



AJ200

***Embedded Blue***®

DIN Rail PoE+ Injector • Three Port RJ45 Gigabit Ethernet



## Technical Features

### *General*

- ▶ PoE+ 1000BASE-T Ethernet midspan power injector box, for DIN rail mount or wall mount
- ▶ PSE power sourcing equipment configuration
- ▶ 6 x RJ45 Gigabit Ethernet connectors (3 x in, 3 x out)
- ▶ 802.3at PoE+ (up to 30W/port)
- ▶ Intended for industrial use
- ▶ Dimensions: 30mm (W) x 140mm (H) x 70mm (D) w/o DIN rail brackets
- ▶ Metal case, DIN rail bracket or wall mount plate
- ▶ Option M12-A 5-pin power connector
- ▶ Option terminal block power connector
- ▶ Option desktop power adapter connector
- ▶ Nominal 48VDC/54VDC power input operation

### *Front Panel I/O*

- ▶ Three groups of dual RJ45 modular jacks, shielded, Cat 5, input/output
- ▶ 1000Base-T magnetics 1:1, PoE+
- ▶ 1000BASE-T, 100BASE-TX, 10BASE-T compliant data transfer rate
  
- ▶ M12-A 5-pin front power connector
- ▶ Option terminal block 3.5mm pitch 4-position screw lock (bottom of box)

### *Power Requirements*

- ▶ DC Input, 44V-57V (48VDC, 54VDC)
- ▶ Power consumption 95W max. (@90W external load)
- ▶ Fast acting chip fuse (PCB soldered type - no replacement on-site)
- ▶ Protected against reverse polarity
- ▶ ESD protection (TVS)
- ▶ Common mode input filter
- ▶ M12-A 5-pin male power connector (optional)
- ▶ Option 4-position terminal block 3.50mm pitch screw locked
- ▶ Option rear power connector (desktop supply 4-pos. circular connector)

## Technical Features

### *Power over Ethernet*

- ▶ PSE PoE+ according to IEEE 802.3at-2009
- ▶ Maximum power delivered per port 30W (25.4W at powered device PD per specification)
- ▶ Maximum power delivered in total 90W
- ▶ Type 2 endpoint PSE (power over RJ45 pins 1/2 & 3/6, 600mA)
- ▶ TPS23861 PSE controller, automatic mode
- ▶ Auto detect & classification, auto turn-on & disconnect

### *Applications*

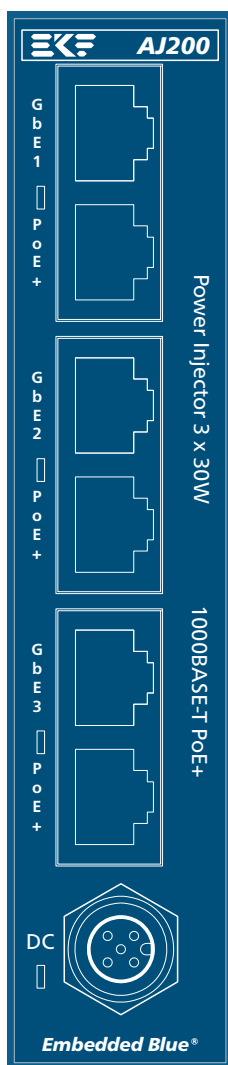
- ▶ Industrial networks - IIoT
- ▶ Rugged environments
- ▶ Edge computing
- ▶ Transportation

### *Environmental, Regulatory*

- ▶ Designed & manufactured in Germany
- ▶ ISO 9001 certified quality management
- ▶ Long term availability
- ▶ Rugged solution
- ▶ RoHS compliant
- ▶ Operating temperature -40°C to +85°C (industrial temperature range)
- ▶ Storage temperature -40°C to +85°C, max. gradient 5°C/min
- ▶ Humidity 5% ... 95% RH non condensing
- ▶ Altitude -300m ... +3000m
- ▶ Shock 15g 0.33ms, 6g 6ms
- ▶ Vibration 1g 5-2000Hz
- ▶ EC Regulations EN55022, EN55024, EN60950-1 (UL60950-1/IEC60950-1)
- ▶ International Protection EN60529 IP20
- ▶ MTBF 136.2 years

