IFS+402GSM



4x FE RJ45 + 2x 100/1000Base-X SFP

- >> Supports IEEE 1588 PTP V2
- >> Supports u-Ring, ERPS, EPS, MSTP, RSTP, STP for Redundant Cabling
- >> Cable Diagnostics, Identifies Opens/Shorts Distance
- » EN50121-4, EN61000-6-2, EN61000-6-4, CE and FCC Certified















The industrial managed Ethernet switch IFS+402GSM has 4 10/100Base-TX UTP ports, equipped with 2 100/1000Base-X SFP slots for fiber optic connections to meet the requirements for extended transmission distance, fanless design, high MTBF, 4KV surge protection, and supports wide operating temperature, redundant 12/24/48VDC power input, suitable for heavy-duty applications in harsh environments, such as industrial factory automations, data centers, intelligent transportation systems, military and utility market applications where environmental conditions exceed commercial product specifications.

Features

- Redundant dual DC power input 12/24/48VDC (9.6~60VDC)
- 2.25K VDC Hi-pot isolation protection for Ethernet ports and power
- 4KV surge protection for UTP and fiber ports
- Provides 5 instances that each can support μ-Ring, μ-Chain or Sub-Ring type for flexible uses. (Please see CTC μ-Ring white paper for more details and more topology application)
- μ-Ring for Redundant Cabling, recovery time<10ms in 250 devices
- 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 802.3z	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
	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 Discovery Protocol (LLDP)
	IEEE 802.3az	EEE (Energy Efficient Ethernet)

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VLAN ID	4094 IEEE 802.1Q VLA	N ID				
Switch Architecture	Back-Plane (Switching Fabric): 4.8Gbps (Full Wire-Speed)					
Data Processing	Store and Forward					
Flow Control	IEEE 802.3x for full duplex mode Back pressure for half duplex mode					
Network Connector						
	RJ-45 UTP port support	s Auto negotiation speed, Auto N	MDI/MDI-X function			
	SFP port supports 100/1000M dual speed with DDMI					
Console	RS-232 (RJ-45)					
Network Cable	UTP/STP Cat. 5e cable	or above				
	EIA/TIA-568 100-ohm ((100meter)				
Protocols	CSMA/CD					
Reverse Polarity Protection	Supported					
Overload Current Protection	Supported					
CPU Watch Dog	Supported					
Power Supply		48VDC (9.6~60VDC) Input powe	r (Removable Terminal Block)			
Power Consumption	Input Voltage	Total Power Consumption				
·	12 VDC	6.3W	-			
	24 VDC	6.5W	-			
	48 VDC	7.7W	-			
LED			ODIL Ast (Oraca) Diagram Master (Valley)			
LED			, CPU Act (Green), Ring Master (Yellow)			
	UTP: 10/100 Link/Active	,				
Lunda Fusia	SFP Slot: Link/Active (Green)					
Jumbo Frame	9.6KB					
IEEE 802.3ac	Max frame size extended to 1522Bytes (allow Q-tag in packet)					
MAC Address Table	8K					
Memory Buffer	512K Bytes for packet buffer					
Device Memory	16M Bytes Flash ROM, 128M Bytes RAM					
Warning Message	System Syslog, SMTP/ e-mail event message, alarm relay					
Alarm Relay Contact	· '	nt carrying capacity of 1A @24V	DC			
	Provide 2 redundant power, alarm relay contact, 6 Pin					
Operating Temperature	-10 ~ 60°C (IFS+4020 -40 ~ 75°C (IFS+4020					
Operating Humidity	5% to 95% (Non-conde					
Storage Temperature	-40 ~ 85°C	noirig)				
Housing	Rugged Metal, IP30 Pro	tection and Fanless				
Dimensions	106 x 62.5 x 135mm (E					
Weight	0.64kg	, X VV X 1 1)				
Installation Mounting	DIN Rail mounting or wall mounting (optional)					
MTBF	861,962 hours (MIL-HDBK-217)					
Warranty						
Certification	o youro					
EMC	CE (ENESO22 ENESO24)					
EMI (Electromagnetic	CE (EN55032, EN5502	•				
Interference)	FCC Part 15 Subpart B Class A, CE EN55032 Class A					
Railway Traffic						
Immunity for Heavy Industrial Environment	ENG1000 G 2					
Emission for Heavy Industrial Environment	EN61000-6-4					
EMS (Electromagnetic Susceptibility) Protection Level	EN61000-4-3 (RS) Level 3, Criteria A					
	EN61000-4-6 (CS) Level 3, Criteria A					
		lagnetic Field) Field Strength: 30	OA/m. Criteria A			
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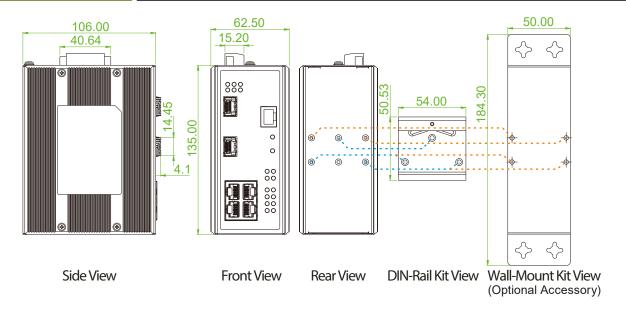
Hipot	DC 2.25KV for power to chassis ground, Ethernet ports to chassis ground		
Surge Protection	4KV for UTP and Fiber port		
Shock	IEC 60068-2-27		
Freefall	IEC 60068-2-32		
Vibration	IEC 60068-2-6		

