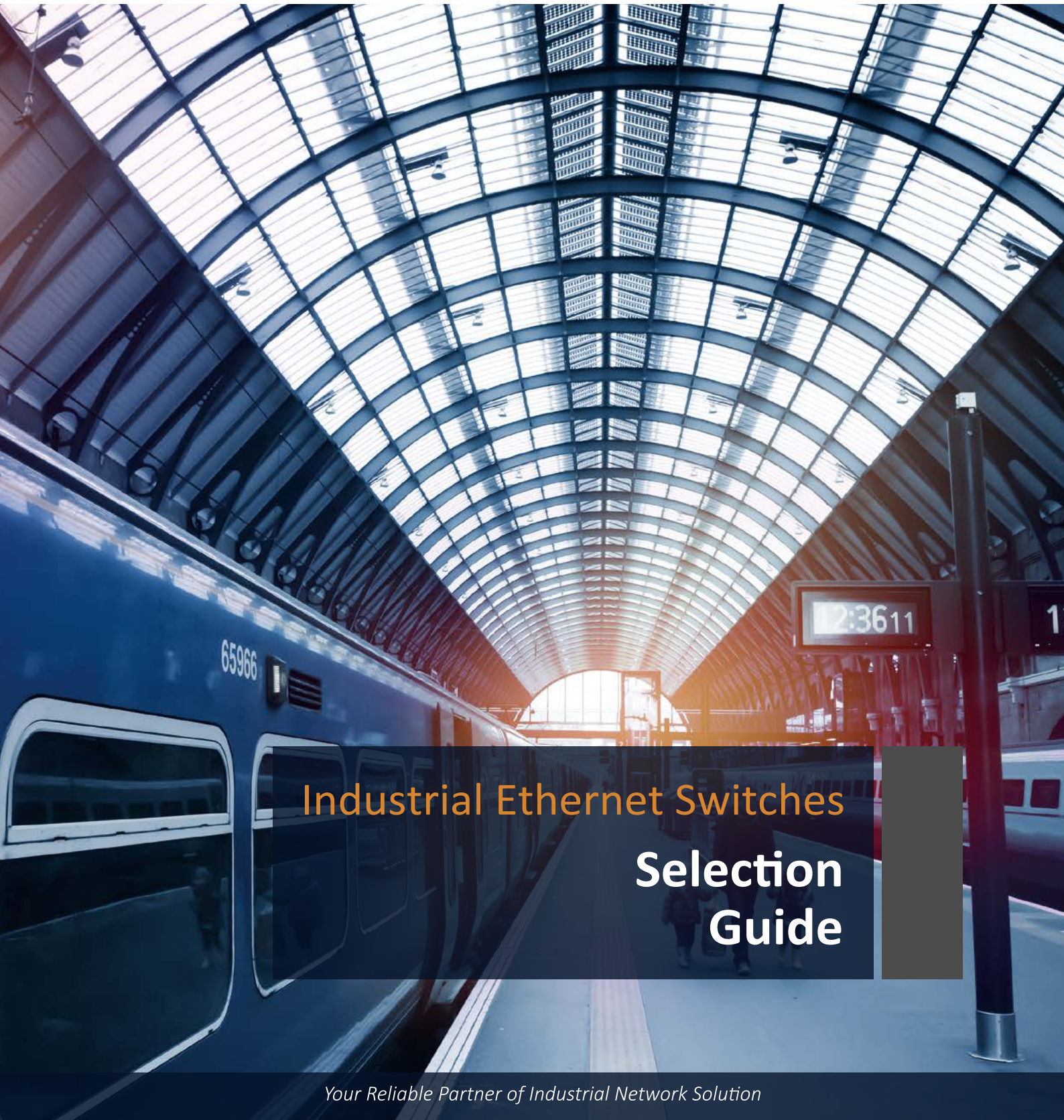
konten
NETWORKS




# Industrial Ethernet Switches

# Selection Guide

*Your Reliable Partner of Industrial Network Solution*



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# Company Profile

## About Us

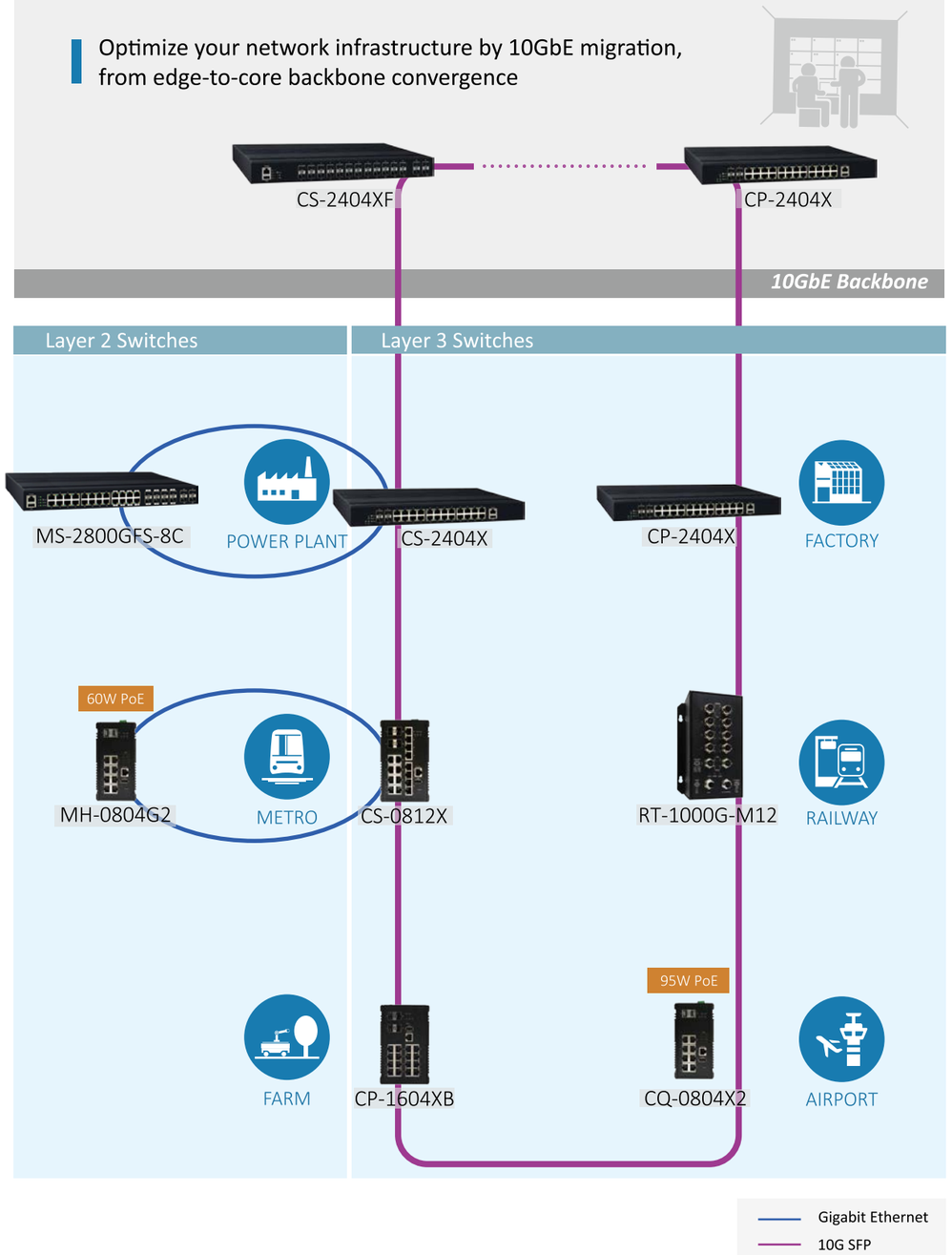
Konten Networks originated from the basis of 20 years networking experience with office and factory located in New Taipei City, Taiwan. As a leading manufacturer, we are devoted to design and produce industrial networking devices for harsh environments and critical infrastructure with highly demanding quality which is demonstrated by our rigid quality control, reliability tests, and certification.

Focus on flexibility and mobility service, Konten Networks is consistently dedicated to providing total product solutions from Fast Ethernet to 10 Gigabit, from Layer 2 to Layer 3 to satisfy worldwide requirements in vertical markets of transportation, railway, automation, surveillance, and power utility to help build smart cities in the world.





Optimize your network infrastructure by 10GbE migration, from edge-to-core backbone convergence



# Our Service

## Design & Manufacture

### Contact Us

Sales Team Guides You to the Project Evaluation Process

### Engineering

- Cost Analysis
- Marketing & Competition Analysis
- Hardware & Software Customization

### Manufacturing

- ISO9001& 14001 Certified
- In-house Facility
- Cost-Effective & Flexibility Customization

### Quality Control

- IQC
- IPQC
- FQC
- OQC

### Service

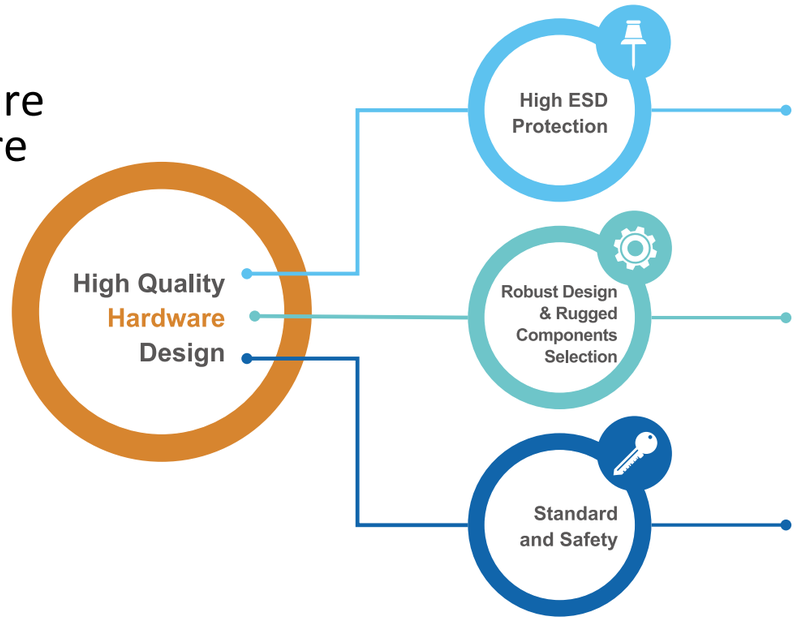
- Technical Support
- RMA Service

5 YEARS WARRANTY

### Long-Term Partnership

# Core Value

## High Quality Hardware & Intelligent Software




**01**

ESD level 4 - Contact 8KV, Air 15KV

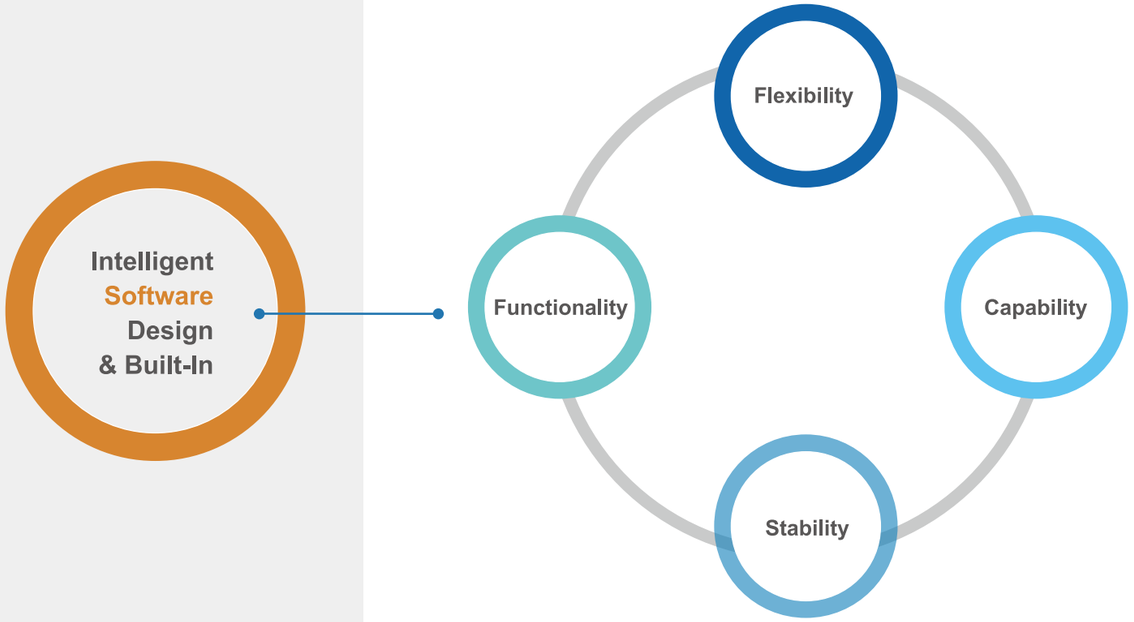
**02**

- High current design for PoE powering
- Using aluminum heat sink on key components for better heat dissipation

**03**

- FCC / CE (EN55032 / 24)
- CE Industrial (EN61000-6-2 & 4)
- UL62368 (60950)
- UL Class 1, Division 2
- Free Fall / Shock / Vibration






**01**

Low Latency, LIFO < 5µS for all paket size

**02**

Support HSR / PRP / 802.1CB for seamless redundancy and hardware learning of flow

**03**

Time aware per-stream IEEE802.1Qci QoS for TSN application



Traffic Chart

Collecting the Tx / Rx throughput real-time and historic records per port



PoE Status Chart

Collecting the Voltage and Wattage real-time and historic records per port between PSE and PD



PoE Keep Alive

The system pings the configured IP address on every ping interval to ensure the PD is connected on the designated port.

# Product Feature

## Highlight

Industrial Grade
M12 / EN50155
10G Managed PoE
Layer 2 / Layer 3
Gigabit Managed PoE
IEC61850-3



**Industrial Managed Switch**

Gigabit Ethernet Switch

10G Ethernet Switch



**Industrial Layer 3 Switch**

PoE Ethernet Switch

non-PoE Ethernet Switch

**Industrial PoE Switch**

IEEE802.3at / IEEE802.3bt

30W / 60W / 95W



**EN50155 / M12 Port**

Fastening Cable Connection

PoE Function

Layer 2 / Layer 3

Compact Size





**Industrial Unmanaged Ethernet Switch**

PoE Ethernet Switch

Non-PoE Ethernet Switch



**Other Accessories**

Industrial Media Converter

Industrial Power Supply

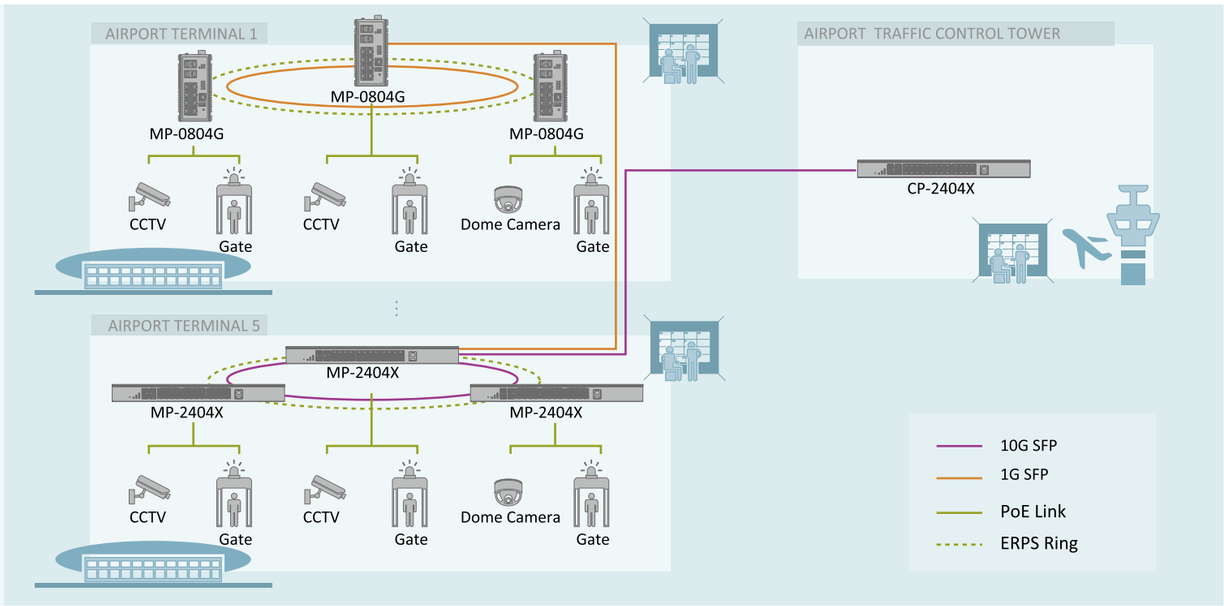
SFP Module

M12 Cable & Mounting Kit

# Transportation

## Airport Surveillance



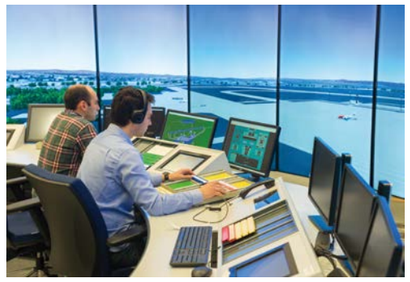



## Application Note

### Why Konten

- Rugged design switches
- Advanced features
- Rapid technical support

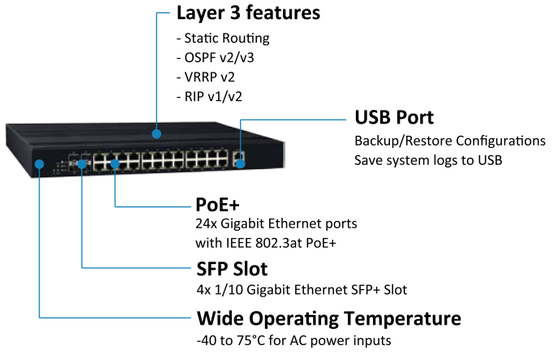
We provide L2 & L3 industrial switches with 1GbE & 10GbE solutions to build your air traffic management efficiently.



