ITP-G802SM-8PH24

IP67, 8x GbE M12 + 2x 100/1000Base-X SFP with 8x PoE 180W, 24/48VDC

EN50155, EN50121-4, EN45545-2, EN61000-6-2, EN61000-6-4, CE and FCC Certified

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- » 24/48VDC Redundant Dual Power Input
- » Regulated PoE Output Voltage
- » Auto Checking and Auto Reset when PoE PD Fail



The EN50155 certified managed PoE switch ITP-G802SM-8PH24, full Gigabit, that provides 8x Gigabit M12 A-code Ethernet ports and 2x 100/1000Base-X SFP slots. Supports a variety of PoE operation functions, including automatic detection of PoE device power, automatic reset, PoE scheduling, etc. Designed for heavy industrial, vehicle and rolling stock applications, utilizing M12 connectors to ensure secure connections and reliable operation, withstand environmental disturbances such as vibration and shock. with IP67 rating to protect against dust and water submersion, 24VDC power input design compatible with vehicle battery power supply, realizes PoE function through voltage boosting. EN50155 certification covers operating temperature, mains input voltage, surge, ESD, vibration and shock, making the switch suitable for vehicle, rolling stock applications.

Features

C E FCC

- M12 and M23 connector against vibration and shock
- 24/48VDC redundant dual input power, and built-in power booster design up to 50VDC for PoE output
- Regulated PoE output voltage (50VDC) to stabilize PoE device, and guarantee delivery PoE power distance to 100meters
- Cable diagnostics, identifies opens/shorts distance
- Provides up to 5 instances that each supports μ-Ring, μ-Chain or Sub-Ring type for flexible uses. (Please see CTC Union's μ-Ring white paper for more details)
- Supports TTDP for train application
- Supports IEEE 1588 PTP V2 for precise time synchronization to operate in Ordinary-Boundary, Peer to Peer Transparent Clock, End to End Transparent Clock, Master, Slave mode by each port
- Supports EMS Management

Specifications		
Standard	IEEE 802.3	10Base-T 10Mbit/s Ethernet
	IEEE 802.3u	100Base-TX, 100Base-FX, Fast Ethernet
	IEEE 802.3ab	1000Base-T Gbit/s Ethernet over twisted pair
	IEEE 802.3z	1000Base-X Gbit/s Ethernet over Fiber-Optic
	IEEE 802.1d	STP (Spanning Tree Protocol)
	IEEE 802.1w	RSTP (Rapid Spanning Tree Protocol)
	IEEE 802.1s	MSTP (Multiple Spanning Tree Protocol)
	ITU-T G.8032 / Y.1344	ERPS (Ethernet Ring Protection Switching)
	ITU-T G.8031 / Y.1342	EPS (Ethernet Protection Switching)
	IEEE 802.1Q	Virtual LANs (VLAN)
	IEEE 802.1X	Port based and MAC based Network Access Control, Authentication
	IEEE 802.3ac	Max frame size extended to 1522Bytes
	IEEE 802.3ad	Link aggregation for parallel links with LACP (Link Aggregation Control Protocol)
	IEEE 802.3x	Flow control for Full Duplex