all items may be subject to technical changes w/o further notice

Front



Ethernet Port 1-3 LEDs

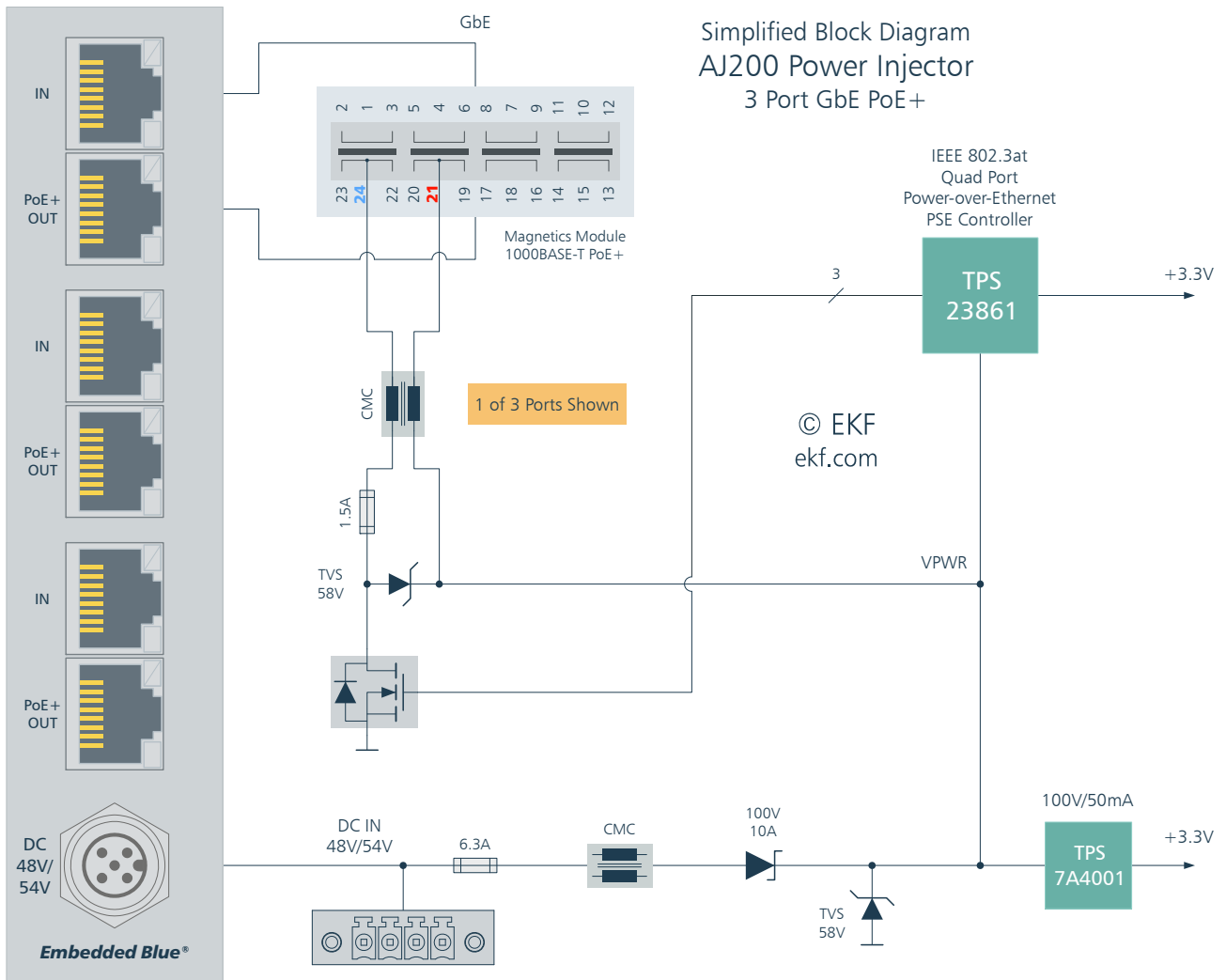
green (weak)	PoE+ ready
blue	PoE+ active, normal operation
red (blinking or permanent)	internal fault (port chip fuse must be replaced)

DC LED

green	DC input power present
red	internal fault (main chip fuse must be replaced)

