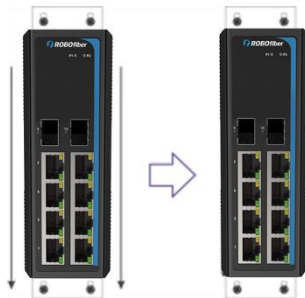


To remove unit from rail, please repeat procedure in reverse. Start by pulling out the bottom of unit from the DIN rail.

### Wall mounting procedure

All Industrial switches from HC, and HGW series have DIN rail bracket mounted from factory to the rear panel of the unit. If Wall mounting is needed, please first remove the pre-installed DIN rail bracket.

Secure the wall mounting brackets to the switch as in the below diagram. You will need 4x M3 screws for the wall mounting brackets (included) and screws for wall securing that should have head diameter larger than 6mm and screw body less than 3.5mm (these screws are not included in the package)



### FCC and CE markings

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

This is a CE class B device, intended to be used in residential, commercial or industrial applications.

# Industrial Ethernet

Unmanaged Switches Gigabit Ethernet

**HC-1002-SFP, HC-1002-SFP-PSE, HC-1002-BT**  
**HGW-500, HGW-401S, HGW-401S-PSE, HGW-401S-BT**  
**HGW-802S, HGW-802S-PSE, HGW-802S-BT**



## User's Manual

Rev 2.0

## Industrial Ethernet Switches

### Ordering Information

**HC-1002-SFP** Gigabit Ethernet Switch 2x 10/100/1000Base-Tx to 1x1000Base-X SFP slot, DIN rail and Wall mount installation

**HC-1002-SFP-PSE** Gigabit Ethernet Switch 2x 10/100/1000Base-Tx to 1x1000Base-X SFP slot, DIN rail and Wall inst., **PoE 60W budget**

**HC-1002-BT** Gigabit Ethernet Switch 2x 10/100/1000Base-Tx to 1x1000Base-X SFP slot, DIN rail and Wall inst. **PoE 180W budget**

**HGW-500** Gigabit Ethernet Switch 5x 10/100/1000Base-Tx ports, DIN rail and Wall installation

**HGW-401S** Gigabit Ethernet Switch 4x 10/100/1000Base-Tx + 1x1000Base-X SFP slot ports, DIN rail and Wall installation

**HGW-401S-PSE** Gigabit Ethernet Switch 4x 10/100/1000Base-Tx + 1x1000Base-X SFP slot ports, DIN rail and Wall inst. **PoE 120W budget**

**HGW-401S-BT** Gigabit Ethernet Switch 4x 10/100/1000Base-Tx + 1x1000Base-X SFP slot ports, DIN rail and Wall inst. **PoE 360W budget**

**HGW-802S** Gigabit Ethernet Switch 8x 10/100/1000Base-Tx + 2x 100/1000Base-X SFP slot ports, DIN rail and Wall installation

**HGW-802S-PSE** Gigabit Ethernet Switch 8x 10/100/1000Base-Tx + 2x 100/1000Base-X SFP slot ports, DIN rail and Wall installation, **PoE budget 240W,**

**HGW-802S-BT** Gigabit Ethernet Switch 8x 10/100/1000Base-Tx + 2x 100/1000Base-X SFP slot ports, DIN rail and Wall installation, **PoE budget 720W,**

### Overview

The Industrial Ethernet models listed above are high performance and reliability Ethernet switches. All Industrial models are hardened for -40 to +75°C operation and have 4KV surge protection on all ports. Largest configuration of the unmanaged models is 8 copper and 2 fiber ports. All PoE models deliver 30W per each UTP port supporting 802.3at PoE+, 90W per each UTP port supporting 802.3bt PoE++ standard. Reliability is highly ranked with an MTBF exceeding 120,000 hours. All Industrial Ethernet models listed in this manual have passed IEC standards as described in the Technical Specifications table.

Package includes DIN rail mounting bracket, Wall bracket, screw block power connector and one User Manual.

### Rear panel view with DIN rail and wall mounting brackets (common rear view, may vary with model)



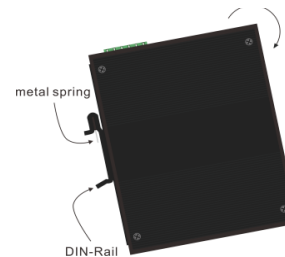
Models
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HC-1002-SFP-PSE
HC-1002-BT
HGW-500
HGW-401S
HGW-401S-PSE
HGW-401S-BT
HGW-802S
HGW-802S-PSE
HGW-802S-BT

### DIN rail mounting procedure

All Industrial switches from HC, HSW and HGW series have DIN rail bracket mounted from factory to the rear panel of the unit. If Wall mounting is needed, please first remove the DIN rail bracket. If DIN rail bracket needs to be reattached, please make sure the spring is located on top position when unit is vertical.