Standard	IEEE 802.3af	PoE (Power over Et	/									
	IEEE 802.3at PoE+ (Power over Ethernet ehancements)											
	IEEE 802.1ad Stacked VLANs, Q-in-Q											
	IEEE 802.1p LAN Layer 2 QoS/CoS Protocol for Traffic Prioritization											
	IEEE 802.1ab	Link Layer Discover										
	IEEE 802.3az	EEE (Energy Efficier	nt Ethernet)									
VLAN ID Switch Architecture	4094 IEEE802.1Q VLAN ID Reak plane (Switching Eabric): 20Chps (Full wire speed)											
		Back-plane (Switching Fabric): 20Gbps (Full wire-speed) Store and Forward										
Data Processing Flow Control												
PoE RJ-45 Pin Assignment	IEEE 802.3x for full duplex mode Back pressure for half duplex mode											
Network Connector	8x M12 (8-Pin A-code Female) ports support IEEE 802.3af / IEEE 802.3at End-Span, Alternative A mode. 8x M12(8-Pin, Female, A-Code) 10/100/1000Base-T + 2x 100/1000Base-X SFP											
NELWOIK CONNECTOR												
			MDI/MDI-X, Full/Half duplex f	UNCTION								
Console			ase-X SFP slot, support DDMI									
	RS-232 (5-pin A- UTP/STP Cat. 5e	'										
NELWOIK GADIE												
Protocols	EIA/TIA-568 100	r-onini (Toometer)										
Reverse Polarity Protection	CSMA/CD Supported											
Overload Current Protection	Supported											
CPU Watch Dog	Supported											
LED		(Groop) Power 2 (Groop) Fou	It (Ambor) CDLLAct (Croon) Di	na Maetar (Amh	vor							
LLD	System: Power 1 (Green), Power 2 (Green), Fault (Amber), CPU Act (Green), Ring Master (Amber) UTP: 10/100 Link/Active (Green), 1000Link/Active (Amber)											
	SFP Slot: Link/Active (Green), 1000Link/Active (Amber)											
	PoE: ON (Green)											
Jumbo Frame	9.6KB											
MAC Address Table	8K											
Memory Buffer	512K Bytes for pa	acket huffer										
Device Memory	2	ROM, 128M Bytes RAM										
PoE Standard	IEEE802.3af, IEEE											
PoE Power Output	,		W/port) Regulated PoE output v	oltage at 50VD	C							
Power Supply		1 1 e	1 7 0 1	0	0							
	Provides 1x M23 (5-Pin, male) for redundant dual DC 24/48V (20~57VDC) input power Built-in very high efficiency booster(94~97%) to rise up 50VDC for PoE output											
	, ,	ize PoE device, and guarantee (wer distance to 1								
	Regulated PoE ou	meter										
Power Consumption	0	· · · ·										
	0	Total Power Consumption	Device Power Consumption	PoE Budget	Boost Efficienc							
	meter	Total Power Consumption	Device Power Consumption 9.8W		Boost Efficience 95.30%							
	meter Input Voltage		•	PoE Budget								
Warning Message	meter Input Voltage 24 VDC 48 VDC	198.5W	9.8W 11.5W	PoE Budget	95.30%							
	meter Input Voltage 24 VDC 48 VDC System Syslog, S	198.5W 199.2W MTP/ e-mail event message, a	9.8W 11.5W	PoE Budget 180W 180W	95.30%							
Warning Message	meter Input Voltage 24 VDC 48 VDC System Syslog, S	198.5W 199.2W MTP/ e-mail event message, a	9.8W 11.5W alarm relay	PoE Budget 180W 180W	95.30%							
Warning Message Alarm Relay Contact	meter Input Voltage 24 VDC 48 VDC System Syslog, S 5-pin A-code M12	198.5W 199.2W MTP/ e-mail event message, a 2 male, Relay outputs with cur	9.8W 11.5W alarm relay	PoE Budget 180W 180W	95.30%							
Warning Message Alarm Relay Contact Operating Temperature	meter Input Voltage 24 VDC 48 VDC System Syslog, S 5-pin A-code M12 -40 ~ 75°C	198.5W 199.2W MTP/ e-mail event message, a 2 male, Relay outputs with cur	9.8W 11.5W alarm relay	PoE Budget 180W 180W	95.30%							
Warning Message Alarm Relay Contact Operating Temperature Operating Humidity	meter Input Voltage 24 VDC 48 VDC System Syslog, S 5-pin A-code M12 -40 ~ 75°C 5% to 95% (Non- -40 ~ 85°C	198.5W 199.2W MTP/ e-mail event message, a 2 male, Relay outputs with cur	9.8W 11.5W alarm relay rent carrying capacity of 1A @2	PoE Budget 180W 180W	95.30%							
Warning Message Alarm Relay Contact Operating Temperature Operating Humidity Storage Temperature	meter Input Voltage 24 VDC 48 VDC System Syslog, S 5-pin A-code M12 -40 ~ 75°C 5% to 95% (Non- -40 ~ 85°C	198.5W 199.2W MTP/ e-mail event message, a 2 male, Relay outputs with cur -condensing) anless, IP67 grade housing for	9.8W 11.5W alarm relay rent carrying capacity of 1A @2	PoE Budget 180W 180W	95.30%							
Warning Message Alarm Relay Contact Operating Temperature Operating Humidity Storage Temperature Housing	Input Voltage 24 VDC 48 VDC System Syslog, S 5-pin A-code M12 -40 ~ 75°C 5% to 95% (Non- -40 ~ 85°C Rugged Metal, Fa 69 x 240 x 168m	198.5W 199.2W MTP/ e-mail event message, a 2 male, Relay outputs with cur -condensing) anless, IP67 grade housing for	9.8W 11.5W alarm relay rent carrying capacity of 1A @2	PoE Budget 180W 180W	95.30%							
Warning Message Alarm Relay Contact Operating Temperature Operating Humidity Storage Temperature Housing Dimensions	Input Voltage 24 VDC 48 VDC System Syslog, S 5-pin A-code M12 -40 ~ 75°C 5% to 95% (Non- -40 ~ 85°C Rugged Metal, Fa 69 x 240 x 168m 2.170kg	198.5W 199.2W MTP/ e-mail event message, a 2 male, Relay outputs with cur -condensing) anless, IP67 grade housing for	9.8W 11.5W alarm relay rent carrying capacity of 1A @2	PoE Budget 180W 180W	95.30%							
Warning Message Alarm Relay Contact Operating Temperature Operating Humidity Storage Temperature Housing Dimensions Weight	Input Voltage 24 VDC 48 VDC System Syslog, S 5-pin A-code M12 -40 ~ 75°C 5% to 95% (Non- -40 ~ 85°C Rugged Metal, Fa 69 x 240 x 168m 2.170kg	198.5W 199.2W MTP/ e-mail event message, a 2 male, Relay outputs with cur -condensing) anless, IP67 grade housing for nm (D x W x H) DIN Rail mounting (Optional)	9.8W 11.5W alarm relay rent carrying capacity of 1A @2	PoE Budget 180W 180W	95.30%							
Warning Message Alarm Relay Contact Operating Temperature Operating Humidity Storage Temperature Housing Dimensions Weight Installation Mounting	meter Input Voltage 24 VDC 48 VDC System Syslog, S 5-pin A-code M12 -40 ~ 75°C 5% to 95% (Non- -40 ~ 85°C Rugged Metal, Fa 69 x 240 x 168m 2.170kg Wall mounting or	198.5W 199.2W MTP/ e-mail event message, a 2 male, Relay outputs with cur -condensing) anless, IP67 grade housing for nm (D x W x H) DIN Rail mounting (Optional)	9.8W 11.5W alarm relay rent carrying capacity of 1A @2	PoE Budget 180W 180W	95.30%							
Warning Message Alarm Relay Contact Operating Temperature Operating Humidity Storage Temperature Housing Dimensions Weight Installation Mounting MTBF	Input Voltage 24 VDC 48 VDC System Syslog, S 5-pin A-code M12 -40 ~ 75°C 5% to 95% (Non- -40 ~ 85°C Rugged Metal, Fa 69 x 240 x 168m 2.170kg Wall mounting or 371,857 Hours (198.5W 199.2W MTP/ e-mail event message, a 2 male, Relay outputs with cur -condensing) anless, IP67 grade housing for nm (D x W x H) DIN Rail mounting (Optional)	9.8W 11.5W alarm relay rent carrying capacity of 1A @2	PoE Budget 180W 180W	95.30%							
Warning Message Alarm Relay Contact Operating Temperature Operating Humidity Storage Temperature Housing Dimensions Weight Installation Mounting MTBF Warranty	Input Voltage 24 VDC 48 VDC System Syslog, S 5-pin A-code M12 -40 ~ 75°C 5% to 95% (Non- -40 ~ 85°C Rugged Metal, Fa 69 x 240 x 168m 2.170kg Wall mounting or 371,857 Hours (I 5 years	198.5W 199.2W MTP/ e-mail event message, a 2 male, Relay outputs with cur -condensing) anless, IP67 grade housing for nm (D x W x H) DIN Rail mounting (Optional)	9.8W 11.5W alarm relay rent carrying capacity of 1A @2	PoE Budget 180W 180W	95.30%							
Warning Message Alarm Relay Contact Operating Temperature Operating Humidity Storage Temperature Housing Dimensions Useight Installation Mounting MTBF Warranty Certification EMI (Electromagnetic	Input Voltage 24 VDC 48 VDC System Syslog, S 5-pin A-code M12 -40 ~ 75°C 5% to 95% (Non- -40 ~ 85°C Rugged Metal, Fa 69 x 240 x 168m 2.170kg Wall mounting or 371,857 Hours (f 5 years CE	198.5W 199.2W MTP/ e-mail event message, a 2 male, Relay outputs with cur -condensing) anless, IP67 grade housing for nm (D x W x H) DIN Rail mounting (Optional) MIL-HDBK-217)	9.8W 11.5W alarm relay rent carrying capacity of 1A @2	PoE Budget 180W 180W								
Warning Message Alarm Relay Contact Operating Temperature Operating Humidity Storage Temperature Housing Dimensions Userperature Weight Installation Mounting MTBF Warranty Certification	Input Voltage 24 VDC 48 VDC System Syslog, S 5-pin A-code M12 -40 ~ 75°C 5% to 95% (Non- -40 ~ 85°C Rugged Metal, Fa 69 x 240 x 168m 2.170kg Wall mounting or 371,857 Hours (f 5 years CE	198.5W 199.2W MTP/ e-mail event message, a 2 male, Relay outputs with cur -condensing) anless, IP67 grade housing for nm (D x W x H) DIN Rail mounting (Optional) MIL-HDBK-217) part B Class A, CE	9.8W 11.5W alarm relay rent carrying capacity of 1A @2	PoE Budget 180W 180W	95.30%							

