SAK-Series for special applications

SAK-Series for special applications	Modular terminals for high-temperature applications				
	TS 32 / Ceramic	D.2			
	Modular terminals for nuclear power stations				
	Overview	D.4			
	TS 32 / EP	D.6			

TS 32 / Ceramic

SAKK 4 Sn

Туре

SAKK 4 KFR/WS

V

Α

mm²

kV/-

mm²

mm²

mm/-

mm²

mm²

white

4 mm²

4 mm²

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



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

Qty.

25

Order No.

1598080000

Nickel coating for high-temperature applica-

tions - max. 750°C for 3 hours

8 x 40 x 53		
41 / 6	0	<u> </u>
0.336		

IEC 60947-7-1		Ex e l	(Ex) 2 G D	IEC 60947-7-1		Ex e II	(Ex) 2 G D
IEC	UL	CSA	EN 60079-7	IEC	UL	CSA	EN 60079-7
800	600		275	800	600		275
32	30		28	32	30		28
4			4	4			4
	8 /	′3			8	/3	
	A4 /	5VB			A4 /	5VB	
₽ 9 1		SIRA	03ATEX3425 U	₽ 9 \		SIRA	03ATEX3425 U
Rated connecti	ion			Rated connection	on		
0.56				0.56			
0.54 / 0.54				0.54 / 0.54			
0.51.0 Nm (M	3)			0.51.0 Nm (M 3	3)		
10 / 0.6 x 3.5 mr	n			10 / 0.6 x 3.5 mm	1		
0.51.5							
0.51.5 / 0.51	.5						
Do not use mechani conductor.	ical or electrical to	orque screwdrive	rs for fastening the	Do not use mechanic conductor.	cal or electrical	torque screwdriver	s for fastening the

SAKK 4 Ni

IEC 00947-7-1			EX E II	$\overline{}$	11 2 G D
IEC	UL		CSA	EN	60079-7
800	600				275
32	30				28
4					4
		8/3			
	A	4 / 5VB			
୍ର ମଧ			SIRA	ТАЕС	EX3425 U
Rated connection	1				
0.56					
0.54 / 0.54					
0.51.0 Nm (M 3)					
10 / 0.6 x 3.5 mm					

Type Qty. Order No. 9502600000 SAKK 4 25

In hazardous area applications, the installation instructions and the rated data specifications for accessories given in the technical appendix must be followed.

Width/Length/height with TS35x7.5	mm
max. current / max. cond. cross-section	A/mm²
Max. clamping range	mm²

Ordering data

Technical data

Rated cross-section

Rated impulse voltage / Pollution severity

Clamped conductors (H05V/H07V)

flexible / Stranded wire with end ferrules

flexible / Stranded wire with end ferrules

Stripping length / Blade size

Tightening torque range (clamping screw)

Gauge to IEC 60947-1 / UL94 Flammability class

Rated data

Rated voltage

Rated current

Approvals

solid / stranded

solid / stranded

Note

Version	
	white
Note	

2 conductors with same cross-section (H05V/H07V)

Accessories	
Sarawahla arass-connection	Typo

2-pole 3-pole 4-pole 10-pole Connecting sleeve Mounting screw End plate / Partition plate

Туре	current	Qty.	Order No.
QL 2 SAKK 4 TIN	32 A	100	9509420000
QL 3 SAKK 4 TIN	32 A	100	9509430000
QL 4 SAKK 4 TIN	57 A	50	9509440000
QL 10 SAKK 4 TIN	41 A	20	9509450000
VH 13.5 SAKK4		100	9509460000
KISC M3X20.5/10 EK4		100	0303000000
	Width		
AP SAKK4/10 KER/WS	3 mm	10	9502630000

Туре	current	Qty.	Order No.
QL 2 SAKK 4	32 A	100	9502540000
QL 3 SAKK 4	32 A	100	9502550000
QL 4 SAKK 4	32 A	50	9502560000
QL 10 SAKK 4	41 A	20	9502570000
VH 13.5 SAKK 4		100	9502580000
KISC M3X20.5/10 EK4		100	0303000000
	Width		
AP SAKK4/10 KER/WS	3 mm	10	9502630000

(see assortment in catalogue 7)

For detailed information on other accessories and applications, refer to the "Accessories" section

Twin wire-end ferrules ZH 0.5 - ZH 2.5 can be used. End bracket 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

SAKK 10 Sn

10 mm²

SAKK 10 Ni

10 mm²

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



11.5 x 40 x 53		
76 / 16	0	<u></u>
1.516		

IEC 60947-7-1			Ex e II	(Ex) 2 G D
IEC	UL		CSA	EN 60079-7
800	600			275
57	55			50
10				10
		8/3		

B6 / 5VB

₽ 9.	SIRA 03ATEX3425 U
Rated connection	
1.516 / 1.516	
1.516 / 1.510	
2.04.0 Nm (M 4)	
12 / 1.0 x 5.5 mm	

Do not use mechanical or electrical torque screwdrivers for fastening the conductor.

