

Korenix JetNet 3808G Series
JetNet 3808G-M12/ 3908G-M12
Industrial Power over Ethernet GbE Switch

User's Manual

Version: 1.0



www.korenix.com

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1. Introduction

Korenix JetNet 3808G-M12 Series is a power over Ethernet rail switch that is specially designed for industrial or commercial applications. The following topics are covered in this chapter:

1.1 Overview

1.2 Product Features

1.1 Overview

JetNet 3808G-M12 series, Industrial Power over Ethernet (PoE) GbE Switches, are designed with 1 Gigabit and 7 Fast Ethernet PoE ports to ensure high-bandwidth uplink connection for wide PoE markets. This series include JetNet 3808G-M12/ 3908G-M12 which are all compliant with IEEE 802.3af/at PoE standard to deliver maximum 30 Watts/ per port. For JetNet 3808G-M12 models, it integrates with Korenix patented power boost technology- Input DC 9~36V boosting to 48V built-in power booster which is the best solution for the vehicle PoE applications with standard DC 48V power supply unavailable.

To ensure the high quality of video data transmission, JetNet 3808G series not only provides Gigabit bandwidth uplink for large image traffic, but also support CoS to adjust the priority of data transmission. The compact size with IP-41 steel metal case allows JetNet 3808G-M12 series to be reliably operated in -40~75°C extreme environment.

1.2 Product Features

Korenix JetNet 3808G-M12/ 3910G-M12 have the following features:

	JetNet 3808G-M12	JetNet 3908G-M12
Features Highlight		
10/100 TX PoE port	7	
10/100/1000 TX PoE port	1	8
PoE Standard compliant: IEEE802.3af/at PoE	Yes	Yes
PoE Power per port	30W	30W
Total PoE Power Budget	120W*	120W*
Class of Service	Yes	Yes
Aluminum Case Protection	IP41(IP54 by request)	IP41(IP54 by request)
Operating Temperature	-40~75°C	-40~75°C
Power Input	12~24V power input, 48V PoE output	48V power input, 48V PoE output

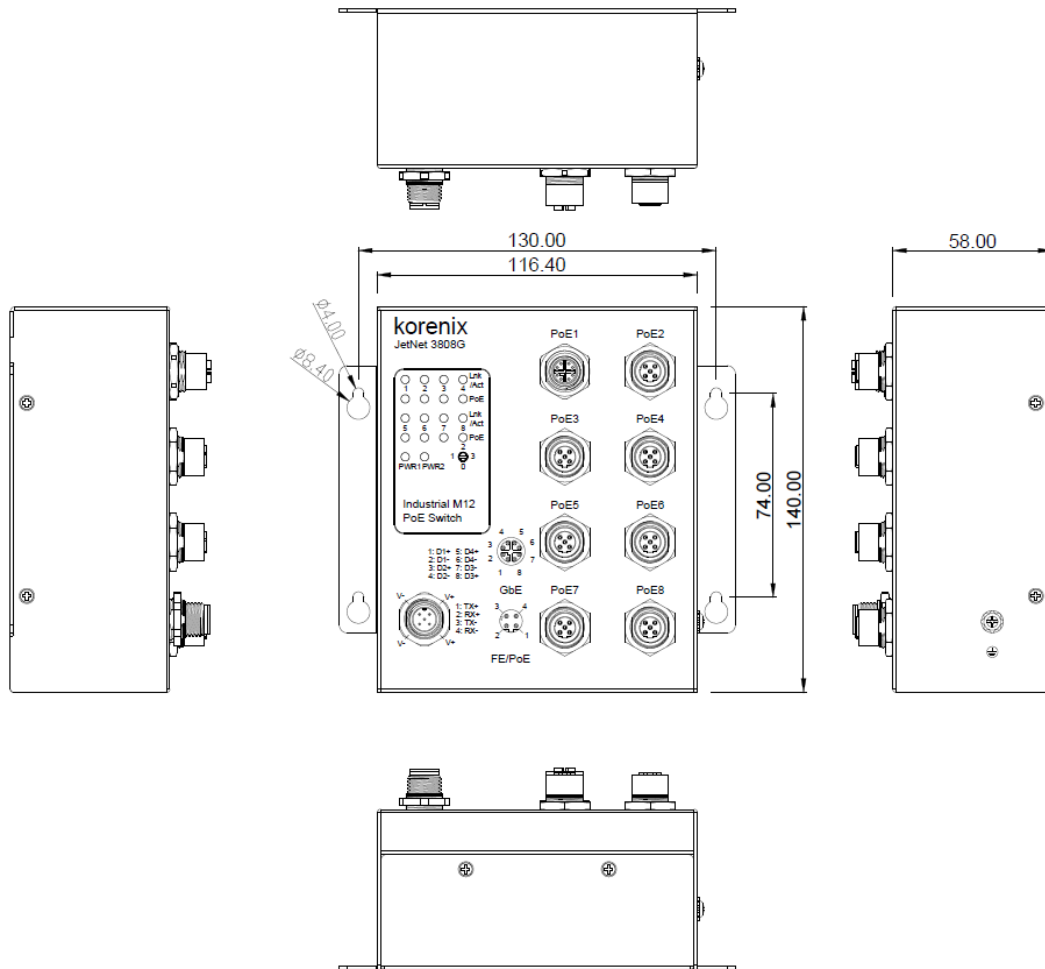
*Specifications may change without prior notice