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Fire protection of railway vehicles	EN45545-2
Immunity for Heavy Industrial Environment	EN61000-6-2
Emission for Heavy Industrial Environment	EN61000-6-4
EMS	EN61000-4-2 (ESD) Level 3, Criteria B
(Electromagnetic Susceptibility)	EN61000-4-3 (RS) Level 3, Criteria A
Protection Level	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
Shock	IEC-61373
Freefall	IEC 60068-2-32
Vibration	IEC-61373

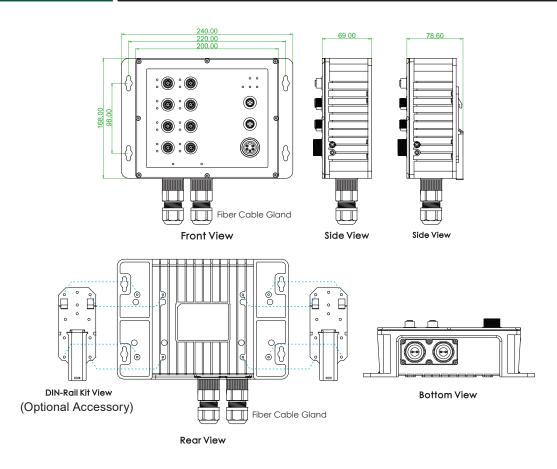
Recovery time <10ms The maximum number of device is allowed 250 nodes in a Ring. ITU-T G.8032 / Y.1344 ERPS Recovery time <50ms (Ethernet Ring Protection) Single Ring, Sub-Ring, Multiple ring topology network ITU-T G.8031 / Y.1342 EPPS (Ethernet Protection Switching) Supported ITU-T G.8031 / Y.1342 EPPS Class of Service IEEE802.1p 8 active priorities queues per port IEEE802.1p 8 active priorities queues per port IFEE802.1p based CoS IP Precedence based CoS IP DSCP based CoS QCL (QoS Control List): Frame Type, Source/Destination MAC, VLAN ID, PCP, DEI, Protocol, Source IP, IP Fragment, DSCP, TCP/UDP port number Bandwidth Control for Ingress 100~1,000,000 when the "Unit" is "kbps" and 1~1,000 when the "Unit" is "Mbps" Bandwidth Control for Egress 100~1,000,000 when the "Unit" is "kbps" and 1~1,000 when the "Unit" is "Mbps" DiffServ (RF 2474) Remarking Vert shaper	Software Specific	cations					
VLAN IEEE 802.1q VLAN, up to 4094 802.10 VLAN ID IEEE 802.1q VLAN, up to 4094 Groups IEEE 802.1q VLAN, up to 4094 Groups IEEE 802.1q VLAN, up to 4256 entries IP Subnet-based VLAN, up to 256 entries Probool-based VLAN, up to 128 entries VLAN Translation, up to 256 entries Probool-based VLAN (Ethernt, SNAP, LLC), up to 128 entries VLAN Translation, up to 256 entries Probool-based VLAN (Ethernt, SNAP, LLC), up to 128 entries VLAN Translation, up to 256 entries Probool-based VLAN, up to 720 entries VLAN Translation, up to 256 entries Probool-based VLAN (Ethernt, SNAP, LLC), up to 128 entries VLAN Translation, up to 256 entries Probool-based VLAN (Ethernt, SNAP, LLC) VLAN Translation, up to 256 entries Probool-based VLAN (Ethernt, SNAP, LLC), up to 128 entries VLAN Translation, up to 256 entries Probool-based VLAN (Ethernt, SNAP, LLC), up to 5 trunk group Static Hash with SA, DA, IP, TCP/UDP port), up to 5 trunk group Dynaming Tree IEEE802.1g Supported IEEE802.1g Supported Supported TUT 6.6031 / Y1342 EPS (Ethernet Ring Protection Supported Glass of Servic EEE802.1g Bactive priorities queues per port </td <td>Topology</td> <td></td>	Topology						
IEEE 802.1ad Q-in-Q MAC-based VLAN, up to 256 entries Protocol-based VLAN, up to 128 entries Protocol-based VLAN (Ethernt, SNAP, LLC), up to 128 entries VLAN Translation, up to 256 entries Private VLAN (Ethernt, SNAP, LLC), up to 128 entries VLAN Translation, up to 256 entries Private VLAN Registration VLAN Translation, up to 256 entries Private VLAN Registration Protocol) MVR (Multicast VLAN Registration) Voice VLAN Voice VLAN Static (Hash with SA, DA, IP, TCP/UDP port), up to 5 trunk group Dynamic (EEE 802.1d STP, IEEE802.1s MSTP Multiple p-Ring Up to 5 instances that each supports u-Ring, u-Chain or Sub-Ring type for flexible uses, and maximum up to 5 fraceovery time <10ms		IEEE 802.1q VLAN, up to 4094 802.1Q VLAN ID					
MAC-based VLAN, up to 256 entries IP Subnet-based VLAN, up to 128 entries Protocol-based VLAN (Ethernt, SNAP, LLC), up to 128 entries VLAN Translation, up to 256 entries Private VLAN for port isolation GVRP (GARP VLAN Registration Protocol) MVR (Muticast VLAN Registration) Voice VLAN Voice VLAN Totice VLAN Voice VLAN Voice VLAN Voice VLAN Voice VLAN Ette Hash with SA, DA, IP, TCP/UDP port), up to 5 trunk group Dynamic (EEE 802.3ad LACP), up to 5 trunk group Dynamic (EEE 802.1d STP, IEEE802.1s MSTP IP to 5 instances that each supports u-Ring, u-Chain or Sub-Ring type for flexible uses, and maximum up to 5 I Recovery time <10ms The maximum number of device is allowed 250 nodes in a Ring. ITU-T G.8031 / Y1342 EFB (Ethernet Ring Protection TU-T G.8031 / Y1342 EFB (Ethernet Protection Switching) IEEE802.1p Bactive priortiles queues per port IEEE802.1p Bactive priortiles queues per port IEEE802.1p based CoS IP DiscP based CoS IP DiscP based CoS IP DiscP based CoS IP DiscP based CoS IOCI, QoS Control Lisi; Frame Type, Source/Destination MAC, VLAN ID, PCP, DEI, Protocol, Source IP, IP Fragment, DSCP, ToP/UDP port number Bandwidth Control for Ingress and -1,000,000 when the "Unit" is "kbps" and 1–1,000 when the "Unit" is "Mbps" Per queue / Port shaper		IEEE 802.1q VLAN, up to 4094 Groups					
