

Stride^{SE} Series Managed Switches



Features

- Modbus TCP read capability
- Wide temp range
- DIN-rail mount with integrated panel mount option
- Metal housing
- 12, 24 VDC redundant input
- Gigabit Ethernet (GbE) models
- Haz Loc
- 5 -year warranty



RoHS Compliant



| Stride SE Series Managed Models | | | | |
|---------------------------------|------------|-----------------------|------------------|-------------------|
| Part Number | Price | Ethernet Ports | Fiber Ports | Input Power (max) |
| <u>SE-SW5M</u> | \$005dd: | 5 | – | 3.6 W |
| <u>SE-SW5M-2SC</u> | \$;0005de: | 3 | 2 SC | 5.6 W |
| <u>SE-SW5M-2ST</u> | \$;0005df: | | 2 ST | |
| <u>SE-SW10MG-2P</u> | \$;0005db: | 7, 1 GbE, 2 GbE combo | 2 GbE SFP combo* | 7W |
| <u>SE-SW16M</u> | \$;0005dc: | 16 | – | |

*Optional SFP modules sold separately.

Stride SE Series Managed Industrial Ethernet Switches

Specifications

| General Specifications | |
|---------------------------------------|---|
| Ethernet Switch Type | Industrial Ethernet managed switch with 5 or 8 ports |
| Operating Mode | Store and forward wire speed switching, non-blocking. Broadcast and multicast storm protection |
| Devices Supported | All IEEE 802.3 compliant devices are supported |
| Ethernet Compliance | IEEE 802.3 (10Mbps Ethernet supports legacy devices) IEEE 802.3u (Fast Ethernet 100Mbps for newer devices) IEEE 802.3x (Full-Duplex with Flow Control) IEEE 802.1D/w (Rapid Spanning Tree for redundant rings and Spanning Tree for interoperability) IEEE 802.1p (Priority Queuing – QoS, CoS, ToS/DS) IEEE 802.1Q (VLAN for traffic segregation) IEEE 802.3ab |
| Ethernet Protocols Supported | SNMPv1 / v2 / v3, RMON, DHCP, SNTP, TFTP, STP, RSTP, QoS / CoS / ToS / DS, IGMPv1 / v2, VLAN (tag and port based), HTTP, HTTPS (SSL and TLS), Telnet, SSH and more |
| Industrial Protocols Supported | Modbus / TCP, EtherNet / IP, PROFINet, Foundation Fieldbus HSE and others |
| MAC Addresses | 2048 addresses |
| Memory Bandwidth | 3.2 Gbps |
| Latency (typical) | 10M ports 16 μ s + frame time 100M & 1000M ports 5 μ s + frame time |
| Transient Protection | 15,000 watts peak |
| Spike Protection | 5,000 watts (10x for 10 μ s) |
| Ethernet Isolation | 1500 VRMS 1 minute |
| Operating Temperature Range | -40 to +75°C (cold startup at -40°C), -40 to +167°F (cold startup at -40°F) |
| Storage Temperature Range | -40 to +85°C [-40 to +185°F] |
| Humidity (non-condensing) | 5 to 95% RH |
| Environmental Air | For use in Pollution Degree 2 environment. No corrosive gases permitted |
| Vibration and shock | IEC60068-2-6 and -27 |
| EMI Emissions | FCC part 15, ICES-003, EN61000-6-4 |
| EMC Immunity | IEC61000-6-2, CE |
| Eye Safety (fiber models) | IEC60825-1, Class 1; FDA 21 CFR 1040.10 and 1040.11 |
| RoHS and WEEE | RoHS and WEEE compliant |
| Packaging and Protection | Metal case; IP40 |
| Agency Approvals | Electrical safety: UL Haz Loc (Class 1, Div 2, Group A, B, C, D) E200031 CSA C22.2/14; EN61010-1, CE, Marine and offshore rated per ABS |

| Power Details | |
|---|--|
| Power Input | Redundant input terminals |
| Input Voltage | 10-30 VDC (continuous)–Class 2 Power Supply |
| Reverse Power Protection | Yes |
| “OK” Output Indicates Power and Operational Status | Voltage same as switch input voltage Maximum current output 0.5 Amp |
| Power Consumption | Refer to Stride SE Series Managed Models table |

