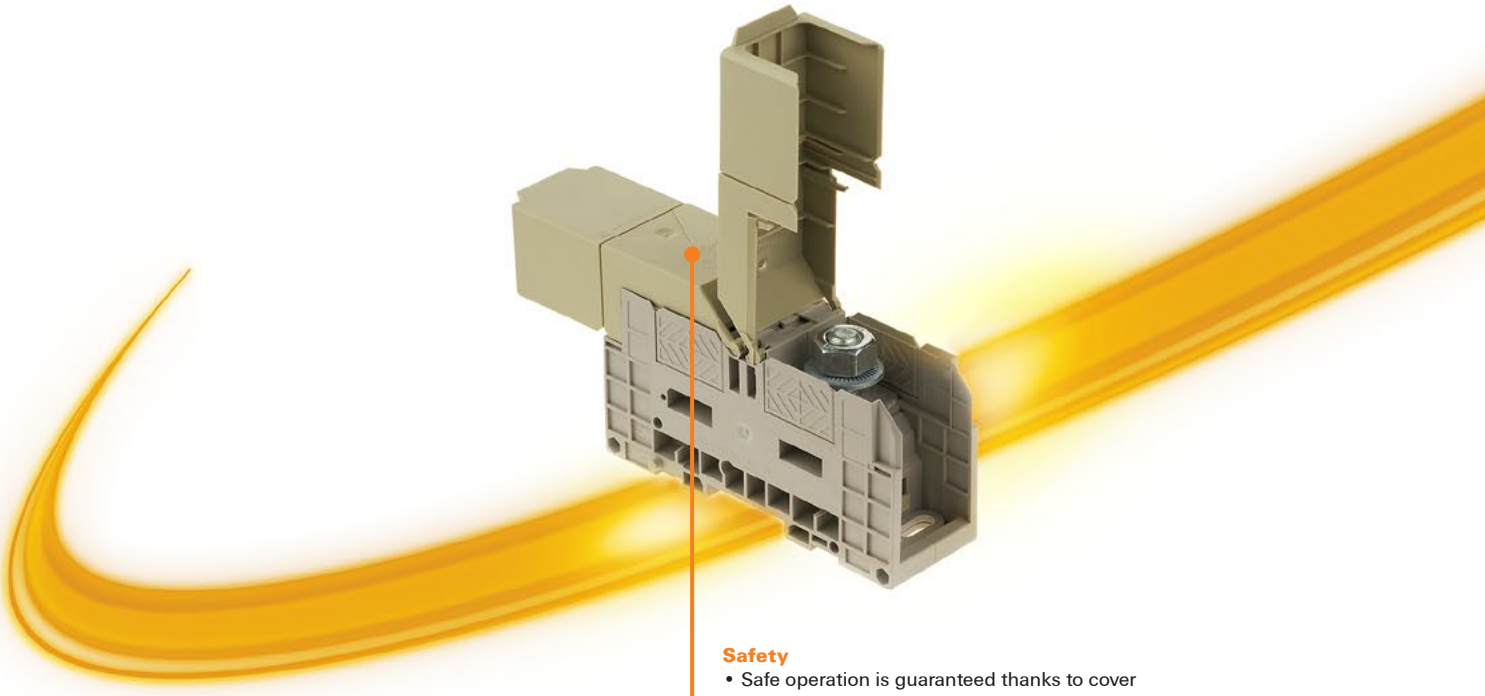
Robust connection for harsh conditions

Klippon® Connect offers maintenance-free contacts using stud technology

Whether it is the supply of high power levels to engines, quick and safe coupling of carriages, energy distribution in the carriages and parts thereof, traffic engineering in general, and high-speed trains especially, all pose real challenges for connectivity. For reliable power transfer in these challenging conditions, we offer series WF, WFF and ST 400 stud terminals. With crimped cable lugs, the conductors are laid on the threaded pins and securely connected together by tightening the hex nut to the required torque. The robust processing guarantees the ultimate in safety.

Our promise

Our stud terminals are an established, robust connection alternative for particularly harsh environments. The extensive accessories and quality workmanship ensure high productivity in planning and installation – and sustainable safety in operation.

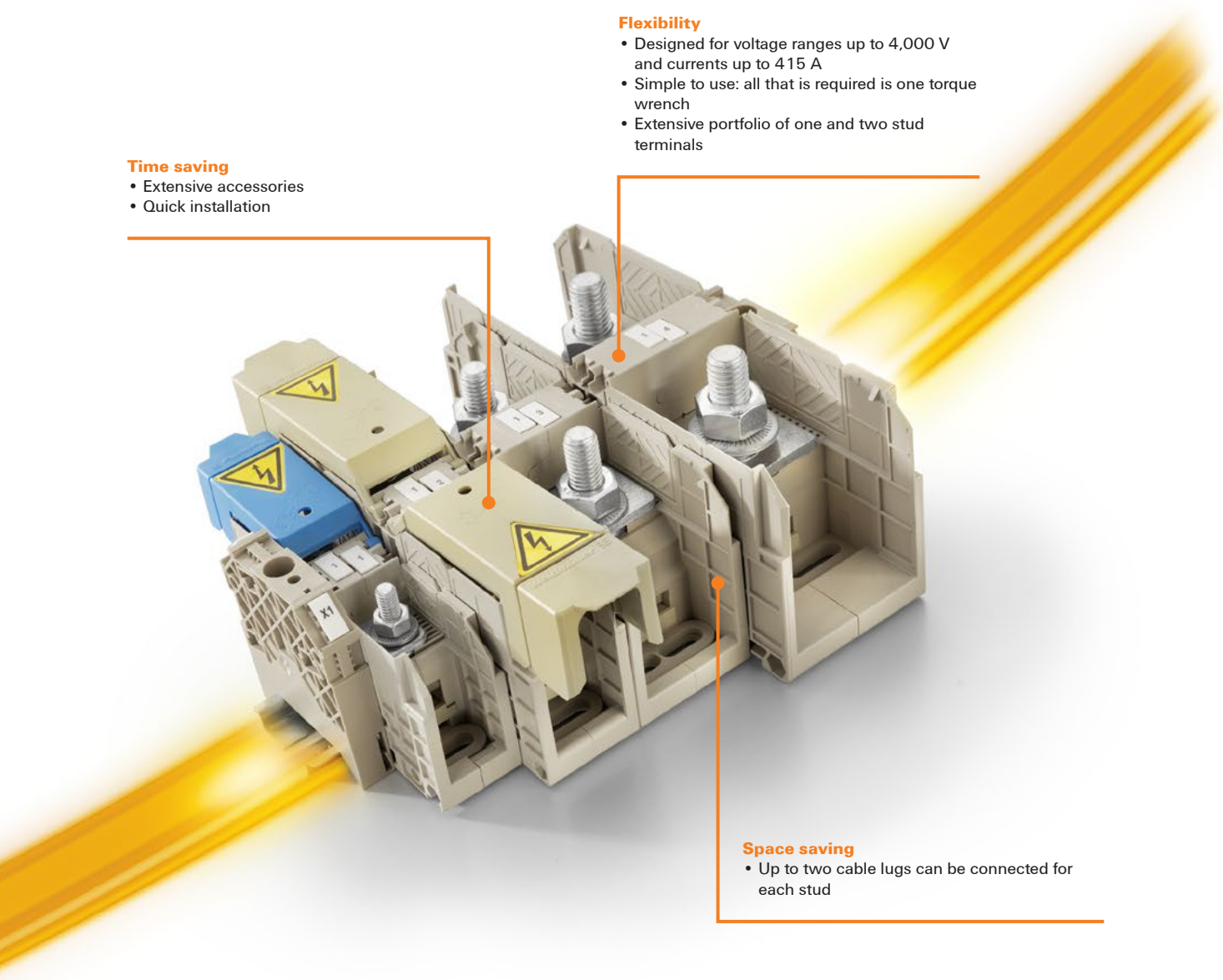


Safety

- Safe operation is guaranteed thanks to cover profiles or the snap-on and screwable hinged hoods
- All materials comply with the fire safety regulations found in DIN EN 45545
- All stud terminals are tested in line with the railway standards and made of self-extinguishing material

Flexibility
- Designed for voltage ranges up to 4,000 V and currents up to 415 A
- Simple to use: all that is required is one torque wrench
- Extensive portfolio of one and two stud terminals

Time saving
- Extensive accessories
- Quick installation



Space saving
- Up to two cable lugs can be connected for each stud

Overview

In all applications where reliable power transfer is key, our stud terminals are the safe solution.

Clever operating concept:
The WF and WFF stud terminal series are available as single and two-stud terminals. The option of a built-in folding hinged hood gives the two-stud terminals in the WFF-Series a particularly high level of safety.

Robust and high performance:
The ST 400 stud terminals, made of glass-fibre reinforced, flame resistant artificial resin for operating voltages of up to 4 kV, are specially designed for use on rail vehicles and tested to meet railway standards. They are perfect for applications with high requirements in terms of vibration and shock resistance.

Stud terminals

Power transmission
The comprehensive range of stud terminals ensures secure connections for all power transmission applications. Connections range from 10 mm² to 300 mm².

The connectors are attached to the threaded pins using crimped cable lugs and each connection is secured by tightening the hexagon nut. Stud terminals with threaded pins from M5 to M16 can be used according to the wire cross-section.

All stud terminals are tested to international standards **(EN 60947-7-1, EN 50124-1, DIN EN 61373, EN 50343, DIN EN 45545-2, NFF 61-017)** and satisfy the requirements contained therein.