IP Subnet-based VLAN, up to 128 entries Protocol-based VLAN (Ethernt, SNAP, LLC), up to 128 entries VLAN Translation, up to 256 entries Private VLAN for port isolation GVRP (GARP VLAN Registration Protocol) MVR (Muticast VLAN Registration Protocol) Muticast VLAN Ponamic (EEE 802.1d STP, IEEE802.1s NSTP Up to 5 instances that each supports u-Ring, u-Chain or Sub-Ring type for flexible uses, and maximum up to 5 I Recovery time <10ms		IEEE 802.1ad Q-in-Q					
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VLAN Translation, up to 256 entries Private VLAN for port isolation GVRP (GARP VLAN Registration Protocol) MVR (Multicast VLAN Registration) voice VLAN Voice VLAN Bandwidth Control for Ingress Diversion Diversio		IP Subnet-based VLAN, up to 128 entries					
Private VLAN for port isolation GVRP (GARP VLAN Registration Protocol) MVR (Multicast VLAN Registration) Voice VLAN Voice VLAN Spanning Tree IEEE802.1d STP, IEEE802.1w RSTP, IEEE802.1s MSTP IEEE802.1d STP, IEEE802.1w RSTP, IEEE802.1s MSTP Multiple µ-Ring Muttiple Quere ITU-T G.8032 / Y.1344 ERPS Recovery time <10ms		Protocol-based VLAN (Ethernt, SNAP, LLC), up to 128 entries					
GVRP (GARP VLAN Registration Protocol) MVR (Multicast VLAN Registration) voice VLAN Static (Hash with SA, DA, IP, TCP/UDP port), up to 5 trunk group Dynamic (IEEE 802.3ad LACP), up to 5 trunk group Spanning Tree IEEE802.1d STP, IEEE802.1w RSTP, IEEE802.1s MSTP Multiple µ-Ring Up to 5 instances that each supports u-Ring, u-Chain or Sub-Ring type for flexible uses, and maximum up to 5 I Recovery time <10ms		VLAN Translation, up to 256 entries					
MVR (Multicast VLAN Registration) Voice VLAN Link Aggregation (Port Trunk) Static (Hash with SA, DA, IP, TCP/UDP port), up to 5 trunk group Dynamic (IEEE 802.3ad LACP), up to 5 trunk group Dynamic (IEEE 802.1d STP, IEEE802.1s MSTP Multiple µ-Ring (Charner Ring Protection) Up to 5 instances that each supports u-Ring, u-Chain or Sub-Ring type for flexible uses, and maximum up to 5 f Recovery time <10ms The maximum number of device is allowed 250 nodes in a Ring. Supported ITU-T G.8031 / Y.1344 ERPS (Ethernet Ring Protection) Supported Gloss of Service EEE802.1p 8 active priorities queues per port Traffic Classification QOS (POS Features) EEE802.1p 8 active priorities queues per port Class of Service IEE802.1p 8 active priorities queues per port Traffic Classification QOS (PD SCP based CoS (PD SCP based CoS (PD SCP based CoS) IP Precedence based CoS (PD SCP based CoS) Bandwidth Control for Ingress Bandwidth Control for Ingress DiffServ (RF 2474) Remarking 100~1,000,000 when the "Unit" is "kbps" and 1~1,000 when the "Unit" is "Mbps"		Private VLAN for port isolation					
Voice VLAN Voice VLAN Link Aggregation (Port Trunk) Static (Hash with SA, DA, IP, TCP/UDP port), up to 5 trunk group Spanning Tree EEE802.1d STP, IEEE802.1s MSTP Multiple µ-Ring Up to 5 instances that each supports u-Ring, u-Chain or Sub-Ring type for flexible uses, and maximum up to 5 f Recovery time <10ms The maximum number of device is allowed 250 nodes in a Ring. Supported ITU-T G.8032 / Y.1344 ERPS (Ethernet Ring Protection Single Ring, Sub-Ring, Multiple ring topology network Supported ITU-T G.8031 / Y.1342 EPS (Ethernet Protection Switching) Supported IEEE802.1p 8 active priorities queues per port ITU-T G.8031 / Y.1342 EPS (Ethernet Protection Switching) IEEE802.1p 8 active priorities queues per port IEEE802.1p 8 active priorities queues per port ITU-T G.8031 / Y.1342 EPS (Ethernet Protection Switching) IEEE802.1p 8 active priorities queues per port IEEE802.1p 8 active priorities queues per port ITU-T G.8031 / Y.1342 EPS (Ethernet Protection Switching) IEEE802.1p 8 active priorities queues per port IEEE802.1p 8 active priorities queues per port ITU-T G.8031 / Y.1342 EPS (Ethernet Protection Switching) IEEE802.1p 8 active priorities queues per port IEEE802.1p 8 active priorities queues per port ITU-T G.8031 / Y.1342 EPS (Ethernet Protection Switching) IEEE802.1p 8 active priorities queues per		GVRP (GARP VLAN Registration Protocol)					