2. Hardware Installation

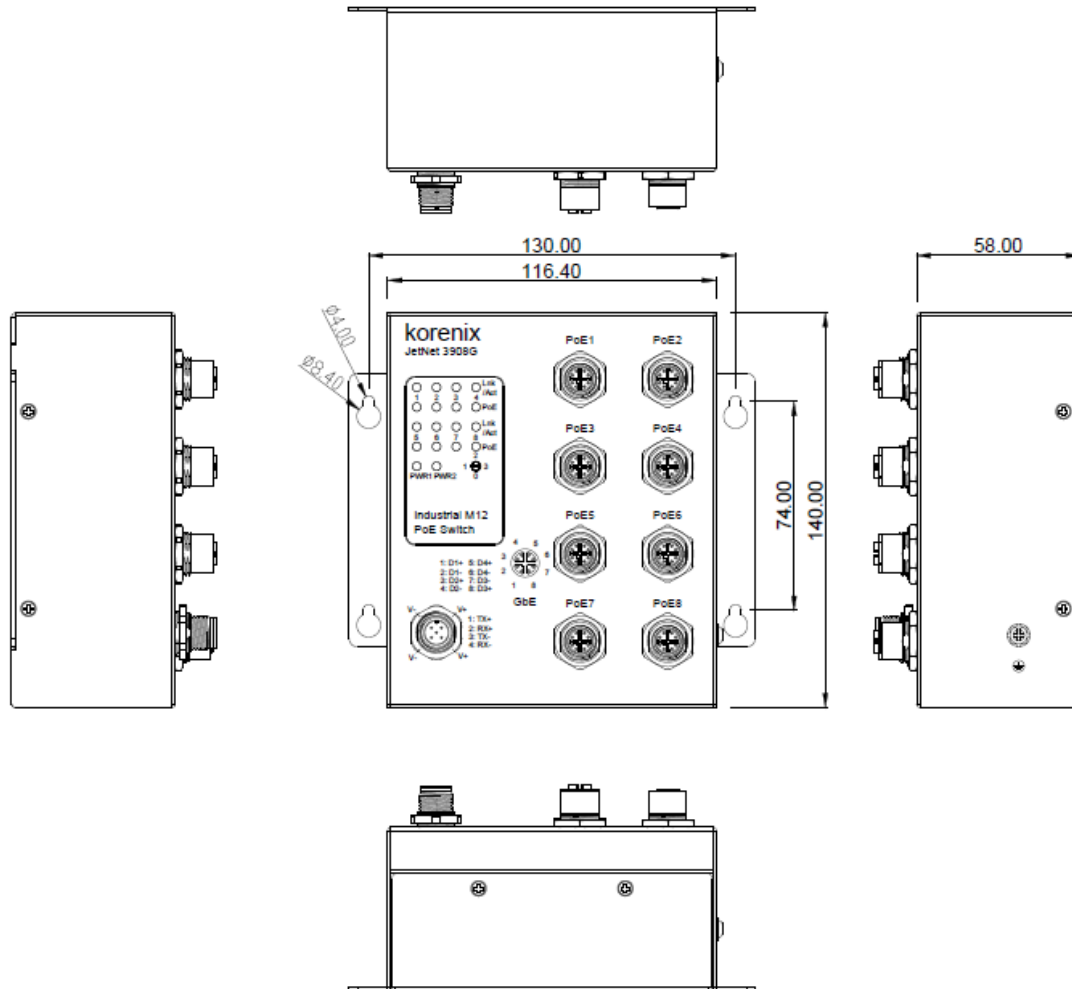
2.1 Hardware Introduction

Dimensions

JetNet 3808G-M12 dimensions: 