

Shield connection terminals KLBÜ

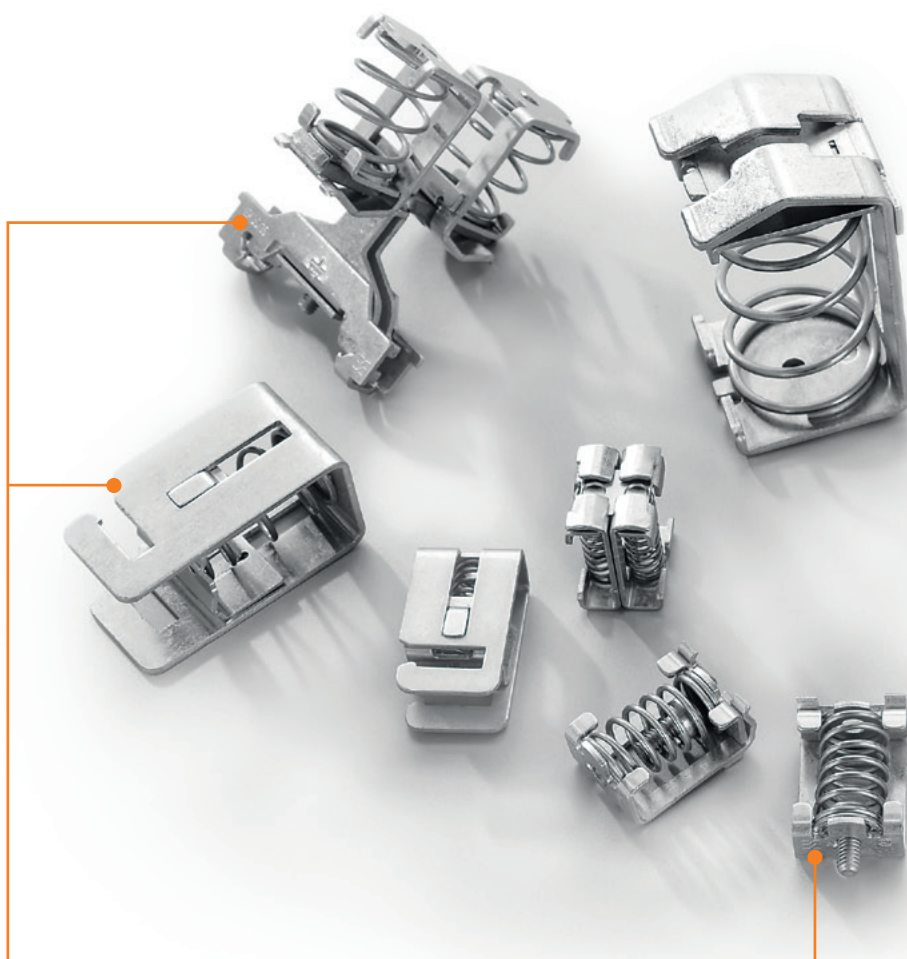
Shield connection terminals KLBÜ	Overview shield connection terminals KLBÜ	E.2
	Shield connection terminals KLBÜ for 10 x 3 mm busbars	E.6
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	Shield connection terminals KLBÜ for C-rails	E.13
	Shield connection solutions for direct wiring	E.14
	Functional earthing (PE terminals)	E.15

Weidmüller shield connections

Comprehensive and self-adjusting shield contacts

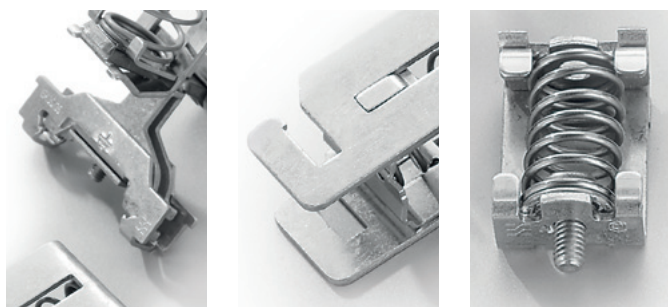
Shield connections automatically adjust themselves using the spring principle to deal with temperature-related, cross-sectional changes and are also ideal for applications with vibrations. The large contact surface area and the short connection length to the rail or mounting plate ensures optimal contact over a wide frequency band. This ensures that assembly is simple and secure.