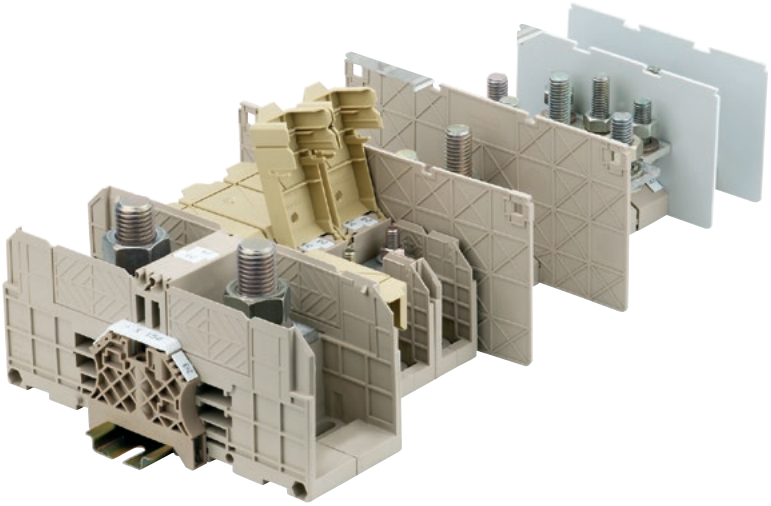
Handling
Cable lugs are crimped onto the cable lugs to connect the connectors. The cable lugs are placed between the washer on the clamp support and the lock washer on the bolt of the WF terminal. With the WFF stud terminals, the cable lugs contact directly to the current bar. Tightening the hexagon nut causes the cable lugs' flaps to press against one another – thereby creating a secure contact.

WF / WFF series
- For voltage ranges up to 1000 V
- For use with special epoxy resin partition plates even up to 2,300 V and 520 A

WF single-stud terminals
- Four connectors can be securely connected without a problem
- Three connectors even without compromising the rated data

WFF two-bolt terminals
- Two connectors can be reliably connected

Accessories
We offer an extensive range of accessories for our stud terminals. A detailed description is available on the accessory overview pages.

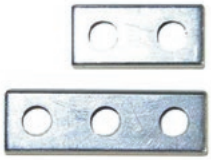


product overview

size of thread	M5	M6	M8	M10	M12	M16
single-stud terminals – WF	•	•	•	•	•	
twin-stud terminals – WF 2 BZ		•	•	•		
twin-stud terminals – WFF		•	•	•	•	•
twin-stud terminals – ST 4000 (up to 4000 V)			•	•	•	

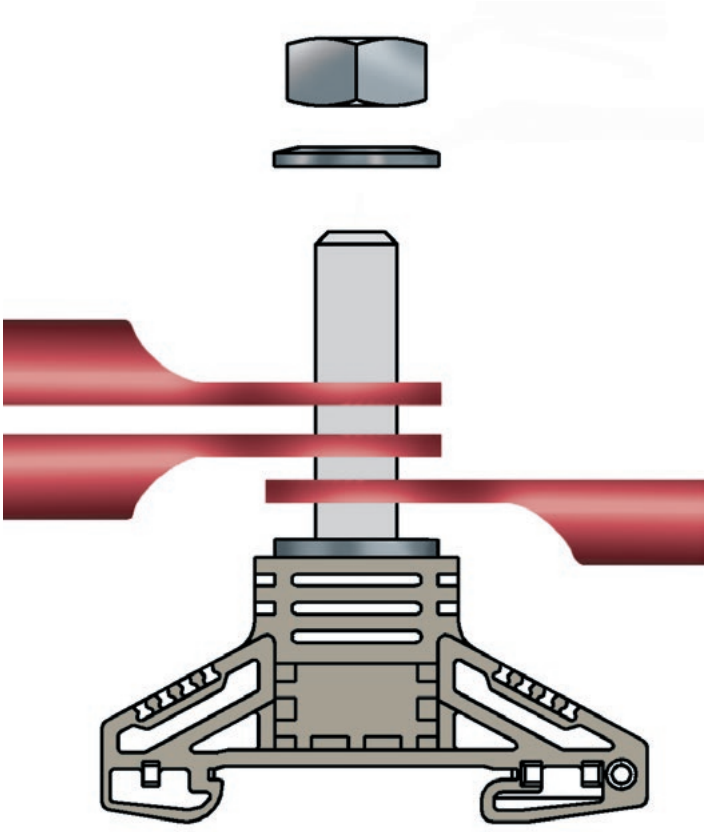
Stud connection
- Stud size M5 to M16
- Connector with cable lug according to DIN 46234 up to 240 mm² and DIN 46235 up to 300 mm²

Cross-connections
- Saves a great deal of time through fast potential distribution
- Can be used for all stud terminals
- 2, 3 and 4-pin variations available
- Potential distribution between different sizes possible (from WF6 to WF8 and to WF10)



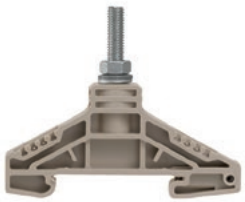
Simple operation
- The cable lugs are placed on the bolt using the washer
- The lock washer is placed on top
- A secure contact is established between the cable lugs by tightening the steel nuts

Clamp supports made of Wemid
- Non-tracking CTI 600
- Temperature-resistant up to 130°C
- Self-extinguishing V0 according to UL94
- Non-toxic
- No smoke emission in the event of fire
- Complies with the requirements set out in DIN EN 45545-2



Contact security
- Maintenance-free, no tightening of the nut necessary
- Resistant to vibrations and high contact force through lock washer

Safe operation
Touch-safe protection
- In the case of WF, through partition plates and transparent cover profiles
- In the case of WFF, with a lockable cover hood for each connection

	WF 5	WF 5 NFF
	16 mm²	16 mm²
	Screw thread M5	Screw thread M5
		
Width/Height/Depth mm	13 x 67 x 54.5	13 x 67 x 54.5
max. current / max. cond. cross-section A	**76 / 16**	**76 / 16**
Max. clamping range mm²	**0.1...16**	**0.1...16**

Technical data

Rated data with Wemid partition wall	IEC	UL	CSA	EN 60079-7
Rated voltage V	1000	1000	1000	
Rated current A	76	85	85	
for wire cross-section mm²	16	AWG 10...4	AWG 10...4	
Rated impulse withstand voltage / Pollution severity		8 kV / 3		
Gauge to IEC 60947-1 / UL 94 flammability rating		/ V-0		
Approvals	CE GL EAC KCA			
Clamped cable lugs				
Cable lug to DIN 46234	0.1...16 mm²			
2 x cable lugs DIN 46 234	0.1...16 mm²			
Cable lug to DIN 46235	6...10 mm²			
2 x cable lugs DIN 46 235	6...10 mm²			
Tightening torque (clamping screw for copper conductors)	2...4 Nm /			
Note	1000V UL and CSA for usage groups B and C can be used with isolating terminal rails and when using WTW WF6 1781220000 partitions.			

	IEC	UL	CSA	EN 60079-7
	1000			
	76			
	16			
		8 kV / 3		
		/ V-0		
	EAC			
	0.1...16 mm²			
	6...10 mm²			
	3.7...4.5 Nm /			

Ordering data

Version	Type	Qty.	Order No.
dark beige	WF 5	25	**1790130000**
Note	1000 V DC rated voltage passed with the WTW WF6 1781220000 partition plate.		

Type	Qty.	Order No.
WF 5 NFF	25	**1968990000**

Accessories

Cross-connection	Type	current	Qty.	Order No.
2-pole	WQL 2 WF5	101 A	5	**1812710000**
3-pole	WQL 3 WF5		5	**1812740000**
4-pole				
Auxiliary/control connection				
up to 4 mm², 32 A				
Partition plate				
dark beige	WTW WF6		20	**1781220000**
Beige epoxy resin	WTW WF6 2300		20	**1781230000**
dark beige	WTW WF6-WF12		20	**1781240000**
End bracket				
dark beige	WEW 35/2		100	**1061200000**
Hood transparent				
Hood transparent 1000 mm	ADP WF6/WF8		1	**1780930000**
Holder for shrouding cover transparent				
Holder for shrouding cover, transparent	HA ADP WF6/WF10		10	**1781050000**
Busbar				
Identification systems				
	WS 12/5 MC NE WS		720	**1609860000**

Type	current	Qty.	Order No.
WQL 2 WF5	101 A	5	**1812710000**
WQL 3 WF5		5	**1812740000**
WTW WF6		20	**1781220000**
WTW WF6 2300		20	**1781230000**
WTW WF6-WF12		20	**1781240000**
WEW 35/2		100	**1061200000**
ADP WF6/WF8		1	**1780930000**
HA ADP WF6/WF10		10	**1781050000**
WS 15/5 MC NE WS		480	**1609880000**
DEK 5/6 MC NE WS		1000	**1609820000**

For detailed information on other accessories and application in the online catalogue	With WTW...2300 made from epoxy resin, rated current is 2300 V according to DIN EN 50124-1	With WTW...2300 made from epoxy resin, rated current is 2300 V according to DIN EN 50124-1

WF 6 — 35 mm²

Screw thread M6

17.8 x 67 x 54.5
125 / 35
2.5...35

IEC	UL	CSA	EN 60079-7
1000	1000	1000	
125	115	150	
35	AWG 14...2	AWG 14...2	
	8 kV / 3		
	/ V-0		
CE cULus EAC KCU			
2.5...35 mm²			
2.5...35 mm²			
6...25 mm²			
6...25 mm²			
3...6 Nm /			

1000 V UL and CSA for usage groups B and C: can be used with isolating terminal rails and when using WTW-type partitions.

