Industrial Unmanaged Ethernet Switch

EH7310

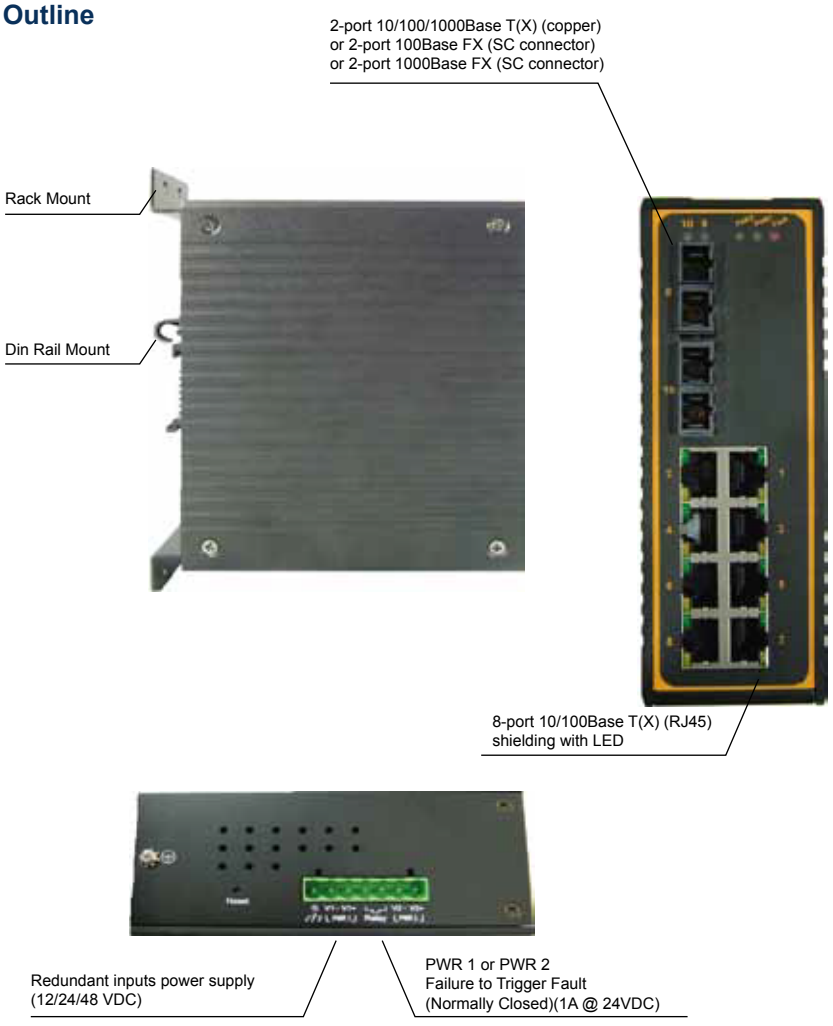
RoHS compliant

The EH7310 series has been designed for industrial environments, such as in hazardous locations that comply with FCC, UL, and CE standards.

The EH7310 series protects itself from receiving too many broadcast packets. During normal use, broadcast packets will be forwarded to all ports except the source port. However, EH7310 series will discard broadcast or multicast packets if the number of those packets exceeds a threshold in a preset period of time. When the preset period expires (about 800ms), it will then resume receiving broadcast or multicast packets until the threshold is reached again.

The EH7310 series provides two redundant power inputs that can be connected simultaneously to wide-range DC power sources. If one of the power inputs fails, the other live source acts as a backup to provide the EH7310 series power needs automatically.

Outline



Advantages

Designed for Harsh Environments

- Extended Operating Temperature Range: -40 ~ 80°C(-40 ~ 176°F) !
  - No rotating fans or mechanical parts inside ensure the highest reliability.
- Wide Power Supply Options: Redundant Dual Inputs !
  - 12/24/48 VDC
- Failure to Trigger Fault Output Relay:
  - Relay output warning for power failure and break alarm. Normally Closed.

Advanced Networking Features

- **Technologies:**
  - Standards:
    - IEEE 802.3 for 10BaseT (10Mbps Ethernet)
    - IEEE 802.3u for 100BaseT(X) & 100BaseFX (Fast Ethernet 100Mbps)
    - IEEE 802.3x for Flow Control
  - Processing Type
    - Store and Forward
  - Flow Control
    - IEEE802.3x Full Duplex, back pressure flow control
- **Properties:**
  - Support up to 8K MAC addresses with automatic learning and aging.
  - Transmits 802.1Q VLAN and 802.1p priority tagged message transparently.
  - Smart broadcast storm protection.

