# KY-8PSE30WMHx
## IP Device Binding

# 12 Port, Gigabit, POE+, Managed MRP, Auto DOS /DDoS Protection
## High Security, Traffic Switch






**Supports the New KY-1-Button Easy Backup /Restore**

IPv6

- 8 X 10/100/1000BaseT(X) PSE RJ-45 (IEEE 802.3 af/at)
- 4 X 100/1000Base(X) SFP Slots - Layer 2 Switch
- Supports Cyber Secure Video, Device Binding,
- IP Source Guard & Clean Code Technology, ACL's
- SNMPv3, HTTPS, SSH Security Features, TACACS+
- IEEE1588v2 Timing, 802.1x, Cyber-Locking & DDMI
- EMC performance: Industrial level 4 / JUMBO FRAME
- Supports 48~57 Volts DC Power, Dual Redundant Inputs
- High Security Cyber-Lock Device - Qualified for
- Military ICS Security & Features

RPS · ADVANCED QoS · SFP 100/1000

FC · CE · ROHS COMPLIANT · GS · UL

## Overview

**KY-8PSE30WMHx** is a managed, redundant ring, high security Gigabit Ethernet Switch with 8 X 10/100/1000Base(T)X PSE & 4 X 100/1000Base(X) SFP slots. Built in DoS / DDoS Enhanced silicon Protection. Automatically protects the network before damage occurs. Built-in Auto-notification of events such as: (email / Text). High Security features such as Device Binding, IP Source Guard, MAC Lock / IP Locking and Hybrid locking. Supports Black List, Cyber-Lock, Cyber-Secure Video, Clean Code Technology, IP Flow Checking, Keep Alive Checking as well as15 Levels of Authorization & Access. The switch is very power efficient using a fraction of the power that competitor switches use. Power savings alone pays for this switch. The security insure your network is NOT compromised. SAVINGS, SAFETY, and SECURITY!

## Features & Benefits

1. Redundancy Technology: supports Ring / Routing protocols (recovery time<25ms) and MSTP
2. Multicast Protocol: supports IGMP Snooping, GMRP and static multicast
3. Network Partition: supports VLAN, PVLAN
4. Service Quality: supports QoS
5. Bandwidth Management: supports port trunking, port speed limit, broadcast storm control
6. Network Management and Monitoring: supports CLI, Telnet, WEB management methods,SNMPv1/v2/v3,
RMON, LLDP, SNTP, DHCP, SSH, SFTP, editable Html / Ascii Files
7. Network Security: supports: SSH, SSL, ACL
8. Device Management: supports FTP upgrade
9. Device Maintenance: supports port mirroring
10. Alarm Output: supports IP/MAC conflicts, power, port and ring alarms
11. MVR - MultiCast VLAN Registration, IEEE 802.1Q with GVRP

## Technical Specifications

***Standards:***

IEEE 802.3, IEEE 802.3i, IEEE 802.3u, IEEE 802.3x, IEEE 802.3z, IEEE 802.3ad
IEEE 802.1D, IEEE 802.1p, IEEE 802.1Q, IEEE 802.1s, IEEE 802.1w,
IEEE 802.3x, IEEE 802.1AB, IEEE 802.z, IEEE 802.3 af/at, IEEE 802.3AZ
NEMA TS-2, Modbus TCP

***Protocols:***

**IEEE 1588v2 Timing, Device Binding, TACACS+, MultiCast, PIM, SIM, Black List, IPv6, TACACS+, & Cyber-Lock**
Ring, Ring+, VLAN, PVLAN, MSTP, IGMP Snooping, GMRP;
**IEC 62439-2 MRP (Media Redundancy Protocol);**
Telnet, HTTP, HTTPS, SNMPv1/v2/v3, RMON, LLDP, SNTP, DHCP server;
Sec, SSH, SSL, ACL, IP Source Guard, Authorization (15 Levels);
FTP, LLDP, Jumbo Frame
ARP, QoS, MVR, SysLog, Clean Code Technology (CCT),
Cyber-Secure Video

***High Security Switch Properties:***

Priority Queues: 8
Number of VLANs: 512
VLAN ID: 1-4094
Security Queues: 16 Per VLAN
Number of Multicast Groups: 256
MAC Table: 8 K
Packet Buffer: 16 Mb
Packet Forwarding Rate: 42 Gbps Fabric, Wire Speed -All Ports
Switching Delay: <5µs

