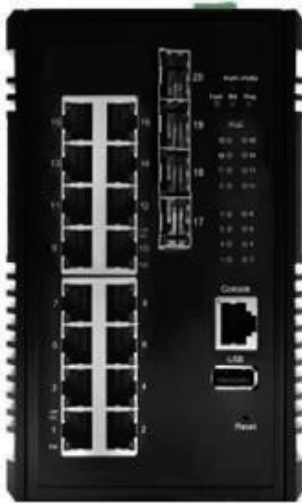


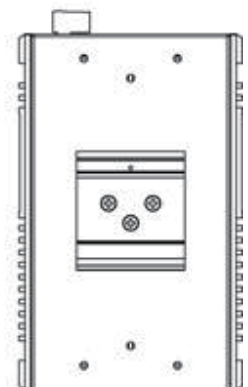
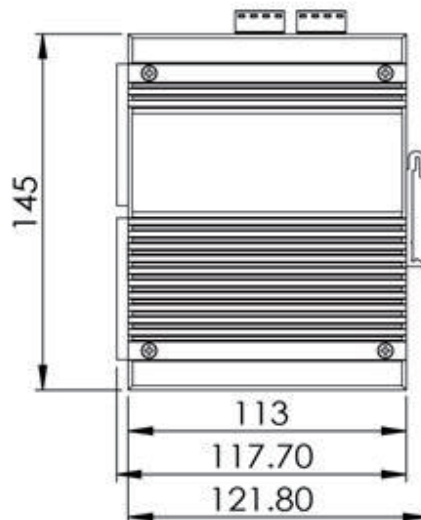
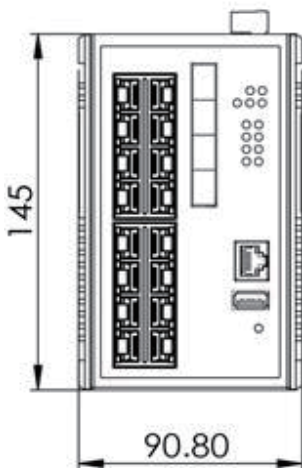
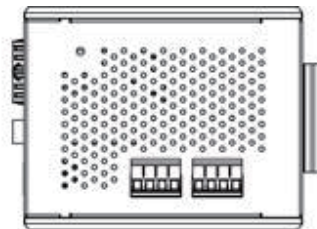
BEC ES 4016GP-4SFP

16+4 Port Industrial Managed PoE+ Gigabit Ethernet Switch



- 16x Gigabit Ethernet ports with IEEE 802.3at PoE+
- 4x 1000F(x) SFP Slot
- Built for harsh environments and wide temperature range application
- RSTP, MSTP, ERPS, LACP for Network Redundancy
- QoS CoS/DSCP to increase determinism
- Supports IGMP Snooping v1/v2/v3, up to 512 groups
- DHCP Relay Option 82 for policies IP address assignment
- SNMP v1/v2c/v3 for network management
- Supports Storm Protection
- USB storage for configuration-free replacement
- Supports industrial automation protocols Ethernet/IP and Modbus TCP
- Supports PoE PD Alive Check Function for PoE Device Power Recycle

Dimensions (unit = mm)



BEC ES 4016GP-4SFP

16+4 Port Industrial Managed PoE+ Gigabit Ethernet Switch

Technology

IEEE 802.3 10BaseT
 IEEE 802.3u 100BaseTX
 IEEE 802.3ab 1000BaseT
 IEEE 802.3z 1000BaseX
 IEEE 802.3x Flow Control
 IEEE 802.3af Power over Ethernet IEEE 802.3at PoE+
 IEEE 802.3az Energy-Efficient Ethernet IEEE
 802.3ad/802.1AX LACP

Standards

IEEE 802.1D Spanning Tree Protocol
 IEEE 802.1w Rapid STP
 IEEE 802.1s Multiple STP
 ITU-T G.8032 / Y.1344 ERPS
 IEEE 802.1Q VLAN Tagging
 IEEE 802.1ad Stacked VLANs
 IEEE 802.1p Class of Service
 IEEE 802.1X Network Authentication IEEE 802.1AB LLDP
 IEEE 1588 PTP

