



Wavesys
Industrial Grade Switch

WSRM-2602-2C/WSRM-2602-2C-Extd

-26-Port Industrial Rack-Mount Gigabit PoE+ Managed Ethernet Switch

- 24*10/100/1000Base-T(X) with PoE-PSE (30W/Port) and 2* Gigabit Combo Port (2*10/100/1000TX or 2*100/1000 SFP S



Managed



PoE



Gigabit



About the Switch: Wavesys's WSRM-2602-2C/WSRM-2602-2C-Extd is a 26-port rack-mounting full gigabit PoE+ managed Ethernet switch, which provides 24*10/100/1000Base-T(X) Ethernet ports with IEEE 802.3 af/at PoE compliant and 2*gigabit combo ports (2*10/100/1000Base-T(X) copper ports or 2*100/1000Base-(F)X SFP slots). WSRM-2602-2C Series is full manageable Layer-2 Ethernet switch series, and offers standardized network redundancy ITU-T G.8032 ERPS v2 (Ethernet Ring Protection Switch) protocol, providing <50ms recovery time to the network, to give user the chance to choose your Ethernet switch but not tied up with particular brand's product.

WSRM-2602-2C Series provides comprehensive network security and management capability by supporting Multiusers account, IGMP, GVRP, VLAN, QoS, SNMP, RADIUS, TACACS+, Aggregation (Static, LACP), SSH, SSL, IP source guard to create a highly- secured network environment

WSRM-2602-2C Series as an industrial Ethernet switch product line, is designed to withstand harsh and extreme environment conditions. With fan less design, WSRM-2602-2C still manage to be applied in extremely polarized temperature, from -40°C to 75°C, making it the best choice in various industrial applications.

Key Features

- 24-Port 10/100/1000Tx Ethernet with IEEE 802.3at Compliant PoE+
- 2-Port Gigabit Combo Port (2*10/100/1000TX or 2*100/1000 SFP Slot)
- Dual 48-55VDC Power Input
- Built-in Relay Output Warning for Power Failure
- 19" Rack-mounting Installation Design
- Operating Temperature Range - STD: -10°C ~ 65°C, EOT: -40°C ~ 75°C

Specification

Technology

Standards	IEEE 802.3 10Base-T Ethernet IEEE 802.3u 100Base-TX Fast Ethernet IEEE 802.3ab 1000Base-T IEEE 802.3z 1000Base-X Gigabit Fiber IEEE 802.3af/at Power over Ethernet IEEE 802.3x Flow Control IEEE 802.1d STP (Spanning Tree Protocol) IEEE 802.1w RSTP (Rapid Spanning Tree Protocol) IEEE 802.1s MSTP (Multiple Spanning Tree Protocol) ITU-T G.8032 / Y.1344 ERPS v1/v2(Ethernet Ring Protection Switch) IEEE 802.1Q Virtual Local Area Network (VLAN) IEEE 802.1p QoS/CoS Protocol for Traffic Prioritization IEEE 802.1X Network Authentication IEEE 802.1AB Link Layer Discovery Protocol (LLDP) IEEE 802.3ad Link Aggregation (LACP)
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Processing Type	Store and Forward
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Flow Control	IEEE 802.3x flow control, back pressure flow control
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Network Management

Management	IPv4/IPv6, SNMP v1/v2c/v3, LLDP, LLDP-MED, HTTP, HTTPS, SSHv2 telnet, DHCP client, DHCPv6 client, DHCP server, Port Mirror, DNS client/proxy, IP based Access Filter, ICMPv6, syslog, Time Zone /Daylight Saving, NTP client, RMON, sFlow, Loop detection, Console Port, Power lost warning, relay trigger
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DHCP	DHCPv6 client, DHCP server, DHCP client
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Security	Port-based/Single/Multi 802.1X, ACL(Port/Rate Limiters/ACE), MAC-based Authentication, VLAN assignment, QoS Assignment, Private VLAN, Guest VLAN, RADIUS accounting, TACACS+, IP MAC binding, WEB/CLI authentication, Authorization (15 levels), Port Security Limit Control, ACLs for filtering/policing/port copy, IP source guard, ARP Inspection, DHCP option82
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L2 Switching	Port/MAC/Protocol/IP Subnet-based VLAN, GARP/GVRP, Loop Guard, Link Aggregation static/LACP, BPDU guard, Error disable recovery, IGMP snooping v1/v2/v3, IGMP filtering, MLD snooping v1/v2, IPMC throttling / filtering leave proxy, DHCP snooping, G.8032 v1/v2, LLDP, LLDP-MED
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L3 Switching	Static routes
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QoS	802.1p Queueing, Input priority mapping, Storm control for Unicast/Multicast/Broadcast, Port/Queue/ACL policer, Port egress shaper, Queue egress shaper, DiffServ (DSCP), Tag remarking, Scheduler mode
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Power Saving	ActiPHY, Perfect Reach, IEEE 802.3az EEE power management
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Network Redundancy STP/RSTP/MSTP, port trunk with LACP, ERPS v1/v2 (<50ms)

