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Request a Quote

Industrial Ethernet Switches

Unmanaged Ethernet Switches

- EKI-2525-BE - 5-port 10/100Mbps Unmanaged Ethernet switch -10 to 60 C
- ESW105-A - 5-port 10/100Mbps Unmanged Ethernet switch C1D2 AC/DC power -40 to 75 C
- ESW108-A - 8-port 10/100Mbps Unmanaged Ethernet switch C1D2 AC/DC power -40 to 75 C
- EKI-2525I-BE - 5-port 10/100Mbps Unmanaged Ethernet switch -40 to 75 C
- EKI-2528I - 8 -port 10/100Mbps Unmanaged Ethernet switch -40 to 75 C



Industrial Ethernet Switch Unmanaged Gigabit

- EKI-2725-BE - 5 - port 10/100/1000Mbps Unmanaged Ethernet switch -10 to 60 C
- EKI-2725I-BE - 5 - port 10/100/1000Mbps Unmanaged Ethernet switch -40 to 75 C
- EKI-2728-BE - 8 - port 10/100/1000Mbps Unmanaged Ethernet switch -10 to 60 C
- EKI-2728I-BE - 8 - port 10/100/1000Mbps Unmanaged Ethernet switch -40 to 75 C




Industrial Ethernet Switch Unmanaged Power Over Ethernet

- EKI-2525PA- 5- port 10/100 PoE -10 to 60 C
- EKI-2712G-4FPI-AE - 8 - 10/100/1000 + 4 1G SFP port PoE -40 to 75 C
- EKI-2706G-1GFPI-BU - 4 10/100/100 PoE+1G+1G SFP -40 to 75 C



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Industrial Ethernet Switches

Unmanaged Ethernet Switches

- ❑ EKI-2525-BE - 5-port 10/100Mbps Unmanaged Ethernet switch -10 to 60 C
- ❑ ESW105-A - 5-port 10/100Mbps Unmanged Ethernet switch C1D2 AC/DC power -40 to 75 C
- ❑ ESW108-A - 8-port 10/100Mbps Unmanaged Ethernet switch C1D2 AC/DC power -40 to 75 C
- ❑ EKI-2525I-BE - 5-port 10/100Mbps Unmanaged Ethernet switch -40 to 75 C
- ❑ EKI-2528I - 8 -port 10/100Mbps Unmanaged Ethernet switch -40 to 75 C



Industrial Ethernet Switch Unmanaged Gigabit

- ❑ EKI-2725-BE - 5 - port 10/100/1000Mbps Unmanaged Ethernet switch -10 to 60 C
- ❑ EKI-2725I-BE - 5 - port 10/100/1000Mbps Unmanaged Ethernet switch -40 to 75 C
- ❑ EKI-2728-BE - 8 - port 10/100/1000Mbps Unmanaged Ethernet switch -10 to 60 C
- ❑ EKI-2728I-BE - 8 - port 10/100/1000Mbps Unmanaged Ethernet switch -40 to 75 C




Industrial Ethernet Switch Unmanaged Power Over Ethernet

- ❑ EKI-2525PA- 5- port 10/100 PoE -10 to 60 C
- ❑ EKI-2712G-4FPI-AE - 8 - 10/100/1000 + 4 1G SFP port PoE -40 to 75 C
- ❑ EKI-2706G-1GFPI-BU - 4 10/100/100 PoE+1G+1G SFP -40 to 75 C



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Industrial Entry Level Managed Switches

- EKI-5525I-AE - 5 - port 10/100 Industrial Proview C1D2 ATEX -40 to 75 C
  (Communicates with SCADA software via Modbus/TCP)
- EKI-5526I-AE - 16 - port 10/100 Industrial Proview C1D2 ATEX -40 to 75 C
  (Communicates with SCADA software via Modbus/TCP)
- EKI-5726I-AE - 16 - port - 10/100/1000 Industrial ProView C1D2 ATEX -40 to 75 C
  (Communicates with SCADA software via Modbus/TCP)
- EKI-5729FI-AE - 8GE+2G SFP 10/100/1000 Industrial ProView C1D2 ATEX -40 to 75 C
  (Communicates with SCADA software via Modbus/TCP)




Managed Ethernet Switch

- EKI-7706G-2FI-AE - 4GE+2G SFP Managed Ethernet Switch -40 to 85 C
- EKI-7710G-2CI-AU - 8GE+2G Managed Ethernet Switch -40 to 75 C
- EKI-7712G-4FI-AU - 8GE+4G SFP Managed Ethernet Switch -40 to 75 C



SFP Accessories

- SFP-GMM-550 - 850nm multi-mode 550 meters
- SFP-GMM-2K - 1310nm multi-mode 2km
- SFP-GSM-20K - 1310nm single-mode 20km
- SFP-GTX - RJ45 10/100/1000 100m

Industrial Ethernet Switch Overview

ORing provides a comprehensive line of fully managed, lite-managed, and unmanaged industrial Ethernet switches with industrial-grade ruggedness and network reliability. You can choose between different speeds (Gigabit, Fast Ethernet, optical fiber, etc.), mounting types, power supplies, and casing. The switches comply with a variety of safety standards such as IEC61850-3/EN50155/C1D2. The flagship Thunder Series (Thunder Rail, Thunder Rack, & Thunder PoE) feature advanced technologies (Gigabit speed, 9K Jumbo Frame support, Device Binding, and many more) to guarantee the best networking performance.

ORing's Ethernet switches also support optic fiber technology to provide long-haul transmission. Users can use advanced management software to configure various settings such as network redundancy, QoS, VLANs for network segregation, and IGMP for multicast filtering to achieve optimal network performance through. For handling harsh industrial applications, ORing also offers IP-67 grade waterproof Ethernet switches.

Industrial Modular Ethernet Switch

ORing's industrial modular Ethernet switch comes with 3 slots supporting up to total 24 of Gigabit ports and 1 slot supporting up to total 4 of 10G ports

RGS-P9000

Industrial Din-Rail Gigabit Ethernet Switch

ORing's full Gigabit Ethernet switch series includes unmanaged and managed models which support various technologies for transmitting Ethernet packets at a rate of a Gigabit per second, as defined by the IEEE 802.3-2005 standard.

IGS-9168GP

Industrial PoE Ethernet Switch

ORing's ruggedized industrial PoE (Power over Ethernet) switches By enabling alive checking, the switch will periodically communicate with end devices to monitor the real-time status of PDs. This reduces management burden and increases system reliability. Power scheduling will schedule provision of power to end devices. This enables PDs to be switched off at certain times when they are not needed.

By enabling alive checking, the switch will periodically communicate with end devices to monitor the real-time status of PDs. This reduces management burden and increases system reliability. Power scheduling will schedule provision of power to end devices. This enables PDs to be switched off at certain times when they are not needed.

IGPS-9842GTP-24V

Key Technologies

ORing products comply with several international global standards or protocols to provide better solutions in order to meet customers' high standard requirement.

