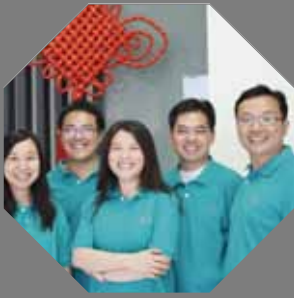


HENRICH™

Industrial Ethernet Solutions

Connecting Your Industrial World -- Simply and Reliably
www.henrich-inc.com





About Henrich

Originated from the founding member of Industrial Ethernet Association in the US, over the last 10 years, Henrich Electronics has in-house developed the complete Industrial Ethernet intellectual properties and has provided the complete Industrial Ethernet product offerings to our customers on the global basis. Equipped with R&D and manufacturing under one roof, we can provide a wide range of Industrial Ethernet products ranging from unmanaged Plug-N-Play switches, layer 2 managed switches, up to all gigabit fiber port layer 3 switches to cover a wide range of applications in different industries. Our one decade of accumulated experience in design, manufacturing and field deployments has gained us a unique and strong position to help our customers on the global basis provide the competitive advantages in their respective market segments.

Henrich's products have received wide recognition for our designs, quality and low prices. As little as 30 days for a quick design turnaround time has repeatedly helped our customers win projects due to the time-to-market competitive advantages over their competitors.

Utilities, transportation, new energies such as mining and solar power, oil and gases, etc., Henrich Electronics is dedicated to winning the first choice for industrial Ethernet solutions for global industrial users.



RingOpen Redundancy (ROR)

Our patent-pending RingOpen™ Redundancy technology has equipped Henrich's industrial networks with superior open ring redundant capability. This RingOpen™ technology allows switches in a network sense the adjacent cable communications status, thus alarming the switch to react with initiating the redundant and/or escape mechanism. This technology can significantly improve the large-scale industrial network communications redundancy and reliability.

- Super fast recovery time <15ms
- Flexible configuration options
- Ring coupling for improved efficiency and performance
- Dual channel to interoperate with other standard ring recovery technologies



RingOn Redundancy (RingOn)

RingOn redundant recovery technology has been deployed in all Henrich's layer 2 and layer 3 industrial Ethernet switches, guarding our customers industrial networks with uninterrupted network protection scheme. Single or multiple ring topologies in a flexible fashion have provided many options for our customers when they deploy an industrial project.

- Fast recovery time <15ms
- Flexible ring configuration options
- Multiple ports can be used for ring back bone connections
- Multiple connection media can be used for ring connections



Digital Substation Communications



▶ MX6026/MX6028 Series Switches – Fit for Substations

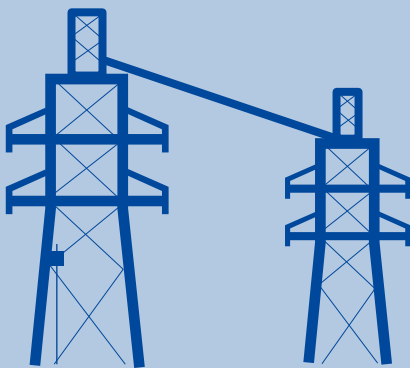
Henrich Electronics' MX6000 series Industrial Ethernet switches, designed specifically for substation environment, have passed IEC61850-3/1613 requirements. Up to 24 fiber ports and 4 gigabit fiber ports provide the flexible applications for different system requirements. A large installed base using this line of products allow us to service our future customers with confidence.

▶ Uninterrupted Redundant Network from Henrich

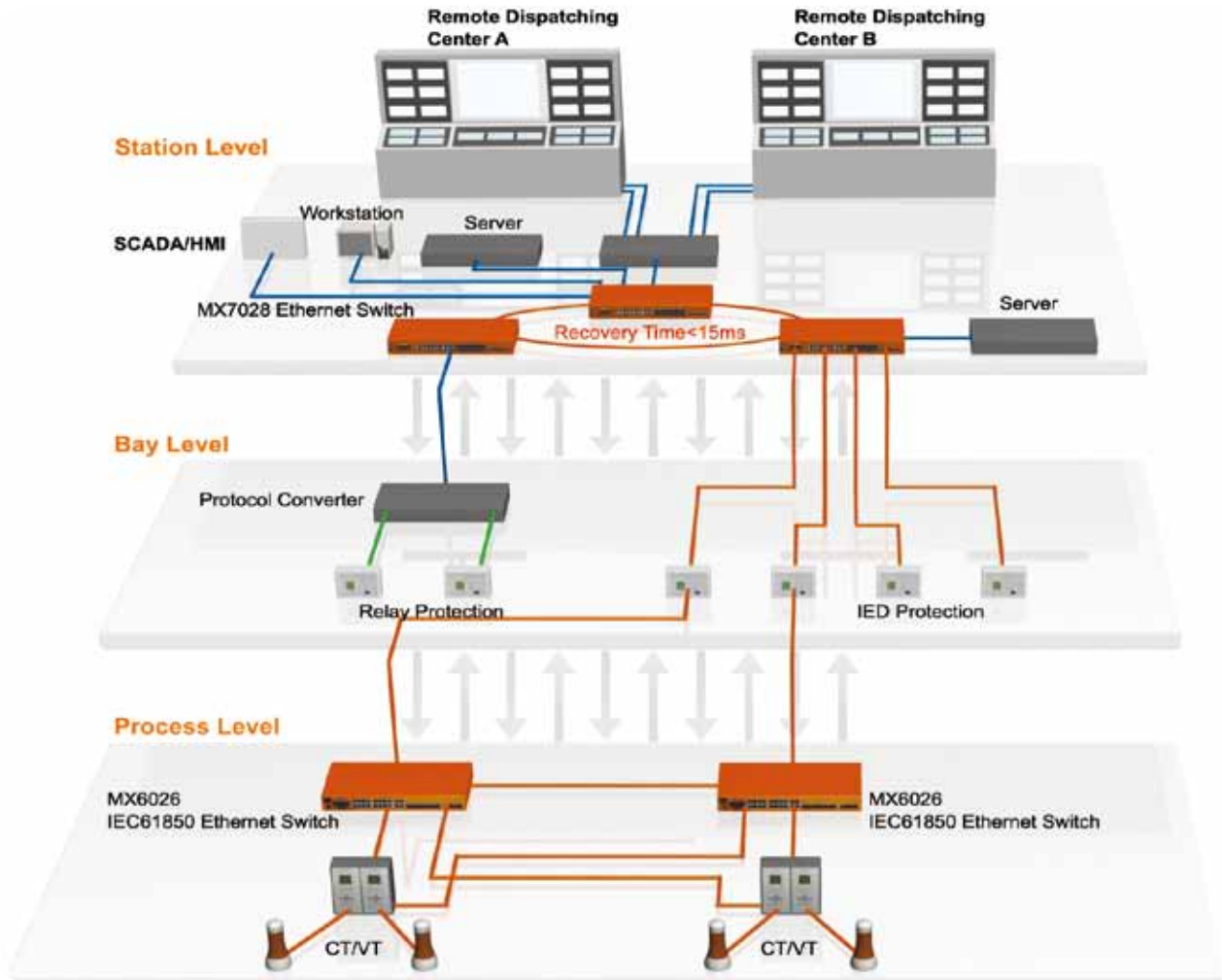
Patent-pending RingOpen from Henrich Electronics provides the ultimate network redundant recovery scheme. RingOpen allows the third party devices to join the network without any interruption to the redundancy of the network.