Konten industrial switches support IPv6 and SNMPv3 to enhance your airport network management.

| Feature Highlight | Certification | Where to use |
|---|---|---|
| • Gigabit to 10G uplink<br>• 30W/60W/95W full PoE solutions<br>• Layer 2 to Layer 3 management<br>• Graphic chart for real-time PoE delivery and traffic data<br>• Wide temperature operation, -40 to 75°C | • UL<br>• CE/FCC<br>• IEC61000-6-2<br>• IEC61000-6-4<br>• EN50121-4 | • Airport Terminal<br>• Traffic Control<br>• Intersection Traffic<br>• Roadside Surveillance<br>• Electronic Toll Collection |

## Product Spotlight




### CP-2404X

24+4 Port Industrial Managed PoE+ Layer 3 Switch with 10G Uplink

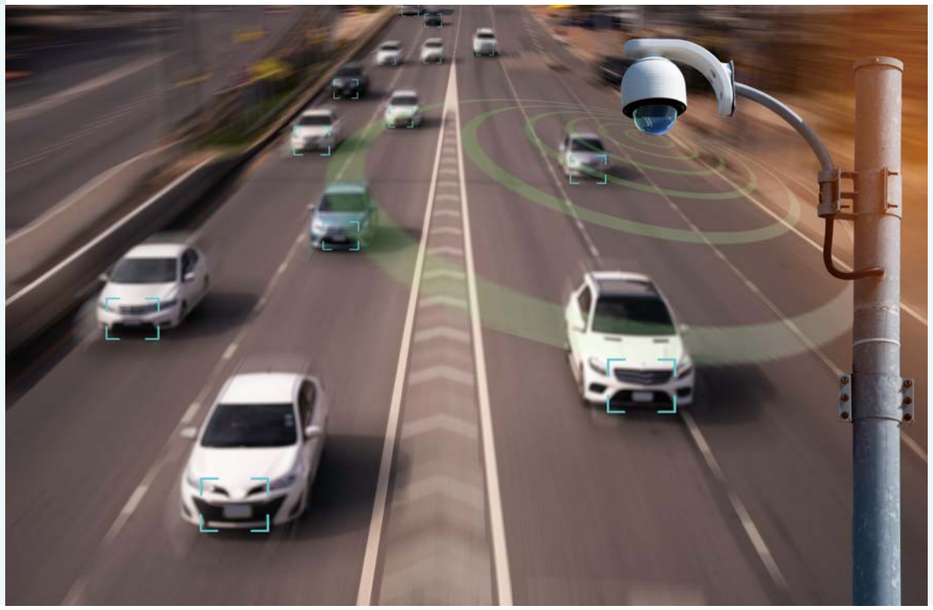
- PoE PD Alive Check Function for PoE Device Power Recycle
- RSTP, MSTP, ERPS, LACP for Network Redundancy
- QoS CoS/DSCP to increase determinism
- IGMP Snooping v1/v2/v3, up to 1023 groups
- DHCP Relay Option 82 for policies IP address assignmen
- Static Routing, Dynamic Routing (RIP v1/v2, OSPF v2), Routed Redundancy (VRRP v2)

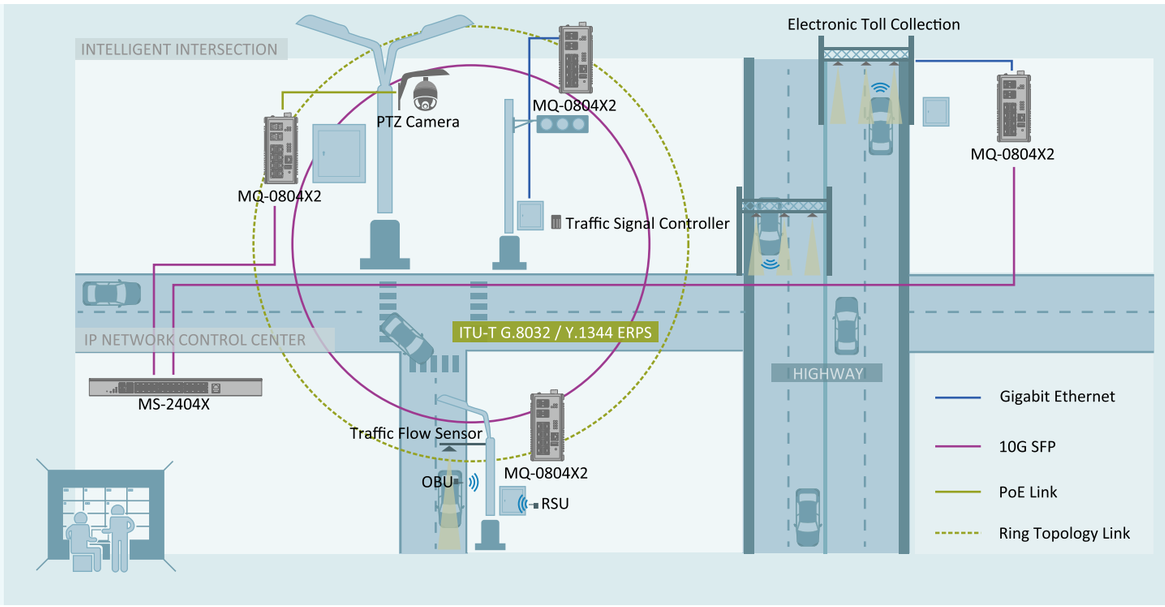
| |  |  |  |  | 95W PoE  |
|---|---|---|---|---|---|
| | MP-2404X | CP-1604XB | CP-2404X | MH-0804G2 | MQ-0804G2 |
| GbE | ✓ | ✓ | ✓ | ✓ | ✓ |
| 10GbE | ✓ | ✓ | ✓ | | |
| PoE | ✓ | ✓ | ✓ | ✓ (2 x 60W) | ✓ (2 x 95W) |
| Layer3 | | ✓ | ✓ | | |
| Operating Temperature | -40°C to 75°C | -40°C to 75°C | -40°C to 75°C | -40°C to 75°C | -40°C to 75°C |

IEEE802.3at 30W PoE+ Solution  IEEE802.3bt 60W / 95W PoE++ Solution

# Transportation

## Roadside Surveillance



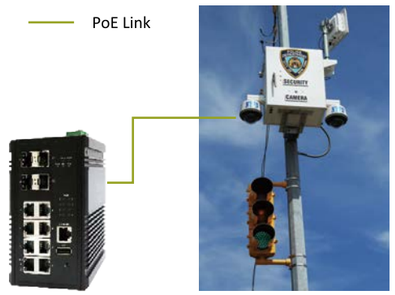



## Application Note

### Why Konten

- Advanced features
- Real-time PoE monitoring
- Easy TX/RX data monitoring

Our 95W PoE switches with 10GbE uplink can provide sufficient power for your high resolution surveillance requirements.

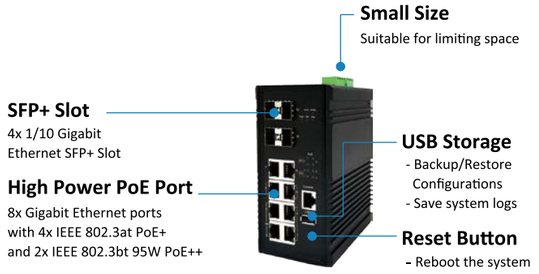



**60W PoE Switch**

- 60W/95W PoE switches are suitable for HD PTZ Dome Cameras.

| Feature Highlight | Certification | Where to use |
|---|---|---|
| • PoE PD Alive Check | • UL | • Highway |
| • Gigabit to 10 Gigabit uplink | • CE/FCC | • Roadside |
| • 30W/60W/95W full PoE solutions | • IEC61000-6-2 | • Traffic Signal |
| • Layer 2 to Layer 3 management | • IEC61000-6-4 | • Toll & Tunnel |
| • Wide temperature operation, -40 to 75°C | • EN50121-4 | • Air Traffic |

## Product Spotlight




### MQ-0804X2

8+4 Port Industrial Managed PoE++ Ethernet Switch with 10G Uplink

- RSTP, MSTP, ERPS, LACP for Network Redundancy
- QoS CoS/DSCP to increase determinism
- IGMP Snooping v1/v2/v3, up to 1023 groups
- PoE Chart Status to monitor real-time voltage and wattage and collect records.
- PoE PD Alive Check Function for PoE Device Power Recycle

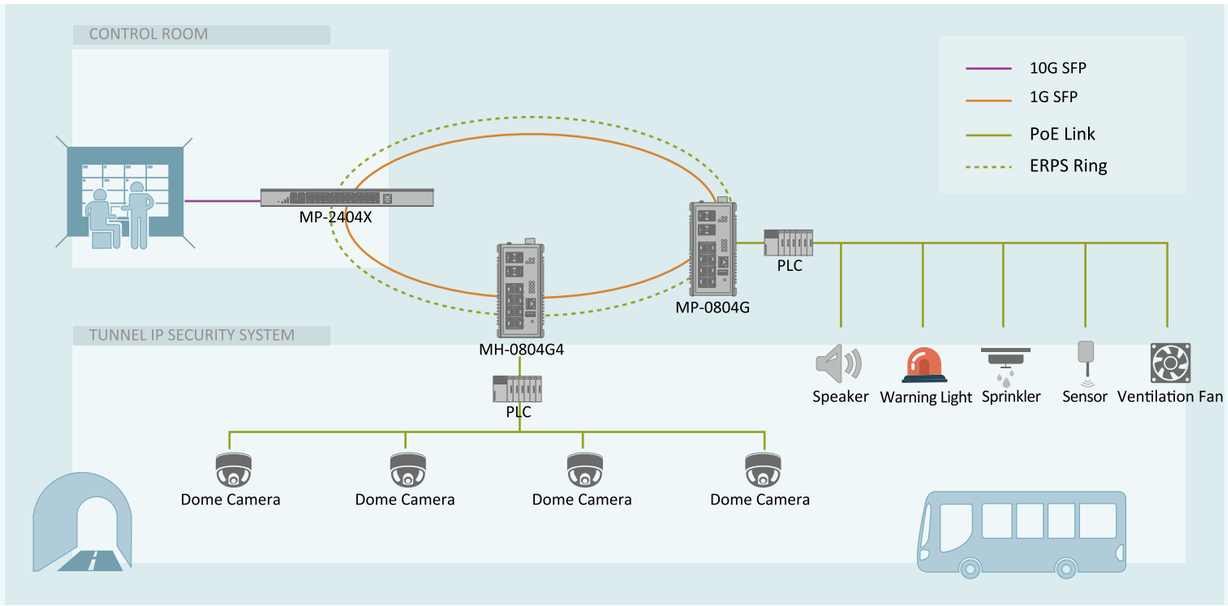
| | | Layer 3 | | | 95W PoE |
|---|---|---|---|---|---|
| | MT-1002G | CP-2404X | MH-0804G2 | MH-0804X2 | MQ-0804X2 |
| GbE | ✓ | ✓ | ✓ | ✓ | ✓ |
| 10GbE | | ✓ | | ✓ | ✓ |
| Layer 3 | | ✓ | | | |
| PoE Booster | ✓ | | | | |
| Operating Temperature | -40°C to 75°C | -40°C to 75°C | -40°C to 75°C | -40°C to 75°C | -40°C to 75°C |

IEEE802.3at 30W PoE+ Solution  IEEE802.3bt 60W/95W PoE++ Solution

# Transportation

## Tunnel Surveillance






## Application Note

**Why Konten**

- Up to 10G data transmission
- Flexible fiber distance
- Solid design for wide temperature operation

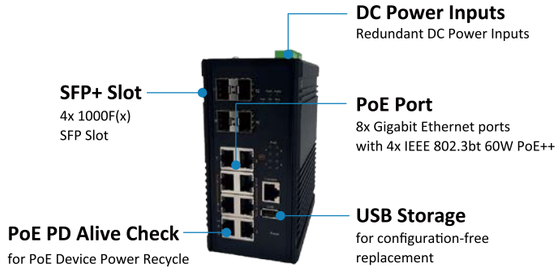
For different classes of cameras, we offer multiple PoE switches to satisfy your demand at once.



▲ A control center can monitor the remote tunnel traffic by long distance and real-time video data transmission.

| Feature Highlight | Certification | When to use... |
|---|---|---|
| • High speed up to 10G uplink<br>• PoE PD alive check for PD recycle<br>• IEEE802.3bt 60W/95W standard PoE<br>• PoE Booster 12 to 57VDC<br>• G.8032 ERPSv2 fast recovery ring | • UL<br>• CE/FCC<br>• IEC61000-6-2<br>• IEC61000-6-4<br>• EN50121-4 | • Tunnel Traffc<br>• Roadside<br>• Highway<br>• Intersection<br>• Vehicle |

## Product Spotlight




### MH-0804G4

8+4 Port Industrial Managed 60W PoE++ Gigabit Ethernet Switch

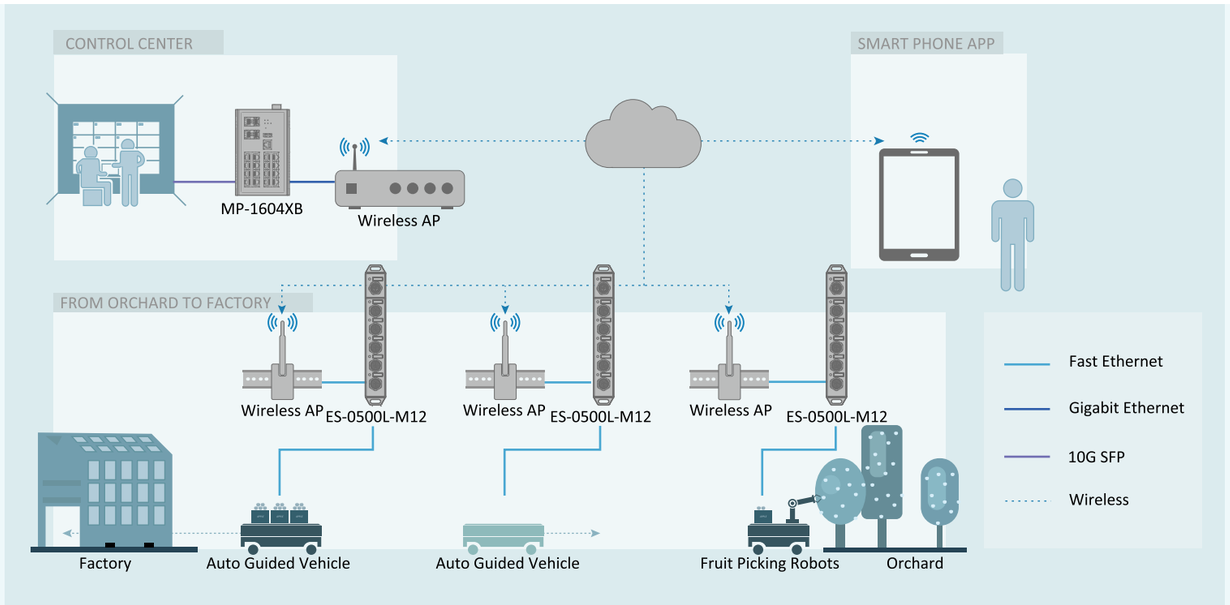
- RSTP, MSTP, ERPS, LACP for Network Redundancy
- QoS CoS/DSCP to increase determinism
- IGMP Snooping v1/v2/v3, up to 1023 groups
- DHCP Relay Option 82 for policies IP address assignment
- SNMP v1/v2c/v3 for network management
- Industrial automation protocols Ethernet/IP and Modbus TCP

| | MT-0802G | MP-1604G | MP-2404G | MH-0804G4 | MQ-0804X2 |
|---|---|---|---|---|---|
| | | | | | 95W PoE |
| GbE | ✓ | ✓ | ✓ | ✓ | ✓ |
| 10GbE | | | | | ✓ |
| PoE Booster | ✓ | | | | |
| Operating Temperature | -40°C to 75°C | -40°C to 75°C | -40°C to 75°C | -40°C to 75°C | -40°C to 75°C |

IEEE802.3at 30W PoE+ Solution  IEEE802.3bt 60W/95W PoE++ Solution

# IIOT
## Smart Farming






## Application Note

### Why Konten

- Easy PoE status monitoring
- PoE alive check
- Built for harsh environments

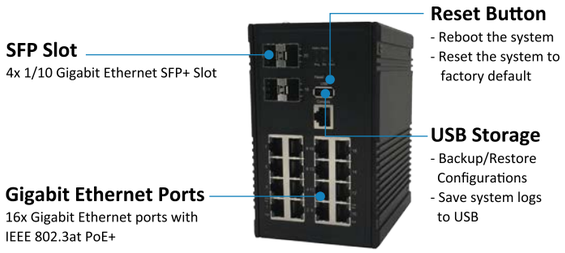
Konten's Gigabit PoE switches provide smooth connection for AI recognition in your robotic networks.



Konten industrial switches work adequately and efficiently in rugged auto guided vehicles for smart farm applications.

| Feature Highlight | Certification | Where to Use |
|---|---|---|
| • Gigabit to 10 Gigabit uplink<br>• RJ45 and M12 connector<br>• 30W/60W/95W PoE PSE<br>• ERPS fast recovery ring<br>• DIN Rail and Rack mount installation | • UL<br>• CE/FCC<br>• IEC61000-6-2<br>• IEC61000-6-4 | • Fruits Picking<br>• Temperature & Humidity Monitoring<br>• Soil, Water, Light Management<br>• Autonomous Tractors<br>• Aquaculture |

## Product Spotlight




### MP-1604XB

16+4 Port Industrial Managed PoE+ Ethernet Switch with 10G Uplink

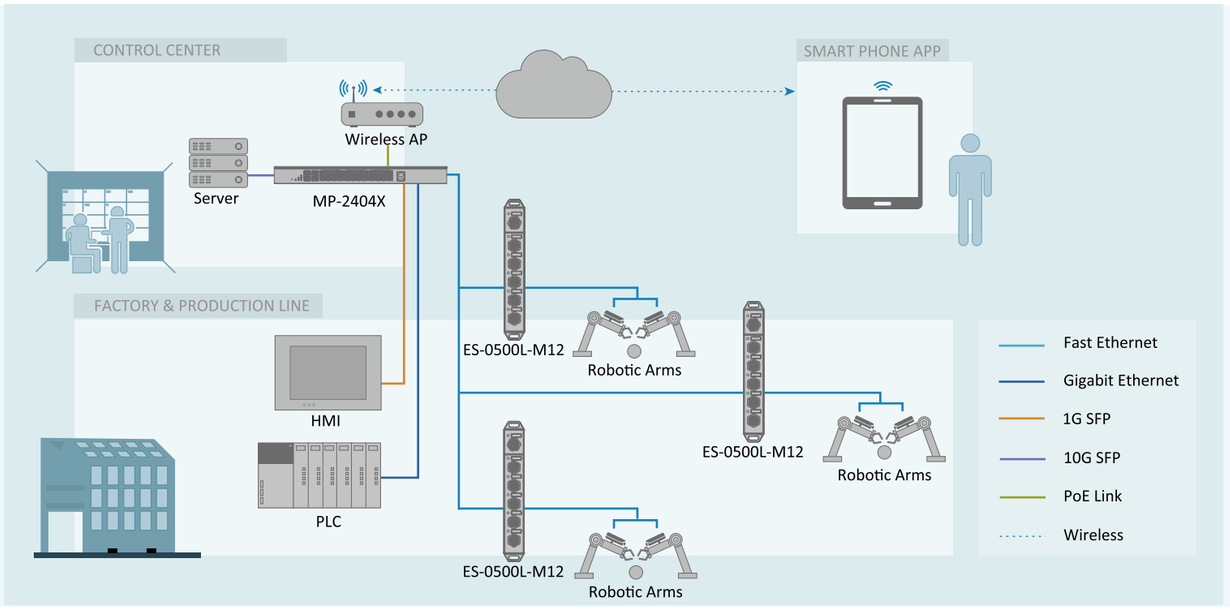
- RSTP, MSTP, ERPS, LACP for Network Redundancy
- Industrial automation protocols Ethernet/IP and Modbus TCP
- IGMP Snooping v1/v2/v3, up to 1023 group
- PoE PD Alive Check Function for PoE Device Power Recycle
- SNMP v1/v2c/v3 for network management

| |  |  |  |  | • IEEE802.3at up to 60W PoE<br>• Media Converter  |
|---|---|---|---|---|---|
| | MS-1604X | MP-1604XB | MP-2404X | EP-0802G | IP-0101G |
| Gigabit Ethernet Ports | ✓ | ✓ | ✓ | ✓ | ✓ |
| PoE | | ✓ | ✓ | ✓ | ✓ (60W) |
| 1G/10G SFP+ Ports | ✓ | ✓ | ✓ | | |
| Operating Temperature | -40°C to 75°C | -40°C to 75°C | -40°C to 75°C | -40°C to 75°C | -40°C to 75°C |

■ IEEE802.3at 30W PoE+ Solution

# IIOT
## Smart Factory






## Application Note

### Why Konten

- Easy data monitoring
- Friendly web interface
- Built for harsh environments

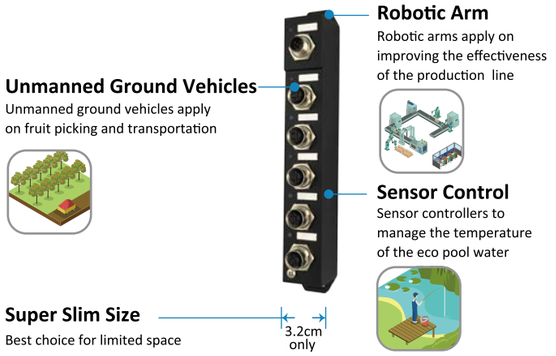
Konten's 10G PoE switches can help your industrial networks seamlessly integrated to Industry 4.0.



