

3ISYS-ETHG-2F3C

INDUSTRIAL 5-PORT MANAGED GIGABIT ETHERNET SWITCH WITH
2XGIGABIT COMBO PORTS, SFP SOCKET & 3X10/100/1000BASE-T(X)

FEATURES

- Designed for Railway application and fully compliant with the requirement of EN50155 standard
- Dual Power input (12~48VDC)
- Support auto negotiation & auto MDI and MDI-X
- Fastest Redundant Ethernet Ring: 3ISYS-Ring (recovery time < 20ms over 250 units of connection)
- STP/RSTP/MSTP supported
- Supports 5 Gigabit ports
- PTP Client (Precision Time Protocol) clock synchronization support
- Port Trunking for hassle free bandwidth management
- Multicast traffic filtering via IGMP v2/v3 (IGMP snooping support)
- Rigid Casing rated IP30 with LED Indicators
- IGMP v2/v3 support for filtering multicast traffic (IGMP Snooping)
- RMON for traffic monitoring
- Digital Diagnostic Monitoring feature support
- LLDP (Link Layer Discovery Protocol) support
- Port locking capability to prevent unauthorized MAC address access



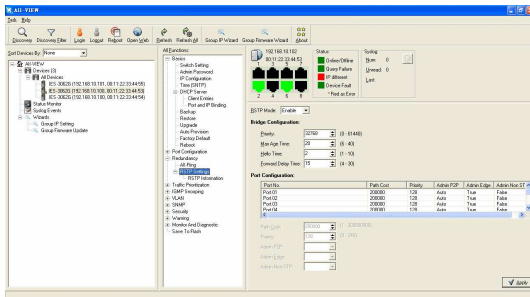
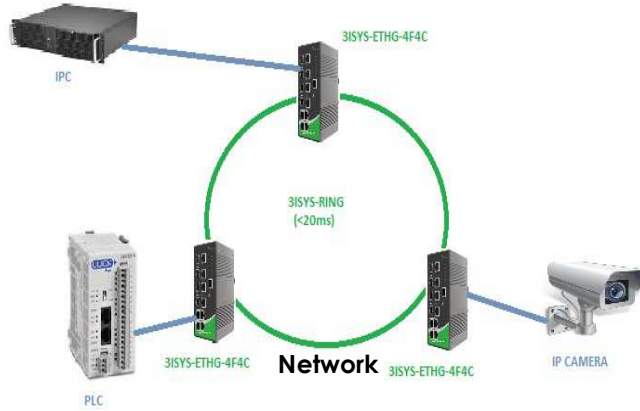
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PRODUCT OVERVIEW

3ISYS-ETHG-2F3C Managed Industrial Ethernet Switch is equipped with 2xGigabit combo ports and 3x10/100/1000Base-T(X). The switch is equipped with multiple redundant ring technology. It is an industrially (substation) hardened and fully managed Ethernet Switch specifically designed to operate reliably in electrically harsh, climatically demanding wide temperature range (-40°C to 75°C) and centralized power management environments. The 3ISYS-ETHG-2F3C is the most reliable choice for highly-managed and Fiber Ethernet application. The backup power input will take over immediately when the primary DC power input fails. 3ISYS-ETHG-2F3C provides relay outputs that can be set up to indicate events with urgency to notify or warn the technicians, so they can quickly respond to the message in priority. In addition, with its rugged design for railway certification, i.e., EN50155 standard, make 3ISYS-ETHG-2F3C to be solid and reliable for railway traffic communication and transportation application. Therefore, the switch is one of the most reliable choice for highly-managed and Fiber Ethernet railway application.