▶ Industrial Grade Design for Substations

- IEC61850/1613 Compliant
- Zero Packet Lost Guaranteed
- Support Wide Temp: -40°C to 85°C
- Rich Management Features supporting <15ms Redundant Recovery Time
- Bullet Proof Network Safety



Case Topology



Recommended Products



MX7028 Series

Layer 3 All Gigabit Industrial Ethernet Switches

- Layer 3 switching, supporting switches static Routing and RIP v1/v2
- Supporting RingOn™ and RingOpen™ Network recovery redundancy with less than 15ms recovery time
- Fanless design supporting -40~85°C operating temperature



MX6000 Series

IEC61850-3 Industrial Ethernet Switches

- IEC61850-3/1613 Certified
- Supporting RingOn™ and RingOpen™ Network recovery redundancy with less than 15ms recovery time
- Embedded diagnosing ability to check and remove network errors
- Relay and email output to alarm



Industrial Grade Design, Fit for Power Distribution

- IEC61850-3/IEEE1613 Complied
- Zero Packet Loss for Ethernet Data Switching
- Fanless design, supporting -40~85°C operating temperature
- 15ms Network Redundant Recovery Time



Intelligent Power Distribution System



Communications Requirements

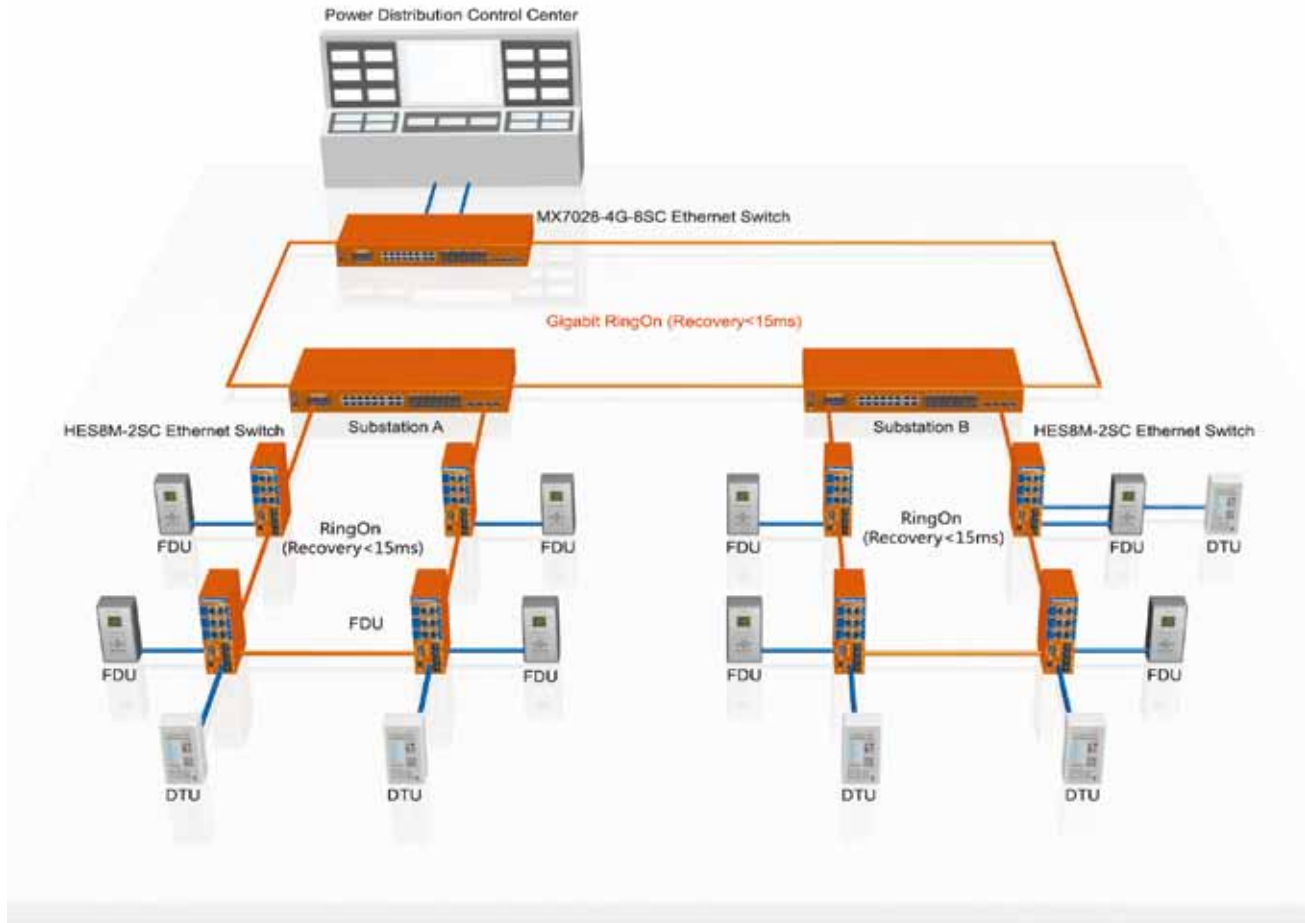
- Openness and Regulated
 - Interoperability among multiple protocols from multiple vendors to maximize the network resources
- Integrity and Reliability
 - To ensure fast, reliable data transfer services with integrated management and control
- Advancement
 - The hardware, software and protocols are compliant with international standards with long term planning in design
- Effective Management and Safety
 - Complete management of the network
 - Support VLAN, QoS and other important functions
 - Layered safety arrangement for taking care of different safety concerns
- High speed Ethernet technology required
 - Allows for further expansion of the existing networks

Henrich Power Distribution Case Study

Our MX7028-4G gigabit layer 3 switch, one network management software and one network control platform are installed in the control center. MX7028-4G-8SC is used to aggregate the network equipment in the control center and connect the equipment from multiple substations. It also transfers these data to other designated locations. The network control platform is to configure the network and monitor the parameters of the running network.

Similarly, one MX7028-4G-8SC gigabit layer 3 switch, one network management software and one network control platform are installed in the substation. MX7028-4G-8SC is used to aggregate the network equipment in the substation and contact the requirement from multiple power distribution and monitoring center. It also transfers these data to other designated locations. HES8M-2SC is used to aggregate and transfer the frontend FTU and DTU data. The network control platform is to configure the network and monitor the parameters of the running network.

Case Topology



Recommended Products



MX7028 Series

Layer 3 All Gigabit Industrial Ethernet Switches

- Layer 3 switching, supporting switches static Routing and RIP v1/v2
- Supporting RingOn™ and RingOpen™ Network recovery redundancy with less than 15ms recovery time
- Fanless design supporting -40~85°C operating temperature



MX6000 Series

IEC61850-3 Industrial Ethernet Switches

- IEC61850-3/1613 Certified
- Supporting RingOn™ and RingOpen™ Network recovery redundancy with less than 15ms recovery time
- Embedded diagnosing ability to check and remove network errors
- Relay and email output to alarm



Wind Power Control System

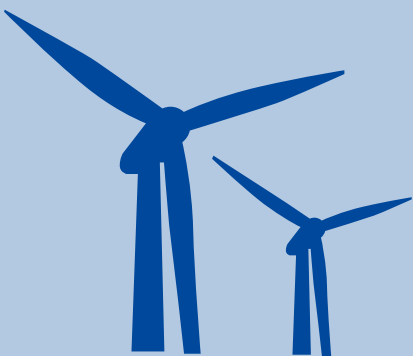
» Requirements

Communications between wind columns are extremely critical yet difficult due to the covered large geographic area. The internet EMC interference from the wind motors is also an important factor. Therefore, ruggedized network equipments are demanded for the wind power applications.