Konten's industrial switches are to smooth and upgrade your factory network for nonstop monitoring production flow.

| Feature Highlight | Certification | Where to use |
|---|---|---|
| • Ethernet/IP, Modbus TCP and Profinet | • UL | • Digital Factories |
| • Fast Ethernet to 10 Gigabit uplink | • CE/FCC | • Fruits Packers |
| • Copper to Fiber Links | • IEC61000-6-2 | • UGV (Unmanned Ground Vehicle) |
| • USB storage of configurations and system logs | • IEC61000-6-4 | • Robotics Logistics |
| • Data Collection and PoE Chart Status | | • Transportation |

## Product Spotlight




### ES-0500L-M12

5 Port M12/IP67 Industrial Unmanaged Ethernet Switch

- IP67 protection – against water and dust
- Rugged M12 connectors for shock and vibration resistance
- Support wide operating temperature (-40 to 75°C) for extreme conditions

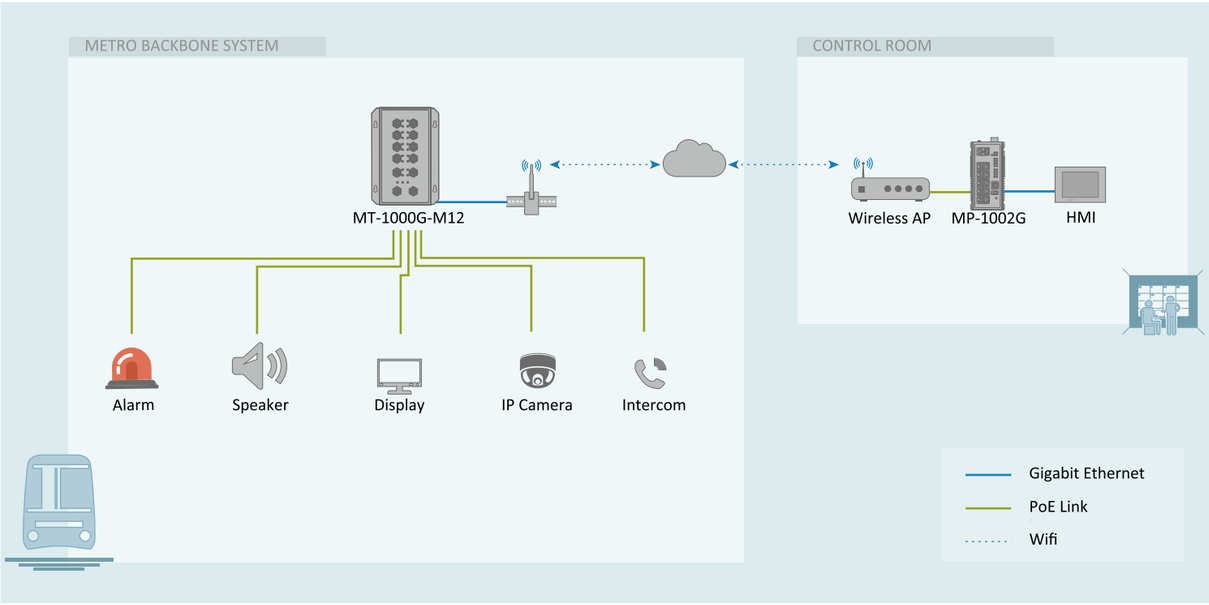
| |  ES-0500L-M12 |  ES-0500GA |  ES-0800GA |  ES-1600G |  MP-2404X |
|---|---|---|---|---|---|
| Fast Ethernet | ✓ | | | | |
| GbE | | ✓ | ✓ | ✓ | ✓ |
| 10GbE | | | | | ✓ |
| PoE | | | | | ✓ |
| Operating Temperature | -40°C to 75°C | -40°C to 75°C | -40°C to 75°C | -40°C to 75°C | -40°C to 75°C |

IEEE802.3at 30W PoE+ Solution

# Railway System

## Metro






## Application Note

**Why Konten**

- Ruggedized M12 solution
- High power budget at PoE booster
- IP54 protection

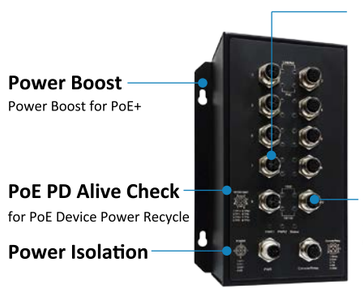
Our M12 PoE Ethernet switches can smooth the data streams from passenger information systems and IP cameras to control centers in Metro carriages



Gigabit & 10 Gigabit solutions ensure seamless video and PIS data transmission.

| Feature Highlight | Certification | Where to use |
|---|---|---|
| • PoE PD Alive Check for PD Recycle<br>• 30W full M12 standard PoE solutions<br>• PoE Booster 12 to 57VDC<br>• Bypass scheme<br>• Isolated power design<br>• High power input 72 to 110VDC for M12 switches | • UL<br>• CE/FCC<br>• EN50155<br>• EN50121-4<br>• EN45545-2 | • Metro<br>• Rail<br>• Platform<br>• Track Side<br>• Bus |

## Product Spotlight




### MT-0802C-M12

10 Port M12 Industrial Managed PoE+ Booster Gigabit Ethernet Switch

- Compliant with EN50155
- RSTP, MSTP, ERPS, LACP for Network Redundancy
- QoS CoS/DSCP to increase determinism
- IGMP Snooping v1/v2/v3, up to 1023 groups
- DHCP Relay Option 82 for policies IP address assignment
- SNMP v1/v2c/v3 for network management

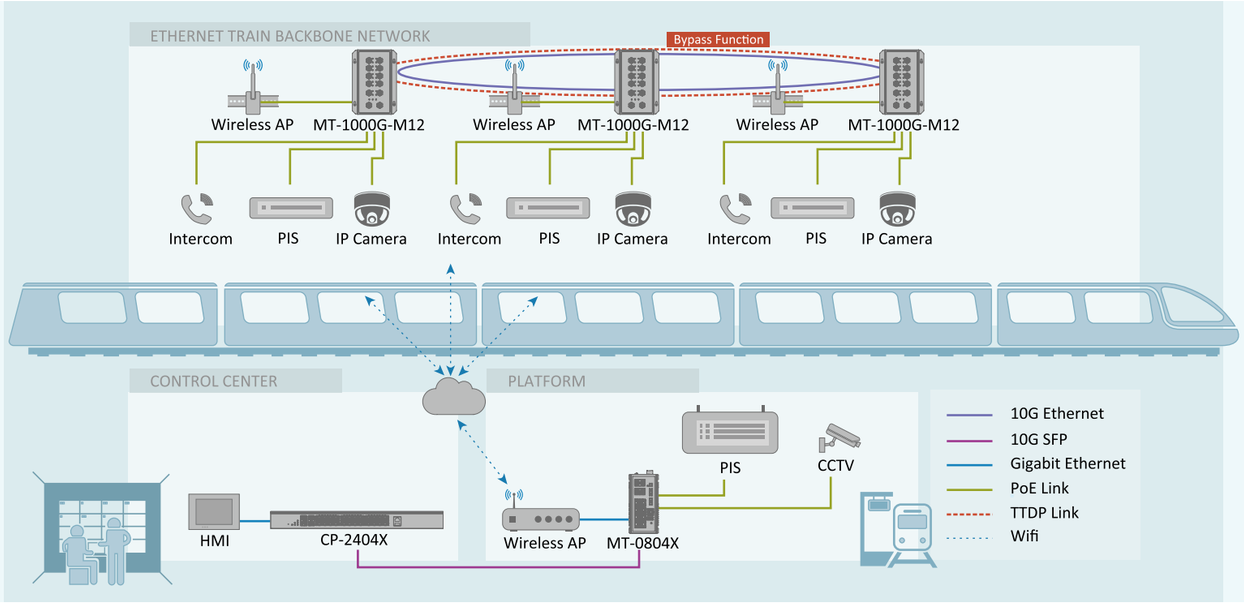
| |  |  |  |  |  |
|---|---|---|---|---|---|
| | MP-1002G | MT-0802C-M12 | MT-1000G-M12 | ET-0804C-M12 | ET-1000G-M12 |
| Fast Ethernet | | ✓ | | ✓ | |
| GbE | ✓ | ✓ | ✓ | ✓ | ✓ |
| PoE Booster | | ✓ | ✓ | ✓ | ✓ |
| Operating Temperature | -40°C to 75°C | -40°C to 75°C | -40°C to 75°C | -40°C to 75°C | -40°C to 75°C |

IEEE802.3at 30W PoE+ Solution

# Railway System

Railway






## Application Note

### Why Konten

- Complete product solutions from train to ground
- Support TTDP/TRDP in train protocols
- Reliable data transmission and PoE supply

Konten Networks offers EN50155 certificated industrial PoE switches with M12 connectors for harsh environments.



▲ IEEE802.3af/at and IEEE802.3bt industrial PoE switches ensure your nonstop network service of railway platforms.

| Feature Highlight | Certification | Where to use |
|---|---|---|
| • Train Topology Discovery Protocol (IEC61375-2-5) | • UL | • Railway |
| • Train Real-Time Data Protocol (IEC61375-2-3) | • CE/FCC | • Metro |
| • Fast Ethernet, Gigabit up to 10G speed | • EN50155 | • High Speed Rail |
| • Reliable M12 connectors | • EN50121-4 | • Bus |
| • Class IP54 water and dust protection | • EN45545-2 | • UGV (Unmanned Ground Vehicle) |
| • 24VDC PoE Booster or 48VDC / 72 to 110VDC | | |

## Product Spotlight




### MT-1000G-M12

10 Port M12 Industrial Managed PoE+ Booster Gigabit Ethernet Switch

- Compliance to TRDP, IEC61375-2-3 ( TCN based on Ethernet Technology )
- Bypass function for non-stop communication even when no power exist
- Isolated redundant PoE power 190W
- RSTP, MSTP, ERPS, LACP for Network Redundancy
- QoS CoS/DSCP to increase determinism
- Supports IGMP Snooping v1/v2/v3, up to 1023 groups

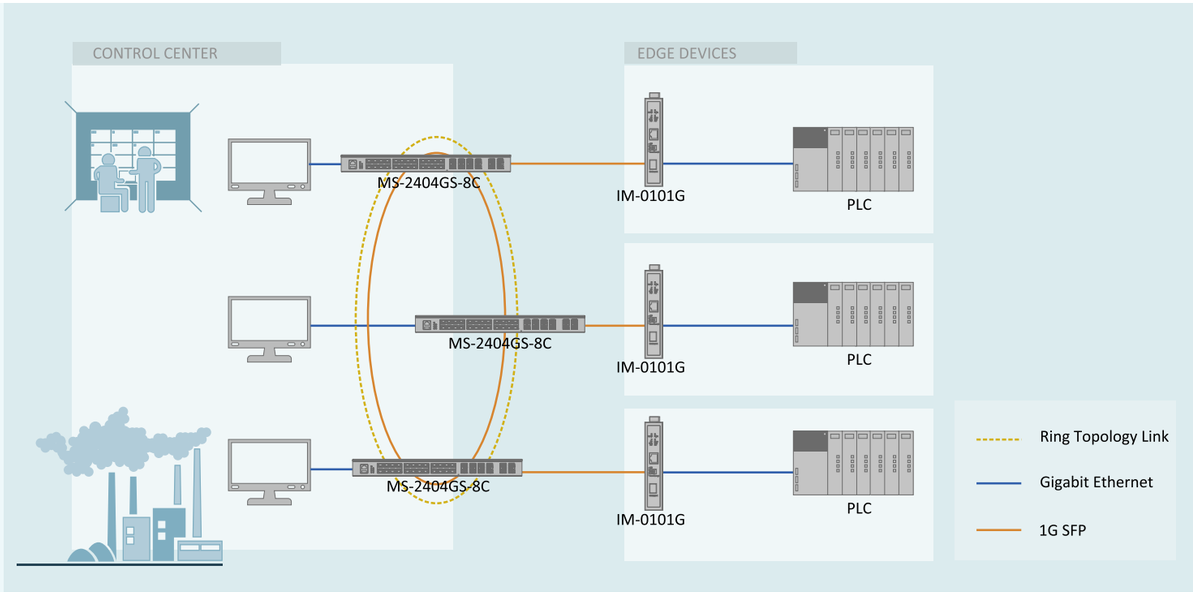
| |  |  |  |  |  |
|---|---|---|---|---|---|
| | ES-0804C-M12 | MS-0802C-M12 | MT-0802C-M12 | ET-1000G-M12 | MT-1000G-M12 |
| Fast Ethernet | ✓ | ✓ | ✓ | | |
| GbE | ✓ | ✓ | ✓ | ✓ | ✓ |
| 10GbE | | | | | |
| PoE | | | ✓ | ✓ | ✓ |
| Management | | ✓ | ✓ | | ✓ |
| Operating Temperature | -40°C to 75°C | -40°C to 75°C | -40°C to 75°C | -40°C to 75°C | -40°C to 75°C |

■ IEEE802.3at 30W PoE+ Solution

# Power & Energy

## Power Plant






## Application Note

### Why Konten

- IEC61850-3 & IEEE1613 compliant solutions
- Intelligent data monitoring
- Ruggedized switches for critical utilities

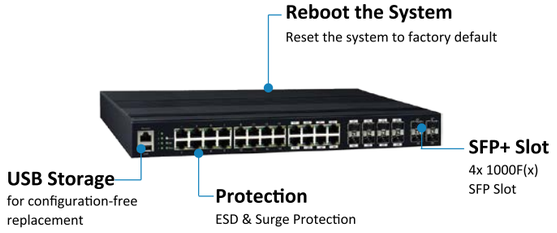
Real-time data collection feature makes your network control management smarter.



▲ To manage the machinery end devices in a control center of a power plant.

| Feature Highlight | Certification | Where to use |
|---|---|---|
| • IEEE1588v2 PTP<br>• Gigabit to high speed<br>• Static routing, RIPv1/v2, OSPFv2 and VRRPv2<br>• 802.1X, RADIUS, TACACS+, SSL, SSH<br>• Network operation in wide temperature environment from -40°C to 75°C | • UL<br>• CE/FCC<br>• IEC61850-3<br>• IEEE1613<br>• IEC61000-6-2<br>• IEC61000-6-4 | • Power Distribution Plant<br>• Solar Power Plant<br>• Data Center |

## Product Spotlight




### MS-2404GS-8C

16+8+4 Port Industrial Managed Gigabit Ethernet Switch

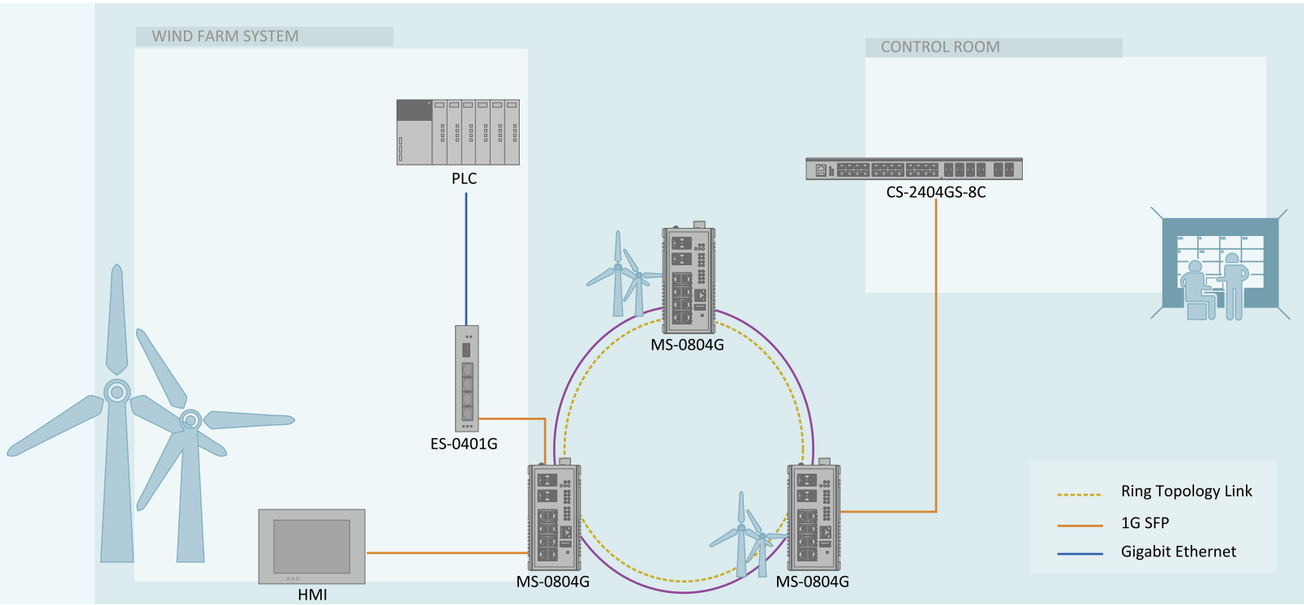
- RSTP, MSTP, ERPS, LACP for Network Redundancy
- QoS CoS/DSCP to increase determinism
- Supports IGMP Snooping v1/v2/v3, up to 1023 groups
- DHCP Relay Option 82 for policies IP address assignment
- SNMP v1/v2c/v3 for network management
- Support industrial automation protocols Ethernet/IP and Modbus TCP

| |  |  |  |  | Layer 3  |
|---|---|---|---|---|---|
| | IM-0101G | ES-0500LA | MS-0804G | MS-2404GS-8C | CS-2404GS-8C |
| Fast Ethernet | | ✓ | | | |
| GbE | ✓ | | ✓ | ✓ | ✓ |
| IEC61850-3 | | | | ✓ | ✓ |
| Management | | | ✓ | ✓ | ✓ |
| Operating Temperature | -20°C to 75°C | -40°C to 75°C | -40°C to 75°C | -40°C to 75°C | -40°C to 75°C |

# Power & Energy

## Wind Farm






## Application Note

### Why Konten

- Slim size for limiting space
- Advanced gigabit high speed
- Easy installation

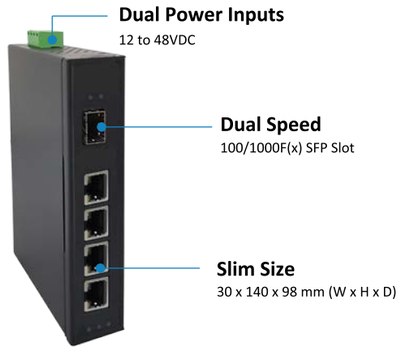
From unmanaged 4-base simple port config. to Layer 2 and Layer 3 switches, Konten's industrial switches can satisfy your entire networking architecture.