MRP

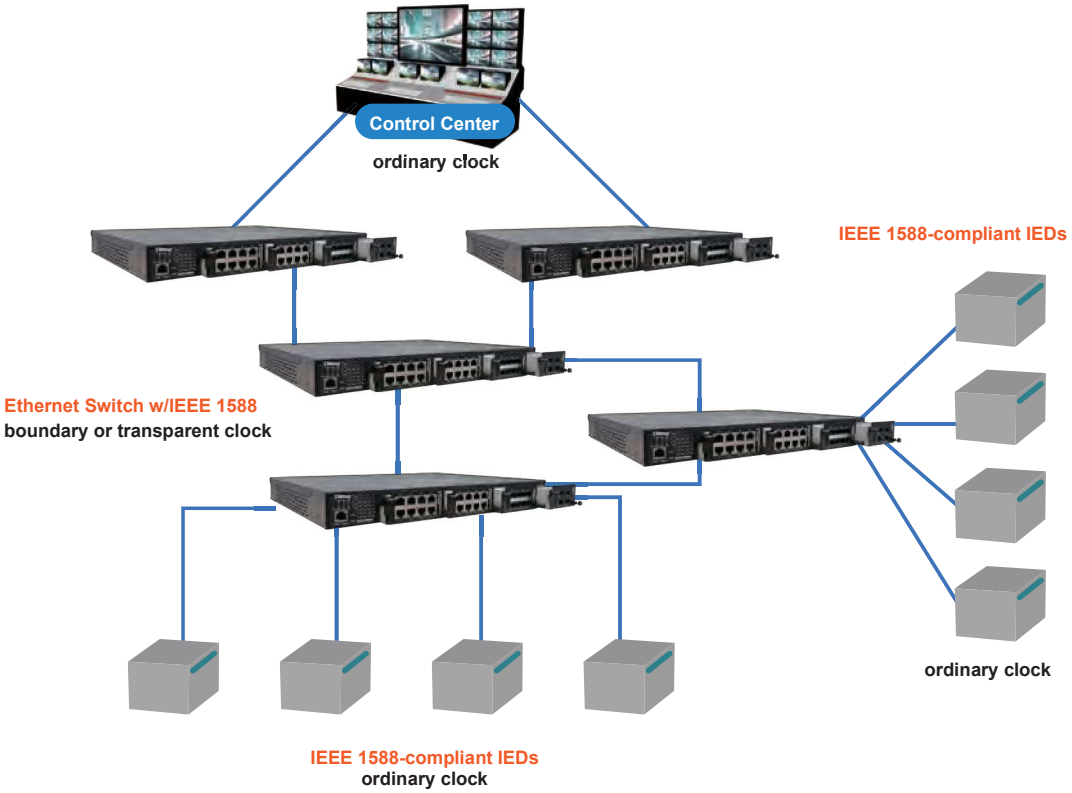
Media Redundancy Protocol (MRP) is a data network protocol standardized for ring redundancy in industrial environment by the International Electrotechnical Commission as IEC 62439-2. MRP is compatible with redundant ring coupling, supports VLANs, and is distinguished by very short reconfiguration times. In the fault-free state of the network, this protocol provides reliable data communication, and preserves determinism of real-time data communication. In cases of fault, removal, and insertion of a component, it provides deterministic recovery times. ORing's 3000, and 9000 series products are all compliant with this standard.

IEEE 802.3az

Energy-Efficient Ethernet is a set of enhancement to the twisted-pair and backplane Ethernet family of computer networking standards that allow for less power consumption during periods of low data activity. The intention was to reduce power consumption by 50% or more, while retaining full compatibility with existing equipment. The Institute of Electrical and Electronics Engineers (IEEE), through the IEEE 802.3az task force developed the standard. ORing's 9000 series products are all compliant with this standard.

IEEE 1588v2

A clock synchronization algorithm drafted by the Institute of Electrical and Electronics Engineers (IEEE). The algorithm provides a standard for clock synchronization based on data packet transmission. In 2001, with the support of the National Institute of Standards and Technology (NIST), the committee drafted the related standard, which has been used as the IEEE 1588 standard since the end of 2002. In the communications industry, the clock signal transmission technology of the PSN(Packet Switched Networks) develops fast. The revised IEEE 1588 standard was issued in June 2006 and the IEEE 1558v2 was revised in 2007. ORing's 9000 series products are all compliant with IEEE 1588v2 hardware-based standard.



IPv6

Internet Protocol version 6 (IPv6) is the latest revision of the Internet Protocol (IP) developed by the Internet Engineering Task Force (IETF). This protocol is for communication and the traffic across the internet.

Jumbo Frame

ORing's Gigabit Ethernet switches, with 10 times the bandwidth of 1000Base-T Ethernet switches, feature Jumbo frame support, which enables Jumbo Frame is useful for transmitting mega-pixel IP surveillance videos since the CPUs have fewer frames to process as a larger payload is put into each frame. This will increase data transmission efficiency, thereby improving network performance.

Redundant Technologies

Technology Description

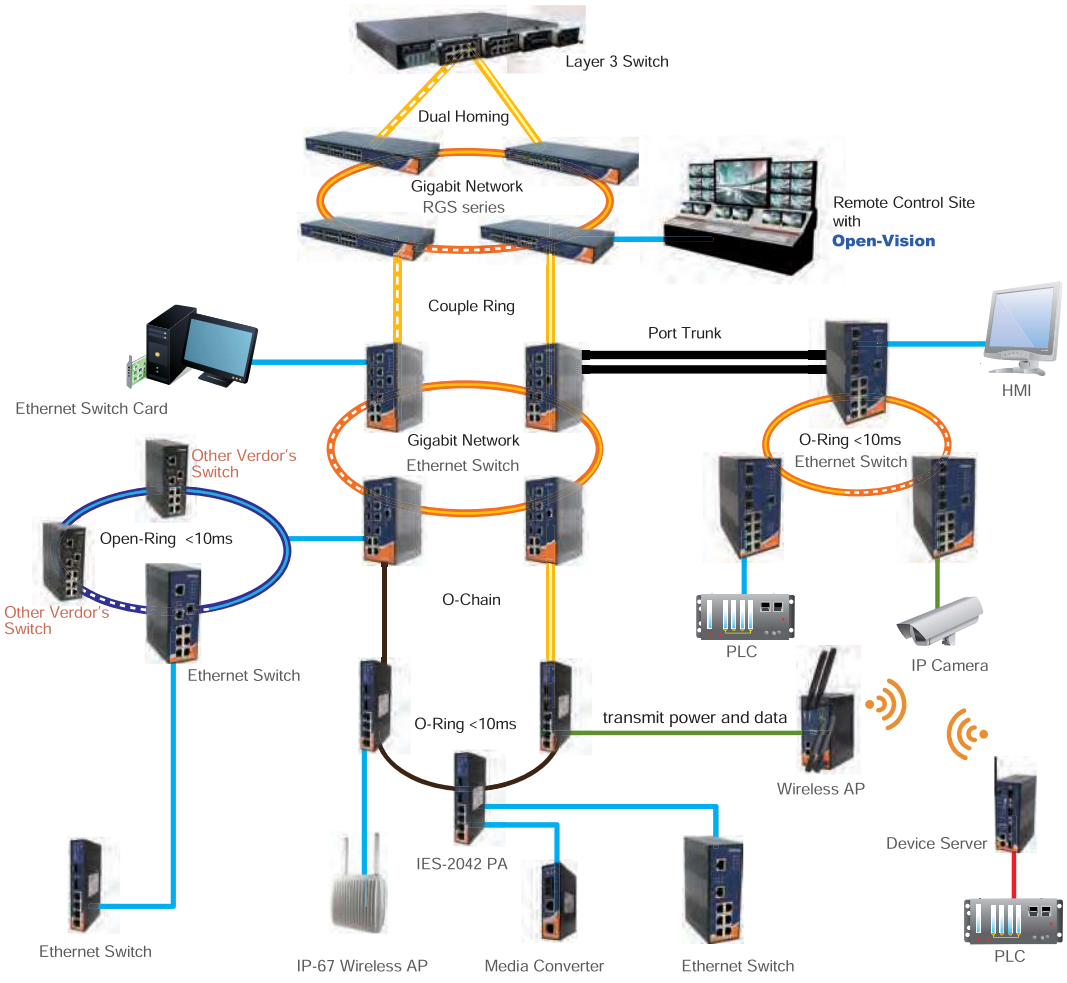
Many network redundancy or recovery protocols have been defined by the IEEE, such as STP, RSTP, MSTP, to ensure recovery from network disconnections. However, industrial applications require a much shorter recovery time than commercial applications. Hence, industrial networking devices often use proprietary redundant ring technologies to minimize downtime. ORing has developed a variety of proprietary redundancy technologies including O-Ring, O-Chain, and Open-Ring. These proprietary redundant ring technologies not only meet the needs of different networking topologies, but also assure the reliability of the network.