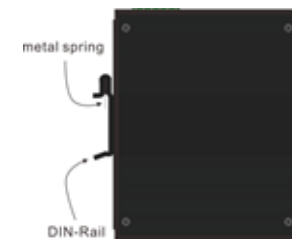
#### Step 1

Please hold unit as in below image, making sure top of bracket with spring falls onto the top edge of TS-35 DIN rail



#### Step 2

Rotate and snap the unit onto the DIN rail by pushing the bottom onto the TS-35 DIN rail. Unit will be secured to rail.



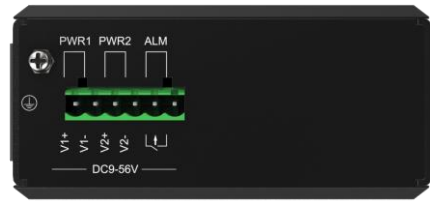
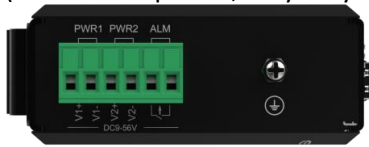
**Technical specifications by model**

Model	HC-1002-SFP	HC-1002-SFP-PSE	HC-1002-BT	HGW-500	HGW-401S	HGW-401S-PSE	HGW-401S-BT	HGW-802S	HGW-802S-PSE	HGW-802S-BT
TP ports (RJ45)	2 x 10/100/1000	2 x 10/100/1000	2 x 10/100/1000	5 x 10/100/1000	4 x 10/100/1000	4 x 10/100/1000	4 x 10/100/1000	8 x 10/100/1000	8 x 10/100/1000	8 x 10/100/1000
SFP slots	1 x 1000	1 x 1000	1 x 1000	none	1 x 1000	1 x 1000	1 x 1000	2 x 100/1000	2 x 100/1000	2 x 100/1000
LEDs	PWR, Fiber LNK/ACT, UTP GRN/YLW	PWR, Fiber LNK/ACT, UTP GRN/YLW	PWR, Fiber LNK/ACT, UTP GRN/YLW	PWR, Fiber LNK/ACT, UTP GRN/YLW	PWR, Fiber LNK/ACT, UTP GRN/YLW	PWR, Fiber LNK/ACT, UTP GRN/YLW	PWR, Fiber LNK/ACT, UTP GRN/YLW	PWR, Fiber LNK/ACT, UTP GRN/YLW	PWR, Fiber LNK/ACT, UTP GRN/YLW	PWR, Fiber LNK/ACT, UTP GRN/YLW
Network Protocols	CSMA/CD	CSMA/CD	CSMA/CD	CSMA/CD	CSMA/CD	CSMA/CD	CSMA/CD	CSMA/CD	CSMA/CD	CSMA/CD
Bandwidth	12G	12G	12G	12G	12G	12G	12G	20G	20G	20G
Packet buffer size	1M	1M	1M	1M	1M	1M	1M	2M	2M	2M
Packet max. size(bytes)	9K	9K	9K	9K	9K	9K	9K	9K	9K	9K
MAC address table size	4K	4K	4K	4K	4K	4K	4K	4K	4K	4K
Safety	CE/LVD EN60950	CE/LVD EN60950	CE/LVD EN60950	CE/LVD EN60950	CE/LVD EN60950	CE/LVD EN60950	CE/LVD EN60950	CE/LVD EN60950	CE/LVD EN60950	CE/LVD EN60950
Power input	DC 9~56V	DC 48~52V	DC 48~56V	DC 9~56V	DC 9~56V	DC 48~52V	DC 48~56V	DC 9~56V	DC 48~52V	DC 48~56V
Reverse Polarity Protection	yes	yes	Yes	yes	yes	yes	Yes	yes	yes	yes
PoE budget	none	60W	180W	none	none	120W	360W	none	240W	720W
Max PoE power per port	n/a	30W	90W	n/a	n/a	30W	90W	n/a	30W	90W
Mounting DIN rail bracket	yes	yes	Yes	yes	yes	yes	Yes	yes	yes	yes
Mounting Wall bracket	yes	yes	Yes	yes	yes	yes	Yes	yes	yes	yes
Operating Temp (°C)	-40 ~ +75	-40 ~ +75	-40 ~ +75	-40 ~ +75	-40 ~ +75	-40 ~ +75	-40 ~ +75	-40 ~ +75	-40 ~ +75	-40 ~ +75
Storage Temp (°C)	-50 ~ +85	-50 ~ +85	-50 ~ +85	-50 ~ +85	-50 ~ +85	-50 ~ +85	-50 ~ +85	-50 ~ +85	-50 ~ +85	-50 ~ +85
Operating Humidity	10 ~ 90% non-condensing									
Dimensions (mm) *	120x 90x 35	120x 90x 35	120x 90x 35	120x 90x 35	120x 90x 35	120x 90x 35	120x 90x 35	138x 108x 49	138x 108x 49	138x 108x 49
Weight (g)	380	430	430	400	400	450	450	650	750	750
MTBF	120,000 hours									
Warranty	3 years	3 years	3 years	3 years	3 years	3 years	3 years	3 years	3 years	3 years
Industrial Compliance										
EMI	FCC Part 15 Subpart B Class A, EN 55022 Class A									
EMS	EN 61000-4-2 (ESD) Level 3 Criteria B, EN 61000-4-3 (RS) Level 3 Criteria A, EN 61000-4-4 (EFT) Level 3 Criteria A, EN 61000-4-5 (Surge) Level 3 Criteria B, EN 61000-4-6 (CS) Level 3 Criteria A, EN 61000-4-8(PFMF, Magnetic Field) Field Strength 300A/m Criteria A									
Vibration	IEC 60068-2-6									
Freefall	IEC 60068-2-32									
Shock	IEC 60068-2-27									
Rail Traffic	EN 50121-4									
Traffic Control	NEMA-TS2									