Konten software features make your long distance networking management easier.

| Feature Highlight | Certification | Where to use |
|---|---|---|
| • Gigabit solution<br>• 4/8/16 port unmanaged solution<br>• PoE Booster<br>• PoE PD alive check<br>• Slim size<br>• Redundant power inputs | • UL<br>• CE/FCC<br>• IEC61000-6-2<br>• IEC61000-6-4 | • Wind Power Plant<br>• Solar Power Plant<br>• Renewable Energy<br>• IP Surveillance<br>• Factory Logistics Monitoring |

## Product Spotlight




### ES-0401G

4+1 Port Industrial Unmanaged Gigabit Ethernet Switch

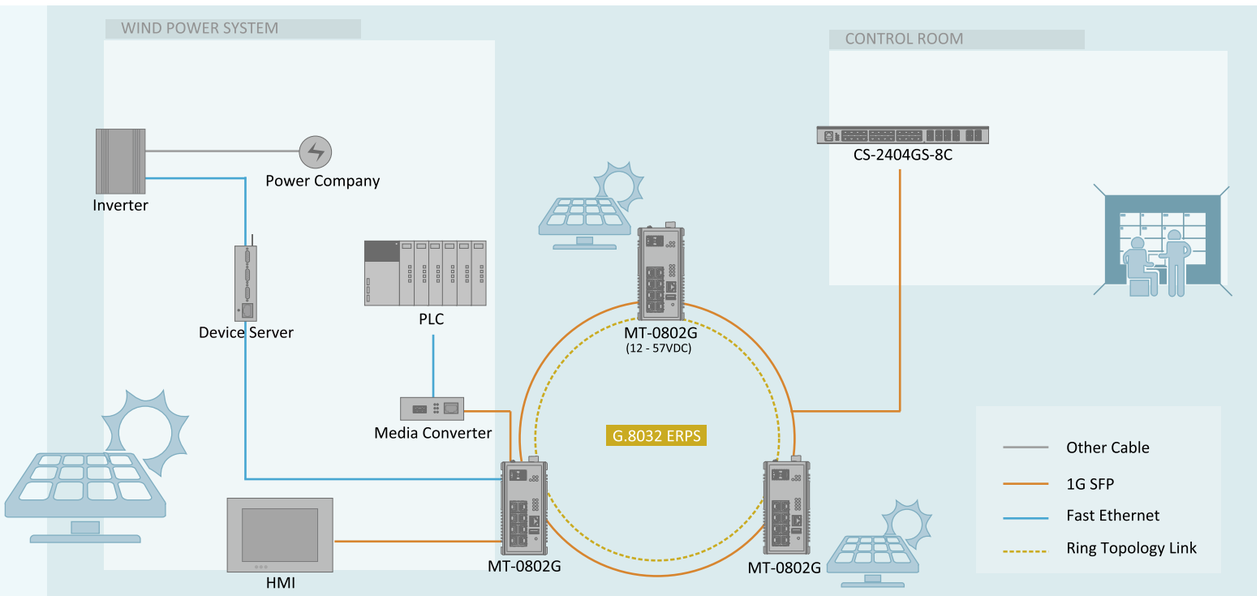
- 4x Gigabit Ethernet ports
- 1x 100/1000F(x) SFP Slot
- Built for harsh environments and wide temperature range application
- IP30 housing
- DIN-Rail Mounting, Optional Wall Mounting

| |  |  | Layer 3  |  |  |
|---|---|---|---|---|---|
| | MS-0804G | MS-1604G | CS-2404G-8C | ES-0401G | EP-0401G |
| GbE | ✓ | ✓ | ✓ | ✓ | ✓ |
| PoE | | | | | ✓ |
| Managed | ✓ | ✓ | ✓ | | |
| Fixed Fiber Version | | | | ✓ | ✓ |
| Operating Temperature | -40°C to 75°C | -40°C to 75°C | -40°C to 75°C | -40°C to 75°C | -40°C to 75°C |

# Power & Energy

## Solar Power






## Application Note

### Why Konten

- Nonstop data transmission
- Reliable operation in harsh environments
- Friendly web management interface

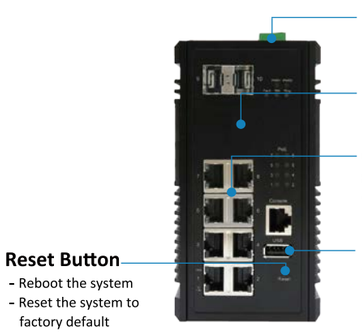
Konten's industrial switches support G.8032 ERPSv2 and power redundant inputs to provide a seamless and complete network.



▲ Multiple diagnostic methods can help your trouble-shooting easily.

| Feature Highlight | Certification | Where to use |
|---|---|---|
| • G.8032 ERPSv2 fast recovery ring | • UL | • Solar Power Plant |
| • IPv6 management | • CE/FCC | • Energy Storage Monitoring System |
| • Security authentication IEEE802.1X | • EN50121-4 | • Power Distribution Networks |
| • Multiple functions reset button | • IEC61000-6-2 | • Factory Logistics |
| • Digital inputs and USB storage | • IEC61000-6-4 | • Manufacturing Quality Check |

## Product Spotlight




### MT-0802G

8+2 Port Industrial Managed PoE+ Booster Gigabit Ethernet Switch

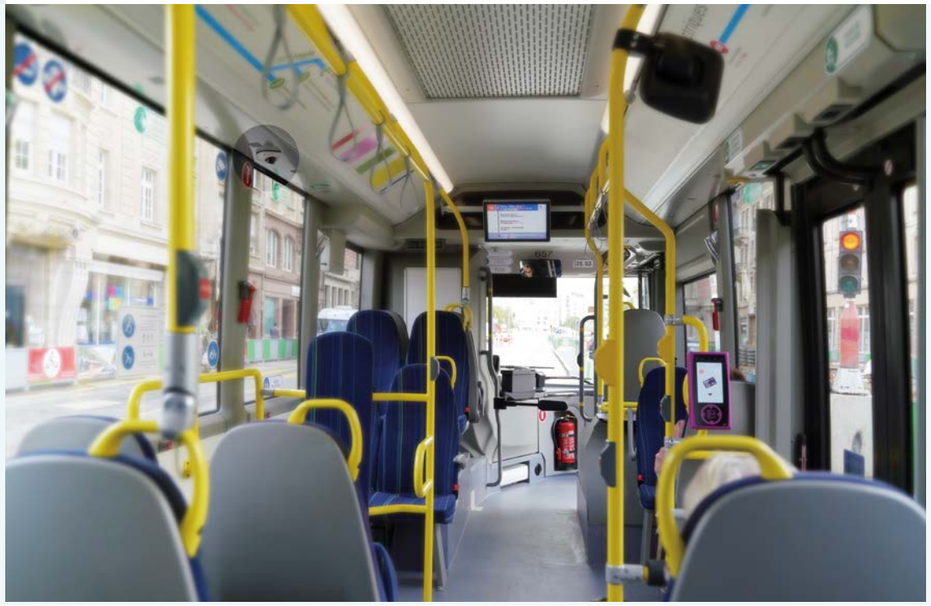
- RSTP, MSTP, ERPS, LACP for Network Redundancy
- IGMP Snooping v1/v2/v3, up to 1023 groups
- SNMP v1/v2c/v3 for network management
- DHCP Relay Option 82 for policies IP address assignment
- QoS CoS/DSCP to increase determinism
- Support industrial automation protocols Ethernet/IP and Modbus TCP
- Supports PoE PD Alive Check Function for PoE Device Power Recycle
- Power Boost for PoE+

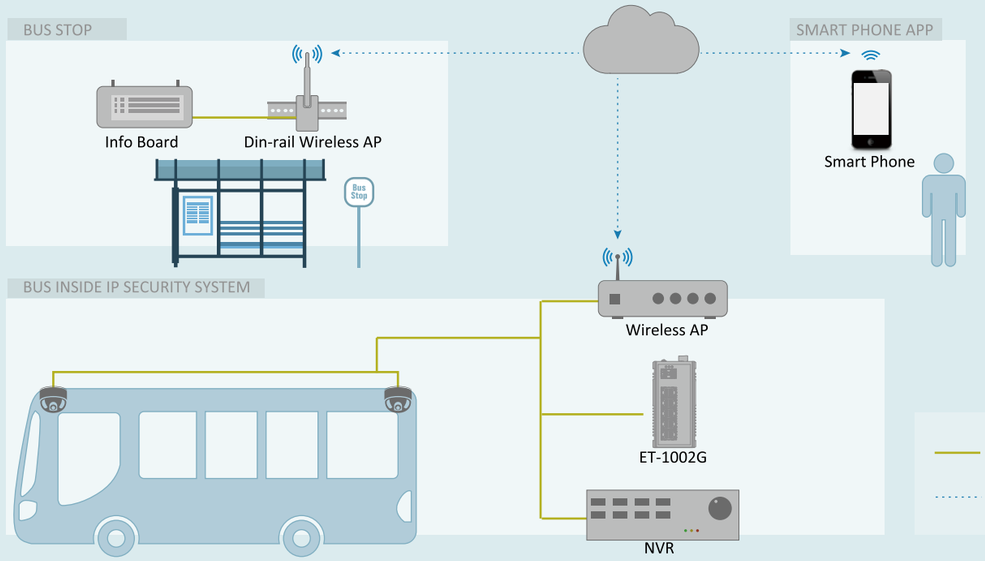
| |  |  |  Layer 3 |  |  • IEEE802.3at up to 60W PoE • Media Converter |
|---|---|---|---|---|---|
| | MS-0802G | MS-0804G | CS-2404G-8C | EP-0401G | IP-0101G |
| GbE | ✓ | ✓ | ✓ | ✓ | ✓ |
| PoE | | | | ✓ | ✓ (60W) |
| Layer 3 | | | ✓ | | |
| Fixed Fiber Version | | | | ✓ | |
| Operating Temperature | -40°C to 75°C | -40°C to 75°C | -40°C to 75°C | -40°C to 75°C | -20°C to 75°C |

■ IEEE802.3at 30W PoE+ Solution

# Smart City

## Bus






## Application Note

### Why Konten

- 1G/10G High Speed Transmission
- Flexible Customization Service
- Efficient Technical Support

For environments under shock and vibration, a ruggedized Ethernet switch with fastening M12 connectors are required to offer reliable data transmission.



IP network construction is a key to build a smart city.

| Feature Highlight | Certification | Where to use |
|---|---|---|
| • Fast Ethernet/1G/10G solutions<br>• Low power input 12VDC/24VDC/48VDC<br>• High power input 72 to 110VDC for M12 switches<br>• G.8032 ERPSv2 fast recovery ring<br>• 802.1X, RADIUS, TACACS+, SSL, SSH<br>• PoE Booster 12 to 57VDC | • UL<br>• CE/FCC<br>• EN50155<br>• EN50121-4<br>• EN45545-2 | • Bus & Other Vehicle<br>• Automatic Guided Vehicle<br>• Robotic<br>• Metro<br>• High Speed Rail |

## Product Spotlight




### ET-1002G

10+2 Port Industrial Unmanaged PoE+ Booster Gigabit Ethernet Switch

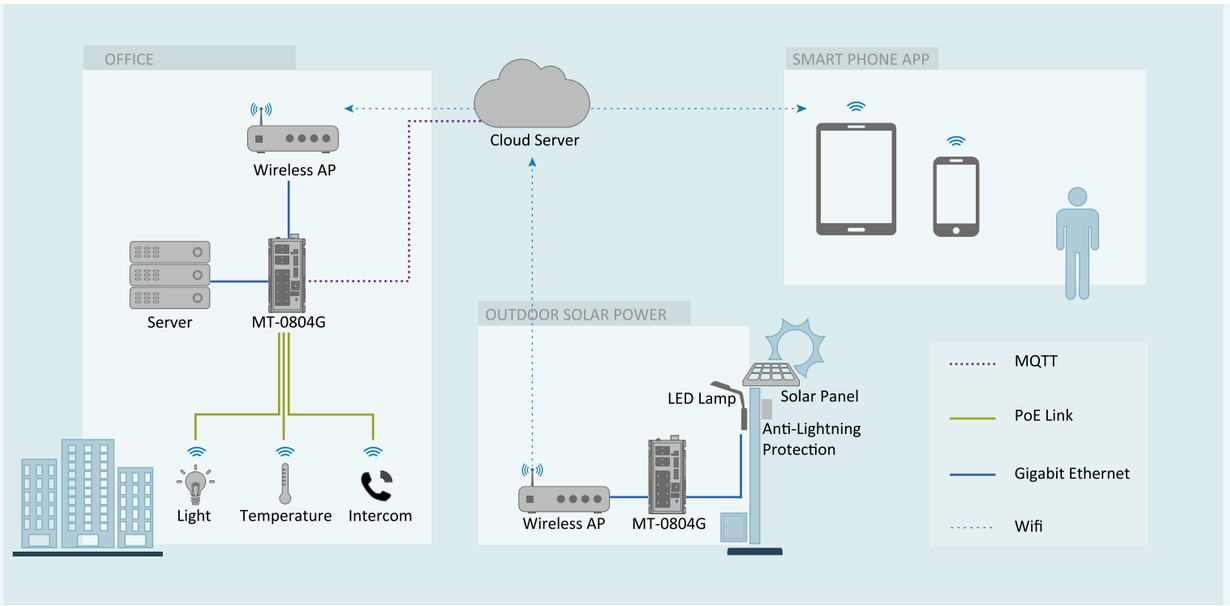
- 10x Gigabit Ethernet ports with 8x IEEE 802.3at PoE+
- 2x 100/1000F(x) SFP Slot
- Built for harsh environments and wide temperature range application
- IP30 housing
- DIN-Rail Mounting, Optional Wall Mounting
- 12 to 57VDC Power Inputs with Power Boost for PoE+

| |  |  |  |  IP 67 |  |
|---|---|---|---|---|---|
| | MT-0802C-M12 | EP-0802G | ET-0804C-M12 | ES-0500L-M12 | ES-0800L-M12 |
| Fast Ethernet | ✓ | | ✓ | ✓ | ✓ |
| GbE | ✓ | ✓ | ✓ | | |
| PoE | ✓ | ✓ | ✓ | | |
| Power Booster | ✓ | | ✓ | | |
| M12 | ✓ | | ✓ | ✓ | ✓ |
| Operating Temperature | -40°C to 75°C | -40°C to 75°C | -40°C to 75°C | -40°C to 75°C | -40°C to 75°C |

IEEE802.3at 30W PoE+ Solution

# Smart City
## Lighting Control






## Application Note

### Why Konten

- Intelligent connectivity
- Easy remote monitoring
- Mobility management

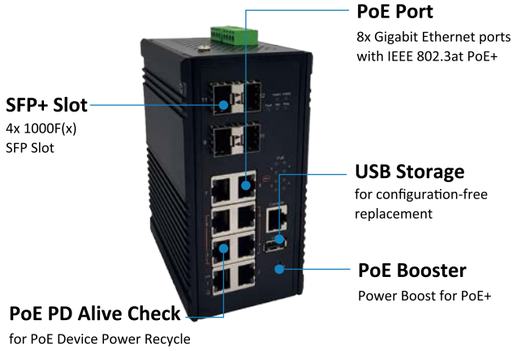
MQTT is to enhance the mobility and convenience of your remote networking management with low data rate.



Remote monitoring feature breaks the limit of geography and saves your time.

| Feature Highlight | Certification | Where to use |
|---|---|---|
| • MQTT remote monitoring<br>• PoE Booster<br>• 802.1X, RADIUS, TACACS+ security<br>• IPv6 management<br>• Gigabit to 10G uplink<br>• PoE Booster 12 to 57VDC | • UL<br>• CE/FCC<br>• IEC61000-6-2<br>• IEC61000-6-4 | • Building control system<br>• Building surveillance<br>• Safeguarding automation networks<br>• Smart Factory production flow<br>• Outdoor surveillance |

## Product Spotlight




### MT-0804G

8+4 Port Industrial Managed PoE+ Booster Gigabit Ethernet Switch

- RSTP, MSTP, ERPS, LACP for Network Redundancy
- QoS CoS/DSCP to increase determinism
- Supports IGMP Snooping v1/v2/v3, up to 1023 groups
- DHCP Relay Option 82 for policies IP address assignment
- SNMP v1/v2c/v3 for network management
- Support industrial automation protocols Ethernet/IP and Modbus TCP

| | | | | Layer 3 | |
|---|---|---|---|---|---|
| | MT-0802G | MT-0804G | MT-1002G | CP-0804G | MP-2404X |
| GbE | ✓ | ✓ | ✓ | ✓ | ✓ |
| 10GbE | | | | | ✓ |
| PoE | ✓ | ✓ | ✓ | ✓ | ✓ |
| PoE Booster | ✓ | ✓ | ✓ | | |
| Operating Temperature | -40℃ to 75℃ | -40℃ to 75℃ | -40℃ to 75℃ | -40℃ to 75℃ | -40℃ to 75℃ |

IEEE802.3at 30W PoE+ Solution

# Industrial IEC61850-3 ◢ Managed Ethernet Switches

Layer 3





NEW

| Model Name | MS-2404GS-8C | MS-2800GFS-8C | CS-2404GS-8C |
|---|---|---|---|
| | non-PoE | non-PoE | non-PoE |
| **Number of Port** | | | |
| Max. Port | 28 | 28 | 28 |
| Gigabit Ethernet Port | 16 | - | 16 |
| 100/1000Tx SFP Port | - | 20 | - |
| 1000Tx SFP Port | 4 | - | 4 |
| 1G/10G SFP+ Port | - | - | - |
| Combo Port | 8 | 8 | 8 |
| **Mechanism** | | | |
| Enclosure | SECC/Aluminum | SECC/Aluminum | SECC/Aluminum |
| Protection Class | IP30 | IP30 | IP30 |
| Dimensions(mm) | 440x44x331 | 440x44x331 | 440x44x331 |
| Weight(kg) | 4.80 kg | 4.70 kg | 4.80 kg |
| Mounting | Rack Mount | Rack Mount | Rack Mount |
| **Environment** | | | |
| Operating Temperature | -40°C to 75°C (-40°F to 167°F) | -40°C to 75°C (-40°F to 167°F) | -40°C to 75°C (-40°F to 167°F) |
| Storage Temperature | -40°C to 85°C (-40°F to -185°F) | -40°C to 85°C (-40°F to -185°F) | -40°C to 85°C (-40°F to -185°F) |
| **Network Redundancy** | | | |
| STP/RSTP | ✓ | ✓ | ✓ |
| MSTP | ✓ | ✓ | ✓ |
| ERPS | ✓ | ✓ | ✓ |
| MRP | Optional | Optional | Optional |
| Port Trunking / LACP | ✓ | ✓ | ✓ |
| **Software Feature** | | | |
| | 802.1X, IPv6, Storm Control, UPnP, SNMP v1/v2c/v3, Event Warning, Port Mirror, LLDP, DHCP Server, DHCP Relay (Option82), USB Configuration, 802.1Q VLAN, VLAN Q-in-Q, IGMP Snooping/MLD Snooping, IEEE 1588 v2/PTP , QoS, Modbus/TCP, Ethernet/IP, PROFINET | | |
| **Layer 3 Feature** | | | |
| Static Routing | - | - | ✓ |
| OSPFv2 | - | - | ✓ |
| RIP v1/v2 | - | - | ✓ |
| **VRRPv2 Switch Property** | | | |
| Jumbo Frame Support | 9216 bytes | 12288 bytes | 9216 bytes |
| MAC Table Size | 16K | 16K | 16K |
| Packet Buffer Size | 12 Mbits | 32 Mbits | 12 Mbits |
| Power Input | 90 - 264 VAC, 88 - 370VDC 18 - 36 VAC, 36 - 75VDC | 90 - 264 VAC, 88 - 370VDC 18 - 36 VAC, 36 - 75VDC | 90 - 264 VAC, 88 - 370VDC 18 - 36 VAC, 36 - 75VDC |
| Power Consumption (Sys.) | 30W | 30W | 30W |
| **Certification** | | | |
| CE / FCC | ✓ | ✓ | ✓ |
| UL | Compliant | - | Compliant |
| IEC61850-3/IEEE1613 | ✓ | ✓ | ✓ |