Processing Type Store and Forward

Switch Properties

Switch Fabric 40Gbps
Priority Queues 8 Queues
Jumbo Frame 9216bytes
MAC Table Size 16K
Packet Buffer 4Mbits
VLAN Table Size 4094
IGMP Group 512
ACL Group 512

Software Feature

Network Redundancy RSTP, MSTP, G.8032 ERPSv2, Port Trunking with LACP

Security ACL 802.1X, RADIUS, TACACS+, SSL, SSH
 Access Control List (IP-ACL, MAC-ACL)
 Max. ACL Entries: 1024

Management IPv4, IPv6, Web, Telnet, Serial Console, CLI, SNMP v1/v2c/v3, uPnP

Diagnostics RMON, SNMP Inform/Trap, Syslog, SMTP, Port Mirroring, LLDP, DDM, RSPAN

Configuration Filter DHCP Server/Client, Relay Option 82, TFTP, USB
 802.1Q VLAN, Q-in-Q, IGMP Snooping v1/v2/v3, IGMP Querier, Independent Vlan Learning

Time Sync. NTP, IEEE1588v2 OC (Software Timestamp), TC (Hardware Timestamp)

QoS CoS, DSCP, WRR/SPQ Queuing, Storm Protection

PoE Powering Status, PoE Monitoring, Scheduling, PD Alive Check, PoE Priority

Industrial Profiles Ethernet/IP, Modbus TCP, Profinet

Interface

RJ45 Port 16x 10/100/1000T(x) with PoE+, auto negotiation speed duplex mode, auto MDI/MDI-X

Fiber Port 4x 1000F(x) SFP Slot

PoE Pin Out V+, V+, V-, V-, for pin 1, 2, 3, 6, Endspan, MDI Mode A
 Per unit: PWR1, PWR2, Fault, Ring Master, Ring State

LED Indicators Ports: Link/Active (Green)
 PoE: Output Power (Amber)

Alarm Contact 1x relay output with current carrying capacity of 1A @ 24 VDC

Digital Inputs 1x isolated input from the electronics.
 +13 to +30V for state "1"
 -30 to +3V for state "0"
 Max. input current: 8mA

Button Multiple functions reset button

Serial Console 1x RS232 in RJ45 connector with console cable, 115.2Kbps, 8N1

Storage 1x USB 2.0 storage for firmware update, configuration backup, restore, boot up and syslog

Power Requirements

Operation Voltage 48-57VDC, redundant dual inputs, >50VDC for PoE+ output recommended

Connection 1x removable 4-contact terminal block

Power Consumption 0.45A@48VDC without PDs' consumption

PoE Power Budget Max.240 W for total PD consumption, Max. 30 W per PoE port

Protection Overload Current Protected, Reverse Polarity Protected

Mechanical Construction

Enclosure Aluminum

Protection Class IP30

Dimensions 91x145x118 mm (WxHxD)

Weight 1.4 kg

Mounting DIN-Rail Mounting, Optional Wall Mounting Kits

Environmental Limits

Operating Temperature -40°C ~ 75°C (-40°F ~ 167°F)

Storage Temperature -40°C ~ 85°C (-40°F ~ 185°F)

Ambient Relative Humidity 5 to 95%, (Non-Condensing)

Regulatory Approvals

EMI FCC Part 15 Subpart B Class A
 CE EN 55032 Class A

EMS IEC61000-4-2 (ESD)
 IEC61000-4-3 (RS)
 IEC61000-4-4 (EFT)
 IEC61000-4-5 (Surge)
 IEC61000-4-6 (CS)
 IEC61000-4-8 (Magnetic Field)

Free Fall IEC60068-2-32

Shock IEC60068-2-27

Vibration IEC60068-2-6

Green RoHS Compliant

Certifications IEC 61000-6-2
 IEC 6100 0-6-4

MTBF >100,000 hours

Warranty 5 Years

Optional Accessories

NDR-240-48 Industrial DIN-Rail Power Supply with 48VDC Output, provide max. 240W Power

NDR-480-48 Industrial DIN-Rail Power Supply with 48VDC Output, provide max. 480W Power