



Modular terminals for high-temperature applications		
TS 32 / Ceramic	D.2	- D.3
Nuclear power terminal blocks		
Overview	D.4	- D.5
TS 32 / EP	D.6	- D.10

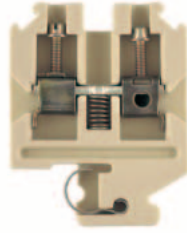
Modular terminals for high-temperature applications

TS 32 / Ceramic

SAKK 4 Sn

4 mm²

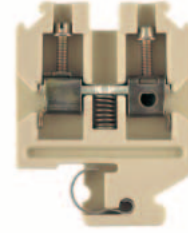
Tin Plated for high continuous temperatures - max. 250 °C



SAKK 4 Ni

4 mm²

Nickel Plated for fire rated application - max. 750°C for 3 hours



When using ATEX certified components in hazardous area applications the installation instructions and the rated data for accessories in the technical appendix must be considered.

Width/Length/Height with TS32	mm
Max. current / max. cond. cross-section	A/mm ²
Max. clamping range	mm ²

8 x 40 x 53	
41 / 6	
0.33 ... 6	

8 x 40 x 53	
41 / 6	
0.33 ... 6	

Technical data

Rated data	
Rated voltage	V
Rated current	A
Rated cross-section	mm ²
Rated impulse voltage / Pollution severity	kV/-
Plug gauge IEC 60-947-1 / flammability class acc. UL 94	
Approvals	

IEC 60947-7-1				EEx e II II 2 G D			
IEC	UL	CSA	EN 50019	IEC	UL	CSA	EN 50019
800			275	800			275
32			28	32			28
4			4	4			4
				8 / 3			
				A4 / 5VB			
				SIRA 03ATEX3425 U			

IEC 60947-7-1				EEx e II II 2 G D			
IEC	UL	CSA	EN 50019	IEC	UL	CSA	EN 50019
800			275	800			275
32			28	32			28
4			4	4			4
				8 / 3			
				A4			
				SIRA 03ATEX3425 U			

Clampable conductors (H05V/H07V)	
Solid / stranded	mm ²
Flexible / flexible w. wire end ferrule	mm ²
Tightening torque range (clamping screw)	Nm
Stripping length / blade size	mm / -

Rated connection	Additional connection
0.5...6	
0.5...4 / 0.5...4	
0.5...1.0 (M 3)	
10 / 3.5 x 0.6	

Rated connection	Additional connection
0.5...6	
0.5...4 / 0.5...4	
0.5...1.0 (M 3)	
10 / 3.5 x 0.6	

2 clampable conductors of equal cross-section	
Solid / stranded	mm ²
Flexible / flexible w. wire end ferrule	mm ²

0.5...1.5	
0.5...1.5 / 0.5...1.5	

Information
Don't use a mechanic or automatic screw driver to fix the wire.

Information
Don't use a mechanic or automatic screw driver to fix the wire.

Order data


Version
white

Type	Qty.	Order No.
SAKK 4 KER/WS	50	1598080000

Type	Qty.	Order No.
SAKK 4	50	9502600000

Information

Accessories

Cross-connection, screwable	
	2-pole
	3-pole
	4-pole
	10-pole
	Connecting sleeve
	Fixing screw
	Fuse cartridges

Type	Current [A]	Qty.	Order No.
QL 2 SAKK 4 TIN		100	9509420000
QL 3 SAKK 4 TIN		100	9509430000
QL 4 SAKK 4 TIN		50	9509440000
QL 10 SAKK 4 TIN		20	9509450000
VH 13.5 SAKK4		100	9509460000
BS(M3X20) SAKK 4&10		100	9503280000

Type	Current [A]	Qty.	Order No.
QL 2 SAKK 4		n.a.	9502540000
QL 3 SAKK 4		n.a.	9502550000
QL 4 SAKK 4		n.a.	9502560000
QL 10 SAKK 4		n.a.	9502570000
VH 13.5 SAKK 4		100	9502580000
BS(M3X20) SAKK 4&10		100	9503280000

Cross-connection saddle	
	Cross-connection saddle
	Connecting sleeve
	Fixing screw

VH 13.5 SAKK4	100	9509460000
BS(M3X20) SAKK 4&10	100	9503280000

VH 13.5 SAKK 4	100	9502580000
BS(M3X20) SAKK 4&10	100	9503280000

Socket / Test plug	
	Socket
	Test plug

End plate	
	white
	blue

Width [mm]			
AP SAKK4/10 KER/WS	10	9502630000	

Width [mm]			
AP SAKK4/10 KER/WS	10	9502630000	

Partition / Partition disc	
	white
	blue
	Partition disc

Width [mm]			

Width [mm]			

Cover / fixing screw (plastic)	
	Cover
	Fixing screw (plastic)

Marking systems	
	DEK 6,5

DEK 6,5	
---------	--

DEK 6,5	
---------	--

Detailed information on all versions in chapter accessories.

