



AL200 • *Embedded Blue*®

Industrial Gigabit Ethernet Switch

Preliminary



## Technical Features

### *General*

- ▶ 1000BASE-T Ethernet Switch box, for DIN rail or wall mount
- ▶ 8 x RJ45 Gigabit Ethernet connectors
- ▶ Intended for industrial use
- ▶ Self-managed operation
- ▶ Dimensions: 30mm (W) x 140mm (H) x 90mm (D) w/o DIN rail brackets
- ▶ Option 45mm (W) with ARM® V8 mezzanine CPU board (AL210)
- ▶ Metal case, DIN rail bracket or wall mount plate
- ▶ Terminal block power connector
- ▶ Option desktop power adapter connector
- ▶ Nominal 12VDC/24VDC power input operation

### *Front Panel I/O*

- ▶ RJ45 Ethernet connectors, integrated magnetics
- ▶ 1000BASE-T, 100BASE-TX, 10BASE-T compliant data transfer rate front ports
- ▶ Terminal Block 3.5mm pitch 4-position screw lock (bottom of box) power input

### *Power Requirements*

- ▶ DC Input, 9-30V (12VDC, 24VDC)
- ▶ Power consumption 4W max.
- ▶ Fast acting chip fuse (PCB soldered type - no replacement on-site)
- ▶ Protected against reverse polarity
- ▶ ESD protection (TVS)
- ▶ Common mode input filter
- ▶ 4-Position terminal block 3.50mm pitch screw locked for DC power input (+, GND, FE)
- ▶ Option rear power connector (desktop supply 4-pos. circular connector)

## Technical Features

### *Gigabit Ethernet Switch*

- ▶ Marvell® 88E6390 (Peridot) Gigabit Ethernet switch
- ▶ IMP - integrated management processor (for customer usage)
- ▶ Front ports GbE MAC/PHY 1000BASE-T
- ▶ 8 x RJ45 connector(s) w. integrated magnetics
- ▶ High performance, non-blocking, Gigabit Ethernet
- ▶ Support for up to 16K MAC addresses, 10KByte Jumbo Frames
- ▶ Supports 802.1 Audio Video Bridging (AVB) Gen 2\*
- ▶ Time Sensitive Networking (TSN) Standards\*, IEEE 1588v2 one-step PTP Synchronous Ethernet\*
- ▶ Quality of Service (QoS) support with 8 traffic classes
- ▶ Supports 4096 802.1Q VLANs, three levels of 802.1Q security
- ▶ Unmanaged solution (managed solution with additional mezzanine CPU card)
- ▶ 2.5Gbps SERDES & SMI mezzanine connectors for additional mezzanine CPU card