Note: * Std:-10°C to 60°C (14°F to 140°F) Ext:-40°C to 75°C (-40°F to 167°F)



# Industrial EN50155 ◢ M12 Managed Ethernet Switches






| Model Name | MT-0802C-M12 | MT-1000G-M12 | MS-0802C-M12 | MS-1000G-M12 |
|---|---|---|---|---|
| | PoE | PoE | non-PoE | non-PoE |
| **Number of Port** | | | | |
| Max. Port | 10 | 10 | 10 | 10 |
| 10 Gigabit Ethernet Port | - | - | - | - |
| Gigabit Ethernet Port | 2 | 10 | 2 | 10 |
| Fast Ethernet Port | 8 | - | 8 | - |
| 100/1000Tx SFP Port | - | - | - | - |
| 1000Tx SFP Port | - | - | - | - |
| 1G/10G SFP+ Port | - | - | - | - |
| Fix Fiber Port | - | - | - | - |
| PoE Ports (802.3at) | 8 | 8 | - | - |
| PoE Ports (802.3bt) | - | - | - | - |
| Combo Port | - | - | - | - |
| **Mechanism** | | | | |
| Enclosure | SECC | SECC | SECC | SECC |
| Protection Class | IP54 | IP54 | IP54 | IP54 |
| Dimensions(mm) | 143x209x77 | 143x209x77 | 143x209x77 | 143x209x77 |
| Weight(kg) | 2.16 kg | 2.16 kg | 1.2 kg | 1.2 kg |
| Mounting | Wall / Din-Rail* | Wall / Din-Rail* | Wall / Din-Rail* | Wall / Din-Rail* |
| **Environment** | | | | |
| Operating Temperature | -40°C to 75°C (-40°F to 167°F) | -40°C to 75°C (-40°F to 167°F) | -40°C to 75°C (-40°F to 167°F) | -40°C to 75°C (-40°F to 167°F) |
| Storage Temperature | -40°C to 85°C (-40°F to -185°F) | -40°C to 85°C (-40°F to -185°F) | -40°C to 85°C (-40°F to -185°F) | -40°C to 85°C (-40°F to -185°F) |
| **Network Redundancy** | | | | |
| STP/RSTP | ✓ | ✓ | ✓ | ✓ |
| MSTP | ✓ | ✓ | ✓ | ✓ |
| ERPS | ✓ | ✓ | ✓ | ✓ |
| MRP | Optional | Optional | ✓ | ✓ |
| Port Trunking / LACP | ✓ | ✓ | ✓ | ✓ |
| **Software Feature** | | | | |
| | 802.1X, IPv6, Storm Control, UPnP, SNMP v1/v2c/v3, Event Warning, Port Mirror, LLDP, DHCP Server, DHCP Relay (Option82), 802.1Q VLAN, VLAN Q-in-Q, IGMP Snooping/MLD Snooping, IEEE 1588 v2/PTP , QoS, PoE Control, Modbus/TCP, Ethernet/IP, PROFINET | | | |
| **Layer 3 Feature** | | | | |
| Static Routing | - | - | - | - |
| OSPFv2 | - | - | - | - |
| RIP v1/v2 | - | - | - | - |
| TTDP/TRDP | - | - | - | - |
| **Switch Property** | | | | |
| Jumbo Frame Support | 9216 bytes | 9216 bytes | 9216 bytes | 9216 bytes |
| MAC Table Size | 16K | 16K | 16K | 16K |
| Packet Buffer Size | 12 Mbits | 12 Mbits | 12 Mbits | 12 Mbits |
| Power Input | 24VDC, 48VDC, 72-110VDC | 24VDC, 48VDC, 72-110VDC | 24 - 48VDC, 72-110VDC | 24 - 48VDC, 72-110VDC |
| Power Consumption (Sys.) | 16W | 18W | 15W | 16W |
| PoE Power Budget | 190W (24VDC) 156W (110VDC) | 190W (24VDC) 156W (110VDC) | - | - |
| **Certification** | | | | |
| CE / FCC | ✓ | ✓ | ✓ | ✓ |
| UL | Compliant | Compliant | Compliant | Compliant |
| EN50155 | ✓ | ✓ | ✓ | ✓ |

Note: * Std: Wall Mount Kit; Optional: Din-Rail Kit

# Industrial EN50155 ◢ M12 Unmanaged Ethernet Switches







| Model Name | ET-0802C-M12 | ET-0804C-M12 | ET-1000G-M12 | ES-0802C-M12 | ES-0804C-M12 |
|---|---|---|---|---|---|
| | PoE | PoE | PoE | non-PoE | non-PoE |
| **Number of Port** | | | | | |
| Max. Port | 10 | 12 | 10 | 10 | 12 |
| 10 Gigabit Ethernet Port | - | - | - | - | - |
| Gigabit Ethernet Port | 2 | 4 | 10 | 2 | 4 |
| Fast Ethernet Port | 8 | 8 | - | 8 | 8 |
| 100/1000Tx SFP Port | - | - | - | - | - |
| 1000Tx SFP Port | - | - | - | - | - |
| 1G/10G SFP+ Port | - | - | - | - | - |
| Fix Fiber Port | - | - | - | - | - |
| PoE Ports (802.3at) | 8 | 8 | 8 | - | - |
| PoE Ports (802.3bt) | - | - | - | - | - |
| Combo Port | - | - | - | - | - |
| **Mechanism** | | | | | |
| Enclosure | SECC | SECC | SECC | SECC | SECC |
| Protection Class | IP54 | IP54 | IP54 | IP54 | IP54 |
| Dimensions(mm) | 181x99x94 | 181x99x94 | 143x209x77 | 181x99x94 | 181x99x94 |
| Weight(kg) | 1.2 kg | 1.2 kg | 2.16 kg | 1.2 kg | 1.2 kg |
| Mounting | Wall / Din-Rail* | Wall / Din-Rail* | Wall / Din-Rail* | Wall / Din-Rail* | Wall / Din-Rail* |
| **Environment** | | | | | |
| Operating Temperature | -40°C to 75°C (-40°F to 167°F) | -40°C to 75°C (-40°F to 167°F) | -40°C to 75°C (-40°F to 167°F) | -40°C to 75°C (-40°F to 167°F) | -40°C to 75°C (-40°F to 167°F) |
| Storage Temperature | -40°C to 85°C (-40°F to -185°F) | -40°C to 85°C (-40°F to -185°F) | -40°C to 85°C (-40°F to -185°F) | -40°C to 85°C (-40°F to -185°F) | -40°C to 85°C (-40°F to -185°F) |
| **Network Redundancy** | | | | | |
| STP/RSTP | - | - | - | - | - |
| MSTP | - | - | - | - | - |
| ERPS | - | - | - | - | - |
| MRP | - | - | - | - | - |
| Port Trunking / LACP | - | - | - | - | - |
| **Software Feature** | | | | | |
| | - | | | | |
| **Layer 3 Feature** | | | | | |
| Static Routing | - | - | - | - | - |
| OSPFv2 | - | - | - | - | - |
| RIP v1/v2 | - | - | - | - | - |
| TTDP/TRDP | - | - | - | - | - |
| **Switch Property** | | | | | |
| Jumbo Frame Support | 9600 bytes | 9600 bytes | 9216 bytes | 9600 bytes | 9600 bytes |
| MAC Table Size | 8K | 8K | 16K | 8K | 8K |
| Packet Buffer Size | 4 Mbits | 4 Mbits | 12 Mbits | 4 Mbits | 4 Mbits |
| Power Input | 24VDC, 48VDC, 72-110VDC | 24VDC, 48VDC, 72-110VDC | 24VDC, 48VDC, 72-110VDC | 24 - 48VDC, 72 - 110VDC | 24 - 48VDC, 72 - 110VDC |
| Power Consumption (Sys.) | 16W | 16W | 18W | 15W | 14W |
| PoE Power Budget | 190W (24VDC) 156W (110VDC) | 190W (24VDC) 156W (110VDC) | 190W (24VDC) 156W (110VDC) | - | - |
| **Certification** | | | | | |
| CE / FCC | ✓ | ✓ | ✓ | ✓ | ✓ |
| UL | Compliant | Compliant | Compliant | Compliant | Compliant |
| EN50155 | ✓ | ✓ | ✓ | ✓ | ✓ |

Note: * Std: Wall Mount Kit; Optional: Din-Rail Kit



# Industrial 10 Gigabit ◢ Layer 2 Managed Ethernet Switches







| Model Name | MP-0802X | MP-1002X | MP-0804X | MT-0804X | MH-0804X2 |
|---|---|---|---|---|---|
| | PoE | PoE | PoE | PoE | PoE |
| **Number of Port** | | | | | |
| Max. Port | 10 | 12 | 12 | 12 | 12 |
| 10 Gigabit Ethernet Port | - | - | - | - | - |
| Gigabit Ethernet Port | 8 | 10 | 8 | 8 | 8 |
| Fast Ethernet Port | - | - | - | - | - |
| 100/1000Tx SFP Port | - | - | - | - | - |
| 1000Tx SFP Port | - | - | - | - | - |
| 1G/10G SFP+ Port | 2 | 2 | 4 | 4 | 4 |
| Fix Fiber Port | - | - | - | - | - |
| PoE Ports (802.3at) | 8 | 8 | 8 | 8 | 4 |
| PoE Ports (802.3bt) | - | - | - | - | 2 (60W) |
| Combo Port | - | - | - | - | - |
| **Mechanism** | | | | | |
| Enclosure | Aluminum | Aluminum | Aluminum | Aluminum | Aluminum |
| Protection Class | IP30 | IP30 | IP30 | IP30 | IP30 |
| Dimensions(mm) | 72x145x118 | 72x145x118 | 72x145x118 | 72x145x118 | 72x145x118 |
| Weight(kg) | 0.88 kg | 0.88 kg | 0.90 kg | 1.04 kg | 0.90 kg |
| Mounting | DIN-Rail,Wall | DIN-Rail,Wall | DIN-Rail,Wall | DIN-Rail,Wall | DIN-Rail,Wall |
| **Environment** | | | | | |
| Operating Temperature | -40°C to 75°C (-40°F to 167°F)* | -40°C to 75°C (-40°F to 167°F)* | -40°C to 75°C (-40°F to 167°F)* | -40°C to 75°C (-40°F to 167°F)* | -40°C to 75°C (-40°F to 167°F)* |
| Storage Temperature | -40°C to 85°C (-40°F to -185°F) | -40°C to 85°C (-40°F to -185°F) | -40°C to 85°C (-40°F to -185°F) | -40°C to 85°C (-40°F to -185°F) | -40°C to 85°C (-40°F to -185°F) |
| **Network Redundancy** | | | | | |
| STP/RSTP | ✓ | ✓ | ✓ | ✓ | ✓ |
| MSTP | ✓ | ✓ | ✓ | ✓ | ✓ |
| ERPS | ✓ | ✓ | ✓ | ✓ | ✓ |
| MRP | ✓ | Optional | ✓ | ✓ | Optional |
| Port Trunking / LACP | ✓ | ✓ | ✓ | ✓ | ✓ |
| **Software Feature** | | | | | |
| | 802.1X, IPv6, Storm Control, UPnP, SNMP v1/v2c/v3, Event Warning, Port Mirror, LLDP, DHCP Server, DHCP Relay (Option82), USB Configuration, 802.1Q VLAN, VLAN Q-in-Q, IGMP Snooping/MLD Snooping, IEEE 1588 v2/PTP , QoS, PoE Control, Modbus/TCP, Ethernet/IP, PROFINET | | | | |
| **Switch Property** | | | | | |
| Jumbo Frame Support | 9216 bytes | 9216 bytes | 9216 bytes | 9216 bytes | 9216 bytes |
| MAC Table Size | 16K | 16K | 16K | 16K | 16K |
| Packet Buffer Size | 12 Mbits | 12 Mbits | 12 Mbits | 12 Mbits | 12 Mbits |
| Power Input | 48 - 57VDC | 48 - 57VDC | 48 - 57VDC | 12 - 57VDC | 50 - 57VDC |
| Power Consumption (Sys.) | 19W | 21W | 21W | 22W | 19W |
| PoE Power Budget | 240W | 240W | 240W | 190W (24VDC) | 240W |
| **Certification** | | | | | |
| CE / FCC | ✓ | ✓ | ✓ | ✓ | ✓ |
| UL | Compliant | Optional | Compliant | Optional | Compliant |
| IEC61000-6-2 / -6-4 | ✓ | ✓ | ✓ | ✓ | ✓ |
| EN50121-4 | ✓ | ✓ | ✓ | ✓ | - |

Note: * Std:-10°C to 60°C (14°F to 140°F) Ext:-40°C to 75°C (-40°F to 167°F)

## Industrial 10 Gigabit ◢ Layer 2 Managed Ethernet Switches



| Model Name | MH-0804X4 | MQ-0804X2 | MP-1604X | MP-1604XB | MP-2404X |
|---|---|---|---|---|---|
| | PoE | PoE | PoE | PoE | PoE |
| **Number of Port** | | | | | |
| Max. Port | 12 | 12 | 20 | 20 | 28 |
| 10 Gigabit Ethernet Port | - | - | - | - | - |
| Gigabit Ethernet Port | 8 | 8 | 16 | 16 | 24 |
| Fast Ethernet Port | - | - | - | - | - |
| 100/1000Tx SFP Port | - | - | - | - | - |
| 1000Tx SFP Port | - | - | - | - | - |
| 1G/10G SFP+ Port | 4 | 4 | 4 | 4 | 4 |
| Fix Fiber Port | - | - | - | - | - |
| PoE Ports (802.3at) | - | 4 | 8 | 16 | 24 |
| PoE Ports (802.3bt) | 4 (60W) | 2 (95W) | - | - | - |
| Combo Port | - | - | - | - | - |
| **Mechanism** | | | | | |
| Enclosure | Aluminum | Aluminum | Aluminum | Aluminum | SECC/Aluminum |
| Protection Class | IP30 | IP30 | IP30 | IP30 | IP30 |
| Dimensions(mm) | 72x145x118 | 72x145x118 | 91x145x118 | 91x145x118 | 440x44x420 |
| Weight(kg) | 0.90 kg | 0.90 kg | 1.03 kg | 1.40 kg | 6.00 kg |
| Mounting | DIN-Rail,Wall | DIN-Rail,Wall | DIN-Rail,Wall | DIN-Rail,Wall | Rack Mount |
| **Environment** | | | | | |
| Operating Temperature | -40°C to 75C (-40°F to 167°F)* | -40°C to 75C (-40°F to 167°F)* | -40°C to 75C (-40°F to 167°F)* | -40°C to 75C (-40°F to 167°F)* | -40°C to 75C (-40°F to 167°F) |
| Storage Temperature | -40°C to 85°C (-40°F to -185°F) | -40°C to 85°C (-40°F to -185°F) | -40°C to 85°C (-40°F to -185°F) | -40°C to 85°C (-40°F to -185°F) | -40°C to 85°C (-40°F to -185°F) |
| **Network Redundancy** | | | | | |
| STP/RSTP | ✓ | ✓ | ✓ | ✓ | ✓ |
| MSTP | ✓ | ✓ | ✓ | ✓ | ✓ |
| ERPS | ✓ | ✓ | ✓ | ✓ | ✓ |
| MRP | Optional | Optional | Optional | Optional | Optional |
| Port Trunking / LACP | ✓ | ✓ | ✓ | ✓ | ✓ |
| **Software Feature** | | | | | |
| | 802.1X, IPv6, Storm Control, UPnP, SNMP v1/v2c/v3, Event Warning, Port Mirror, LLDP, DHCP Server, DHCP Relay (Option82), USB Configuration, 802.1Q VLAN, VLAN Q-in-Q, IGMP Snooping/MLD Snooping, IEEE 1588 v2/PTP , QoS, PoE Control, Modbus/TCP, Ethernet/IP, PROFINET | | | | |
| **Switch Property** | | | | | |
| Jumbo Frame Support | 9216 bytes | 9216 bytes | 9216 bytes | 9216 bytes | 9216 bytes |
| MAC Table Size | 16K | 16K | 16K | 16K | 16K |
| Packet Buffer Size | 12 Mbits | 12 Mbits | 12 Mbits | 12 Mbits | 12 Mbits |
| Power Input | 50 - 57 VDC | 50 - 57 VDC | 48 - 57 VDC | 48 - 57VDC | 90-264VAC,48-57VDC |
| Power Consumption (Sys.) | 19W | 19W | 24W | 21W | 26W |
| PoE Power Budget | 240W | 240W | 240W | 240W | 720W@DC ; Max. 377W@AC with derating (50°C to 70°C, 2.5%/°C) |
| **Certification** | | | | | |
| CE / FCC | ✓ | ✓ | ✓ | ✓ | ✓ |
| UL | Compliant | Compliant | Compliant | Optional | Optional |
| IEC61000-6-2 / -6-4 | ✓ | ✓ | ✓ | ✓ | - |
| EN50121-4 | - | - | ✓ | - | - |

Note: * Std:-10°C to 60°C (14°F to 140°F) Ext:-40°C to 75°C (-40°F to 167°F)