Туре	Qty.	Order No.
SAKK 10 KER/WS	25	1598090000

Туре	current	Qty.	Order No.
QL 2 SAKK 10 TIN		100	9509470000
QL 3 SAKK 10 TIN		50	9509480000
QL 4 SAKK 10 TIN		50	9509490000
QL 10 SAKK 10 TIN		20	9509500000
VH 12.5 SAKK10		50	9509510000
KISC M3X20.5/10 EK4		100	0303000000
	Width		
AP SAKK4/10 KER/WS	3 mm	10	9502630000





11.5 x 40 x 53			
76 / 16	0	Ĵ	<u> </u>
1.516			

IEC 60947-7-1		Ex e l	<u>ι⟨ξχ⟩</u> ∥2GD
IEC	UL	CSA	EN 60079-7
800	600		275
57	55		50
10			10
	8	3/3	
	B6	/ 5VB	

	D0 / 0 V D	
₽ 91	;	SIRA 03ATEX3425 U
Rated connection		
1.516 / 1.516		
1.516 / 1.510		
2.04.0 Nm (M 4)		
12 / 1.0 x 5.5 mm		

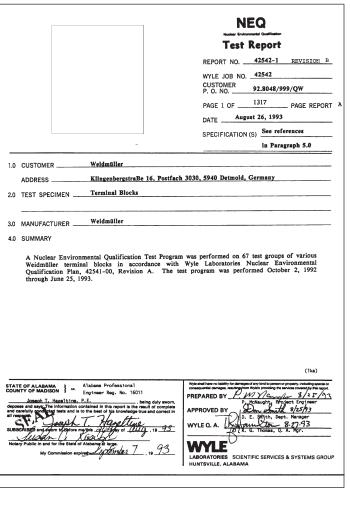
Do not use mechanical or electrical torque screwdrivers for fastening the conductor.

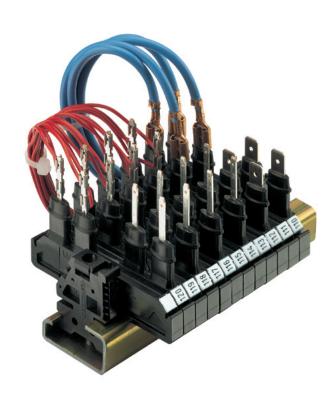
Туре	Qty.	Order No.
SAKK 10	25	9502610000

Туре	current	Qty.	Order No.
QL 2 SAKK 10	57 A	100	9502650000
QL 3 SAKK 10	57 A	50	9502660000
QL 4 SAKK 10	57 A	50	9502670000
QL 10 SAKK 10	57 A	20	9502680000
VH 12.5 SAKK10		50	9502690000
KISC M3X20.5/10 EK4		100	0303000000
	Width		
AP SAKK4/10 KER/WS	3 mm	10	9502630000

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

Terminal Blocks for the Containment Areas of Nuclear Power Generating Stations







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 equivelant 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 axses
- 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

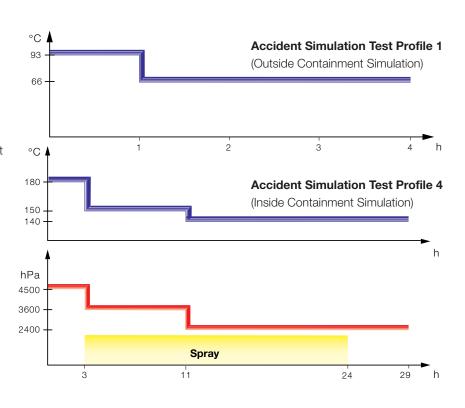
As well as the special terminal blocks for the containment areas, which correspond to the standards according to Class 1 E, Weidmüller has subjected a range of standard terminal blocks to intensive tests in accordance with test profile 1. They all fully meet the demands set for terminal blocks for outside 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 deminaralizing spray. This simulation is carried out at an increased pressure of a maximum of 4500 hPa (4.5 bar).