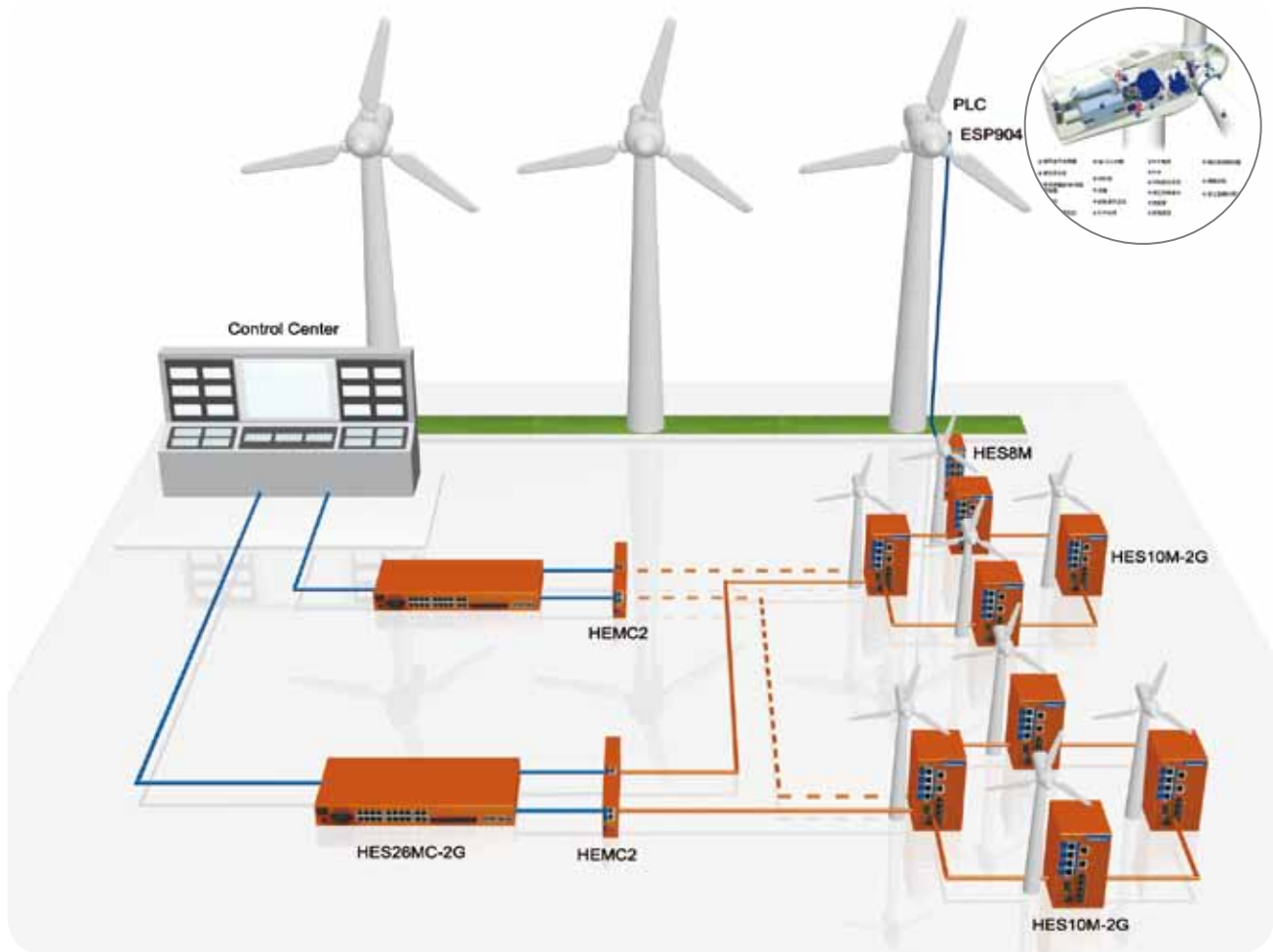
Inside the wind column head, various onsite field equipments are installed there. We used a serial server product to connect those equipment to our Ethernet switch-HES8M, installed in the bottom of the wind column, then connected to our HES10M-2G using the fiber port. HES10M-2G, connected with other HES10M-2G using gigabit fiber ring, formed a redundant recovery fiber network. Using our media converter HEMC2, the HES10M-2G is connected with HES26MC-2G in the control center.

» Industrial Grade Design, Hardened and Reliable

All Henrich's Wind Power category switches are designed with the wind mill harsh environment in mind. They are fanless, high MTBF, wide operating temperature dual redundant power inputs, etc. to create a strong, maintenance-free wind power communications system.



Case Topology



Recommended Products



HEMC2 Series

Din-rail Mounted Industrial Media Converters

- Supports 10/100 BaseT(x) with MDI/MDI-X ability
- Relay output alarm for power failures or power interruptions
- Dual power inputs
- Class1, Division 2 Certified
- Ruggedized metal enclosure with IP30 protection



HES10M-2G Series

Din-rail Gigabit Industrial Ethernet Switches

- Supporting RingOn™ and RingOpen™ Network recovery redundancy with less than 15ms recovery time
- Complete management features such as VLAN, QoS, SNMP, IGMP Snooping, etc. Support SNMP v1/v2/v3
- Broadcast storm controlled
- Email or relay alarm for errors

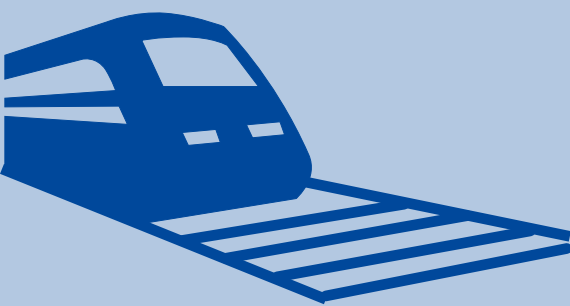


Subway Transportation AFC System

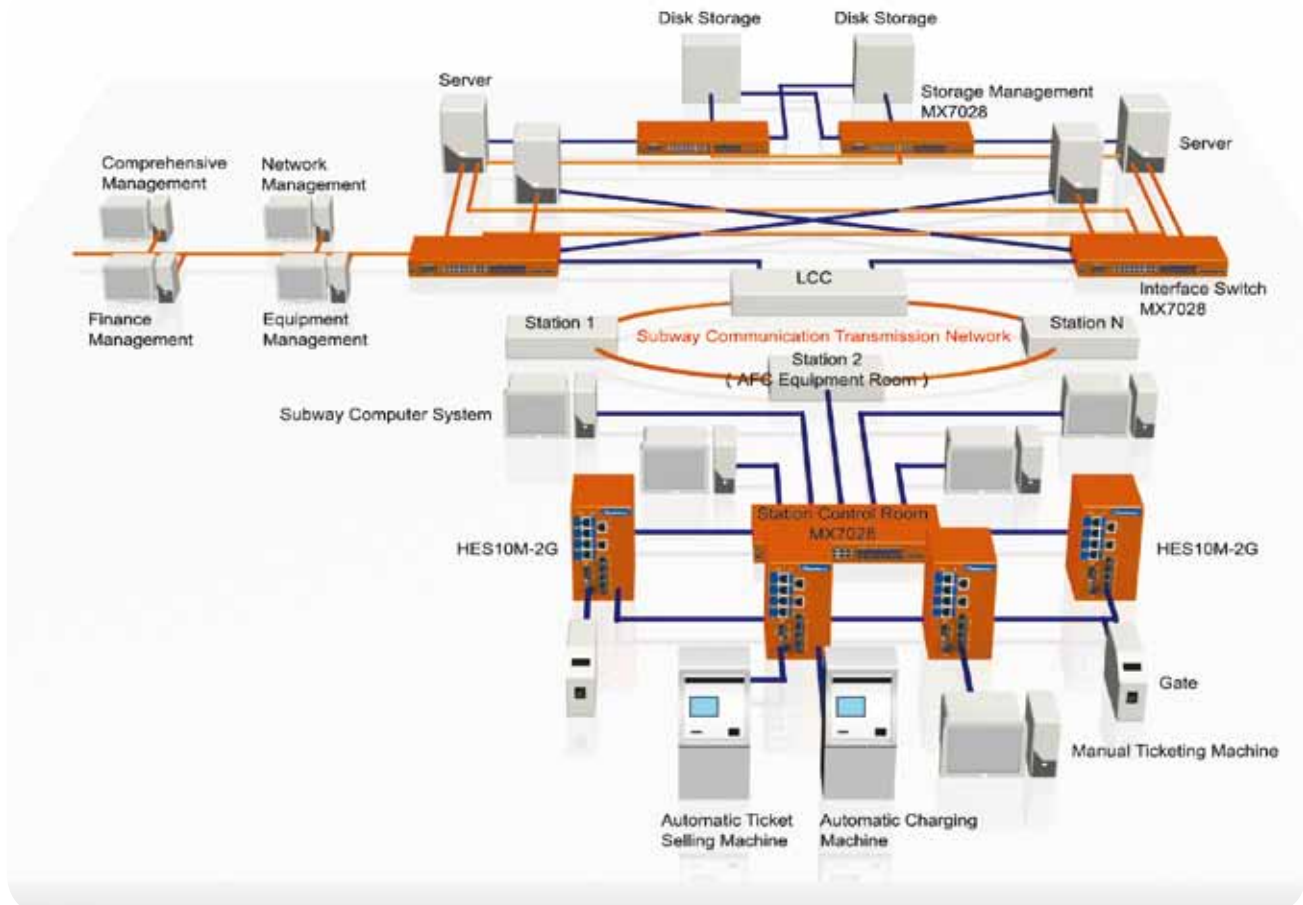
Automatic Fare Collection system integrates ticket selling, ticket checking, fee calculation, fee collection, statistics, points calculation and management processed. It demands highly sophisticated system configurations and hardened network equipments.