| RJ45 Ports | |
|-------------------------------|--|
| Port Type | Shielded RJ45 |
| Ethernet Compliance | IEEE 802.3i, 802.3u, 802.3x for 10/100 Ethernet IEEE 802.3ab, 802.3z for Gigabit Ethernet |
| Auto-Crossover | Yes, allows you to use straight-through or crossover wired cables |
| Auto-Sensing Operation | Yes, full and half duplex |
| Auto-Negotiating Speed | Yes |
| Flow Control | Automatic |
| Cable Requirements | Twisted pair (Cat5e or better) (shielded recommended) |
| Max. Cable Distance | 100 meters |

| SC or ST Fiber Port: (100BaseFX multimode) | |
|--|--|
| 100BaseFX Ports | 2 |
| Fiber Port Connector | ST or SC, by model |
| Optimal Fiber Cable | 50/125 or 62.5/125 μ m |
| Center Wavelength | 1300 nm |
| Multimode | Links up to 4 km typ.; > Transmitter power (dBm): -21 min, -17 typ, -14 max > Receiver sensitivity (dBm): -34 typ, -31 max |
| Nominal Max. Distance (full duplex) | 4 km |
| Eye Safety (laser) | IEC 60825-1, Class 1; FDA 21 CFR 1040.10 and 1040.11 |

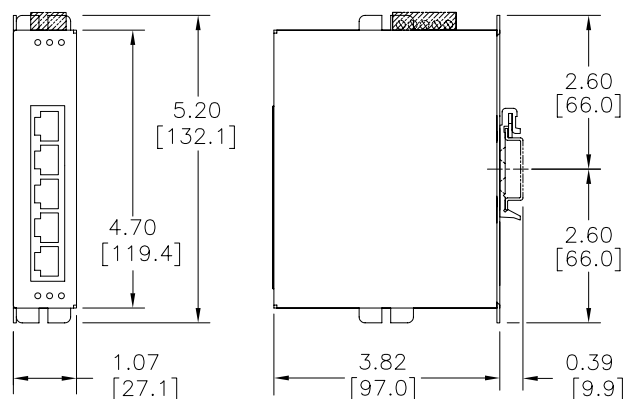
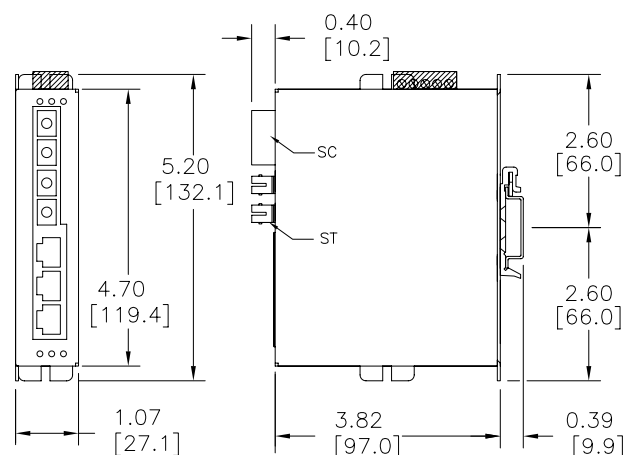
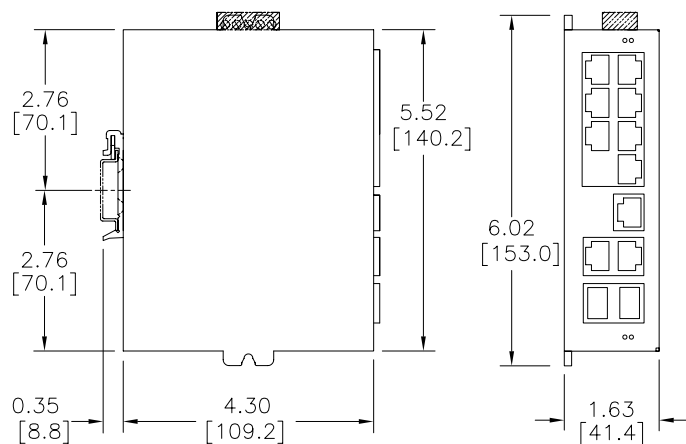
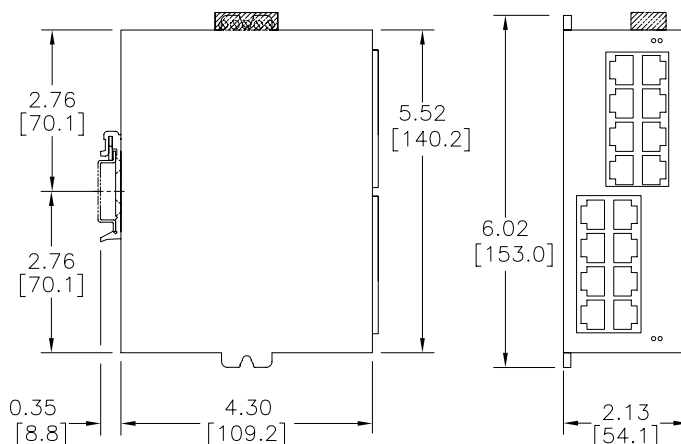
| SFP Ports | |
|---|--|
| SFP (pluggable) ports accept Mini-GBIC (SFP) transceivers with a speed of 1000Mbps or 100Mbps | |
| See SFP datasheet for optional fiber transceiver specification | |

