

ITP-500 & ITP-800

EN50155 M12, 5/8x 10/100Base-TX



- M12 connector for Ethernet and Power
- Slim and Fanless Design
- Build-in 2 bypass port
- EN50155, EN50121-4 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

- 8-Port 10/100Base-TX Ethernet Switch (ITP-800)
- 5-Port 10/100Base-TX Ethernet Switch (ITP-500)
- Use M12 connector anti vibration and shock for vehicle, rolling stock, and railway applications
- Supports flow control
- Slim design (ITP-500, figure 4)
- Fanless design
- DIN rail or wall mounting installation
- Supports auto-negotiation and auto-MDI/MDI-X
- 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)
- Very low power consumption
- 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
Network Cable	Built in 2 bypass port (ITP-800)
	10Base-T: 2-pair UTP/STP Cat. 5e cable
	EIA/TIA-568 100-ohm (100m)
	100Base-TX: 2-pair UTP/STP Cat. 5e cable
Protocols	EIA/TIA-568 100-ohm (100m)
	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	Input Voltage	ITP-500	ITP-800
	12VDC	0.8W	1.8W
	24VDC	1.0W	2.2W
	48VDC	1.9W	3.4W
Operating Temperature	-40°C~75°C		
Operating Humidity	5% to 95% (Non-condensing)		
Storage Temperature	-40°C~85°C		
Housing	IP40 Rugged housing, and fanless		
Dimensions	43 x 30 x 206.5 mm (D x W x H) (ITP-500)		
	39 x 65.1 x 191.5 mm (D x W x H) (ITP-800)		
Weight	150g (ITP-500)		
	300g (ITP-800)		
Installation Mounting	Wall mounting, or DIN rail (optional)		
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, EN50121-4
Immunity for Heavy Industrial Environment	EN61000-6-2
Emission for Heavy Industrial Environment	EN61000-6-4

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
Safety	EN61000-4-8 (PFMF, Magnetic Field) Field Strength: 300A/m, Criteria A
	EN 61000-4-11 Voltage Dips
	UL60950-1 (Pending)
Shock	IEC 61373
Freefall	IEC 60068-2-32
Vibration	IEC 61373