System / Diagnostics Dual Image Protection, PING, PING6

SNMP MIBs & RFC Standards

RFC 2674 VLAN MIB
IEEE-802.1Q bridge MIB 2008
RFC 2819 RMON (group 1, 2, 3, and 9)
RFC 1213 MIB II
RFC 1215 TRAPS
RFC 4188 bridge
RFC 4292 IP forwarding table
RFC 4293 management information base for the Internet Protocol (IP) RFC 5519 multicast group membership discovery
RFC 4668 RADIUS auth. client
RFC 4670 RADIUS accounting
RFC 3635 Ethernet-like
RFC 2863 interface group MIB using SMI v2
RFC 3636 802.3 MAU
RFC 4133 entity MIB v3
RFC 3411 SNMP management frameworks
RFC 3414 user-based security model for SNMPv3 RFC 3415 view-based access control model for SNMP RFC 2613 SMON – PortCopy
IEEE 802.1 MSTP
IEEE 802.1AB LLDP-MIB (LLDP MIB included in a clause of the STD)
IEEE 802.3ad (LACP MIB included in a clause of the STD)
IEEE 802.1X (PAE MIB included in a clause of the STD)
TIA 1057 LLDP-MED (MIB is part of the STD)
RFC 3621 LLDP-MED Power (POE) (No specific MIB for POE+ exists)
Private MIB support

Switch Properties

(Back-Plane) 52Gbps

Priority Queues 8

Max. Number of VLANs

4095

VLAN ID Range VID 1 to 4095

Memory Buffer 4Mbits

Jumbo Frame 9.6Kbytes

MAC Table Size 8K

IGMP Group 1024

Transfer Rate	14,880pps for Ethernet port 148,800pps for Fast Ethernet port 1,488,000pps for Gigabit Ethernet port
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Interface

Rj45 Ports	24*10/100/1000 Base-T(X) with PoE-PSE Auto-Negotiation(30W/port) Full/Half Duplex ,Auto-MDI/MDI-X
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Gigabit Combo Port (Copper/SFP)	2*10/100/1000Tx Rj45 Ethernet port and 2*100/1000 SFP Slot
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PoE Pin Out	V+, V+, V-, V-, for pin 1, 2, 3, 6 (End-span, Mode A)
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Wavelength	Depends on SFP modules
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LED Indicators	System: Power 1, Power 2, Master, Ring, Fault Ethernet ports: Speed/Link/Active PoE: On-connected to PD devices SFP: Link/Active
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Rs232 Serial Console	1*RS232 in RJ45 connector with console cable, baud rate 115,200bps,8,N,1
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Network Cable	10Base-T: 2-pair UTP/STP Cat. 3, 4, 5 cable EIA/TIA-568 100-ohm (100m) 100Base-TX: 2-pair UTP/STP Cat. 5 cable EIA/TIA-568 100-ohm (100m) 1000Base-TX: 4-pair UTP/STP Cat.5/5E cable; EIA/TIA-568 100-ohm (100m)
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Optical Cable	Multi-mode cable - 50/125um or 62.5/125um, Single-mode cable - 9/125um or 10/125um
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Power Requirements

Input Voltage	Dual 48-55VDC Redundant Input
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Power Connection	Present (Slow-Blow Fuse)
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Reverse Polarity Protection	Present
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PoE Power Output	Max. 30Watts per PoE port
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System Power Consumption	Max. 21W full loading
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Max. PoE Power Budget	720Watts
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Relay Contact	24VDC, 1A resistive
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Mechanical Characteristics

