

HUG-418S
HUG-418SE

Industrial Slim Unmanaged Gigabit Switch With SFP Port

Features

High Performance Network Switching Technology

- ✓ Complies with IEEE 802.3, IEEE 802.3u, IEEE 802.3ab, IEEE 802.3x
- ✓ Provides 4 x 10/100 Mbps Ethernet ports with RJ-45 connector
- ✓ Provides 1 x 10/100/1000T Mini-GBIC socket (Combo with 1000TX port)
- ✓ RJ-45 Port support auto MDI/MDI-X crossover
- ✓ Provides broadcast storm protection
- ✓ Supports IEEE 802.3X flow control on full duplex, back pressure on half duplex

Robust Industrial Design

- ✓ Robust Aluminum case complying to IP-30 housing standard
- ✓ Supports operating temperature -10 to 70°C & Extended temperature -40 to 80°C
- ✓ DIN-Rail, Panel mount or desktop installation
- ✓ High level of immunity to electromagnetic interference & power supply surges typically found in industrial plant environments or external curb side enclosures

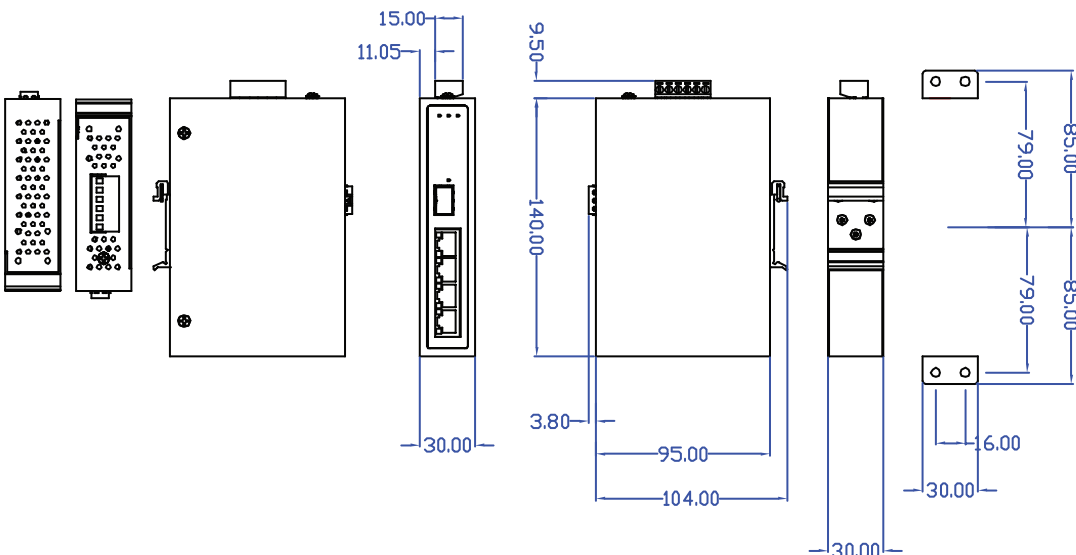
Reliable Power Design

- ✓ Supports Redundant 12 - 48VDC power input
- ✓ Supports 4,000 VDC Ethernet ESD Protection
- ✓ Provides surge (EFT) protection 3,000 VDC for power line
- ✓ Power Polarity Reverse Protection Present
- ✓ Terminal block present for master and slave power

Overview

The Husky series HUG-418S Industrial 5-port Slim Unmanaged Gigabit Ethernet Switch is an entry-level industrial Ethernet switch that supports IEEE 802.3/802.3u/802.3x with 10/100/1000Mbps, full/half duplex and MDI/MDI-X auto-sensing RJ-45 ports. It supports state of the art design with four 10/100/1000T Ethernet ports and one small form pluggable (SFP) ports that supports Gigabit SX or LX depending on your existing network structure. The innovative SFP fiber slot design provides user the flexibility to insert different fiber modules, either multi-mode or single-mode at various distances, whether you require typical 10 km or overhaul 40 km, 80 km and 120 km distances. The compact, slim line switch is equipped with a relay output for an event alarm for easy troubleshooting. It offers a 12~ 48 VDC redundant powers input design and is secured with Power Polarity Reverse protection and an Overload Current Reset-table Fuse. The IP-30 housing protection, wide operating temperature of -10 to 70°C and DIN rail mounting makes HUG-418S suitable for an industrial environment. The E version extends the temperature rating to -40 to 80°C. The HUG-418S is a plug-and-play solution for your Industrial Ethernet applications.