### *Applications*

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

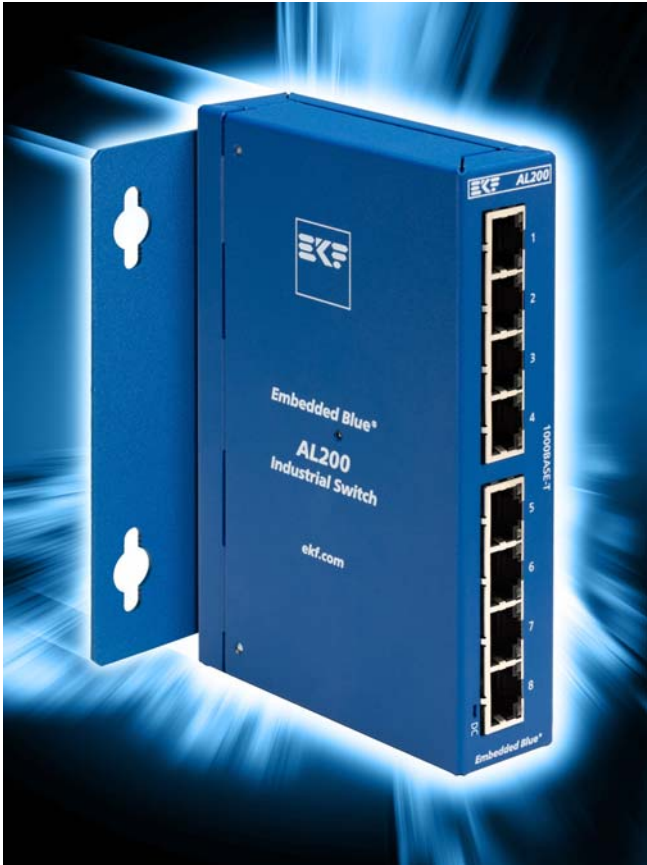
### *Environmental, Regulatory*

- ▶ 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)
- ▶ MTBF tbd years

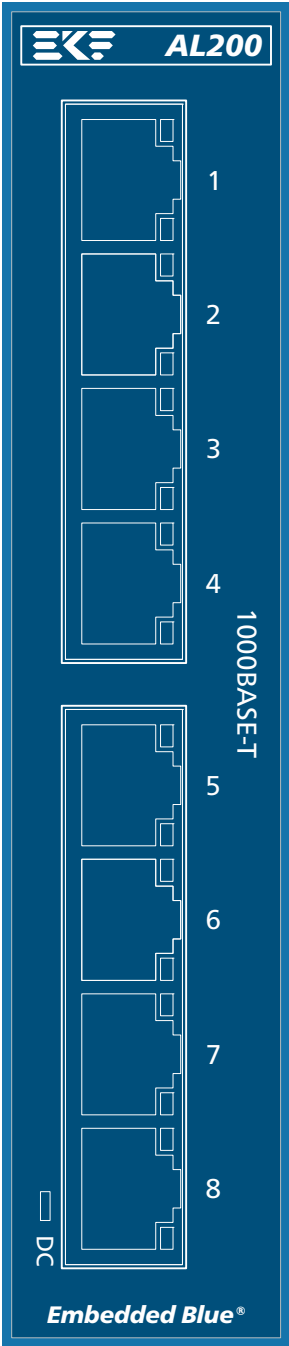
\* AVB/TSN protocols require additional ARM® V8 mezzanine CPU card support  
please refer to AL210 and AC370 product information

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



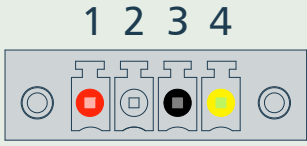


Front View

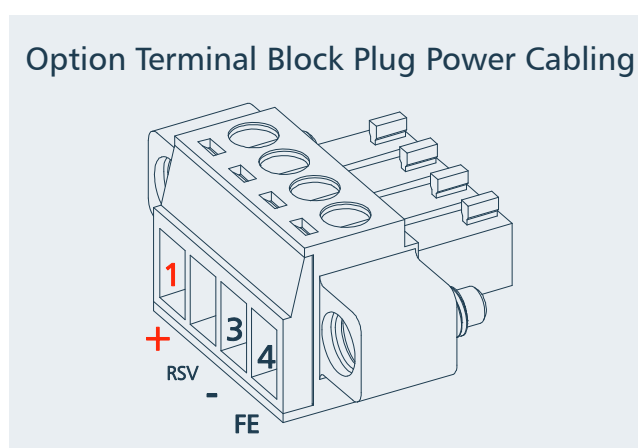


AL200 (Front)

### Terminal Block Power Connector Pin Assignment

3.5mm 4-Position Terminal Block			
 <p>245.35.04.20</p>	Power Input +V 9-30VDC	1	+V
		2	Reserved
		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



**Warning:**

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



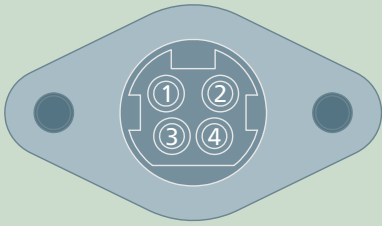


#### Mating DIN Rail Power Supply

EKF	352.1.075.24.1 (lower power tbd)
Meanwell	NDR-75-24, 120W 24VDC/3.2A (lower power tbd)