Housing	Metal, IP40 protection
Dimensions	440 x 44 x 200 mm (17.32 x 1.73 x 7.87 inch)
(W x H x D) Weight	Unit weight: 2.82kg (6.22 lb), Shipping weight: 3.54kg (7.80 lb)
Mounting	19" rack mounting

Environmental Limits

Operating Temperature	STD: -10°C ~ 65°C (14°F ~ 149°F) Extd: -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 EN55032/EN61000-6-4 Class A
EMS	CE EN55035/EN61000-6-2 Class A: 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
Safety	UL61010-1, UL61010-2-201
MTBF (Telcordia SR-332, Issue 3, GB, 25°C)	WSRM-2602-2C: 271,943 hrs. WSRM-2602-2C-Extd-67 Series: 271,943 hrs.
Warranty	5 Years

NOTE: Due to continuous improvement, all product specifications are subject to change without further notice.

Optional Accessories - Power Supply Series

75W Power Supply Series

WEDR-75-48	75W Industrial DIN-Rail Power Supply, 48VDC/1.6A, Universal 90-264VAC/127-370VDC power input, Metal, -20°C ~ 60°C
WNDR-75-48	75W Industrial DIN-Rail Power Supply, 48VDC/1.6A, Universal 90-264VAC/127-370VDC power input, Metal, -20°C ~ 70°C

120W Power Supply Series

WEDR-120-48	120W Industrial DIN-Rail Power Supply, 48VDC/2.5A, Universal 90-264VAC/127-370VDC power input, Metal, -20°C ~ 60°C
WNDR-120-24	120W Industrial DIN-Rail Power Supply, 24VDC/5A, Universal 90-264VAC/127-370VDC power input, Metal, -20°C ~ 70°C
WNDR-120-48	120W Industrial DIN-Rail Power Supply, 48VDC/2.5A, Universal 90-264VAC/127-370VDC power input, Metal, -20°C ~ 70°C

240W Power Supply Series

WNDR-240-48	240W Industrial DIN-Rail Power Supply w/ PFC, 48VDC/5A, Universal 90-264VAC/127-370VDC power input, Metal, -20°C ~ 70°C
WSDR-240-24	240W Industrial DIN-Rail Power Supply w/ PFC, 24VDC/10A, Universal 88-264VAC/124-370VDC power input, Metal, -25°C ~ 70°C

480W Power Supply Series

WNDR-480-48	480W Industrial DIN-Rail Power Supply w/ PFC, 48VDC/10A, Universal 90-264VAC/127-370VDC power input, Metal, -20°C ~ 70°C
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OPTIONAL ACCESSORIES - SFP Transceiver Series

100Mbps Multi-mode SFP Transceiver Modules Series

WSFP-TM02	100Mbps SFP Transceiver/LC, MMF, 2KM, 1310nm, 0°C ~ 70°C
WSFP-TM02-T	100Mbps SFP Transceiver/LC, MMF, 2KM, 1310nm, -40°C ~ 85°C

100Mbps Single-mode SFP Transceiver Modules Series

WSFP-TS20-WA	100Mbps BiDi SFP Transceiver/LC, SMF, 20KM, TX: 1310nm/RX: 1550nm, 0°C ~ 70°C
WSFP-TS20-WA-	T 100Mbps BiDi SFP Transceiver/LC, SMF, 20KM, TX: 1310nm/RX: 1550nm, -40°C ~ 85°C
WSFP-TS20-WB	100Mbps BiDi SFP Transceiver/LC, SMF, 20KM, TX: 1550nm/RX: 1310nm, 0°C ~ 70°C
WSFP-TS20-WB-T	100Mbps BiDi SFP Transceiver/LC, SMF, 20KM, TX: 1550nm/RX: 1310nm, -40°C ~ 85°C
WSFP-TS30	100Mbps SFP Transceiver/LC, SMF, 30KM, 1310nm, 0°C ~ 70°C
WSFP-TS30-T	100Mbps SFP Transceiver/LC, SMF, 30KM, 1310nm, -40°C ~ 85°C

