rail cover for protection of not usable mounting area
- BUS PCBs to customer lengths to max. 1 m with tinned or gold plated PCB rails
- Safety caps for BUS ends

Further features:
- The complete possibilities of the BUS PCB allows:
  * the input of the BUS signal via PCB terminals
  * coupling of two BUS PCB's via terminal strip
  * PCB crossovers with multi-coated PCBs
  * Coding via a coding pin to the spring-contact block via a specific code hole in the BUS PCB

Technical Notes:
- The complete track system shall only be supplied by one isolated power supply or control transformer rated max. 10,000VA or equivalent
- The rail system is intended for the use with spring contact block assemblies and mounting means as designed by the manufacturers mechanical specifications or equivalent
- The spring block assembly must be mechanically secured and soldered to the printed wiring board according to the manufacturers instructions and mechanical design or equivalent
**Dimension Spring contact block**

PCB support (to pcb thickness t = 1.5)

PCB support (to pcb thickness t = 1)

*) ending with enclosure exterior surface

**Configuration of spring contact block**

Configuration of spring contact block on PCB seen from lower edge of the enclosure

spring-contact block ending with lower edge of the enclosure

spring-contact block

coding pin (double contact)

BUS system in DIN-rail, 15mm high

BUS system in DIN-rail, 7.5mm high
Drilling plan for appliance PCB

distance $h$ in relation to lower edge of the pcb for different enclosure series
(dimensions $h$ changes with thickness of enclosure bottom)

<table>
<thead>
<tr>
<th>enclosure series</th>
<th>enclosure bottom thickness $d$</th>
<th>distance $h=0.1$</th>
</tr>
</thead>
<tbody>
<tr>
<td>KO4300</td>
<td>2.65</td>
<td>10.4</td>
</tr>
<tr>
<td>KU4000</td>
<td>2</td>
<td>11.05</td>
</tr>
<tr>
<td>KU4100</td>
<td>2.15</td>
<td>10.9</td>
</tr>
<tr>
<td>KO4730-KO4737</td>
<td>2.5</td>
<td>10.55</td>
</tr>
</tbody>
</table>
Mounting instruction

**step 1**
put in the pre-mounted carrier profile in to the DIN rail

- carrier profile with mounted Bus PCB

**step 2**
put on the right and left safety cap

- Pay attention to the sequence:
  a) put the cap in from above layed on the carrier profile
  b) shaped the cap on below

- Dismantling in reversed sequence

**step 3**
snap on the appliance on the In-Rail-Bus

- efficient power to the Bus $F \geq 5N$
  (Per appliance snapped on with contact spring block)

- safety cap on both sides tight to the carrier profile
  The safety cap fixes the carrier profile in the DIN rail and protects the ends of the Bus