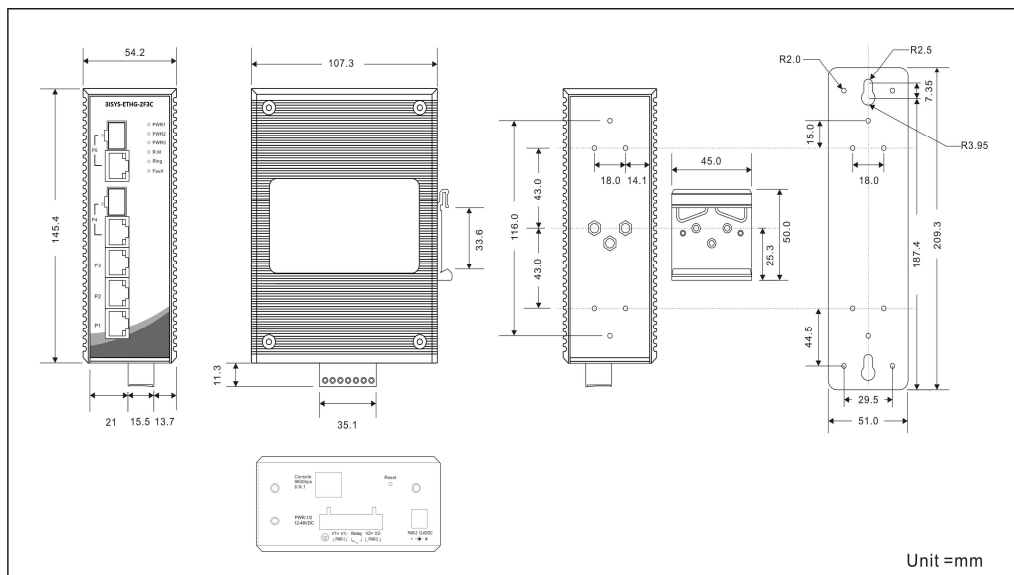
System-Vision

SYS-Ring's switches are intelligent switches. Different from other traditional redundant switches, Sys-Ring provides a set of Windows utility (Open-Vision) for user to manage and monitor all of industrial Ethernet switches on the industrial



Monitoring and Configuration

Dimension



Technical Specifications

3ISYS Switch Model	3ISYS-ETHG-2F3C
Physical Ports	
Gigabit Combo Port with 10/100/1000Base-T(X) and 100/1000Base-X SFP port	2
10/100/1000 Base-T Ports in RJ45 Auto MDI/MDIX	3
Technology	
Ethernet Standards	<ul style="list-style-type: none"> ▪ IEEE 802.3 for 10Base-T, ▪ IEEE 802.3u for 100Base-TX and 100Base-FX ▪ IEEE 802.3z for 1000Base-X ▪ IEEE 802.3ab for 1000Base-T(X), ▪ IEEE 802.3x for Flow control ▪ IEEE 802.3ad for LACP (Link Aggregation Control Protocol) ▪ IEEE 802.1D for STP (Spanning Tree Protocol) ▪ IEEE 802.1p for COS (Class of Service) ▪ IEEE 802.1Q for VLAN Tagging ▪ IEEE 802.1w for RSTP (Rapid Spanning Tree Protocol) ▪ IEEE 802.1s for MSTP (Multiple Spanning Tree Protocol) ▪ IEEE 802.1x for Authentication ▪ IEEE 802.1AB for LLDP (Link Layer Discovery Protocol)
MAC Table	8192 MAC addresses
Priority Queues	4
Processing	Store-and-Forward
Jumbo Frame	Up to 9KBytes
Switch Properties	<ul style="list-style-type: none"> ▪ Switching latency: 7 us ▪ Switching bandwidth: 10 Gbps ▪ Max. Number of Available VLANs: 4096 ▪ IGMP multicast groups: 1024 ▪ Port rate limiting: User Define
Security Features	<ul style="list-style-type: none"> ▪ Enable/disable ports, MAC based port security ▪ Port based network access control (802.1x) ▪ VLAN (802.1Q) to segregate and secure network traffic ▪ Radius centralized password management ▪ SNMP v1/v2c/v3 encrypted authentication and access security
Software Features	<ul style="list-style-type: none"> ▪ STP/RSTP/MSTP (IEEE 802.1D/w/s) ▪ Redundant Ring (O-Ring) with recovery time less than 20ms over 250 units ▪ TOS/Diffserv supported ▪ Quality of Service (802.1p) for real-time traffic ▪ VLAN (802.1Q) with VLAN tagging and GVRP supported ▪ IGMP v2/v3 (IGMP Snooping support) for multicast filtering ▪ Port configuration, status, statistics, monitSys-Ring, security ▪ PTP Client (Precision Time Protocol) clock synchronization ▪ DHCP Server / Client support ▪ Port Trunk support ▪ MVR (Multicast VLAN Registration) support ▪ Modbus TCP
Network Redundancy	<ul style="list-style-type: none"> ▪ O-Ring ▪ Open-Ring ▪ O-Chain