Application

Figure 1 : ITP Series in Onboard Train Application

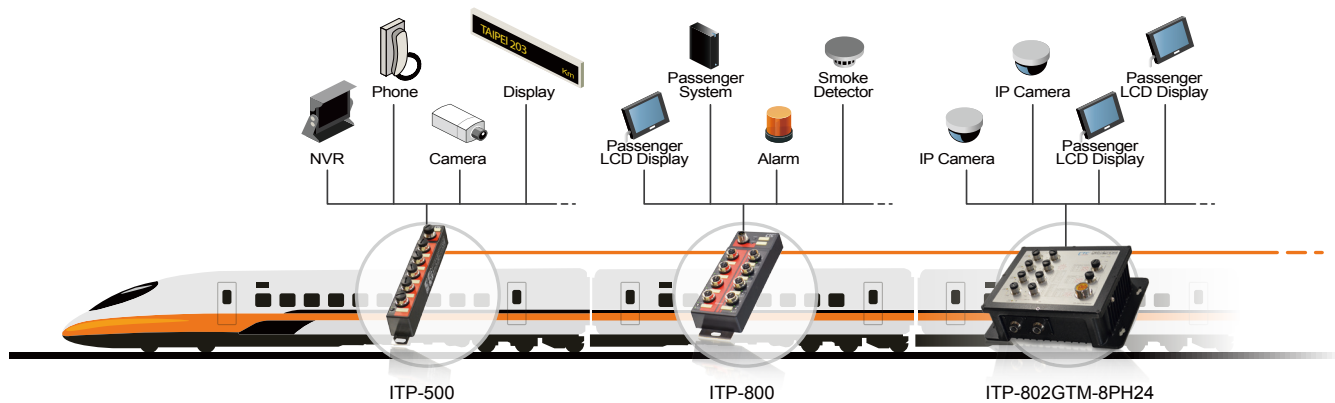


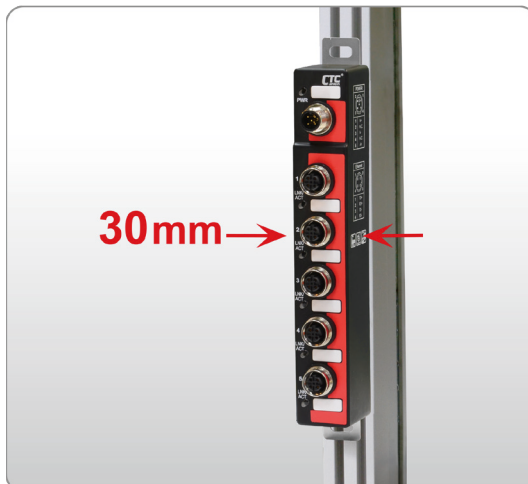
Figure 2 : Wide Range Temperature



Figure 3 : ITP Series for Industrial Automation

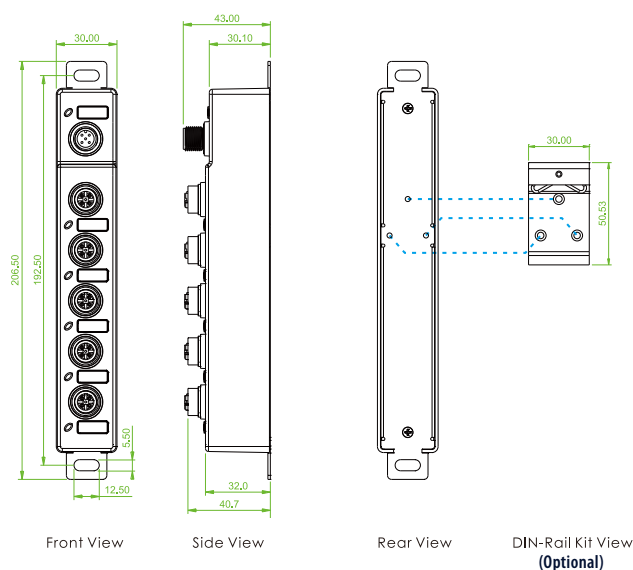


Figure 4 : Slim and Compact Size

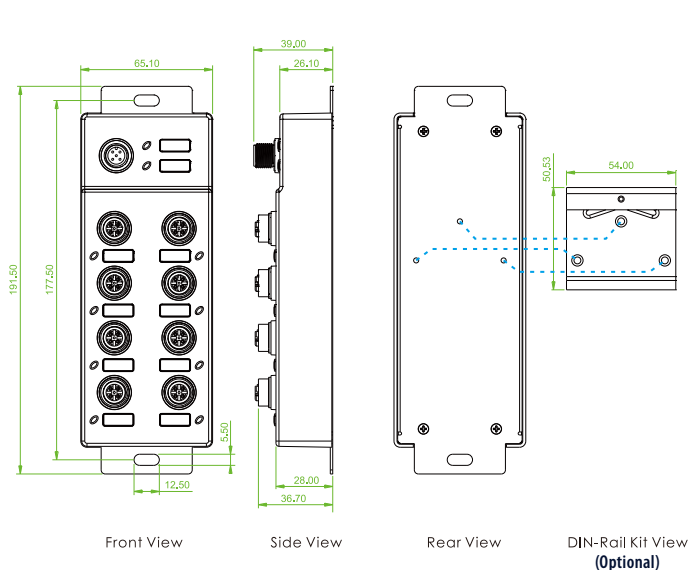


Dimensions

▶ ITP-500



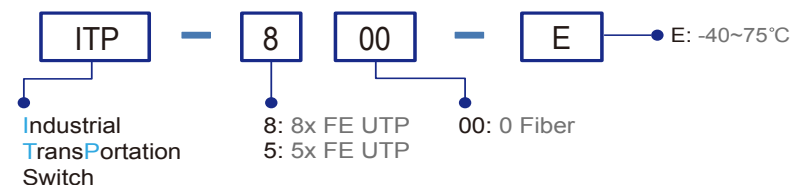
▶ ITP-800



Ordering Information

Model Name	Total Port	UTP Port M12	Power Supply	Certification				Shock Vibration	Operating Temperature
		10/100 Base-TX	12/24/48VDC (8.4~60VDC)	EN50155	EN50121-4	EN61000-6-2 EN61000-6-4	CE FCC	IEC61373	
ITP-500-E	5	5	1	V	V	V	V	V	-40~75°C
ITP-800-E	8	8	2	V	V	V	V	V	-40~75°C

Model Naming Rule



Package List

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

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