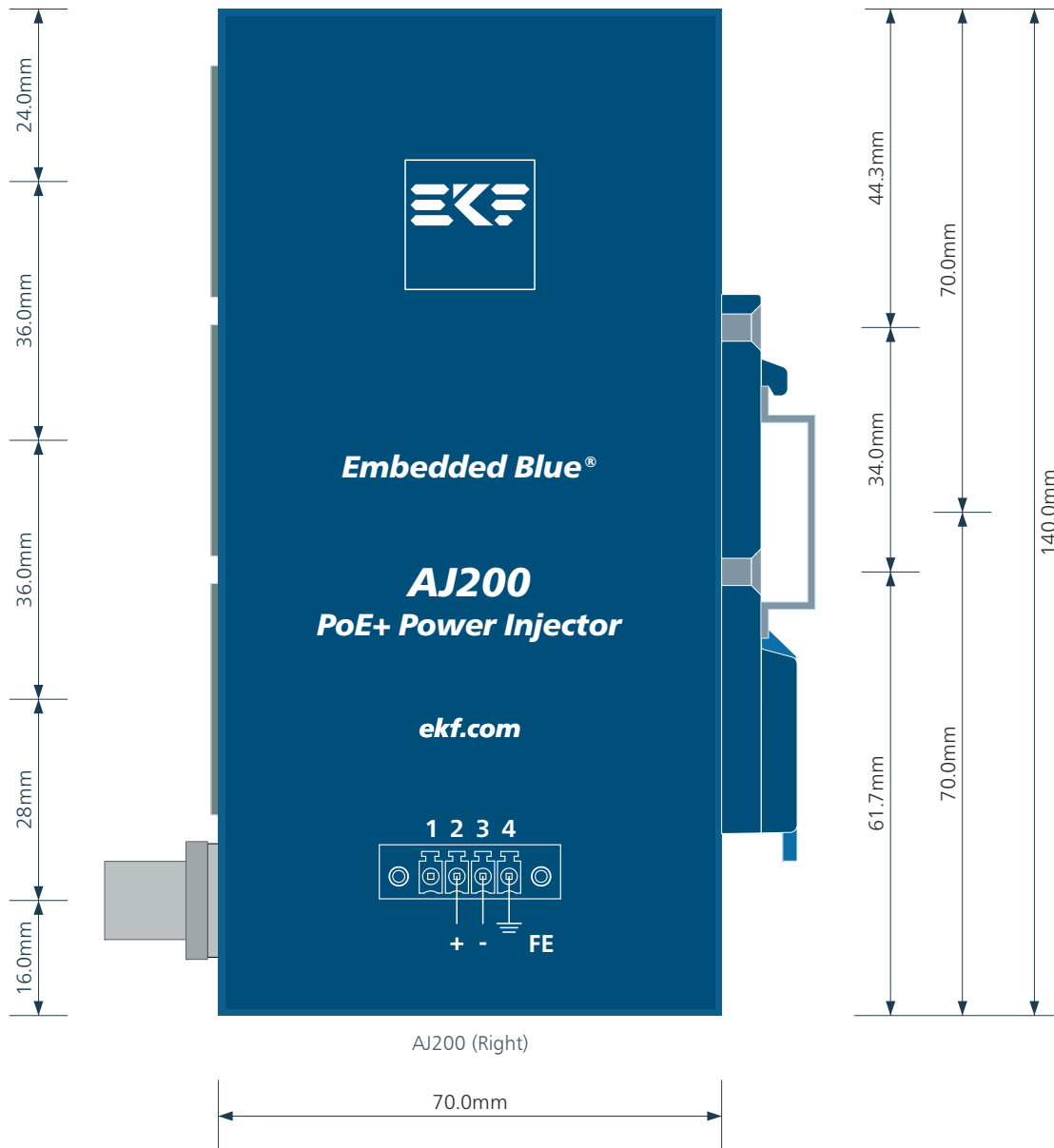


## Block Diagram



RJ45 input and output connectors of each particular port are 1500VRMS isolated between each other by means of magnetics modules. As a result, also any RJ45 input connector is isolated from the input connector of another port. The power source however is common to all PoE+ injector ports, which implies that all PoE+ RJ45 output connectors are DC coupled, in a common domain with the external DC power supply. This is usual practice and does not affect normal operation. It is noted here for better understanding only.

Dimensions



AJ200 (Right)





