Industrial Ethernet Switches

Product Selection Guide

2017/2018

atop Technologies

INDUSTRIAL NETWORKING FEATURES

- Wide range to fully equip various vertical markets
- Switches that support up to 24 PoE/PoE+ ports
- Advanced features: Layer-2 or Layer-3
- Layer-2 or Layer-3, advanced features
- Managed and Unmanaged Switches
- 10Gb Fiber Backbone connectivity
- Profinet CC-B v2.33 certified and Ethernet/IP Ready
- DIN-Rail & Rack-mount Modular designs, IP67-rated designs
- Market-Specific certifications
- Wide temperature ranges

Product	Industrial Ethernet Switches		
Vertical Market	Power Substation IEC61850-3	Transportation and ITS	Factory Automation, Smart Cities
Configurability	Managed	Managed / Unmanaged	Managed
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Smart Grid and Substation Automation

Industrial Networking for the power network

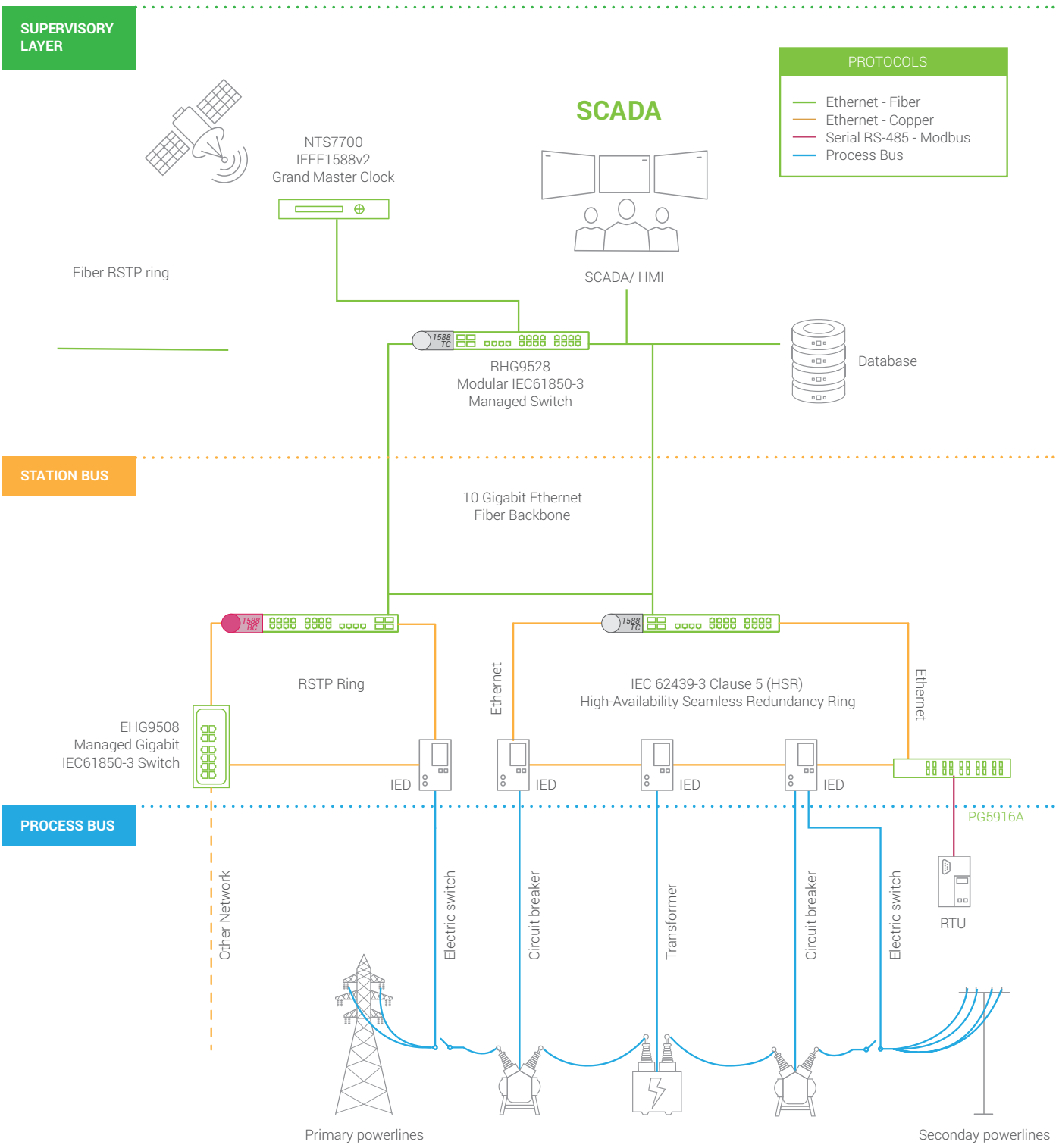
Over the decades, various communication protocols have been developed to manage power grid networks and their components such as control centers, RTUs, and IEDs. The result has been different standards being adopted and used by numerous countries around the world. Distributed Network Protocol (DNP 3) has became the standard adopted in North America. Europe has relied mainly on IEC 60870-5 101/103/104, with much of the world using Modbus protocol, due to its openness and ease.

