

# 6-Port SFP Gigabit Ethernet Switch

TC3842

- 6-Port SFP Gigabit Ethernet Switch
- Optional 3 Ports 100Base-FX
- Single Mode, Multimode, Optional One Fiber Bi-Directional Communications
- Ethernet Rate-Limit, VLAN, QoS & More
- Network Manageable Via Web (with TC3840 MGMT card)
- Temperature & Power Consumption Monitoring
- Extreme Temp (-40°C to +80°C) Optional
- Meets or Exceeds IEC 61850-3, IEEE 1613, & NEMA TS-2 Standards
- Member of the JumboSwitch® Product Family



TC3842 with Various JumboSwitch Chassis & Cards Cages

Featuring a wide range of advanced networking features, the TC3842 is a 6-Port SFP Gigabit Ethernet Switch. It is compatible with both SFP optical and copper modules and supports 850nm multimode and 1300/1550 single mode. Three versions are available:

- **TC3842-1:** 6-ports for 1000Base-SX/LX SFP Modules
- **TC3842-2:** 3-ports for 1000Base-SX/LX, 3-ports for 100Base-FX SFP Modules
- **TC3842-3:** 6-ports for 100Base-FX SFP Modules

Advanced networking features include Rate Limiting, VLAN, QoS and Security. Rate Control gives users, especially data service providers, the ability to control or limit bandwidth. For example, rates can be limited to 96Kb, 128Kb, 256Kb, 512Kb, 1Mb, 2Mb, etc. Password protection provides secure user administration via SSHv2, SNMPv3 and other security features.

The TC3842 supports distances up to 100km (single mode laser) and is available with a “one fiber, bi-directional” option to maximize fiber optic cable usage. Diagnostics include Temperature and Power Monitoring and Traffic Statistics.

Management is through Web Interface, SNMP, TELNET or Serial Console (via TC3840 Management Card). Configuration settings can be saved and loaded to simplify network administration, and firmware can be remotely upgraded.

The TC3842 interface card can fit into any available JumboSwitch housing options including 25 Standalone chassis and 1U/2U/4U card cages. Power supply options are 12VDC, 24VDC, -48VDC or 115/230VAC. Standard operating temperature is -20°C to +70°C and the extreme temperature version is -40°C to +80°C.

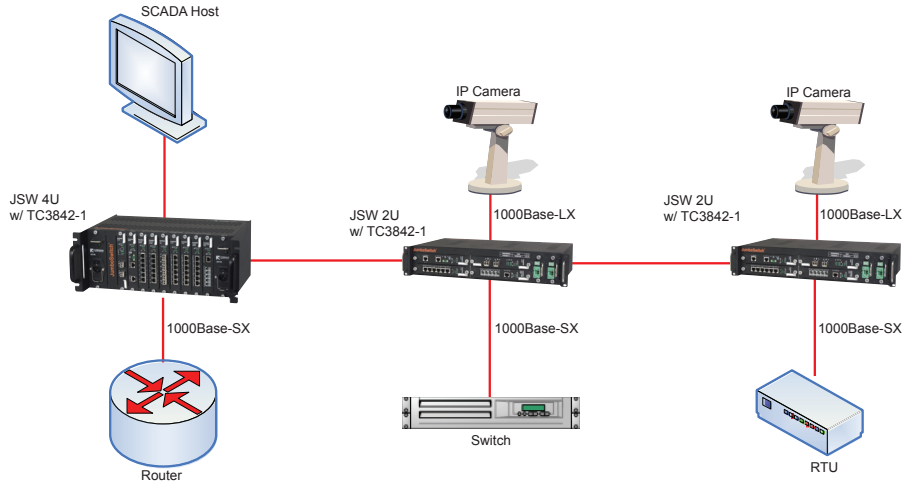
## Applications

With its ability to operate in the harshest of environments and its advanced networking features, the TC3842 is the perfect solution for virtually all Ethernet Switch applications encountered in the Industrial Automation, Utility and Transportation industries. It is also used by Data Service Providers to control the bandwidths they offer to their customers.

## Environmental & EMI Compliance

The JumboSwitch product family meets all pertinent industry-specific standards for environmental, performance and security requirements including IEC 61850-3, IEEE 1613, NEMA TS-2 and NERC CIP. Furthermore, future JumboSwitch family products will continue to be compliant with both existing and emerging industry standards and requirements, including developing Ethernet standards. Please refer to the charts below for specific standards compliance information.

