

## 32 PORT INDUSTRIAL ETHERNET RACK SWITCH

The Sixnet EK32 is a truly industrial Ethernet switch offering 32 total Ethernet ports including up to 6 super fast Gigabit ports, 20 noise-immune fiber optic ports and optionally 8 advanced PoE ports. Its rugged and compact 1U case fits into standard EIA, WECO and ETSI racks from 19" to 24".



Model Shown: EK32 with 8 on-board 100Mb fiber ports

### PRODUCT HIGHLIGHTS

- 32 total Ethernet ports including
  - Up to 6 Gigabit ports including 4 combination ports
  - Up to 20 fiber optic ports for noise-immune links
  - Up to 8 PoE ports per IEEE 802.3af
- Designed to meet tough standards for industrial applications such as power, traffic, railway, maritime and more

### REAL-TIME SECURE PERFORMANCE

- Real-Time-Ring™ or Rapid Spanning Tree (RSTP) for fast redundant ring or mesh networks
- SNMPv1 and v2 network management
- SNMPv3 authentication & encryption for security
- SNMP notifications (traps) for report on event
- Priority Queuing (QoS/CoS) for real-time operation
- IGMP for Multicast filtering (snooping & querying)
- VLAN for convenient traffic segregation
- Open-source programming for ultimate flexibility
- Broadcast & multicast storm protection
- RMON & port mirroring for advanced diagnostics
- Security with HTTPS, SSL, SSH, SNMPv3 & more
- Easy configuration via Web, Telnet or CLI
- Free field-installable firmware upgrades forever

### RUGGED & RELIABLE HARDWARE

- Space efficient 1U rack-mount design
- Redundant AC and DC power options
- Relay output contact to signal alarms
- RS232 and USB console ports for local management
- Rugged corrosion-resistant aluminum enclosure
- Wide temperature -40 to +85 °C operation
- Sealed IP50 option protects against ingress

### EXAMPLES



EK32 with all copper RJ45 ports



EK32 with 16 on-board fiber ports

See **EK32 FEATURE MAP** and **ORDERING GUIDE** documents for complete details

**ETHERNET PERFORMANCE**

- 32 Ethernet ports with up to 6 Gigabit
- Managed, store & forward, wire-speed
- All IEEE 802.3 Ethernet protocols supported
- RJ45 port speed auto-negotiation
- RJ45 MDI/MDIX auto-crossover
- RJ45 TD and RD auto-polarity
- Typical latency (varies on load & settings)
  - @ 100 Mbps: 5 us + frame time
- Full or half duplex operation configurable per port
- MAC addresses supported 8192
- Memory bandwidth 32 Gbps
- Ethernet isolation 1500 VRMS 1 minute
- Console ports – USB and RS232 (RJ45)



**ETHERNET PORTS**

- Port Group 1
  - 16 ports of 10/100 RJ45 or 100M fiber
  - SC, ST or FC fiber up to 120 km
  - See ordering guide for options
  - See separate datasheet for fiber specs
- Port Group 2
  - 2 bonus 10/100 RJ45 ports
- Port Group 3
  - EK model: 4 combination Gigabit ports for copper or fiber links
  - EF model: 4 fast Ethernet 10/100 ports
- Port Group 4:
  - EK model: 2 Gigabit 10/100/1000 RJ45 ports
  - EF model: 2 fast Ethernet 10/100 RJ45 ports
- Port Group 5
  - 8 fast 10/100 RJ45 with optional PoE

**FAST ETHERNET PoE PORTS**

- Ports 25-32 fully IEEE 802.3af compliant
- PoE classification PSE (Power Sourcing Equipment)
- PoE power output up to 15.4 W per port
  - 120 W total max. power with 48V option – no derating
  - 100 W total max. power with AC option at 50 °C
  - 60 W total max. power with AC option at 75 °C
- Power on signal pins; DC disconnect
- PoE protection - over-temp/current/voltage & transient

**ETHERNET COMPLIANCE**

- IEEE 802.3z (Gigabit 1000 Mbps Ethernet connections)
- IEEE 802.3u (Fast Ethernet 100Mbps for newer devices)
- IEEE 802.3 (10Mbps Ethernet supports legacy 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)
- And more

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

**REAL-TIME-RING™**

- Link loss recovery: 30 mS plus 5 mS per hop
- Switches in a ring: <50 for best performance
- Multiple rings supported

**“OK” ALARM OUTPUT**

- Indicates power & operational status
- Max. ratings
  - 250 VAC or 220 VDC
  - 2 A @ 30 VDC or 0.25 A @ 250 VAC
- Minimum load 10 mVDC, 10 µA

**POWER INPUT**

- Input voltage standard options
  - 18-36 VDC (24 VDC nominal)
  - 36-75 VDC (+/-48 VDC nominal)
  - 90-264 VAC (110/220 VAC nominal)
  - 130-370 VDC (250 VDC nominal)
- Power options
  - Dual inputs or redundant supplies
- Input power consumption 35 W maximum

**ENVIRONMENTAL**

- Operating temperature range:
  - T option (fan cooled): -40 to +85 °C (no derating) (cold startup at -40 °C)
  - S option (sealed IP50): -40 to +85 °C w/all ports linked at 10/100 or derate
    - to +75 °C with 2 Gigabit links
    - to +70 °C with 4 Gigabit links
    - to +65 °C with 6 Gigabit links
- Storage temperature range -40 to +85 °C
- Humidity (non-condensing) 5 to 95% RH (optional conformal coating is available)

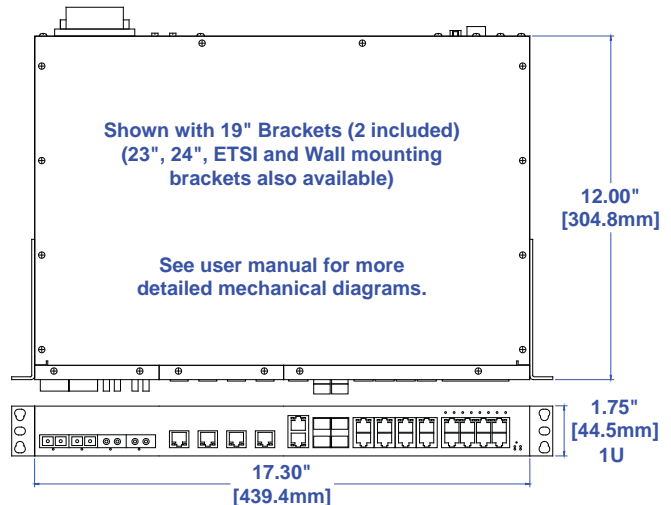
**STANDARDS COMPLIANCE (PENDING)**

- Electrical safety – UL508 / CSA C22.2/14; EN61010-1, CE
- EMC – FCC part 15, ICES-003; EN61000-6-4, -2, CE
- RoHS and WEEE compliant
- ISO9001:2000 certified company

**PHYSICAL**

- Mounting – 19” to 24” racks, EIA/WECO/ETSI supported
- Case – corrosion-resistant heavy-gauge aluminum
- Egress protection IP50 with S option or IP30 with T option
- Weight (typical) 5.5 lbs (2.5 kg) – varies slightly by model
- Dimensions – 1.75 x 17.3 x 12” (44.5 x 439.4 x 305.0 mm)

**MECHANICAL DRAWING**



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Datasheet EK32/EF32  
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