	<ul style="list-style-type: none"> ▪ MRP ▪ STP / RSTP / MSTP
RS-232 Serial Console Port	RS-232 in RJ45 connector with console cable. 9600bps, 8, N, 1
LED indicators	
Power Indicator	Green : Power LED x 3
R.M. Indicator	Green : Indicate system operated in O-Ring Master mode
Ring Indicator	Green : Indicate system operated in O-Ring mode
Fault Indicator	Amber : Indicate unexpected event occurred
10/100/1000Base-T(X) RJ45 Port Indicator	Green for port Link/Act. Amber for 100Mbps indicator
100/1000Base-X SFP Port Indicator	Green for port Link/Act.
Fault contact	
Relay	Relay output to carry capacity of 1A at 24VDC
Power	
Redundant Input Power	Triple DC inputs. +12~48VDC or -12~48VDC on 7-pin terminal block, 12 ~ 45VDC on power jack
Power Consumption (Typ.)	10 Watts
Overload Current Protection	Present
Reverse Polarity Protection	Present on terminal block
Physical Characteristic	
Enclosure	IP-30
Dimension (W x D x H)	54.2(W)x106.1(D)x145.4(H) mm (2.13x4.18x5.72 inch.)
Weight (g)	820g
Environmental	
Storage Temperature	-40 to 85°C (-40 to 185°F)
Operating Temperature	-40 to 70°C (-40 to 158°F)
Operating Humidity	5% to 95% Non-condensing
Standards Conformance	
EMI	FCC Part 15, CISPR (EN55022) class A, EN50155 (EN50121-3-2, EN55011, EN50121-4)
EMS	EN61000-4-2 (ESD), EN61000-4-3 (RS), EN61000-4-4 (EFT), EN61000-4-5 (Surge), EN61000-4-6 (CS), EN61000-4-8, EN61000-4-9, EN61000-4-11
Shock	IEC60068-2-27, EN61373
Free Fall	IEC60068-2-32
Vibration	IEC60068-2-6, EN61373
Safety	EN60950-1
Warranty	5 years

Ordering Information

3ISYS®-AAAA-F-P-C-X-Q

Module Identifier	Number of 10/100/1000Base-T(X) Port	Number of Gigabit Combo Port
Gigabit Ethernet, ETHG	2	3

Items Included

- 3ISYS-ETHG-2F3C x 1
- DIN-Rail Kit x 1
- Sys-Ring Tool CD x 1
- Wall-mount Kit x 1
- Quick Installation Guide x 1

Optional Accessories

- System-Vision M5C : Powerful Network Management Windows Utility Suit, 500 IP devices
- 3ISYS-PWR-45 series : 45 Watts DIN-Rail power supply
- 3ISYS-FC series : 100Mbps SFP optical transceiver
- 3ISYS-FTX series : 1Gbps SFP optical transceiver
- 3ISYS-PWR-75 : 75 Watts DIN-Rail power supply



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All specifications are subject to change without further notice. All features with * mark will be available by firmware upgrade.