

# Weldmuller AAP21 4 DT Modular Distribution Terminals Instruction Manual

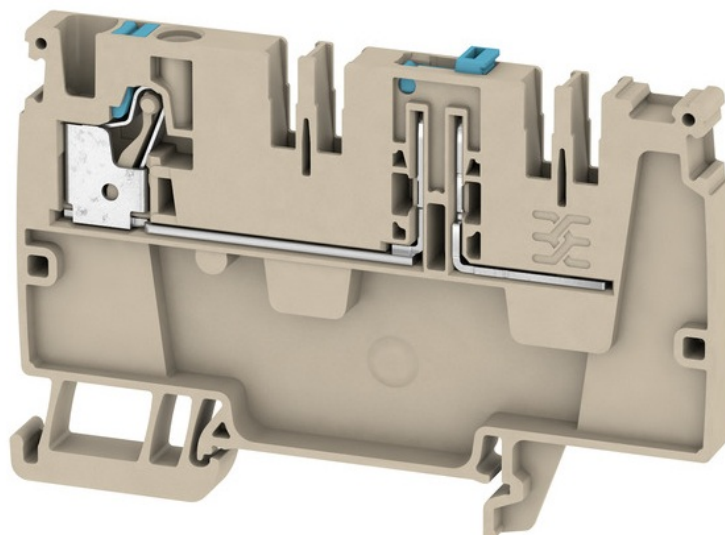
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## Weldmuller AAP21 4 DT Modular Distribution Terminals



## Product Information

### Specifications

- 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: AAP21 4 DT
- Order No: 2428980000
- Accessories: end plate, end bracket, Terminal rail
- Insulation material: Wemid
- Tracking resistance (A) to IEC 60112 CTI: 600
- Flammability class to UL 94: V0
- Operating temperature range: \* in all colours
- Technical data according to IEC/EN 60079-7 (increased safety ec):
  - AAP21 10 LO...:
    - Rated voltage: 250 V
    - Rated current: 51 A / T < 40 K
    - Contact resistance with rated conductor: 0.4 m
    - Rated conductor cross section: 18 mm
    - Conductor cross section solid: 12 mm
    - Conductor cross section stranded: 12 mm
    - Conductor cross section flexible: 12 mm
    - Cross section, American Wire Gauge: 12 mm
    - Stripping length: 50 cycles
  - AAP21 4 DT:
    - Rated voltage: 250 V
    - Rated current: 19 A / T < 40 K
    - Contact resistance with rated conductor: 1.3 m
    - Rated conductor cross section: 18 mm
    - Conductor cross section solid: 12 mm
    - Conductor cross section stranded: 12 mm
    - Conductor cross section flexible: 12 mm
    - Cross section, American Wire Gauge: 12 mm
    - Stripping length: 50 cycles
  - AAP21 4 FS:
    - Rated voltage: 250 V
    - Rated current: 6.3 A / T < 40 K
    - Contact resistance with rated conductor: 22 A / T < 40 K
    - Rated conductor cross section: 4.5 m
    - Conductor cross section solid: 12 mm
    - Conductor cross section stranded: 12 mm
    - Conductor cross section flexible: 12 mm
    - Cross section, American Wire Gauge: 12 mm

- Stripping length: with dummy fuse link no. 2
- AAP21 4 LI...:
  - Rated voltage: 250 V
  - Rated current: 6.3 A / T < 40 K
  - Contact resistance with rated conductor: 0.3 m
  - Rated conductor cross section: 12 mm
  - Conductor cross section solid: 12 mm
  - Conductor cross section stranded: 12 mm
  - Conductor cross section flexible: 12 mm
  - Cross section, American Wire Gauge: 12 mm
  - Stripping length: 50 cycles

## Product Usage Instructions

### Mounting Instructions

The disconnect terminals of the A-series are 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.

### Terminal Block Installation

1. Select the appropriate AAP21 4 DT terminal block for your application.
2. Ensure that the enclosure meets the requirements for use in flammable gases or combustible dust.
3. Install the AAP21 4 DT terminal block securely on the designated terminal rail (TS 35/... acc.to DIN EN 60715).
4. If necessary, use the end plate and end bracket accessories to secure the terminal block.
5. If cross-connection is required, use the pluggable ZQV 4N/2\* to ZQV 4N/10\* cross-connection modules.
6. Ensure that the terminal block is properly connected to the power supply and distribution terminals according to the allocated currents specified in the manual.
7. Verify that all connections are secure and properly insulated.