▶ Uninterrupted Redundant Network from Henrich

Patent-pending RingOpen from Henrich Electronics provides the ultimate network redundant recovery scheme. RingOpen allows the third party devices to join the network without any interruption to the redundancy of the network.



Case Topology



Recommended Products



MX7028 Series

Layer 3 All Gigabit Industrial Ethernet Switches

- Layer 3 switching, supporting switches static Routing and RIP v1/v2
- Supporting RingOn™ and RingOpen™ Network recovery redundancy with less than 15ms recovery time
- Fanless design supporting -40~85°C operating temperature



HES10M-2G Series

Din-rail Gigabit Industrial Ethernet Switches

- Supporting RingOn™ and RingOpen™ Network recovery redundancy with less than 15ms recovery time
- Complete management features such as VLAN, QoS, SNMP, IGMP Snooping, etc. Support SNMP v1/v2/v3
- Broadcast storm controlled
- Email or relay alarm for errors



Intelligent Transportation Video Surveillance System (ITS)

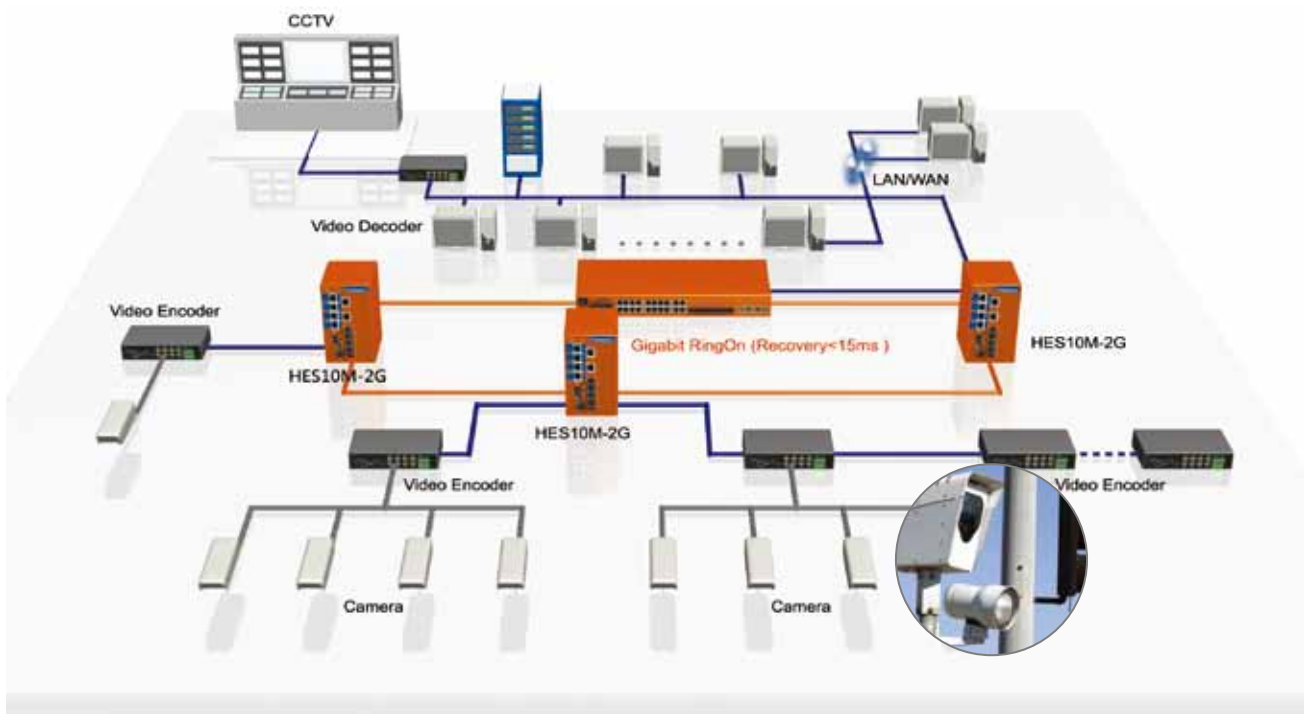
ITS consists of fee-collection station, tunnels, parking, service areas, substations, etc.

ITS is a highly sophisticated system with many sub-systems interconnected as a whole system. IP based network communications greatly simplify and improve the interoperability of the sub-systems, while keeping the flexibility and expandability for future development.

▶ **Uninterrupted Redundant Network from Henrich**

Patent-pending RingOpen from Henrich Electronics provides the ultimate network redundant recovery scheme. RingOpen allows the third party devices to join the network without any interruption to the redundancy of the network.

Case Topology



Recommended Products



HES26MC-2G Series

Rackmount Gigabit Industrial Ethernet Switches

- Supporting RingOn™ and RingOpen™ Network recovery redundancy with less than 15ms recovery time
- Email or relay alarm for errors
- Complete management features such as VLAN, QoS, SNMP, IGMP Snooping, etc. Support SNMP v1/v2/v3
- Hardened metal enclosure with IP40 protection



HES10M-2G Series

Din-rail Gigabit Industrial Ethernet Switches

- Supporting RingOn™ and RingOpen™ Network recovery redundancy with less than 15ms recovery time
- Complete management features such as VLAN, QoS, SNMP, IGMP Snooping, etc. Support SNMP v1/v2/v3
- Broadcast storm controlled
- Email or relay alarm for errors



Highway Tunnel Surveillance System

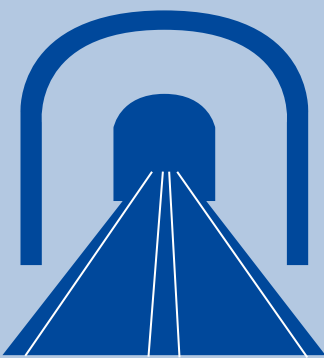
Requirements

- Ethernet based
- Redundant recovery network
- Fast and long distance data transfer
- IP based real time video surveillance system

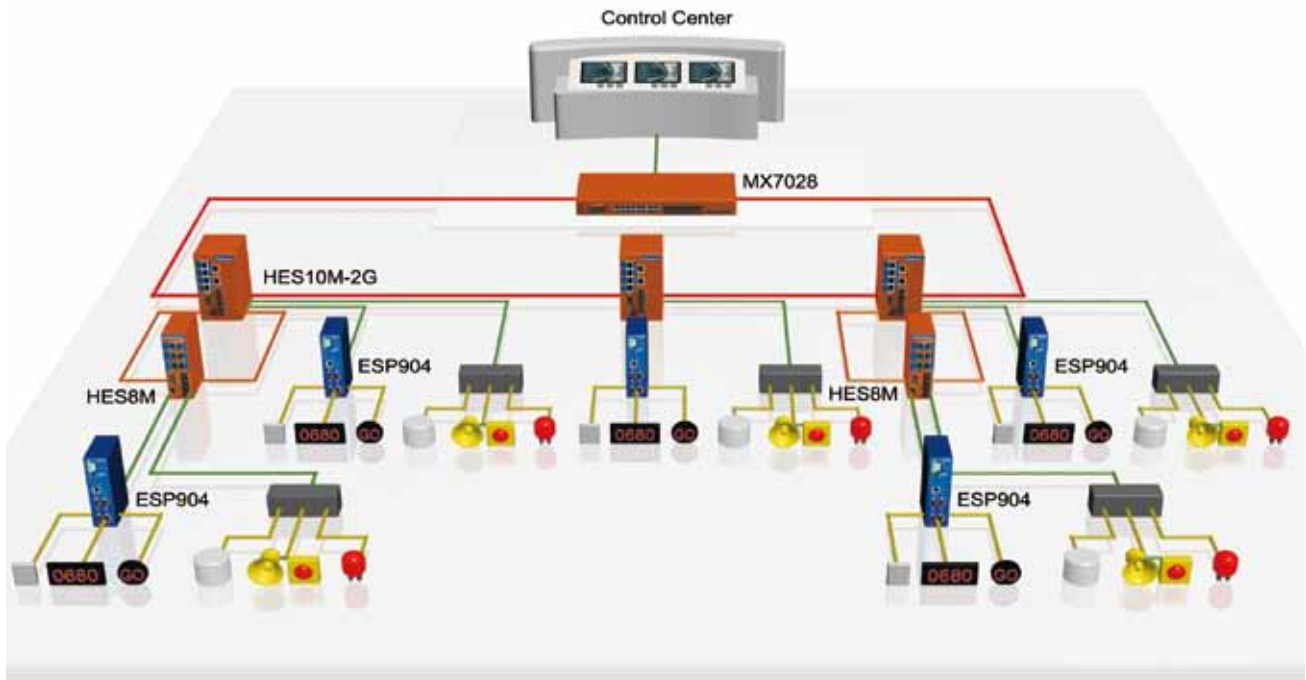
Henrich's Solutions

Henrich's products include Industrial Ethernet switches, serial servers, media converters and video servers, etc. these products are:

- Proven quality
- High reliability
 - ☛ Dual power inputs
 - ☛ Redundant network recovery
 - ☛ Main stream hardwares from the world class vendors.
 - ☛ Wide Operating temperature -40~85°C
 - ☛ Compliant with CE, FCC, UL, etc



Case Topology



Recommended Products



MX7028 Series

Layer 3 All Gigabit Industrial Ethernet Switches

- Layer 3 switching, supporting switches static Routing and RIP v1/v2
- Supporting RingOn™ and RingOpen™ Network recovery redundancy with less than 15ms recovery time
- Fanless design supporting -40~85°C operating temperature



HES10M-2G Series

Din-rail Gigabit Industrial Ethernet Switches

- Supporting RingOn™ and RingOpen™ Network recovery redundancy with less than 15ms recovery time
- Complete management features such as VLAN, QoS, SNMP, IGMP Snooping, etc. Support SNMP v1/v2/v3
- Broadcast storm controlled
- Email or relay alarm for errors

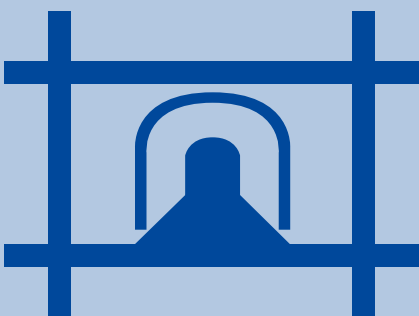


Mining Comprehensive Surveillance System

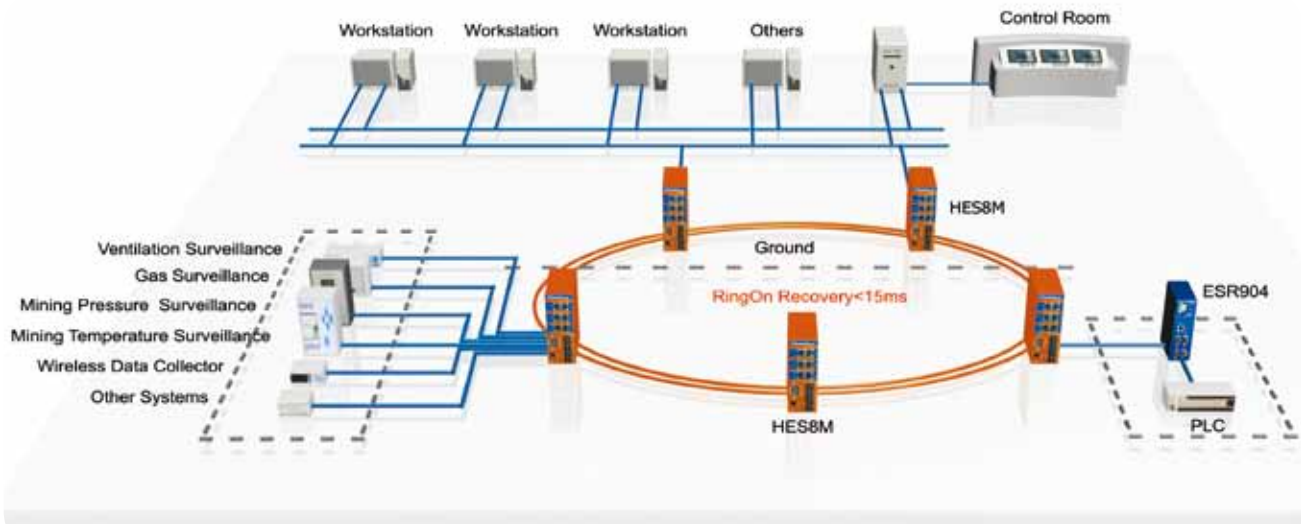
Intrinsically safe products are critical to having a safe and reliable mining working environment. Henrich's HES10-2G and HES28M-4G are intrinsically safe compliant. With Henrich's sophisticated product features, we can provide both above/under ground mining surveillance systems with proven records.

▶ Uninterrupted Redundant Network from Henrich

Patent-pending RingOpen from Henrich Electronics provides the ultimate network redundant recovery scheme. RingOpen allows the third party devices to join the network without any interruption to the redundancy of the network.



▶ Henrich's Solutions Case Topology



▶ Recommended Products



HES8M Series

Din-rail Industrial Ethernet Switches

- Supporting RingOn™ and RingOpen™ Network recovery redundancy with less than 15ms recovery time
- SNMPv1/v2c/v3 for network management of different levels
- Bandwidth management to prevent unpredictable network status
- DIN-rail or Panel Mounting



ESR904 Series

Ethernet to Serial Servers

- Auto detecting 10/100 Ethernet port
- Supports: TCP server, TCP client, UDP and Virtual COM
- Easy setup and management with web and Telnet consoles
- LED indicators provide at-a-glance operational status
- Redundant DC power for failsafe operation
- VCom drivers for Windows NT/2000/XP
- Data rate: 110bps to 230.4Kbps



Water Treatment Control System

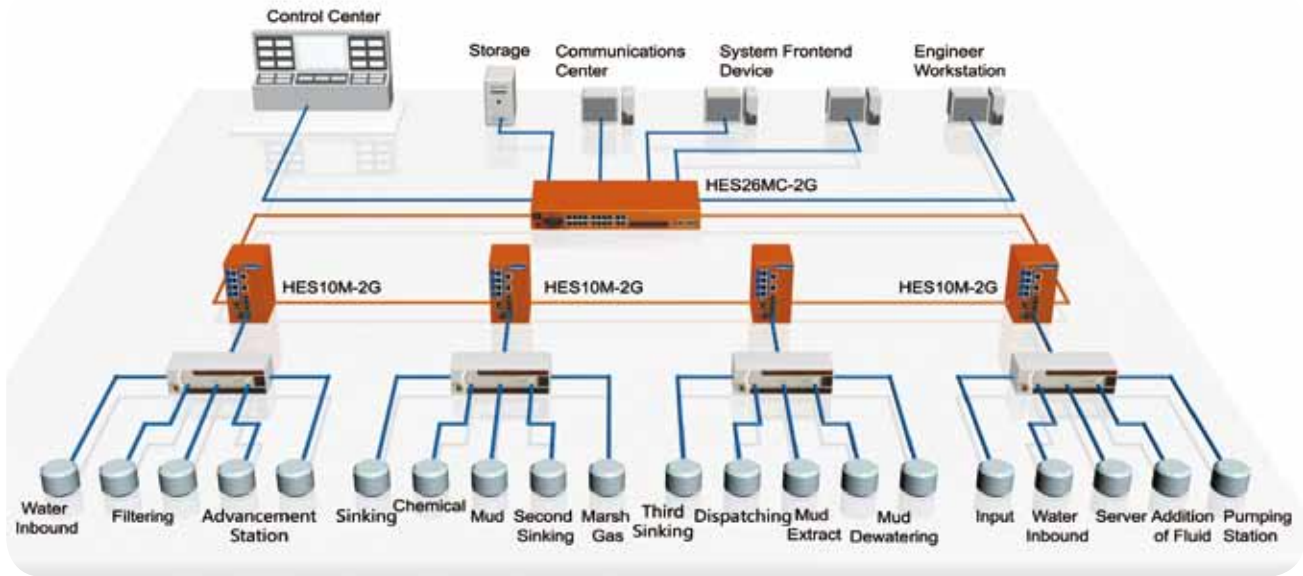
Modern water treatment facilities are implementing automation processes with control center, networking between buildings and PLC, I/O modules to execute the field based tasks.

❖ Uninterrupted Redundant Network from Henrich

Patent-pending RingOpen from Henrich Electronics provides the ultimate network redundant recovery scheme. RingOpen allows the third party devices to join the network without any interruption to the redundancy of the network.