E



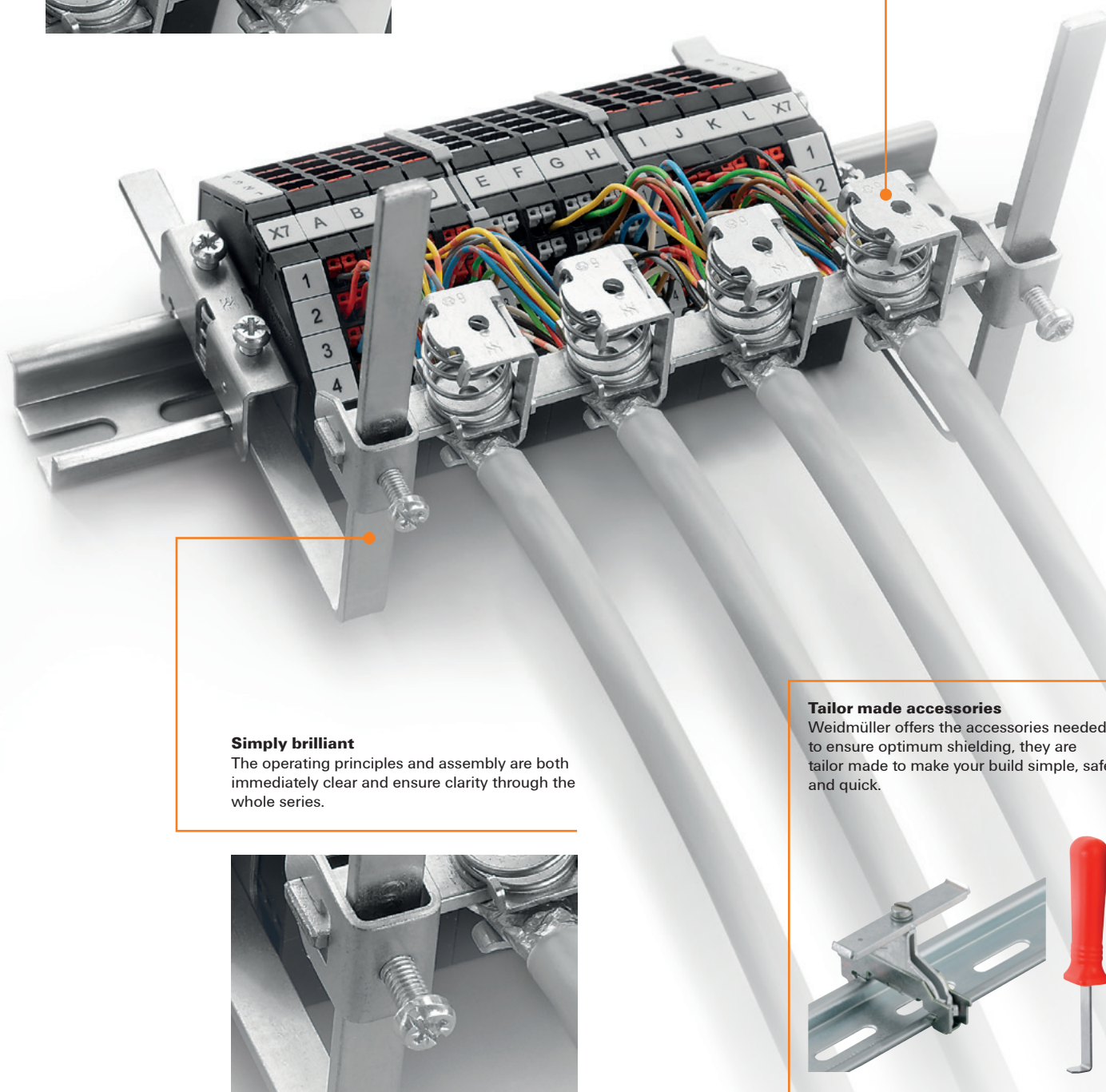
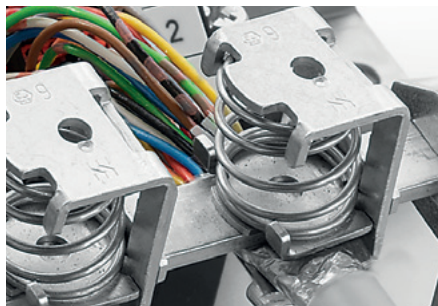
Optimal and sustainable

There is a suitable solution for every installation, safe and reliable thanks to the spring force.

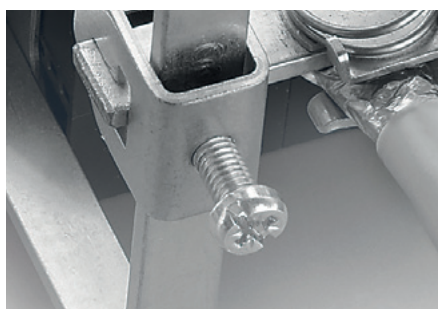


Guaranteed contact reliability

Be it transient surge voltages or electromagnetic fields in the area, coupling is safely prevented. The self-adjusting shield connection improves your productivity.

**Simply brilliant**

The operating principles and assembly are both immediately clear and ensure clarity through the whole series.

**Tailor made accessories**

Weidmüller offers the accessories needed to ensure optimum shielding, they are tailor made to make your build simple, safe and quick.

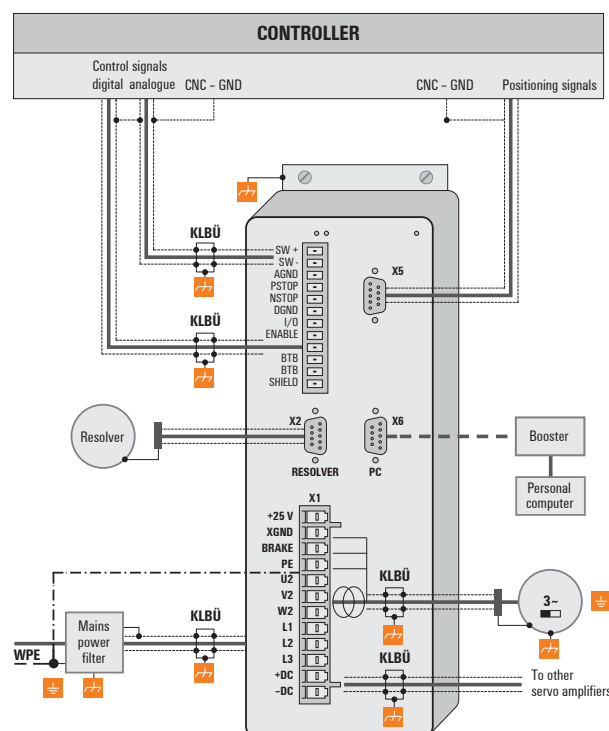


The theoretical concept

Part 1 of the VDE 0133 standard specifies the required equipotential bonding for the electrical components of a machine. The aim is to prevent any undesirable consequences occurring as a result of electrostatic, electromagnetic and net-work bound interference.