Support for IEEE Standard Redundant Technologies

- IEEE802.1d - STP (Spanning Tree Protocol)
- IEEE802.1w – RSTP (Rapid Spanning Tree Protocol)
- IEEE802.1s – MSTP (Multiple Spanning Tree Protocol)
- IEC 62439-2 MRP(Media Redundancy Protocol)

Support for ORing's Proprietary Redundant Technologies

- O-Ring (ORing's Proprietary Redundant Ring)
- Open-Ring (Open Architecture Technology)
- O-Chain (ORing's Proprietary Redundant Chain Technology)



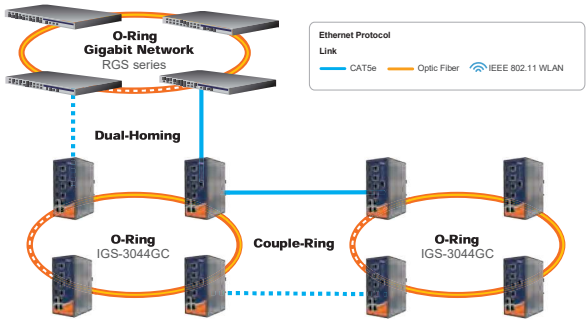
Network Redundancy Comparison Table

Recovery Technology	STP	RSTP	RSTP 2004	MSTP	Open-Ring	O-Ring	O-Chain
Recovery Time	10 ~ 50 Seconds	3 ~ 5 Seconds	< 100 ms	3 ~ 5 Seconds	-	< 10 ms	< 10 ms
Maximum Nodes	40	20 (Note: Recovery time is unpredictable if there are more than 9 nodes)	80 (Note: Recovery time is unpredictable if there are more than 9 nodes)	20 (Note: Recovery time is unpredictable if there are more than 9 nodes)	250	250	250
Per VLAN STP	NO	NO	NO	YES	NO	NO	NO

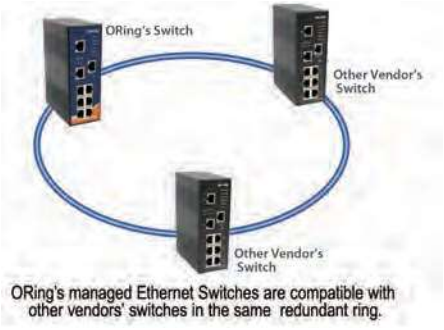
Comparison Table of Redundant Technologies

Benefits of ORing's Redundant Technologies

O-Ring : O-Ring is ORing's proprietary redundant ring technology, boasting a recovery time of less than 10 milliseconds and the ability to support up to 250 nodes. The O-Ring redundant ring technology can protect mission-critical applications from network interruptions or temporary malfunction.



Open-Ring : Open-Ring is an enhanced redundant technology that allows ORing's switches to work with other vendor's proprietary redundant ring technologies. It enables ORing's switches to form a single ring with other vendor's switches. In cases where the ring is deployed using proprietary technologies, ORing offers a compatibility service where ORing can make its switches compatible with your particular network requirements.



ORing's managed Ethernet Switches are compatible with other vendors' switches in the same redundant ring.

MRP: All of ORing's Ethernet switches come with Media Rendundancy Protocol (MRP) support.
MRP is a data network protocol standardized as IEC 62439-2, allowing rings of Ethernet switches to overcome any single failure, providing deterministic recovery time and supporting steamless data transmission. Therefore, it is suitable to most Industial Ethernet applications and in the same time assures the most reliable communication environment.

Modbus TCP : Modbus TCP is simply the Modbus RTU protocol with a TCP interface that runs on Ethernet. Specifically, it covers the use of Modbus messaging in an 'Intranet' or 'Internet' environment using the TCP protocols. The most common use of the protocols at this time are for Ethernet attachment of PLC's, I/O modules, and 'gateways' to other simple field buses or I/O networks. SCADA system can monitor / Control Industrial Ethernet Switch going through Modbus TCP.

RSTP 2004: RSTP-2004 is an enhanced version of RSTP designed to overcome the slow recovery time in certain situations which might take up to 30 seconds when using RSTP. To speed up the recovery time, some significant changes have been made and one of them is transmission of the Bridge Protocol Data Unit (BPDU). When a link in the topology is broken, the device will send out a topology change notice which is encapsulated in the BPDU. Since the notice is triggered by the event, it can be sent out at a much faster rate, making the protocol faster than RSTP standard. With a millisecond-level recovery time, RSTP-2004 can provide higher network availability.

O-Chain: O-Chain is a revolutionary network redundancy technology that provides an *add-on* network redundancy topology for any backbone network, providing ease-of-use while maximizing fault-recovery swiftness, flexibility, compatibility, and cost-effectiveness in one set of network redundancy topology.

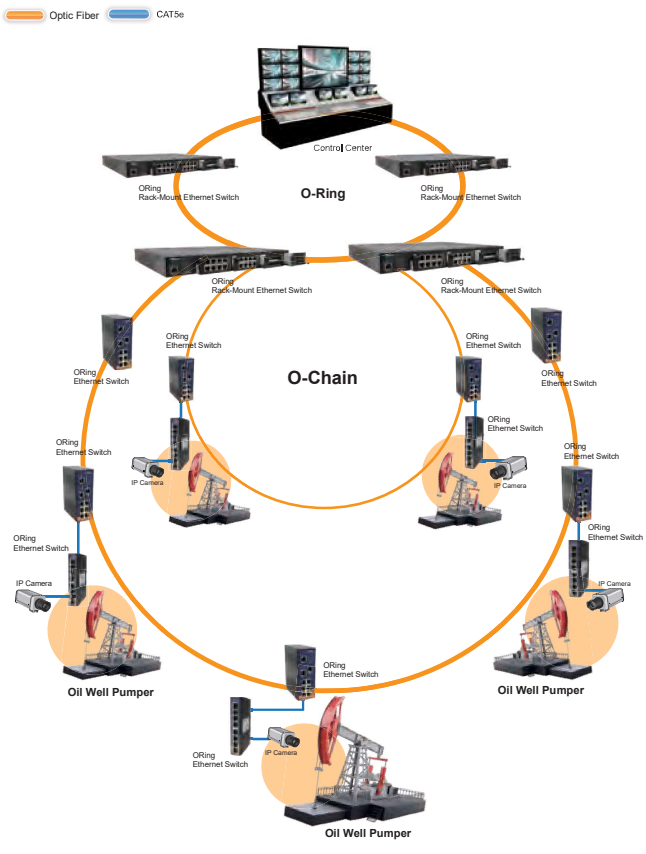
O-Chain allows multiple redundant network rings of different redundancy protocols to join and function together as a larger and more robust compound network topology, i.e. the creation of multiple redundant networks beyond the limitations of current redundant ring technology.