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Regulatory Approvals and Environmental Type Tests

EMI Immunity Type Tests

Test	Description		Test Levels	Severity Levels
FCC part 15	-	Subpart B	-	class A
EN55032	-	2012+AC:2013	-	class A

EMS Tests

Test	Description		Test Levels	Severity Levels
EN61000-4-2	ESD	Contact discharge	8 KV, Criterion A	level 4
		Air discharge	15 KV, , Criterion A	level 4
EN61000-4-3	RS	Enclosure ports	10 V/m (80 - 1000 MHz), Criterion A	level 3
EN61000-4-4	EFT	Power Line	2 KV, Criterion B	level 3
EN61000-4-5	Surge	Line to earth	1 KV, Criterion B	level 2
		Power Line	2 KV, Criterion B	level 3
EN61000-4-6	CS	Line to earth	3 V (0.15 - 80 MHz), Criterion A	level 3
		Power Line	10 V (0.15 - 80 MHz), Criterion B	level 3

Safety Tests

Test	Description		Rating	Severity Levels
UL60950-1	-	2nd Edition, 2007-03-27	12~48V DC, 1.2A	-
CSA C22.2 No.60950-1-07	-	2nd Edition, 2007-03	12~48V DC, 1.2A	-
CB	-	IEC 60950-1:2005 second version	12~48V DC, 1.2A	-

Environmental Type Tests

Test	Description		Test Levels	Severity Levels
MIL-STD-810F	Shock	Impact acceleration & Pluse duration	40g @ 11ms	-
MIL-STD-810F	Freefall	8 corners, 12 edges, 6 faces	122 cm	-
MIL-STD-810F	Vibration	Packaged Random waveform	x: 2.4 Grms y: 1.28 Grms z: 3.85 Grms	-
		Operating Random waveform	x: 0.740 Grms y: 0.204 Grms z: 1.04 Grms	-

Rail Traffic Application

Test	Description		Application	Severity Levels
EN50155	EMC	EN50121-3-2	Railway Application	-
	Environment	EN60068-2-1 EN60068-2-2 EN61373	Railway Application	- -
EN50121-4	EMC	-	Railway Application	-

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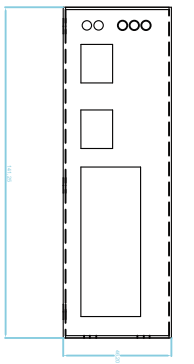
Mechanical

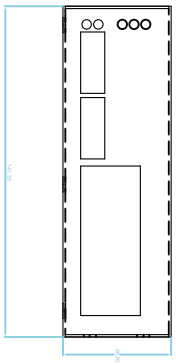
Dimensions (unit = mm)

Front View



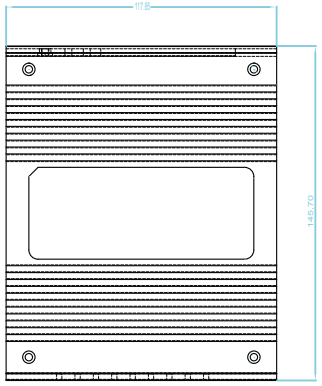
EH7310-G

Front View

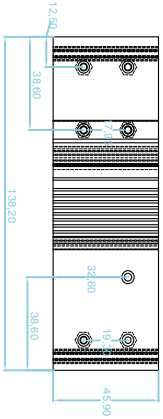


EH7310-G-2Fm
EH7310-G-2Fs
EH7310-2Fm
EH7310-2Fs

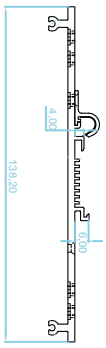
Side View

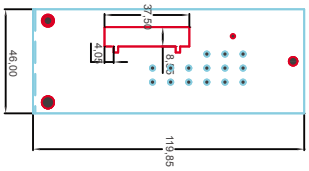


Rear View



Panel Mounting Kit



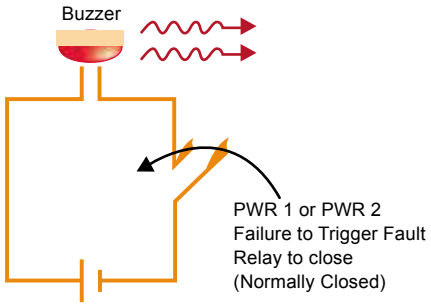


Bottom View

Ordering Information							
Model Name	Port Interface						
Extended Temperature (-40°C to 80°C)	10/100BaseT(X)	100BaseFX		1000BaseFX		Gigabit Ethernet	
		Multi Mode, SC Connector	Single Mode, SC Connector	Multi Mode, SC Connector	Single Mode, SC Connector	10/100/1000 BaseT(X)	100/1000 Base SFP
EH7310-G	8	---	---	---	---	2	---
EH7310-G-2Fs	8	---	---	---	2	---	---
EH7310-G-2Fm	8	---	---	2	---	---	---
EH7310-2Fs	8	---	2	---	---	---	---
EH7310-2Fm	8	2	---	---	---	---	---