***Interface***:

Gigabit SFP Ethernet Ports: max: 2 X 100/1000Base(X) SFP Slots
Gigabit Ethernet RJ45 Ports: 8 X 10/100/1000Base-T(X) PSE Ports
Console Port: RS232 (RJ45 connector)
Alarm Contact: 2-pin 3.81mm-spacing plug-in terminal block,
250VAC/350VDC Max, 120mA Max



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| | |
|---|---|
| 10/100/1000Base-T(X)<br>Ports in RJ45 Auto MDI/MDIX | **8** |
| 100/1000Base-X - SFP port | **4** |
| **Technology** | |
| Ethernet Standards | IEEE 802 3i for 10Base-T<br>IEEE 802 3u for 100Base-TX and 100Base-FX<br>IEEE 802 3ab for 1000Base-T<br>IEEE 802 z for 1000Base-X<br>IEEE 802 3x for Flow Control<br>IEEE 802 3ad for LACP (Link Aggregation Control Protocol)<br>IEEE 802 1p for COs (Class of Service)<br>IEEE 802 1Q for VLAN Tagging<br>IEEE 802 1w for RSTP (Rapid Spanning Tree Protocol)<br>IEEE 802 1s for MSTP (Multiple Spanning Tree Protocol)<br>IEEE 802 1x for Authentication<br>IEEE 802 1AB for LLDP (Link Layer Discovery Protocol)<br>IEEE 802 3 af POE<br>IEEE 802 3 at POE+<br>IEEE 1588v2 for PTP<br>Modbus TCP<br>RFC1887 - IPv6 Architecture<br>RFC2460 - IPv6 Protocol Specification<br>RFC2464 - IPv6 Transmission<br>RFC2246 - SSH FTP<br>RFC4250 - SSH PAN<br>SFTPv4<br>SFTPv6 (soon to be released)<br>RFC4253 - SSH Transport<br>IEEE 802 1AE-2013 (MACsec) MAC Security<br>IEEE 802 1AEbn (GCM-AES-256 Cipher Suite)<br>IEEE 802 1AEbw-2013 |
| MAC Table | 8K Entries |
| Priority Queues | 8 |
| Processing | Store-and-Forward |
| Switch Properties | Switching Latency: 5us<br>Switching Bandwidth: 42.2 Gbps<br>Maximun # of Available VLANS: 512<br>IGMP Multicast Groups: 128 for each VLAN<br>Port Rate Limiting: User Defined<br>Security Queues: 16 Per VLAN |
| Jumbo Frame | Up to 9 6 K Bytes |
| Security Features | Device Binding Security Feature with Silicon Enhancements<br>Enable / Disable Ports, MAC Based Port Security<br>Port Based Network Access Control (802 1x)<br>Single 802 1x and Multiple 802 1x<br>MAC Based Authentication<br>IP Address Based Authentication<br>QOS Assignment<br>Flow-Check<br>Guest VLAN<br>MAC Address Limit<br>TACACS+<br>Keep-Alive Check<br>VLAN (802 1Q) Segregate and Secure Network Traffic<br>Radius Centralized Password Management<br>SNMPv3 Encrypted Authentication and Access Security<br>WEB and CLI Autentication and Authorization<br>Security (Access) 15 Security Levels of Authorization<br>IP Source Guard<br>HTTPS / SSH Enhanced Network Security<br>SSH FTP / Advanced Encryption<br>Selectable Backup Security Defaults |
| Software Features | DoS / DDoS Auto-Prevention: Port & Flow Security<br>IEEE 1588v2 Clock Synchronization<br>IEEE 802 1D Bridge, Auto MAC Address learning / aging and MAC Address (Static)<br>Multiple Registration Protocol: (MRP)<br>RSTP / MSTP (IEEE 802 1w/s)<br>Per Port Power Saving Feature<br>Redundant Ring (RING) // with a recovery time of less than 20ms over 300 units<br>TOS / DiffServ Supported<br>QOS Qual ty of Service (IEEE 802 1p) for real time traffic<br>VLAN (IEEE 802 1Q) with VLAN Tagging<br>Voice VLAN<br>Guest VLAN<br>IGMP v2 / v3 Snooping<br>IP-Based Bandwidth Management<br>Application Based QOS Management<br>Port Configuration , Status Statistics, Monitoring & Security<br>DHCP Server / Client / Snooping<br>DHCP Relay<br>ModBUS TCP<br>DNS Client Proxy<br>ARP Inspection<br>SMTP Client<br>IP Policing / Protocol 41 (IPv6 & IPv6 Secure)<br>Clean Code Technology (CCT)<br>Cyber-Secure Video (CSV)<br>Media Redundancy Protocol **(MRP: IEC 62439-2 Media Redundancy Protocol)** Ultra-fast Ring<br>Broadcast Storm Control<br>SSH / FTP / AES / SHA2 Encryption |
| Network Redundancy | Ring and Ring+, Open Ring,<br>Chain<br>MRP<br>MSTP (RSTP/STP compatible) |