The following measures serve this purpose:

- Use filter and time delays.
- Reference (ground) potentials split into "dirty" and "clean".
- Neutral earthing of all reference potentials with large diameters ($\geq 6 \text{ mm}^2$).
- Earth connections selected should be as short as possible.
- All connections should be routed in parallel to the earthing plane.
- Use shielded cables. When possible, the shield should be earthed at both ends.
- Isolate and shield switching devices and components susceptible to interference.



Overview of KLBÜ fittings available

For busbars
10 x 3



For direct mounting



For C-profiles



For TS 35
insulating/conducting



Clip on for
10 x 3 busbar



For direct wiring in
2.5 mm² Z terminals



In detail

Compression spring

- To ensure both simple handling and proper connection with permanent contact pressure as a result of the spring effect

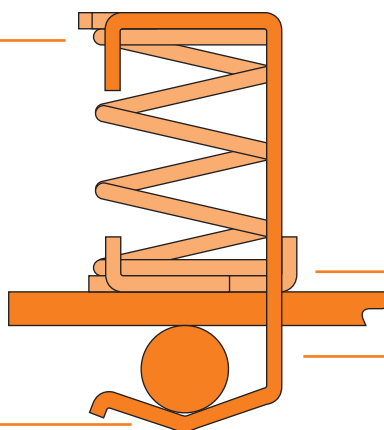
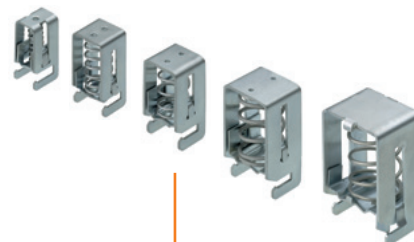


No extra tools necessary

- Simply **swivel onto the busbar by hand** – retrospectively if necessary

Full range

- For conductors from 2 to 37 mm diameter



Reliable contact

- Changes in diameter (flow) of the conductor compensated for by the elastic behaviour of the clamping yoke for flexible adjustment to the cable diameter

Many options available

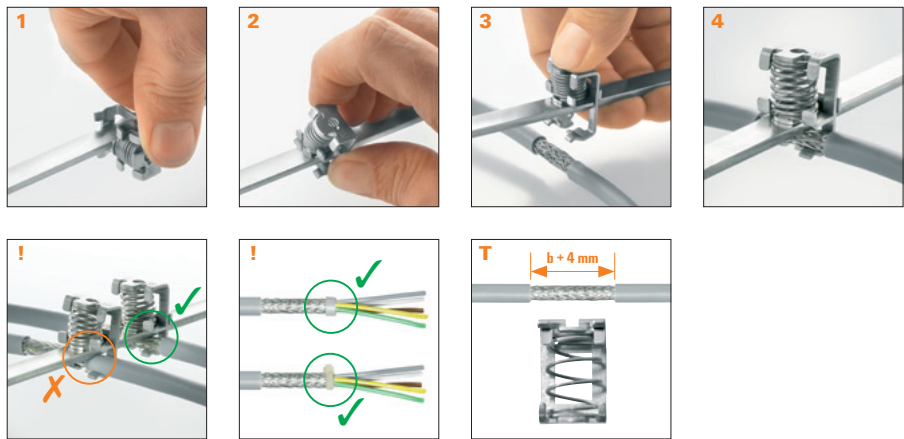
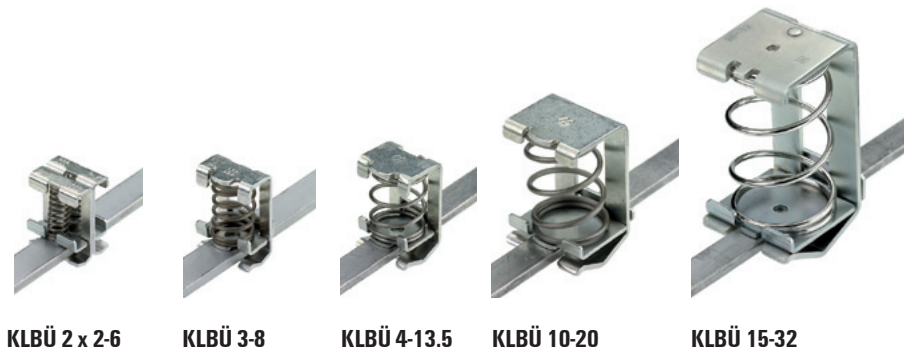
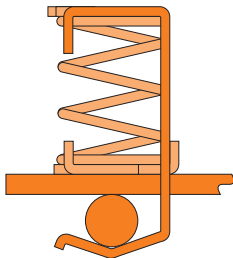
- Weidmüller offers a wide range of different fastenings for mounting shield connection terminals

