



## HGW-802SM-SER

8x 10/100/1000Base-Tx, 2x 1000Base-X SFP and 2x RS485/422/232 serial ports  
Managed Industrial Switch

The HGW-802SM-SER is a 12 port Gigabit Ethernet managed Industrial Switch with 8x10/100/1000Base-Tx, 2x 100/1000Base-X ports and 2x RS485/422/232 serial ports, hardened for extreme operating temperatures: -40 to +75 Celsius. The managed switch supports a variety of Ethernet functions, including STP/RSTP/MSTP and multiple sub-Ring for redundant cabling, layer 2 Ethernet IGMP, VLAN, QoS, Security, bandwidth control, port mirroring and is housed in IP40 rated rugged metal housing designed to operate in difficult conditions, including mechanically and electrically extreme environments. All Industrial switches have strong surge protection (4kV~8kV) per port, depending on models and strict compliance with IEC and EN standards for industrial grade equipment.

### Features

- redundant DC input block 48-56V
- Extreme operating temperature: -40 to +75 Celsius
- Rugged IP40 rated metal casing with DIN rail bracket
- 8x 10/100/1000Base-T RJ-45 and 2x 100/1000Base-X SFP Fiber
- Reversed power polarity protection
- STP, RSTP, MSTP for redundant cabling
- DHCP Server/Client/Relay/Snooping
- QoS, CoS, bandwidth control for Ingress and Egress, Storm Control
- 2x RS485/422/232 IP server serial ports, 115200kbps
- Dynamic IEEE 802.3ad LACP Link Aggregation, Static Link Aggregation
- Supports 6kV surge protection per port on all TP ports
- Supports IEEE 802.1Q Tag VLAN and port VLAN
- IGMP snooping V1/V2/V3, IGMP Filtering/Throttling, IGMP query
- Port based and MAC based IEEE802.1X, RADIUS, ACL
- Software upgrade via TFTP and HTTP
- Port mirroring, System log, DNS, SNMP, LLDP
- Web based management, SNMP v1/v2, Telnet
- DIP sw settings for RSTP, VLAN and fiber port speed

### Specifications

<b>IEEE Standard</b>	IEEE 802.3 10Base-T Ethernet IEEE 802.3u 100Base-TX and 100Base-FX Fast Ethernet IEEE 802.3ab 1000Base-T and 1000Base-X Gigabit Eth. IEEE 802.3x Flow Control and Back Pressure	<b>Alarm Relay Contact</b>	Relay outputs with current carrying capacity of 1 A @24VDC, NC
<b>Switch Architecture</b>	Back-plane (Switching Fabric): 20 Gbps	<b>Removable Terminal Block</b>	Provide 2 Redundant power, Alarm relay contact, 6 Pin
<b>Serial interfaces</b>	2x 5pin block RS485/422/232, integrated IP serial server	<b>Operating Temperature</b>	-40 ~ 75°C
<b>Data Processing</b>	Store and Forward	<b>Operating Humidity</b>	5% to 95% (Non-condensing)
<b>Flow Control</b>	IEEE 802.3x flow control, back pressure flow control	<b>Storage Temperature</b>	-40 ~ 85°C
<b>Provides Broadcast Storm Protection</b>	Present	<b>Housing</b>	Rugged Metal, IP40 Protection
<b>MAC Address Table</b>	4K	<b>Dimensions</b>	108 x 49 x 138mm (D x W x H)
<b>Packet Buffer Size</b>	2MB	<b>Weight</b>	0.65kg
<b>Ports</b>	8 x RJ-45 10/100/1000Base-Tx 2 x 100/1000Base-X SFP slot 10/100/1000Base-TX auto negotiation speed, Auto MDI/MDI-X function, Full/Half duplex	<b>Installation Mounting</b>	DIN Rail mounting or wall mounting
<b>Network Cable</b>	10Base-T: 2-pair UTP/STP Cat.5 cable 100Base-TX: 2-pair UTP/STP Cat. 5 cable 1000Base-T: 4-pair UTP/STP Cat. 5e cable EIA/TIA-568 100-ohm (100m)	<b>EMI</b>	FCC Part 15 Subpart B Class A, CE EN 55022 Class A EN61000-6-4 – Emission for industrial environment
<b>Protocols</b>	CSMA/CD	<b>EMS</b>	EN61000-6-2 – Immunity for Industrial environment EN61000-4-2 (ESD) Level 3, Criteria B EN61000-4-3 (RS) Level 3, Criteria A EN61000-4-4 (Burst) Level 3, Criteria A EN61000-4-5 (Surge) Level 3, Criteria B EN61000-4-6 (CS) Level 3, Criteria A EN61000-4-8 (Magnetic Field) Level 3, Criteria A
<b>LED</b>	Per unit: PWR (Green) LNK/ACT (Green - Fiber port status and activity) Per port: Link/Active (Green), Speed/100 (Yellow)	<b>Traffic control</b>	NEMA-TS2
<b>Reverse Polarity Protection</b>	Present	<b>Rail Traffic</b>	EN50121-4
<b>Overload Current Protection</b>	Present	<b>Shock</b>	IEC 60068-2-27
<b>Power Supply</b>	Redundant Dual DC48V Input power (Removable Block)	<b>Freefall</b>	IEC 60068-2-32
<b>Power Consumption</b>	<15W	<b>Vibration</b>	IEC 60068-2-6
		<b>MTBF</b>	120,000Hrs
		<b>Warranty</b>	3 years