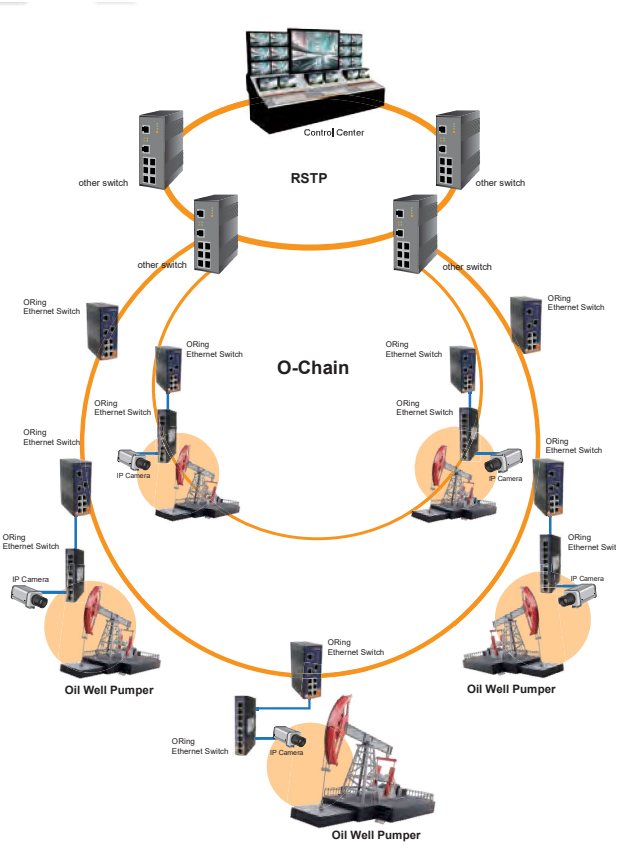
O-Chain is a highly flexible self-healing Ethernet technology designed for distributed and complex industrial networks. It allows our switches to be quickly and easily deployed in any type of complex redundant network and offer fast fault recovery, flexible construction, unlimited expansion, and cost-effective configuration. If at any time a segment of the chain fails, the network is able to recover in less than 10ms for up to 250 switches.

O-Chain is very easy to configure and manage. Simply define an edge port on the edge switch and enable the O-Chain function of other switches, O-Chain will be up and running.

O-Chain provides the following key advantages:

1. Outstanding recovery time (< 10ms) for up to 250 switches
2. Flexible, scalable redundant network topologies
3. Compatible with other redundant protocols (RSTP, STP, etc.)
4. Significant reduction in development costs (time and effort, cables, and Ethernet ports)





Product Selection Guide

	Industrial DIN-Rail Gigabit Ethernet Switch					
	Managed Switch		Unmanaged Switch			
Industrial Ethernet Switch						
	IGS-3044GC	IGS-3032GC	IGS-1080A	IGS-1041GPA / 1050A	IGS-1042GPA	IGS-150B
Port Number						
Number of ports	8	5	8	5	6	5
10/100Base-T(X) RJ45 Ports	-	-	-		-	-
10/100/1000Base-T(X) Ports	4	3	8	4 5	4	5
100Base-FX Fiber Ports	-	-	-	- -	-	-
1000Base-X Fiber Ports	-	-	-	- -	-	-
1000Base-X SFP Ports	-	-	-	- -	-	-
100/1000Base-X SFP Ports	-	-	-	1 -	2	-
Gigabit Combo Ports	4	2	-	- -	-	-
Power Redundancy						
DC Terminal Block	2	2	2	2	2	2
DC Power Jack	-	1	-	-	-	-
AC Power Cord	-	-	-	-	-	-
Installation						
DIN-Rail Mounting	•	•	•	•	•	•
Wall Mounting	•	•	•	•	•	•
Physical Characteristics						
Casing Protection	IP-30	IP-30	IP-30	IP-30	IP-30	IP-30
Dimensions (mm)	74.3(W)x109.2(D)x153.6(H)	54.2(W)x106.1(D)x145.4(H)	26.1(W)x94.9(D)x144.3(H)	26.1(W)x94.9(D)x144.3(H)	26.1(W)x94.9(D)x144.3(H	26.1(W)x70(D)x95(H
Operating Temperature						
-10 to 60°C	-	-	-	-	-	-
-40 to 70°C	•	•	•	•	•	•
-40 to 85°C	-	-	-	-	-	-
Network Redundancy						
O-Ring	•	•	-	-	-	-
Open-Ring	•	•	-	-	-	-
O-Chain	•	•	-	-	-	-
MRP	•	•	-	-	-	-
MSTP/RSTP/STP	•	•	-	-	-	-
Management and Control						
802.1X	•	•	-	-	-	-
Rate Limit	•	•	-	-	-	-
Port Mirror	•	•	-	-	-	-
Port Security	•	•	-	-	-	-
SNMP v1/v2/v3	•	•	-	-	-	-
IGMP v2/v3	•	•	-	-	-	-
QoS Port Base/COS/TOS	•	•	-	-	-	-
Port Trunk Static/LACP	•	•	-	-	-	-
LLDP	•	•	-	-		
IEEE 1588v2	-	-	-	-	-	-
System Alarm	SYSLOG / SMTP / SNMP Trap / Relay	SYSLOG / SMTP / SNMP Trap / Relay	Relay	Relay	Relay	-
DHCP	Server / Client	Server / Client	-	-	-	-
VLAN	Port-Based / 802.1Q / Q-in-Q / GVRP	Port-Based / 802.1Q / Q-in-Q / GVRP	-	-	-	-
Management / Configuration	WEB / Windows Utility / SNMP v1,v2c,v3 /Telnet /Console(CLI)	WEB / Windows Utility / SNMP v1,v2c,v3 /Telnet /Console(CLI)	-	-	-	-
Warranty	5 years					

Product Selection Guide

Industrial Ethernet Switch	Industrial DIN-Rail Fast Ethernet Switch Managed Switch				
					
