

ITP-500 & ITP-800

IP56, 5/8x 10/100Base M12



- M12 connector for Ethernet and Power
- Slim and Fanless Design
- Build-in 2 bypass port (ITP-800)
- EN50155 for railway certified



The ITP-500/800 models are unmanaged, industrial grade, Fast Ethernet switches, with 5(8) 10/100Base-TX Fast Ethernet ports. This series of unmanaged Ethernet switches is designed for industrial applications in harsh environments. The Ethernet ports utilize M12 connectors to ensure water-tight, robust connections and guarantee reliable operation against environmental disturbances such as vibration and shock. These switches are compliant with EN50155, covering operating temperature, power input voltage, surge, ESD, vibration, and shock, thus making them suitable for industrial applications in vehicle, rolling stock and factory automation.

Features

- Use M12 connector anti vibration and shock for vehicle, rolling stock, and railway applications
- Slim design
- Build-in 2 bypass port to avoid one or more nodes power fail in a bus structure to collapse the network (ITP-800)
- Redundant dual DC input power 12/24/48VDC (8.4~60VDC) (ITP-800)
- DC input power 12/24/48VDC (8.4~60VDC) (ITP-500)
- Wide operating temperature -40~75°C (ITP-500-E, ITP-800-E)
- CE, FCC, EN50155 and EN50121-4 for railway certified
- Industrial Grade EMS, EMI, EN61000-6-2, EN61000-6-4 certified

Specifications

IEEE Standard	IEEE 802.3 10Base-T Ethernet IEEE 802.3u 100Base-TX Fast Ethernet IEEE 802.3x Flow Control and Back Pressure												
Switch Architecture	Back-plane (Switching Fabric): 1Gbps (ITP-500) Back-plane (Switching Fabric): 1.6Gbps (ITP-800) (Full wire-speed)												
Data Processing	Store and Forward												
Flow Control	IEEE 802.3x flow control, back pressure flow control												
MAC Address Table	1 K												
Packet Buffer Size	448Kbits												
Network Connector	5x M12 D-code Female (ITP-500) 8x M12 D-code Female (ITP-800) 10/100Base-TX auto negotiation speed Auto MDI/MDI-X function Full/Half duplex Built in 2 bypass port (ITP-800)												
Network Cable	UTP/STP Cat. 5e cable above EIA/TIA-568 100-ohm (100meter)												
Protocols	CSMA/CD												
LED	Per unit: Power 1 (Green), Power 2 (Green) (ITP-800) Per unit: Power (Green) (ITP-500) Per port: Link/Active (Green)												
Reverse Polarity Protection	Present for power input												
Overload Current Protection	Supported												
Power Supply	Redundant Dual DC 12/24/48V (8.4~60VDC) Input power (ITP-800) DC 12/24/48V (8.4~60VDC) Input power (ITP-500)												
Power Connector	5 Pin Male A-Code M12												
Power Consumption	<table border="1"> <thead> <tr> <th>Input Voltage</th> <th>ITP-500</th> <th>ITP-800</th> </tr> </thead> <tbody> <tr> <td>12VDC</td> <td>0.8W</td> <td>1.8W</td> </tr> <tr> <td>24VDC</td> <td>1.0W</td> <td>2.2W</td> </tr> <tr> <td>48VDC</td> <td>1.9W</td> <td>3.4W</td> </tr> </tbody> </table>	Input Voltage	ITP-500	ITP-800	12VDC	0.8W	1.8W	24VDC	1.0W	2.2W	48VDC	1.9W	3.4W
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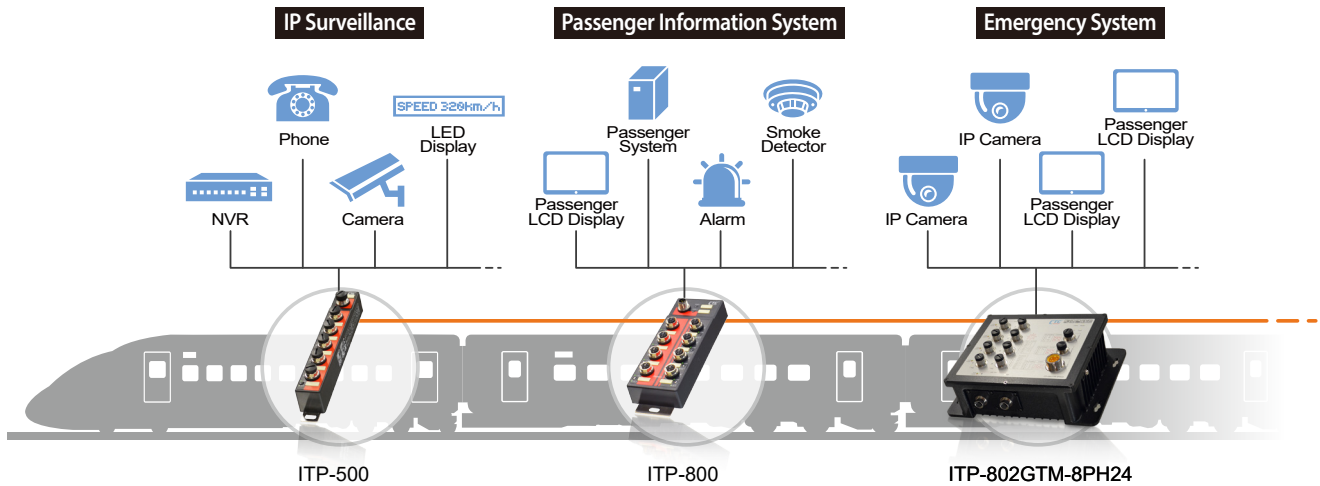
Operating Temperature	-40°C~75°C
Operating Humidity	5% to 95% (Non-condensing)
Storage Temperature	-40°C~85°C
Housing	IP56 Rugged housing, and fanless
Dimensions	44.3 x 33 x 213 mm (D x W x H) (ITP-500) 40.3 x 68 x 198 mm (D x W x H) (ITP-800)
Weight	150g (ITP-500) 300g (ITP-800)
Installation Mounting	Wall mounting
MTBF	2,315,383 Hours (ITP-500) 1,492,660 Hours (ITP-800) (MIL-HDBK-217)
Warranty	5 years
Certification	
EMC	CE
EMI	FCC, FCC Part 15 Subpart B Class A, CE
Railway Traffic	EN50155
EMS (Electromagnetic Susceptibility) Protection Level	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 (PFMF, Magnetic Field) Field Strength: 300A/m, Criteria A EN 61000-4-11 Voltage Dips
Shock	IEC 61373
Freefall	IEC 60068-2-32
Vibration	IEC 61373