Type	Qty.	Order No.
WF 6	25	1780850000

1000 VDC rated voltage tested.

Type	current	Qty.	Order No.
WQL 2 WF6	125 A	5	1780970000
WQL 3 WF6	125 A	5	1780980000
WZAF 35		10	1070500000
WTW WF6		20	1781220000
WTW WF6 2300		20	1781230000
WTW WF6-WF12		20	1781240000
WEW 35/2		100	1061200000
ADP WF6/WF8		1	1780930000
HA ADP WF6/WF10		10	1781050000
WS 10/6 MC NE WS		600	1828450000

With WTW...2300 made from epoxy resin, rated current is 2300 V according to DIN EN 50124-1

WF 6 NFF — 35 mm²

Screw thread M6

17.8 x 67 x 54.5
125 / 35
2.5...35

IEC	UL	CSA	EN 60079-7
1000			
125			
35			
	8 kV / 3		
	/ V-0		
EAC			
2.5...35 mm²			
6...35 mm²			
5.8...7 Nm /			

Type	Qty.	Order No.
WF 6 NFF	25	1969000000

Type	current	Qty.	Order No.
WQL 2 WF6	125 A	5	1780970000
WQL 3 WF6	125 A	5	1780980000
WZAF 35		10	1070500000
WTW WF6		20	1781220000
WTW WF6 2300		20	1781230000
WTW WF6-WF12		20	1781240000
WEW 35/2		100	1061200000
ADP WF6/WF8		1	1780930000
HA ADP WF6/WF10		10	1781050000
WS 15/5 MC NE WS		480	1609880000
DEK 5/6 MC NE WS		1000	1609820000

With WTW...2300 made from epoxy resin, rated current is 2300 V according to DIN EN 50124-1

WF 8 — 50 mm²

Screw thread M8

22.8 x 67 x 63.5
150 / 50
2.5...50

IEC	UL	CSA	EN 60079-7
1000	1000	1000	
150	150	200	
50	AWG 14...0	AWG 14...0	
	8 kV / 3		
	/ V-0		
CE cULus EAC KCU			
2.5...50 mm²			
2.5...50 mm²			
6...35 mm²			
6...35 mm²			
6...12 Nm /			

The WQL 2 for WF 6 on the WF 8 is available under Order no. 1808980000.

Type	Qty.	Order No.
WF 8	25	1780860000

1000 V UL and CSA for use groups B and C: can be used with isolating DIN rails and when using WTW-type partitions.

Type	current	Qty.	Order No.
WQL 2 WF8	150 A	5	1780990000
WQL 3 WF8	150 A	5	1781000000
WZAF 70		10	1066200000
WTW WF8		20	1780900000
WTW WF8 2300		20	1780910000
WEW 35/2		100	1061200000
ADP WF6/WF8		1	1780930000
HA ADP WF6/WF10		10	1781050000
WS 10/6 MC NE WS		600	1828450000

With WTW...2300 made from epoxy resin, rated current is 2300 V according to DIN EN 50124-1

	WF 8 NFF	WF 10
	50 mm²	120 mm²
	Screw thread M8	Screw thread M10
		
Width/Height/Depth mm	22.8 x 67 x 63.5	33.8 x 67 x 72.5
max. current / max. cond. cross-section A	**150 / 50**	**269 / 120**
Max. clamping range mm²	**2.5...50**	**6...120**

Technical data

Rated data with Wemid partition wall	IEC	UL	CSA	EN 60079-7
Rated voltage V	1000	1000	1000	
Rated current A	150	269	320	
for wire cross-section mm²	50	120	AWG 10...250	AWG 10...250
Rated impulse withstand voltage / Pollution severity	8 kV / 3		8 kV / 3	
Gauge to IEC 60947-1 / UL 94 flammability rating	/ V-0		/ V-0	
Approvals	EAC	CE GL cULus EAC KEUR		
Clamped cable lugs				
Cable lug to DIN 46234	2.5...50 mm²	6...120 mm²		
2 x cable lugs DIN 46 234		6...120 mm²		
Cable lug to DIN 46235	6...35 mm²	10...95 mm²		
2 x cable lugs DIN 46 235		10...95 mm²		
Tightening torque (clamping screw for copper conductors)	15...18 Nm /	10...20 Nm /		
Note		The WQL 2 for WF 6 on the WF 10 is available under Order no. 1806620000.		

Ordering data

Version	Type	Qty.	Order No.
dark beige	WF 8 NFF	25	**1968960000**
Note			

Type	Qty.	Order No.
WF 10	20	**1780870000**

1000 V UL and CSA for use groups B and C: can be used with isolating DIN rails and when using WTW-type partitions.

Accessories

Cross-connection	Type	current	Qty.	Order No.
2-pole	WQL 2 WF8	150 A	5	**1780990000**
3-pole	WQL 3 WF8	150 A	5	**1781000000**
4-pole				
Auxiliary/control connection				
up to 4 mm², 32 A	WZAF 70		10	**1066200000**
Partition plate				
dark beige	WTW WF8		20	**1780900000**
Beige epoxy resin	WTW WF8 2300		20	**1780910000**
dark beige				
End bracket				
dark beige	WEW 35/2		100	**1061200000**
Hood transparent				
Hood transparent 1000 mm	ADP WF6/WF8		1	**1780930000**
Holder for shrouding cover transparent				
Holder for shrouding cover, transparent	HA ADP WF6/WF10		10	**1781050000**
Busbar				
Identification systems				
	WS 15/5 MC NE WS		480	**1609880000**
	DEK 5/6 MC NE WS		1000	**1609820000**

Type	current	Qty.	Order No.
WQL 2 WF10	265 A	5	**1781010000**
WQL 3 WF10	265 A	5	**1781020000**
WQL 4 WF10		5	**1027840000**
WZAF 120		10	**1066300000**
WTW WF10/WF12		20	**1780890000**
WTW WF10/WF12 2300		20	**1780920000**
WEW 35/2		100	**1061200000**
ADP WF10/WF12		1	**1780940000**
HA ADP WF6/WF10		10	**1781050000**
WS 10/6 MC NE WS		600	**1828450000**

For detailed information on other accessories and application in the online catalogue

With WTW...2300 made from epoxy resin, rated current is 2300 V according to DIN EN 50124-1

With WTW...2300 made from epoxy resin, rated current is 2300 V according to DIN EN 50124-1

WF 10 NFF — 120 mm²

Screw thread M10

33.8 x 67 x 72.5
269 / 120
6...120

IEC	UL	CSA	EN 60079-7
1000			
269			
120			
	8 kV / 3		
	/ V-0		
EAC			
6...120 mm²			
10...95 mm²			
30...36 Nm /			

The WQL 2, for WF 6 on WF 10, is available under order no. 180662000.

Type	Qty.	Order No.
WF 10 NFF	20	1968950000

Type	current	Qty.	Order No.
WQL 2 WF10	265 A	5	1781010000
WQL 3 WF10	265 A	5	1781020000
WQL 4 WF10		5	1027840000
WZAF 120		10	1066300000
WTW WF10/WF12		20	1780890000
WTW WF10/WF12 2300		20	1780920000
WEW 35/2		100	1061200000
ADP WF10/WF12		1	1780940000
HA ADP WF6/WF10		10	1781050000
SMSE WF10/2XM6		10	1868880000
WS 15/5 MC NE WS		480	1609880000
DEK 5/6 MC NE WS		1000	1609820000

With WTW...2300 made from epoxy resin, rated current is 2300 V according to DIN EN 50124-1

WF 12 — 120 mm²

Screw thread M12

33.8 x 67 x 70.5
269 / 120
6...120

IEC	UL	CSA	EN 60079-7
1000	1000	1000	
269	255	320	
120	AWG 10...250	AWG 10...250	
	8 kV / 3		
	/ V-0		
CE GR EAC KCAS UL			
6...120 mm²			
6...120 mm²			
10...95 mm²			
10...95 mm²			
14...31 Nm /			

Type	Qty.	Order No.
WF 12	20	1780880000

1000 V UL and CSA for use groups B and C: can be used with isolating DIN rails and when using WTW-type partitions.

Type	current	Qty.	Order No.
WQL 2 WF12	265 A	5	1781030000
WQL 3 WF12	265 A	5	1781040000
WZAF 185		10	1066400000
WTW WF10/WF12		20	1780890000
WTW WF10/WF12 2300		20	1780920000
WEW 35/2		100	1061200000
ADP WF10/WF12		1	1780940000
HA ADP WF6/WF10		10	1781050000
WS 10/6 MC NE WS		600	1828450000

With WTW...2300 made from epoxy resin, rated current is 2300 V according to DIN EN 50124-1

WF 12 NFF — 120 mm²

Screw thread M12

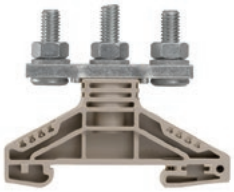
33.8 x 67 x 70.5
269 / 120
6...120

IEC	UL	CSA	EN 60079-7
1000			
269			
120			
	8 kV / 3		
	/ V-0		
EAC			
6...120 mm²			
10...95 mm²			
50...60 Nm /			

Type	Qty.	Order No.
WF 12 NFF	20	1968940000

Type	current	Qty.	Order No.
WQL 2 WF12	265 A	5	1781030000
WQL 3 WF12	265 A	5	1781040000
WZAF 185		10	1066400000
WTW WF10/WF12		20	1780890000
WTW WF10/WF12 2300		20	1780920000
WEW 35/2		100	1061200000
ADP WF10/WF12		1	1780940000
HA ADP WF6/WF10		10	1781050000
SMSE WF10/2XM6		10	1868880000
WS 15/5 MC NE WS		480	1609880000
DEK 5/6 MC NE WS		1000	1609820000

With WTW...2300 made from epoxy resin, rated current is 2300 V according to DIN EN 50124-1

	WF 6/2BZ	WF 8/2BZ
	35 mm²	50 mm²
	Screw thread M6	Screw thread M8
		
Width/Height/Depth mm	17.8 x 67 x 54.5	22.8 x 67 x 63.5
max. current / max. cond. cross-section A	**125 / 35**	**150 / 50**
Max. clamping range mm²	**2.5...35**	**2.5...50**

Technical data

Rated data with Wemid partition wall		IEC	UL	CSA	EN 60079-7
Rated voltage	V	1000	1000	1000	
Rated current	A	125	115	115	
for wire cross-section	mm²	35	AWG 2	AWG 26...12	
Rated impulse withstand voltage / Pollution severity			8 kV / 3		
Gauge to IEC 60947-1 / UL 94 flammability rating			/ V-0		
Approvals					
Clamped cable lugs					
Cable lug to DIN 46234		2.5...35 mm²			
2 x cable lugs DIN 46 234		2.5...35 mm²			
Cable lug to DIN 46235		6...25 mm²			
2 x cable lugs DIN 46 235		6...25 mm²			
Tightening torque (clamping screw for copper conductors)					
Note		1000 V UL and CSA for usage groups B and C: can be used with isolating terminal rails and when using WTW-type partitions.			