	IES-3240	IES-3162GC	IES-3160	IES-P3073GC-HV	IES-3073GC
Port Number					
Number of ports	**24**	**18**	**16**	**10**	**10**
10/100Base-T(X) RJ45 Ports	24	16	16	7	7
10/100/1000Base-T(X) Ports	-	-	-	-	-
100Base-FX Fiber Ports	-	-	-	-	-
1000Base-X Fiber Ports	-	-	-	-	-
100Base-FX SFP Ports	-	-	-	-	-
1000Base-X SFP Ports	-	-	-	-	-
Gigabit Combo Ports	-	2	-	3	3
Power Redundancy					
DC Terminal Block	2	2	2	2	2
DC Power Jack	-	-	-	-	-
AC Power Cord	-	-	-	-	-
Installation					
DIN-Rail Mounting	•	•	•	•	•
Wall Mounting	•	•	•	•	•
Rack Mounting	-	-	-	-	-
Physical Characteristics					
Casing Protection	IP-30	IP-30	IP-30	IP-30	IP-30
Dimensions (mm)	96.4(W)x108.5(D)x154(H)	96.4(W)x108.5(D)x154(H)	74.3(W)x109.2(D)x153.6(H)	96.4(W)x145.5(D)x154(H)	74.3(W)x109.2(D)x153.6(H)
Operating Temperature					
-10 to 60℃	-	-	-	-	-
-40 to 70℃	•	•	•	-	•
-40 to 85℃	-	-	-	•	-
Network Redundancy					
O-Ring	•	•	•	•	•
Open-Ring	•	•	•	•	•
O-Chain	•	•	•	•	•
STP/RSTP	•	•	•	•	•
MSTP	•	•	•	•	•
Management and Control					
802.1X	•	•	•	•	•
Rate Limit	•	•	•	•	•
Port Mirror	•	•	•	•	•
Port Security	•	•	•	•	•
IGMP v2/v3	•	•	•	•	•
QoS Port Base/COS/TOS	•	•	•	•	•
Port Trunk Static/LACP	•	•	•	•	•
LLDP	•	•	•	•	•
System Alarm	SYSLOG / SMTP / SNMP Trap / Relay	SYSLOG / SMTP / SNMP Trap / Relay	SYSLOG / SMTP / SNMP Trap / Relay	SYSLOG / SMTP / SNMP Trap / Relay	SYSLOG / SMTP / SNMP Trap / Relay
DHCP	Server / Client	Server / Client	Server / Client	Server / Client	Server / Client
VLAN	Port-Based / 802.1Q / Q-in-Q / GVRP	Port-Based / 802.1Q / Q-in-Q / GVRP	Port-Based / 802.1Q / Q-in-Q / GVRP	Port-Based / 802.1Q / Q-in-Q / GVRP	Port-Based / 802.1Q / Q-in-Q / GVRP
Management / Configuration	WEB / Windows Utility / SNMP v1,v2c,v3 /Telnet /Console(CLI)	WEB / Windows Utility / SNMP v1,v2c,v3 /Telnet /Console(CLI)	WEB / Windows Utility / SNMP v1,v2c,v3 /Telnet /Console(CLI)	WEB / Windows Utility / SNMP v1,v2c,v3 /Telnet /Console(CLI)	WEB / Windows Utility / SNMP v1,v2c,v3 /Telnet /Console(CLI)
Warranty	5 years				

Product Selection Guide

	Industrial DIN-Rail Fast Ethernet Switch			
	Managed Switch			
Industrial Ethernet Switch				
	IES-3082GC	IES-3082GP	IES-3062 Series / IES-3080	
Port Number				
Number of ports	10	10	8	
10/100Base-T(X) RJ45 Ports	8	8	6	8
10/100/1000Base-T(X) Ports	-	-	2	-
100Base-FX Fiber Ports	-	-	2 (Multi/Single-Mode)	-
1000Base-X Fiber Ports	-	-	2 (Multi/Single-Mode)	-
100Base-FX SFP Ports	-	-	-	
1000Base-X SFP Ports	-	2	-	
Gigabit Combo Ports	2	-	-	
Power Redundancy				
DC Terminal Block	2	2	2	
DC Power Jack	1	1	1	
AC Power Cord	-	-	-	
Installation				
DIN-Rail Mounting	•	•	•	
Wall Mounting	•	•	-	
Desktop	-	-	-	
Physical Characteristics				
Casing Protection	IP-30	IP-30	IP-30	
Dimensions (mm)	52(W)x106.1(D)x144.3(H)	52(W)x106.1(D)x144.3(H)	52(W)x106.1(D)x144.3(H)	
Operating Temperature				
-10 to 60°C	-	-	-	
-40 to 70°C	•	•	•	
Network Redundancy				
O-Ring	•	•	•	
Open-Ring	•	•	•	
O-Chain	•	•	•	
MRP	•	•	•	
MSTP/RSTP/STP	•	•	•	
Management and Control				
802.1X	•	•	•	
Rate Limit	•	•	•	
Port Mirror	•	•	•	
Port Security	•	•	•	
IGMP v2/v3	•	•	•	
QoS Port Base/COS/TOS	•	•	•	
Port Trunk Static/LACP	•	•	•	
LLDP	•	•	•	
System Alarm	SYSLOG / SMTP / SNMP Trap / Relay	SYSLOG / SMTP / SNMP Trap / Relay	SYSLOG / SMTP / SNMP Trap / Relay	
DHCP	Server / Client	Server / Client	Server / Client	
VLAN	Port-Based / 802.1Q / Q-in-Q / GVRP	Port-Based / 802.1Q / Q-in-Q / GVRP	Port-Based / 802.1Q / Q-in-Q / GVRP	
Management / Configuration	WEB / Windows Utility / SNMP v1,v2c,v3 /Telnet / Console(CLI)	WEB / Windows Utility / SNMP v1,v2c,v3 /Telnet / Console(CLI)	WEB / Windows Utility / SNMP v1,v2c,v3 /Telnet /Console(CLI)	
Warranty	5 years			

Product Selection Guide

	Industrial DIN-Rail Fast Ethernet Switch					
	Lite-Managed Switch			Unmanaged Switch		
Industrial Ethernet Switch						
	IES-2060 / 2042FX	IES-2042PA	IES-2050A	IES-1240	IES-1162GC	IES-1160
Port Number						
Number of ports	6	6	5	24	18	16
10/100Base-T(X) RJ45 Ports	6 / 4	4	5	24	16	16
10/100/1000Base-T(X) Ports	-	-	-	-	-	-
100Base-FX Fiber Ports	- / 2 (Multi/Single-Mode)	-	-	-	-	-
1000Base-X Fiber Ports	-	-	-	-	-	-
100Base-FX SFP Ports	-	2	-	-	-	-
1000Base-X SFP Ports	-	-	-	-	-	-
Gigabit Combo Ports	-	-	-	-	2	-
Power Redundancy						
DC Terminal Block	2	2	2	2	2	2
DC Power Jack	1	-	-	-	-	-
AC Power Cord	-	-	-	-	-	-
Installation						
DIN-Rail Mounting	●	●	●	●	●	●
Wall Mounting	●	●	●	●	●	●
Rack Mounting	-	-	-	-	-	-
Physical Characteristics						
Casing Protection	IP-30	IP-30	IP-30	IP-30	IP-30	IP-30
Dimensions (mm)	52(W)x106.1(D)x144.3(H)	26.1(W)x94.9(D)x144.3(H)	26.1(W)x94.9(D)x144.3(H)	96.4(W)x108.5(D)x154(H)	96.4(W)x108.5(D)x154(H)	74.3(W)x109.2(D)x153.6(H)
Operating Temperature						
-10 to 60°C	-	-	-	-	-	-
-40 to 70°C	●	●	●	●	●	●
Network Redundancy						
O-Ring	●	●	●	-	-	-
Open-Ring	●	●	●	-	-	-
O-Chain	●	●	●	-	-	-
STP/RSTP	●	●	●	-	-	-
MSTP	-	-	-	-	-	-
Management and Control						
802.1X	-	-	-	-	-	-
Rate Limit	-	-	-	-	-	-
Port Mirror	-	-	-	-	-	-
Port Security	-	-	-	-	-	-
IGMP v2/v3	-	-	-	-	-	-
QoS Port Base/COS/TOS	-	-	-	-	-	-
Port Trunk Static/LACP	-	-	-	-	-	-
LLDP	●	●	●	-	-	-
System Alarm	SYSLOG / SMTP / SNMP Trap / Relay	SYSLOG / SMTP / SNMP Trap / Relay	SYSLOG / SMTP / SNMP Trap / Relay	Relay	Relay	Relay
DHCP	Client	Client	Client	-	-	-
VLAN	Port-Based	Port-Based	Port-Based	-	-	-
Management / Configuration	WEB / Windows Utility / SNMP v1,v2c,v3 /Telnet	WEB / Windows Utility / SNMP v1,v2c,v3 /Telnet	WEB / Windows Utility / SNMP v1,v2c,v3 /Telnet	-	-	-
Warranty	5 years					