116(H) x 146(W) x 58(D)



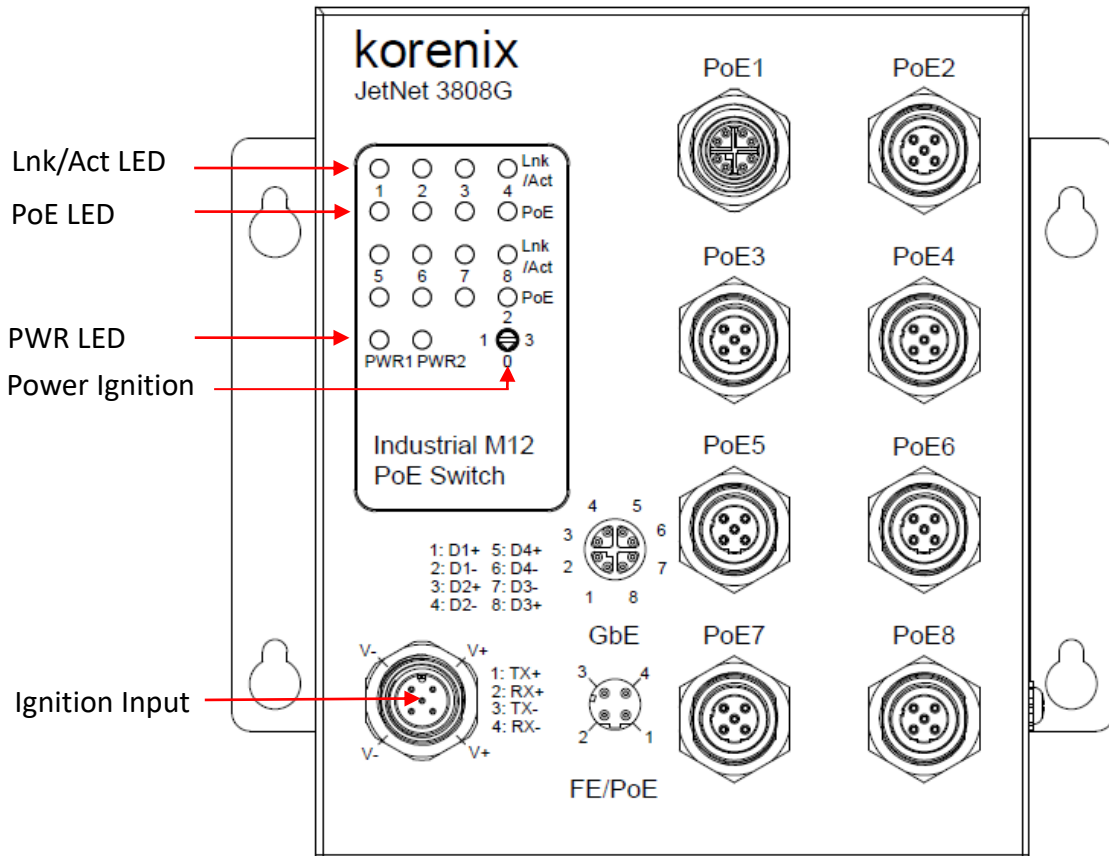
JetNet 3908G-M12 dimensions: 116(H) x 146(W) x 58(D)



