

# Environmentally Hardened Managed Layer 2+ Ethernet Switch 12 SFP + 12 Electrical Ports with Optional 30 Watt PoE



The comnet by acre CNGE24FX12TX12MS[POE] has twelve 100/1000Base-FX SFP ports and twelve 10/100/1000Base-T(X) ports. All SFP ports utilize comnet by acre SFP modules for fiber and connector type and distance. The IEEE802.3-compliant unit offers multiple Ethernet redundancy protocols (MSTP/RSTP/STP/ERPS (G.8032)) which protect your applications from network interruptions or temporary malfunctions by redirecting transmission within the network. Port Guardian provides additional cybersecurity protection by enabling physical port lockout in the event that a cable is disconnected and prevents a potential network incursion using common spoofing techniques. The CNGE24FX12TX12MSPOE models provide twelve electrical ports supporting up to 30 W of power. All PoE ports are IEEE 802.3at compliant. Each model is provided with redundant power inputs which can be either one mains voltage and one or two low voltage DC inputs or two low voltage DC inputs.



HARDENED  
-40° TO +75°C



PoE  
30W PoE+  
IEEE802.3at



FLEXIBILITY  
SFP



PORT  
GUARDIAN



ALL GIGABIT



12 + 12

## Key Features

- ✓ 12 × 100/1000Base-FX SFP  
12 × 10/100/1000Base-T(X) RJ45
- ✓ CNGE24FX12TX12MSPOE provides 12 × IEEE802.3at compliant 30 W PoE+ ports
- ✓ Multiple power supply options available including internal mains AC and/or dual external DC inputs
- ✓ Fast Redundancy/Recovery – MSTP/RSTP/STP (IEEE802.1s/w/ D) and ERPS G.8032
- ✓ Layer 3 static routing
- ✓ Supports IPV6
- ✓ Provided HTTPS/SSH protocol enhances network security
- ✓ Supports Device Binding security function
- ✓ Supports SNMP v1/v2c/v3 & RMON & 802.1Q VLAN Network Management
- ✓ Supports ACL, 802.1x User Authentication for security
- ✓ Supports 9.6K Bytes Jumbo Frame
- ✓ Multiple notifications warn of unexpected events
- ✓ Web-based, Telnet and Console (CLI) configuration, and Windows-based monitoring
- ✓ Designed for desktop or 19 inch rack mount installations
- ✓ Limited Lifetime Warranty

AGENCY COMPLIANCE



MADE IN THE  
**USA**



## Software Features

- ✓ Port Guardian prevents network intrusion through intelligent physical port lockout
- ✓ STP/RSTP/MSTP (IEEE 802.1D/w/s)
- ✓ Ethernet Ring Protection Switching (ERPS) (G.8032)
- ✓ Quality of Service (802.1p) for real-time traffic
- ✓ VLAN (802.1Q) with VLAN tagging and GVRP supported
- ✓ IGMP v2/v3 (IGMP snooping support) and MLD v1/v2 for filtering multicast traffic
- ✓ Supports IP-based bandwidth management
- ✓ Supports application-based QoS management
- ✓ Port configuration, status, statistics, monitoring, security
- ✓ DHCP Client/Server, DHCP Snooping, DHCP Relay
- ✓ Custom User Access Rights (15 Levels)
- ✓ Static and LACP Link Aggregation
- ✓ Supports Loop Protection function
- ✓ Multicast VLAN Registration (MVR)
- ✓ Supports IP Multicast Profile (IPMC)
- ✓ Link Layer Discovery Protocol (LLDP)
- ✓ Voice VLAN support
- ✓ UPNP (universal plug and play)

\* Small Form-Factor Pluggable Module. Sold separately.

## Specifications

### CONNECTORS

|                            |                                           |
|----------------------------|-------------------------------------------|
| 10/100/1000BASE-T(X) PORTS | 12 × RJ-45                                |
| 100/1000BASE-X PORT        | 12 × SFP <sup>1</sup>                     |
| SERIAL CONSOLE PORT        | USB TYPE B CONNECTOR (115200BPS, 8, N, 1) |
| POWER                      | IEC INPUT AND/OR 2 × 2-PIN TERMINAL STRIP |
| FAULT RELAY                | 2-PIN TERMINAL STRIP                      |

## SWITCH PROPERTIES

|                       |                           |
|-----------------------|---------------------------|
| SWITCHING LATENCY     | 7 $\mu$ S                 |
| SWITCHING BANDWIDTH   | 54 GBPS                   |
| DRAM                  | 1GB                       |
| FLASH                 | 128MB                     |
| VLANS                 | VOICE, PRIVATE, MULTICAST |
| MAX. AVAILABLE VLANS  | 256                       |
| IGMP MULTICAST GROUPS | 128 FOR EACH VLAN         |
| PORT RATE LIMITING    | USER DEFINED              |
| PROCESSING            | STORE-AND-FORWARD         |
| PRIORITY QUEUES       | 8                         |
| NETWORK REDUNDANCY    | STP, RSTP, MSTP, ERPS     |
| MAC TABLE             | 8K MAC ADDRESSES          |
| JUMBO FRAME           | UP TO 9.6K BYTES          |
| STATIC ROUTING        | 32 ROUTES                 |