## Software Specifications

### Topology

VLAN	IEEE 802.1q VLAN, up to 4094 IEEE 802.1q VLAN, up to 4094 Groups IEEE 802.1ad Q-in-Q MAC-based VLAN, up to 256 entries
Link Aggregation (Port Trunk)	Static (Hash with SA, DA, IP, TCP/UDP port), up to 5 trunk group Dynamic (IEEE 802.3ad LACP), up to 5 trunk group
Spanning Tree	IEEE802.1d STP IEEE802.1w RSTP IEEE802.1s MSTP
Multiple Ring	supports Sub-Ring type Recovery time <10ms The maximum number of devices allowed in a Ring supported ring is 250.
Loop Protection	Present

### QoS Features

Class of Service	IEEE802.1p 8 active priorities queues for per port
Traffic Classification	IEEE802.1p based CoS
Classification QoS	IP Precedence based CoS IP DSCP based CoS QCL(QoS Control List): Frame Type, Source/Destination MAC, VLAN ID, PCP, DEI QCE(QoS Control Entry): Protocol, Source IP, IP Fragment, DSCP, TCP/UDP port number
Bandwidth Control for Ingress	Rate in steps :1 kbps / Mbps Range : 100 kbps to 1Gbps Rate Unit : bit
Bandwidth Control for Egress	Rate in steps : 1 kbps / Mbps Range : 100 kbps to 1Gbps Rate Unit : bit Per queue / Per port shaper
Storm Control	for Unicast, Broadcast, Multicast

DHCP	Server, Client, Relay, Snooping
IP Source Guard	
Port Mirroring	
Event Syslog	Syslog server (RFC3164) (Support 1 server)
Warning Message	System log, alarm relay
DNS	Client, Proxy
NTP	
LLDP (IEEE 802.1ab)	Link Layer Discovery Protocol LLDP-MED

### IP Multicasting Features

IGMP / MLD Snooping	IGMP Snooping v1, v2, v3 / MLD Snooping v1, v2 Port Filtering Profile Throttling, Fast Leave Maximum Multicast Group : up to 1022 entries Query / Static Router Port
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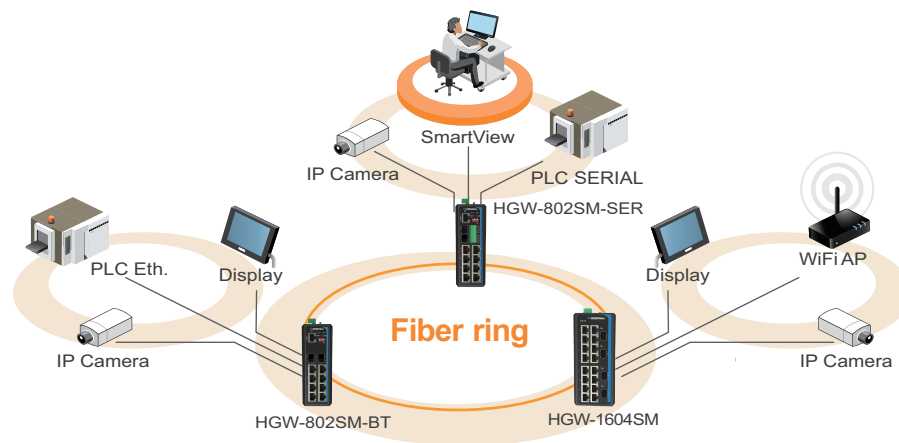
### Security Features

IEEE 802.1X	Port-Based MAC-Based
ACL	Number of rules : up to 256 entries for L2 / L3 / L4
RADIUS authentication & accounting	
User Name	Local Authentication
Password	Remote Authentication (via RADIUS)
Authentication	
Management Interface Access	Web, Telnet / RS-232 console
Filtering	