\* Dimensions are taken with no SFPs inserted, nor power block connectors

**Top panel view**

(Common top view, may vary with model)

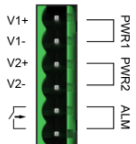


Models  
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 HC-1002-SFP-PSE  
 HC-1002-BT  
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 HGW-401S  
 HGW-401S-PSE  
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HGW-802S  
 HGW-802S-PSE  
 HGW-802S-BT

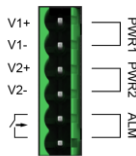
Top panel has terminal screw block for PWR1 and PWR2 input as well as Alarm Relay output and M3 grounding screw.

**Alarm Relay wiring**



The alarm relay is closed during normal operation. If a Fault is encountered (like power supply input lost) then relay contacts become open until fault is remedied

**Power input wiring**



There are two independent and redundant power inputs, marked PWR1 and PWR2. Please observe voltage polarity when wiring power to the screw block connector. Please complete wiring without hot wires and with screw block connector disconnected from switch.

**Installation warning**

Please make sure of proper electrical grounding availability before powering up device. The unit should be grounded using either the M3 grounding screw or making sure the DIN rail installation or wall mount brackets are correctly grounded. Make sure power wires have adequate gauge for the power

**Features**

- IEEE 802.3 10Base-T, 802.3u 100Base-TX, 802.3z 1000Base-T, 802.3af and 802.3at, 802.3bt support
- Auto-Negotiation and Auto MDI/MDIX
- 4kV Ethernet surge protection on all TP ports
- Full-duplex and Half-duplex flow control modes
- Auto PoE detection for connected PD devices
- 15.4W PoE power for IEEE 802.3af and 30W PoE power for IEEE 802.3at, 90W PoE power for IEEE802.3bt standard for each copper port (PSE models only)
- Store and forward switching mechanism
- Extreme -40 ~ +75°C operating temperature
- DIN rail or Wall mount installation options, IP40 rated housing
- 9-56 DC wide power input (48-56V DC for PoE PSE models)

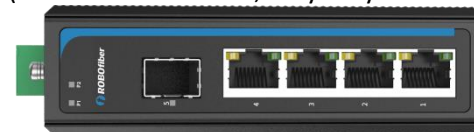
**LED Indicators (markings will vary with models)**

LED	Function
PWR	Off – No power available; On – Power is present
Fiber LK/ACT LINK	Off – No link; On – Fiber link OK; Blinking – data traffic present
UTP GREEN	Off – 10M/100M; On – 1000M on RJ45 port
UTP YELLOW	Off – No link; On – UTP link OK; Blinking – data traffic present
SYS	Off – Switch failed; On – Switch operating normally

Note: Gigabit models require approx. 10 seconds from “Power On” to start operating

**Switch front plate view**

(Common front view, may vary with model)



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