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EN50155 Ethernet Switch ITP-500 & ITP-800

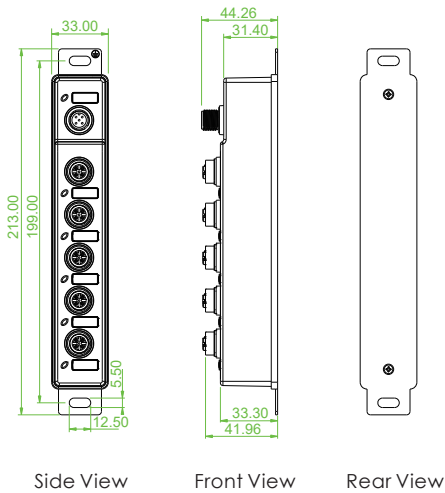
Application

Figure 1 : ITP Series in Onboard Train Application



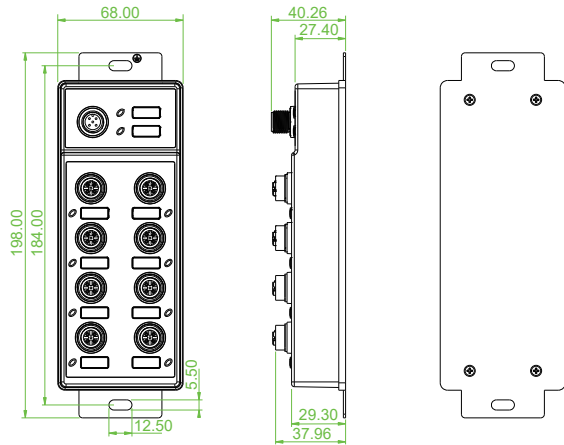
Dimensions

▶ ITP-500



Side View Front View Rear View

▶ ITP-800



Side View Front View Rear View

Ordering Information

Model Name	Total Port	UTP Port M12	Redundant Power Supply	Certification		Shock Vibration	Operating Temperature
		10/100Base-TX	12/24/48VDC (8.4~60VDC)	EN50155	CE, FCC	IEC61373	
ITP-500-E	5	5	1	V	V	V	-40~75°C
ITP-800-E	8	8	2	V	V	V	-40~75°C

Package List

- ITP-500 or ITP-800 device
- Wall mount (bound with switch device)
- Protective caps for UTP port and power

Optional Accessories

Optional Cable/Connector

P/N: CAB-M12DM4-RJ45

M12 D-code Male (4-Pin) to RJ-45, AWG 24, IP67, 1 meter



For FE UTP

P/N: CAB-M12AF5-OPEN

M12 A-code Female (5-Pin) to open wire, AWG 22, IP67, 1 meter



For Power

P/N: M12D-M4

M12 D-code Male (4-Pin) connector, IP67



For FE UTP

P/N: M12A-F5

M12 A-code Female (5-Pin) connector, IP67



For Power