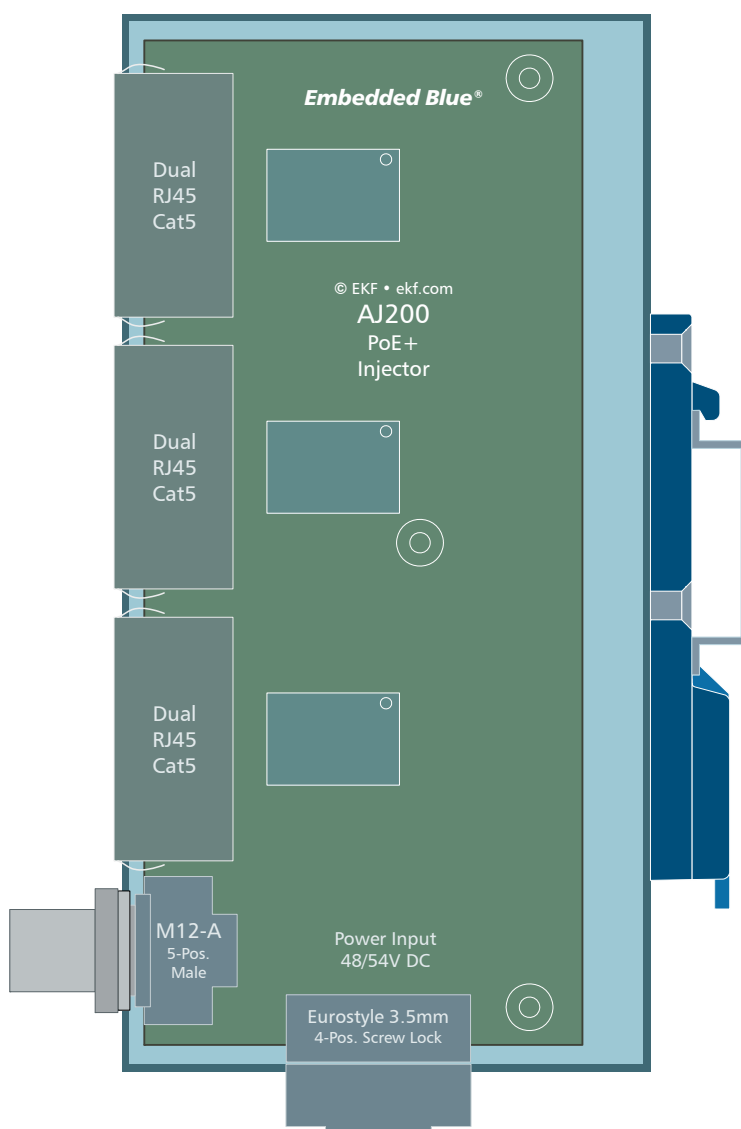
DIN Rail Mounting Option



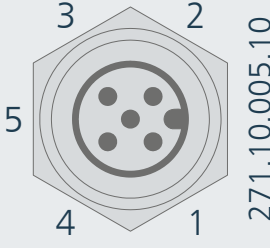
Wall Mount Plate Option



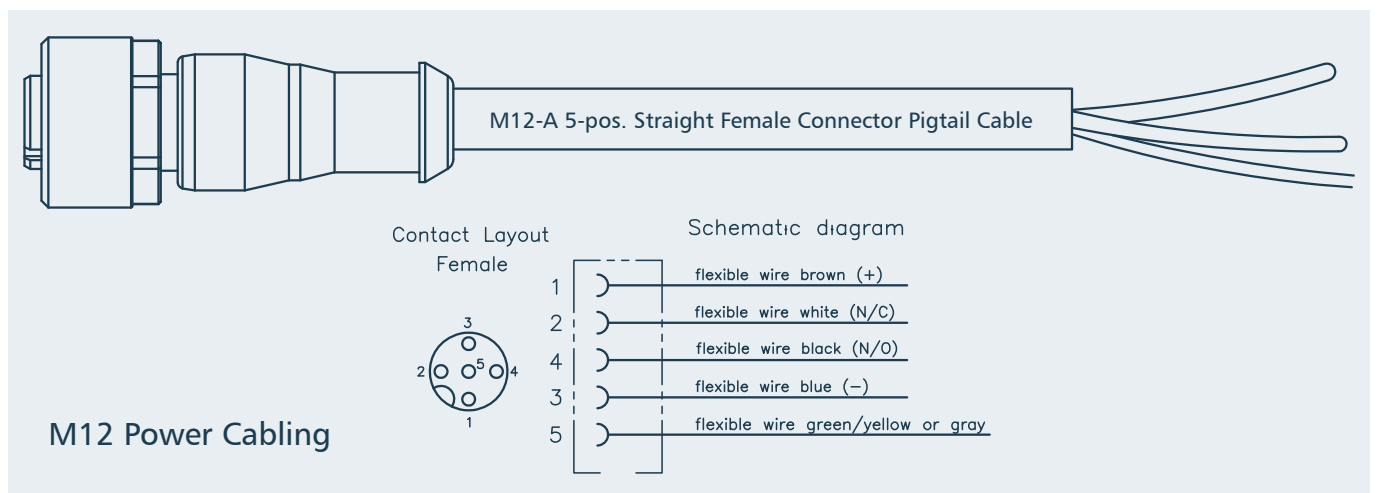
## Component Orientation



Option M12-A Power Connector

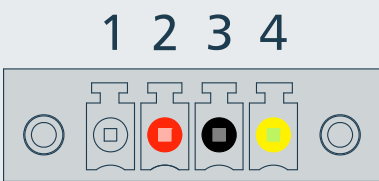
M12-A 5-Position Male 4A/Pin			
 <p>271.10.005.10</p>	<p>+V=48/54VDC</p> <p>pin assignment for PCB Rev. 1 subject to change for future revisions</p>	1	Reserved
		2	+V
		3	Reserved
		4	-V (GND)
		5	FE (Shield)

Mating Pigtail Cable Assemblies 1.5m w. Female Straight Plug	
EKF	271.10.505.22.015
Phoenix Contact	1669822
Tyco	2273035-1

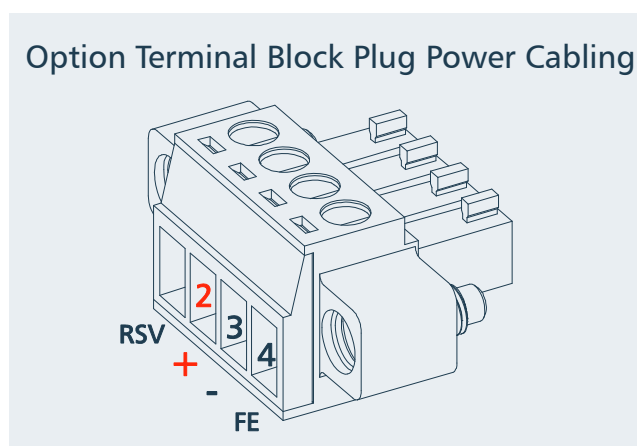


M12 Pigtail Cable  
Phoenix Contact

## Option Terminal Block Power Connector

3.5mm 4-Position Terminal Block			
 <p>245.35.04.20</p>	<p>+V=48/54VDC</p> <p>pin assignment for PCB Rev. 1 subject to change for future revisions</p>	1	Reserved
		2	+V
		3	-V (GND)
		4	FE (Shield)

Mating Plugs w. Screw Lock	
EKF	245.35.04.20
FCI Amphenol	20020000-C041B01LF
Molex	39504-0004
Phoenix Contact	1847071
Tyco	284510-4



pin assignment for PCB Rev. 1  
subject to change for future revisions

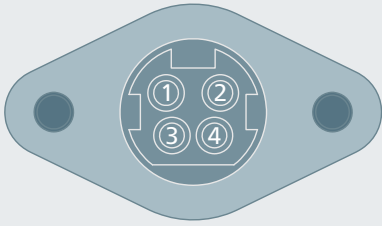