1Gbps Multi-mode SFP Transceiver Modules Series

WSFP-GM00	1Gbps SFP Transceiver/LC, MMF, 550M, 850nm, 0°C ~ 70°C
WSFP-GM00-T	1Gbps SFP Transceiver/LC, MMF, 550M, 850nm, -40°C ~ 85°C
WSFP-GM02	1Gbps SFP Transceiver/LC, MMF, 2KM, 1310nm, 0°C ~ 70°C
WSFP-GM02-T	1Gbps SFP Transceiver/LC, MMF, 2KM, 1310nm, -40°C ~ 85°C

1Gbps Single-mode SFP Transceiver Modules Series

WSFP-GS10	1Gbps SFP Transceiver/LC, SMF, 10KM, 1310nm, 0°C ~ 70°C
WSFP-GS10-T	1Gbps SFP Transceiver/LC, SMF, 10KM, 1310nm, -40°C ~ 85°C
WSFP-GS10-WA	1Gbps BiDi SFP Transceiver/LC, SMF, 10KM, TX: 1310nm/RX: 1550nm, 0°C ~ 70°C
WSFP-GS10-WA-T	1Gbps BiDi SFP Transceiver/LC, SMF, 10KM, TX: 1310nm/RX: 1550nm, -40°C ~ 85°C
WSFP-GS10-WB	1Gbps BiDi SFP Transceiver/LC, SMF, 10KM, TX: 1550nm/RX: 1310nm, 0°C ~ 70°C
WSFP-GS10-WB-T	1Gbps BiDi SFP Transceiver/LC, SMF, 10KM, TX: 1550nm/RX: 1310nm, -40°C ~ 85°C
WSFP-GS20	1Gbps SFP Transceiver/LC, SMF, 20KM, 1310nm, 0°C ~ 70°C
WSFP-GS20-T	1Gbps SFP Transceiver/LC, SMF, 20KM, 1310nm, -40°C ~ 85°C
WSFP-GS40	1Gbps SFP Transceiver/LC, SMF, 40KM, 1310nm, 0°C ~ 70°C
WSFP-GS40-T	1Gbps SFP Transceiver/LC, SMF, 40KM, 1310nm, -40°C ~ 85°C
WSFP-GS40-WA	1Gbps BiDi SFP Transceiver/LC, SMF, 40KM, TX: 1310nm/RX: 1550nm, 0°C ~ 70°C
WSFP-GS40-WB	1Gbps BiDi SFP Transceiver/LC, SMF, 40KM, TX: 1550nm/RX: 1310nm, 0°C ~ 70°C
WSFP-GS60	1Gbps SFP Transceiver/LC, SMF, 60KM, 1550nm, 0°C ~ 70°C
WSFP-GS60-T	1Gbps SFP Transceiver/LC, SMF, 60KM, 1550nm, -40°C ~ 85°C
WSFP-GS60-WA	1Gbps BiDi SFP Transceiver/LC, SMF, 60KM, TX: 1310nm/RX: 1550nm, 0°C ~ 70°C
WSFP-GS60-WB	1Gbps BiDi SFP Transceiver/LC, SMF, 60KM, TX: 1550nm/RX: 1310nm, 0°C ~ 70°C
WSFP-GS80	1Gbps SFP Transceiver/LC, SMF, 80KM, 1550nm, 0°C ~ 70°C
WSFP-GS80-T	1Gbps SFP Transceiver/LC, SMF, 80KM, 1550nm, -40°C ~ 85°C
WSFP-GSH2	1Gbps SFP Transceiver/LC, SMF, 120KM, 1550nm, 0°C ~ 70°C
WSFP-GSH2-T	1Gbps SFP Transceiver/LC, SMF, 120KM, 1550nm, -40°C ~ 85°C

Copper SFP Transceiver Modules Series

WSFP-GC00-SG	SFP to 10/100/1000Base-T(X) copper Module, 0°C ~ 70°C
WSFP-GC00-SE	SFP to 1000Base-T copper Module, 0°C ~ 70°C

Easily Connect & Power Up for Your High-Power PoE Networks

PoE (Power over Ethernet) technology is widely adopted for supporting networking devices power and connectivity when facing the challenge of wiring in rigorous environments with power sourcing limitations. IEEE standards specify the maximum power output from PSE (power sourcing equipment) as well as the power budget for the PD (powered device) to ensure the interoperability of both devices in the market. With the increasing need of higher power in applications, the maximum PD power available is increased by this amendment to IEEE standards.