Front Panel


JetNet 3808G-M12/ 3908G-M12 include system power LED x1, PoE LED x8; and 8 LEDs for the port operating status.

JetNet 3808G-M12 / JetNet 3908G-M12




Connector definition

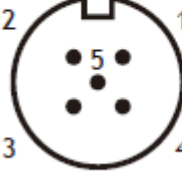
JetNet 3808G-M12/3908G-M12 X-Code 8-PIN, Female

Cat-6, Cat-7 Shielding Twisted Cable, 24~26AWG			
Pin Assignment drawing	Pin	Description	PoE
	1	Bidirectional (0)+	PoE V+ / P
	2	Bidirectional (0)-	PoE V+ / P
	3	Bidirectional (1)+	PoE V- / N
	4	Bidirectional (1)-	PoE V- / N
	5	Bidirectional (3)+	
	6	Bidirectional (3)-	
	7	Bidirectional (2)-	
	8	Bidirectional (2)+	

JetNet 3808G-M12 D-Code 4-PIN, Female

Cat-6, Cat-7 Shielding Twisted Cable, 24~26AWG			
Pin Assignment drawing	Pin	Description	PoE
	1	TX+	PoE V+ / P
	2	RX+	PoE V- / N
	3	TX-	PoE V+ / P
	4	RX-	PoE V- / N

Power Connector - M12 A-Code 5-PIN, Male

Pin Assignment drawing	Pin	Description
	1	Power-2, DC+
	2	Power-1, DC+
	3	Power-1, DC -
	4	Power-2, DC -
	5	Ignition

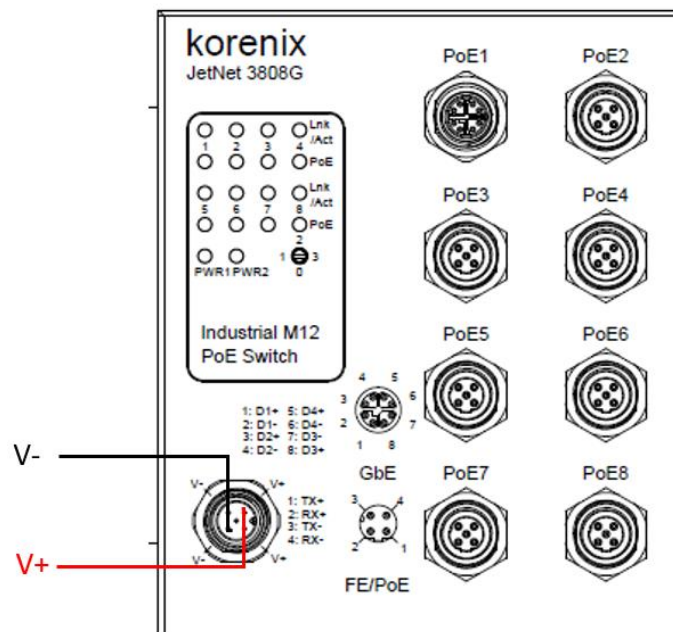
LED Indicators

The following table describes the function of each LED indicator.