Rated data with Wemid partition wall		IEC	UL	CSA	EN 60079-7
Rated voltage	V	1000	1000	1000	
Rated current	A	150	150	150	
for wire cross-section	mm²	50	AWG 0	AWG 26...12	
Rated impulse withstand voltage / Pollution severity			8 kV / 3		
Gauge to IEC 60947-1 / UL 94 flammability rating			/ V-0		
Approvals					
Clamped cable lugs					
Cable lug to DIN 46234		2.5...50 mm²			
2 x cable lugs DIN 46 234		2.5...50 mm²			
Cable lug to DIN 46235		6...35 mm²			
2 x cable lugs DIN 46 235		6...35 mm²			
Tightening torque (clamping screw for copper conductors)					
Note		1000 V UL and CSA for usage groups B and C: can be used with isolating terminal rails and when using WTW-type partitions.			

Ordering data

Version	Type	Qty.	Order No.
dark beige	WF 6/2BZ	25	**1789770000**
Note	1000 VDC rated voltage tested.		

Version	Type	Qty.	Order No.
dark beige	WF 8/2BZ	25	**1789780000**
Note	1000 VDC rated voltage tested.		

Accessories

Cross-connection	Type	current	Qty.	Order No.
2-pole	WQL 2 WF6	125 A	5	**1780970000**
3-pole	WQL 3 WF6	125 A	5	**1780980000**
Auxiliary/control connection				
up to 4 mm², 32 A	WZAF 35		10	**1070500000**
Partition plate				
dark beige	WTW WF10/WF12		20	**1780890000**
Beige epoxy resin	WTW WF6 2300		20	**1781230000**
End bracket				
dark beige	WEW 35/2		100	**1061200000**
Hood transparent				
Hood transparent 1000 mm	ADP WF10/WF12		1	**1780940000**
Holder for shrouding cover transparent				
Holder for shrouding cover, transparent	HA ADP WF6/WF10		10	**1781050000**
Identification systems				
	WS 12/5 MC NE WS		720	**1609860000**

Cross-connection	Type	current	Qty.	Order No.
2-pole	WQL 2 WF8	150 A	5	**1780990000**
3-pole	WQL 3 WF8	150 A	5	**1781000000**
Auxiliary/control connection				
up to 4 mm², 32 A	WZAF 70		10	**1066200000**
Partition plate				
dark beige	WTW WF10/WF12		20	**1780890000**
Beige epoxy resin	WTW WF8 2300		20	**1780910000**
End bracket				
dark beige	WEW 35/2		100	**1061200000**
Hood transparent				
Hood transparent 1000 mm	ADP WF10/WF12		1	**1780940000**
Holder for shrouding cover transparent				
Holder for shrouding cover, transparent	HA ADP WF6/WF10		10	**1781050000**
Identification systems				
	WS 12/5 MC NE WS		720	**1609860000**

For detailed information on other accessories and application in the online catalogue

With WTW...2300 made from epoxy resin, rated current 2300 V according to DIN EN 50124 pt 1

With WTW...2300 made from epoxy resin, rated current 2300 V according to DIN EN 50124 pt 1

WF 10/2BZ — 120 mm²

Screw thread M10

33.8 x 87.6 x 72.5
269 / 120
6...120

IEC	UL	CSA	EN 60079-7
1000	1000	1000	
269	230	230	
120	AWG 0	AWG 26...12	
	8 kV / 3		
	/ V-0		
CE GL cULus EAC			
6...120 mm²			
6...120 mm²			
10...95 mm²			
10...95 mm²			

1000 V UL and CSA for usage groups B and C: can be used with isolating terminal rails and when using WTW-type partitions.

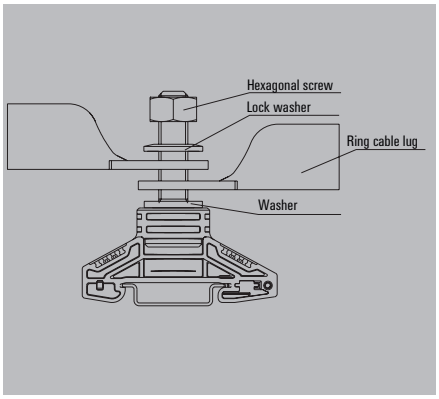
Type	Qty.	Order No.
WF 10/2BZ	10	1789790000

1000 VDC rated voltage tested.

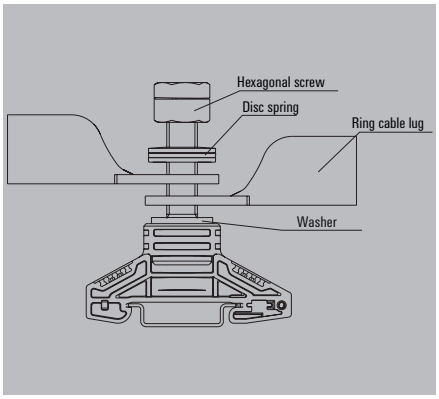
Type	current	Qty.	Order No.
WQL 2 WF10	265 A	5	1781010000
WQL 3 WF10	265 A	5	1781020000
WZAF 120		10	1066300000
WTW WF10/WF12		20	1780890000
WTW WF10/WF12 2300		20	1780920000
WEW 35/2		100	1061200000
ADP WF10/WF12		1	1780940000
HA ADP WF6/WF10		10	1781050000

With WTW...2300 made from epoxy resin, rated current 1500 V up to 70 mm² according to DIN EN 50124 pt 1

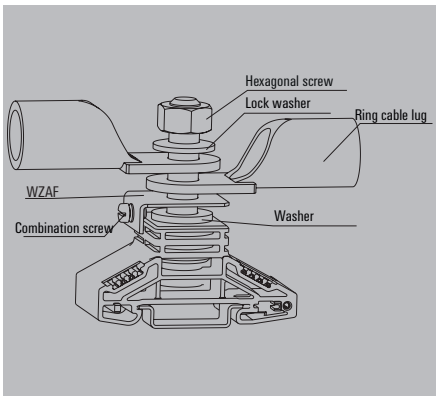
Stud connection series WF



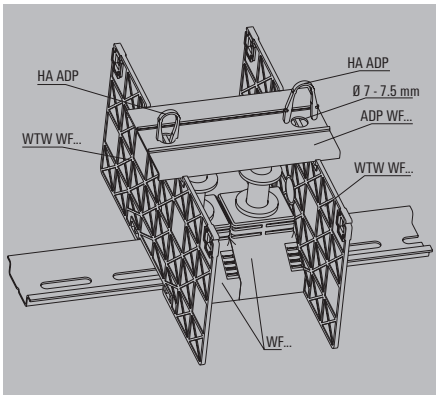
Stud connection series WF NFF



Auxiliary/control line connection WZAF



Application example



Structure to use cover profiles (ADP WF) on the partition plates (WTW WF) with the relevant holders (HA ADP).

Drilled holes for cover profiles 7–7.5 mm

	WFF 35	WFF 35 NFF
	35 mm²	35 mm²
	Screw thread M6	Screw thread M6

Width/Height/Depth mm	27 x 107 x 51	27 x 107 x 51
max. current / max. cond. cross-section A/mm²	**150 / 50**	**125 / 50**
Max. clamping range mm²	**2.5...50**	**2.5...50**

Technical data

Rated data with Wemid partition wall		
Rated voltage V	Ex e II II 2 G D	
Rated current A		
for wire cross-section mm²		
Rated impulse withstand voltage / Pollution severity		
Gauge to IEC 60947-1 / UL 94 flammability rating		
Approvals	KEMA 98ATEX1684 U	
Clamped cable lugs		
Cable lug to DIN 46234 / 2 x cable lugs DIN 46 234		
Cable lug to DIN 46235 / 2 x cable lugs DIN 46 235		
Tightening torque (clamping screw for copper conductors)		
Note		

IEC	UL	CSA	EN 60079-7
1000	1000	600	1100
125	115	130	109
35	AWG 14...2	AWG 14...2	35 mm²
	8 kV / 3		
	/ V-0		
2.5...50 mm² / 2.5...35 mm²			
6...25 mm² / 6...25 mm²			
3...6 Nm /			
1000 V UL and CSA for usage groups B and C: can be used with isolating terminal rails and when using WTW-type partitions.			

IEC	UL	CSA	EN 60079-7
500			
125			
35			
		/ V-0	
2.5...50 mm² /			
5.8...7 Nm /			

Ordering data

Version	Type	Qty.	Order No.
dark beige	WFF 35	10	**1028300000**
dark beige	WFF 35/AH	5	**1029300000**
blue	WFF 35 BL	10	**1028380000**
Note	1000 VDC rated voltage tested.		