E

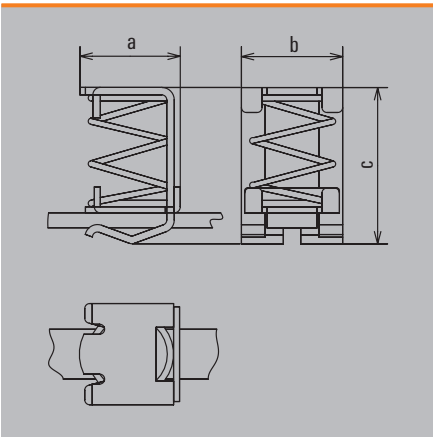
Shield connection terminals KLBÜ for 10 x 3 mm busbars

Clamping yoke

Cable fastened against the busbar from the top



KLBÜ



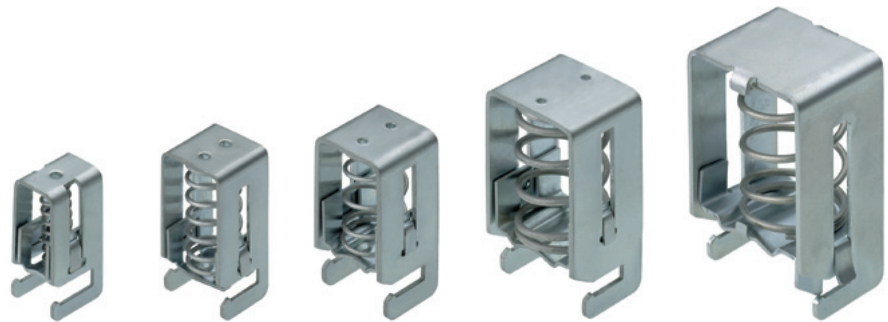
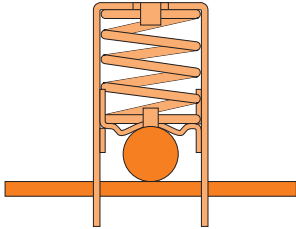
Ordering data

Type	For cable diameter	Dimensions (a x b x c) mm	Qty.	Order No.
KLBÜ 2 x 2-6	2.0 ... 6.0 mm	15.0 x 18.0 x 24.0	10	1675350000
KLBÜ 3-8	3.0 ... 8.0 mm	13.0 x 18.0 x 26.0	10	1600480000
KLBÜ 4 x 13.5	4.0 ... 13.5 mm	20.0 x 20.5 x 31.5	10	1592810000
KLBÜ 10-20	10.0 ... 20.0 mm	25.0 x 26.0 x 40.0	10	1600490000
KLBÜ 15-32	15.0 ... 32.0 mm	36.0 x 32.0 x 63.9	10	1716300000

10 x 3 mm busbars	Length	Material	Qty.	Order No.
SSch 10 x 3 x 1000 Cu, Sn	1000.0 mm	Cu, Sn	1	0348900000

Clamping yoke

Cable fastened against the busbar from the top



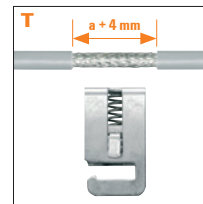
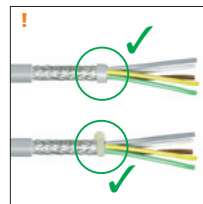
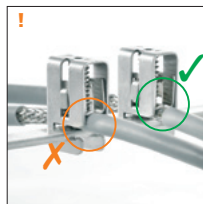
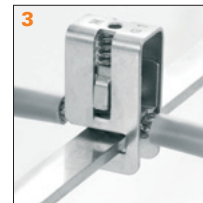
KLBÜ CO 1

KLBÜ CO 2

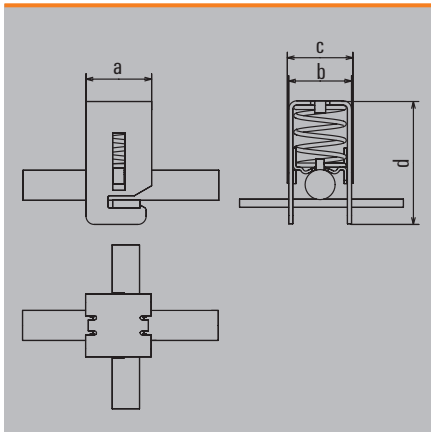
KLBÜ CO 3

KLBÜ CO 4

KLBÜ CO 5



KLBÜ CO



Ordering data

Type	For cable diameter	Dimensions (a x b x c) mm	Qty.	Order No.
KLBÜ CO 1	3.0 ... 10.0 mm	18.0 x 12.0 x 13.2 x 32.0	10	1753311001
KLBÜ CO 2	4.0 ... 15.0 mm	18.0 x 20.0 x 21.1 x 41.6	10	1752131001
KLBÜ CO 3	10.0 ... 20.0 mm	25.0 x 23.0 x 24.0 x 45.0	10	1749151001
KLBÜ CO 4	15.0 ... 28.0 mm	25.0 x 31.0 x 32.0 x 56.0	10	1749161001
KLBÜ CO 5	20.0 ... 37.0 mm	32.0 x 40.0 x 42.7 x 64.5	10	1755081001