### Terminal Block Maintenance

Regularly inspect the terminal block for any signs of damage or deterioration. If any issues are found, replace the terminal block immediately. Keep the terminal block clean and free from dust and debris.

### FAQ

**Q: What are the maximum rated voltages for the different terminal block configurations?**

**A:** The maximum rated voltages are as follows:

- AAP21 10 LO.../ 5 x AAP21 4 FS: 250 V
- AAP21 10 LO.../ 3 x AAP21 4 DT: 250 V
- AAP21 10 LO.../ 2 x AAP21 4 LI...: 250 V

**Q: What are the maximum rated currents for the different terminal block configurations?**

**A:** The maximum rated currents are as follows:

- AAP21 10 LO...: 51 A / T < 40 K
- AAP21 4 LI...: 51 A / T < 40 K
- AAP21 4 DT: 31.5 A / T < 40 K
- AAP21 4 FS: 22 A / T < 40 K

## INSTALLATION INSTRUCTIONS & CONDITIONS FOR SAFE USE

Modular TERMINAL Blocks: A- Series

TÜV 16 ATEX 7939 U

IECEX TUR 16.0045 U

TÜV 21 UKEX 7066 U

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: AAP21 4 DT

Version:	AAP21 4 DT*	2428980000
in conjunction with:	AAP21 4 LI RD*	2428930000
	AAP21 4 FS*	2428950000
	AAP21 4 FS 10-36V*	2458990000
	AAP21 4 FS 30-70V*	2460200000
	AAP21 4 FS 60-150V*	2460190000
	AAP21 4 FS 100-250V*	2460180000
	AAP21 10 LO RD*	2428910000
Accessories:	Type	Order No
end plate	AEP AP21*	2429020000
end bracket	AEB 35 SC/1*	1991920000
Terminal rail	TS 35/... acc.to DIN EN 60715	
Cross-connection	Pluggable	Order No
	ZQV 4N/2*	1527930000
	ZQV 4N/3*	1527940000
	ZQV 4N/4*	1527970000
	ZQV 4N/5*	1527980000
	ZQV 4N/6*	1527990000
	ZQV 4N/7*	1528020000
	ZQV 4N/8*	1528030000
	ZQV 4N/9*	1528070000
	ZQV 4N/10*	1528090000

### Insulation material

- Type Wemid
- Tracking resistance (A) to IEC 60112 CTI  $\geq 600$
- Flammability class to UL 94 V0
- Operating temperature range -60°C...+130°C (insulating material limit)  
in all colours

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

		<b>AAP21 10 LO...</b>		
– Rated voltage		250 V		
– Rated current		51 A / $\Delta T < 40$ K		
– Contact resistance with rated conductor		0,4 m $\Omega$		
– Rated conductor cross section		10 mm <sup>2</sup>		
– Conductor cross section solid		0,5 - 10mm <sup>2</sup>		
– Conductor cross section stranded		0,5 – 10mm <sup>2</sup>		
– Conductor cross section flexible		0,5 – 10mm <sup>2</sup>		
– cross section, American Wire Gauge		20 – 6 AWG		
– Stripping length		18 mm		
		<b>AAP21 4 DT</b>	<b>AAP21 4 FS</b>	<b>AAP21 4 LI...</b>
– Rated voltage		250 V	250 V	250 V
– Rated current		19 A / $\Delta T < 40$ K	6,3 A / $\Delta T < 40$ K	22 A / $\Delta T < 40$ K
– Contact resistance with rated conductor		1,3 m $\Omega$	4,5 m $\Omega$ with dummy fuse link no. 2	0,3 m $\Omega$
– Rated conductor cross section		4 mm <sup>2</sup>	4 mm <sup>2</sup>	4 mm <sup>2</sup>
– Conductor cross section solid		0,5 – 4mm <sup>2</sup>	0,5 – 4mm <sup>2</sup>	0,5 – 4mm <sup>2</sup>
– Conductor cross section stranded		0,5 – 4mm <sup>2</sup>	0,5 – 4mm <sup>2</sup>	0,5 – 4mm <sup>2</sup>
– Conductor cross section flexible		0,5 – 4mm <sup>2</sup>	0,5 – 4mm <sup>2</sup>	0,5 – 4mm <sup>2</sup>
– cross section, American Wire Gauge		26 – 12 AWG	26 – 12 AWG	26 – 12 AWG
– Stripping length		12 mm	12 mm	12 mm