Type	Qty.	Order No.
WFF 35 NFF	5	**1049220000**

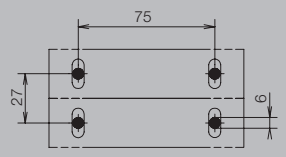
Accessories

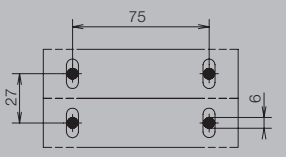
Cross-connection	Type	current	Qty.	Order No.
2-pole	WQL 2 WFF35	150 A	5	**1064900000**
3-pole	WQL 3 WFF35	150 A	5	**1065400000**
Auxiliary/control connection				
up to 4 mm², 32 A	WZAF 35		10	**1070500000**
Partition plate				
dark beige	WTW WFF35		10	**1067100000**
End bracket				
dark beige	WEW 35/1		50	**1059000000**
Cover hood				
Hood, dark beige Wemid	WAH 35		20	**1064460000**
Identification systems				
Warning triangle for power supply terminals	WD 1 25 K KARTE A 6 ST		30	**1563900000**
	WS 12/6.5 MC NE WS		540	**1609920000**
For detailed information on other accessories and application in the online catalogue	WAH 35 in blue, Order no. 1064480000			

Type	current	Qty.	Order No.
WQL 2 WFF35	150 A	5	**1064900000**
WQL 3 WFF35	150 A	5	**1065400000**
WZAF 35		10	**1070500000**
WTW WFF35		10	**1067100000**
WEW 35/1		50	**1059000000**
WAH 35		20	**1064460000**
WD 1 25 K KARTE A 6 ST		30	**1563900000**
WS 12/6.5 MC NE WS		540	**1609920000**
WAH 35 in blue, Order no. 1064480000			

Technical drawing

Drilling template for direct mounting

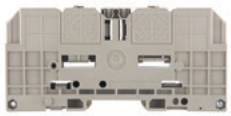




Fixing screw for direct mounting	Order No.
M6 x 16	**1063700000**

WFF 70 — 70 mm²

Screw thread M8



31.8 x 132 x 61
232 / 95
2.5...95

Ex e II II 2 G D

IEC	UL	CSA	EN 60079-7
1000	1000	600	1100
192	175	170	167
70	AWG 14...0	AWG 14...0	70 mm²
	8 kV / 3		
	/ V-0		
			KEMA 98ATEX1684 U
2.5...95 mm² / 2.5...70 mm²			
16...70 mm² / 16...70 mm²			
6...12 Nm /			

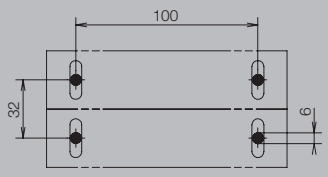
When connecting cable lugs (in accordance with DIN 46234) with 70 and 95 mm², the rated voltage is reduced to 800 V.

Type	Qty.	Order No.
WFF 70	10	1028400000
WFF 70/AH	5	1029400000
WFF 70 BL	10	1028480000

1000 V DC rated voltage tested. 1000 V UL and CSA for usage groups B and C: can be used with isolating terminal rails and when using WTW-type partitions.

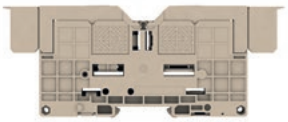
Type	current	Qty.	Order No.
WQL 2 WFF70	232 A	5	1065000000
WQL 3 WFF70	232 A	5	1065500000
WZAF 70		10	1066200000
WTW WFF70		10	1067200000
WEW 35/1		50	1059000000
WAH 70 BE		20	1064560000
WD 1 25 K KARTE A 6 ST		30	1563900000
WS 12/6.5 MC NE WS		540	1609920000

WAH 70 in blue, Order no. 1064580000



WFF 70 NFF — 70 mm²

Screw thread M8



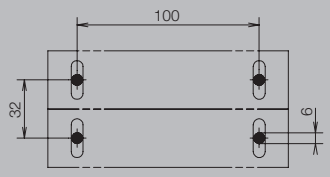
32 x 132 x 61
192 / 95
2.5...95

IEC	UL	CSA	EN 60079-7
500			
192			
70			
	/ V-0		
2.5...95 mm² /			
15...18 Nm /			

Type	Qty.	Order No.
WFF 70 NFF	5	1049230000

Type	current	Qty.	Order No.
WQL 2 WFF70	232 A	5	1065000000
WQL 3 WFF70	232 A	5	1065500000
WZAF 70		10	1066200000
WTW WFF70		10	1067200000
WEW 35/1		50	1059000000
WAH 70 BE		20	1064560000
WD 1 25 K KARTE A 6 ST		30	1563900000
WS 12/6.5 MC NE WS		540	1609920000

WAH 70 in blue, Order no. 1064580000



WFF 120 — 120 mm²

Screw thread M10

42 x 132 x 72
309 / 150
6...150

Ex e II II 2 G D

IEC	UL	CSA	EN 60079-7
1000	1000	600	1100
269	310	310	234
120	AWG 10...250	AWG 10...250	120 mm²
	8 kV / 3		
	/ V-0		
			KEMA 98ATEX1684 U
6...150 mm² / 6...120 mm²			
16...150 mm² / 16...120 mm²			
10...20 Nm /			

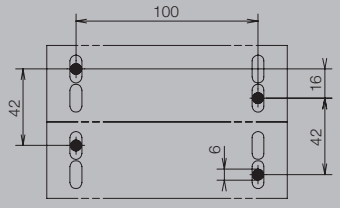
1000 V UL and CSA for usage groups B and C: can be used with isolating terminal rails and when using WTW-type partitions.

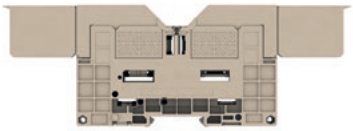
Type	Qty.	Order No.
WFF 120	5	1028500000
WFF 120/AH	4	1029500000
WFF 120 BL	5	1028580000

1000 VDC rated voltage tested.

Type	current	Qty.	Order No.
WQL 2 WFF120	309 A	5	1065100000
WQL 3 WFF120	309 A	5	1065600000
WZAF 120		10	1066300000
WTW WFF120		10	1067300000
WEW 35/1		50	1059000000
WAH 120		20	1064660000
WD 1 25 K KARTE A 6 ST		30	1563900000
WS 12/6.5 MC NE WS		540	1609920000

WAH 120 in blue, order No. 1064680000



	WFF 120 NFF	WFF 185
	120 mm²	185 mm²
	Screw thread M10	Screw thread M12
		
Width/Height/Depth mm	42 x 132 x 72.5	55 x 163 x 77.5
max. current / max. cond. cross-section A/mm²	269 / 150	415 / 240
Max. clamping range mm²	6...150	10...240

Technical data

Rated data with Wemid partition wall				
Rated voltage V	500			
Rated current A	269			
for wire cross-section mm²	120			
Rated impulse withstand voltage / Pollution severity				
Gauge to IEC 60947-1 / UL 94 flammability rating			/ V-0	
Approvals				
Clamped cable lugs				
Cable lug to DIN 46234 / 2 x cable lugs DIN 46 234	6...150 mm² /			
Cable lug to DIN 46235 / 2 x cable lugs DIN 46 235				
Tightening torque (clamping screw for copper conductors)	30...36 Nm /			
Note				

Rated data with Wemid partition wall	IEC 60947-7-1		Ex e II	II 2 G D
Rated voltage V	1000	1000	600	1100
Rated current A	353	380	360	307
for wire cross-section mm²	185	AWG 8...500	AWG 8...500	185 mm²
Rated impulse withstand voltage / Pollution severity			8 kV / 3	
Gauge to IEC 60947-1 / UL 94 flammability rating			/ V-0	
Approvals				KEMA 98ATEX1684 U
Clamped cable lugs				
Cable lug to DIN 46234 / 2 x cable lugs DIN 46 234	10...240 mm² / 10...185 mm²			
Cable lug to DIN 46235 / 2 x cable lugs DIN 46 235	25...240 mm² / 25...185 mm²			
Tightening torque (clamping screw for copper conductors)	14...31 Nm /			
Note	1000 V UL and CSA for usage groups B and C: can be used with isolating terminal rails and when using WTW-type partitions.			

Ordering data

Version	Type	Qty.	Order No.
dark beige	WFF 120 NFF	4	1049240000
dark beige			
blue			
Note			

Type	Qty.	Order No.
WFF 185	4	1028600000
WFF 185/AH	2	1029600000
WFF 185 BL	4	1028680000
1000 VDC rated voltage tested.		