## Industrial 10 Gigabit ◢ Layer 2 Managed Ethernet Switches




| Model Name | MS-0802X | MS-0804X | MS-0812X | MS-1604X | MS-2404X | MS-2404XF |
|---|---|---|---|---|---|---|
| | non-PoE | non-PoE | non-PoE | non-PoE | non-PoE | non-PoE |
| **Number of Port** | | | | | | |
| Max. Port | 10 | 12 | 20 | 20 | 28 | 28 |
| 10 Gigabit Ethernet Port | - | - | - | - | - | - |
| Gigabit Ethernet Port | 8 | 8 | 8 | 16 | 24 | - |
| Fast Ethernet Port | - | - | - | - | - | - |
| 100/1000Tx SFP Port | - | - | 8 | - | - | 24 |
| 1000Tx SFP Port | - | - | - | - | - | - |
| 1G/10G SFP+ Port | 2 | 4 | 4 | 4 | 4 | 4 |
| Fix Fiber Port | - | - | - | - | - | - |
| PoE Ports (802.3at) | - | - | - | - | - | - |
| PoE Ports (802.3bt) | - | - | - | - | - | - |
| Combo Port | - | - | - | - | - | - |
| **Mechanism** | | | | | | |
| Enclosure | Aluminum | Aluminum | Aluminum | Aluminum | SECC/Aluminum | SECC/Aluminum |
| Protection Class | IP30 | IP30 | IP30 | IP30 | IP30 | IP30 |
| Dimensions(mm) | 72x145x118 | 72x145x118 | 91x145x118 | 91x145x118 | 440x44x331 | 440x44x331 |
| Weight(kg) | 0.88 kg | 0.87 kg | 1.38 kg | 0.97 kg | 5.00 kg | 4.50 kg |
| Mounting | DIN-Rail,Wall | DIN-Rail,Wall | DIN-Rail,Wall | DIN-Rail,Wall | Rack Mount | Rack Mount |
| **Environment** | | | | | | |
| Operating Temperature | -40°C to 75C (-40°F to 167°F)* | -40°C to 75C (-40°F to 167°F)* | -40°C to 75C (-40°F to 167°F)* | -40°C to 75C (-40°F to 167°F)* | -40°C to 75C (-40°F to 167°F) | -40°C to 75C (-40°F to 167°F) |
| Storage Temperature | -40°C to 85°C (-40°F to -185°F) | -40°C to 85°C (-40°F to -185°F) | -40°C to 85°C (-40°F to -185°F) | -40°C to 85°C (-40°F to -185°F) | -40°C to 85°C (-40°F to -185°F) | -40°C to 85°C (-40°F to -185°F) |
| **Network Redundancy** | | | | | | |
| STP/RSTP | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| MSTP | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| ERPS | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| MRP | ✓ | ✓ | Optional | Optional | Optional | Optional |
| Port Trunking / LACP | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| **Software Feature** | | | | | | |
| | 802.1X, IPv6, Storm Control, UPnP, SNMP v1/v2c/v3, Event Warning, Port Mirror, LLDP, DHCP Server, DHCP Relay (Option82), USB Configuration, 802.1Q VLAN, VLAN Q-in-Q, IGMP Snooping/MLD Snooping, IEEE 1588 v2/PTP , QoS, Modbus/TCP, Ethernet/IP, PROFINET | | | | | |
| **Switch Property** | | | | | | |
| Jumbo Frame Support | 9216 bytes | 9216 bytes | 9216 bytes | 9216 bytes | 9216 bytes | 12288 bytes |
| MAC Table Size | 16K | 16K | 16K | 16K | 16K | 16K |
| Packet Buffer Size | 12 Mbits | 12 Mbits | 12 Mbits | 12 Mbits | 12 Mbits | 32 Mbits |
| Power Input | 12 - 48 VDC | 12 - 48 VDC | 12 - 48 VDC | 12 - 48 VDC | 90 - 264 VAC, 24 - 48 VDC | 90 - 264 VAC, 12 - 36VDC 36 - 72VDC |
| Power Consumption (Sys.) | 16W | 16W | 19W | 17W | 26W | 30W |
| PoE Power Budget | - | - | - | - | - | - |
| **Certification** | | | | | | |
| CE / FCC | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| UL | Compliant | Compliant | Optional | Compliant | Optional | Optional |
| IEC61000-6-2 / -6-4 | ✓ | ✓ | ✓ | ✓ | - | - |
| EN50121-4 | ✓ | ✓ | ✓ | ✓ | - | - |

Note: * Std:-10°C to 60°C (14°F to 140°F) Ext:-40°C to 75°C (-40°F to 167°F)

## Industrial 10 Gigabit ◢ Layer 3 Managed Ethernet Switches







| Model Name | CP-0802X | CP-1002X | CP-0804X | CT-0804X | CH-0804X2 |
|---|---|---|---|---|---|
| | PoE | PoE | PoE | PoE | PoE |
| **Number of Port** | | | | | |
| Max. Port | 10 | 12 | 12 | 12 | 12 |
| 10 Gigabit Ethernet Port | - | - | - | - | - |
| Gigabit Ethernet Port | 8 | 10 | 8 | 8 | 8 |
| Fast Ethernet Port | - | - | - | - | - |
| 100/1000Tx SFP Port | - | - | - | - | - |
| 1000Tx SFP Port | - | - | - | - | - |
| 1G/10G SFP+ Port | 2 | 2 | 4 | 4 | 4 |
| Fix Fiber Port | - | - | - | - | - |
| PoE Ports (802.3at) | 8 | 8 | 8 | 8 | 4 |
| PoE Ports (802.3bt) | - | - | - | - | 2 (60W) |
| Combo Port | - | - | - | - | - |
| **Mechanism** | | | | | |
| Enclosure | Aluminum | Aluminum | Aluminum | Aluminum | Aluminum |
| Protection Class | IP30 | IP30 | IP30 | IP30 | IP30 |
| Dimensions(mm) | 72x145x118 | 72x145x118 | 72x145x118 | 72x145x118 | 72x145x118 |
| Weight(kg) | 0.88 kg | 0.90 kg | 0.90 kg | 1.04 kg | 0.90 kg |
| Mounting | DIN-Rail,Wall | DIN-Rail,Wall | DIN-Rail,Wall | DIN-Rail,Wall | DIN-Rail,Wall |
| **Environment** | | | | | |
| Operating Temperature | -40°C to 75°C (-40°F to 167°F)* | -40°C to 75°C (-40°F to 167°F)* | -40°C to 75°C (-40°F to 167°F)* | -40°C to 75°C (-40°F to 167°F)* | -40°C to 75°C (-40°F to 167°F)* |
| Storage Temperature | -40°C to 85°C (-40°F to -185°F) | -40°C to 85°C (-40°F to -185°F) | -40°C to 85°C (-40°F to -185°F) | -40°C to 85°C (-40°F to -185°F) | -40°C to 85°C (-40°F to -185°F) |
| **Network Redundancy** | | | | | |
| STP/RSTP | ✓ | ✓ | ✓ | ✓ | ✓ |
| MSTP | ✓ | ✓ | ✓ | ✓ | ✓ |
| ERPS | ✓ | ✓ | ✓ | ✓ | ✓ |
| MRP | Optional | Optional | Optional | Optional | Optional |
| Port Trunking / LACP | ✓ | ✓ | ✓ | ✓ | ✓ |
| **Software Feature** | | | | | |
| | 802.1X, IPv6, Storm Control, UPnP, SNMP v1/v2c/v3, Event Warning, Port Mirror, LLDP, DHCP Server, DHCP Relay (Option82), USB Configuration, 802.1Q VLAN, VLAN Q-in-Q, IGMP Snooping/MLD Snooping, IEEE 1588 v2/PTP, QoS, PoE Control, Modbus/TCP, Ethernet/IP, PROFINET | | | | |
| **Layer 3 Feature** | | | | | |
| Static Routing | ✓ | ✓ | ✓ | ✓ | ✓ |
| VRRPv2 | ✓ | ✓ | ✓ | ✓ | ✓ |
| OSPFv2 | ✓ | ✓ | ✓ | ✓ | ✓ |
| RIP v1/v2 | ✓ | ✓ | ✓ | ✓ | ✓ |
| **Switch Property** | | | | | |
| Jumbo Frame Support | 9216 bytes | 9216 bytes | 9216 bytes | 9216 bytes | 9216 bytes |
| MAC Table Size | 16K | 16K | 16K | 16K | 16K |
| Packet Buffer Size | 12 Mbits | 12 Mbits | 12 Mbits | 12 Mbits | 12 Mbits |
| Power Input | 48 - 57 VDC | 48 - 57 VDC | 48 - 57 VDC | 12 - 57 VDC | 48 - 57VDC |
| Power Consumption (Sys.) | 19W | 21W | 21W | 22W | 19W |
| PoE Power Budget | 240W | 240W | 240W | 190W (24VDC) | 240W |
| **Certification** | | | | | |
| CE / FCC | ✓ | ✓ | ✓ | ✓ | ✓ |
| UL | Optional | Optional | Optional | Optional | Optional |
| IEC61000-6-2 / -6-4 | ✓ | ✓ | ✓ | ✓ | ✓ |
| EN50121-4 | ✓ | ✓ | ✓ | ✓ | - |

Note: * Std:-10°C to 60°C (14°F to 140°F) Ext:-40°C to 75°C (-40°F to 167°F)



## Industrial 10 Gigabit ◢ Layer 3 Managed Ethernet Switches







| Model Name | CH-0804X4 | CQ-0804X2 | CP-1604X | CP-1604XB | CP-2404X |
|---|---|---|---|---|---|
| | PoE | PoE | PoE | PoE | PoE |
| **Number of Port** | | | | | |
| Max. Port | 12 | 12 | 20 | 20 | 28 |
| 10 Gigabit Ethernet Port | - | - | - | - | - |
| Gigabit Ethernet Port | 8 | 8 | 16 | 16 | 24 |
| Fast Ethernet Port | - | - | - | - | - |
| 100/1000Tx SFP Port | - | - | - | - | - |
| 1000Tx SFP Port | - | - | - | - | - |
| 1G/10G SFP+ Port | 4 | 4 | 4 | 4 | 4 |
| Fix Fiber Port | - | - | - | - | - |
| PoE Ports (802.3at) | - | 4 | 8 | 16 | 24 |
| PoE Ports (802.3bt) | 4 (60W) | 2 (95W) | - | - | - |
| Combo Port | - | - | - | - | - |
| **Mechanism** | | | | | |
| Enclosure | Aluminum | Aluminum | Aluminum | Aluminum | SECC/Aluminum |
| Protection Class | IP30 | IP30 | IP30 | IP30 | IP30 |
| Dimensions(mm) | 72x145x118 | 72x145x118 | 91x145x118 | 91x145x118 | 440x44x331 |
| Weight(kg) | 0.90 kg | 0.90 kg | 1.03 kg | 1.40 kg | 6.00 kg |
| Mounting | DIN-Rail,Wall | DIN-Rail,Wall | DIN-Rail,Wall | DIN-Rail,Wall | Rack Mount |
| **Environment** | | | | | |
| Operating Temperature | -40°C to 75°C (-40°F to 167°F)* | -40°C to 75°C (-40°F to 167°F)* | -40°C to 75°C (-40°F to 167°F)* | -40°C to 75°C (-40°F to 167°F)* | -40°C to 75°C (-40°F to 167°F)* |
| Storage Temperature | -40°C to 85°C (-40°F to -185°F) | -40°C to 85°C (-40°F to -185°F) | -40°C to 85°C (-40°F to -185°F) | -40°C to 85°C (-40°F to -185°F) | -40°C to 85°C (-40°F to -185°F) |
| **Network Redundancy** | | | | | |
| STP/RSTP | ✓ | ✓ | ✓ | ✓ | ✓ |
| MSTP | ✓ | ✓ | ✓ | ✓ | ✓ |
| ERPS | ✓ | ✓ | ✓ | ✓ | ✓ |
| MRP | Optional | Optional | Optional | Optional | Optional |
| Port Trunking / LACP | ✓ | ✓ | ✓ | ✓ | ✓ |
| **Software Feature** | | | | | |
| | 802.1X, IPv6, Storm Control, UPnP, SNMP v1/v2c/v3, Event Warning, Port Mirror, LLDP, DHCP Server, DHCP Relay (Option82), USB Configuration, 802.1Q VLAN, VLAN Q-in-Q, IGMP Snooping/MLD Snooping, IEEE 1588/PTP , QoS, PoE Control, Modbus/TCP, Ethernet/IP, PROFINET | | | | |
| **Layer 3 Feature** | | | | | |
| Static Routing | ✓ | ✓ | ✓ | ✓ | ✓ |
| VRRPv2 | ✓ | ✓ | ✓ | ✓ | ✓ |
| OSPFv2 | ✓ | ✓ | ✓ | ✓ | ✓ |
| RIP v1/v2 | ✓ | ✓ | ✓ | ✓ | ✓ |
| **Switch Property** | | | | | |
| Jumbo Frame Support | 9216 bytes | 9216 bytes | 9216 bytes | 9216 bytes | 9216 bytes |
| MAC Table Size | 16K | 16K | 16K | 16K | 16K |
| Packet Buffer Size | 12 Mbits | 12 Mbits | 12 Mbits | 12 Mbits | 12 Mbits |
| Power Input | 50 - 57 VDC | 50- 57 VDC | 48 - 57 VDC | 48 - 57VDC | 90-264VAC,48-57VDC |
| Power Consumption (Sys.) | 19W | 19W | 19W | 21W | 26W |
| PoE Power Budget | 240W | 240W | 240W | 240W | 720W@DC ; Max. 377W@AC with derating (50°C to 70°C, 2.5%/°C) |
| **Certification** | | | | | |
| CE / FCC | ✓ | ✓ | ✓ | ✓ | ✓ |
| UL | Optional | Optional | Optional | Optional | Optional |
| IEC61000-6-2 / -6-4 | ✓ | ✓ | ✓ | ✓ | - |
| EN50121-4 | ✓ | ✓ | ✓ | - | - |

Note: * Std:-10°C to 60°C (14°F to 140°F) Ext:-40°C to 75°C (-40°F to 167°F)

## Industrial 10 Gigabit ◢ Layer 3 Managed Ethernet Switches



| Model Name | CS-0802X | CS-0804X | CS-0812X | CS-1604X | CS-2404X |
|---|---|---|---|---|---|
| | non-PoE | non-PoE | non-PoE | non-PoE | non-PoE |
| **Number of Port** | | | | | |
| Max. Port | 10 | 12 | 20 | 20 | 28 |
| 10 Gigabit Ethernet Port | - | - | - | - | - |
| Gigabit Ethernet Port | 8 | 8 | 8 | 16 | 24 |
| Fast Ethernet Port | - | - | - | - | - |
| 100/1000Tx SFP Port | - | - | 8 | - | - |
| 1000Tx SFP Port | - | - | - | - | - |
| 1G/10G SFP+ Port | 2 | 4 | 4 | 4 | 4 |
| Fix Fiber Port | - | - | - | - | - |
| PoE Ports (802.3at) | - | - | - | - | - |
| PoE Ports (802.3bt) | - | - | - | - | - |
| Combo Port | - | - | - | - | - |
| **Mechanism** | | | | | |
| Enclosure | Aluminum | Aluminum | Aluminum | Aluminum | SECC/Aluminum |
| Protection Class | IP30 | IP30 | IP30 | IP30 | IP30 |
| Dimensions(mm) | 72x145x118 | 72x145x118 | 91x145x118 | 91x145x118 | 440x44x331 |
| Weight(kg) | 0.88 kg | 0.87 kg | 1.38 kg | 0.97 kg | 5.00 kg |
| Mounting | DIN-Rail,Wall | DIN-Rail,Wall | DIN-Rail,Wall | DIN-Rail,Wall | Rack Mount |
| **Environment** | | | | | |
| Operating Temperature | -40°C to 75°C (-40°F to 167°F)* | -40°C to 75°C (-40°F to 167°F)* | -40°C to 75°C (-40°F to 167°F)* | -40°C to 75°C (-40°F to 167°F)* | -40°C to 75°C (-40°F to 167°F) |
| Storage Temperature | -40°C to 85°C (-40°F to -185°F) | -40°C to 85°C (-40°F to -185°F) | -40°C to 85°C (-40°F to -185°F) | -40°C to 85°C (-40°F to -185°F) | -40°C to 85°C (-40°F to -185°F) |
| **Network Redundancy** | | | | | |
| STP/RSTP | ✓ | ✓ | ✓ | ✓ | ✓ |
| MSTP | ✓ | ✓ | ✓ | ✓ | ✓ |
| ERPS | ✓ | ✓ | ✓ | ✓ | ✓ |
| MRP | Optional | Optional | Optional | Optional | Optional |
| Port Trunking / LACP | ✓ | ✓ | ✓ | ✓ | ✓ |
| **Software Feature** | | | | | |
| | 802.1X, IPv6, Storm Control, UPnP, SNMP v1/v2c/v3, Event Warning, Port Mirror, LLDP, DHCP Server, DHCP Relay (Option82), USB Configuration, 802.1Q VLAN, VLAN Q-in-Q, IGMP Snooping/MLD Snooping, IEEE 1588/PTP , QoS, Modbus/TCP, Ethernet/IP, PROFINET | | | | |
| **Layer 3 Feature** | | | | | |
| Static Routing | ✓ | ✓ | ✓ | ✓ | ✓ |
| VRRPv2 | ✓ | ✓ | ✓ | ✓ | ✓ |
| OSPFv2 | ✓ | ✓ | ✓ | ✓ | ✓ |
| RIP v1/v2 | ✓ | ✓ | ✓ | ✓ | ✓ |
| **Switch Property** | | | | | |
| Jumbo Frame Support | 9216 bytes | 9216 bytes | 9216 bytes | 9216 bytes | 9216 bytes |
| MAC Table Size | 16K | 16K | 16K | 16K | 16K |
| Packet Buffer Size | 12 Mbits | 12 Mbits | 12 Mbits | 12 Mbits | 12 Mbits |
| Power Input | 12 - 48 VDC | 12 - 48 VDC | 12 - 48 VDC | 12 - 48 VDC | 90-264VAC,24-48VDC |
| Power Consumption (Sys.) | 16W | 16W | 19W | 17W | 26W |
| PoE Power Budget | - | - | - | - | - |
| **Certification** | | | | | |
| CE / FCC | ✓ | ✓ | ✓ | ✓ | ✓ |
| UL | Optional | Optional | Optional | Optional | Optional |
| IEC61000-6-2 / -6-4 | ✓ | ✓ | ✓ | ✓ | - |
| EN50121-4 | ✓ | ✓ | ✓ | ✓ | - |

Note: * Std:-10°C to 60°C (14°F to 140°F) Ext:-40°C to 75°C (-40°F to 167°F)