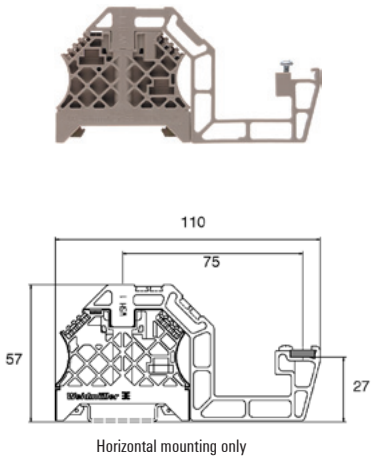
10 x 3 mm busbars	Length	Material	Qty.	Order No.
SSch 10 x 3 x 1000 Cu, Sn	1000.0 mm	Cu, Sn	1	0348900000

Shield connection terminals KLBÜ for 10 x 3 mm busbars

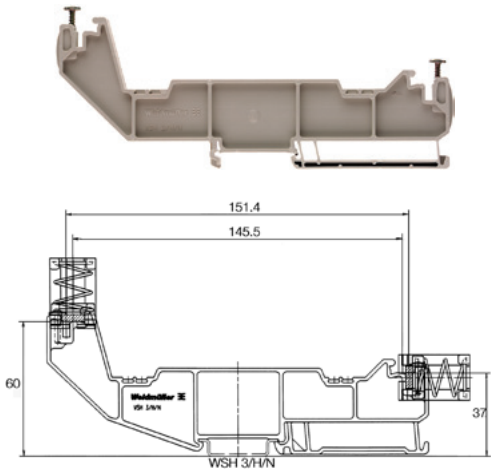
Busbar holders

Insulated mounting on TS 35

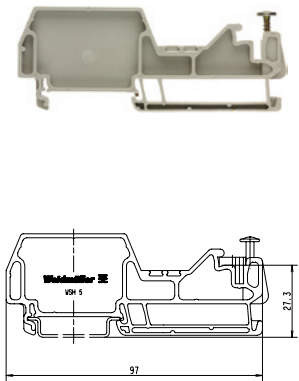
Type WSH 1



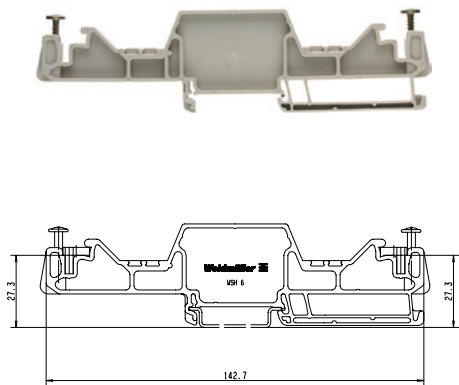
Type WSH 3/H/N



Type WSH 5



Type WSH 6



WSH

Ordering data

Type	Width	Qty.	Order No.
WSH 1	8.0 mm	10	1068700000
WSH 3/H/N	8.0 mm	10	1715970000
WSH 5	8.0 mm	10	1080100000
WSH 6	8.0 mm	10	1080200000

10 x 3 mm busbars	Length	Material	Qty.	Order No.
SSch 10 x 3 x 1000 Cu, Sn	1000.0 mm	Cu, Sn	1	0348900000