▶ Henrich's Solutions Case Topology



▶ Recommended Products



HES26MC-2G Series

Rackmount Gigabit Industrial Ethernet Switches

- Supporting RingOn™ and RingOpen™ Network recovery redundancy with less than 15ms recovery time
- Email or relay alarm for errors
- Complete management features such as VLAN, QoS, SNMP, IGMP Snooping, etc. Support SNMP v1/v2/v3
- Hardened metal enclosure with IP40 protection



HES10M-2G Series

Din-rail Gigabit Industrial Ethernet Switches

- Supporting RingOn™ and RingOpen™ Network recovery redundancy with less than 15ms recovery time
- Complete management features such as VLAN, QoS, SNMP, IGMP Snooping, etc. Support SNMP v1/v2/v3
- Broadcast storm controlled
- Email or relay alarm for errors



SpiderNet - Henrich Network Management System

User

Password

SpiderNet - Henrich Network Management System

▶ Introduction

SpiderNet™ is designed to monitor and manage the industrial Ethernet based network and its devices. SpiderNet automatically detects the addition and removal of Henrich's network equipments such as switches and any SNMP/IP based equipments. All network components can be remotely managed using web based interface in a viewable format.

- High performance network management software supporting multiple on-line users
- Support replay of historical network events
- Automatically detect network equipment and establish the physical convention automatically
- Integrated management of network configurations and network components
- Provide comprehensive reports

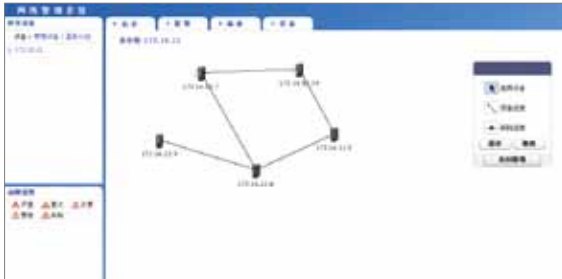
Main Page

Display all devices, topologies, warnings, equipment, personal settings, About, event warning, navigation



Topology Management

- Support network segment topology and IP topology
- Display 2D device topology on the main page. Display interconnected warnings for the event
- Automatically detects Henrich's equipment and SNMP based equipment
- Provide means for manual drawing topology



Configuration Management

- Remotely diagnose the status of equipment to monitor the running status of the ports
- Remotely operate and configure the parameters of the equipment



Warning Management

- Support warning sirens
- Support historical warning inquiry based on sub networks, equipment, time, etc
- Support the output of warning data
- Color the abnormal equipment to differentiate from other equipment



Equipment Management

- Provide complete and operable tools for the network administrator
- Manage and configure each equipment
- Support seamless software upgrade
- Export equipment data in lots





HES5A/8A Series

Unmanaged Industrial Ethernet Switches

- Supports standard IEEE802.3 , 802.3u, 802.3x protocols
- Relay Alarm for Power Failure
- SC/ST and multi-mode/single-mode are optional for fiber ports
- Broadcast storm control
- Dual power input
- 2K MAC address

Applicable Industries

- Transportation, Factory Automation, Water Treatment, Oil and Gas, etc



HES16 Series

Unmanaged Industrial Ethernet Switches

- Supports standard IEEE802.3 , 802.3u, 802.3x protocols
- Transmission distance is up to 120km
- IP30 aluminum housing
- Broadcast storm control
- Copper ports and fiber ports can be flexibly configured
- Power input modes are optional

Applicable Industries

- Industrial Automation





HEMC2 Series
Industrial Media Converters

- Supports standard IEEE802.3 , 802.3u, 802.3x protocols
- Transmisson distance is up to 120km
- Redundant power relay alarm for power failure input
- Store and forward
- Class 1 Div. 2 designed for harsh environment
- Din-rail mounting

Applicable Industries

- Transportation, Automation, Water Treatment, Mining



HES16G Series
Unmanaged All Gigabit Industrial Ethernet Switches

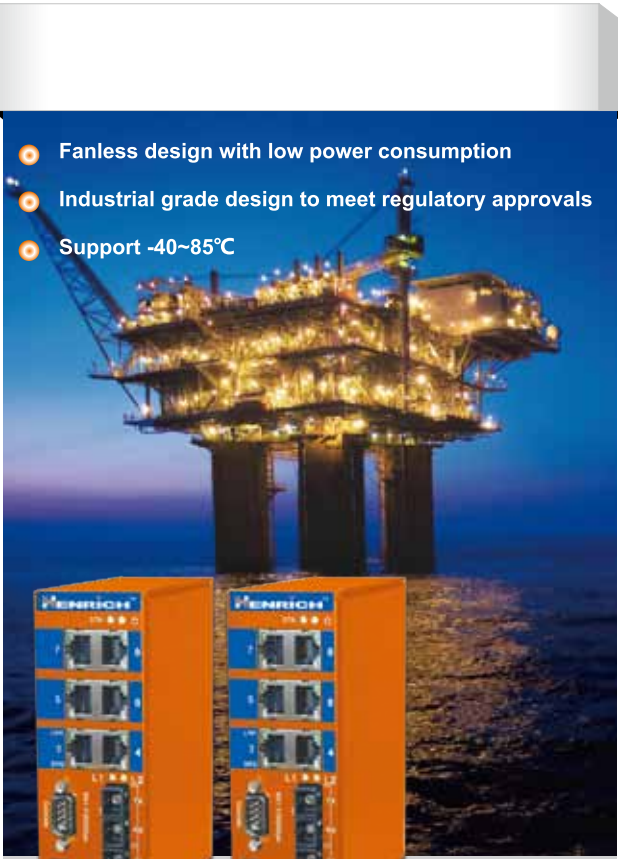
- All ports support 1000Mbps
- 10/100/1000-TX and 1000-FX can be flexibly configured
- High flexibility and cost performance
- Store and forward
- IP30 aluminum housing
- Din-rail mounting

Applicable Industries

- Transportation, Automation, Water Treatment, Mining



- Fanless design with low power consumption
- Industrial grade design to meet regulatory approvals
- Support -40~85°C



HES8ME Series

Managed Industrial Ethernet Switches

- Continue to work for 30 seconds without power
- Supports standard IEEE802.3 10Base-T, 802.3u 100Base-TX protocols
- Supports web browsing management and configuration
- 256k data buffering
- Relay or email alarm for errors
- 5 year warranty

Applicable Industries

- Transportation, Factory Automation, Water Treatment, Oil and Gas, etc



HES16M3G Series

3G(WCDMA) wireless switches and remote wireless warning through 3G networks

- Support RingOn™ and RingOpen™ Redundant network recovery protocols with less than 15ms recovery time
- Web-based browsing management and configurations
- Internal diagnosing for easier analysis of network errors
- Email or relay alarm for errors
- IP30 metal enclosure protection

Applicable Industries

Transportation, Factory Automation and Utilities





HES10M-2G Series

Gigabit Managed Industrial Ethernet Switches

- Support RingOn™ and RingOpen™ Redundant network recovery protocols
- Web-based browsing management and configurations
- 12~36VDC power input
- IP30 metal enclosure protection

Applicable Industries

Transportation, Factory Automation, Water Treatment, Mining



HES28M-4G Series

Gigabit Managed Industrial Ethernet Switches

- Support up to 4 combo gigabit ports and 24 100Mbps ports
- Support bandwidth management for network reliability
- Email and relay alarm for errors
- Supports SNMP v1/v2/v3v network manage protocols

Applicable Industries

Transportation, Utilities





HES16C Series

Unmanaged Industrial Ethernet Switches

- Up to 16 copper ports or 4 fiber ports
- Wide range power inputs: 24V/110V/220V
- Broadcast storm control
- Designed for harsh environment (Class 1 Div. 2)
- IP 40 hardened enclosure protection
- Rack Mounting

Applicable Industries

- Transportation, Factory Automation, Water Treatment, Oil and Gas, etc



HES28M-4G Series

Gigabit Managed Industrial Ethernet Switches

- Support up to 4 combo gigabit ports and 24 100Mbps ports
- Support bandwidth management for network reliability
- Email and relay alarm for errors
- Supports SNMP v1/v2/v3 network management protocols

