

REAL-TIME-RING™ ETHERNET SWITCH WITH 5 PORTS

The ET-5RS is a 5 port industrial Ethernet switch featuring Sixnet's Real-Time-Ring™ which provides very fast, fault-tolerant network redundancy and prioritized message delivery needed in critical real-time systems. These Rings self-configure and just run, without the complex configuration steps required by alternative solutions. This advanced technology delivers reliability and performance, saves you money, and makes your job easier.

PRODUCT HIGHLIGHTS

- 5 ports with up to two fiber optic ports
- Super-fast, fault tolerant ring redundancy
- Pre-configured for true plug and play simplicity
- Truly rugged design with -40 to 85°C operation
- Dual power with MIL-STD-1275 protection

REAL-TIME FAULT-TOLERANT RINGS

- Recovery time of 30 mS plus 5 mS per hop!
- Ideal for deterministic systems and PLCs
- Real-time Modbus over Ethernet monitoring

REAL-TIME TRAFFIC PRIORITIZATION

- Assure delivery of real-time data
- Improve network utilization
- User settable priority assignments

MANAGED SWITCH FEATURES – At a Lower Cost

- User configurable port settings
- Port mirroring for traffic diagnostics
- Message filtering to prevent broadcast storms

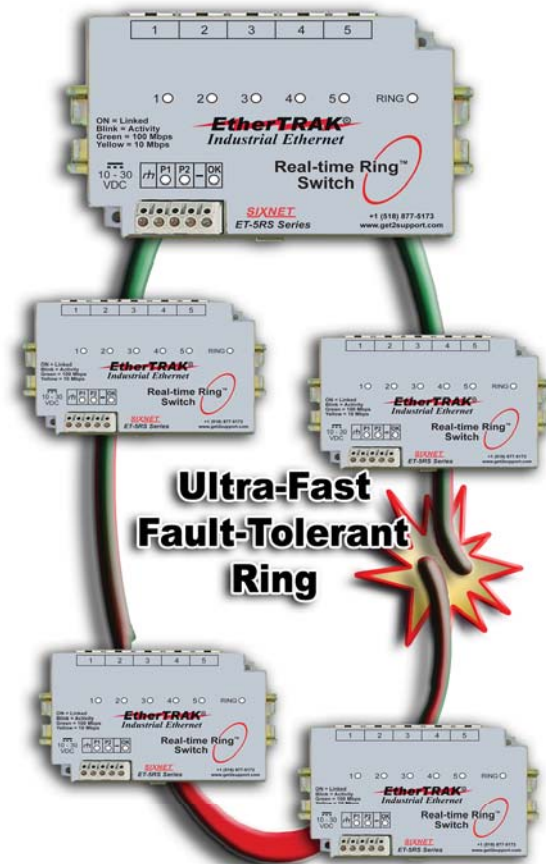
TROUBLE FREE OPERATION

- Firmware upgrades are FREE forever
- Ultra-reliable 1,000,000 hours MTBF
- -40 to +85 °C operating range
- UL/CSA, (CUL), CE, and Hazloc (zone 2)



IDEAL FOR

- Real-time control
- Distributed systems
- Outdoor / marine use



ETHERNET PERFORMANCE

- 5 Ethernet ports total
- Intelligent store & forward Ethernet switch
- Ethernet protocols supported all IEEE 802.3
- RJ45 ports (shielded) 10/100BaseTX
- RJ45 speed (10 or 100 Mbps) auto-negotiation
- RJ45 MDI/MDIX auto-crossover
- RJ45 TD and RD auto-polarity
- Fiber optic port speed 100BaseFX (100 Mbps)
- Fiber optic port wavelength 1300 nm center typ.
- Fiber multimode 50- 62.5/125 um (SC or ST)
- Fiber singlemode 8-10 9/125 um (SC or ST)
- Fiber maximum distance (full duplex) 4 km (mm), 20 km (sm), 40 km (long haul) or more
- Typical latency for 10 Mbps ports 16 us + frame time; Typical latency for 100 Mbps ports 5 us + frame time; varies on load and settings
- Full or half duplex operation configurable
- MAC addresses supported 2048
- Memory bandwidth 3.2 Gbps
- Ethernet isolation 1500 VRMS 1 minute

REAL-TIME-RING™ FEATURES

- Maximum switches in ring: 50+
- Dual ring support
- Link loss recovery time: 30mS + 5mS/hop