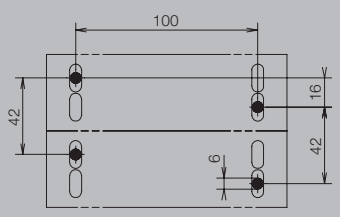
Accessories

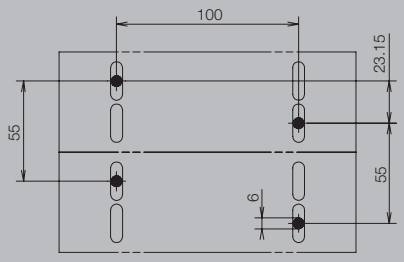
Cross-connection	Type	current	Qty.	Order No.
2-pole	WQL 2 WFF120	309 A	5	1065100000
3-pole	WQL 3 WFF120	309 A	5	1065600000
Auxiliary/control connection				
up to 4 mm², 32 A	WZAF 120		10	1066300000
Partition plate				
dark beige	WTW WFF120		10	1067300000
End bracket				
dark beige	WEW 35/1		50	1059000000
Cover hood				
Hood, dark beige Wemid	WAH 120		20	1064660000
Identification systems				
Warning triangle for power supply terminals	WD 1 25 K KARTE A 6 ST		30	1563900000
	WS 12/6.5 MC NE WS		540	1609920000
For detailed information on other accessories and application in the online catalogue	WAH 120 in blue, order No. 1064680000			

Type	current	Qty.	Order No.
WQL 2 WFF185	353 A	5	1065200000
WQL 3 WFF185	353 A	5	1065700000
WZAF 185		10	1066400000
WTW WFF185/300		10	1067400000
WEW 35/1		50	1059000000
WAH 185/300 BE		10	1064760000
WD 1 25 K KARTE A 6 ST		30	1563900000
WS 12/6.5 MC NE WS		540	1609920000
WAH 185/300 in blue, Order no. 1064780000			

Technical drawing

Drilling template for direct mounting





Fixing screw for direct mounting	Order No.
M6 x 16	1063700000

WFF 185 NFF — 185 mm²

Screw thread M12

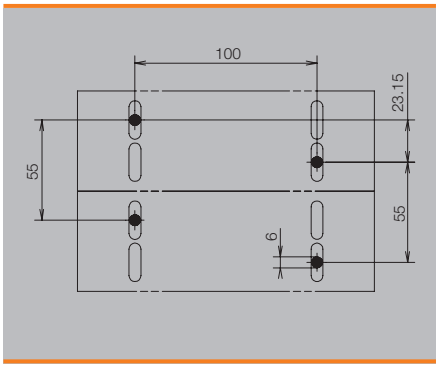
55 x 163 x 77.2
353 / 240
10...240

IEC	UL	CSA	EN 60079-7
500			
353			
185			
	/ V-0		
EAC			
10...240 mm² /			
50...60 Nm /			

Type	Qty.	Order No.
WFF 185 NFF	2	1049250000

Type	current	Qty.	Order No.
WQL 2 WFF185	353 A	5	1065200000
WQL 3 WFF185	353 A	5	1065700000
WZAF 185		10	1066400000
WTW WFF185/300		10	1067400000
WEW 35/1		50	1059000000
WAH 185/300 BE		10	1064760000
WD 1 25 K KARTE A 6 ST		30	1563900000
WS 12/6.5 MC NE WS		540	1609920000

WAH 185/300 in blue, Order no. 1064780000



WFF 300 — 300 mm²

Screw thread M16

55 x 163 x 85.5
520 / 300
25...300

Ex e II II 2 G D

IEC	UL	CSA	EN 60079-7
1000	1000	600	1100
520	500	510	452
300	AWG 6...600	AWG 6...600	300 mm²
		8 kV / 3	
		/ V-0	
CE GL EAC KCA N UL			KEMA 98ATEX1684 U
25...240 mm² / 25...240 mm²			
50...300 mm² / 50...240 mm²			
25...60 Nm /			

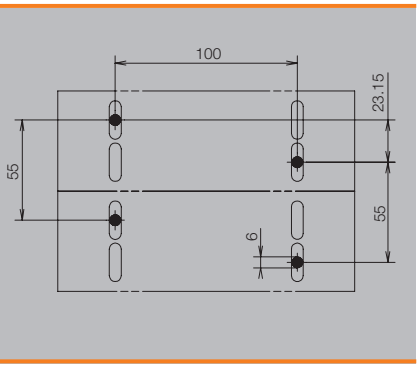
1000 V UL and CSA for usage groups B and C: can be used with isolating terminal rails and when using WTW-type partitions.

Type	Qty.	Order No.
WFF 300	4	1028700000
WFF 300/AH	2	1029700000

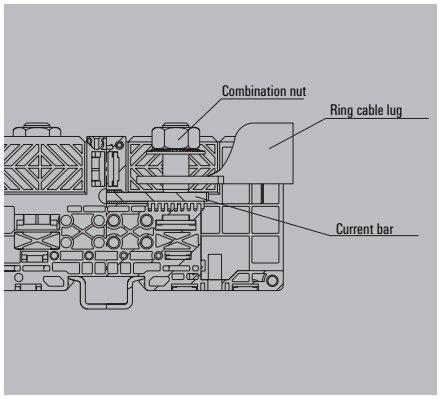
1000 VDC rated voltage tested.

Type	current	Qty.	Order No.
WQL 2 WFF300	520 A	5	1065300000
WQL 3 WFF300	520 A	5	1065800000
WZAF 300		10	1066500000
WTW WFF185/300		10	1067400000
WEW 35/1		50	1059000000
WAH 185/300 BE		10	1064760000
WD 1 25 K KARTE A 6 ST		30	1563900000
WS 12/6.5 MC NE WS		540	1609920000

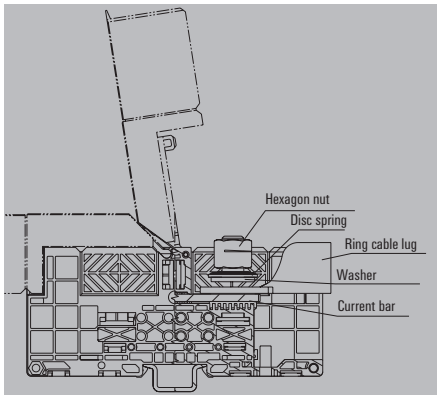
WAH 185/300 in blue, Order no. 1064780000



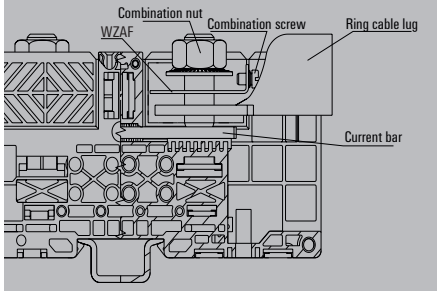
Stud connection series WFF



Stud connection series WFF NFF

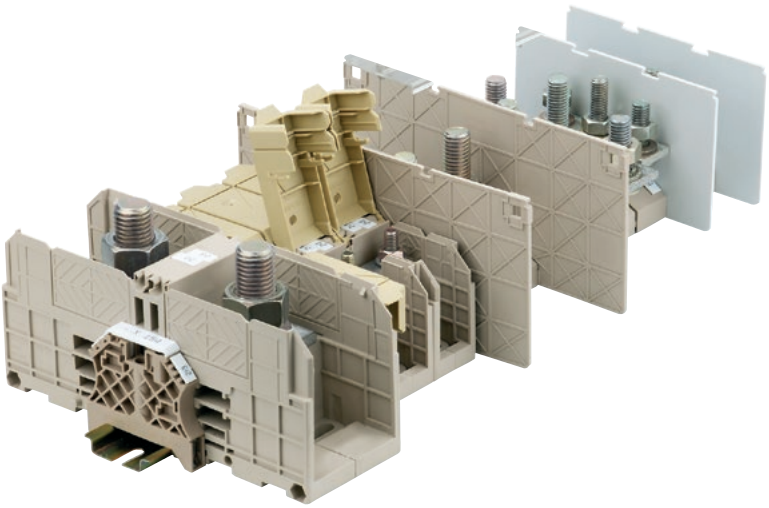


Auxiliary/control line connection WZAF



Stud terminals – Accessories

Series WF and WFF



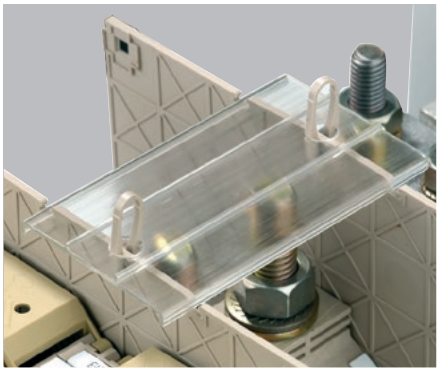
Electrical distribution

Electrical distribution can be realised between neighbouring stud terminals easily with 2 and 3 poles cross-connections. Cross-connections are also available for different thread sizes from M6 to M8 or M10. In the WFF two-stud terminals, firstly the partition plates have to be removed between the clamped supports. The thin web of material means they can be broken out easily to fit.

Shock protection

The two-stud terminals in the WF-Series offer, with an integrated hinge cover, a high degree of finger safety. When closed, the cover locks onto the terminal and protects the contact from accidental contact.

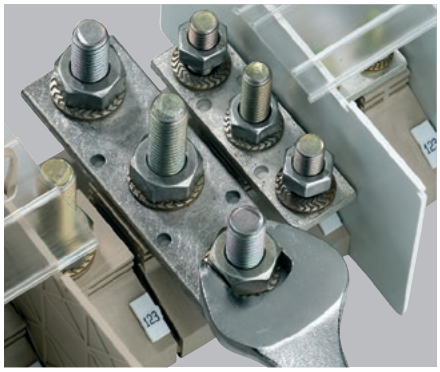
Shock protection / partition plates



Shock protection in the WF-Series is provided by partition plates WTW and transparent cover strips ADP. The cover strips are locked into the guides of the partition plates and held with clips to prevent them slipping to the side. Partition plates ensure compliance with the rated voltages:

- Voltage range up to 1000 V with partition plate WTW WF
- Voltage range up to 2300 V for WF with epoxy partition plate WTW WF 2300

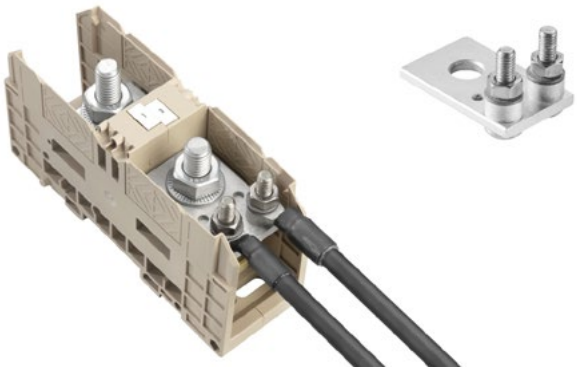
Connection



Couldn't be easier: the cable lugs are placed on the stud with the washer and toothed washer on top. A normal open-ended spanner can be used to tighten the hex screw and complete installation.