Applicable Industries

Transportation, Utilities





MX6000 Series

IEC61850-3 Industrial Ethernet Switches

- IEC61850-3 Industrial Ethernet Switch
- IEC 61850-3/1613 complied
- Supporting RingOn™ and RingOpen™ Network recovery redundancy protocols with less than 15ms recovery time
- Embedded diagnosing ability to check and remove network errors
- Relay and email output to alarm

Applicable Industries

Digital Substation



MX7000 Series

Layer 3 All Gigabit Industrial Switches






- Layer 3 All Gigabit Port Industrial Ethernet
- Layer 3 switching, supporting static Routing and RIP v1/v2
- Support port-based VLAN and 802.1Q VLAN
- Support RingOn™ and RingOpen™ network recovery redundancy protocols with less than 15ms recovery time
- Fanless design supporting -40~85°C operating temperature

Applicable Industries

Transportation, Utilities









Product Selection Guide

DIN-Rail Unmanaged Industrial Ethernet Switch					
Category	 <i>NEW</i>	 <i>NEW</i>	 <i>NEW</i>		
	DWP5	HES5A	HES8A	HES16	HES24
Interface					
Max. 10/100 Base-TX	5	5	8	16	24
Max. 10/100/1000 Base-T	--	--	--	--	--
Max. 10/100 Base-FX	--	1	4	2	6
Max. 1000 Base-SX/LX/BX	--	--	--	--	--
Max. 1000 Base-SFP	--	--	--	--	--
RS-232 Console Port	--	--	--	--	--
Alarm Contact	--	--	--	--	--
Performance					
MAC Address Table Size	1K	1K	2K	8K	8K
Packet Buffer Memory (bits)	512Kbit	512Kbit	1Mbit	2Mbit	2Mbit
Machanical					
Casing	Metal, IP67 protection		Metal, IP30 protection		
Installation	D, P	D, P	D, P	D, P	D, P
Dimensions (W×H×D)	65×116×30.5mm	30×112.4×75.2mm	46×130×105mm	70.4×149.2×132mm	91.2×149.1×132mm
Power Input					
120~370VDC	--	--	--	--	--
85~265VAC	--	--	--	--	--
12~36VDC	√	√	√	√	√
10~24VAC	√	√	√	√	√
Operating Temperature					
-10°C to 60°C	√	√	√	√	√
-40°C to 85°C	√	√	√	√	√
Network Redundancy					
RingOn/RingOpen	--	--	--	--	--
STP/RSTP	--	--	--	--	--
Network Management & Control					
	--				
Regulatory Approvals					
CE/FCC	√	√	√	√	√
C1D2	√	√	√	--	--
IEC61850-3/IEEE1613	--	--	--	--	--
EN50121	√	√	√	√	√
UL60950	√	√	√	√	√







* D: DIN-Rail Mounting; P: Panel Mounting; R: Rack Mounting

Product Selection Guide

DIN-Rail Unmanaged Industrial Ethernet Switch						
Category						
	HES5G	HES8G	HES16G	HEMC2	HEMCE	HEMC-G
Interface						
Max. 10/100 Base-TX	--	--	--	2	1	--
Max. 10/100/1000 Base-T	5	8	16	--	--	--
Max. 10/100 Base-FX	--	--	--	1	1	--
Max. 1000 Base-SX/LX/BX	--	--	4	--	--	1
Max. 1000 Base-SFP	--	--	4	--	--	1
RS-232 Console Port	--	--	--	--	--	--
Alarm Contact	--	--	--	--	--	--
Performance						
MAC Address Table Size	4K	4K	4K	1k	1K	1k
Packet Buffer Memory (bits)	1Mbit	1.5Mbit	2Mbit	512Kbit	288Kbit	512Kbit
Mechanical						
Casing	Metal, IP30 protection					
Installation	D, P	D, P	D, P	D, P	D, P	D, P
Dimensions (W×H×D)	26.9×109.5×91.8mm	44×153.3×119.8mm	70×149.7×133.1mm	29×89×83.6mm	25×100×75mm	29×86.8×83.6mm
Power Input						
120~370VDC	--	--	--	--	--	--
85~265VAC	--	--	--	--	--	--
12~36VDC	√	√	√	√	√	√
10~24VAC	√	√	√	√	√	√
Operating Temperature						
-10°C to 60°C	√	√	√	√	√	√
-40°C to 85°C	√	√	√	√	√	√
Network Redundancy						
RingOn/RingOpen	--	--	--	--	--	--
STP/RSTP	--	--	--	--	--	--
Network Management & Control						
	--					
Regulatory Approvals						
CE/FCC	√	√	√	√	√	√
C1D2	√	√	--	--	--	--
IEC61850-3/IEEE1613	--	--	--	--	--	--
EN50121	√	√	√	√	√	√
UL60950	√	√	√	√	√	√





* D: DIN-Rail Mounting; P: Panel Mounting; R: Rack Mounting

Product Selection Guide

DIN-Rail Managed Industrial Ethernet Switch						
Category	 <i>NEW</i>	 <i>NEW</i>				
	HES8ME	HES16M3G	HES5M	HES8M	HES16M	HES24M
Interface						
Max. 10/100 Base-TX	8	16	5	8	16	24
Max. 10/100/1000 Base-T	--	--	--	--	--	--
Max. 10/100 Base-FX	2	2	2	2	2	6
Max. 1000 Base-SX/LX/BX	--	--	--	--	--	--
Max. 1000 Base-SFP	--	--	--	--	--	--
RS-232 Console Port	√	√	√	√	√	√
Alarm Contact	√	√	√	√	√	√
Performance						
MAC Address Table Size	8K	8K	8K	8K	8K	8K
Packet Buffer Memory (bits)	2Mbit	2Mbit	2Mbit	2Mbit	2Mbit	2Mbit
Machanical						
Casing	Metal, IP30 protection					
Installation	D, P	D, P	D, P	D, P	D, P	D, P
Dimensions (W×H×D)	49.5×138.8×114.5mm	90.4×151.1×132mm	49.5×138.8×114.5mm	49.5×138.8×114.5mm	70.4×149.1×132mm	91.2×149.1×132mm
Power Input						
120~370VDC	--	--	--	--	--	--
85~265VAC	--	--	--	--	--	--
12~36VDC	√	√	√	√	√	√
10~24VAC	√	√	√	√	√	√
Operating Temperature						
-10°C to 60°C	√	√	√	√	√	√
-40°C to 85°C	√	√	√	√	√	√
Network Redundancy						
RingOn/RingOpen	√	√	√	√	√	√
STP/RSTP	√	√	√	√	√	√
Network Management & Control						
	VLAN, QoS, IGMP, Gmp, Bandwidth Rate Control, Port Trunking, Port Mirroring, IEEE802.1x SECURITY, SNMP V1/V2/V3, Web Management, Telnet Management, RS-232 Console Management					
Regulatory Approvals						
CE/FCC	√	√	√	√	√	√
C1D2	--	--	--	--	--	--
IEC61850-3/IEEE1613	--	--	--	--	--	--
EN50121	√	√	√	√	√	√
UL60950	√	√	√	√	√	√



* D: DIN-Rail Mounting; P: Panel Mounting; R: Rack Mounting

Product Selection Guide

DIN-Rail Managed Industrial Ethernet Switch				
Category				
	HES10M-2G	HES18M-2G	HES26M-2G	HES28M-4G
Interface				
Max. 10/100 Base-TX	8	16	24	24
Max. 10/100/1000 Base-T	2	2	2	4
Max. 10/100 Base-FX	4	2	6	6
Max. 1000 Base-SX/LX/BX	2	2	2	4
Max. 1000 Base-SFP	2	2	2	4
RS-232 Console Port	√	√	√	√
Alarm Contact	√	√	√	√
Performance				
MAC Address Table Size	8K	8K	8K	8K
Packet Buffer Memory (bits)	2Mbit	2Mbit	2Mbit	2Mbit
Mechanical				
Casing	Metal, IP30 protection			
Installation	D, P	D, P	D, P	D, P
Dimensions (W×H×D)	82.5×138×122.3mm	69.2×152.1×150.5mm	90×152.1×150.5mm	91.2×165.9×131.4mm
Power Input				
120~370VDC	--	--	--	--
85~265VAC	--	--	--	--
12~36VDC	√	√	√	√
10~24VAC	√	√	√	√
Operating Temperature				
-10°C to 60°C	√	√	√	√
-40°C to 85°C	√	√	√	√
Network Redundancy				
RingOn/RingOpen	√	√	√	√
STP/RSTP	√	√	√	√
Network Management & Control				
	VLAN, QoS, IGMP, Gmrp, Bandwidth Rate Control, Port Trunking, Port Mirroring, IEEE802.1x SECURITY, SNMP V1/V2/V3, Web Management, Telnet Management, RS-232 Console Management			
Regulatory Approvals				
CE/FCC	√	√	√	√
C1D2	--	--	--	--
IEC61850-3/IEEE1613	--	--	--	--
EN50121	√	√	√	√
UL60950	√	√	√	√