Twin ferrule ZH 0.5 ... ZH 2.5 usable. End barrier MEW 1/32 order no. 0445600000; Locking pin SST3 order no. 0152700000

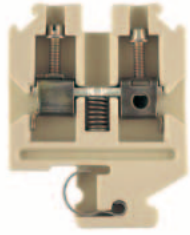
End Barrier MEW 1/32 order no. 0445600000; Locking pin SST3 order no. 0152700000

Modular terminals for high-temperature applications

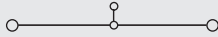
SAKK 10 Sn

10 mm²

Tin Plated for high continuous temperatures - max. 250 °C



11.5 x 40 x 53
76 / 16
1.5 ... 16



IEC 60947-7-1

EEx e II II 2 G D

IEC	UL	CSA	EN 50019
800			275
57			50
10			10
8 / 3			
B6 / 5VB			

SIRA 03ATEX3425 U

Rated connection	Additional connection
1.5...16 / 1.5...16	
1.5...16 / 1.5...10	
2.0...2.4 (M 4)	
12 / 5.5 x 1.0	

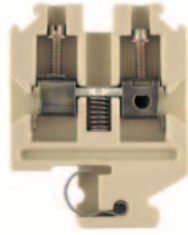
Don't use a mechanic or automatic screw driver to fix the wire.

Type	Qty.	Order No.
SAKK 10 KER/WS	50	1598090000

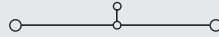
SAKK 10 Ni

10 mm²

Nickel Plated for fire rated application - max. 750°C for 3 hours



11.5 x 40 x 53
76 / 16
1.5 ... 16



IEC 60947-7-1

EEx e II II 2 G D

IEC	UL	CSA	EN 50019
800			275
57			50
10			10
8 / 3			
B6			

SIRA 03ATEX3425 U

Rated connection	Additional connection
1.5...16 / 1.5...16	
1.5...16 / 1.5...10	
2.0...2.4 (M 4)	
12 / 5.5 x 1.0	

Don't use a mechanic or automatic screw driver to fix the wire.

Type	Qty.	Order No.
SAKK 10	50	9502610000

Type	Current [A]	Qty.	Order No.
QL 2 SAKK 10 TIN	100	100	9509470000
QL 3 SAKK 10 TIN	50	50	9509480000
QL 4 SAKK 10 TIN	50	50	9509490000
QL 10 SAKK 10 TIN	20	20	9509500000
VH 12.5 SAKK10	50	50	9509510000
BS(M3X20) SAKK 4&10	100	100	9503280000

VH 12.5 SAKK10	50	50	9509510000
BS(M3X20) SAKK 4&10	100	100	9503280000

Width [mm]	Qty.	Order No.
AP SAKK4/10 KER/WS	10	9502630000

Width [mm]

DEK 5

End barrier MEW 1/32 order no. 0445600000; Locking pin SST3 order no. 0152700000

Type	Current [A]	Qty.	Order No.
QL 2 SAKK 10	100	100	9502650000
QL 3 SAKK 10	50	50	9502660000
QL 4 SAKK 10	50	50	9502670000
QL 10 SAKK 10	20	20	9502680000
VH 12.5 SAKK 10	50	50	9502690000
BS(M3X20) SAKK 4&10	100	100	9503280000

VH 12.5 SAKK 10	50	50	9502690000
BS(M3X20) SAKK 4&10	100	100	9503280000

Width [mm]	Qty.	Order No.
AP SAKK4/10 KER/WS	10	9502630000

Width [mm]

DEK 5

End barrier MEW 1/32 order no. 0445600000; Locking pin SST3 order no. 0152700000

Nuclear power terminal blocks

Terminal Blocks for the Containment Areas of Nuclear Power Generating Stations

NEQ
Nuclear Environmental Qualification
Test Report

REPORT NO. 42542-1 REVISION R
 WYLE JOB NO. 42542
 CUSTOMER 92.8048/999/QW
 P. O. NO. _____
 PAGE 1 OF 1317 PAGE REPORT A
 DATE August 26, 1993
 SPECIFICATION(S) See references
in Paragraph 5.0