| Management Interfaces | |
|--|---|
| Ethernet ports (RJ45) | Browser (Secure), Text (Telnet and SSH), CLI (command line interface) and SNMP (see the user manual for supported MIBs) |
| Console ports: USB and RS232 (RJ45) | Text (Telnet), CLI (command line interface) |

Stride^{SE} Series Managed Industrial Ethernet Switches

Dimensions

Inches [mm]

**SE-SW5M****SE-SW5M-2SC
SE-SW5M-2ST****SE-SW10MG-2P****SE-SW16M**See our website: www.AutomationDirect.com for complete engineering drawings.

Stride Industrial Ethernet Fiber Transceivers

Fast Ethernet

Description:

STRIDE 100Mb Small Form Factor Pluggable (SFP) transceiver modules (Transmit/Receive). Hot Swappable. 1310nm wavelength. Data transmission up to 4km multimode fiber (SFP-4K-FMF) or 30km singlemode fiber (SFP-30K-FSF). LC duplex receptacle, SFP Multi-Source Agreement compliant.



NOTE: Port speed settings for the Stride switch must be manually set to 100 Mbps.

| Part Number | Mode | Light Source | Max Trans. Distance | Price |
|--------------------|-------------|--------------|---------------------|---------|
| SFP-4K-FMF | Multi-mode | 1310 nm, FP | 4km | \$0e47: |
| SFP-30K-FSF | Single-mode | | 30 km | \$0e45: |

Note: Use only Gigabit speed SFPs with SE2-SW10UG-2P-T

| Transmitter Optical characteristics | | | | |
|-------------------------------------|-------------|---------|---------|---------|
| Parameter (unit) | | Minimum | Typical | Maximum |
| Output optical power (dBm) | SFP-4K-FMF | -9 | | 0 |
| | SFP-30K-FSF | -15 | | -8 |
| Extinction Ratio (dB) | SFP-4K-FMF | 8.2 | | |
| | SFP-30K-FSF | | | |
| Center Wavelength (nm) | SFP-4K-FMF | 1261 | 1310 | 1360 |
| | SFP-30K-FSF | | | |
| Spectral width - RMS (nm) | SFP-4K-FMF | | | 7 |
| | SFP-30K-FSF | | | 4 |
| Rise / Fall Time - 10% - 90% (ns) | SFP-4K-FMF | | | 2 |
| | SFP-30K-FSF | | | |

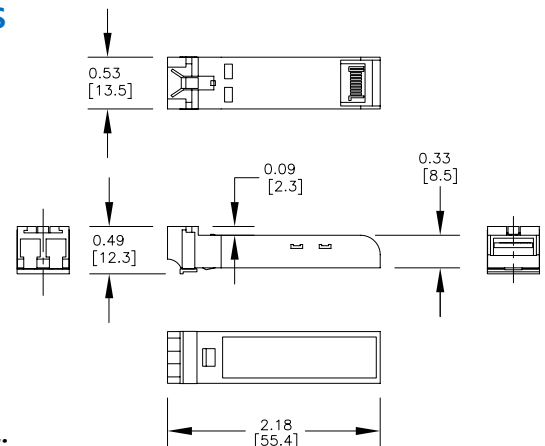
| Receiver Optical characteristics | | | |
|-----------------------------------|-------------|---------|---------|
| Parameter (unit) | | Minimum | Maximum |
| Sensitivity (dBm) | SFP-4K-FMF | | -30 |
| | SFP-30K-FSF | | -34 |
| Operating Wavelength (nm) | SFP-4K-FMF | 1260 | 1620 |
| | SFP-30K-FSF | | |
| Loss of Signal - Deasserted (dBm) | SFP-4K-FMF | | -30 |
| | SFP-30K-FSF | | -35 |
| Loss of Signal - Asserted (dBm) | SFP-4K-FMF | -45 | |
| | SFP-30K-FSF | | |
| Loss of Signal - Hysteresis (dB) | SFP-4K-FMF | 0.5 | |
| | SFP-30K-FSF | | |

