

**INSTALLATION INSTRUCTIONS
& CONDITIONS FOR SAFE USE**

Ex eb IIC Gb

Modular TERMINAL Blocks: Z- Series**IECEx ULD 16.0036U****DEMKO 16 ATEX 1808U****UL21UKEX2119U****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: ZDU/ZPE

		Order No
Version:	ZDU 4-2/4AN*	1806980000
in conjunction with:	ZPE 4-2/4AN*	1807090000
Accessories:	Type	Order No
end plate	ZAP ZDU4-2/4AN*	1807010000
end bracket	ZEW 35*	9540000000
Terminal rail	TS 35/... acc.to DIN EN 60715	
Cross-connection	Plugable*	Order No
	ZQV 4/2 GE	1608950000
	ZQV 4/3 GE	1608960000
	ZQV 4/4 GE	1608970000
	ZQV 4/5 GE	1608980000
	ZQV 4/6 GE	1608990000
	ZQV 4/7 GE	1609000000
	ZQV 4/8 GE	1609010000
	ZQV 4/9 GE	1609020000
	ZQV 4/10 GE	1609030000

Insulation material:

- Type	Wemid
- Tracking resistance (A) to IEC 60112	CTI \geq 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)

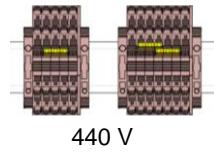
* in all colours

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

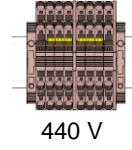
	ZDU 4-2/4AN	ZPE 4-2/4AN
- Rated voltage	440 V	
- Rated current	29 A / $\Delta T \leq 40$ K	
- Rated current with ZQV	28 A / $\Delta T \leq 40$ K	
- Contact resistance with rated conductor, 4 mm ²	1 mΩ	
- Rated conductor cross section	4 mm ²	4 mm ²
- Conductor cross section solid	0,5 - 6 mm ²	0,5 - 6 mm ²
- Conductor cross section stranded	0,5 - 4 mm ²	0,5 - 4 mm ²
- Conductor cross section flexible	0,5 - 4 mm ²	0,5 - 4 mm ²
- 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 mm ²	0,5 - 4 mm ²
- Stripping length	10 mm	10 mm

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

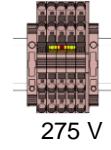
Max voltage data according to IEC/EN 60079-7 in conjunction with protective earth terminal blocks of the ZPE-Series, (increased safety "eb"):

Application Case**A - Continuous**

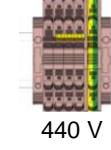
440 V

C - Adjacent – separated by a partition plate

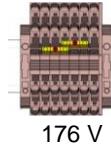
440 V

D - Intermediate - bridging one or more unconnected terminals (e.g. every 3rd terminal)

275 V

F - Next to a protective conductor terminal (earth) with a end plate

440 V

H - Cross-connection with twin parallel

176 V

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

Note:

The creepage and clearance distances were determined in the worst case. (with tension spring)
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 ZDU/ZPE 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.

In combination with other terminal block series and sizes and if other accessories are used, the applicable creepage and clearance distances shall be met.

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

Schedule of Limitations:

The feed through and protective earth terminal blocks 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 these enclosures must satisfy the requirements according to 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 "e" 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 110 °C under any condition.

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

When using the types ZDU and ZPE with other terminal blocks series or sizes or accessories, the requirements for clearance and creepages 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 the current ratings and the resistances across the terminals 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.



- 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.