LED	Status	Description
PWR1	Green	DC-IN Power Jack is On
	Off	No Power Input
	Blinking	Delay time off into standby mode
PWR2	Green	DC-IN Power Jack is On, System Standby
	Off	No Power Input
PoE	Amber on	The port is delivering PoE power.
	Amber blinking	PoE detection
Lnk/Act	Green on	The port is attached with partner.
	Green Blinking	The port is transmitting or receiving packets.
	Off	The port's link is inactive

2.2 Wiring the Power Inputs

JetNet 3808G-M12/ 3908G-M12 power input is 9~36VDC and boosts to 48V DC output for 802.3af/at standard PoE devices.



IMPORTANT: Do make sure that different models must connect to the corresponding supply voltage. Guarantee will not apply to the damage caused by wrong input power.

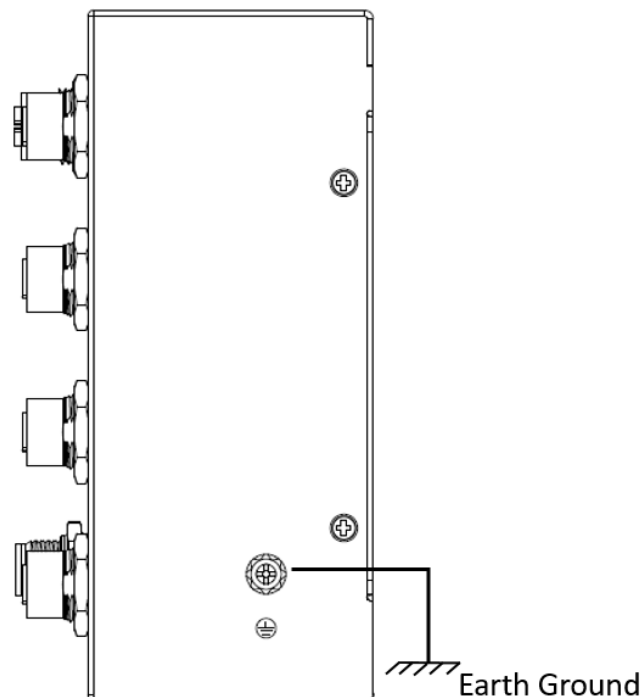
Note: The product intended to be supplied by LPS power supply.

1. Insert the positive and negative wires of your DC supply into the V+ and V- contacts of the M12 A-Code Female connector. The acceptable wire range is 12 to 24 AWG.

2.4 Wiring Earth Ground

To ensure the system will not be damaged by noise or electric shock, we suggest making a direct connection between the JetNet 3808G-M12/ JetNet3908G-M12 and earth ground to avoid system damage in below photo.

1. On the right side of bottom of the JetNet 3808G-M12/ JetNet3908G-M12, there is one earth ground screw.
2. Loosen the earth ground screw with a screwdriver
3. Tighten the screw after the earth ground wire is connected.