## SECURITY

|          |                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| FEATURES | DEVICE BINDING SECURITY FEATURE<br>ENABLE/DISABLE PORTS, MAC BASED PORT SECURITY<br>PORT BASED NETWORK ACCESS CONTROL (802.1X)<br>VLAN (802.1Q) TO SEGREGATE AND SECURE NETWORK TRAFFIC<br>RADIUS CENTRALIZED PASSWORD MANAGEMENT<br>SNMPV3 ENCRYPTED AUTHENTICATION AND ACCESS SECURITY<br>HTTPS / SSH ENHANCE NETWORK SECURITY<br>SWITCH/PORT BASED, NAS, ACL, ARP INSPECTION AND IP SOURCEGUARD<br>AAA RADIUS SERVER AUTHENTICATION<br>TACACS+<br>SNTP |
|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## POWER

|                             |                                                            |
|-----------------------------|------------------------------------------------------------|
| INPUT POWER (NON-PoE)       | (1) 90 - 240 VAC & (1) 6 - 14 VDC OR (2) 6 - 14 VDC        |
| INPUT POWER (PoE MODELS)    | (1) 90 - 240 VAC & (2) 48 - 57 VDC<br>OR (2) 48 - 57 VDC   |
| POWER CONSUMPTION           | 30 W MAX (NON-PoE MODELS)<br>390 W MAX W/PoE+ (PoE MODELS) |
| OVERLOAD CURRENT PROTECTION | PRESENT                                                    |

## MECHANICAL

|                  |                                                                                 |
|------------------|---------------------------------------------------------------------------------|
| INDICATOR LEDS   | STATUS, RJ45 & SFP PORT                                                         |
| SIZE (H × W × D) | 17 × 10 × 1.5 IN (43.2 × 25.4 × 3.8 CM)                                         |
| INSTALLATION     | DESKTOP OR 19-INCH RACK MOUNT                                                   |
| WEIGHT           | 11 LB / 5 KG (MAINS POWERED MODELS)<br>7.9 LB / 3.6 KG (DC ONLY POWERED MODELS) |

## ENVIRONMENTAL

|                             |                                              |
|-----------------------------|----------------------------------------------|
| STORAGE TEMPERATURE         | -40 TO 85° C                                 |
| OPERATING TEMPERATURE       | PoE: -40 TO +60 °C<br>NON-PoE:- 40 TO +75 °C |
| OPERATING RELATIVE HUMIDITY | 5% TO 95% NON-CONDENSING                     |
| MTBF                        | > 100,000 HOURS                              |

## ETHERNET STANDARDS

IEEE 802.3 FOR 10BASE-T

IEEE 802.3U FOR 100BASE-TX AND 100BASE-FX

IEEE 802.3AB FOR 1000BASE-T

IEEE 802.3Z FOR 1000BASE-X

IEEE 802.3X FOR FLOW CONTROL

IEEE 802.3AD FOR LACP

IEEE 802.3AT

IEEE 802.1P FOR COS

IEEE 802.1Q FOR VLAN TAGGING

IEEE 802.1D FOR STP

IEEE 802.1W FOR RSTP

IEEE 802.1S FOR MSTP

IEEE 802.1X FOR AUTHENTICATION

IEEE 802.1AB FOR LLDP

IEEE 802.3AZ ENERGY EFFICIENT ETHERNET

ITU-T G.8032V1/V2 ERPS

## REGULATORY COMPLIANCE

|           |                                                                                                                          |
|-----------|--------------------------------------------------------------------------------------------------------------------------|
| EMI       | FCC PART 15, CISPR (EN55022) CLASS A                                                                                     |
| EMS       | EN61000-4-2 (ESD), EN61000-4-3 (RS), EN61000-4-4 (EFT), EN61000-4-5 (SURGE), EN61000-4-6 (CS), EN61000-4-8, EN61000-4-11 |
| SHOCK     | IEC60068-2-27                                                                                                            |
| FREE FALL | IEC60068-2-32                                                                                                            |
| VIBRATION | IEC60068-2-6                                                                                                             |
| SAFETY    | EN60950-1                                                                                                                |
| RAIL      | EN50121-4                                                                                                                |

## Ordering Information

| PART NUMBER            | DESCRIPTION                                                                                              | SFP PORTS <sup>1</sup> | RJ45 PORTS | 30W PoE+ PORTS |
|------------------------|----------------------------------------------------------------------------------------------------------|------------------------|------------|----------------|
| CNGE24FX12TX12MS       | INDUSTRIAL GRADE 24 PORT GIGABIT MANAGED ETHERNET SWITCH, 1 × MAINS INPUT, 1 × LOW VOLTAGE DC INPUT      | 12                     | 12         | 0              |
| CNGE24FX12TX12MS/12    | INDUSTRIAL GRADE 24 PORT GIGABIT MANAGED ETHERNET SWITCH, 2 × LOW VOLTAGE DC INPUTS                      | 12                     | 12         | 0              |
| CNGE24FX12TX12MSPOE    | INDUSTRIAL GRADE 24 PORT GIGABIT MANAGED ETHERNET POE SWITCH, 1 × MAINS INPUT, 2 × LOW VOLTAGE DC INPUTS | 12                     | 12         | 12             |
| CNGE24FX12TX12MSPOE/48 | INDUSTRIAL GRADE 24 PORT GIGABIT MANAGED ETHERNET POE SWITCH, 2 × LOW VOLTAGE DC INPUTS                  | 12                     | 12         | 12             |

### OPTIONS

Low Voltage Power Supply Sold Separately

User selection of comnet SFP (see SFP Modules data sheet for product numbers and compatibility before ordering)

[1] Multimode fiber needs to meet or exceed fiber standard ITU-T G.651. Single mode fiber needs to meet or exceed fiber standard ITU-T G.652 Complies with FDA Performance Standard for Laser Products, Title 21, Code of Federal Regulations, Subchapter J

In a continuing effort to improve and advance technology, product specifications are subject to change without notice.