To simplify all of this, IEC 61850 was developed to provide a standard communication protocol for electrical substations and power grid automation. Specializing its domain knowledge in electrical power grid systems, IEC 61850 is an object-oriented protocol that uses a data modeling scheme to clearly describe each component of a power grid or substation as standard logical nodes — such as object processes, protection, control, and functionality.

This specialization enables data access to the power grid system to yield more details. And to further improve reliability and performance, IEC 61850 Part 3 also specifies the hardware and network suitability requirements — such as electromagnetic immunity (EMI), surge protection, vibration and shock resistance, and the temperature range in which devices must be able to function. **ATOP's switches comply with these specifications.**

IEC 61850-3 Device Compliancy Specifications

a. Operate in a temperature range from -40°C to 85°C.
b. Be capable of reliably handling long distance transmissions through Fiber optic connectivity.
c. Guarantee QoS (Quality of Service) management and real-time packet switching for GOOSE event messages.
d. Guarantee a level of redundancy that minimizes packet loss. Ring topologies should be supported, and zero-packet-loss technologies such as HSR (High availability Seamlessly Redundancy) or PRP (Parallel Redundancy Protocol) are strongly recommended to be supported. ATOP's devices support RSTP (Rapid Spanning-Tree Protocol) and ERPS rings. When equipped with HSR/PRP modules, our Innovative RHG9528 switch can guarantee no loss of GOOSE packets.
e. Have a wide tolerance for vibrations and shocks. ATOP's MIL-STD-810F device fully complies.
f. Have tough electromagnetic immunity and comply with emission standards. For example, PoE is restricted in IEC 61850-3.
g. Have at least Level 3 EMC protection; have at least Level 4 ESD, EFT and Surge protection; and have at least Level 5 PFMF and Damped Oscillatory Magnetic Field immunity.



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IEC61850-3 Certified Managed Switches