STATUS REPORTING

- Modbus Ethernet over UDP
- “OK” contact output up to 0.5 Amp

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 802.1p (QoS / CoS – Quality & Class of Service)

POWER INPUT

- Input power (typical - all ports active at 100 Mbps)
 - 4.0 W (model -1 without fiber)
 - 5.0 W (model -2 & -3 with 1 fiber)
 - 6.0 W (models -4 & -5 with 2 fiber)
- Power Input 10-50 VDC (Derate 1.8°C / V above 30V)
- MIL-STD-1275 power protection standard
- Military surge protection 100 volts for 1 second
- Transient protection 15,000 watts peak
- Spike protection 5,000 watts (10x for 10 uS) or 250 volts (50x for 100 uS)

ENVIRONMENTAL

- Operating temperature range -40 to +85 °C
- Storage temperature range -40 to +85 °C
- Humidity (non-condensing) 5 to 95% RH
- Vibration IEC60068-2-6

STANDARDS COMPLIANCE

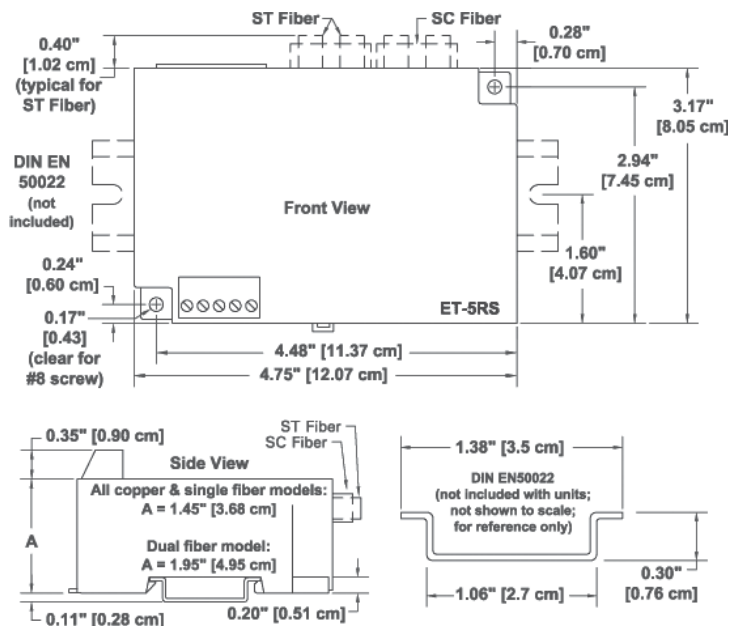
- Electrical safety - UL508/CSA C22.2/4: EN61010-1, CE
- EMI emissions - FCC part 15, ICES-003; EN61000-6-4, CE
- EMC immunity - EN61000-6-2, CE
- Hazardous locations: UL1604/CSA C22.2/213 (Class I, Div. 2); EN60079-15 (Zone 2, Category 3), CE (ATEX)
- Eye safety (fiber models) IEC60825-1, Class 1; FDA 21 CFR 1040.10 and 1040.11

PHYSICAL

- DIN rail or direct panel mounting
- Case (UL 94V-0 Lexan & rust-free aluminum case) IP30 protection
- Dimensions - see mechanical drawing

All specifications are subject to change. Consult factory for latest info.

MECHANICAL DRAWING



ORDERING GUIDE

	RJ45 Ports	FIBER Ports
ET-5RS-1-E1	5	
ET-5RS-2SC-E1	4	1 multimode SC 4 km
ET-5RS-2ST-E1	4	1 multimode ST 4 km
ET-5RS-3SC-E1	4	1 singlemode SC 20 km
ET-5RS-3ST-E1	4	1 singlemode ST 20 km
ET-5RS-3SCL-E1	4	1 singlemode SC 40 km
ET-5RS-3STL-E1	4	1 singlemode ST 40 km
ET-5RS-4SC-E1	3	2 multimode SC 4 km
ET-5RS-4ST-E1	3	2 multimode ST 4 km
ET-5RS-5SC-E1	3	2 singlemode SC 20 km
ET-5RS-5ST-E1	3	2 singlemode ST 20 km
ET-5RS-5SCL-E1	3	2 singlemode SC 40 km
ET-5RS-5STL-E1	3	2 singlemode ST 40 km

Note: Contact Sixnet for special or long haul fiber transceivers up to 120 km

The suffix 1 means preconfigured for 1 ring. Contact Sixnet for other options.



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