Product Selection Guide

Industrial Ethernet Switch	Industrial DIN-Rail Fast Ethernet Switch											
	Unmanaged Switch											
												
	IES-1082GP	IES-1062 Series / IES-1080		IES-1050A / 1080A		IES-1041FX / 1042FX		IES-150B	IES-180B			
Port Number												
Number of ports	10	8		5	8	5	6	5	8			
10/100Base-T(X) RJ45 Ports	8	6	8	5	8	4		5	8			
10/100/1000Base-T(X) Ports	-	2	-	-		-		-	-			
100Base-FX Fiber Ports	-	2 (Multi/Single-Mode)	-	-		1 (Multi/Single-Mode)	2 (Multi/Single-Mode)	-	-			
1000Base-X Fiber Ports	-	2 (Multi/Single-Mode)	-	-		-		-	-			
100Base-FX SFP Ports	-	-		-		-		-	-			
1000Base-X SFP Ports	2	-		-		-		-	-			
Gigabit Combo Ports	-	-		-		-		-	-			
Power Redundancy												
DC Terminal Block	2	2		2		2		2	2			
DC Power Jack	1	1		-		-		-	-			
AC Power Cord	-	-		-		-		-	-			
Installation												
DIN-Rail Mounting	•	•		•		•		•	•			
Wall Mounting	•	•		•		•		•	•			
Rack Mounting	-	-		-		-		-	-			
Physical Characteristics												
Casing Protection	IP-30	IP-30		IP-30		IP-30		IP-30	IP-30			
Dimensions (mm)	52(W)x106.1(D)x144.3(H)	52(W)x106.1(D)x144.3(H)		26.1(W)x94.9(D)x144.3(H)		26.1(W)x94.9(D)x144.3(H)		26.1(W)x70(D)x95(H)	41(W)x90(D)x95(H)			
Operating Temperature												
-10 to 60°C	-	-		-		-		-	-			
-40 to 70°C	•	•		•		•		•	•			
Network Redundancy												
O-Ring	-	-		-		-		-	-			
Open-Ring	-	-		-		-		-	-			
O-Chain	-	-		-		-		-	-			
STP/RSTP	-	-		-		-		-	-			
MSTP	-	-		-		-		-	-			
Management and Control												
802.1X	-	-		-		-		-	-			
Rate Limit	-	-		-		-		-	-			
Port Mirror	-	-		-		-		-	-			
Port Security	-	-		-		-		-	-			
IGMP v2/v3	-	-		-		-		-	-			
QoS Port Base/COS/TOS	-	-		-		-		-	-			
Port Trunk Static/LACP	-	-		-		-		-	-			
LLDP	-	-		-		-		-	-			
System Alarm	Relay	Relay		Relay		Relay		-	-			
DHCP	-	-		-		-		-	-			
VLAN	-	-		-		-		-	-			
Management / Configuration	-	-		-		-		-	-			
Warranty	5 years											

Ethernet Switch

Unmanaged Industrial Ethernet Switch

SPECIFICAITONS

Rated Input Voltage	12/24/48V DC, 24V AC	
Voltage Tolerance	9-60V DC, 18-30V AC	
Power Consumption	3.4 W	
Ethernet Standard	IEEE802.3u (100BASE-TX)/IEEE802.3i (10BASE-T) compliant	
Data Transfer Speed	10Mbps/100Mbps (Auto-negotiation function)	
Communication Method	All ports full/half duplex (Auto-negotiation function)	
Number of Ports	5	
Frame Transfer Method	Store and forward	
Throughput	0.75 Mpps	
Address Table	2,048 entries	
Buffer Size	1 Mbits	
EMI/EMS	FCC CFR47 Part 15, EN55022, CISPR22, Class A	
	Electrostatic discharge:	±6 kV (contact), ±8 kV (air) (IEC 61000-4-2)
	Radiation electromagnetic field:	10V/m (80 MHz–2 GHz), 3V/m (2 GHz-2.7GHz) (IEC 61000-4-3)
	FTB:	±2 kV (Power Port), ±1 kV (Data Port) (IEC 61000-4-4)
	Lightning surge:	±1 kV/DM, ±2 kV/CM (Power Port), ±1 kV (Data Port) (IEC 61000-4-5)
	RF conducted immunity:	10V (150 kHz-80 MHz) (IEC 61000-4-6)
Vibration Resistance	5 Hz to 9 Hz: 3.5 mm, 9 Hz to 150 Hz: 2.0G (IEC 60068-2-6)	
Shock Resistance	150 m/s2 11 ms (IEC 60068-2-27)	
Operating Temperature	–40 to +75°C (no freezing)	
Operating Humidity	5 to 95% RH (no condensation)	
Storage Temperature	–40 to +85°C (no freezing)	
Mounting	DIN rail/panel mounting (*1)	
Degree of Protection	IP30	
Weight (approx.)	200 g	

* 1: Optional accessory is necessary for panel mounting.

PRODUCT DESCRIPTION

The SX5E series offers a fast, 5-Port Unmanaged Industrial Ethernet Switch with a wide range of operating voltages (AC and DC) and operating temperatures. With a compact, industrial-grade design and rugged metal housing, this switch is suitable for installation in Class I, Division 2 hazardous locations and for industrial applications in harsh environmental conditions requiring an IP30 degree of protection. Potential applications include wastewater treatment, machine tools, packaging machines, oil and gas, food processing machines, elevators, building automation, power utilities, traffic control, transportation and more.

KEY FEATURES

- Compact Unmanaged Industrial Ethernet Switch
- 5-port 10/100 Mbps
- Wide Operating Voltage range: 9-60V DC, 18-30V AC
- Wide Operating Temperature range: -40 to +75 ˚C
- Full/Half Duplex Operation
- Supports Auto-MDI/MDIX Function
- Redundant Power Input
- Broadcast Storm Protection
- IP30 Protection Rugged Metal Housing
- cULus, CE, Class I, Division 2

SX5E Ethernet Switch

PART NUMBERS

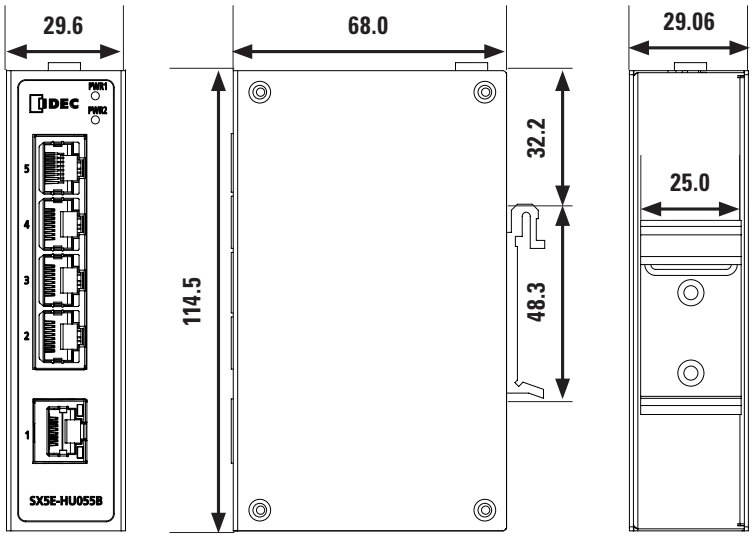
Model	Part Number	Package Quantity
Ethernet Switch 	SX5E-HU055B	1

