

**INSTALLATION INSTRUCTIONS**  
**& CONDITIONS FOR SAFE USE**

Ex eb IIC Gb

**Modular TERMINAL Blocks: SAK- Series**

**TÜV 18 ATEX 8207 U**  
**IECEx TUR 18.0017 U**  
**TÜV21UKEX7051U**

## Standards:

EN IEC 60079-0:2018 and EN 60079-7:2015 A1:2018  
 IEC 60079-0: 7th Edition and IEC 60079-7: 5.1th Edition

**Modular Terminal Blocks: SAK 16**

|                      |                            | Order No   |
|----------------------|----------------------------|------------|
| Version:             | SAK 16                     | 0271060000 |
|                      | SAK 16 BL                  | 0271080000 |
| in conjunction with: | EK 35                      | 0354760000 |
| Accessories:         | Type                       |            |
| end plate            | AP SAK16*                  | 0271160000 |
| partition plate      | AP SAK35/TW SAK16*         | 0303660000 |
| end bracket          | EWK 1*                     | 0206160000 |
|                      | WEW 32/1*                  | 1067600000 |
| Terminal rail        | TS 32/... acc.to IEC 60715 |            |
| Cross-connection     | Q 2 SAK16                  | 0457500000 |
|                      | Q 3 SAK16                  | 0457600000 |
|                      | Q 4 SAK16                  | 0457700000 |
|                      | Q 10 SAK16                 | 0457800000 |

**Insulation material:**

|  |  |
|--|--|
| - Type                                 | PA   |
| - Tracking resistance (A) to IEC 60112 | CTI $\geq$ 600                             |
| - Flammability class to UL 94          | V2   |
| - Operating temperature range          | -50°C to +85°C (insulating material limit) |
| - Ambient temperature range            | -50°C...+40°C (for T6 applications)        |
| - Ambient temperature range            | -50°C...+45°C (for T5 applications)        |
| - Ambient temperature range            | -50°C...+45°C (for T4 applications)        |

\* in all colours

**Technical data according to IEC/EN 60079-7 (increased safety "eb"):**

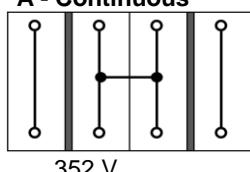
|   | SAK 16                   | EK 35                   |
|---|--------------------------|-------------------------|
| - Rated voltage   | 690 V                    |                         |
| - Rated current   | 74,5 A                   |                         |
| - Temperature rise with rated current                                       | ≤ 40 K / 74,5 A          |                         |
| - Rated current with cross connection                                       | 70 A                     |                         |
| - Contact resistance with rated conductor                                   | 0,2 mΩ                   | 0,2 mΩ                  |
| - Conductor cross section solid   | 2,5 - 16 mm <sup>2</sup> | 6 - 16 mm <sup>2</sup>  |
| - Conductor cross section stranded  | 4 - 16 mm <sup>2</sup>   | 16 - 50 mm <sup>2</sup> |
| - Conductor cross section flexible  | 4 - 16 mm <sup>2</sup>   | 10 - 35 mm <sup>2</sup> |
| - cross section, American Wire Gauge  | 12 - 6 AWG               | 8- 2 AWG                |
| - conductor cross section flexible with ferrule<br>acc. to DIN 46228 part 1 | 4 - 16 mm <sup>2</sup>   | 10 - 35 mm <sup>2</sup> |
| - conductor cross section flexible with ferrule<br>acc. to DIN 46228 part 4 | 16 mm <sup>2</sup>       | ---                     |
| - Tightening torque range, terminal screw                                   | 2,0 - 2,4 Nm             | 6 Nm                    |
| - Tightening torque range, fixing screw                                     | ---                      | 0,8 - 1,6 Nm            |
| - Tightening torque range for cross<br>connection                           | 0,5 - 1 Nm               | ---                     |
| - Stripping length  | 15 mm                    | 20 mm                   |

