

# 3ISYS-ETHG-4C4FC

**INDUSTRIAL 8-PORT MANAGED GIGABIT ETHERNET SWITCH WITH 4XGIGABIT COMBO PORTS, SFP SOCKET AND 4X10/100/1000BASE-T(X)**

## FEATURES

- Uni-Ring support the other vendor's ring technology in open architecture
- World's fastest Redundant Ethernet Ring: 3ISYS-Ring (recovery time < 15ms over 250 units of connection)
- 3ISYS-Chain allow multiple redundant network rings
- Redundant Power Design 12 to 48V DC, redundant power with polarity reverse protect function
- High performance of Store-and-Forward architecture and runt/CRC filtering eliminates erroneous packets to optimize the network bandwidth
- Support standard IEC 62439-2 MRP (Media Redundancy Protocol) function
- STP, IEEE 802.1D Spanning Tree Protocol
- RSTP, IEEE 802.1w Rapid Spanning Tree Protocol
- MSTP, IEEE 802.1s Multiple Spanning Tree Protocol, spanning tree by VLAN
- Support PTP Client (Precision Time Protocol) clock synchronization
- Support Modbus/TCP protocol
- IGMP v2/v3 (IGMP snooping support) for filtering multicast traffic
- Port Trunking for easy of bandwidth management
- SNMP v1/v2c/v3 support for secured network management
- MLD Snooping port filtering
- Four RMON groups (history, statistics, alarms, and events)
- Supports DDM (Digital Diagnostic Monitoring) function
- Support LLDP (Link Layer Discovery Protocol)
- Event notification through Syslog, Email, SNMP trap, and Relay Output
- Port lock to prevent access from unauthorized MAC address
- Windows utility (System-Vision) support centralized management and configurable by Web-based ,Telnet, Console(CLI)
- Support eight Gigabit ports
- Rigid IP-30 housing design
- DIN-Rail and wall mounting enabled



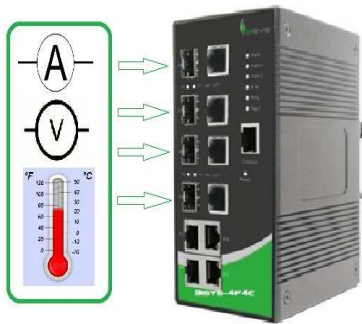
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## PRODUCT OVERVIEW

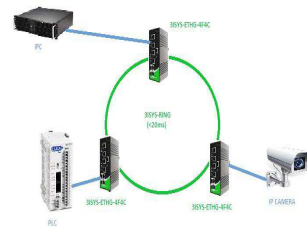
The 3ISYS-ETHG-4C4FC is managed redundant ring Ethernet switch with 4x10/100/1000Base-T(X) and 4xGigabit Combo ports. With complete support of Ethernet redundancy protocol, SYS-Ring (recovery time < 15ms over 250 units of connection), Uni-Ring, O-RSTP and MSTP/RSTP/STP (IEEE 802.1s/w/D) can protect your mission-critical applications from network interruptions or temporary malfunctions with its fast recovery technology. 3ISYS-ETHG-4C4FC can be managed centralized and convenient by a powerful windows utility — System-Vision. 3ISYS-ETHG-4C4FC support new DDM (Digital Diagnostic Monitoring) function, which can monitor instantly the status of electrical voltage, current and temperature. The redundant DC power inputs guarantee a non-stop operation. The auxiliary power input will take over immediately when the primary DC power input fails. 3ISYS-ETHG-4C4FC 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. Therefore, the switch is one of the most reliable choice for highly-managed and Fiber Ethernet application.

## System-Vision

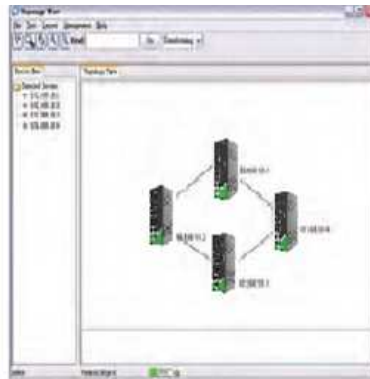
3ISYS-ETHG-4C4FC can be used in connecting several Ethernet devices such as Ethernet I/O, IP-Camera or other Ethernet switches. In addition, there are two different power inputs at terminal block to avoid interruption caused by power down. When the primary DC power input fails, the backup power input will take over immediately to guarantee a non-stop operation.