### Warning:

Do not apply over-voltage e.g. 115/230VAC to the power connector, since this will cause a PCB soldered chip fuse to break, which cannot be replaced on-site.



Mating DIN Rail Power Supply	
EKF	352.1.120.48.1
Meanwell	NDR-120-48, 120W 48VDC/2.5A

### Option Rear Power Connector

Circular 4-Position Power Receptacle			
 <p>271.04.004.10</p>	<p>+V=48VDC/54VDC</p>	1	+V
		2	+V
		3	-V (GND)
		4	-V (GND)
		Shield	Reserved *

\* power supply cable harness may connect GND to Shield



### Option Rear Connector

Mating Desktop Power Adapter w. Cable Assy	
EKF	353.1.120.54.1
FSP Technology	FSP120-AWAN3, 120W 54VDC/2.2A

### Ordering Information

Ordering key: AJ200-0xy0

x=1-3: number of PoE+ injector ports populated

y=0: terminal block DC power input

y=1: M12-A front connector DC power input

For popular AJ200 SKUs please contact sales@ekf.de

### Related Products

AL100	M12-X 5 to 15 port unmanaged GbE switch
AL110	M12-X 5 port GbE switch w. ARM® V8 CPU
AL200	RJ45 8 port unmanaged GbE switch
AL210	RJ45 8 port GbE switch w. ARM® V8 CPU
AL220	RJ45 8 port unmanaged PoE+ GbE switch
AL230	RJ45 8 port PoE+ GbE switch w. ARM® V8 CPU
AL600	Single Pair Ethernet 7 Port switch 100BASE-T1
AJ100	M12-X PoE+ power injector
AJ200	RJ45 PoE+ power injector

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