Option Rear Power Connector

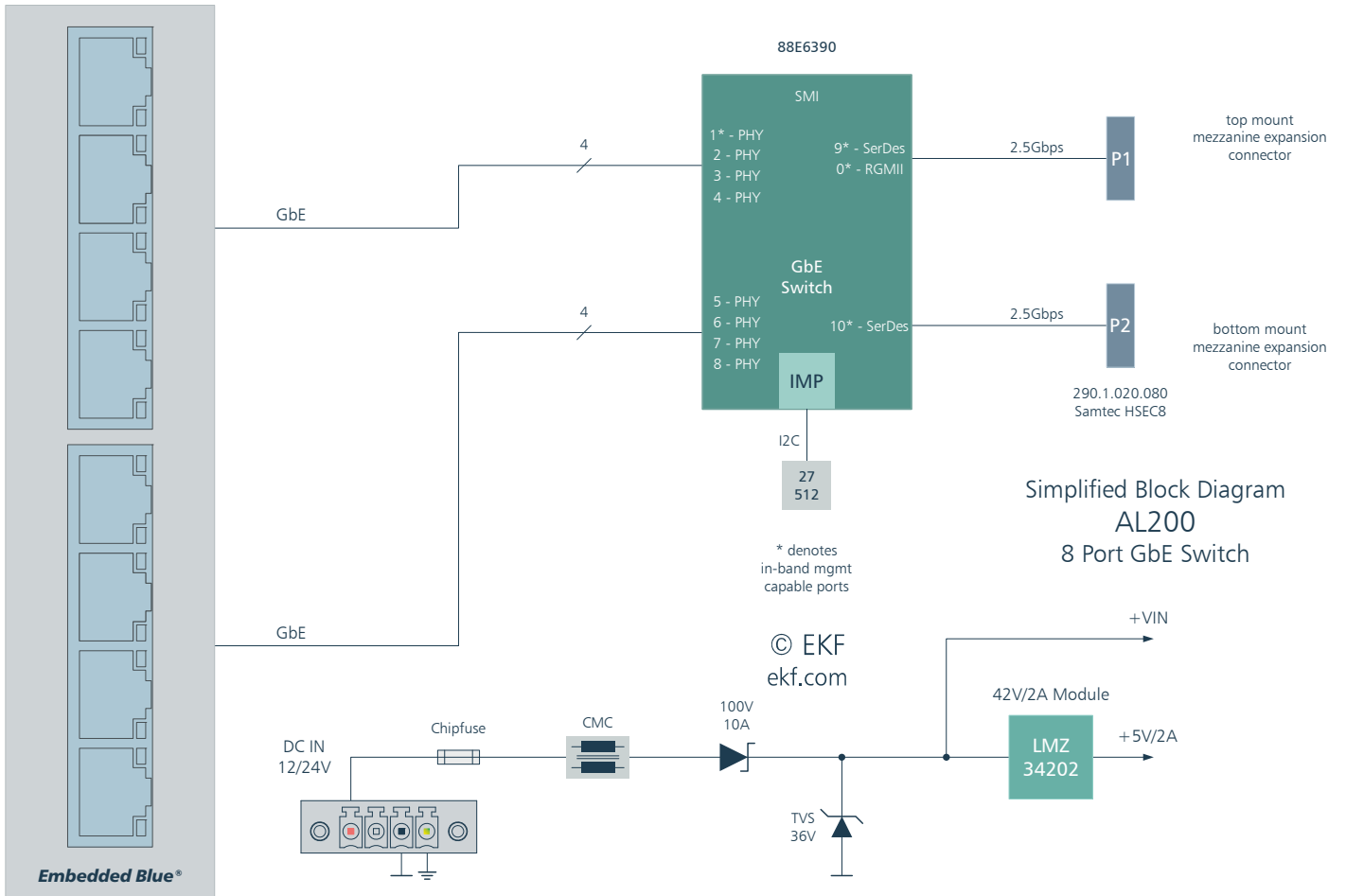
Circular 4-Position Power Receptacle			
 <p>271.04.004.10</p>	<p>+V=9-30VDC</p>	1	+V
		2	+V
		3	-V (GND)
		4	-V (GND)
		Shell	FE (Shield)