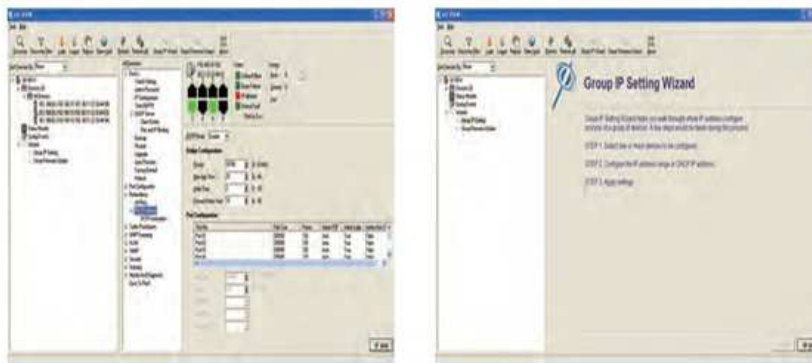
DDM Feature



Network Connection

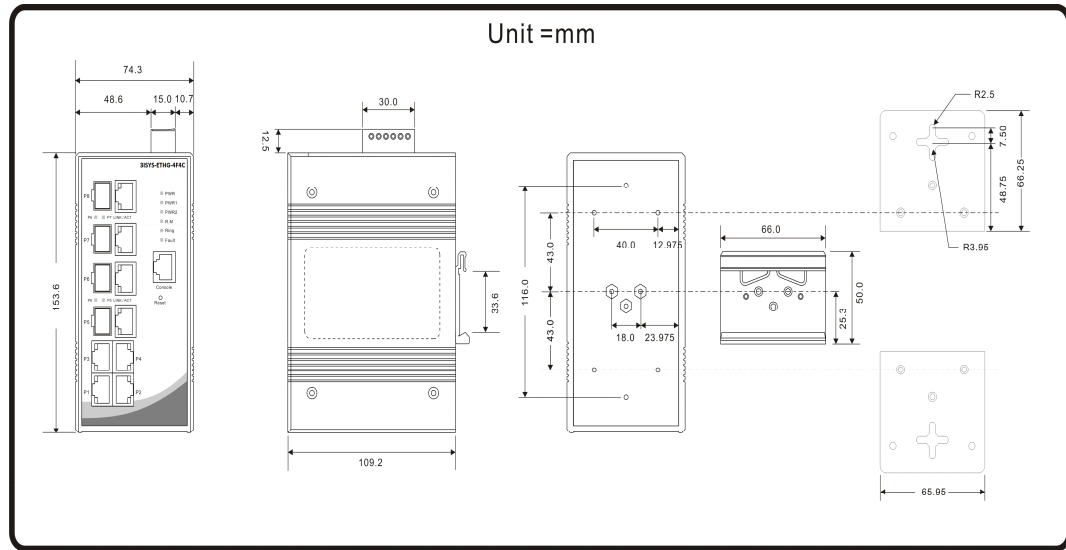


Topology View



Monitoring Interface

## Dimension



## Specifications

3ISYS Switch Model	3ISYS-ETHG-4C4FC
<b>Physical Ports</b>	
10/100/1000 Base-T(X) Ports in RJ45 Auto MDI/MDIX	<b>4</b>
Gigabit Combo Port with 10/100/1000Base-T(X)	<b>4</b>
<b>Technology</b>	
Ethernet Standards	<ul style="list-style-type: none"> <li>§IEEE 802.3 for 10Base-T</li> <li>§IEEE 802.3u for 100Base-TX and 100Base-FX</li> <li>§IEEE 802.3z for 1000Base-X</li> <li>§IEEE 802.3ab for 1000Base-T</li> <li>§IEEE 802.3x for Flow control</li> <li>§IEEE 802.3ad for LACP (Link Aggregation Control Protocol )</li> <li>§IEEE 802.1D for STP (Spanning Tree Protocol)</li> <li>§IEEE 802.1p for COS (Class of Service)</li> <li>§IEEE 802.1Q for VLAN Tagging</li> <li>§IEEE 802.1w for RSTP (Rapid Spanning Tree Protocol)</li> <li>§IEEE 802.1s for MSTP (Multiple Spanning Tree Protocol)</li> <li>§IEEE 802.1x for Authentication</li> <li>§IEEE 802.1AB for LLDP (Link Layer Discovery Protocol)</li> </ul>
MAC Table	8192 MAC addresses