IEEE 802.3af

Power Sourced
15.4W

Power Requested
13W



IP Camera



IP Phone

IEEE 802.3at

Power Sourced
30W

Power Requested
25.5W



Wireless AP



IP Camera

IEEE 802.3bt

Power Sourced
90W

Power Requested
71.3W



PTZ Camera



PTZ Controller



Smart Lighting



Digital Signage

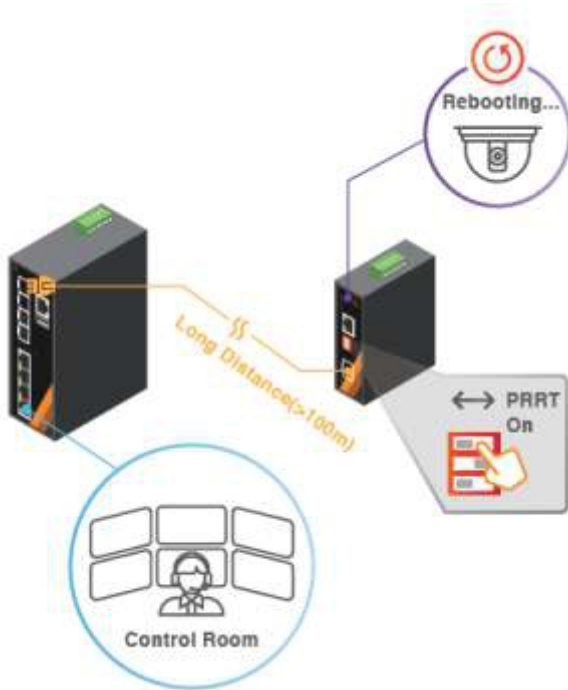


POS System

Time-Saving. Effort-Saving.

PRRT (PD Remote Reset Technology)

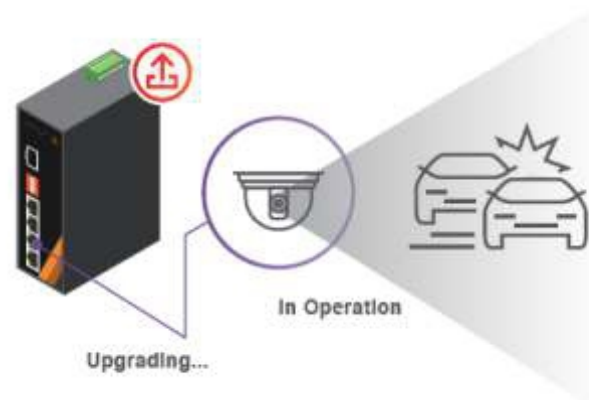
Enabling PRRT function can save you hours, miles and lots of efforts. With simply pull and plug on fiber cable of networking device connected with BT PoE product in the near field site, remote PSE system can be rebooted to reset remote PD devices



Persistent PoE

PD devices are connected to collect important data for a wide array of crucial applications, such as video surveillance, to guarantee personal and property safety. It is one of the most users' concerns when it comes to PD devices shut -down in a key moment.

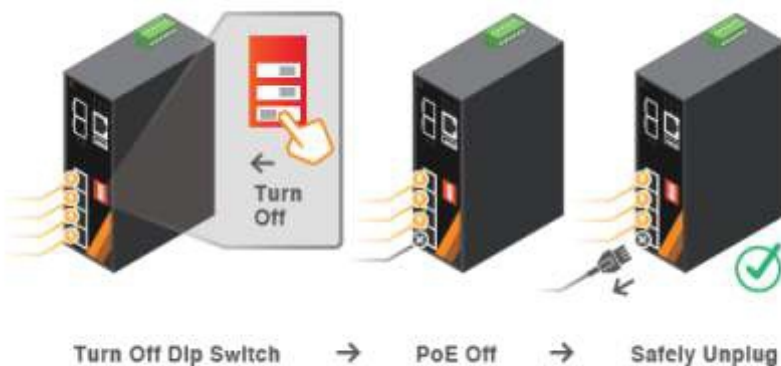
Wavesys' s Persistent PoE provides uninterrupted power delivery to PD devices even when the firmware is being upgraded, ensuring PD devices smooth operation with no worry.