Service life acc. to IEC 60947-7-1

- max. no. of actuations 50 cycles

<b>Allocated currents of AAP21 10 LO... combination with:</b>		
AAP21 10 LO...	51 A / $\Delta T < 40$ K	
AAP21 4 LI...	51 A / $\Delta T < 40$ K	distribution terminals $\geq 2$
AAP21 4 DT	51 A / $\Delta T < 40$ K	distribution terminals $\geq 3$
AAP21 4 FS	31,5 A / $\Delta T < 40$ K	distribution terminals $\geq 5$

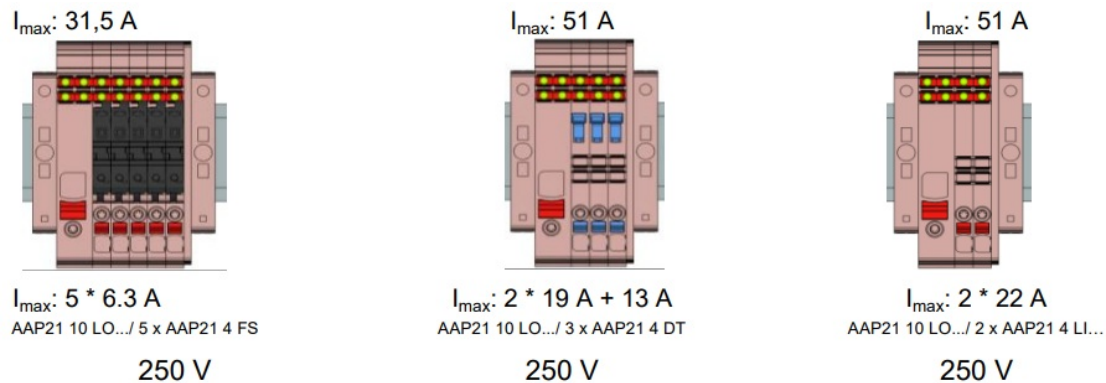
**IECEx / ATEX / UKCA Terminal and Cross-Connection Arrangements**

Max voltage data according to IEC/EN 60079-7 (increased safety “ec”):

### Application C ase

A – Continuous feed in with supply terminal and share with distribution terminal blocks

Please attend the details in the technical data above.



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

### Mounting instructions

The disconnect terminals of the A-series are 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 disconnect 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/EN 60079-0 and IEC/EN 60079-7. For combustible dust these enclosures must satisfy the requirements according to IEC/EN 60079-31.

The terminal blocks shall be placed inside a suitable IECEx/ATEX certified IP54 enclosure for gas atmosphere. For dust atmosphere the terminal blocks shall be mounted inside a suitable IECEx/ATEX certified 't' enclosure (IEC/EN60079-31).

The enclosure shall be constructed to block all sun and UV light from affecting the terminal

Under normal operating conditions the temperature rise of the terminal blocks is max 40 K, measured with the max 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 as shown below. No part of terminal block must exceed 130 °C under any condition.

**WARNING** – Do not remove or replace the test disconnect switch (AAP21 4 DT) when energized!

- Do not remove or replace the test fuse disconnect switch (AAP21 4 FS) when energized!

When using the types of disconnect terminals especially with other terminal blocks series or sizes or accessories the requirements for clearance and creepage distances of EN 60079-7 must be maintained.

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.

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.

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.

A thermal assessment for the classification into the temperature classes T6.....T1 shall be performed. No part of terminal block must exceed 130 °C under any condition.

The terminal blocks may be used, based on the self-heating when used at the nominal current and at ambient temperatures of – 60 °C to + 40 °C at the mounting position in electrical apparatus, e.g. junction and connection boxes, for temperature class T6. when the terminal blocks are used in electrical apparatus of temperature classes T1 up to T5, the highest temperature of the insulating material shall not exceed the max. value of the operating temperature range.


- 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.

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## Documents / Resources

	<a href="#">Weldmuller AAP21 4 DT Modular Distribution Terminals</a> [pdf] Instruction Manual AAP21 4 DT Modular Distribution Terminals, AAP21 4 DT, Modular Distribution Terminals, Distribution Terminals, Terminals
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## References

- [acc.to](#)
- [User Manual](#)