Busbar holders

Conductive mounting on TS 35

TS 35-Clip

BS 35/WSH 2



Busbar connector

BFEH 1/WSH



Angled rail

SMSE WSH U1MT

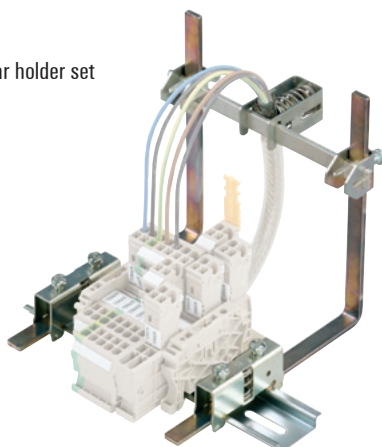


SMSE WSH 135/60 MT



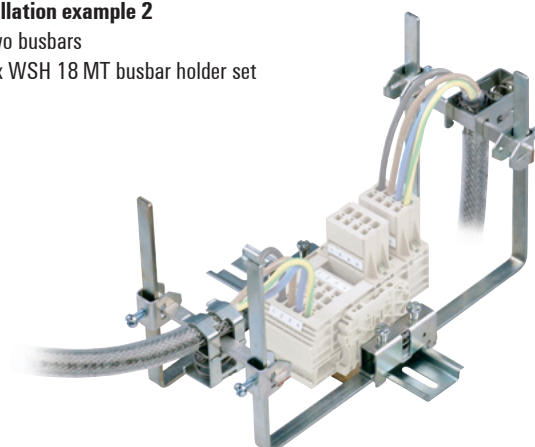
Installation example 1

- One busbar
- 2 x WSH 19 MT busbar holder set



Installation example 2

- Two busbars
- 2 x WSH 18 MT busbar holder set



WSH

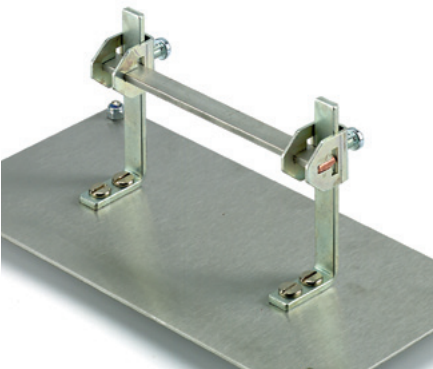
Ordering data

TS 35-Clip		Dimensions (L x B x H) mm		Qty.	Order No.
BS 35/WSH 2		52.0 x 37.0 x 13.0		10	1760720000
Busbar connector		Dimensions (L x B x H) mm		Qty.	Order No.
BFEH 1/WSH		20.0 x 31.0 x 13.5		10	1082400000
Angled rail		Dimensions (L x B x H) mm		Qty.	Order No.
SMSE WSH U1MT		134.0 x 10.0 x 134.0		10	1083900000
SMSE WSH 135/60 MT		60.0 x 10.0 x 60.0		10	1246990000
Busbar holder sets		Contents (parts loose in plastic bag)			
		BS 35/WSH 2	BFEH 1/WSH	SMSE WSH U1MT	Order No.
WSH 18 MT		1 pcs.	2 pcs.	2 pcs.	1083100000
WSH 19 MT		1 pcs.	1 pcs.	1 pcs.	1083200000
10 x 3 mm busbars		Länge	Material	Qty.	Order No.
SSch 10 x 3 x 1000 Cu, Sn		1000.0 mm	Cu, Sn	1	0348900000

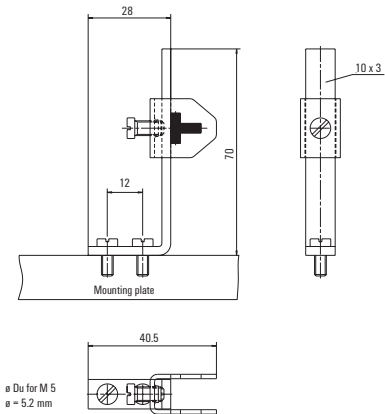
Shield connection terminals KLBÜ – Mounting directly on metal plate

Busbar holder / Spacer

Busbar holder



Set (WSH 4 MT) consisting of:
- 1 busbar holder
- 1 busbar connector (BFEH 1/WSH)



Spacer



M6 outer and inner thread
(15 mm, 20 mm and 30 mm long)

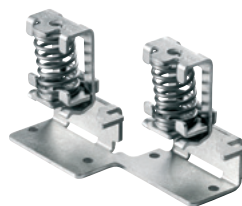
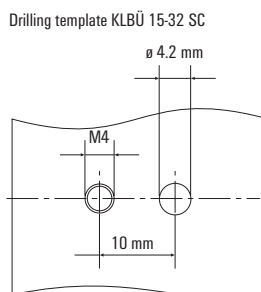
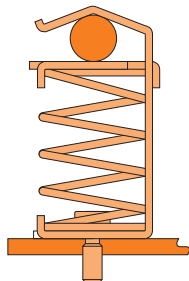


WSH 4 MT / SP

Ordering data

Busbar holder		Qty.	Order No.
WSH 4 MT		10	1079900000
Spacer	Length	Qty.	Order No.
SP 15 set of 2	15 mm	1	3896100000
SP 20 set of 2	20 mm	1	3896200000
SP 30 set of 2	30 mm	1	3896300000

Clamping yoke

**SCH-1-WB****KLBÜ 3-8 SC**

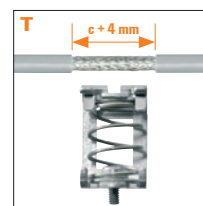
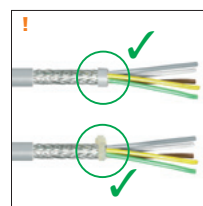
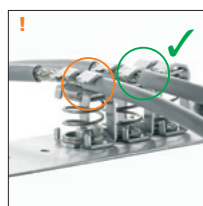
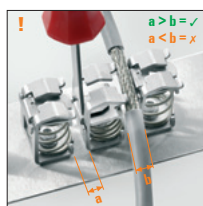
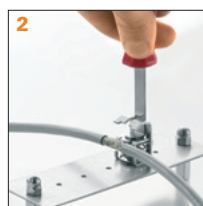
KLBÜ 4-13.5 SC



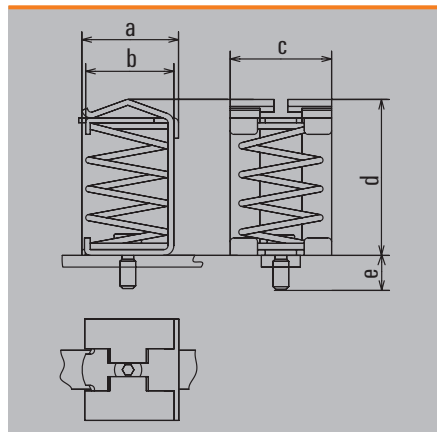
KLBÜ 10-20 SC



KLBÜ 15-32 SC



KLBÜ SC



Ordering data

Type	For cable diameter	Thread length	Dimensions (a x b x c) mm	Qty.	Order No.
SCH-1-WB	3.0 ... 8.0 mm		32.5 x 33.3 x 70.3 x 39.0	5	1739890000
KLBÜ 3-8 SC	3.0 ... 8.0 mm	5.65 mm	13.5 x 11.5 x 18.0 x 26.0	10	1692261001
KLBÜ 4-13.5 SC	4.0 ... 13.5 mm	5.30 mm	20.0 x 17.8 x 20.3 x 31.4	10	1712311001
KLBÜ 10-20 SC	10.0 ... 20.0 mm	5.30 mm	24.8 x 23.0 x 26.0 x 40.0	10	1712321001
KLBÜ 15-32 SC	15.0 ... 32.0 mm	4.80 mm	36.0 x 33.3 x 32.0 x 64.0	10	1718341001
Self-tapping screw				Qty.	Order No.
KLBUE 3-8 SDSC	3.0 ... 8.0 mm		36.0 x 33.3 x 32.0 x 64.0	10	1835840000
Operating tool				Qty.	Order No.
BTWZ KLBÜ				1	1742630000



