# INSTALLATION INSTRUCTIONS & CONDITIONS FOR SAFE USE

II 2 GD

Ex eb IIC Gb

**Modular TERMINAL Blocks: W- Series**

**DEMKO 15 ATEX 1346U**
**IECEx ULD 15.0003U**
**UL21UKEX2116U**

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

**Modular Terminal Blocks: WDK/WDK DU-PE**

| Version: | | Order No |
|---|---|---|
| | WDK 4N V* | 1041910000 |
| in conjunction with: | | Order No |
| | WDK 4N DU-PE* | 1041950000 |

| Accessories: | Type | Order No |
|---|---|---|
| End Plate | WAP WDK2.5/4N* | 1084000000 |
| Partition Plate | WTW EN | 1058800000 |
| End bracket | WEW 35/2* | 1061200000 |
| Terminal rail | TS 35/… acc.to DIN EN 60715 | |
| Screen bus bar | LS 2.8 | 1056400000 |

| | |
|---|---|
| Cross-connection | Plugable* |
| | ZQV 4N/2 |
| | ZQV 4N/3 |
| | ZQV 4N/4 |
| | ZQV 4N/10 |

**Insulation material:**

| | |
|---|---|
| - Type | Wemid |
| - Tracking resistance (A) to IEC 60112 | CTI ≥ 600 |
| - Flammability class to UL 94 | V0 |
| - Operating temperature range | -60°C…+110°C (insulating material limit) |
| - Ambient temperature range | -60°C…+40°C (for T6 applications) |
| - Ambient temperature range | -60°C…+55°C (for T5 applications) |
| - Ambient temperature range | -60°C…+70°C (for T4 applications) |

* in all colours and optional with hexagon and six lobe drive

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

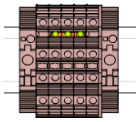
| | WDK 4N V | WDK 4N DU-PE |
|---|---|---|
| - Rated voltage | 550 V | 550 V |
| - Rated voltage with LS 2.8 | 137 V | |
| - Rated current | 30 A / ΔT 40 K | 30 A / ΔT 40 K |
| - Temperature rise with rated current | 38,6 K / 30 A | 34,6 K / 30 A |
| - Rated current with ZQV | 30 A / ΔT 40 K | 30 A / ΔT 40 K |
| - Contact resistance top level with rated conductor, 2,5 mm² | 0,2 mΩ | 0,2 mΩ |
| - Contact resistance top to lower with rated conductor, 2,5 mm² | 0,4 mΩ | 0,8 mΩ |
| - Contact resistance lower level with rated conductor, 2,5 mm² | 0,4 mΩ | |
| - Rated conductor cross section | 4 mm² | 4 mm² |
| - Conductor cross section solid | 0,13 - 6 mm² | 0,13 - 6 mm² |
| - Conductor cross section stranded | 0,13 - 6 mm² | 0,13 - 6 mm² |
| - Conductor cross section flexible | 0,13 - 6 mm² | 0,13 - 6 mm² |
| - cross section, American Wire Gauge | 26 - 10 AWG | 26 - 10 AWG |
| - conductor cross section flexible with ferrule acc. to DIN 46228 part 1 + 4 | 0,5 - 4 mm² | 0,5 - 4 mm² |
| - 2 conductors with same cross-section | 0,13 - 1,5 mm² | -- |
| - Tightening torque range, terminal screw | 0,5 - 1,0 Nm | 0,5 - 1,0 Nm |
| - Stripping length | 8 mm | 8 mm |

## IECEx / ATEX / UKCA Terminal and Cross-Connector Arrangements:

**Max voltage data with ZQV 4N/... according to IEC/EN 60079-7 in conjunction with protective earth terminal blocks of the WDK PE-Series, (increased safety "eb"):**

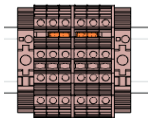
**Application Case**

**A - Continuous no difference between one or two cross connections**



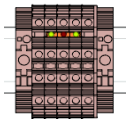
440V

**C - Adjacent – separated by an end plate no difference between one or two cross-connections**



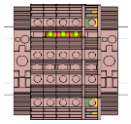
440V

**D - Intermediate - bridging one or more unconnected terminals (e.g. every 3rd terminal) no difference between one or two cross connections**



275V

**F - Next to a protective conductor terminal (earth) separated no difference between one or two cross-connections**



440V

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

Max. voltage data with optional screen bus bar LS2.8: 137 V

**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:**
The WDK/WDK PE series is suitable for application in enclosures in atmospheres with flammable gases or combustible dust. For use in flammable gases these enclosures must satisfy the requirements according to IEC/EN60079-0 and IEC/EN60079-7. For use in combustible dust these enclosures must satisfy the requirements according to IEC/EN60079-0 and IEC/EN60079-31.

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

**Schedule of Limitations:**
The WDK/WDK PE terminals 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 IECEx/ATEX/UKCA certified IP54 enclosure for gas atmosphere. For dust atmosphere the terminal blocks shall be mounted inside a suitable IECEx/ATEX/UKCA certified ‘t’ enclosure (IEC/EN60079-31).

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 110 °C under any condition.

T6 (- 60°C ... +40 °C)
T5 (- 60°C … +55 °C)
T4 (- 60°C ... +70 °C)

When using the type WDK/WDK PE 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 and torque values 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.

The terminal can be used with either one or two wires into either side of the terminal. When two wires are used they must be of the same type, and of equal sizes. 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.

- Cross connections with blank ends shall not be used.
- Manually cut cross connections shall not be used.

**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.