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Product Selection Guide

Rackmount Unmanaged Industrial Ethernet Switch		
Category		
	HES16C	HES24C
Interface		
Max. 10/100 Base-TX	16	24
Max. 10/100/1000 Base-T	--	--
Max. 10/100 Base-FX	4	8
Max. 1000 Base-SX/LX/BX	--	--
Max. 1000 Base-SFP	--	--
RS-232 Console Port	--	--
Alarm Contact	--	--
Performance		
MAC Address Table Size	8K	8K
Packet Buffer Memory (bits)	2Mbit	2Mbit
Mechanical		
Casing	Metal, IP40 protection	
Installation	R	
Dimensions (W×H×D)	443×44×220mm	
Power Input		
120~370VDC	√	√
85~265VAC	√	√
12~36VDC	√	√
10~24VAC	√	√
Operating Temperature		
-10°C to 60°C	√	√
-40°C to 85°C	√	√
Network Redundancy		
RingOn/RingOpen	--	--
STP/RSTP	--	--
Network Management & Control		
	--	
Regulatory Approvals		
CE/FCC	√	√
C1D2	--	--
IEC61850-3/IEEE1613	--	--
EN50121	--	--
UL60950	√	√

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Product Selection Guide

Rackmount Managed Industrial Ethernet Switch		
Category		
	HES16MC	HES24MC
Interface		
Max. 10/100 Base-TX	16	24
Max. 10/100/1000 Base-T	--	--
Max. 10/100 Base-FX	4	8
Max. 1000 Base-SX/LX/BX	--	--
Max. 1000 Base-SFP	--	--
RS-232 Console Port	√	√
Alarm Contact	√	√
Performance		
MAC Address Table Size	8K	8K
Packet Buffer Memory (bits)	2Mbit	2Mbit
Mechanical		
Casing	Metal, IP40 protection	
Installation	R	
Dimensions (W×H×D)	443×44×220mm	
Power Input		
120~370VDC	√	√
85~265VAC	√	√
12~36VDC	√	√
10~24VAC	√	√
Operating Temperature		
-10°C to 60°C	√	√
-40°C to 85°C	√	√
Network Redundancy		
RingOn/RingOpen	√	√
STP/RSTP	√	√
Network Management & Control		
	VLAN, QoS, IGMP, Gmrp, Bandwidth Rate Control, Port Trunking, Port Mirroring, IEEE802.1x SECURITY, SNMP V1/V2/V3, Web Management, Telnet Management, RS-232 Console Management	
Regulatory Approvals		
CE/FCC	√	√
C1D2	--	--
IEC61850-3/IEEE1613	--	--
EN50121	--	--
UL60950	√	√




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Product Selection Guide

Rackmount Managed Industrial Ethernet Switch			
Category			
	HES18MC-2G	HES26MC-2G	HES28MC-4G
Interface			
Max. 10/100 Base-TX	16	24	24
Max. 10/100/1000 Base-T	2	2	4
Max. 10/100 Base-FX	4	4	4
Max. 1000 Base-SX/LX/BX	2	2	4
Max. 1000 Base-SFP	2	2	4
RS-232 Console Port	√	√	√
Alarm Contact	√	√	√
Performance			
MAC Address Table Size	8K	8K	8K
Packet Buffer Memory (bits)	2Mbit	2Mbit	2Mbit
Mechanical			
Casing	Metal, IP40 protection		
Installation	R		
Dimensions (W×H×D)	443×44×220mm		
Power Input			
120~370VDC	√	√	√
85~265VAC	√	√	√
12~36VDC	√	√	√
10~24VAC	√	√	√
Operating Temperature			
-10°C to 60°C	√	√	√
-40°C to 85°C	√	√	√
Network Redundancy			
RingOn/RingOpen	√	√	√
STP/RSTP	√	√	√
Network Management & Control			
	--		
Regulatory Approvals			
CE/FCC	√	√	√
C1D2	--	--	--
IEC61850-3/IEEE1613	--	--	--
EN50121	--	--	--
UL60950	√	√	√



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Product Selection Guide

IEC61850-3 Industrial Ethernet Switch			
Category			
	MX6018-2G	MX6026	MX6028
Interface			
Max. 10/100 Base-TX	16	26	24
Max. 10/100/1000 Base-T	2	2	4
Max. 10/100 Base-FX	4	6	8
Max. 1000 Base-SX/LX/BX	2	2	4
Max. 1000 Base-SFP	2	2	4
RS-232 Console Port	√	√	√
Alarm Contact	√	√	√
Performance			
MAC Address Table Size	8K		
Packet Buffer Memory (bits)	2Mbit		
Mechanical			
Casing	Metal, IP40 protection		
Installation	R		
Dimensions (W×H×D)	443×44×350mm		
Power Input			
120~370VDC	√	√	√
85~265VAC	√	√	√
12~36VDC	√	√	√
10~24VAC	√	√	√
Operating Temperature			
-10°C to 60°C	√	√	√
-40°C to 85°C	√	√	√
Network Redundancy			
RingOn/RingOpen	√	√	√
STP/RSTP	√	√	√
Network Management & Control			
	VLAN, QoS, IGMP, Gmp, Bandwidth Rate Control, Port Trunking, Port Mirroring, IEEE802.1x SECURITY, SNMP V1/V2/V3, Web Management, Telnet Management, RS-232 Console Management		
Regulatory Approvals			
CE/FCC	√	√	√
C1D2	--	--	--
IEC61850-3/IEEE1613	√	√	√
EN50121	--	--	--
UL60950	√	√	√

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Product Selection Guide

Layer 3 All Gigabit Industrial Ethernet Switches		
Category		
	MX7024	MX7028
Interface		
Max. 10/100 Base-TX	--	--
Max. 10/100/1000 Base-T	24	28
Max. 10/100 Base-FX	--	8
Max. 1000 Base-SX/LX/BX	8	--
Max. 1000 Base-SFP	4	4
RS-232 Console Port	√	√
Alarm Contact	√	√
Performance		
MAC Address Table Size	16K	
Packet Buffer Memory (bits)	8Mbit	
Machanical		
Casing	Metal, IP40 protection	
Installation	R	
Dimensions (W×H×D)	503×84×267mm	
Power Input		
120~370VDC	√	√
85~265VAC	√	√
12~36VDC	√	√
10~24VAC	√	√
Operating Temperature		
-10°C to 60°C	√	√
-40°C to 85°C	√	√
Network Redundancy		
RingOn/RingOpen	√	√
STP/RSTP	√	√
RIP V1/V2	√	√
Network Management & Control		
	VLAN, QoS, IGMP, Gmrp, Bandwidth Rate Control, Port Trunking, Port Mirroring, IEEE802.1x SECURITY, SNMP V1/V2/V3, Web Management, Telnet Management, RS-232 Console Management	
Regulatory Approvals		
CE/FCC	√	√
C1D2	--	--
IEC61850-3/IEEE1613	--	--
EN50121	--	--
UL60950	√	√

* D: DIN-Rail Mounting; P: Panel Mounting; R: Rack Mounting

Hot Products

HES5A/8A Series Unmanaged Industrial Ethernet Switches

- Rugged Design
- Shock and Vibration Tested
- Redundant Power Input
- UL Class 1/Division 2 Certified
- Wide Operating Temperature: -40°C to 85°C
- Hardened Metal Enclosure with IP 30 Protection



16 All Gigabit Unmanaged Industrial Ethernet Switches

- Optional fiber Ports for Long Distance Transport and EMC Immunity
- Relay Alarm for Power or Port Errors
- Broadcast Storm Control
- CE/FCC Certified
- Wide Operating Temperature: -40°C to 85°C
- Hardened Metal Enclosure with IP30 Protection



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