Shield connection terminals KLBÜ – Mounting on TS 35

FM 4 foot / Clamping yoke holder

FM 4 foot

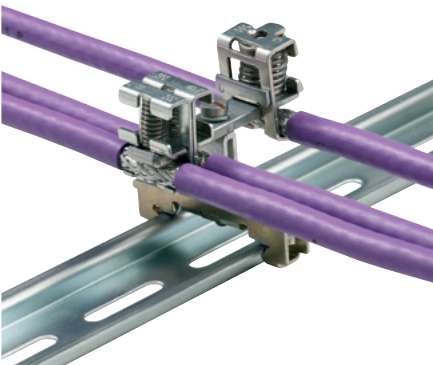


The KLBÜ SC clamping yokes (see page E.11) are screwed onto the **FM 4 foot**.



KLBÜ 4-13.5 FM4

Clamping yoke holder



BS 35 II (without KLBÜ)

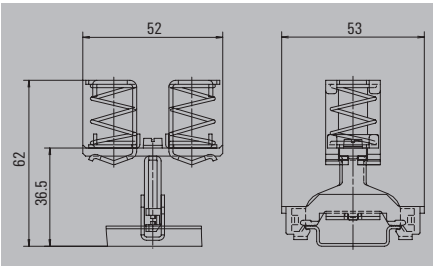


BS 35 II / KLBÜ 3-8



BS 35 II / KLBÜ 3-8 / 2 x 2-6

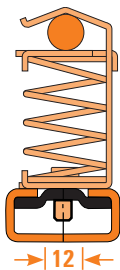
FM 4 / BS 35 II



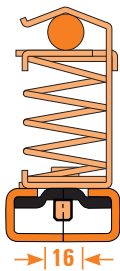
Ordering data

FM 4 foot		Qty.	Order No.
FM 4		40	0687900000
Clamp fitted with FM 4 foot		Qty.	Order No.
KLBUE 3-8 FM4		10	1252530000
KLBUE 4-13.5 FM4		10	1252520000
KLBUE 10-20 FM4		10	1252510000
KLBUE 15-32 FM4		10	1252490000
Clamping yoke holder		Qty.	Order No.
BS 35 II	without KLBÜ	10	1723800000
BS 35 II / KLBÜ 3-8	3.0 ... 8.0 mm	10	1723810000
BS 35 II / KLBÜ 4-13.5	4.0 ... 13.5 mm	10	1723820000
BS 35 II / KLBÜ 3-8/2 x 2-6	3.0 ... 8.0 mm / 2.0 ... 6.0 mm	10	1749430000
BS 35 II / KLBÜ 2 x 3-8/2 x 2-6	3.0 ... 8.0 mm / 2.0 ... 6.0 mm	10	1768020000