TS 32 / EP **SAKH 4** 4 mm² **SAKH 6** 10 mm²

In hazardous area applications, the installation instructions and the rated data specifications for accessories given in the technical appendix must be followed.

Width/Length/height with TS35x7.5 mm max. current / max. cond. cross-section A/mm² Max. clamping range mm²





14 x 57 x 76.5	
76 / 16	0
0.516	

Technical data

Rated data	
Rated voltage	V
Rated current	Α
Rated cross-section	mm²
Rated impulse voltage / Pollution severity	kV/-
Gauge to IEC 60947-1 / UL94 Flammability class	
Approvals	
Clamped conductors (H05V/H07V)	

Rated current	Α
Rated cross-section	mm ²
Rated impulse voltage / Pollution severity	kV/-
Gauge to IEC 60947-1 / UL94 Flammability class	
Approvals	
Clamped conductors (H05V/H07V)	
solid / stranded	mm²
flexible / Stranded wire with end ferrules	mm ²
Tightening torque range (clamping screw)	
Stripping length / Blade size	mm/-
Note	

IEC 60947-7-1			Ex e II	(€x) ∥2 G D
IEC	UL		CSA	EN 60079-7
800				550
32				28
4				4
		8/3		
	/	A4 / V-0		
€			KEMA	97ATEX1798 U
Rated connecti	on			
0.56 / 0.54				·
0.54 / 0.54				

When using the twin wire-end ferrules ZH 0.5 - ZH 2.5 without a partition wall, the rated voltage is 690 V.

0.5...1.0 Nm (M 3) 12 / 0.6 x 3.5 mm

UL	CSA	
8 /	' 3	
B6 /	V-0	
n		
		8/3 B6/V-0

Ord	ering	data
0.0	~9	~~~

Version	
	black
	Black
Note	

Туре	Qty.	Order No.
SAK 4 EP/SW	100	0128300000
SAK 4 CUN/EP/SW	100	0168800000

Туре	Qty.	Order No.
SAKH 6 EP/SW	50	0126600000

Accessories

Screwable cross-connection	
	2-pole
8-8-8	3-pole
IIII	4-pole
	10-pole
Testing / Checking	
	Test plug
	Socket
End plate / Partition plate	
	black

Туре	current	Qty.	Order No.
Q 2 SAK4	41 A	50	0336700000
Q 3 SAK4	41 A	50	0336800000
Q 4 SAK4	41 A	50	0336900000
Q 10 SAK4	41 A	20	0368800000
	Width		
PS 4 F.STB 4	7.6 mm	20	0299600000
STB 14/D5/2.3/M3 SAK2.5	5	50	0168600000
TW SAK4-10 EP/SW	2.5 mm	20	0130100000

Туре		Qty.	Order No.
	Width		
AP SAKH6/10 EP/SW	4 mm	20	0131700000

Marking systems

(see assortment in catalogue 7)

Marking tags

For detailed information on other accessories and applications, refer to the "Accessories" section

DEK 5/5

End bracket from EP: 0693060000 EWK 1PPS/SW.

DEK 5/5

End bracket from EP: 0693060000 EWK 1PPS/SW.

SAKH 10

10 mm²

SAKH 35

35 mm²

0



14 x 57 x 76.5

57 / 16

1.5...16



18 x 125 x 90

150 / 50

4...50



IEC	UL	CSA	
1000			
57			
10			
	8	/3	
	DG	/\/ 0	

Rated connection 1.5...16 16 2.5...10 / 1...10 2.0...4.0 Nm (M 4)

12 / 1.0 x 5.5 mm

The tightening torque is 2 Nm when connecting AWG 6/7 conductors.

IEC	60947-7-1

120 000 11 1 1			
IEC	UL	CSA	
1000			
125			
35			
		8/3	
	В	8 / V-0	

0

Rated connection 4...16 / 16...50 4...35 / 4...35 4.0...5.0 Nm (M 6)

18 / 6.5 x 1.2 mm

The tightening torque is 4.5 Nm for 16 - 50 mm $^{\!2}$ and AWG 6 - 2/7 stranded conductors.