	DIN-Rail Mount		Rack-mount, Modular		
					
General Information	NEW!	NEW!	18-Q3	18-Q3	18-Q3
Model Number	EHG9508-2SFP	EHG9512-4SFP	RHG9528-CPU-X	RHG9528-CPU-BC-X	RHG9528-CPU-BC-SE-X
Modular Design					
Gigabit Copper Module	N/A	N/A	Yes	Yes	Yes
Gigabit Fiber Module	N/A	N/A	Yes	Yes	Yes
Number of ports					
Total number of ports	8	12	28 (Max)	28 (Max)	28 (Max)
10 Gigabit Ethernet SFP	-	-	4 (Max)	4 (Max)	4 (Max)
Gigabit Ethernet	8	12	28 (Max)	28 (Max)	28 (Max)
10/100/1000BaseT(X)	6	8	24 (Max)	24 (Max)	24 (Max)
100/1000Base-X SFP	-	-	24 (Max)	24 (Max)	24 (Max)
1000Base-X SFP	2	4	28 (Max)	28 (Max)	28 (Max)
1PPS output BNC	-	-	-	1	1
Power Supply input					
24~57 VDC	Yes	Yes	Yes	Yes	Yes
110~220 VAC	Yes	Yes	Yes	Yes	Yes
100~370 VDC	Yes	Yes	Yes	Yes	Yes
Relay Output	2	2	2	2	2
Installation Options					
DIN-Rail Mount	Yes	Yes	-	-	-
19" Rack Mount	-	-	Yes	Yes	Yes
Field Mount	Optional	Optional	-	-	-
Ingress Protection	IP30	IP30	IP30	IP30	
Supported Operating Tempratures					
-40/85 Celsius	Yes	Yes	Yes	Yes	Yes
Network Redundancy					
STP/RSTP/MSTP	Yes	Yes	Yes	Yes	Yes
HSR/PRP	-	-	Yes (with Module)	Yes (with Module)	Yes (with Module)
ITU-T G.8032 ERPS Ring	Yes	Yes	Yes	Yes	Yes
MRP (Client)	Yes	Yes	Yes	Yes	Yes
Precision Timing					
IEEE1588v2 Hardware-based E2E TC	Yes	Yes	Yes	Yes	Yes
IEEE1588v2 Hardware-based BC/full TC	-	-	-	Yes	Yes
IEEE1588v2 Software-based BC	Yes	Yes	Yes	-	-
Synchronous Ethernet (SyncE)	-	-	-	-	Yes
BC holdover accuracy	-	-	-	4 microsec/day	4 microsec/day
Management					
SNMPv1/v2c/v3	Yes	Yes	Yes	Yes	Yes
Ethernet/IP	Yes	Yes	Yes	Yes	Yes
Modbus TCP	Yes	Yes	Yes	Yes	Yes
Profinet CC-B	Compatible	Compatible	Compatible	Compatible	Compatible
IEEE802.1ad LACP Port Trunking	Yes	Yes	Yes	Yes	Yes
IEEE802.1p QoS	Yes	Yes	Yes	Yes	Yes
IEEE802.1q VLAN	Yes	Yes	Yes	Yes	Yes
IEEE802.1x for Authentication	Yes	Yes	Yes	Yes	Yes
IGMPv1/v2/v3/ IGMP Snooping	Yes	Yes	Yes	Yes	Yes
DHCP Option 66/67/82	Yes	Yes	Yes	Yes	Yes
IPv4/IPv6	Yes	Yes	Yes	Yes	Yes
ACLs	Yes	Yes	Yes	Yes	Yes
GARP, GVRP, GMRP	Yes	Yes	Yes	Yes	Yes
Layer-3 Switching (Static, RIP, OSPF)	-	-	-	-	-
Compliance					
UL60950-1	-	-	-	-	-
EN60950-1	-	-	Yes	Yes	Yes
UL61010-2-201	Yes	Yes	-	-	-
IEC61850-3 / IEEE1613	Yes	Yes	Yes	Yes	Yes
DNVGL (Former KEMA)	-	-	Yes	Yes	Yes
EN50155/ EN50121-4	-	-	-	-	-

Railway and Traffic Control Made Easy

Industrial Networking for transportation

Defining certain criteria that network devices must comply with when installed on trains, EN 50155 is widely recognized as a standard for electronic equipment in railway applications.

EN 50155 specifies hardware product compliance. Such compliancy includes a wide temperature range; humidity, shock, and vibration resistance; power supply, electromagnetic interference, power surge, electrostatic discharge (ESD) and transient factors.

Complying with EN50155 and with the essential sections of EN50121-4 for ground equipment, ATOP's railway-certified switches are powerful industrial ethernet switches with advanced features that are encased in robust and reliable housing, making them **highly suitable for use in signal control networks and on-board applications.**

Selected products are **NEMA TS-2 certified, allowing them to be used in the most demanding of traffic control applications**.