Clamping yoke



12



16



KLBÜ 3-8 CPF



KLBÜ 4-13.5 CPF



KLBÜ 10-20 CPF



KLBÜ 15-32 CPF



KLBUE 4-13.5 CPF16

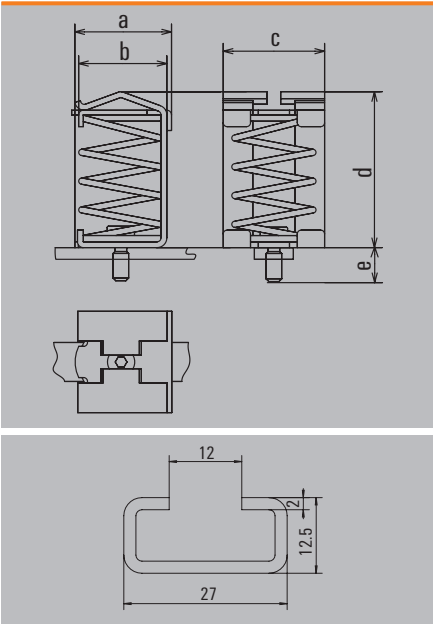


KLBUE 10-20 CPF16



KLBUE 15-32 CPF16

KLBÜ CPF



Ordering data

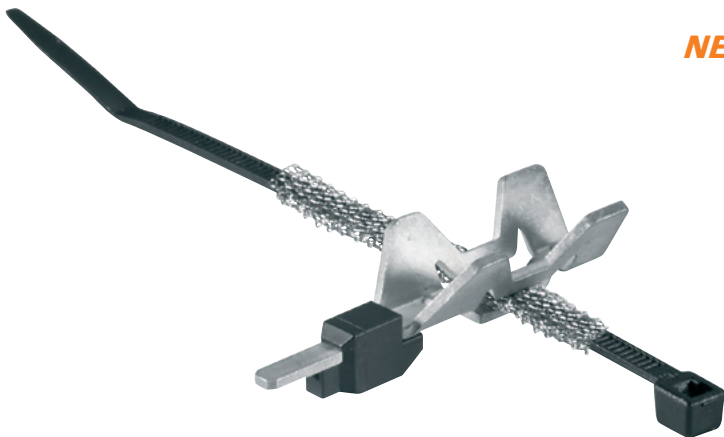
Type for 12 mm profile	For cable diameter	Dimensions (a x b x c x d) mm	Qty.	Order No.
KLBÜ 3-8 CPF	3.0 ... 8.0 mm	13.5 x 11.5 x 18.0 x 26.0	10	1752681001
KLBÜ 4-13.5 CPF	4.0 ... 13.5 mm	20.0 x 17.8 x 20.3 x 31.4	10	1752691001
KLBÜ 10-20 CPF	10.0 ... 20.0 mm	24.8 x 23.0 x 26.0 x 40.0	10	1752701001
KLBÜ 15-32 CPF	15.0 ... 32.0 mm	36.0 x 33.3 x 32.0 x 64.0	10	1752711001
Type for 16 mm profile			Qty.	Order No.
KLBUE 4-13.5 CPF16	4.0 ... 13.5 mm	20.0 x 17.8 x 20.3 x 31.4	10	1167850000
KLBUE 10-20 CPF16	10.0 ... 20.0 mm	24.8 x 23.0 x 26.0 x 40.0	10	1252550000
KLBUE 15-32 CPF16	15.0 ... 32.0 mm	36.0 x 33.3 x 32.0 x 64.0	10	1252540000
C-rail			Qty.	Order No.
TS 27 x 12.5M / ST / F.ZN			10 m	1802690000

Shield connection solutions for direct wiring

Shielding solutions for direct connection

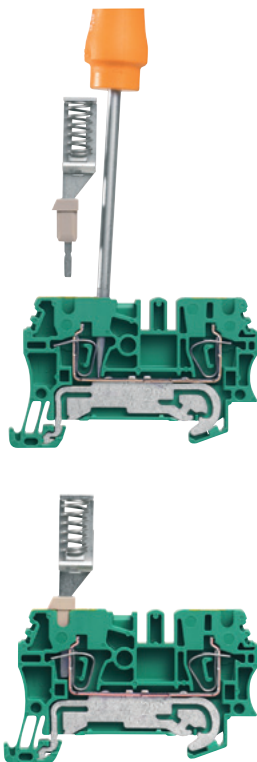


KLBÜ 4-6 Z/1



NEW

EMC set



Ordering data

Type for 12 mm profile	For cable diameter	Qty.	Order No.
KLBÜ 4-6 Z/1	4.0 ... 6.0 mm		2269800000
Note: Suitable for 2.5 mm² Z-series			
		Qty.	Order No.
EMC-Set		1	1067470000
EMC-CONTACT		1	1067520000
EMC-TIE		1	1067490000

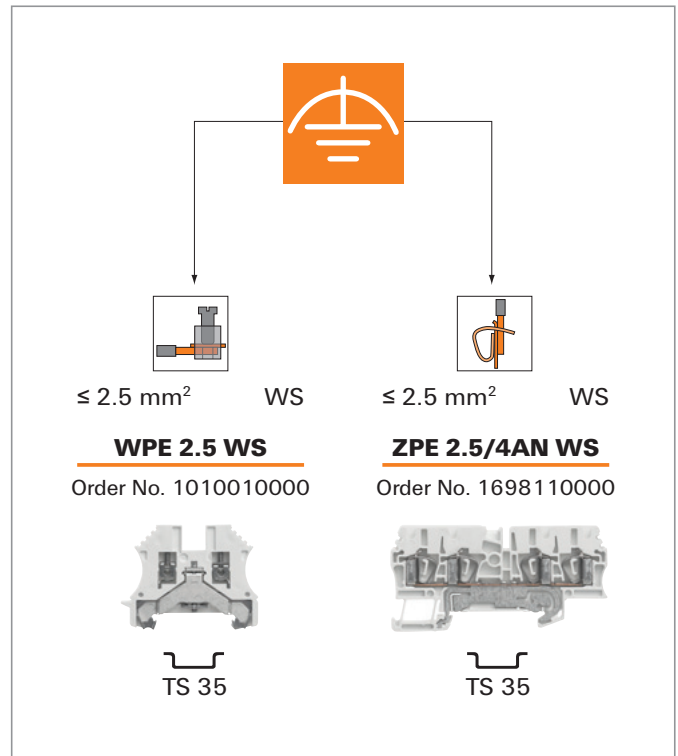
Functional earth

Functional earth

The functional earth is an equipotential bonding mechanism that is used to discharge shield-coupled transient currents. It can also have an earth function to prevent sensitive devices from damage. The same applies for couplings to grounding lines inside equipment – these must also be discharged. DIN VDE 0113 and VDE 0197 differ according to FE and PE: because there is a degree of freedom when designing the functional earth, but the protective earth must be conform with clear requirements. PE terminal blocks which are intended to protect human life must be labelled green-yellow. They can still be used for functional earthing although. White PE terminals (FE) can be used as the functional earth. Even the symbols used here have been extended in order to clarify the functional earth. In contrast to the protective earth, a meshing is not useful for the functional earth: instead wiring in a star topology makes more sense. This creates a so-called “clean” earth because compensation currents are not possible when this type of wiring is used. In such a case, the key is a low-impedance connection. The length of the line is also a critical factor.

For systems where this distinction must or should be made, Weidmüller offers white PE terminal blocks from the W- and Z-series. These terminals are easily identified through their colouring, showing that the circuits are only there to functionally protect the electrical systems that are connected.

Symbol for functional earthing



E