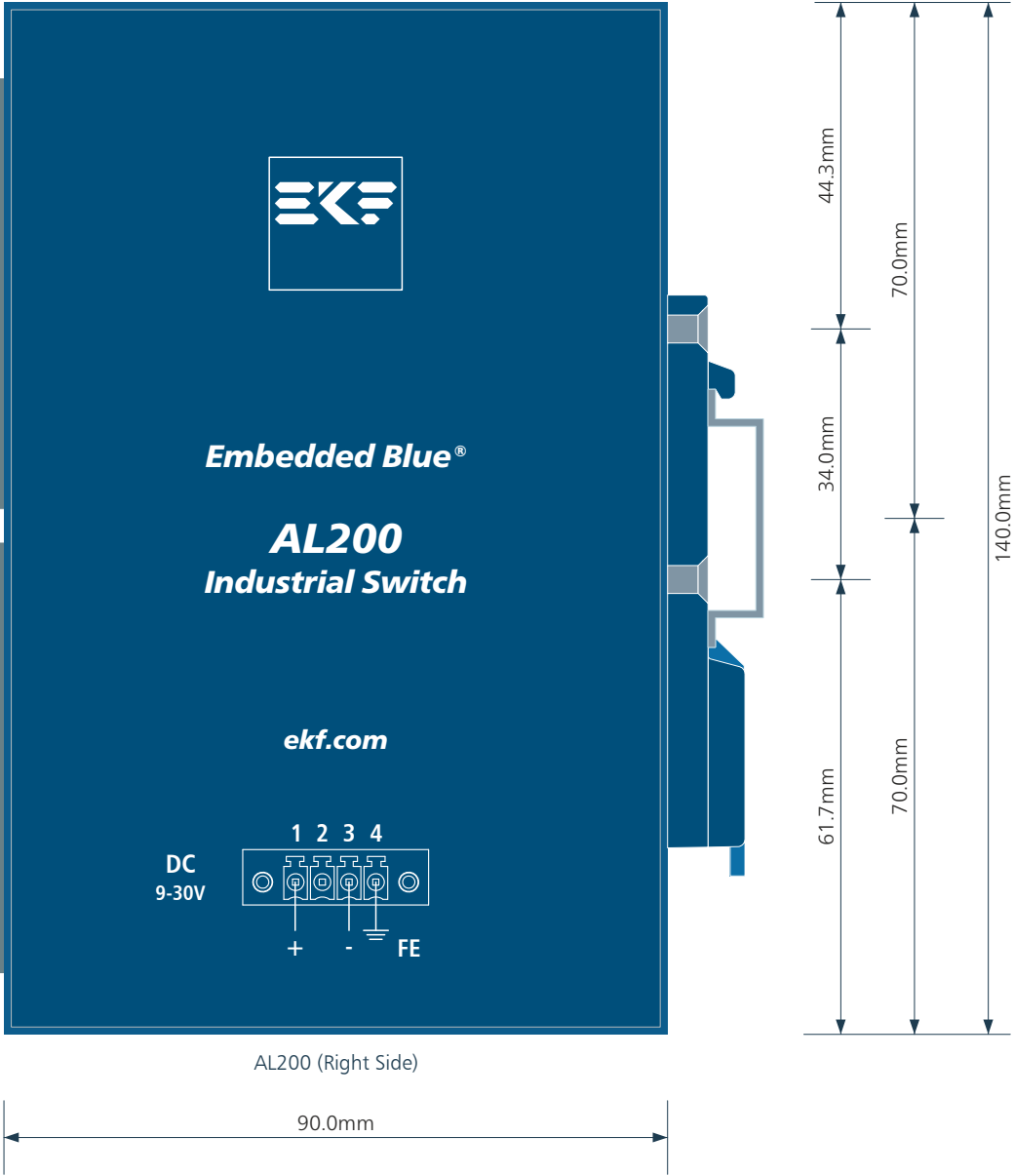
Option Rear Connector

Mating Desktop Power Adapter w. Cable Assy	
EKF	353.1.120.24.1 (lower power tbd)
FSP Technology	FSP120-AAAN3, 120W 24VDC/5A (lower power tbd)

Block Diagram



Dimensions



### Ordering Information

For popular AL200 SKUs please contact [sales@ekf.de](mailto:sales@ekf.de)



### Related Products

AC370	ARM® V8 Industrial Microcontroller
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

# ***Embedded Blue®***

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