

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

II 2 GD

Ex eb IIC Gb

**Modular TERMINAL Blocks: W- Series****CNEX 16 ATEX 0005U****IECEX CNEX 16.0005U****Notified Body No. of Ex - QA: 0344****Label print on package unit: 0344****ExVeritas 21UKEX0918U****Approved Body No. of UK Ex - QA: xxxx**  
**(see product marking)**

## Standards:

EN IEC 60079-0:2018 and EN IEC 60079-7:2015 A1:2018  
IEC 60079-0: 2017 7th Edition and IEC 60079-7: 2017 5.1th Edition**Modular Terminal Blocks: WPD 109**

Version:	WPD 109*	Order No 1562090000
Accessories:	Type -	Order No -
Description:	Power Distribution Block, Busbar	
<b>Insulation material base:</b>		
- Type	PA6	
<b>Insulation material cover:</b>		
- Type	PC	
- Operating temperature range	-60°C...+100°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...+60°C (for T4 applications)	

*Screw Drive for wire connection:*Slotted head  
Phillips-head  
Phillips-Combo  
Allen-Screw  
Torx  
Torx-Minus

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

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

- WPD 109**  
 1100 V
- Rated voltage
  - Rated current 353 A /  $\Delta T$  40 K
  - Temperature rise with rated current  $\leq 40$  K / 353 A
  - Contact resistance with rated conductor, 120 mm<sup>2</sup> < 0,1 m $\Omega$
  - Rated conductor cross section

	input		output		
	mid./mid.	bottom	top	middle	bottom
Number of connections	1	1	3	4	2
Solid	95...185mm <sup>2</sup>		2.5...25mm <sup>2</sup>	1.5...16mm <sup>2</sup>	4...35mm <sup>2</sup>
Stranded	95...185mm <sup>2</sup>		2.5...25mm <sup>2</sup>	1.5...16mm <sup>2</sup>	4...35mm <sup>2</sup>
Flexible with ferrule	70...150mm <sup>2</sup>		1.5...16mm <sup>2</sup>	1.5...10mm <sup>2</sup>	2.5...25mm <sup>2</sup>
Flexible busbar (Flexibar)	24 x 10 mm				

- cross section, American Wire Gauge 3/0-350 AWG
- Tightening torque range, terminal screw
 

M6 top	2 Nm
M 6 bottom (flexibar)	3 Nm
M 8	2.5 Nm
M14	19 Nm

**Electrical Data:**

Max. rated voltage [V]:

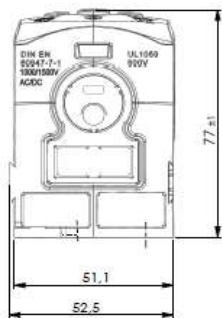
Model:	WPD 109
Screw (direct) mounting with screw acc. to DIN 4762	1100
TS 35 mounting	1100
For busbar (Flexibar) with screw mounting	1100
For busbar (Flexibar) with TS35 mounting	1100

Rated incoming currents

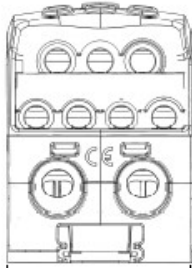
Model:	WPD 109
current [A]:	353

Rated conductor cross sections

Model WPD 109



Wire type	Incoming connection Size [mm <sup>2</sup> ]		
	Left	Center	Right
Solid		1x 95...185	
Stranded		1x 95...185	
Flexible with ferrule		1x 70...150	
Flexible busbar (Flexibar)		1x 24 x 10	



Wire type	Outgoing connections Size [mm <sup>2</sup> ]		
	Top level	Middle level	Bottom level
Solid	3x	4x	2x
	2.5...25	1.5...16	4...35
Stranded	3x	4x	2x
	2.5...25	1.5...16	4...35
Flexible with ferrule	3x	4x	2x
	1.5...16	1.5...10	2.5...25
Flexible busbar (Flexibar)	-	-	-

**Note:**

The creepage and clearance distances were determined in the worst case. (with tightened screw)  
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 WPD 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.

To connect 2 wires in 1 connection point, please use twin end ferrules with DIN or Weidmüller colour code in combination with the correct Weidmüller Crimping Tool.

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

**Schedule of Limitations:**

The modular terminal blocks (busbar) models WPD 104 to WPD 109 shall always be installed inside suitable certified enclosures. For use in flammable gases these enclosures must satisfy the requirements conform IEC/EN 60079-0 and IEC/EN 60079-7. For use in combustible dust these enclosures must satisfy the requirements conform IEC/EN 60079-0 and IEC/EN 60079-31.

When installed, all connections, even if unused, shall be tightened with the torques specified in the manufacturer's instructions.

The transparent covers are always to be applied on the terminal blocks (busbar).

For each modular terminal block (busbar), there shall always be only one cable installed in the incoming connection side of the terminal block (busbar).

When flexible busbar connections are used instead of wires (applicable only for WPD 106, WPD 108 and WPD 109), these flexible busbar connections shall comply with the requirements of IEC/EN 60079-7.

Multiple wires installed into one connection are not allowed.

When combined with other terminal block (busbar) series and accessories, the applicable creepage and clearance distances shall be observed.

The insulation material has a limiting temperature of +100 °C.

The temperature rise in the terminals does not exceed 40 K at 110 % of the rated current.

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 100 °C under any condition.

T6 (- 60°C ... +40 °C)

T5 (- 60°C ... +55 °C)

T4 (- 60°C ... +60 °C)

When using the type WPD especially with other terminal blocks series or sizes or accessories the requirements for clearance and creepage distances according to IEC/EN 60079-7 must be observed. Regarding the use of covers, cross-connectors and end brackets the instructions of the manufacturer must

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.

**Essential Health and Safety Requirements:**

Concerning ESRs this Schedule verifies compliance with the Annex II of ATEX 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 of this Directive.