General Specifications

| | | |
|------------------------------------|-------------|--|
| Connector Type | | Type LC connector with bail latch |
| Operating Temperature range | | -40 to +85 °C [-40 to +185 °F] |
| Storage temperature range | | -40 to +85 °C [-40 to +185 °F] |
| Humidity (non-condensing) | | 5 to 95% RH |
| Link Speed | | Gigabit Ethernet |
| Laser Type | | FP laser diode (Class 1 laser safety standard IEC 60825 compliant) |
| Media | SFP-4K-FMF | Multi-mode Fiber |
| | SFP-30K-FSF | Single-mode Fiber |
| Fiber | SFP-4K-FMF | 62.5 / 125 μm |
| | SFP-30K-FSF | 9 / 125 μm |
| Code | SFP-4K-FMF | FX5 |
| | SFP-30K-FSF | 100LX |
| Distance | SFP-4K-FMF | 4km |
| | SFP-30K-FSF | 30 km |
| Compliances | SFP-4K-FMF | 125Mbps IEEE802.3u 100BASE-FX compliant 125Mbps FDDI ISO/IEC 9314-1 compliant |
| | SFP-30K-FSF | 125Mbps IEEE802.3ah 100BASE-LX10 compliant 155Mbps ITU-T G957 STM S-1.1/L-1.1 compliant 155Mbps SONET OC-3 IR-1/LR-1 compliant |
| Inputs / Outputs | | AC-coupled differential inputs and outputs |

Dimensions

Inches [mm]



Safety Standards:



Stride Industrial Ethernet Fiber Transceivers

Gigabit Ethernet

Description:

STRIDE Gigabit (1.25GB) Small Form Factor Pluggable (SFP) transceiver module (Transmit/Receive). Hot Swappable. Short or long wavelength of 850nm or 1310nm, dependant on model. Supports data transmission up to 550 meters, 2km, 10 km, or 30 km on a single-mode or multi-mode fiber, dependant on model. LC duplex receptacle, SFP Multi-Source Agreement compliant.



| Part Number | Mode | Light Source | Max Trans. Distance | Price |
|--------------------|-------------|---------------|---------------------|---------|
| SFP-500-GMF | Multi-mode | 850 nm, VCSEL | 550m | \$0e48: |
| SFP-2K-GMF | | 1310 nm, FP | 2km | \$0e44: |
| SFP-10K-GSF | Single-mode | 1310 nm, FP | 10 km | \$0e43: |
| SFP-30K-GSF | | 1310 nm, DFB | 30 km | \$0e46: |

Note: Use only Gigabit speed SFPs with SE2-SW10UG-2P-T

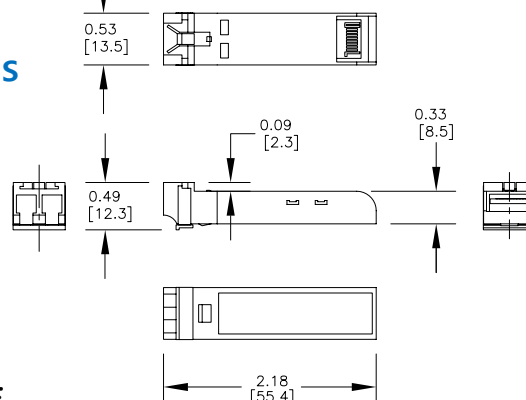
| Transmitter Optical characteristics | | | | |
|-------------------------------------|-------------|---------|---------|---------|
| Parameter (unit) | | Minimum | Typical | Maximum |
| Output optical power (dBm) | SFP-500-GMF | -9.5 | | -4 |
| | SFP-2K-GMF | -9 | | -1 |
| | SFP-10K-GSF | -9.5 | | -3 |
| | SFP-30K-GSF | -2 | 1 | 3 |
| Extinction Ratio (dB) | SFP-500-GMF | | | |
| | SFP-2K-GMF | 9 | | |
| | SFP-10K-GSF | | | |
| | SFP-30K-GSF | | | |
| Center Wavelength (nm) | SFP-500-GMF | 830 | 850 | 860 |
| | SFP-2K-GMF | 1270 | | 1355 |
| | SFP-10K-GSF | 1285 | 1310 | 1343 |
| | SFP-30K-GSF | 1270 | | 1355 |
| Spectral width - RMS (nm) | SFP-500-GMF | | | 0.85 |
| | SFP-2K-GMF | | | 4 |
| | SFP-10K-GSF | | | 2.8 |
| | SFP-30K-GSF | | | 1 |
| Rise / Fall Time - 20% - 80% (ps) | SFP-500-GMF | | | 260 |
| | SFP-2K-GMF | | | |
| | SFP-10K-GSF | | | |
| | SFP-30K-GSF | | | |