Optional Accessories	
UN315-1212 (US-Y)	Y-Type power adapter, 100~240VAC input, 1.25A @ 12VDC output, US plug, LV6
UNE315-1212 (EU-Y)	Y-Type power adapter, 100~240VAC input, 1.25A @ 12VDC output, EU plug, LV6

General Specifications	
Technology	
Standards	IEEE 802.3 10-Base-T
	IEEE 802.3u 100Base-TX
	IEEE 802.3 100Base-FX
	IEEE 802.3 1000Base-SX, LX
Switching Latency	5 μS
Flow Control	IEEE 802.3x Flow Control and Back-pressure
Processing type	Store-and-Forward
Interface	
RJ45 Ports	10/100BaseT(X), Auto MDI/MDI-X
	10/100/1000BaseT(X), Auto MDI/MDI-X (Uplink)
Fiber Ports	100BaseFX ports (SC connector) (Uplink)
	1000BaseFX ports (SC connector) (Uplink)
LED Indicators	LNK/ACT(Steady green-Link up/Blinking-data transmitting & receiving)
	PWR1(Green), PWR2(Green), Fault(Red)
Power Requirements	
Dual Inputs Voltage	12/24/48 VDC
Dual Inputs Current	0.49A @ 24VDC
Overload Current Protection	0.8A @ 12VDC
Connection	Removable dual 3-pin Terminal Block for power input
Reverse Polarity Protection	Present
Consumption	11.875 Watts
Physical Characteristics	
Housing	IP30 protection (>2.5mm objects, IEC60529), metal case(AL6063T5).
Dimensions (W x H x D)	53.4mm x 145.7mm x 119.9mm (2.10 x 5.74 x 4.72 in)
Weight	Approx 1000 g
Installation	DIN-Rail mount kit, wall mount kit (optional)
Environmental Limits	
Operating Temperature	-40 ~ 80°C (-40 ~ 176°F)
Storage Temperature	-40 ~ 85°C (-40 ~ 185°F)
Ambient Relative Humidity	5% to 95% (non-condensing)
	Notes: For UL policy the maximum operating temperature is 50°C, and the human body can tolerate maximum temperature is 70°C.
Regulatory Approvals	
Safety	UL60950-1, CSA C222, No.60950-1-07, CB
EMI	FCC part 15, CISPR (EN55032) class A
EMS	EN61000-4-2 (ESD) level 4, EN61000-4-3 (RS) level 3
	EN61000-4-4 (EFT) level 3, EN61000-4-5 (Surge) level 2/3
	EN61000-4-6 (CS) level 3
Shock	MIL-STD-810F
Free Fall	MIL-STD-810F
Vibration	MIL-STD-810F
MTBF	201,976 hrs (23.06 Years) (Data base: MIL-HDBK-217F, GB 25˚C)
Warranty	5 years (please visit www.atop.com.tw for more details)



Relay ON-OFF Status

No.	PWR1	PWR2	Fault LED	Relay contact	External Buzzer
1	off	off	off	closed	buzzing
2	off	on	red	closed	buzzing
3	on	off	red	closed	buzzing
4	on	on	off	open	no buzz

Optical Fiber Specifications

Speed	Fast Ethernet 100BaseFX			Gigabit Ethernet 1000BaseFX			
Mode	Multimode	Single Mode	Single Mode	Multimode	Multimode	Single Mode	Single Mode
Connectors	SC	SC	SC	SC	SC	SC	SC
Typical Distance	2 km	2 km	30 km	550 m	300 m	10 km	70 km
Cable Size Core/Cladding	50/125 um	62.5/125 um	9/125 um	50/125 um	62.5/125 um	9/125 um	9/125 um
Wavelength	1,310 nm	1,310 nm	1,310 nm	850 nm	850 nm	1310 nm	1550 nm
Max. TX Power	-14 dBm / -14 dBm	-8 dBm	5 dBm	-4 dBm	-4 dBm	-3 dBm	5 dBm
Min. TX Power	-23.5 dBm / -20 dBm	-15 dBm	0 dBm	-9.5 dBm	-9.5 dBm	-9.5 dBm	-9.5 dBm
RX Sensitivity	-31 dBm	-34 dBm	-36 dBm	-18 dBm	-18 dBm	-20 dBm	-24 dBm
Link Budget	7.5 dB / 11 dB	19 dB	36 dB	8.5 dB	8.5 dB	10.5 dB	24 dB
Saturation / overload	0 dBm	0 dBm	0 dBm	0 dBm	0 dBm	-3 dBm	-3 dBm
Typical Budget							