### Management Features

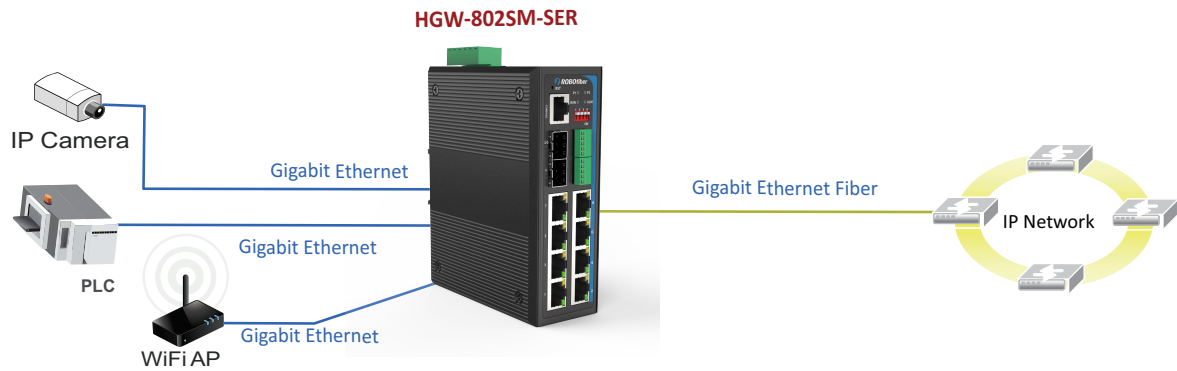
Web Based Management	
Telnet	Server
SNMP	V1, V2
SW & Configuration Upgrade	TFTP, HTTP firmware upgrade function

## Fiber Ring Application



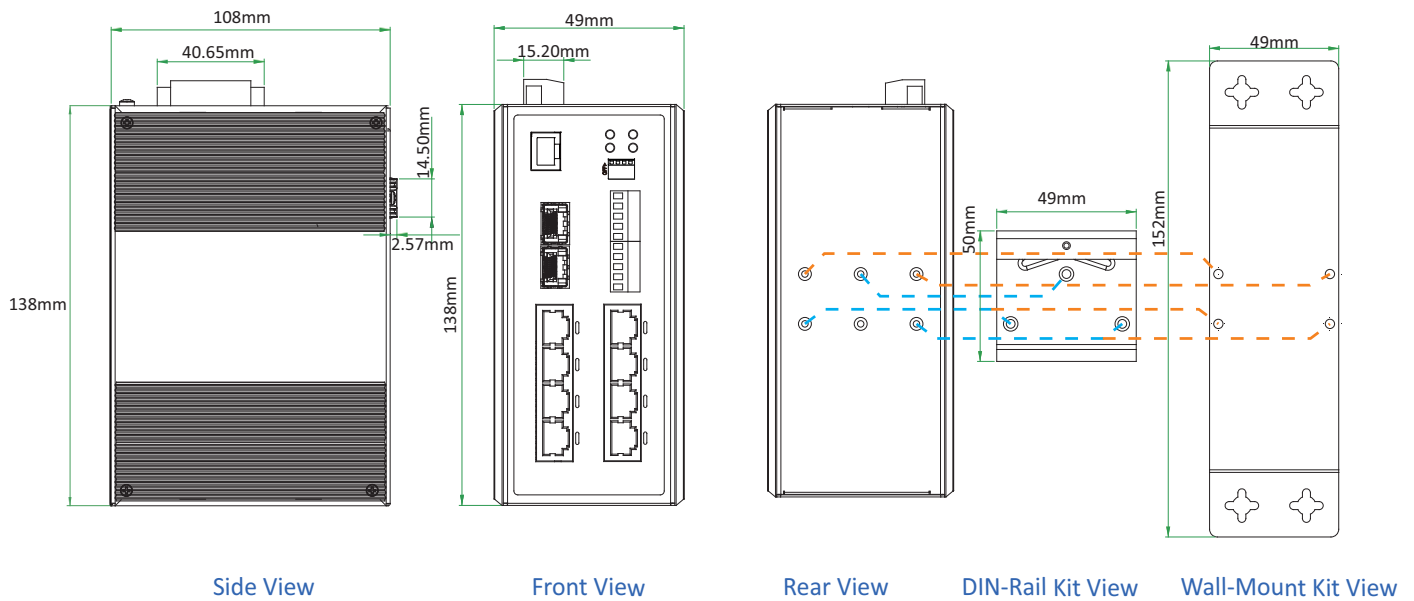
**HGW-802SM-SER Gigabit Ethernet Managed Switch Application**

## Fiber Access Application



**HGW-802SM-SER Gigabit Ethernet Managed Switch Application**

## Dimensions



## Ordering Information

Model Name	Description
HGW-802SM-SER	8x 10/100/1000Base-Tx, 2x 100/1000Base-X SFP Managed Industrial Switch Extreme Temp. (-40~75 Celsius) 2x RS485/422/232 serial ports accessible via web/SNMP settings on the switch (115,200bps max. rate)