Link Aggregation (Port Trunk) Static (Hash with SA, DA, IP, TCP/UDP port), up to 5 trunk group Dynamic (IEEE 802.3ad LACP), up to 5 trunk group Dynamic (IEEE 802.3ad LACP), up to 5 trunk group Spanning Tree IEEE802.1d STP, IEEE802.1w RSTP, IEEE802.1s MSTP Multiple µ-Ring Up to 5 instances that each supports u-Ring, u-Chain or Sub-Ring type for flexible uses, and maximum up to 5 I Recovery time <10ms The maximum number of device is allowed 250 nodes in a Ring. ITU-T G.8032 / Y.1344 ERPS (Ethernet Ring Protection Supported ITU-T G.8031 / Y.1342 EPS Ethernet Protection Switching) Recovery time <50ms Single Ring, Sub-Ring, Multiple ring topology network ITU-T G.8031 / Y.1342 EPS Ethernet Protection Switching) Supported ITU-T G.8031 / Y.1342 EPS Ethernet Protection Switching) Supported ITU-T G.8031 / Y.1342 EPS Ethernet Protection Switching) Recovery time <50ms Single Ring, Sub-Ring, Multiple ring topology network ITU-T G.8031 / Y.1342 EPS Ethernet Protection Switching) Recovery time <0ms Supported ITU-T G.8031 / Y.1342 EPS Ethernet Protection Switching) Recovery time <0ms Single Ring, Sub-Ring, Multiple ring topology network ITU-T G.8031 / Y.1342 EPS Ethernet Protection Switching) Recovery time <0ms Single Ring, Sub-Ring, Multiple ring topology network ITU-T G.8031 / Y.1342 EPS Ethernet Protection Switching IEEE802.1p Based CoS IP Decedeace based COS I		MVR (Multicast VLAN Registration)					
(Port Trunk)Dynamic (IEEE 802.3ad LACP), up to 5 trunk groupSpanning TreeIEEE802.1d STP, IEEE802.1w RSTP, IEEE802.1s MSTPMultiple µ-RingUp to 5 instances that each supports u-Ring, u-Chain or Sub-Ring type for flexible uses, and maximum up to 5 f Recovery time <10ms The maximum number of device is allowed 250 nodes in a Ring.Loop ProtectionSupportedTU-T G.8032 / Y.1344 ERPS (Ethernet Ring Protection)Recovery time <50ms Single Ring, Sub-Ring, Multiple ring topology networkITU-T G.8031 / Y.1342 EPS Ethernet Protection SwitchingSupportedQOS Features (Class of Service)IEEE802.1p 8 active priorities queues per portITaffic Classification Qos IP DSCP based CoS QCL (QoS Control List): Frame Type, Source/Destination MAC, VLAN ID, PCP, DEI, Protocol, Source IP, IP Fragment, DSCP, TCP/UDP port numberBandwidth Control for Ingress Bandwidth Control for Egress100~1,000,000 when the "Unit" is "kbps" and 1~1,000 when the "Unit" is "Mbps" Per queue / Port shaperDiffServ (RF 2474) RemarkingUse Port Sanda Part		Voice VLAN					
Spanning Tree EVERATIVE (IEEE 002.13x DEXc) (), up to 3 ridink gloup Spanning Tree IEEE802.1d STP, IEEE802.1k RSTP, IEEE802.1s MSTP Multiple µ-Ring Up to 5 instances that each supports u-Ring, u-Chain or Sub-Ring type for flexible uses, and maximum up to 5 f Recovery time <10ms Loop Protection Supported ITU-T G.8031 / Y.1344 ERPS (Ethernet Ring Protection) Recovery time <50ms ITU-T G.8031 / Y.1342 EPS (Ethernet Protection Switching) Supported QOS Features EEE802.1p 8 active priorities queues per port ITU-T G.8031 / Y.1342 EPS (Class of Service) EEE802.1p 8 active priorities queues per port Beadwidth Control for Ingress IEEE802.1b 8 active priorities queues per port Bandwidth Control for Ingress IO0~-1,000,000 when the "Unit" is "kbps" and 1~-1,000 when the "Unit" is "Mbps" DiffServ (RF 2474) Remarking Up or this per port shaper							
Multiple µ-Ring Up to 5 instances that each supports u-Ring, u-Chain or Sub-Ring type for flexible uses, and maximum up to 5 f Recovery time <10ms	(Port Trunk)						
Recovery time <10ms The maximum number of device is allowed 250 nodes in a Ring. Loop Protection Supported Recovery time <50ms	Spanning Tree	IEEE802.1d STP, IEEE802.1w RSTP, IEEE802.1s MSTP					
Recovery time <10ms The maximum number of device is allowed 250 nodes in a Ring. Loop Protection Supported Recovery time <50ms	Multiple µ-Ring	Up to 5 instances that each supports u-Ring, u-Chain or Sub-Ring type for flexible uses, and maximum up to 5 Rings					
Loop Protection Supported ITU-T G.8032 / Y.1344 ERPS (Ethernet Ring Protection) Recovery time <50ms Single Ring, Sub-Ring, Multiple ring topology network ITU-T G.8031 / Y.1342 EPS (Ethernet Protection Switching) Supported ITU-T G.8031 / Y.1342 EPS (Ethernet Protection Switching) Supported ITU-T G.8035 / Y.1344 ERPS (Ethernet Protection Switching) Supported ITU-T G.8031 / Y.1342 EPS (Ethernet Protection Switching) Supported ITEES02.1 / State Protection Switching) Supported ITEES02.1 / State Protection Switching) IEEE802.1 p 8 active priorities queues per port IEEE802.1 p 8 active priorities queues per port IEEE802.1 p based CoS IP Precedence based CoS IP DSCP based CoS IP DSCP based CoS QCL (QoS Control List): Frame Type, Source/Destination MAC, VLAN ID, PCP, DEI, Protocol, Source IP, IP Fragment, DSCP, TCP/UDP port number Bandwidth Control for Ingress 100~1,000,000 when the "Unit" is "kbps" and 1~1,000 when the "Unit" is "Mbps" Mortion Per queue / Port shaper 100 DIffServ (RF 2474) Remarking V		Recovery time <10ms					
ITU-T G.8032 / Y.1344 ERPS (Ethernet Ring Protection) Recovery time <50ms		The maximum number of device is allowed 250 nodes in a Ring.					