**IECEx / ATEX / UKCA Terminal and Cross-Connection Arrangements:**

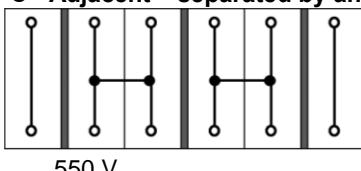
Max voltage data according to IEC/EN 60079-7 in conjunction with protective earth terminal blocks of the SAK-Series, (increased safety "eb"):

**Application Case**

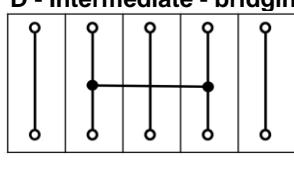
**Note:**  Please use the end plate AP SAK16.

**A - Continuous**

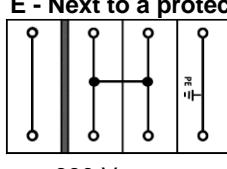
352 V

**C - Adjacent – separated by an end plate**

550 V

**D - Intermediate - bridging one or more unconnected terminals**

220 V

**E - Next to a protective conductor terminal (earth)**

690 V

Information for further cross-connector arrangements will be provided on request.

**Note:**

If smaller cross sections than the rated cross section are used, the belonging lower current has to be laid down in the IECEx/EC-Type Examination Certificate of the complete apparatus.

**Mounting instructions:**

Regarding the use of accessories the instructions of the manufacturer must be followed.

**Schedule of Limitations:**

The SAK/EK-series products are suitable for use in enclosures in atmospheres with flammable gases or combustible dust. For flammable gases these enclosures must satisfy the requirements according to IEC/EN60079-0 and IEC/EN60079-7. For combustible dust the enclosure must satisfy the requirements according to IEC/EN60079-0 and IEC/EN60079-31.

The enclosure shall be constructed to block all sun and UV light from affecting the terminal blocks. The terminal blocks shall be placed inside a suitable certified IP54 enclosure in type of protection "eb" for gas atmosphere. For dust atmosphere the terminal blocks shall be mounted inside a suitable certified enclosure (IEC/EN60079-31) in type of protection "t".

Under normal operating conditions the temperature rise of the terminal blocks is maximum 40 K, measured at the maximum permitted rated current. Due to the above mentioned, the terminal blocks may be used in apparatus of temperature classes T6..T1 as long as the terminal block ambient temperature range is not exceeded. No part of terminal block must exceed 85°C under any condition.

**Ambient temperature**

T6 (- 50°C ... +40 °C)

T5 (- 50°C ... +45 °C)

T4 (- 50°C ... +45 °C)

When using the SAK/EK-series products especially with other terminal blocks series or sizes or accessories the requirements for clearance and creepage distances according to IEC/EN60079-7 must be observed. Regarding the use of covers, cross-connectors and end brackets the instructions of the manufacturer must be followed.

For cross connection accessories current rating, resistance across the terminal please refer to the table under "technical data" above.

When using ferrules for flexible conductors, it must be ensured that the test requirements of DIN 46228-1 and DIN 46228-4 are complied with. Therefore we recommend the use of the appropriate Weidmüller crimping tools. The length of the copper ferrule must correspond to the specified stripping length.

No other wire sizes or types than the ones specified in instructions must be used. The terminal blocks must either be mounted next to another block of the same type and size or with an end plate.

If smaller conductor cross sections than the rated conductor cross sections are used, then the corresponding lower current shall be stated in the Certificate of the complete apparatus.

Unused terminals shall be tightened.

**Essential Health and Safety Requirements:**

Concerning ESRs this Schedule verifies compliance with the Annex II of ATEX / Schedule 1 of UKCA directive and Equipment and Protective Systems Intended for Use in Potentially Explosive Atmospheres Regulations 2016 only. By placing the product on the market, the manufacturer declares compliance with other relevant Directives, and all other safety related requirements including those of Annex II / Schedule 1 of these Directives.