Priority Queues	4
Processing	Store-and-Forward
Switch Properties	<ul style="list-style-type: none"> <li>§Switching latency: 7 us</li> <li>§Switching bandwidth: 16Gbps</li> <li>§Max. Number of Available VLANs: 4096</li> <li>§IGMP multicast groups: 1024</li> <li>§Port rate limiting: User Define</li> </ul>
Security Features	<ul style="list-style-type: none"> <li>§Enable/disable ports, MAC based port security</li> <li>§Port based network access control (802.1x)</li> <li>§VLAN (802.1Q ) to segregate and secure network traffic</li> <li>§Supports Q-in-Q VLAN for performance &amp; security to expand the VLAN space</li> <li>§Radius centralized password management</li> <li>§SNMP V1/V2c/V3 encrypted authentication and access security</li> </ul>
Software Features	<ul style="list-style-type: none"> <li>§O-RSTP/ STP/RSTP/MSTP (IEEE 802.1D/w/s)</li> <li>§Redundant Ring (3ISYS-Ring) with recovery time less than 15ms over 250 units</li> <li>§TOS/Diffserv supported</li> <li>§Quality of Service (802.1p) for real-time traffic</li> <li>§VLAN (802.1Q) with VLAN tagging and GVRP supported</li> <li>§IGMP Snooping for multicast filtering</li> <li>§Port configuration, status, statistics, monitoring, security</li> <li>§SNTP for synchronizing of clocks over network</li> <li>§Support <b>PTP Client</b> (Precision Time Protocol) clock synchronization</li> <li>§DHCP Server / Client support</li> <li>§Port Trunk support</li> <li>§MVR (Multicast VLAN Registration) support</li> <li>§Modbus TCP</li> </ul>
Network Redundancy	<ul style="list-style-type: none"> <li>§SYS-Ring</li> <li>§Uni-Ring</li> <li>§Sys-Chain</li> <li>§MRP</li> <li>§STP / RSTP / MSTP</li> </ul>
Warning / Monitoring System	<ul style="list-style-type: none"> <li>§Relay output for fault event alarming</li> <li>§Syslog server / client to record and view events</li> <li>§Include SMTP for event warning notification via email</li> <li>§Event selection support</li> </ul>
RS-232 Serial Console Port	RS-232 in RJ45 connector with console cable. 9600bps, 8, N, 1
<b>LED indicators</b>	
Power Indicator	Green : Power LED x 3

R.M. Indicator	Green : Indicate system operated in Sys-Ring Master mode
Ring Indicator	Green : Indicate system operated in Sys-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.
<b>Fault contact</b>	
Relay	Relay output to carry capacity of 1A at 24VDC
<b>Power</b>	
Redundant Input Power	Dual DC inputs. 12~48VDC on 6-pin terminal block
Power Consumption (Typ.)	25 Watts
Overload Current Protection	Present
Reverse Polarity Protection	Present
<b>Physical Characteristic</b>	
Enclosure	IP-30
Dimension (W x D x H)	74.3(W)x109.2(D)x153.6(H) mm (2.93 x 4.3 x 6.05 inch)
Weight (g)	1075 g
<b>Environmental</b>	
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
<b>Regulatory approvals</b>	
EMI	FCC Part 15, CISPR (EN55022) class A
EMS	EN61000-4-2 (ESD), EN61000-4-3 (RS), EN61000-4-4 (EFT), EN61000-4-5 (Surge), EN61000-4-6 (CS), EN61000-4-8, EN61000-4-11
Shock	IEC60068-2-27
Free Fall	IEC60068-2-32
Vibration	IEC60068-2-6
Safety	EN60950-1
<b>MTBF</b>	214,978 hours
<b>Warranty</b>	1 year

## Ordering Information

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3ISYS-AAAA-C-FC

Module Identifier	Number of 10/100/1000 Base-T(X) Copper Ports	Number of Gigabit combo ports, SFP socket
Gigabit Ethernet, ETHG	4	4

## Items Included

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- |   |                             |   |                           |   |                                     |
|---|-----------------------------|---|---------------------------|---|-------------------------------------|
| 1 | <b>3ISYS-ETHG-4C4FC x 1</b> | 1 | <b>3ISYS Tool CD x 1</b>  | 1 | <b>Quick Installation Guide x 1</b> |
| 1 | <b>DIN-Rail Kit x 1</b>     | 1 | <b>Wall-mount Kit x 1</b> | 1 | <b>Console Cable x 1</b>            |

## Optional Accessories

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|---|---|---|---|
| 1 | <b>System-Vision S5C : Powerful Network Management Windows Utility Suit, 500 IP devices</b> | 1 | <b>3ISYS-SFP-100 series : 100Mbps SFP optical transceiver</b> |
| 1 | <b>3ISYS-PWR-45 series : 45 Watts DIN-Rail power supply</b>                                 | 1 | <b>3ISYS-SFP-1G series : 1Gbps SFP optical transceiver</b>    |
| 1 | <b>DR-120 series : 120 Watts DIN-Rail power supply</b>                                      | 1 | <b>3ISYS-PWR-75 : 75 Watts DIN-Rail power supply</b>          |



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