Prevent Electric Spark Risk

Safe PoE Disable

High power PoE (802.3bt) accompanies the risk of electric spark. Safe PoE Disable design allows users to safely unplug the copper cable, ensuring zero electric spark danger and prevent fire hazard.



Responsive PoE Management

Users are able to manage the PoE devices according to different operating status with both hardware and software reminders thoroughly.

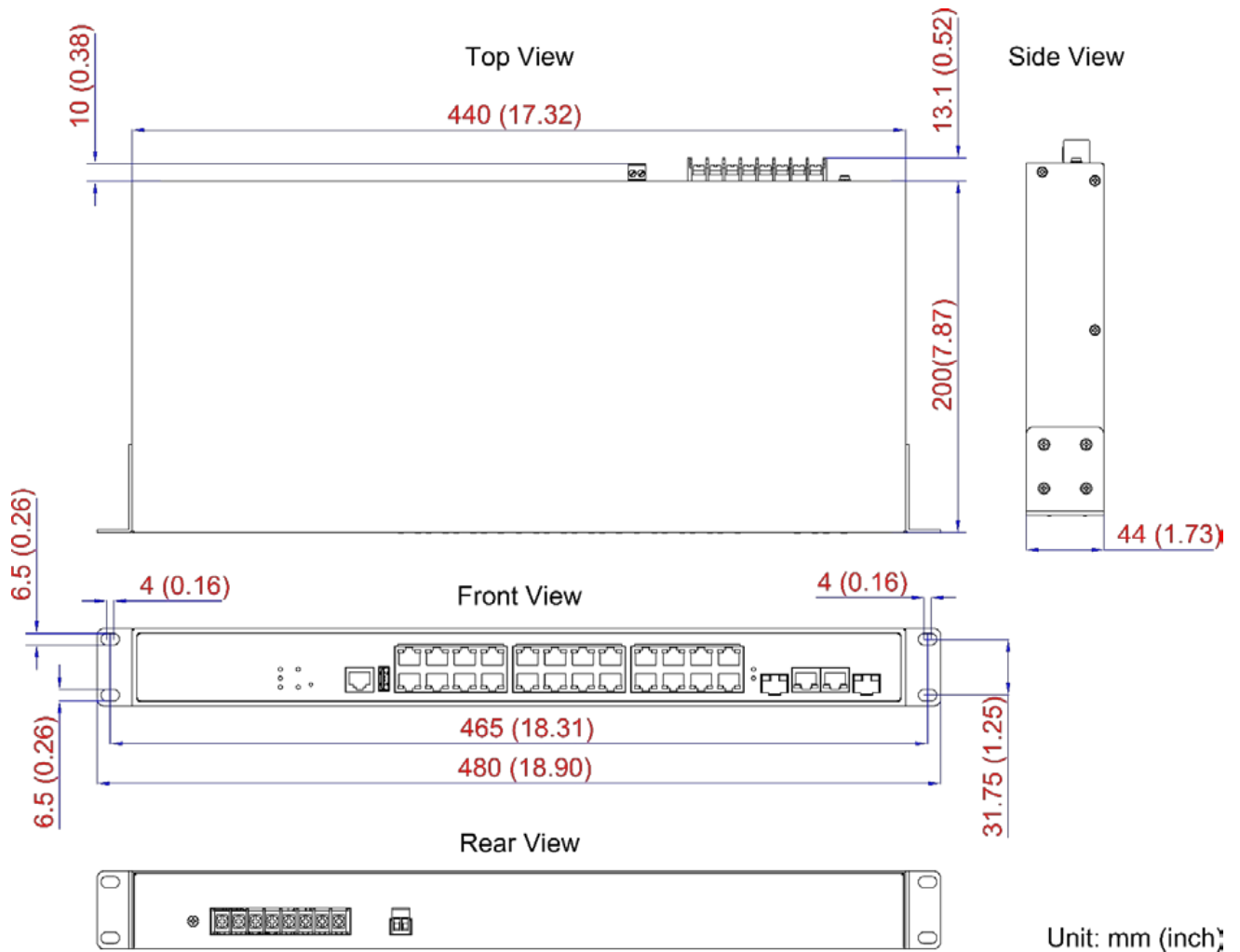
- PoE Budget
- Ping Alive
- PoE Schedule
- Event Indicator
- PoE Loading



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