Software Specific	eations -				
Topology					
	IEEE 802.1g VLAN, up to 4094 802.1Q VLAN ID				
	IEEE 802.1g VLAN, up to 4094 Groups				
	IEEE 802.1ad Q-in-Q				
	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 Protocal)				
	MVR (Multicast VLAN Registration)				
	Voice VLAN				
Link Aggregation	Static (Hash with SA, DA, IP, TCP/UDP port), up to 5 trunk group				
(Port Trunk)	Dynamic (IEEE 802.3ad LACP), up to 5 trunk group				
Spanning Tree	IEEE 802.1d STP				
	IEEE 802.1w RSTP				
	IEEE 802.1s MSTP				
Multiple μ-Ring	Up to 5 instances that each supports μ -Ring, μ -Chain or Sub-Ring type for flexible uses, and maximum up to 5 Rings.				
	Recovery time <10ms				
	The maximum number of devices in the ring supports 250 nodes.				
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				
QoS Features					
Class of Service	IEEE 802.1p 8 active priorities queues for per port				
Traffic Classification QoS	IEEE 802.1p 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"				
3	Per queue / Port shaper				
DiffServ (RF 2474) Remarking					
Storm Control	for Unicast, Broadcast, Multicast				
IP Multicasting Fea					
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				
	adoi j / Otalio Florio II				

IEEE 802.1X Port-Rased MAC Based MAC Writber of rules : up to 256 critics for 12 7 13 7 12 1.2 **Mac address SA/DA-M. AN 1.3 **IP address SA/DA-M. AN 1.3 **IP address SA/DA-M. Subnot 1.4 **CACS+ TACACS+ Mathemication HTPS, HTTP Supported SSL / SSH V Supported SSL / SSH V Supported SSL / SSH V Supported Management Interface Access Filtering Management Features CLI Glood Bile DLI WeB UI Supported Tellent Server SNMP V; Vab, V3 Spourted Tellent Supported Tellent Supported Tellent Supported Tellent Support for management and monitoring TETP, HTTP Resturdant Immake in case of uppgrade failure FTP client Supports for uplead/download configuration MARON I7, 2, 3, 9 groups, RMON II RMON I7,	Security Features	
ACL Interest of the second of	-	Port-Based
tre 1 2 / 13 / 14 L2 - Mos address SA/DA/VLAN L3 - Pradress SA/DA/VLAN L3 - Pradress SA/DA/VLAN L4 - TOS/UDP RADIUS Autheritication & Accounting TTACACS+ Autheritication HTTPS, HTTP Supported SSL / SSH v2 Supported SSL / SSH v2 Uccal Autheritication Remote Autheritication		MAC-Based
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IPv6 Telnet Supported IPv6 NTP, SNTP Client IPv6 TFTP Supported	SSH over IPv6	• • • • • • • • • • • • • • • • • • • •
IPv6 NTP, SNTP Client IPv6 TFTP Supported	IPv6 Telnet	• • • • • • • • • • • • • • • • • • • •
IPv6 TFTP Supported	IPv6 NTP, SNTP	
	IPv6 QoS	
IPv6 ACL Number of rules: up to 256 entries	IPv6 ACL	
for L2 / L3 / L4 L2 : Mac address SA/DA/VLAN L3: IP address SIP, Subnet (32bit)		for L2 / L3 / L4 L2 : Mac address SA/DA/VLAN

Others Features	
Green Ethernet	Supports IEEE 802.3az 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 normal or broken point distance

Dimensions



Ordering Information									
	Managed Total Port	Takal	RJ45	SFP	Power Input Certification			0	
Model Name		10/100 Base-TX	100/1000 Base-X	Redundant	EN50121-4	EN61000-6-2 EN61000-6-4	CE FCC	Operating Temperature	
IFS+402GSM	V	6	4	2	12/24/48VDC	V	V	V	-10~60°C
IFS+402GSM-E	V	6	4	2	12/24/48VDC	V	V	V	-40~75°C

Optional Accessories

■ Wall Mount Kit

IND-WMK02 Wall Mount kit for Industrial product (Wide) (184 x 50mm)

■ 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-T7T00-00-(E)	Industrial SFP 10/100/1000Base-T UTP 100meter, -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)

■ Industrial Power Supply

MDR-20-24	Industrial Power, Input 85 ~ 264VAC/120 ~ 370VDC, Output 24VDC, 24W, -20 ~ 70°C
MDR-40-48	Industrial Power, Input 85 ~ 264VAC/120 ~ 370VDC, Output 48VDC, 40W, -20 ~ 70°C