ProSwitch® Industrial Unmanaged Converter Switches

**Models: CS-Standard
          CSX-Extreme**

Key Highlights

▶ Performs seamless fiber to copper conversion

▶ Provides one 100Base-FX port and two 10/100Base-TX copper switch ports

▶ Two RJ45 ports support IEEE 802.3u to enable connection for any 10 or 100Base-TX device

▶ High temperature models available for outdoor applications

▶ CSX series designed for NEBS compliance, including shock, vibration and altitude

▶ Tagged VLAN support in all models

▶ Ambient temperature rating:
CS models 32° to 105°F (0° to 40°C)
CSX models -40° to 167°F (-40° to 75°C)

▶ Auto-cross negotiation

▶ Provides economical upgrade and expansion for new and existing LANs

▶ Backed by a 3-year warranty

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ProSwitch Converter Switches
Convert 100Base-FX to 10/100Base-TX

**ProSwitch-CS models CS-2TX1SC,
CSX-2TX1ST and CSX-2TX1SC**

Waters Network Systems' ProSwitch®-CS and CSX (Converter Switches) combine a single 100Base-FX fiber converter with a two port 10/100Base-TX copper switch. The CS and CSX family is designed to cover the full range of environmental installations ranging from standard office applications to uncontrolled high temperature outdoor environments. The compact design is ideal for network edge installations and is able to be conveniently mounted to suit any application.

For your fiber to copper connectivity, the ProSwitch CS and CSX switches combine media conversion and switch functionality. Converter switches allow the use of fiber where and when it is needed, effectively integrating new equipment into your existing cabling network.

The two RJ45 ports support IEEE 802.3u enabling connection to any 10 or 100Mbps device. Auto-negotiation and auto-cross MDI-MDIX on RJ45 ports eliminate the need for cross-over cables.

Both single and multimode are available with your choice of SC, ST and MTRJ connectors. Singlemode models are available offering fiber transmission distances at 20km or 40km.

ProSwitch CS standard models are the economical base units designed for office and indoor wiring closet applications where ambient temperatures are in the 0°C to 40°C range. Standard models are enclosed in a robust metal case with convection cooling. Metal mounting clips are included, however, rack-mount tray options are available.

Hardened models are available for temperature applications ranging from -40°C to 75°C. The ProSwitch-CSX models are hardened high temperature units built with high-grade components and are constructed using a special thermal technique and a metal case for heavy duty industrial applications. The CSX is powered by a premium rated AC external power supply providing years of worry free performance. The CSX models will resist dust, dirt, moisture, smoke and insects since no internal air flow is required for cooling. When used outdoors, it is recommended to protect the CSX from falling rain.

Two sets of LED indicators are visible on all models. One set is on the front for viewing convenience when the switch is wall mounted, and the other set is mounted in the end adjacent to the ports for easy viewing when the switch is rack mounted.

All models support 4-byte tagged VLAN field (IEEE802.1q). Tagged data packets are automatically received and transmitted by all CS/CSX models.

ProSwitch Ethernet Converter Switches

ORDERING INFORMATION

Model	Description
Standard Converter Switches	
CS-2TX1SC	3-port standard converter switch with one 100Base-FX MM port with SC connector and two 10/100Base-TX RJ45 ports
CS-2TX1ST	3-port standard converter switch with one 100Base-FX MM port with ST connector and two 10/100Base-TX RJ45 ports
CS-2TX1MTRJ	3-port standard converter switch with one 100Base-FX MM port with MTRJ connector and two 10/100Base-TX RJ45 ports
CS-2TX1SSC-20	3-port standard converter switch with one 100Base-FX SM (20km) port with SC connector and two 10/100Base-TX RJ45 ports
CS-2TX1SST-20	3-port standard converter switch with one 100Base-FX SM (20km) port with ST connector and two 10/100Base-TX RJ45 ports
CS-2TX1SSC-40	3-port standard converter switch with one 100Base-FX SM (40km) port with SC connector and two 10/100Base-TX RJ45 ports
Hardened Converter Switches	
CSX-2TX1SC	3-port converter switch with one 100Base-FX MM fiber port with SC connector and two 10/100Base-TX RJ45 ports
CSX-2TX1ST	3-port converter switch with one 100Base-FX MM fiber port with ST connector and two 10/100Base-TX RJ45 ports
CSX-2TX1MTRJ	3-port converter switch with one 100Base-FX MM fiber port with MTRJ connector and two 10/100Base-TX RJ45 ports
CSX-2TX1SSC-20	3-port converter switch with one 100Base-FX SM (20km) fiber port with SC connector and two 10/100Base-TX RJ45 ports
CSX-2TX1SST-20	3-port converter switch with one 100Base-FX SM (20km) fiber port with ST connector and two 10/100Base-TX RJ45 ports
CSX-2TX1SSC-40	3-port converter switch with one 100Base-FX SM (40km) fiber port with SC connector and two 10/100Base-TX RJ45 ports
Converter Switch Chassis	
CS/CSX-Chassis	19" rack mount chassis holds 16 CS or CSX units

SPECIFICATIONS

PERFORMANCE
- 100Mbps HDX/FDX, all types of connectors MM and SM
- 10Base-T, 100Base-TX and 100Base-FX
- Auto-negotiation and auto-cross MDI-MDIX on RJ45 ports
- Non-blocking switching
- Packet buffer memory: 128KB
- Address buffer storage: 2K
- Fiber port has manual selection of HDX/FDX

LED INDICATORS:
- Power-on
- Separate link and port activity status for each port

NETWORK STANDARDS:
- IEEE 802.3
- IEEE 802.3u
- IEEE 802.1p

VLAN Support:
- Tagged VLAN fields transmitted and unchanged by converter switch (IEEE 802.1q)

FIBER CABLE DISTANCES:
- MM Fiber: 2km
- SM Fiber: ST and SC connector, 20km SC connector, 40km

NETWORK CABLE CONNECTORS:
RJ45 shielded female ports:
- 100Mbps: Category 5 UTP/STP
- 10Mbps: Category 3, 4, 5 UTP
Fiber MM port connectors:
- MTRJ, SC, ST
Fiber SM port connectors:
- SC, ST

EMI/SAFETY COMPLIANCE:
All Models:
- UL Listed (UL60950), cUL, CE
- Emissions meet FCC Part 15, Class A
CSX Series:
- NEBS L3 and ETSI compliant
- NEMA TS-2 and TEES for traffic control equipment
- UL2043 for above ceiling installations
- IEC61850 EMC and Operating Conditions for Class C Power Substations

POWER SUPPLY:
- CS Series: External AC/DC, 95-125VAC@60Hz
- CSX Series: External AC/DC, 95-260VAC@47-63Hz

OPERATING ENVIRONMENT:
Ambient:
- Standard Converter Switch: 32° to 105°F (0° to 40°C)
- Hardened Converter Switch: -40° to 167°F (-40° to 75°C)

Ambient Relative Humidity:
- All models: 5% to 95% (non-condensing)
Storage temperature: All models -40° to 185°F (-40° to 85°C)

PHYSICAL CHARACTERISTICS:
Ruggedized steel enclosure
Dimensions:
- 3.5"H x 3.0"W x 1.0"D (8.9cm x 7.6cm x 2.5cm)
Weight:
- CS and CSX series 4.6oz. (130g)
- Power supply CS series: 5.8oz (165g)
- Power supply CSX series: 7.9oz (225g)
Altitude:
- All models: -200 to 50,000 ft (-60 m to 15,000 m)

WARRANTY:
3 years (1 year on power supplies)