## Industrial Gigabit ◢ Layer 2 Managed Ethernet Switches



| Model Name | MP-0802G | MT-0802G | MP-1002G | MT-1002G | MP-0804G | MT-0804G |
|---|---|---|---|---|---|---|
| | PoE | PoE | PoE | PoE | PoE | PoE |
| **Number of Port** | | | | | | |
| Max. Port | 10 | 10 | 12 | 12 | 12 | 12 |
| 10 Gigabit Ethernet Port | - | - | - | - | - | - |
| Gigabit Ethernet Port | 8 | 8 | 10 | 10 | 8 | 8 |
| Fast Ethernet Port | - | - | - | - | - | - |
| 100/1000Tx SFP Port | - | - | - | - | - | - |
| 1000Tx SFP Port | 2 | 2 | 2 | 2 | 4 | 4 |
| 1G/10G SFP+ Port | - | - | - | - | - | - |
| Fix Fiber Port | - | - | - | - | - | - |
| PoE Ports (802.3at) | 8 | 8 | 8 | 8 | 8 | 8 |
| PoE Ports (802.3bt) | - | - | - | - | - | - |
| Combo Port | - | - | - | - | - | - |
| **Mechanism** | | | | | | |
| Enclosure | Aluminum | Aluminum | Aluminum | Aluminum | Aluminum | Aluminum |
| Protection Class | IP30 | IP30 | IP30 | IP30 | IP30 | IP30 |
| Dimensions(mm) | 72x145x118 | 72x145x118 | 72x145x118 | 72x145x118 | 72x145x118 | 72x145x118 |
| Weight(kg) | 0.88 kg | 1.02kg | 0.88 kg | 1.12 kg | 0.90 kg | 1.04 kg |
| Mounting | DIN-Rail,Wall | DIN-Rail,Wall | DIN-Rail,Wall | DIN-Rail,Wall | DIN-Rail,Wall | DIN-Rail,Wall |
| **Environment** | | | | | | |
| Operating Temperature | -40°C to 75°C (14°F to 140°F)* | -40°C to 75°C (14°F to 140°F)* | -40°C to 75°C (14°F to 140°F)* | -40°C to 75°C (14°F to 140°F)* | -40°C to 75°C (14°F to 140°F)* | -40°C to 75°C (14°F to 140°F)* |
| Storage Temperature | -40°C to 85°C (-40°F to -185°F) | -40°C to 85°C (-40°F to -185°F) | -40°C to 85°C (-40°F to -185°F) | -40°C to 85°C (-40°F to -185°F) | -40°C to 85°C (-40°F to -185°F) | -40°C to 85°C (-40°F to -185°F) |
| **Network Redundancy** | | | | | | |
| STP/RSTP | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| MSTP | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| ERPS | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| MRP | ✓ | ✓ | Optional | Optional | ✓ | ✓ |
| Port Trunking / LACP | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| **Software Feature** | | | | | | |
| | 802.1X, IPv6, Storm Control, UPnP, SNMP v1/v2c/v3, Event Warning, Port Mirror, LLDP, DHCP Server, DHCP Relay(Option82), USB Configuration, 802.1Q VLAN, VLAN Q-in-Q, IGMP Snooping/MLD Snooping, IEEE 1588 v2/PTP , QoS, PoE Control, Modbus/TCP, Ethernet/IP, PROFINET | | | | | |
| **Switch Property** | | | | | | |
| Jumbo Frame Support | 9216 bytes | 9216 bytes | 9216 bytes | 9216 bytes | 9216 bytes | 9216 bytes |
| MAC Table Size | 16K | 16K | 16K | 16K | 16K | 16K |
| Packet Buffer Size | 12 Mbits | 12 Mbits | 12 Mbits | 12 Mbits | 12 Mbits | 12 Mbits |
| Power Input | 48 - 57 VDC | 12 - 57 VDC | 48 - 57 VDC | 12 - 57 VDC | 48 - 57 VDC | 12 - 57 VDC |
| Power Consumption (Sys.) | 16W | 17W | 16W | 16W | 19W | 22W |
| PoE Power Budget | 240W | 190W (24VDC) | 240W | 190 W (24VDC) | 240W | 190 W (24VDC) |
| **Certification** | | | | | | |
| CE / FCC | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| UL | Compliant | Compliant | Optional | Optional | Compliant | Compliant |
| IEC61000-6-2 / -6-4 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| EN50121-4 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |

Note: * Std:-10°C to 60°C (14°F to 140°F) Ext:-40°C to 75°C (-40°F to 167°F)

## Industrial Gigabit ◢ Layer 2 Managed Ethernet Switches



| Model Name | MH-0804G2 | MH-0804G4 | MQ-0804G2 | MP-1604G | MP-1604GB | MP-2404G |
|---|---|---|---|---|---|---|
| | PoE | PoE | PoE | PoE | PoE | PoE |
| **Number of Port** | | | | | | |
| Max. Port | 12 | 12 | 12 | 20 | 20 | 28 |
| 10 Gigabit Ethernet Port | - | - | - | - | - | - |
| Gigabit Ethernet Port | 8 | 8 | 8 | 16 | 16 | 24 |
| Fast Ethernet Port | - | - | - | - | - | - |
| 100/1000Tx SFP Port | - | - | - | - | - | - |
| 1000Tx SFP Port | 4 | 4 | 4 | 4 | 4 | 4 |
| 1G/10G SFP+ Port | - | - | - | - | - | - |
| Fix Fiber Port | - | - | - | - | - | - |
| PoE Ports (802.3at) | 4 | - | 4 | 8 | 16 | 24 |
| PoE Ports (802.3bt) | 2 (60W) | 4 (60W) | 2 (95W) | - | - | - |
| Combo Port | - | - | - | - | - | - |
| **Mechanism** | | | | | | |
| Enclosure | Aluminum | Aluminum | Aluminum | Aluminum | Aluminum | SECC/Aluminum |
| Protection Class | IP30 | IP30 | IP30 | IP30 | IP30 | IP30 |
| Dimensions(mm) | 72x145x118 | 72x145x118 | 72x145x118 | 91x145x118 | 91x145x118 | 440x44x331 |
| Weight(kg) | 0.90 kg | 0.90 kg | 0.90 kg | 1.40 kg | 1.40 kg | 6.00 kg |
| Mounting | DIN-Rail,Wall | DIN-Rail,Wall | DIN-Rail,Wall | DIN-Rail,Wall | DIN-Rail,Wall | Rack Mount |
| **Environment** | | | | | | |
| Operating Temperature | -40°C to 75°C (-40°F to 167F)* | -40°C to 75°C (-40°F to 167F)* | -40°C to 75°C (-40°F to 167F)* | -40°C to 75°C (-40°F to 167F)* | -40°C to 75°C (-40°F to 167F)* | -40°C to 75°C (-40°F to 167°F)* |
| Storage Temperature | -40°C to 85°C (-40°F to -185°F) | -40°C to 85°C (-40°F to -185°F) | -40°C to 85°C (-40°F to -185°F) | -40°C to 85°C (-40°F to -185°F) | -40°C to 85°C (-40°F to -185°F) | -40°C to 85°C (-40°F to -185°F) |
| **Network Redundancy** | | | | | | |
| STP/RSTP | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| MSTP | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| ERPS | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| MRP | Optional | Optional | Optional | Optional | Optional | Optional |
| Port Trunking / LACP | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| **Software Feature** | | | | | | |
| | 802.1X, IPv6, Storm Control, UPnP, SNMP v1/v2c/v3, Event Warning, Port Mirror, LLDP, DHCP Server, DHCP Relay (Option82), USB Configuration, 802.1Q VLAN, VLAN Q-in-Q, IGMP Snooping/MLD Snooping, IEEE 1588 v2/PTP , QoS, PoE Control, Modbus/TCP, Ethernet/IP, PROFINET | | | | | |
| **Switch Property** | | | | | | |
| Jumbo Frame Support | 9216 bytes | 9216 bytes | 9216 bytes | 9216 bytes | 9216 bytes | 9216 bytes |
| MAC Table Size | 16K | 16K | 16K | 16K | 16K | 16K |
| Packet Buffer Size | 12 Mbits | 12 Mbits | 12 Mbits | 12 Mbits | 12 Mbits | 12 Mbits |
| Power Input | 50- 57 VDC | 50 - 57 VDC | 50- 57 VDC | 48 - 57 VDC | 48 - 57 VDC | 90-264VAC,48-57VDC |
| Power Consumption (Sys.) | 19W | 19W | 19W | 22W | 16W | 19W |
| PoE Power Budget | 240W | 240W | 240W | 240W | 240W | 720W@DC ; Max. 377W@AC with derating (50°C to 70°C, 2.5%/°C) |
| **Certification** | | | | | | |
| CE / FCC | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| UL | Compliant | Compliant | Compliant | Compliant | Optional | Optional |
| IEC61000-6-2 / -6-4 | ✓ | ✓ | ✓ | ✓ | ✓ | - |
| EN50121-4 | - | - | - | ✓ | - | - |

Note: * Std:-10°C to 60°C (14°F to 140°F) Ext:-40°C to 75°C (-40°F to 167°F)



## Industrial Gigabit ◢ Layer 2 Managed Ethernet Switches



| Model Name | MS-0802G | MS-1002G | MS-0804G | MS-0812G | MS-1604G | MS-2404G-8C |
|---|---|---|---|---|---|---|
| | non-PoE | non-PoE | non-PoE | non-PoE | non-PoE | non-PoE |
| **Number of Port** | | | | | | |
| Max. Port | 10 | 12 | 12 | 20 | 20 | 28 |
| 10 Gigabit Ethernet Port | - | - | - | - | - | - |
| Gigabit Ethernet Port | 8 | 10 | 8 | 8 | 16 | 16 |
| Fast Ethernet Port | - | - | - | - | - | - |
| 100/1000Tx SFP Port | - | - | - | 8 | - | - |
| 1000Tx SFP Port | 2 | 2 | 4 | 4 | 4 | 4 |
| 1G/10G SFP+ Port | - | - | - | - | - | - |
| Fix Fiber Port | - | - | - | - | - | - |
| PoE Ports (802.3at) | - | - | - | - | - | - |
| PoE Ports (802.3bt) | - | - | - | - | - | - |
| Combo Port | - | - | - | - | - | 8 |
| **Mechanism** | | | | | | |
| Enclosure | Aluminum | Aluminum | Aluminum | Aluminum | Aluminum | SECC/Aluminum |
| Protection Class | IP30 | IP30 | IP30 | IP30 | IP30 | IP30 |
| Dimensions(mm) | 72x145x118 | 72x145x118 | 72x145x118 | 91x145x118 | 91x145x118 | 440x44x331 |
| Weight(kg) | 0.85 kg | 0.87kg | 0.87 kg | 1.38 kg | 0.97 kg | 4.48 kg |
| Mounting | DIN-Rail,Wall | DIN-Rail,Wall | DIN-Rail,Wall | DIN-Rail,Wall | DIN-Rail,Wall | Rack Mount |
| **Environment** | | | | | | |
| Operating Temperature | -40°C to 75°C (-40°F to 167°F)* | -40°C to 75°C (-40°F to 167°F)* | -40°C to 75°C (-40°F to 167°F)* | -40°C to 75°C (-40°F to 167°F)* | -40°C to 75°C (-40°F to 167°F)* | 40°C to 75°C (-40°F to 167°F) |
| Storage Temperature | -40°C to 85°C (-40°F to -185°F) | -40°C to 85°C (-40°F to -185°F) | -40°C to 85°C (-40°F to -185°F) | -40°C to 85°C (-40°F to -185°F) | -40°C to 85°C (-40°F to -185°F) | -40°C to 85°C (-40°F to -185°F) |
| **Network Redundancy** | | | | | | |
| STP/RSTP | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| MSTP | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| ERPS | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| MRP | ✓ | Optional | ✓ | Optional | Optional | Optional |
| Port Trunking / LACP | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| **Software Feature** | | | | | | |
| | 802.1X, IPv6, Storm Control, UPnP, SNMP v1/v2c/v3, Event Warning, Port Mirror, LLDP, DHCP Server, DHCP Relay (Option82), USB Configuration, 802.1Q VLAN, VLAN Q-in-Q, IGMP Snooping/MLD Snooping, IEEE 1588 v2/PTP , QoS, Modbus/TCP, Ethernet/IP, PROFINET | | | | | |
| **Switch Property** | | | | | | |
| Jumbo Frame Support | 9216 bytes | 9216 bytes | 9216 bytes | 9216 bytes | 9216 bytes | 9216 bytes |
| MAC Table Size | 16K | 16K | 16K | 16K | 16K | 16K |
| Packet Buffer Size | 12 Mbits | 12 Mbits | 12 Mbits | 12 Mbits | 12 Mbits | 12 Mbits |
| Power Input | 12 - 48 VDC | 12 - 48 VDC | 12 - 48 VDC | 12 - 48 VDC | 12 - 48 VDC | 90-264VAC,12-48VDC |
| Power Consumption (Sys.) | 13W | 14W | 14W | 19W | 17W | 30W |
| PoE Power Budget | - | - | - | - | - | - |
| **Certification** | | | | | | |
| CE / FCC | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| UL | Compliant | Optional | Compliant | Compliant | Compliant | Compliant |
| IEC61000-6-2 / -6-4 | ✓ | ✓ | ✓ | ✓ | ✓ | - |
| EN50121-4 | ✓ | ✓ | ✓ | ✓ | ✓ | - |

Note: * Std:-10°C to 60°C (14°F to 140°F) Ext:-40°C to 75°C (-40°F to 167°F)

## Industrial Gigabit ◢ Layer 3 Managed Ethernet Switches



| Model Name | CP-0802G | CT-0802G | CP-1002G | CT-1002G | CP-0804G | CT-0804G |
|---|---|---|---|---|---|---|
| | PoE | PoE | PoE | PoE | PoE | PoE |
| **Number of Port** | | | | | | |
| Max. Port | 10 | 10 | 12 | 12 | 12 | 12 |
| 10 Gigabit Ethernet Port | - | - | - | - | - | - |
| Gigabit Ethernet Port | 8 | 8 | 10 | 10 | 8 | 8 |
| Fast Ethernet Port | - | - | - | - | - | - |
| 100/1000Tx SFP Port | - | - | - | - | - | - |
| 1000Tx SFP Port | 2 | 2 | 2 | 2 | 4 | 4 |
| 1G/10G SFP+ Port | - | - | - | - | - | - |
| Fix Fiber Port | - | - | - | - | - | - |
| PoE Ports (802.3at) | 8 | 8 | 8 | 8 | 8 | 8 |
| PoE Ports (802.3bt) | - | - | - | - | - | - |
| Combo Port | - | - | - | - | - | - |
| **Mechanism** | | | | | | |
| Enclosure | Aluminum | Aluminum | Aluminum | Aluminum | Aluminum | SECC/Aluminum |
| Protection Class | IP30 | IP30 | IP30 | IP30 | IP30 | IP30 |
| Dimensions(mm) | 72x145x118 | 72x145x118 | 72x145x118 | 72x145x118 | 72x145x118 | 72x145x118 |
| Weight(kg) | 0.88 kg | 1.02 kg | 0.88 kg | 1.12 kg | 0.90 kg | 1.04 kg |
| Mounting | DIN-Rail,Wall | DIN-Rail,Wall | DIN-Rail,Wall | DIN-Rail,Wall | DIN-Rail,Wall | DIN-Rail,Wall |
| **Environment** | | | | | | |
| Operating Temperature | -40°C to 75°C (14°F to 140°F)* | -40°C to 75°C (14°F to 140°F)* | -40°C to 75°C (14°F to 140°F)* | -40°C to 75°C (14°F to 140°F)* | -40°C to 75°C (14°F to 140°F)* | -40°C to 75°C (14°F to 140°F)* |
| Storage Temperature | -40°C to 85°C (-40°F to -185°F) | -40°C to 85°C (-40°F to -185°F) | -40°C to 85°C (-40°F to -185°F) | -40°C to 85°C (-40°F to -185°F) | -40°C to 85°C (-40°F to -185°F) | -40°C to 85°C (-40°F to -185°F) |
| **Network Redundancy** | | | | | | |
| STP/RSTP | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| MSTP | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| ERPS | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| MRP | Optional | Optional | Optional | Optional | Optional | Optional |
| Port Trunking / LACP | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| **Software Feature** | | | | | | |
| | 802.1X, IPv6, Storm Control, UPnP, SNMP v1/v2c/v3, Event Warning, Port Mirror, LLDP, DHCP Server, DHCP Relay (Option82), USB Configuration, 802.1Q VLAN, VLAN Q-in-Q, IGMP Snooping/MLD Snooping, IEEE 1588 v2/PTP , QoS, PoE Control, Modbus/TCP, Ethernet/IP, PROFINET | | | | | |
| **Layer 3 Feature** | | | | | | |
| Static Routing | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| VRRPv2 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| OSPFv2 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| RIP v1/v2 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| **Switch Property** | | | | | | |
| Jumbo Frame Support | 9216 bytes | 9216 bytes | 9216 bytes | 9216 bytes | 9216 bytes | 9216 bytes |
| MAC Table Size | 16K | 16K | 16K | 16K | 16K | 16K |
| Packet Buffer Size | 12 Mbits | 12 Mbits | 12 Mbits | 12 Mbits | 12 Mbits | 12 Mbits |
| Power Input | 48 - 57 VDC | 12 - 57 VDC | 48 - 57 VDC | 12 - 57VDC | 48 - 57VDC | 12 - 57VDC |
| Power Consumption (Sys.) | 16W | 17W | 16W | 16W | 17W | 22W |
| PoE Power Budget | 240W | 190W (24VDC) | 240W | 190W (24VDC) | 240W | 190W (24VDC) |
| **Certification** | | | | | | |
| CE / FCC | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| UL | Optional | Optional | Optional | Optional | Optional | Optional |
| IEC61000-6-2 / -6-4 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| EN50121-4 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |

Note: * Std:-10°C to 60°C (14°F to 140°F) Ext:-40°C to 75°C (-40°F to 167°F)



## Industrial Gigabit ◢ Layer 3 Managed Ethernet Switches



| Model Name | CH-0804G2 | CH-0804G4 | CQ-0804G2 | CP-1604G | CP-1604GB | CP-2404G |
|---|---|---|---|---|---|---|
| | PoE | PoE | PoE | PoE | PoE | PoE |
| **Number of Port** | | | | | | |
| Max. Port | 12 | 12 | 12 | 20 | 20 | 28 |
| 10 Gigabit Ethernet Port | - | - | - | - | - | - |
| Gigabit Ethernet Port | 8 | 8 | 8 | 16 | 16 | 24 |
| Fast Ethernet Port | - | - | - | - | - | - |
| 100/1000Tx SFP Port | - | - | - | - | - | - |
| 1000Tx SFP Port | 4 | 4 | 4 | 4 | 4 | 4 |
| 1G/10G SFP+ Port | - | - | - | - | - | - |
| Fix Fiber Port | - | - | - | - | - | - |
| PoE Ports (802.3at) | 4 | - | 4 | 8 | 16 | 24 |
| PoE Ports (802.3bt) | 2 (60W) | 4 (60W) | 2 (95W) | - | - | - |
| Combo Port | - | - | - | - | - | - |
| **Mechanism** | | | | | | |
| Enclosure | Aluminum | Aluminum | Aluminum | Aluminum | Aluminum | SECC/Aluminum |
| Protection Class | IP30 | IP30 | IP30 | IP30 | IP30 | IP30 |
| Dimensions(mm) | 72x145x118 | 72x145x118 | 72x145x118 | 91x145x118 | 91x145x118 | 440x44x331 |
| Weight(kg) | 0.90 kg | 0.90 kg | 0.90 kg | 1.40 kg | 1.40 kg | 6.00 kg |
| Mounting | DIN-Rail,Wall | DIN-Rail,Wall | DIN-Rail,Wall | DIN-Rail,Wall | DIN-Rail,Wall | Rack Mount |
| **Environment** | | | | | | |
| Operating Temperature | -40°C to 75°C (-40°F to 167°F)* | -40°C to 75°C (-40°F to 167°F)* | -40°C to 75°C (-40°F to 167°F)* | -40°C to 75°C (-40°F to 167°F)* | -40°C to 75°C (-40°F to 167°F)* | -40°C to 75°C (-40°F to 167°F) |
| Storage Temperature | -40°C to 85°C (-40°F to -185°F) | -40°C to 85°C (-40°F to -185°F) | -40°C to 85°C (-40°F to -185°F) | -40°C to 85°C (-40°F to -185°F) | -40°C to 85°C (-40°F to -185°F) | -40°C to 85°C (-40°F to -185°F) |
| **Network Redundancy** | | | | | | |
| STP/RSTP | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| MSTP | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| ERPS | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| MRP | Optional | Optional | Optional | Optional | Optional | Optional |
| Port Trunking / LACP | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| **Software Feature** | | | | | | |
| | 802.1X, IPv6, Storm Control, UPnP, SNMP v1/v2c/v3, Event Warning, Port Mirror, LLDP, DHCP Server, DHCP Relay (Option82), USB Configuration, 802.1Q VLAN, VLAN Q-in-Q, IGMP Snooping/MLD Snooping, IEEE 1588 v2/PTP , QoS, PoE Control, Modbus/TCP, Ethernet/IP, PROFINET | | | | | |
| **Layer 3 Feature** | | | | | | |
| Static Routing | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| VRRPv2 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| OSPFv2 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| RIP v1/v2 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| **Switch Property** | | | | | | |
| Jumbo Frame Support | 9216 bytes | 9216 bytes | 9216 bytes | 9216 bytes | 9216 bytes | 9216 bytes |
| MAC Table Size | 16K | 16K | 16K | 16K | 16K | 16K |
| Packet Buffer Size | 12 Mbits | 12 Mbits | 12 Mbits | 12 Mbits | 12 Mbits | 12 Mbits |
| Power Input | 50 - 57 VDC | 50 - 57 VDC | 50 - 57 VDC | 48 - 57VDC | 48 - 57VDC | 90 - 264VAC,48 - 57VDC |
| Power Consumption (Sys.) | 19W | 19W | 19W | 22W | 16W | 19W |
| PoE Power Budget | 240W | 240W | 240W | 240W | 240W | 720W@DC ; Max. 377W@AC with derating (50°C to 70°C, 2.5%/°C) |
| **Certification** | | | | | | |
| CE / FCC | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| UL | Optional | Optional | Optional | Optional | Optional | Optional |
| IEC61000-6-2 / -6-4 | ✓ | ✓ | ✓ | ✓ | ✓ | - |
| EN50121-4 | ✓ | ✓ | ✓ | ✓ | - | - |