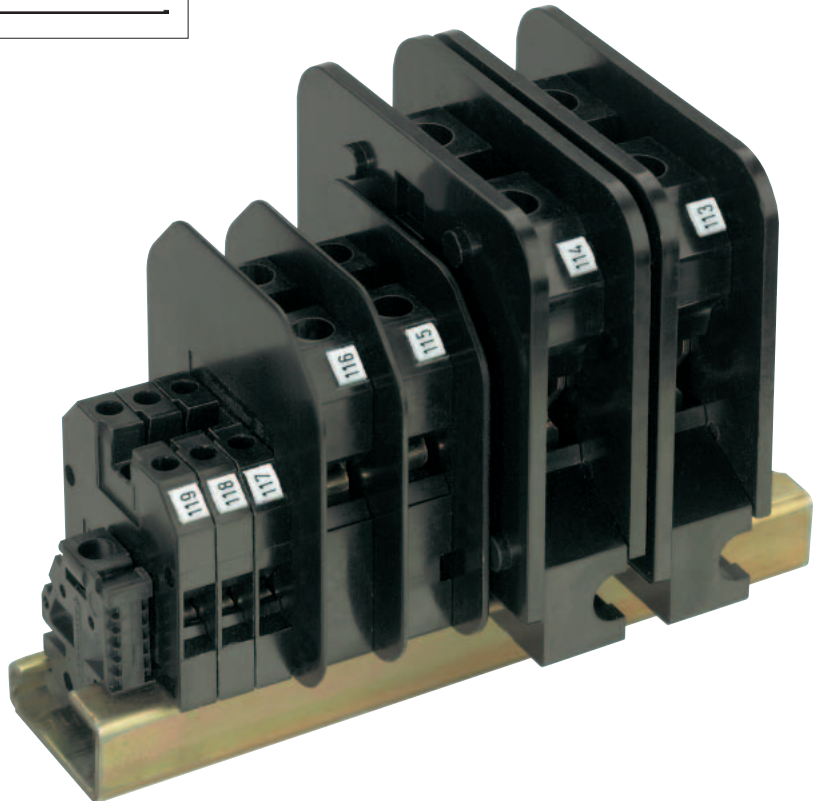
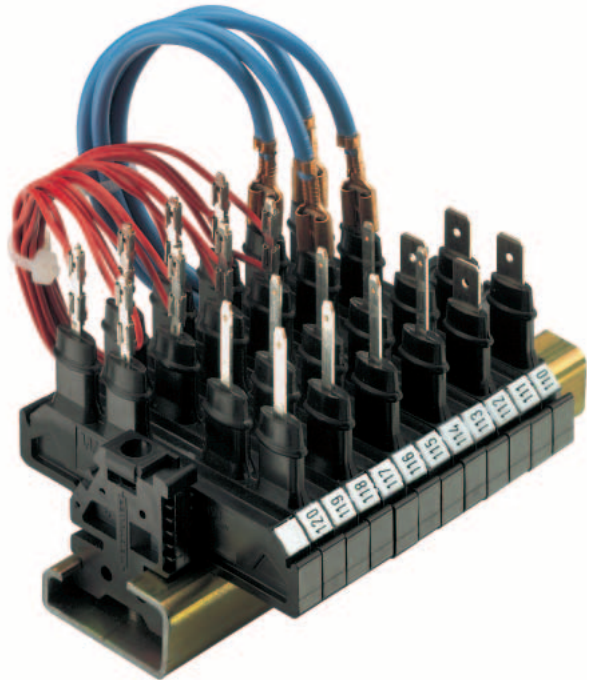
- 1.0 CUSTOMER Weidmüller
 ADDRESS Kilgenbergstraße 16, Postfach 2030, 5940 Detmold, Germany
 2.0 TEST SPECIMEN Terminal Blocks
 3.0 MANUFACTURER Weidmüller
 4.0 SUMMARY

A Nuclear Environmental Qualification Test Program was performed on 67 test groups of various Weidmüller terminal blocks in accordance with Wyle Laboratories Nuclear Environmental Qualification Plan, 42541-00, Revision A. The test program was performed October 2, 1992 through June 25, 1993.