(Ethernet Ring Protection)Single Ring, Sub-Ring, Multiple ring topology networkITU-T G.8031 / Y.1342 EPS (Ethernet Protection Switching)SupportedQOS FeaturesIEEE802.1p 8 active priorities queues per portClass of ServiceIEEE802.1p 8 active priorities queues per portTraffic Classification QOSIEEE802.1p based CoSIP Precedence based CoSIP Precedence based CoSIP DSCP based CoSQCL (QoS Control List): Frame Type, Source/Destination MAC, VLAN ID, PCP, DEI, Protocol, Source IP, IP Fragment, DSCP, TCP/UDP port numberBandwidth Control for Ingress100~1,000,000 when the "Unit" is "kbps" and 1~1,000 when the "Unit" is "Mbps" Per queue / Port shaperDiffServ (RF 2474) RemarkingU	Loop Protection	Supported					
ITU-T G.8031 / Y.1342 EPS (Ethermet Protection Switching) Supported QoS Features Class of Service IEEE802.1p 8 active priorities queues per port Traffic Classification QoS IEEE802.1p based CoS IP Precedence based CoS IP Precedence based CoS IP DSCP based CoS QCL (QoS Control List): Frame Type, Source/Destination MAC, VLAN ID, PCP, DEI, Protocol, Source IP, IP Fragment, DSCP, TCP/UDP port number Bandwidth Control for Ingress 100~1,000,000 when the "Unit" is "kbps" and 1~1,000 when the "Unit" is "Mbps" DiffServ (RF 2474) Remarking Vert Staper		Recovery time <50ms					
Supported Supported QoS Features IEEE802.1p 8 active priorities queues per port Class of Service IEEE802.1p based CoS Traffic Classification QoS IEEE802.1p based CoS IP Precedence based CoS IP DSCP based CoS QCL (QoS Control List): Frame Type, Source/Destination MAC, VLAN ID, PCP, DEI, Protocol, Source IP, IP Fragment, DSCP, TCP/UDP port number Bandwidth Control for Ingress 100~1,000,000 when the "Unit" is "kbps" and 1~1,000 when the "Unit" is "Mbps" 100~1,000,000 when the "Unit" is "kbps" and 1~1,000 when the "Unit" is "Mbps" DiffServ (RF 2474) Remarking	(Ethernet Ring Protection)	Single Ring, Sub-Ring, Multiple ring topology network					
Class of Service IEEE802.1p 8 active priorities queues per port Traffic Classification QoS IEEE802.1p based CoS IP Precedence based CoS IP Precedence based CoS IP DSCP based CoS QCL (QoS Control List): Frame Type, Source/Destination MAC, VLAN ID, PCP, DEI, Protocol, Source IP, IP Fragment, DSCP, TCP/UDP port number Bandwidth Control for Ingress 100~1,000,000 when the "Unit" is "kbps" and 1~1,000 when the "Unit" is "Mbps" Bandwidth Control for Egress 100~1,000,000 when the "Unit" is "kbps" and 1~1,000 when the "Unit" is "Mbps" DiffServ (RF 2474) Remarking Ver queue / Port shaper		Supported					
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IP Precedence based CoS IP DSCP based CoS QCL (QoS Control List): Frame Type, Source/Destination MAC, VLAN ID, PCP, DEI, Protocol, Source IP, IP Fragment, DSCP, TCP/UDP port number Bandwidth Control for Ingress 100~1,000,000 when the "Unit" is "kbps" and 1~1,000 when the "Unit" is "Mbps" 100~1,000,000 when the "Unit" is "kbps" and 1~1,000 when the "Unit" is "Mbps" 100~1,000,000 when the "Unit" is "kbps" and 1~1,000 when the "Unit" is "Mbps" Per queue / Port shaper DiffServ (RF 2474) Remarking	Class of Service	IEEE802.1p 8 active priorities queues per port					
IP DSCP based CoS IP DSCP based CoS QCL (QoS Control List): Frame Type, Source/Destination MAC, VLAN ID, PCP, DEI, Protocol, Source IP, IP Fragment, DSCP, TCP/UDP port number Bandwidth Control for Ingress 100~1,000,000 when the "Unit" is "kbps" and 1~1,000 when the "Unit" is "Mbps" 100~1,000,000 when the "Unit" is "kbps" and 1~1,000 when the "Unit" is "Mbps" 100~1,000,000 when the "Unit" is "kbps" and 1~1,000 when the "Unit" is "Mbps" Per queue / Port shaper DiffServ (RF 2474) Remarking	Traffic Classification QoS						
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IP Fragment, DSCP, TCP/UDP port number Bandwidth Control for Ingress 100~1,000,000 when the "Unit" is "kbps" and 1~1,000 when the "Unit" is "Mbps" 100~1,000,000 when the "Unit" is "kbps" and 1~1,000 when the "Unit" is "Mbps" Per queue / Port shaper DiffServ (RF 2474) Remarking		IP DSCP based CoS					
Bandwidth Control for Egress 100~1,000,000 when the "Unit" is "kbps" and 1~1,000 when the "Unit" is "Mbps" Per queue / Port shaper DiffServ (RF 2474) Remarking		QCL (QoS Control List): Frame Type, Source/Destination MAC, VLAN ID, PCP, DEI, Protocol, Source IP, IP Fragment, DSCP, TCP/UDP port number					
Per queue / Port shaper DiffServ (RF 2474) Remarking	Bandwidth Control for Ingress						
DiffServ (RF 2474) Remarking	Bandwidth Control for Egress	100~1,000,000 when the "Unit" is "kbps" and 1~1,000 when the "Unit" is "Mbps"					
		Per queue / Port shaper					
Storm Control For Unicest Broadcast and Multicest	DiffServ (RF 2474) Remarking						
	Storm Control	For Unicast, Broadcast and Multicast					