Potential distribution from stud terminal blocks M10 to 2 x M6

The potential distribution between adjacent stud terminal blocks can be implemented simply using 2- and 3-pole cross-connections, please consult products in the stud terminal chapter.
Reduced cross-sections are required for special applications. These so-called cross-connection lugs are offered accordingly for varying thread sizes from M6 to M10 with a wide range of combinations.

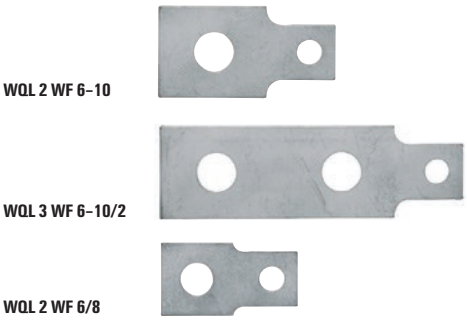


Ordering data

Type	Qty.	Order No.
SMSE WF10/2XM6	10	1868880000

Note	
	Hole diameter: 10 mm for M10 studs Stud terminals: WF 10... and WFF 120. The rated current is dependent on the test set-up.

WQL special cross-connection lugs for WF



Ordering data

Type	Depth	current	Clamping screw	Terminal screw, additional connection	Qty.	Order No.
WQL 2 WF6-10	4 mm	125 A	M 6	M 10	5	1806620000
WQL 3 WF6-10/2	4 mm	125 A	M 6	M 10	5	1806640000
WQL 2 WF6-8	4 mm	125 A	M 6	M 8	5	1808980000
WQL 4 WF8-6/3	4 mm	24 A	M 8	M 6	5	1904960000
Note						

Screw connection with stud technology
Accessories

WF - cross-connections for WF and WFF

Type	Poles	current	Qty.	Order No.
WF 5				
WQL 2 WF5	2	101 A	5	**1812710000**
WQL 3 WF5	3	101 A	5	**1812740000**
WF 6 & WF 6/2BZ				
WQL 2 WF6	2	125 A	5	**1780970000**
WQL 3 WF6	3	125 A	5	**1780980000**
WF 8 & WF 8/2BZ				
WQL 2 WF8	2	150 A	5	**1780990000**
WQL 3 WF8	3	150 A	5	**1781000000**
WF 10 & WF 10/2BZ				
WQL 2 WF10	2	265 A	5	**1781010000**
WQL 3 WF10	3	265 A	5	**1781020000**
WQL 4 WF10	4	265 A	5	**1027840000**
WF 12				
WQL 2 WF12	2	265 A	5	**1781030000**
WQL 3 WF12	3	265 A	5	**1781040000**
WFF 35				
WQL 2 WFF35	2	150 A	5	**1064900000**
WQL 3 WFF35	3	150 A	5	**1065400000**
WFF 70				
WQL 2 WFF70	2	232 A	5	**1065000000**
WQL 3 WFF70	3	232 A	5	**1065500000**
WFF 120				
WQL 2 WFF120	2	309 A	5	**1065100000**
WQL 3 WFF120	3	309 A	5	**1065600000**
WFF 185				
WQL 2 WFF185	2	415 A	5	**1065200000**
WQL 3 WFF185	3	415 A	5	**1065700000**
WFF 300				
WQL 2 WFF300	2	520 A	5	**1065300000**
WQL 3 WFF300	3	520 A	5	**1065800000**

WF-Series partition plates

Type	Colour	Width	Qty.	Order No.
WTW WF6-WF12	Dark Beige	2.5 mm	20	**1781240000**
WTW WF6	Dark Beige	3 mm	20	**1781220000**
WTW WF8	Dark Beige	3 mm	20	**1780900000**
WTW WF10/WF12	Dark Beige	3 mm	20	**1780890000**

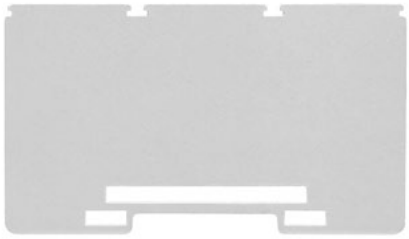
WFF-Series partition plates

Type	Colour	Width	Qty.	Order No.
WTW WFF35	Dark Beige	2 mm	10	**1067100000**
WTW WFF70	Dark Beige	2 mm	10	**1067200000**
WTW WFF120	Dark Beige	2 mm	10	**1067300000**
WTW WFF185/300	Dark Beige	2 mm	10	**1067400000**

WFF series cover hoods

Type	Colour	Width	Qty.	Order No.
WAH 35	Beige	26 mm	20	1064460000
WAH 70 BE	Beige	31 mm	20	1064560000
WAH 120	Beige	41 mm	20	1064660000
WAH 185/300 BE	Beige	54 mm	10	1064760000

WF-Series 2300 V partition plates



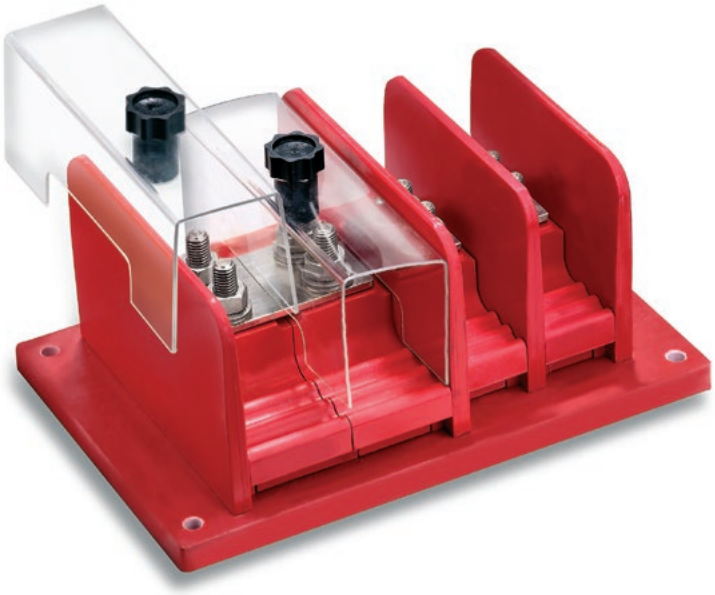
Type	Colour	Width	Qty.	Order No.
WTW WF6 2300	Grey	2 mm	20	1781230000
WTW WF8 2300	Grey	2 mm	20	1780910000
WTW WF10/WF12 2300	Grey	2 mm	20	1780920000

Warning triangle for power supply terminal blocks

Type	Colour	Width	Qty.	Order No.
WD 1 25 K KARTE A 6 ST		20.5 mm	30	1563900000

Stud terminals

Series ST 4000



For especially high electric and mechanical demands

- Voltage ranges up to 4000 V and currents up to 415 A
- For extreme requirements, especially in railway applications

Shock protection

Stud terminals in the ST 4000 series offer an ideal cover for every version. The polycarbonate cover is placed between the partition plates and fastened to the stud with the plastic-coated fixing nut.

Fixing nuts are available to fit every stud size.

Potential distribution

When two neighbouring ST 4000 terminals have the same current, cross-connectors are fitted instead of the busbar.

The pairs of holes in the cross-connection are rated exactly to the spacing of ST 4000.

Here the partition plate has to be replaced by the connecting piece ST 4000/S C130 or ST 4000/L C160.