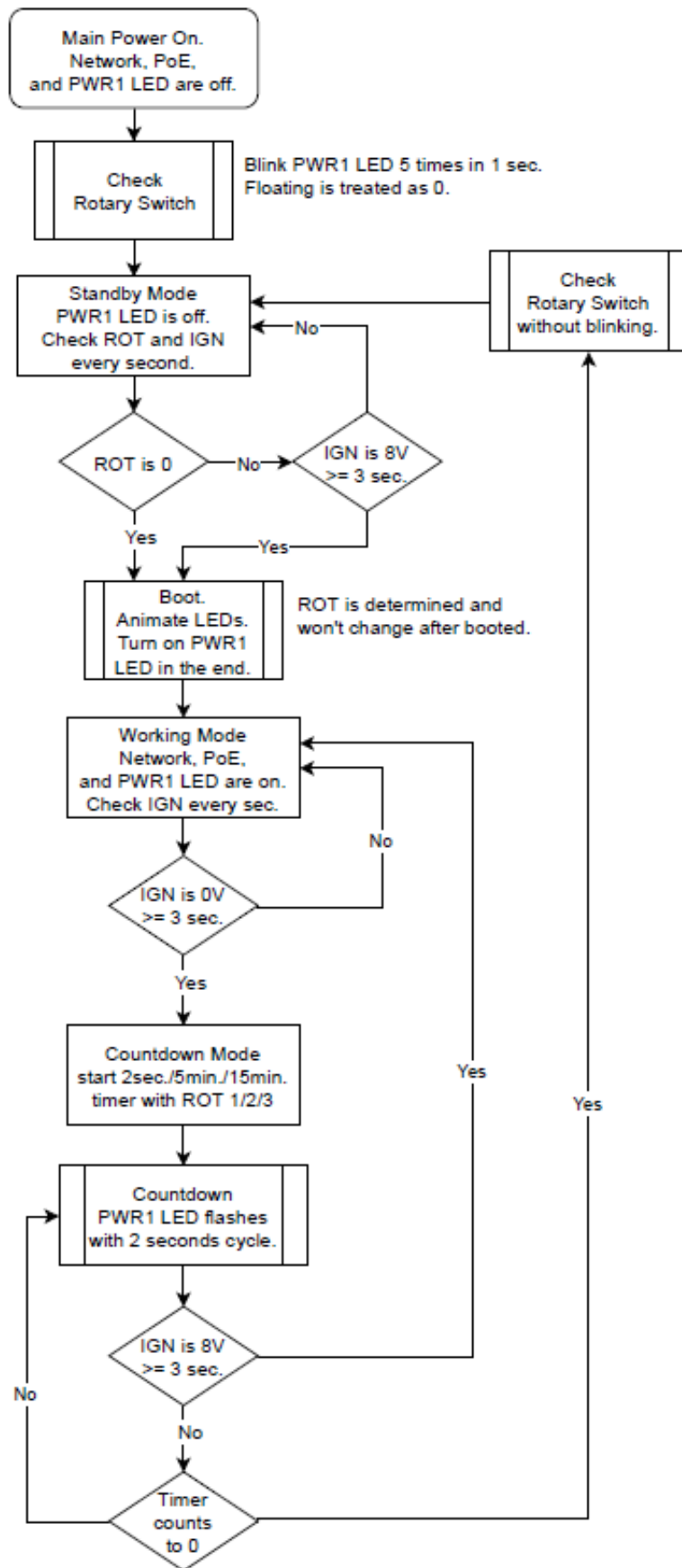


2.5 Rotary Switches (Ignition Function)

4-Pin rotary switch is one of components to trigger delay off into standby mode function, the detail show in table 1, how does ignition function work. It is showed in diagram 1.

Power Input	Rotary Switch	Ignition Voltage	System	Note
<9V	0		Off	
<9V	1,2,3	> 7.6VDC	Off	
<9V	1,2,3	< 7.6VDC	Off	
9-36 VDC	0		On	Including Rotary floating
9-36 VDC	1,2,3	> 7.6VDC	On	
9-36 VDC	1,2,3	< 7.6VDC	Delay off into Standby mode	Rotary 1: 2 sec Rotary 2: 5 minutes Rotary 3: 15 minutes

(Table 1)



(Diagram 1)

3. Appendix

3.1 Product Specification

3.2 Revision History

3.1 Product Specification

Technology	
Standard	IEEE 802.3u 10Base-T Ethernet IEEE 802.3u 100Base-TX Fast Ethernet IEEE 802.3ab 1000Base-TX Gigabit Ethernet IEEE 802.3af Power over Ethernet IEEE 802.3at High Power PoE with 2-Event classification IEEE 802.3x Flow control and back-pressure
Network Performance	
Switch Technology	Store and Forward technology with 3.4Gbps non-blocking
System Throughput	23.8Mega packets per second, 64Bytes packet length
Transfer packet size	64Bytes ~1518Bytes
MAC Address	16K MAC address table
Packet Buffer	2 Mega bits shared packet buffer
Broadcast storm control:	Default enabled Traffic threshold: 25M bps@1000Mbps; 10M bps@100Mbps; 1M bps@10 Mbps
Jumbo frame	Up to 10K Bytes
Transfer performance	14,880 pps @10Mbps 148,800 pps @100Mbps 1,488,100 pps @1000Mbps
Class of Service	Default Enabled Compliance with IEEE802.1p class of service with Tag Based Priority rule. Each switch port provides 4 priority queues as following - 8