| | |
|---|---|
| RS-232 Serial Console | RS-232 Serial with RJ45 Connector (Console Cable / 115,200bps, 8, N, 1) Supports KY-1-Button |
| **LED Indicator Lights** | |
| Power LED (PWR) | Green Lower LED x 2 |
| Ring Master LED (RM) | Green Indicates the system is operating in Ring Master mode |
| Ring LED (Ring) | Green Indicates that the system is operating<br>Green Blinking Indicates the Ring is Broken |
| Fault LED (Fault) | Amber Indicates an Unexpected Event has Occurred |
| 10/100/1000Base-T(X) RJ45 LED | Dual Color LED Green for 1000 Mbps Link / Activity & Amber for 10/100 Mbps Link /Activity |
| 100/1000Base-X SFP Port LED | Green For Port Link / Activity |
| PoE Indicator | Green for PoE Power Injected |
| **Fault Contact** | |
| Relay | Relay Output Carrying Capacity 1.5 Amps @ 24 Volts DC |
| **Power Specifications** | |
| Redundant Input Power | Dual DC Inputs Supports 48 ~57 Volts DC |
| Power Consumption (Typical) | < 10 Watts // Non PSE Load |
| Overload Current Protection | Yes |
| Reverse Polarity Protection | Yes |
| **Physical Characteristics** | |
| Enclosure | IP-40 |
| Dimensions (W x D x H) | 96.4 (W) X 108.5 (D) X 154.0 (H) // Millimeters (mm) |
| Weight (g) | 1400g |
| **Environmental Specifications** | |
| Storage Temperature | -40 C ~ +85 C (-40 ~ +185 F) |
| Operating Temperature | -40 C ~ +85 C (-40 ~ +185 F) |
| Operating Humidity | 5% ~ 97% Non-Condensing |
| **Regulatory Approvals** | |
| EMI | FCC Part 15, CISPR (EN55022) Class A |
| EMS | EN61000-4-2 (ESD)<br>EN61000-4-3 (RS)<br>EN61000-4-4 (EFT)<br>EN61000-4-5 (Surge)<br>EN61000-4-6 (CS)<br>EN61000-4-8<br>EN61000-4-11 |
| Shock | IEC60068-2-27 |
| Free Fall | IEC60068-2-32 |
| Vibration | IEC60068-2-6 |
| Safety | EN60950-1 |
| **Warranty** | **Limited Lifetime Warranty** |