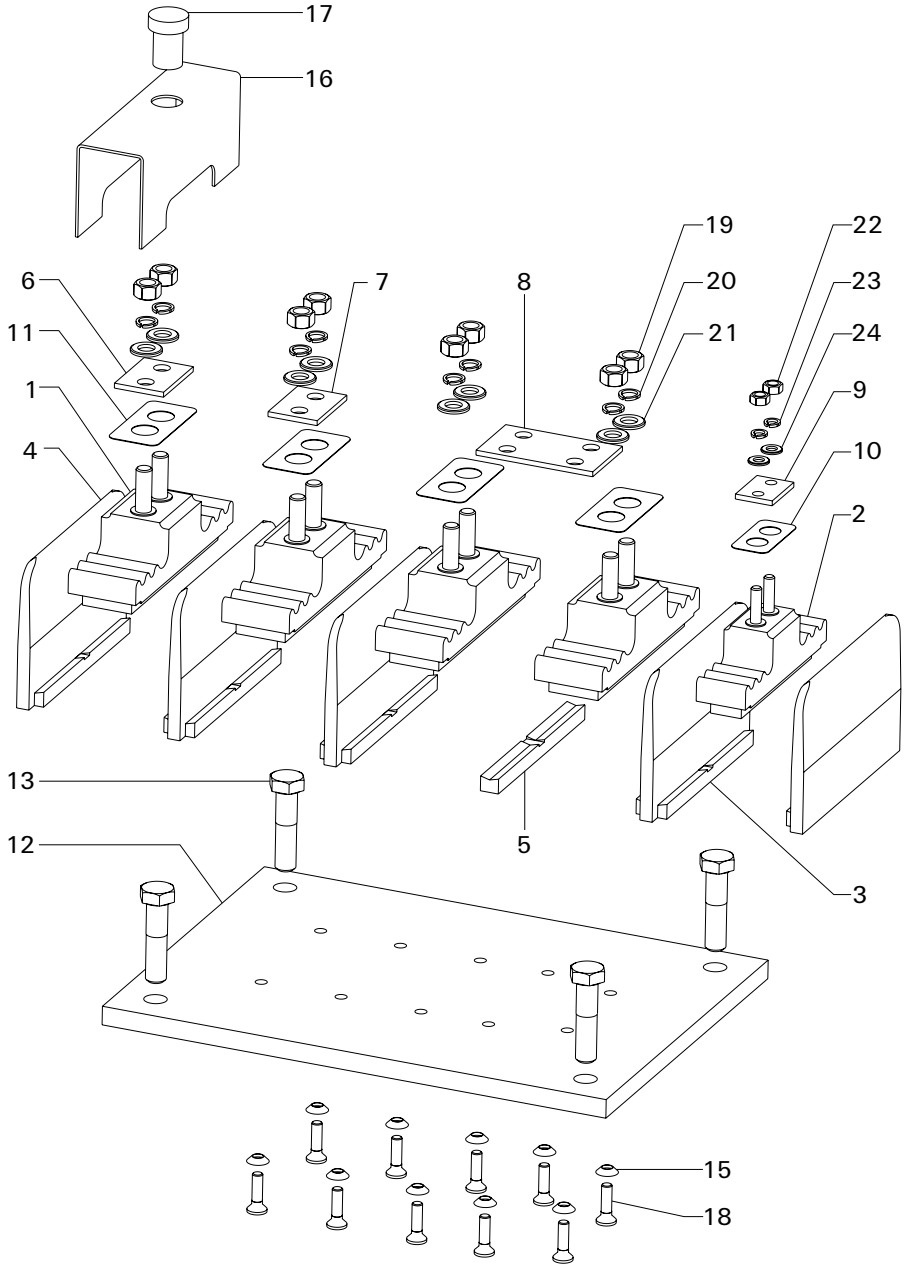
Cross-connections are available as 2-, 3-, or 4-poles.

Connection

Couldn't be easier: the cable lugs are placed on the stud with the washer and toothed washer on top. Tighten the steel hexagonal nut to ensure good contact between cable lug and busbar.

The same principle applies when two cable lugs contact on one stud or slotted hole cable lugs are used.

Slotted hole cable lugs can also be placed over both studs.



Modular System

1	Stud terminal ST 4000/L (large)
2	Stud terminal ST 4000/S (small)
3	Partition
4	Endplate
5	Coupling block
6/7/9	Current bar
8	Cross connection
10/11	Marking plate
12	Isulating mounting base (customerspecific)
13	Studs and washers for the isulating mounting base (not part of the delivery)
15/18	Studs and washers to fix the terminals on the isulating mounting base
19-24	Studs and washers (Fa. Teckentrup)

	ST 4000/S M8	120 mm²	ST 4000/S M10	120 mm²
	Screw thread M8		Screw thread M10	
				
Width/Height/Depth mm	40 x 150 x		40 x 150 x	
max. current / max. cond. cross-section A	**269 /**		**269 /**	
Max. clamping range -				

Technical data

Rated data with Wemid partition wall	IEC	UL	CSA	EN 60079-7	IEC	UL	CSA	EN 60079-7
Rated voltage V	4000				4000			
Rated current A	269				269			
for wire cross-section mm²	120				120			
Rated impulse withstand voltage / Pollution severity			30 kV / 3				30 kV / 3	
Gauge to IEC 60947-1 / UL 94 flammability rating			/ V-0				/ V-0	
Approvals	EAC				EAC			
Clamped cable lugs								
Cable lug to DIN 46234	1.5 - 120 mm²				4 - 120 mm²			
2 x cable lugs DIN 46 234								
Cable lug to DIN 46235	16...70 mm²							
2 x cable lugs DIN 46 235								
Tightening torque (clamping screw for copper conductors)								
Note	Rated voltage when using cable lugs according to DIN 46234				Rated voltage when using cable lugs according to DIN 46234			

Ordering data

Version	Type	Qty.	Order No.	Type	Qty.	Order No.
with internal thread	ST 4000/S M8 F	25	**1809120000**	ST 4000/S M10 F	25	**1809140000**
red	ST 4000/S M8	25	**1809110000**	ST 4000/S M10	25	**1809130000**
Note	1000 VDC rated voltage tested.Weidmüller produces drawings of the customer-specific ST 4000 application.			1000 VDC rated voltage tested.Weidmüller produces drawings of the customer-specific ST 4000 application.		

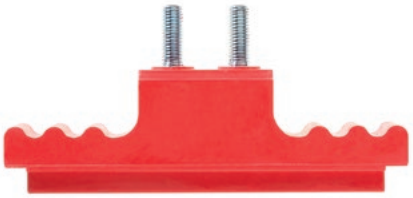
Accessories

Cross-connection	Type	current	Qty.	Order No.	Type	current	Qty.	Order No.
2-pole	ST 4000/S J2 M8		100	**1809310000**	ST 4000/S J2 M10		100	**1809340000**
3-pole	ST 4000/S J3 M8		50	**1809320000**				
4-pole								
Busbar								
M12 / 4 mm thick								
M12 / 6 mm thick								
M8 / 4 mm thick	ST 4000/S CB M8/4		100	**1809250000**				
M10 / 4 mm thick					ST 4000/S CB M10/4		100	**1809260000**
M10 / 6 mm thick					ST 4000/S CB M10/6		100	**1809270000**
Connecting piece								
160 mm length								
130 mm length	ST 4000/S C130		50	**1809230000**	ST 4000/S C130		50	**1809230000**
Partition plate								
180 mm length								
150 mm length	ST 4000/S P150		50	**1809190000**	ST 4000/S P150		50	**1809190000**
End partition								
180 mm length								
150 mm length	ST 4000/S E150		50	**1809210000**	ST 4000/S E150		50	**1809210000**
Touch-safe protection								
180 mm length								
150 mm length	ST 4000/S S150		20	**1809470000**	ST 4000/S S150		20	**1809470000**

For detailed information on other accessories and application in the online catalogue

ST 4000/L M10 — 150 mm²

Screw thread M10



55 x 180 x
309 /

IEC	UL	CSA	EN 60079-7
4000			
309			
150			
	29.5 kV / 3		
	/ V-0		
EAC			
10 - 150 mm²			
25 - 150 mm²			

Rated voltage when using cable lugs according to DIN 46234

Type	Qty.	Order No.
ST 4000/L M10	15	1809150000

1000 VDC rated voltage tested.Weidmüller produces drawings of the customer-specific ST 4000 application.

Type	current	Qty.	Order No.
ST 4000/L J2 M10		50	1809370000
ST 4000/L J4 M10		25	1809390000
ST 4000/L CB M10/4		100	1809280000
ST 4000/L C160		50	1809240000
ST 4000/L P180		50	1809200000
ST 4000/L E180		50	1809220000
ST 4000/L S180		1	1809480000

ST 4000/L M12 — 240 mm²

Screw thread M12

55 x 180 x
415 /

IEC	UL	CSA	EN 60079-7
4000			
415			
240			
	29.5 kV / 3		
	/ V-0		
EAC			
10...240 mm²			
25...240 mm²			

Rated voltage when using cable lugs according to DIN 46234

Type	Qty.	Order No.
ST 4000/L M12 F	15	1809180000
ST 4000/L M12	15	1809170000

1000 VDC rated voltage tested.Weidmüller produces drawings of the customer-specific ST 4000 application.

Type	current	Qty.	Order No.
ST 4000/L J2 M12		50	1809400000
ST 4000/L J3 M12		50	1809410000
ST 4000/L J4 M12		25	1809420000
ST 4000/L CB M12/4		100	1809290000
ST 4000/L CB M12/6		100	1809300000
ST 4000/L C160		50	1809240000
ST 4000/L P180		50	1809200000
ST 4000/L E180		50	1809220000
ST 4000/L S180		1	1809480000

Transfer energy safely in high voltage applications

HV 2700 and HV 4000 for reliable connections up to 4 kV

In areas such as railway technology, the safety, reliability and efficiency of all connection components are important. With our new high-voltage terminals HV 2700 and HV 4000 we provide a flexible solution for all energy interfaces in the voltage range up to 4 kV.

The high-voltage terminals HV 2700 and HV 4000 are part of a scalable, modular system with a wide range of possible applications. It's ring cable lug connection technology is proven in railway technology and well known in applications worldwide. The high-voltage terminals comply with the requirements of the specialist standards EN 50155, EN 50124-1, EN 45545, IEC 61373. Continuous product testing and constant development ensure high quality.

Your special advantages

- Compact design
- Low weight
- Good performance
- Convenient handling
- Improved product features through innovative material
- Modular design for customer-specific requirements

Technical data

Type	Width / Length / Height	Continuous operating temperature	Rated voltage / Rated current	Rated connection	Tightening torque	Qty.	Order No.
HV2700/2-M12 F	180 / 220 / 90 mm	-50…140 °C	2700 V / 700 A	10…185 mm²	33…35 Nm	1	**2540680000**
HV2700/3-M12 F	240 / 220 / 90 mm	-50…140 °C	2700 V / 700 A	10…185 mm²	33…35 Nm	1	**2540690000**
HV4000/2-M12 F	180 / 220 / 96,1 mm	-50…140 °C	4000 V / 700 A	10…240 mm²	63…65 Nm	1	**2496040000**
HV4000/3-M12 F	240 / 220 / 96,1 mm	-50…140 °C	4000 V / 700 A	10…240 mm²	63…65 Nm	1	**2496050000**