| Receiver Optical characteristics | | | |
|-----------------------------------|-------------|---------|---------|
| Parameter (unit) | | Minimum | Maximum |
| Sensitivity (dBm) | SFP-500-GMF | | -17 |
| | SFP-2K-GMF | | -19 |
| | SFP-10K-GSF | | -20 |
| | SFP-30K-GSF | | -23 |
| Operating Wavelength (nm) | SFP-500-GMF | 770 | 860 |
| | SFP-2K-GMF | 1260 | 1610 |
| | SFP-10K-GSF | | 1355 |
| | SFP-30K-GSF | 1270 | 1580 |
| Return Loss (dB) | SFP-500-GMF | | |
| | SFP-2K-GMF | 12 | |
| | SFP-10K-GSF | | |
| | SFP-30K-GSF | | |
| Loss of Signal - Deasserted (dBm) | SFP-500-GMF | | -17.5 |
| | SFP-2K-GMF | | -19 |
| | SFP-10K-GSF | | -20 |
| | SFP-30K-GSF | | -23 |
| Loss of Signal - Asserted (dBm) | SFP-500-GMF | | |
| | SFP-2K-GMF | -35 | |
| | SFP-10K-GSF | | |
| | SFP-30K-GSF | | |
| Loss of Signal - Hysteresis (dB) | SFP-500-GMF | | |
| | SFP-2K-GMF | 0.5 | |
| | SFP-10K-GSF | | |
| | SFP-30K-GSF | | |

| General Specifications | |
|------------------------------------|--|
| Connector Type | Type LC connector with bail latch |
| Operating Temperature range | -40 to +85 °C [-40 to +185 °F] |
| Storage temperature range | -40 to +85 °C [-40 to +185 °F] |
| Humidity (non-condensing) | 5 to 95% RH |
| Link Speed | Gigabit Ethernet |
| Laser Type | SFP-500-GMF VCSEL laser diode (Class 1 laser safety standard IEC 60825 compliant) |
| | SFP-2K-GMF FP laser diode (Class 1 laser safety standard IEC 60825 compliant) |
| | SFP-10K-GSF DFB laser diode (Class 1 laser safety standard IEC 60825 compliant) |
| | SFP-30K-GSF DFB laser diode (Class 1 laser safety standard IEC 60825 compliant) |
| Media | SFP-500-GMF Multi-mode Fiber |
| | SFP-2K-GMF Single-mode Fiber |
| | SFP-10K-GSF Single-mode Fiber |
| | SFP-30K-GSF Single-mode Fiber |
| Fiber | SFP-500-GMF 50 / 125 μm and 62.5 / 125 μm |
| | SFP-2K-GMF 50 / 125 μm and 62.5 / 125 μm |
| | SFP-10K-GSF 9 / 125 μm |
| | SFP-30K-GSF 9 / 125 μm |
| Code | SFP-500-GMF SX |
| | SFP-2K-GMF SX2 |
| | SFP-10K-GSF LX |
| | SFP-30K-GSF Lhx |
| Distance | SFP-500-GMF 550m |
| | SFP-2K-GMF 2km |
| | SFP-10K-GSF 10 km |
| | SFP-30K-GSF 40 km |
| Compliances | SFP-500-GMF 1.0625Gbps Fiber Channel FC-PI 100-M5-SN-I compliant 1.0625Gbps Fiber Channel FC-PI 100-M6-SN-I compliant 1.25Gbps IEEE 802.3z 1000BASE-SX compliant 1.25Gbps IEEE 802.3ah 1000BASE-SX compliant |
| | SFP-2K-GMF IEEE 802.3 1000BASE-SX+ compliant |
| | SFP-10K-GSF 1.0625Gbps Fiber Channel FC-PI 100-SM-LC-L compliant 1.25Gbps IEEE 802.3 1000BASE-LX compliant |
| | SFP-30K-GSF 1.25Gbps Gigabit Ethernet compliant |
| Inputs / Outputs | AC-coupled differential inputs and outputs |