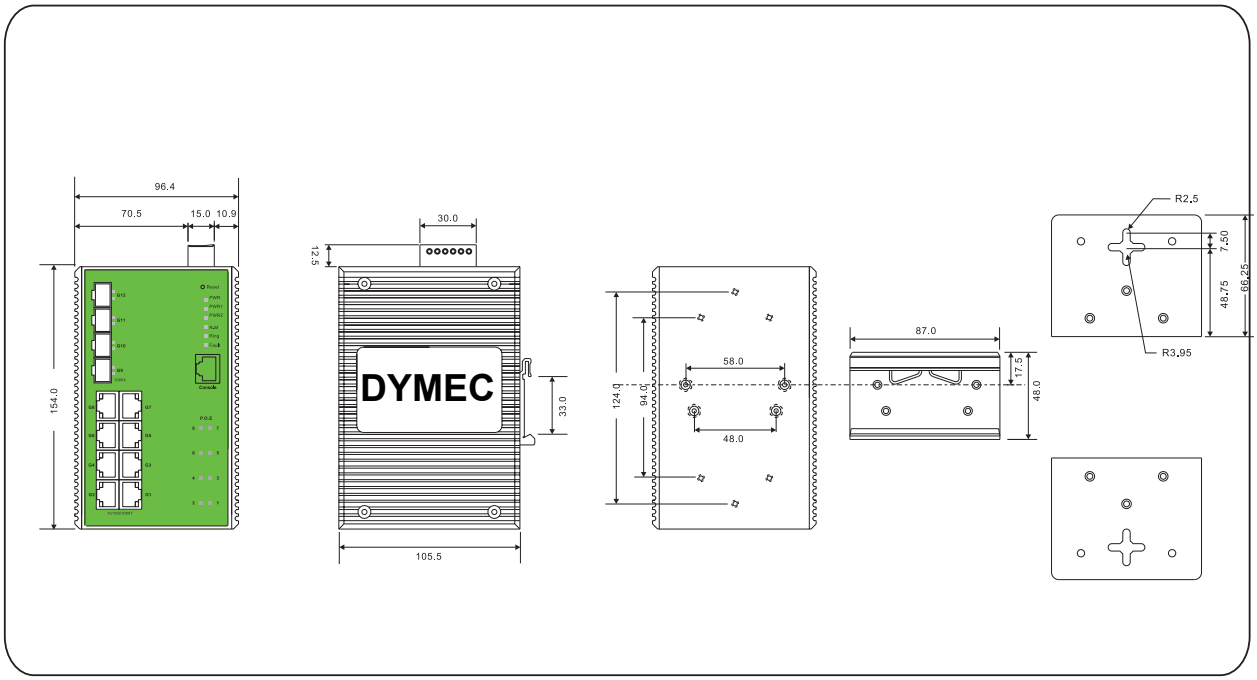
**Supports: KY-1-Button**
**Easy Maintenance**
**Lowers Cost**
**Full Backup / Restore (Optional)**
**No PC Required !**

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## Dimensions: KY-8PSE30WMHx




(Unit=mm)

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***MTBF: 35 Years***
*(Mean Time Between Failure)*

***Warranty: Limited Lifetime***

Approvals & Certifications

NEMA TS 1 and TS 2 Certified Device
**IEC61000-4-2(ESD): ±8KV contact discharge, ±15KV air discharge**
**IEC61000-4-3(RS): 10V/M (80-1000MHz)**
**IEC61000-4-4(EFT): ±4KV power line, ±2KV data line**
**IEC61000-4-5(Surge): power line ±4KV CM/ ±2KV DM, data line ±2KV IEC61000-4-6(CS): 3V(10KHZ-150KHZ),10V(150KHz-80MHz)**
IEC61000-4-8(Power frequency magnetic field): 100A/m cont. 1000A/m, 1s to 3s
IEC61000-4-12/18(Damped oscillatory wave): 2.5KV CM, 1KV DM
IEC61000-4-10(Damped oscillatory): 30A/m
IEC61000-4-16(Common mode conduct): 30V cont. 300V, 1s
FCC CFR47 Part 15/EN55022: Class A&B
IEC61000-6-2(Industrial Standards), IEC61850-3(Substations), IEEE1613(Electric Power Substations), EN50121-4(Railway Applications)
Multi-Cast Certified for High Definition Video, Electro-Magnetic Pulse (EMP) Non-Nuclear Electro-Magnetic Pulse (NNEMP)

## Ordering Information:

| DYMEC Model | Description | Power |
|---|---|---|
| **KY-8PSE30WMHx** | **(4) 100/1000Base(X) SFP Ports**<br>**(1) Console Management Port**<br>**(8) 10/100/1000 PSE Ports** | Powered by plugging into a standard 48 ~ 57 Volt DC Power Supply<br>240 Watts |

## Optional Gigabit SFP Modules

| Model | Description |
|---|---|
| KY-SGSFP-LX550M | SFP module, 1 x 1000M Multi Mode, LC Connector, 1310nm, 550m |
| KY-SGSFP-LX10K | SFP module, 1 x 1000M Single Mode, LC Connector, 1310nm, 10km |
| KY-SGSFP-LX20K | SFP module, 1 x 1000M Single Mode, LC Connector, 1310nm, 20km |
| KY-SGSFP-LX40K | SFP module, 1 x 1000M Single Mode, LC Connector, 1550nm, 40km |
| KY-SGSFP-ZX80K | SFP module, 1 x 1000M Single Mode, LC Connector, 1550nm, 80km |

***DYMEC Authorized Distributor***

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