Note: * Std:-10°C to 60°C (14°F to 140°F) Ext:-40°C to 75°C (-40°F to 167°F)

## Industrial Gigabit ◢ Layer 3 Managed Ethernet Switches



| Model Name | CS-0802G | CS-1002G | CS-0804G | CS-0812G | CS-1604G | CS-2404G-8C |
|---|---|---|---|---|---|---|
| | non-PoE | non-PoE | non-PoE | non-PoE | non-PoE | non-PoE |
| **Number of Port** | | | | | | |
| Max. Port | 10 | 12 | 12 | 20 | 20 | 28 |
| 10 Gigabit Ethernet Port | - | - | - | - | - | - |
| Gigabit Ethernet Port | 8 | 10 | 8 | 8 | 16 | 16 |
| Fast Ethernet Port | - | - | - | - | - | - |
| 100/1000Tx SFP Port | - | - | - | 8 | - | - |
| 1000Tx SFP Port | 2 | 2 | 4 | 4 | 4 | 4 |
| 1G/10G SFP+ Port | - | - | - | - | - | - |
| Fix Fiber Port | - | - | - | - | - | - |
| PoE Ports (802.3at) | - | - | - | - | - | - |
| PoE Ports (802.3bt) | - | - | - | - | - | - |
| Combo Port | - | - | - | - | - | 8 |
| **Mechanism** | | | | | | |
| Enclosure | Aluminum | Aluminum | Aluminum | Aluminum | Aluminum | Aluminum |
| Protection Class | IP30 | IP30 | IP30 | IP30 | IP30 | IP30 |
| Dimensions(mm) | 72x145x118 | 72x145x118 | 72x145x118 | 91x145x118 | 91x145x118 | 440x44x331 |
| Weight(kg) | 0.85 kg | 0.87 kg | 0.87 kg | 1.38 kg | 0.97 kg | 4.80 kg |
| Mounting | DIN-Rail,Wall | DIN-Rail,Wall | DIN-Rail,Wall | DIN-Rail,Wall | DIN-Rail,Wall | Rack Mount |
| **Environment** | | | | | | |
| Operating Temperature | -40°C to 75°C (-40°F to 167°F)* | -40°C to 75°C (-40°F to 167°F)* | -40°C to 75°C (-40°F to 167°F)* | -40°C to 75°C (-40°F to 167°F)* | -40°C to 75°C (-40°F to 167°F)* | -40°C to 75°C (-40°F to 167°F) |
| Storage Temperature | -40°C to 85°C (-40°F to -185°F) | -40°C to 85°C (-40°F to -185°F) | -40°C to 85°C (-40°F to -185°F) | -40°C to 85°C (-40°F to -185°F) | -40°C to 85°C (-40°F to -185°F) | -40°C to 85°C (-40°F to -185°F) |
| **Network Redundancy** | | | | | | |
| STP/RSTP | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| MSTP | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| ERPS | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| MRP | Optional | Optional | Optional | Optional | Optional | Optional |
| Port Trunking / LACP | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| **Software Feature** | | | | | | |
| | 802.1X, IPv6, Storm Control, UPnP, SNMP v1/v2c/v3, Event Warning, Port Mirror, LLDP, DHCP Server, DHCP Relay (Option82), USB Configuration, 802.1Q VLAN, VLAN Q-in-Q, IGMP Snooping/MLD Snooping, IEEE 1588 v2/PTP , QoS, PoE Control, Modbus/TCP, Ethernet/IP, PROFINET | | | | | |
| **Layer 3 Feature** | | | | | | |
| Static Routing | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| VRRPv2 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| OSPFv2 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| RIP v1/v2 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| **Switch Property** | | | | | | |
| Jumbo Frame Support | 9216 bytes | 9216 bytes | 9216 bytes | 9216 bytes | 9216 bytes | 9216 bytes |
| MAC Table Size | 16K | 16K | 16K | 16K | 16K | 16K |
| Packet Buffer Size | 12 Mbits | 12 Mbits | 12 Mbits | 12 Mbits | 12 Mbits | 12 Mbits |
| Power Input | 12 - 48 VDC | 12 - 48 VDC | 12 - 48 VDC | 12 - 48 VDC | 12 - 48 VDC | 90-264VAC,12-48VDC |
| Power Consumption (Sys.) | 13W | 14W | 14W | 19W | 17W | 30W |
| PoE Power Budget | - | - | - | - | - | - |
| **Certification** | | | | | | |
| CE / FCC | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| UL | Optional | Optional | Optional | Optional | Optional | Optional |
| IEC61000-6-2 / -6-4 | ✓ | ✓ | ✓ | ✓ | ✓ | - |
| EN50121-4 | ✓ | ✓ | ✓ | ✓ | ✓ | - |

Note: * Std:-10°C to 60°C (14°F to 140°F) Ext:-40°C to 75°C (-40°F to 167°F)



## Industrial ◢ Unmanaged Ethernet Switches



| Model Name | EP-0500L | EP-0500G | EP-0501G | EP-0800L |
|---|---|---|---|---|
| | PoE | PoE | PoE | PoE |
| **Number of Port** | | | | |
| Max. Port | 5 | 5 | 6 | 8 |
| Gigabit Ethernet Port | - | 5 | 5 | - |
| Fast Ethernet Port | 5 | - | - | 8 |
| 100/1000Tx SFP Port | - | - | 1 | - |
| 1000Tx SFP Port | - | - | - | - |
| Fix Fiber Port | - | - | - | - |
| PoE Ports (802.3at) | 4 | 4 | 4 | 8 |
| PoE Ports (802.3bt) | - | - | - | - |
| **Mechanism** | | | | |
| Enclosure | SECC | SECC | SECC | SECC |
| Protection Class | IP30 | IP30 | IP30 | IP30 |
| Dimensions(mm) | 27x105x95 | 29x140x98 | 29x140x98 | 29x140x98 |
| Weight(kg) | 0.51 kg | 0.7 kg | 0.7 kg | 0.8 kg |
| Mounting | DIN-Rail | DIN-Rail | DIN-Rail | DIN-Rail |
| **Environment** | | | | |
| Operating Temperature | -40°C to 75°C (-40°F to 167°F) | -40°C to 75°C (-40°F to 167°F) | -40°C to 75°C (-40°F to 167°F) | -40°C to 75°C (-40°F to 167°F) |
| Storage Temperature | -40°C to 85°C (-40°F to -185°F) | -40°C to 85°C (-40°F to -185°F) | -40°C to 85°C (-40°F to -185°F) | -40°C to 85°C (-40°F to -185°F) |
| **Network Redundancy** | | | | |
| STP/RSTP | - | - | - | - |
| MSTP | - | - | - | - |
| ERPS | - | - | - | - |
| MRP | - | - | - | - |
| Port Trunking / LACP | - | - | - | - |
| **Software Feature** | | | | |
| | - | | | |
| **Layer 3 Feature** | | | | |
| Static Routing | - | - | - | - |
| OSPFv2 | - | - | - | - |
| RIP v1/v2 | - | - | - | - |
| TTDP/TRDP | - | - | - | - |
| **Switch Property** | | | | |
| Jumbo Frame Support | - | 9600bytes | 9600bytes | - |
| MAC Table Size | 1K | 2K | 2K | 1K |
| Packet Buffer Size | 448 Kbits | 1 Mbits | 1 Mbits | 448 Kbits |
| Power Input | 48-57VDC | 48-57VDC | 48-57VDC | 48-57VDC |
| Power Consumption (Sys.) | 2.88W | 5W | 5W | 2.88W |
| PoE Power Budget | 120W | 120W | 120W | 180W |
| **Certification** | | | | |
| CE / FCC | ✓ | ✓ | ✓ | ✓ |
| UL | - | - | - | - |
| IEC61000-6-2 / -6-4 | ✓ | ✓ | ✓ | ✓ |

## Industrial ◢ Unmanaged Ethernet Switches




E-Mark
NEW

NEW

| Model Name | EP-0800GB | EP-0802G | ET-1002G | ES-0401G |
|---|---|---|---|---|
| | PoE | PoE | PoE | non-PoE |
| **Number of Port** | | | | |
| Max. Port | 8 | 10 | 12 | 5 |
| Gigabit Ethernet Port | 8 | 8 | 10 | 4 |
| Fast Ethernet Port | - | - | - | - |
| 100/1000Tx SFP Port | - | 2 | - | - |
| 1000Tx SFP Port | - | - | 2 | 1 |
| Fix Fiber Port | - | - | - | - |
| PoE Ports (802.3at) | 8 | 8 | 8 | - |
| PoE Ports (802.3bt) | - | - | - | - |
| **Mechanism** | | | | |
| Enclosure | SECC | Aluminum | Aluminum | SECC |
| Protection Class | IP30 | IP30 | IP30 | IP30 |
| Dimensions(mm) | 29x140x98 | 50x120x100 | 72x145x118 | 29x140x98 |
| Weight(kg) | 0.8 kg | 0.67 kg | 0.75 kg | 0.6 kg |
| Mounting | DIN-Rail | DIN-Rail, Wall | DIN-Rail, Wall | DIN-Rail |
| **Environment** | | | | |
| Operating Temperature | -40°C to 75°C (-40°F to 167°F)* | -40°C to 75°C (-40°F to 167°F)* | -40°C to 75°C (-40°F to 167°F)* | -40°C to 75°C (-40°F to 167°F) |
| Storage Temperature | -40°C to 85°C (-40°F to -185°F) | -40°C to 85°C (-40°F to -185°F) | -40°C to 85°C (-40°F to -185°F) | -40°C to 85°C (-40°F to -185°F) |
| **Network Redundancy** | | | | |
| STP/RSTP | - | - | - | - |
| MSTP | - | - | - | - |
| ERPS | - | - | - | - |
| MRP | - | - | - | - |
| Port Trunking / LACP | - | - | - | - |
| **Software Feature** | | | | |
| | - | | | |
| **Layer 3 Feature** | | | | |
| Static Routing | - | - | - | - |
| OSPFv2 | - | - | - | - |
| RIP v1/v2 | - | - | - | - |
| **Switch Property** | | | | |
| Jumbo Frame Support | 2000bytes | 9600bytes | 9600bytes | 9600bytes |
| MAC Table Size | 4K | 8K | 8K | 2K |
| Packet Buffer Size | 1.5 Mbits | 4 Mbits | 4 Mbits | 1 Mbits |
| Power Input | 48 - 57VDC | 48 - 57VDC | 12 - 57VDC | 12 - 48VDC |
| Power Consumption (Sys.) | 20W | 10W | 14W | 5W |
| PoE Power Budget | 180W | 240W | 190W (24VDC) | - |
| **Certification** | | | | |
| CE / FCC | ✓ | ✓ | ✓ | ✓ |
| UL | - | - | - | - |
| IEC61000-6-2 / -6-4 | ✓ | ✓ | ✓ | ✓ |

Note: * Std:-10°C to 60°C (14°F to 140°F) Ext:-40°C to 75°C (-40°F to 167°F)



## Industrial ◢ Unmanaged Ethernet Switches






| Model Name | ES-0500L-M12 | ES-0500L | ES-0500GB | ES-0501G |
|---|---|---|---|---|
| | non-PoE | non-PoE | non-PoE | non-PoE |
| **Number of Port** | | | | |
| Max. Port | 5 | 5 | 5 | 6 |
| Gigabit Ethernet Port | - | - | 5 | 5 |
| Fast Ethernet Port | 5 (M12) | 5 | - | - |
| 100/1000Tx SFP Port | - | - | - | 1 |
| 1000Tx SFP Port | - | - | - | - |
| Fix Fiber Port | - | - | - | - |
| PoE Ports (802.3at) | - | - | - | - |
| PoE Ports (802.3bt) | - | - | - | - |
| **Mechanism** | | | | |
| Enclosure | Plastic | SECC | SECC | SECC |
| Protection Class | IP67 | IP30 | IP30 | IP30 |
| Dimensions(mm) | 33x217x43 | 27x105x95 | 29x140x98 | 29x140x98 |
| Weight(kg) | 0.3 kg | 0.36 kg | 0.55 kg | 0.6 kg |
| Mounting | Wall | DIN-Rail | DIN-Rail | DIN-Rail |
| **Environment** | | | | |
| Operating Temperature | -40°C to 75°C (-40°F to 167°F) | -40°C to 75°C (-40°F to 167°F) | -40°C to 75°C (-40°F to 167°F) | -40°C to 75°C (-40°F to 167°F) |
| Storage Temperature | -40°C to 85°C (-40°F to -185°F) | -40°C to 85°C (-40°F to -185°F) | -40°C to 85°C (-40°F to -185°F) | -40°C to 85°C (-40°F to -185°F) |
| **Network Redundancy** | | | | |
| STP/RSTP | - | - | - | - |
| MSTP | - | - | - | - |
| ERPS | - | - | - | - |
| MRP | - | - | - | - |
| Port Trunking / LACP | - | - | - | - |
| **Software Feature** | | | | |
| | - | | | |
| **Layer 3 Feature** | | | | |
| Static Routing | - | - | - | - |
| OSPFv2 | - | - | - | - |
| RIP v1/v2 | - | - | - | - |
| TTDP/TRDP | - | - | - | - |
| **Switch Property** | | | | |
| Jumbo Frame Support | - | - | 9600bytes | 9600bytes |
| MAC Table Size | 1K | 1K | 2K | 2K |
| Packet Buffer Size | 448 Kbits | 448 Kbits | 1Mbits | 1 Mbits |
| Power Input | 12 - 48VDC | 12 - 56VDC | 12 - 48VDC | 12 - 48VDC |
| Power Consumption (Sys.) | 2W | 2W | 5W | 5W |
| PoE Power Budget | - | - | - | - |
| **Certification** | | | | |
| CE / FCC | ✓ | ✓ | ✓ | ✓ |
| UL | - | - | - | - |
| IEC61000-6-2 / -6-4 | ✓ | ✓ | ✓ | ✓ |

# Industrial ◢ Unmanaged Ethernet Switches







| Model Name | ES-0800L | ES-0800GB | ES-0802G | ES-1600L | ES-1600G |
|---|---|---|---|---|---|
| | non-PoE | non-PoE | non-PoE | non-PoE | non-PoE |
| **Number of Port** | | | | | |
| Max. Port | 8 | 8 | 10 | 16 | 16 |
| Gigabit Ethernet Port | - | 8 | 8 | - | 16 |
| Fast Ethernet Port | 8 | - | - | 16 | - |
| 100/1000Tx SFP Port | - | - | 2 | - | - |
| 1000Tx SFP Port | - | - | - | - | - |
| Fix Fiber Port | - | - | - | - | - |
| PoE Ports (802.3at) | - | - | - | - | - |
| PoE Ports (802.3bt) | - | - | - | - | - |
| **Mechanism** | | | | | |
| Enclosure | SECC | SECC | Aluminum | Metal casting | Metal casting |
| Protection Class | IP30 | IP30 | IP30 | IP30 | IP30 |
| Dimensions(mm) | 29x140x98 | 29x140x98 | 50x120x100 | 45x136x95 | 45x136x95 |
| Weight(kg) | 0.75 kg | 0.75kg | 0.7 kg | 0.5 kg | 0.5 kg |
| Mounting | DIN-Rail | DIN-Rail | DIN-Rail, Wall | DIN-Rail | DIN-Rail |
| **Environment** | | | | | |
| Operating Temperature | -40°C to 75°C (-40°F to 167°F) | -40°C to 75°C (-40°F to 167°F) | -40°C to 75°C (-40°F to 167°F)* | -40°C to 75°C (-40°F to 167°F)* | -40°C to 75°C (-40°F to 167°F) |
| Storage Temperature | -40°C to 85°C (-40°F to -185°F) | -40°C to 85°C (-40°F to -185°F) | -40°C to 85°C (-40°F to -185°F) | -40°C to 85°C (-40°F to -185°F) | -40°C to 85°C (-40°F to -185°F) |
| **Network Redundancy** | | | | | |
| STP/RSTP | - | - | - | - | - |
| MSTP | - | - | - | - | - |
| ERPS | - | - | - | - | - |
| MRP | - | - | - | - | - |
| Port Trunking / LACP | - | - | - | - | - |
| **Software Feature** | | | | | |
| | | | - | | |
| **Layer 3 Feature** | | | | | |
| Static Routing | - | - | - | - | - |
| OSPFv2 | - | - | - | - | - |
| RIP v1/v2 | - | - | - | - | - |
| TTDP/TRDP | - | - | - | - | - |
| **Switch Property** | | | | | |
| Jumbo Frame Support | - | 2000bytes | 9600bytes | - | 9600bytes |
| MAC Table Size | 1K | 4K | 8K | 8K | 8K |
| Packet Buffer Size | 448 Kbits | 1.5 Mbits | 4 Mbits | 4 Mbits | 4 Mbits |
| Power Input | 12 - 56VDC | 12 - 48VDC | 12 - 48VDC | 12 - 48VDC | 12 - 48VDC |
| Power Consumption (Sys.) | 2W | 20W | 15W | 10W | 10W |
| PoE Power Budget | - | - | - | - | - |
| **Certification** | | | | | |
| CE / FCC | ✓ | ✓ | ✓ | ✓ | ✓ |
| UL | - | - | - | - | Optional |
| IEC61000-6-2 / -6-4 | ✓ | ✓ | ✓ | ✓ | ✓ |

Note: * Std:-10°C to 60°C (14°F to 140°F) Ext:-40°C to 75°C (-40°F to 167°F)