Dimensions

Inches [mm]



Safety Standards:



Stride Industrial Ethernet Copper Transceivers

Gigabit Ethernet

Description:

The STRIDE SFP-1GC-T is a hot-pluggable Small Form Factor Pluggable (SFP) transceiver. It has an RJ-45 connector, and can send and receive data at 1.25 Gbps up to 100m distance over 4-pair Cat5e/6a cable. The module is compliant with the SFP Multi-Source Agreement (MSA) and IEEE802.3:2002.



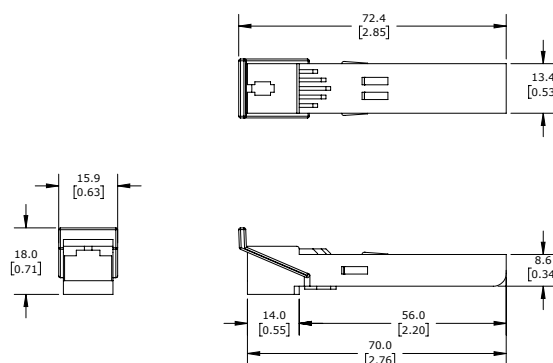
| Part Number | Connector Type | Link Speed | Price |
|------------------|----------------|------------------|---------|
| SFP-1GC-T | RJ-45 | Gigabit Ethernet | \$682p: |

| RJ45 Ports | |
|-------------------------------|---|
| Ethernet Compliance | IEEE 802.3ab (1000Base-T) Gigabit Ethernet |
| Auto-Crossover | Yes, allows use of straight-through or crossover cables |
| Auto-Sensing Operation | Yes, full and half duplex |
| Port Speed | 1000Base-T only |
| Cable Requirements | 4-pair UTP/STP Cat.5e/6a cable EIA/TIA-568 100-ohm |
| Max. Cable Distance | 100m [328ft] |

| General Specifications | |
|------------------------------------|----------------------------------|
| Operating Temperature Range | -40 to +85 °C [-40 to +185 °F] |
| Storage Temperature Range | -40 to +85 °C [-40 to +185 °F] |
| Humidity (non-condensing) | 5 to 95% RH |
| Link Speed | Gigabit Ethernet |
| Compliances | SFP Multi-Source Agreement (MSA) |

Dimensions

Inches [mm]



Safety Standards:



Stride[®] Managed Industrial Ethernet Switches

Industrial Hardened Full Feature Layer 2 Switch



• For detailed specifications on all models, see following pages

| <i>SE Series</i> | | |
|---------------------------------------|------------------------------------|-----------------|
| Price | | |
| starting at \$005dd: (5 port) | | |
| Full Feature Layer 2 Switch | | |
| ✓ | | |
| Industrial Temperature Ranges | | |
| | Wide Temp | -40 to +75°C |
| Ethernet Connectivity | | |
| | RJ45 Ports | up to 1000 Mbps |
| | Fiber Optic Ports | ✓ |
| | SFP Ports | ✓ |
| Port Count | | |
| 5,8,10,16 | | |
| Industrial Protocol Management | | |
| | Modbus TCP | Read |
| | EtherNet/IP | — |
| Network Redundancy | | |
| | STP/RSTP | ✓ |
| | Proprietary Fast Recovery | Real-Time Ring |
| Mounting | | |
| | DIN Rail Mount | ✓ |
| | Panel Mount | Integrated |
| Input Power | | |
| | Redundant Power Inputs | ✓ |
| | Reverse Polarity Protection | ✓ |
| | Power LED | ✓ |
| | Power Alarm | ✓ |
| Agency Approvals | | |
| | UL508 / 61010 | ✓ |
| | Haz Loc—Class 1 Div 2 | ✓ |
| | ATEX Zone 2 | ✓ |
| | CE | ✓ |
| Warranty | | |
| 5 years | | |