Dimensions



Hardware Specifications

Interface

RJ-45 Ports	4 10/100/1000Base-TX auto-negotiation speed, Full/Half duplex, auto MDI/MDI-X
Fiber ports	1 10/100/1000T Mini-GBIC socket (Combo with 1000TX port)
LEDs	Per unit: Power 1 (Green), Power 2 (Green), Fault(Red) Per port: Link/Activity (Green), Speed (1000Mbps Green) SFP: Link/Activity (Green)
Power Input	12~48 VDC, Redundant power with polarity reverse protect function & connective removable terminal block for master and slave power
Power Protection	ESD (Ethernet) : Present Surge : 3000VDC Power Reverse Polarity: Present
Power Consumption	4.8 watts
Dimensions	IP 30 standard, 30 mm (W) x 95 mm (H) x 140 mm (D)
Installation	DIN-Rail, wall mountable

Environmental

Operating Temperature	Regular: -10 to 70°C Extended: -40 to 80°C
Storage Temperature	-40 to 85°C (-40 to 185°F)
Operating Humidity	5%~90% RH (Non-condensing)

Technology Specifications

Standard	IEEE 802.3 10Base-T Ethernet IEEE 802.3u 100Base-TX IEEE802.3ab 1000Base-T IEEE802.3x Flow Control and Back Pressure
Connector	10/100/1000TX: 4 x ports RJ-45 with Auto MDI/MDI-X function Gigabit fiber: 1 x Mini-GBIC socket. (Combo with 1000TX port)
Network Media	10Base-T: 2-pair UTP/STP Cat. 3, 4, 5/ 5E cable EIA/TIA-568 100-ohm (100m) 100Base-TX: 2-pair UTP/STP Cat. 5/ 5E cable EIA/TIA-568 100-ohm (100m) 1000Base-TX: 2-pair UTP/STP Cat. 5/ 5E cable EIA/TIA-568 100-ohm (100m)
Protocol Technology	CSMA/CD
Switching Architecture	Store and Forward

Performance

Data Transfer Rate	14,880 pps for Ethernet port 148,800 pps for Fast Ethernet port 1,488,000pps for Gigabit Fiber Ethernet port
MAC Address	8K
Jumbo Frame	9Kbytes
Memory Buffer	136Kbits
Back-plane	10 Gbps
Transfer Packet Size	14.88Mpps @64bytes

Regulatory Approvals

EMI	FCC Class A
EMS	EN6100-4-2 EN6100-4-3 EN6100-4-4 EN6100-4-5 EN6100-4-6 EN6100-4-8 EN6100-4-11
Safety	UL, cUL, CE/EN60950
Shock	IEC60068-2-27
Vibration	IEC60068-2-6
Free Fall	IEC60068-2-32
Class 1 DIV 2	Pending *
DNV	Pending *
Environmental	WEEE, RoHS
MTBF	350,000 hrs based on Mil-Hdbk-217F, GB
Warranty	5 years

SFP Specifications



- Compliant with IEEE 802.3z Gigabit Ethernet Standard
- Single mode LX versions are compliant with Fiber Channel 100-SM-LC-L standard
- Multimode SX versions are compliant with Fiber Channel 100-M5-SN-I & 100-M6-SN-I
- Industry standard small form pluggable SFP package
- Duplex LC connector
- Single power supply 3.3V
- Class 1 laser product complies with EN 60825-1

Optical Specifications

Model	Fiber type (um)	Connector	Wavelength (um)	TX Power (min)	TX Power (Max)	Rx Power (Min)	Rx Power (Max)	Link Budget (dbm)	Distance (km)
SFP-SX-LC	Multi-mode 50/125	Duplex LC	850nm	-15dBm	-8dBm	-34dBm	-8dBm	19dBm	0.55 km
SFP-SX-LC-E	Multi-mode 50/125	Duplex LC	850nm	-15dBm	-8dBm	-34dBm	-8dBm	19dBm	0.55 km
SFP-LX-LC-10 SFP-LX-LC-10E	Single-mode 9/125	Duplex LC	1310nm	-15dBm	-8dBm	-34dBm	-8dBm	19dBm	10 km
SFP-LX-LC-40	Single-mode 9/125	Duplex LC	1310nm	-4dBm	-1dBm	-24dBm	-1dBm	20dBm	40 km
SFP-LX-LC-80	Single-mode 9/125	Duplex LC	1550nm	0dBm	5dBm	-24dBm	5dBm	24dBm	80 km

Ordering Information

HUG-418S	Industrial 5-port Slim Unmanaged Gigabit Ethernet Switch With 1 SFP port
HUG-418SE	Industrial 5-port Slim Unmanaged Gigabit Ethernet Switch With 1 SFP port, Extended Temperature -40 to 80°C

*Extended temperature products are produced to order.

Recommended Accessories

DR-4524	45W/2A DIN-Rail 24 VDC power supply
DR-7524	75W/3.2A DIN-Rail 24 VDC power supply
DR-120-24	120W/5A DIN-Rail 24 VDC power supply