ACCESSORIES

Model	Part Number	Package Quantity
RJ45 connector cover (IP30) 	SX9Z-CAP2PN02	2
Direct mounting bracket 	SX9Z-1A01	1
Power Supply Terminal Block 	SX9Z-PMTD04PN02	2

DIMENSIONS (MM)

SX5E Ethernet Switch



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8-Port Ethernet Switch

Unmanaged Industrial Ethernet Switch

EtherNet/IP

PRODUCT DESCRIPTION

The 8-port unmanaged Ethernet switch is now equipped with the features of managed Ethernet switch.

Designed to meet all communication requirements! The SX5E series of 8-port unmanaged switch supports the IGMP snooping function and QoS function, which automatically prioritizes EtherNet/IP packets. With an industrial-grade design, rugged metal housing and extreme operating temperature, this switch is suitable for industrial applications in harsh environmental conditions.

SPECIFICATIONS

Rated Input Voltage	24V DC, 24V AC
Voltage Tolerance	12-48V DC, 18-30V AC
Power Consumption	4.1W
Ethernet Standard	IEEE802.3u (100BASE-TX)/IEEE802.3i (10BASE-T) compliant
Data Transfer Speed	10Mbps/100Mbps (Auto-negotiation function)
Communication Method	All ports full/half duplex (Auto-negotiation function)
Number of Ports	8
Frame Transfer Method	Store and forward
Throughput	1.2Mpps
Address Table	2,048 entries
Buffer Size	4Mbits
EMI/EMS	• FCC CFR47 Part 15, EN55022, CISPR22, Class A • Electrostatic discharge: ±6kV (contact), ±8kV (air) (IEC61000-4-2) • Radiation electromagnetic field: 10V/m (80MHz–2GHz), 3V/m (2GHz-2.7GHz) (IEC61000-4-3) • FTB: ±2kV (Power Port), ±1kV (Data Port) (IEC61000-4-4) • Lighting surge: ±1kV/DM, ±2kV/CM (Power Port), ±1kV (Data Port) (IEC61000-4-5) • RF conducted immunity: 10V (150kHz-80MHz) (IEC61000-4-6)
Vibration Resistance	5Hz to 9Hz: 3.5mm, 9Hz to 150Hz: 2.0G (IEC60068-2-6)
Shock Resistance	150m/s2 11ms (IEC60068-2-27)
Operating Temperature	-40 to +75°C (no freezing)
Operating Humidity	5 to 95% RH (no condensation)
Storage Temperature	-40 to +85°C (no freezing)
Mounting	DIN rail/panel mounting (*1)
Degree of Protection	IP30
Weight (approx.)	250g

*1: Optional accessory is necessary for panel mounting.

KEY FEATURES

- 8-Port 10/100Mbps Fast Ethernet
- Supports QoS Function
- Supports IGMP Snooping Function
- Extreme Operating Temperature Range: -40 to +75 ˚C
- Redundant Power Input Design
- Broadcast Storm Protection
- Rugged Metal Housing
- IP30 Protection
- UL Class I Div 2 Certified (July 2021)

SX5E Ethernet Switch

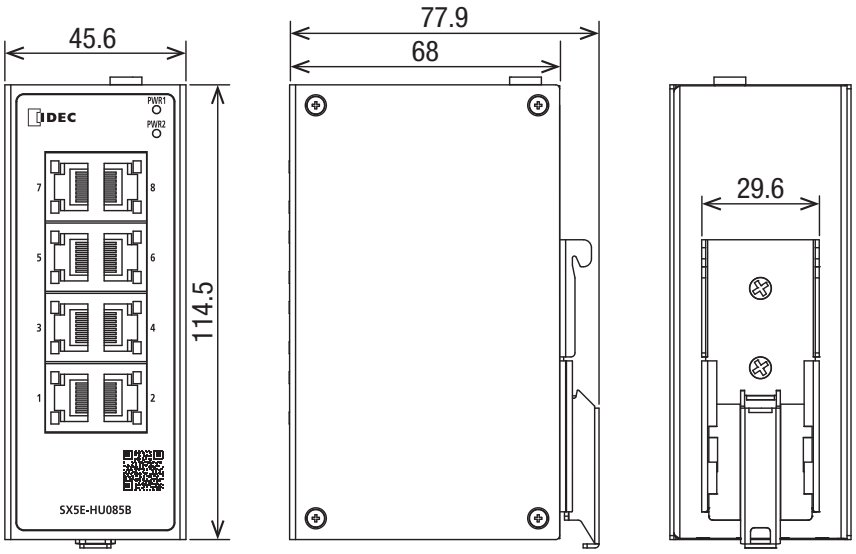
PART NUMBERS

Model	Part Number
8 port Ethernet Switch 	SX5E-HU085B

ACCESSORIES

Model	Part Number	Package Quantity
RJ45 connector cover (IP30) 	SX9Z-CAP2PN02	2
Direct mounting bracket 	SX9Z-1A01	1
Power Supply Terminal Block 	SX9Z-PMTD04PN02	2

DIMENSIONS (mm)



ALSO AVAILABLE IN 5-PORT STANDARD MODEL

SX5E 5-PORT UNMANAGED INDUSTRIAL ETHERNET SWITCH

Fast with compact industrial-grade design and rugged metal housing.

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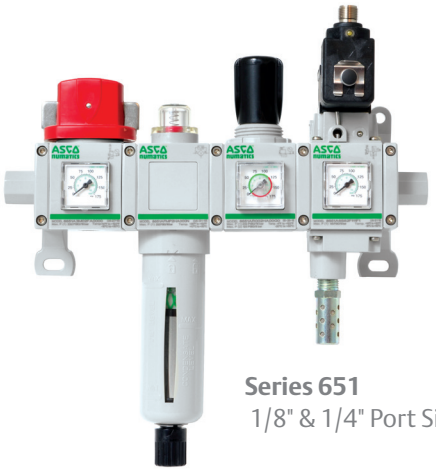
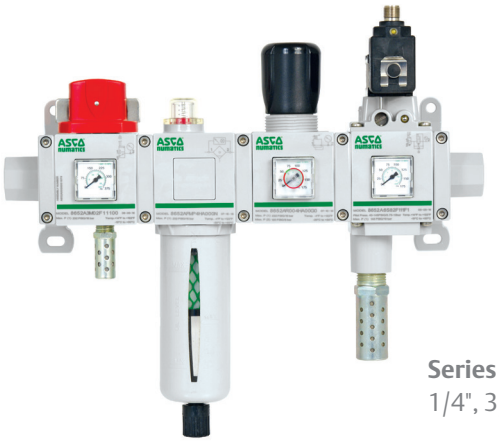
ASCO Numatics™ Series 651/652/653