Туре	Qty.	Order No.
SAKH 10 EP/SW	50	0126700000
SAKH 10 CUN/EP/SW	50	1104700000

Туре	Qty.	Order No.
SAKH 35 EP/SW	20	1596240000

Туре		Qty.	Order No.
	Width		
AP SAKH6/10 EP/SW	4 mm	20	0131700000

Туре	Qty.	Order No.

DEK 5/5

End bracket from EP: 0693060000 EWK 1PPS/SW.

DEK 5/6,5

End bracket from EP: 0693060000 EWK 1PPS/SW.

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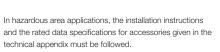
TS 32 / EP

KMVF LI 6.3 EP/SW

2.5 mm²

KMVF RE 6.3 EP/SW

2.5 mm²



Width/Length/height with TS35x7.5	mm
max. current / max. cond. cross-section	A/mm²
Max. clamping range	mm²

6 x 70 x 54 6,3 20 /

CSA

UL



Technical data

Rated data	
Rated voltage	V
Rated current	Α
Rated cross-section	mm ²
Rated impulse voltage / Pollution severity	kV/-
Gauge to IEC 60947-1 / UL94 Flammability class	
Approvals	

Clamped conductors (H05V/H07V)	
solid / stranded	mm ²
flexible / Stranded wire with end ferrules	mm ²
Tightening torque range (clamping screw)	
Stripping length / Blade size	mm/-

Ordering	data
Ordering	uata

Note

Rated voltage	V
Rated current	Α
Rated cross-section	mm²
Rated impulse voltage / Pollution severity	kV/-
Gauge to IEC 60947-1 / UL94 Flammability class	
Approvals	
Clamped conductors (H05V/H07V)	
solid / stranded	mm ²
flexible / Stranded wire with end ferrules	mm²
Tightening torque range (clamping screw)	

	$250~\rm V$ rated voltage for standard straight alignment and $800~\rm V$ rated voltage for staggered alignment with alternating KMVF LI and KMVF RE.

Rated connection 0.5...2.5 0.5...2.5 / 0.5...2.5

IEC 800

16 2.5

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

Rated connection	
0.52.5	
0.52.5 / 0.52.5	

250 V rated voltage for standard straight alignment and 800 V rated voltage for staggered alignment with alternating KMVF LI and KMVF RE. ol-

Version black Black

Note			

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

8/3 / V-0

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

Accessories

Screwable cross-connection	
	2-pole
8-8-8	3-pole
TITI	4-pole
	10-pole
Testing / Checking	
	Test plug
	Socket
End plate / Partition plate	
	black

Туре	Qty.	Order No.

Туре	Qty.	Order No.

Marking systems

(see assortment in catalogue 7)

Marking tags

For detailed information on other accessories and applications, refer to the "Accessories" section

DEK 5/5

DEK 5/5

KMVT LI 2.4 EP/SW

0.5 mm²

KMVT RE 2.4 EP/SW

0.5 mm²

PPT/35

Туре

PPT/35

6 mm²







0

IEC	UL	CSA	
800			
12			
0.5			
	8	3/3	
	/	V-0	
P ·			

7 \$ -0		
€		
Rated connection		
0.52.5		
0.52.5 / 0.52.5		

250 V rated voltage for standard straight alignment and 800 V rated voltage for staggered alignment with alternating KMVT LI and KMVT RE.

IEC	UL	CSA	
800			
12			
0.5			
	8	/3	
	/	V-0	

€
Rated connection
0.52.5
0.52.5 / 0.52.5

 $250\,\mathrm{V}$ rated voltage for standard straight alignment and 800 V rated voltage for staggered alignment with alternating KMVT LI and KMVT RE.

IEC	UL		CSA	
1500				
30				
6				
		15/3		
		/ V-0		
·G·				
Rated connection				
0.510 / 0.510				
1.56 / 1.54				

Туре	Qty.	Order No.
KMVT LI 2.4 EP/SW	50	0249300000

Qty.

Order No.

Type	Qty.	Order No.
KMVT RE 2.4 EP/SW	50	0249400000

Туре	Qty.	Order No.

	Qty.	Order No.
Width		
7.6 mm	20	0299600000
	50	0147100000
3 mm	10	3835120000
	7.6 mm	Width 7.6 mm 20 50

Qty.

10

Order No.

3835020000

DEK 5/5

DEK 5/5

DEK 5/5

The isolating plug (3835360000) may only be pulled out with the removal tool (3835260000). Insulated mounting rail (0514300000).