	Tests	Industrial Standards	TC Communications - JumboSwitch Type Test and Levels	
			Power Supply Unit (PSU)	RJ-45 & Signal
Temperature/Humidity	Low Temperature Use	IEC 61850-3, IEEE 1613, NEMA TS-2	IEC 60068-2-1; Ae; -40°C; 16 hour	
	Low Temperature Storage	IEC 61850-3, IEEE 1613, NEMA TS-2		
	High Temperature Use	IEC 61850-3, IEEE 1613, NEMA TS-2	IEC 60068-2-2; Be; +80°C; 16 hour	
	High Temperature Storage	IEC 61850-3, IEEE 1613, NEMA TS-2	IEC 60068-2-2; Bd; +85°C; 16 hour	
	Damp Heat	IEC 61850-3, IEEE 1613, NEMA TS-2	IEC 60068-2-30; Db; +55°C; 95%; 96 hours	
Mechanical	Vibration	IEC 61850-3, IEEE 1613, NEMA TS-2	IEC 60068-2-6; Fc; 3 - 150 Hz; 7.5 mm; 2 g; 10 sweeps per axis	
	Shock	IEC 61850-3, IEEE 1613, NEMA TS-2	IEC 60068-2-27; Ea; 30g; 11ms	
ElectroMagnetic Compatibility	Electrostatic Discharge Immunity	IEEE 1613	IEC 61000-4-2; 8kV contact; 15 kV air	
	Radiated RF Immunity	IEC 61850-3, IEEE 1613	IEC 61000-4-3; 80 MHz - 1000 MHz; 20 V/m; AM 80% 1 kHz	
	EFT/Burst Immunity	IEC 61850-3, IEEE 1613	IEC 61000-4-4; 4 kV CM	IEC 61000-4-4; 4 kV CM
	Surge Immunity	IEC 61850-3	IEC 61000-4-5; 4 kV LG; 2 kV LL	IEC 61000-4-5; 4 kV LG; 2 kV LL
	Conducted RF immunity	IEC 61850-3	IEC 61000-4-6; 150 kHz - 80 MHz; 10 V; AM 80% 1 kHz	IEC 61000-4-6; 150 kHz - 80 MHz; 10 V; AM 80% 1 kHz
	Magnetic Field Immunity	IEC 61850-3	IEC 61000-4-8; 50 Hz; 100 A/m cont.; 1000 A/m 1 s	
	Damped Oscillatory Magnetic Field Immunity	IEC 61850-3	IEC 61000-4-10; 100 kHz; 30 A/m	
	Damped Oscillatory Magnetic Field Immunity	IEC 61850-3	IEC 61000-4-10; 1 MHz; 30 A/m	
Power Supply Unit (PSU) Variations	AC Voltage Dips	IEC 61850-3	IEC 61000-4-11; 30% & 100%, 0.5s	NA
	DC Voltage Dips	IEC 61850-3	IEC 61000-4-29; 40% & 70%, 0.1s	NA
	Damped Oscillatory Wave	IEC 61850-3	IEC 61000-4-12; 2.5 kV CM, 1.0 kV DM @1MHz	IEC 61000-4-12; 2.5 kV CM, 1.0 kV DM @ 1MHz
	Conducted PF CM Voltage	IEC 61850-3	IEC 61000-4-16; 50 Hz; 30 V cont.; 300 V 1s	IEC 61000-4-16; 50 Hz; 30 V cont.; 300 V 1s
	Conducted Emission	IEC 61850-3	CE/FCC/CISPR22 class A	CE/FCC/CISPR22 class A
	Conducted emission	IEC 61850-3	CE/FCC/CISPR22 class A	CE/FCC/CISPR22 class A
	Radiated emission	IEC 61850-3	CE/FCC/CISPR22 class A	
Dielectric	Dielectric 50 Hz Test	IEEE 1613	IEC 60255-5; 2 kV	IEC 60255-5; 0.5 kV
	Impulse Voltage Test	IEEE 1613	IEC60255-5; 5 kV	IEC 60255-5; 5 kV



Application Using TC3842-1 to Extend the Existing Gigabit Ethernet Network to the Remote Sites

**Data Rates**

.....1000 Mbps with rate control

**SFP Interface**

Optical

SFP.....850/1300nm MM

.....1300/1490/1550nm SM

SFP Optical Connectors: LC

Loss Budget\*

Multimode @ 62.5/125um.....15db

Single Mode @ 9/125um.....20db

**Copper**

SFP copper module, RJ45F connector

**System**

Bit Error Rate .....1 in 10<sup>10</sup> or Better

**Regulatory Approval**

CE, FCC Part 15, CISPR (EN55022)

CLASS A, IEC 61850-3, IEEE 1613,

NEMA TS-2

\*Contact factory for higher requirements

**Diagnostic Functions**

Traffic Statistics

**LEDs**

ALM, Vcc, PWR (A, B), Link/Act, BP,

MGM

**Power**

Standard.....12VDC

Optional.....24, -48 VDC

.....90-260 VAC, 50/60Hz

Power Consumption.....<10W

**Operating Temperature**

High Temp .....-20°C to 70°C

Extreme Temp .....-40°C to 80°C

**Storage**

Temperature.....-40°C to 90°C

Humidity.....95% non-condensing

**Physical (Standalone Unit 1S)**

Height.....(3.89 cm) 1.53"

Width.....(18.54 cm) 7.3"

Depth.....(24.87 cm) 9.79"

Weight.....(0.4 kg) 1.0 lbs



ISO 9001  
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