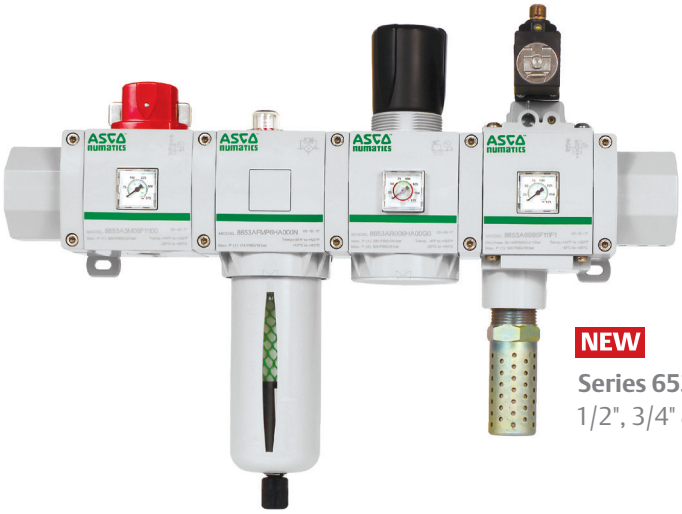
Modular Filters Regulators and Lubricators



Series 651
1/8" & 1/4" Port Sizes



Series 652
1/4", 3/8" & 1/2" Port Sizes



NEW

Series 653
1/2", 3/4" & 1" Port Sizes

Features & Benefits:

- Highest in-class flows in the industry
- Modular construction with body-to-body clamps and end plates offers mounting versatility and enables quick product replacement while leaving piping in place
- Several filtration options
- Extended temperature range capabilities
  -40˚F to 176˚F (-40˚C to 80˚C)
- Low profile gauge with optional pressure range indicators for a compact, modern appearance
- Same-day shipping for common products and 3-day shipping for common manifolds

Flow Specifications:

Series		651	652	653
Port Sizes, in		⅛, ¼	¼, ⅜, ½	½, ¾, 1
Particulate Filter/ Regulator Nominal Flow, SCFM (L/min ANR) – Per ISO 6358 25µm	⅛	25.8 (730)		
	¼	83.4 (2360)	144.2 (4120)	
	⅜		189.7 (5420)	
	½		192.5 (5500)	278.9 (7900)
	¾			317.1 (9000)
	1			353.1 (10000)

For more information:
www.asco.com

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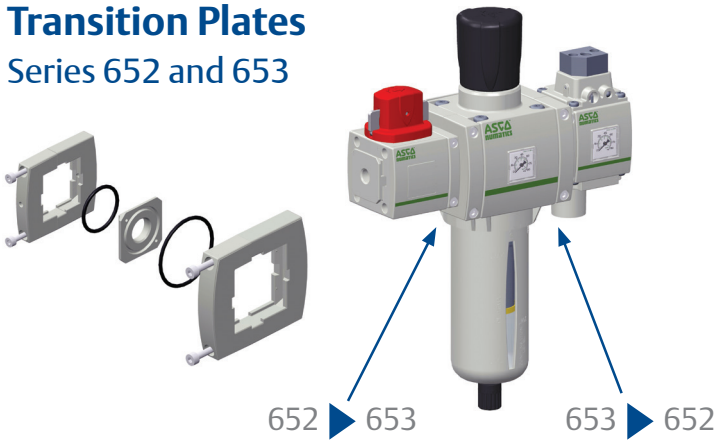
EMERSON™

Transition Plates
Series 652 and 653

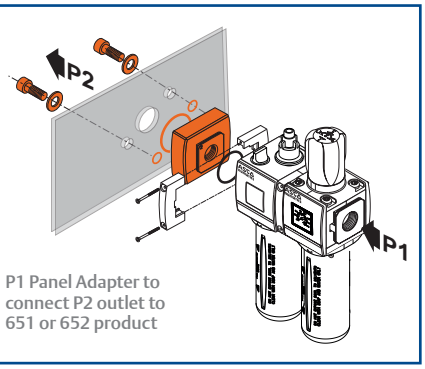


- Enables components from Series 652 and 653 to be mounted together
- Primary Use: Inserting a Series 653 coalescing filter within a Series 652 assembly to boost the flow rate of the entire assembly
  - Provides flexibility
  - Cost and space reduction

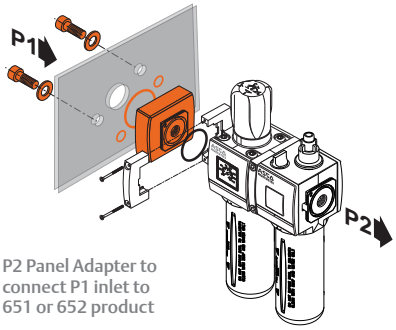
High Flow Coalescing Filter
Series 653

- High Flow - Up to 271 SCFM (7,700 L/min)
- 653 High Flow Coalescer optimizes overall 653 manifold flow; use transition adapters to step up from 652 to 653 when needed
- Less pressure drop, meaning less air being consumed, saving energy costs

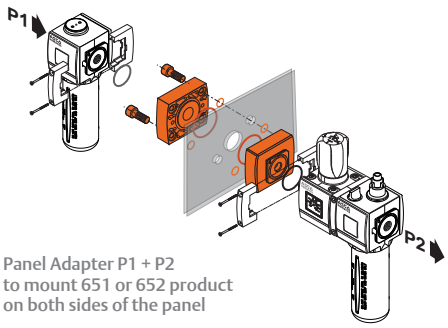
Panel Adapter Kits:
Series 651 & 652



P1 Panel Adapter to connect P2 outlet to 651 or 652 product



P2 Panel Adapter to connect P1 inlet to 651 or 652 product



Panel Adapter P1 + P2 to mount 651 or 652 product on both sides of the panel

- Provides the ability to mount Series 651 or 652 FRL components and assemblies to panels and enclosures and maintain the environmental rating of the end user product
  - UL certified as environment-rated accessories for enclosures
  - ANSI/UL50, UL50E: Type 1 and 4; IEC60529: IP66
- Flexibility in mounting
- Cost and space savings
- Environmentally protected components

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Industrial Entry Level Managed Switches

- EKI-5525I-AE - 5 - port 10/100 Industrial Proview C1D2 ATEX -40 to 75 C
  (Communicates with SCADA software via Modbus/TCP)
- EKI-5526I-AE - 16 - port 10/100 Industrial Proview C1D2 ATEX -40 to 75 C
  (Communicates with SCADA software via Modbus/TCP)
- EKI-5726I-AE - 16 - port - 10/100/1000 Industrial ProView C1D2 ATEX -40 to 75 C
  (Communicates with SCADA software via Modbus/TCP)
- EKI-5729FI-AE - 8GE+2G SFP 10/100/1000 Industrial ProView C1D2 ATEX -40 to 75 C
  (Communicates with SCADA software via Modbus/TCP)




Managed Ethernet Switch

- EKI-7706G-2FI-AE - 4GE+2G SFP Managed Ethernet Switch -40 to 85 C
- EKI-7710G-2CI-AU - 8GE+2G Managed Ethernet Switch -40 to 75 C
- EKI-7712G-4FI-AU - 8GE+4G SFP Managed Ethernet Switch -40 to 75 C



SFP Accessories

- SFP-GMM-550 - 850nm multi-mode 550 meters
- SFP-GMM-2K - 1310nm multi-mode 2km
- SFP-GSM-20K - 1310nm single-mode 20km
- SFP-GTX - RJ45 10/100/1000 100m