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IP Multicasting Fe	atures				
IGMP / MLD Snooping	IGMP Snooping v1, v2, v3 / MLD Snooping v1, v2				
	Port Filtering Profile, Throttling				
	Fast Leave				
	Maximum Multicast Group : up to 1022 entries				
	Query / Static Router Port				
Security Features					
IEEE 802.1X	Port-Based, MAC-Based				
ACL	Number of rules : up to 256 entries				
	for L2 / L3 / L4				
	L2: Mac address SA/DA/VLAN L3: IP address SA/DA, Subnet				
	L4: TCP/UDP				
RADIUS	Authentication & Accounting				
TACACS+	Authentication				
HTTPS, HTTP	Supported				
SSL / SSH v2	Supported				
User Name Password	Local Authentication				
Authentication	Remote Authentication (via RADIUS / TACACS+)				
Management Interface Access Filtering	Web, Telnet / SSH, CLI RS-232 console				
Management Featu	ires				
CLI	Cisco® like CLI				
Web UI	Supported				
Telnet	Server				
SNMP	V1, V2c, V3				
sFlow	Supported				
Modbus/TCP	Supports for management and monitoring				
SW & Configuration Upgrade	TFTP, HTTP				
	Redundant firmware in case of upgrade failure				
FTP client	Supports for upload/download configuration				
RMON	RMON I (1, 2, 3, 9 group), RMON II				
MIB II	RFC 1213				
UPnP	Supported				
BOOTP	Supported				
DHCP	Server, Client, Relay, Relay option 82, Snooping				
RARP	Supported				
TTDP	Supported (Train Topology Discovery Protocol)				
IP Source Guard	Supported				
Port Mirroring	Supported				
	Syslog server (RFC3164)				
Warning Message	System syslog, e-mail, alarm relay				
DNS	Client, Proxy				
IEEE1588 PTP V2	Supports 5 operating mode in each port : Ordinary-Boundary, Peer to Peer Transparent Clock, End to End Transparent Clock, Master and Slave				
NTP, SNTP	Client				
LLDP Link Layer Discovery Protocol					
(IEEE 802.1ab)	LLDP-MED				
IPv6 Features					
IPv6 Management	Telnet Server/ICMP v6				
SNMP over IPv6	Supported				
HTTP over IPv6	Supported				
SSH over IPv6	Supported				
IPv6 Telnet	Supported				