(Higher) : 4(High) : 2(Low) :1(Lower) scheduling.
 The Tag Priority ID as following: Highest (6,7), High (4,5), Low (0,3),
 Lowest (1,2)

Power over Ethernet

Power over Ethernet	IEEE 802.3af/at, End-Span wiring architecture
PoE operating mode	Auto Mode: IEEE 802.3af/at behaviors with IEEE 802.3at 2-Event for high power IEEE 802.3at 2-event PD device
PoE forwarding conductor	M12 X-Code (Port 1): V+(1,2), V- (3,4) M12 D-Code (Port 2~8): V+(1,3), V- (2,4)
Power forwarding capability	IEEE 802.3af:15.4 W, IEEE802.3at:30W
PoE System Power Budget	Power Budget Reserve by PD declaration. The power budget control system will reserve power for connected PD device. Once the latest PD device claimed power over the system surplus power budget, the highest port of PoE will not be active due to port order mechanism. System Power Budget: 120Watts at DC 24V/ 60 Watts at DC 12V

Interface

Enclosure Port	<ul style="list-style-type: none"> 1000 Base-T/Gigabit Ethernet (Port #1): 1 x M12-X Code 8-pin Female 10/100 Base-T/TX Fast Ethernet (Port #2~#8): 7 x M12-D Code 4-pin Female M12-X (Conductor #): (#1) 0P(D1+)/PoE V+, (#2) 0N(D1-)/PoE V+, (#3)1P(D2+)/PoE V-, (#4)1N(D2-)/PoE V-, (#5)3P(D4+) (#6)3N(D4-), (#7) 2N (D3-), (#8) 2P (D3+) Power: M12 A-Code 5-pin Male
LED Indicators	<p>Port 1~8: Link (Green on)/Activity (Green Blinking) PoE Detection (Amber Blinking)/ PoE power forwarding (IEEE 802.3af/at-Amber on) Power: System Power Ready (Green on), Ignition function Activity (Green Blinking)</p>

Power Requirement

System Power	Input voltage: DC 12V or DC 24V, variation range DC 9- 36 V
Power consumption	6 Watts @ DC 24V without PD loading 120 Watts @ DC 24V max.

Power Ignition Management

The count-down timer supports 4 scenarios which can be configured by Rotary-switch. The detail shows in user manual.

Mechanical

Installation	Wall Mounting
Enclosure Material	Steel Metal with textured paint
Ingress Protection	IP-41 (IP54 available by request)
Dimension (mm)	116 mm (H) x 140 mm (W) x 58 mm (D) (without wall mount clip)
Weight (Kg)	1.105

Environmental

Operating Environment	-40°C~75°C (120 Watts PoE/PD Loading), 0~90%, Non-condensing
Storage Environment	-40°C~85°C, 0~90% Non-Condensing
Hi-Pot	AC 1KV for ports-power, power-case

Approvals

Railway Standard	EN50155, EN 50121-4, EN50121-3-2
Traffic	E-mark E13 10R-05 14802
EMC	EMI: EN50121-3-2, FCC Class A, IEC/EN61000-6-4 EMS:EN50121-3-2/EN50121-1, IEC/EN61000-6-2 IEC/EN61000-4-2, IEC/EN61000-4-3, IEC/EN61000-4-4, IEC/EN61000-4-5, IEC/EN61000-4-6, IEC/EN61000-4-8, IEC/EN61000-4-9
Variation/Shock	IEC 61373
Free Fall	IEC 60068-2-32 with package Note-1
MTBF (hrs)	379,940
Warranty	5 Years

3.2 Revision History

Edition	Date	Modifications
V0.1	09/04/2018	New edition