(1ka)

STATE OF ALABAMA | Alabama Professional
 COUNTY OF MADISON | Engineer Reg. No. 16511
 Joseph T. Hazelton, P.E., using duty permit,
 deponent and sworn. The information contained in this report is the result of complete
 and satisfactory testing tests and is to the best of his knowledge true and correct in
 all respects.
 Joseph T. Hazelton, P.E. 10 93
 Notary Public in and for the State of Alabama at large.
 My Commission expires September 7, 19 93

Prepared by R. M. ... 8/25/93
 Approved by D. E. Smith 8/25/93
 WYLE Q. A. 8/27/93
WYLE
 LABORATORIES SCIENTIFIC SERVICES & SYSTEMS GROUP
 MONTICELLO, ALABAMA



Nuclear power terminal blocks

High standards are set for products used in containment areas of nuclear power generating stations. Years of radioactive radiation must not lead to failure. Signals must be transmitted faultlessly in the case of accidents, for example, steam escaping after a coolant pipe burst.

In particular, steam enveloping the terminal blocks could lead to problems. Unsuitable terminal blocks cause leakage currents, which lead to signal distortions. That is why only products which have been approved in accordance with IEEE Class 1 E are allowed to be installed in containment areas.

The special feature of the tests carried out using Weidmüller's terminal blocks is that not only was the insulation resistance measured following an accident simulation, but that the leakage current was recorded during the LOCA test (Loss of Coolant Accident).

Weidmüller also offers for these applications a choice of products made from the special epoxy resin material EP with inorganic filler, which meets the demands for high standards.

The comprehensive test results produced by the Wyle Laboratories enable the regulatory body to judge Weidmüller's products for containment areas Class 1 E (accident simulation test profile 4) and for general use (accident simulation test profile 1) in nuclear generating stations.

Basis: **IEEE 323 – 1983**
 "Qualifying class 1 E Equipment for Nuclear Power Generating Stations"

IEE 344 – 1987
 "Recommended Practices for Seismic Qualification of Class 1 E Equipment for Nuclear Power Generating Stations"

Agency: Wyle Laboratories, Huntsville, Alabama, USA

Period: 1992 – 1993

The basis for the qualification statement are the standards laid down in the IEEE that comprise the following product cycles:

1. Functional Test/Initial Values

- Insulation resistance
- Volume resistances

2. Radioactive Aging

- Total dose: 220 Mrad
- Dose rate: 1 Mrad/h
- Volume resistance after contamination

3. Thermal aging equivalent to 40 years of operation at ambient temperature

- 32 °C = 90 °F outside of containment area
- 65 °C = 150 °F within the containment area
- Accelerated aging
- Insulation resistance after contamination

4. Earthquake Simulation

- 5 OBE, 1 SSE test in 3 axes
- Monitoring of the electrical functions

5. Accident Simulation

- Inside and outside of the containment area
- Monitoring of leakage currents for different applications during the accident simulation
- Insulation resistance after contamination

6. Functional Test/Final Values

- Volume resistance
- Optical inspection

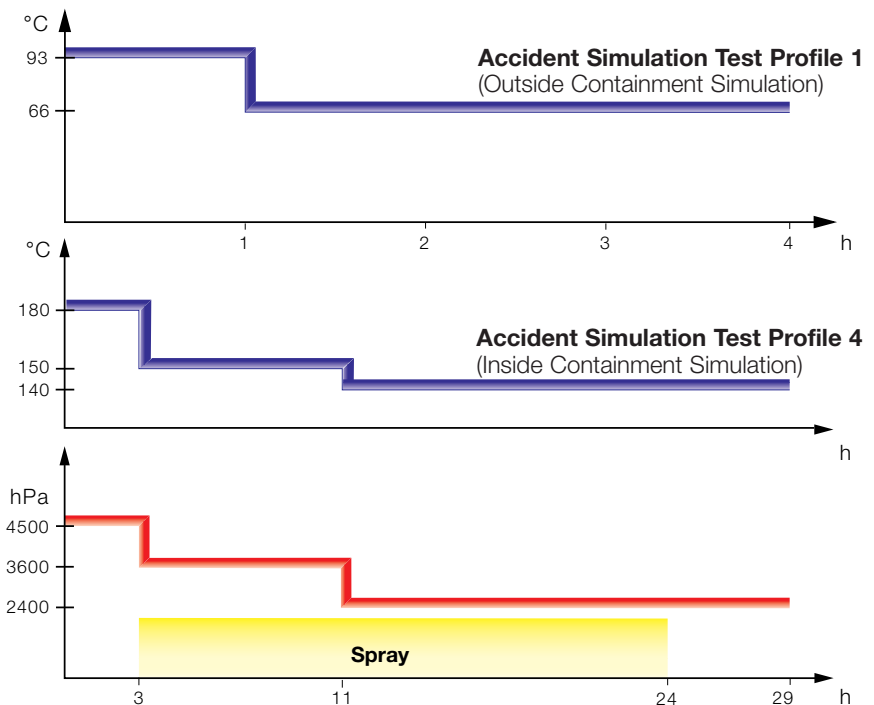
As well as the special terminal blocks for the containment areas, which correspond to the standards according to Class 1 E, Weidmüller has subjected a range of standard terminal blocks to intensive tests in accordance with test profile 1. They all fully meet the demands set for terminal blocks for outside of restricted areas.