IPv6 NTP, SNTP	Client					
IPv6 TFTP	Supported					
IPv6 QoS	Supported					
IPv6 ACL	Number of rules: up to 256 entries					
	for L2 / L3 / L4 L2: Mac address SA/DA/VLAN L3: IP address SIP, Subnet (32bit) L4: TCP/UDP					
Others Features						
Green Ethernet	Supports IEEE802.3az EEE (Energy Efficient Ethernet) Management to optimize the power consumption					
	Determine the cable length and lowering the power for ports with short cables					
	Lower the power for a port when there is no link					
	LED Power Management: Adjustment LEDs intensity					
Cable Diagnostic	Measuring UTP cable OK or broken point distance					
Advanced PoE Management	PoE PD Failure Auto Checking, and Auto reset when PD fail					
	PoE Scheduling (On/Off schedule weekly)					
	PoE Configuration					
	PoE Enable/Disable					
	Power limit by classification					
	Power limit by management					
	Total PoE Power budge (maximum 180W) limitation					
	Power feeding priority					

Dimensions



Ordering	Infor	nat	tion									
	Total		Total	UTP M12 SFF		PoE PoE Total	Power Input	Certification			Operating	
Model Name	Managed	IP67	Port	10/100/1000 Base-T(X)	100/1000 Base-X	IEEE 802.3at	Power Budget	Redundant	EN50155 EN50121-4	CE FCC	EN61000-6-2 EN61000-6-4	Temperature
ITP-G802SM-8PHE24	V	V	10	8 (A-Code)	2	8	180W	24/48VDC	V	V	V	-40~75°C

Optional Accessories

Industrial SFP Transceiver

The ISFP series of industrial grade SFP modules have been fully tested with all CTC Union industrial grade Ethernet switches for guaranteed compatibility and performance. Best performance can be guaranteed, even in mission-critical applications. (Please see CTC Union's Industrial SFP datasheets for more items and detailed information.)

ISFP-M7000-85-D(E)	Industrial SFP GbE 1000Base-SX, M/M, 500 meter,wave length 850nm, 7.5dB, LC, DDMI, -10~70°C (-40~85°C)
ISFP-S7020-31-D(E)	Industrial SFP 1000Base-LX, S/M, 20km, wave length 1310nm, 15dB, LC, DDMI, -10~70°C (-40~85°C)
ISFP-M5002-31-D(E)	Industrial SFP 155M 100Base-FX, MM, 2km, wave length 1310nm, 12dB, LC, DDMI, -10~70°C (-40~85°C)
ISFP-S5030-31-D(E)	Industrial SFP 155M 100Base-FX, SM, 30km, 1310nm, 19dB, LC, DDMI, -10~70°C (-40~85°C)

Optional Cable/Connector & Din-Rail Kit

P/N: CAB-M12AM8-RJ45 M12 A-code Male (8-Pin) to RJ-45, AWG 24 ,IP67, 1 meter



For GbE UTP (A-code model)

P/N: M12A-M8 M12 A-code Male (8-Pin) connector, IP67



For GbE UTP (A-code model)

P/N: CAB-M12AF5-OPEN

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



For Alarm

P/N: M12A-F5 M12 A-code Female (5-Pin) connector, IP67



For Alarm

P/N: CAB-M23F5-OPEN

M23 Female (5-Pin) to open wire, (AWG 16) , IP67, 1 meter



For Power

P/N: IND-DNK04 Din Rail Kit



(130 X52mm / 4 Screws) (2pcs/set)