Accident Simulation Test Profile 1 Typical PWR Outside Containment Simulation

During the 4-hour test, saturated steam is fed to the temperature control. This simulation is carried out at atmospheric pressure.

Accident Simulation Test Profile 4 Typical PWR Inside Containment Simulation

During the 29-hour test, saturated steam is fed to the temperature control. In the period from the 3rd to 24th hour, the test circuit that is coated with a chemical spray is alternatively coated with a demineralizing spray. This simulation is carried out at an increased pressure of a maximum of 4500 hPa (4.5 bar).



D

Modular terminals for nuclear power stations

TS 32 / EP

KMVF LI 6.3 EP/SW

2.5 mm²

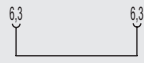
KMVF RE 6.3 EP/SW

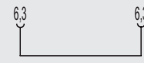
2.5 mm²

TS 32 / EP

When using ATEX certified components in hazardous area applications the installation instructions and the rated data for accessories in the technical appendix must be considered.

Width/Length/Height with TS32	mm
Max. current / max. cond. cross-section	A/mm ²
Max. clamping range	mm ²

6 x 70 x 54	
20	

6 x 70 x 54	
20	

Technical data

Rated data	
Rated voltage	V
Rated current	A
Rated cross-section	mm ²
Rated impulse voltage / Pollution severity	kV/-
Plug gauge IEC 60-947-1 / flammability class acc. UL 94	
Approvals	

IEC	UL	CSA	EN 50019
800			
16			
2.5			
	8 / 3		
	/ V-0		

IEC	UL	CSA	EN 50019
800			
16			
2.5			
	8 / 3		
	/ V-0		

Clampable conductors (H05V/H07V)	
Solid / stranded	mm ²
Flexible / flexible w. wire end ferrule	mm ²
Tightening torque range (clamping screw)	Nm
Stripping length / blade size	mm / -

Rated connection	Additional connection
0.5...2.5	

Rated connection	Additional connection
0.5...2.5	

2 clampable conductors of equal cross-section	
Solid / stranded	mm ²
Flexible / flexible w. wire end ferrule	mm ²

Rated connection	
0.5...2.5	

Rated connection	
0.5...2.5	

Information
250 V rated voltage with same-direction arrangement and 800 V with staggered arrangement of KMVF LI und KMVF RE alternating.

Information
250 V rated voltage with same-direction arrangement and 800 V with staggered arrangement of KMVF LI und KMVF RE alternating.

Information
250 V rated voltage with same-direction arrangement and 800 V with staggered arrangement of KMVF LI und KMVF RE alternating.

Order data

Version
black

Type	Qty.	Order No.
KMVF LI 6.3 EP/SW	50	0249100000


Type	Qty.	Order No.
KMVF RE 6.3 EP/SW	50	0249200000

Information

Information

Information

Accessories

Cross-connection, screwable	
	2-pole
	3-pole
	4-pole
	10-pole
	Connecting sleeve
	Fixing screw
	Fuse cartridges

Type	Current [A]	Qty.	Order No.

Type	Current [A]	Qty.	Order No.

Cross-connection saddle	
	Cross-connection saddle
	Connecting sleeve
	Fixing screw

Type	Current [A]	Qty.	Order No.

Type	Current [A]	Qty.	Order No.

Socket / Test plug	
	Socket
	Test plug

Type	Current [A]	Qty.	Order No.

Type	Current [A]	Qty.	Order No.

End plate	
	black
	blue

Type	Width [mm]	Qty.	Order No.

Type	Width [mm]	Qty.	Order No.

Partition / Partition disc	
	black
	blue
	Partition disc

Type	Width [mm]	Qty.	Order No.

Type	Width [mm]	Qty.	Order No.

Cover / fixing screw (plastic)	
	Cover
	Fixing screw (plastic)

Type	Current [A]	Qty.	Order No.

Type	Current [A]	Qty.	Order No.

Marking systems	
	DEK 5

Type	Current [A]	Qty.	Order No.
DEK 5			

Type	Current [A]	Qty.	Order No.
DEK 5			

Detailed information on all versions in chapter accessories.

Detailed information on all versions in chapter accessories.

Detailed information on all versions in chapter accessories.