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Mechanical requirements

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- **Rolling stock**

  - Vibration: Category < 0.3 Kg
  - Frequency range: 5 – 150 Hz
  - Acceleration: 5g
  - Shock (half sinus): Long/ Trans. /Vert Axis - Peak acceleration: 5g/2g/1g
  - Duration: 50 ms / 20 ms / 20 ms

- **Ground equipment** N/A

Temperature Requirements

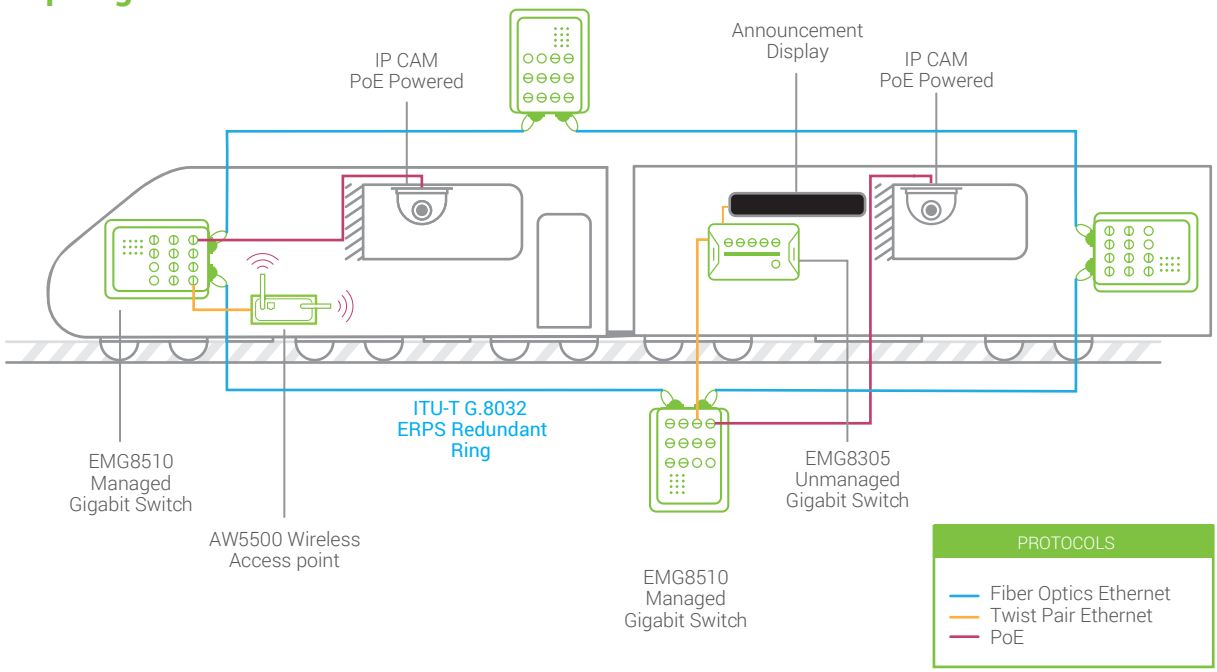
Category	Internal cabinet temperature range	Ambient board temperature range	GAIA converter modules temperature range
T1	-25/55 °C	-25/70 °C	Industrial line: -40/71 °C ambient
T2	-40/55 °C	-40/70 °C	Industrial line: -40/71 °C ambient
T3	-25/70 °C	-25/85 °C	Hi-rel line: -40/85 °C ambient
T4	-40/70 °C	-40/85 °C	Hi-rel line: -40/85 °C ambient

Humidity EN50155 2 x 25h 40

Electromagnetic compatibility

- CE; FCC
- 24 VDC: 500 Veff/ 50 Hz/ 1 min
- 48 VDC: 500 Veff/ 50 Hz/ 1 min
- 72~125 VDC : 1,000 Veff/ 50 Hz/ 1 min
- 125~315 V: 1,500 Veff/ 50 Hz/ 1 min
- For other details refer to EN50155

Possible topologies



Transportation Switches

			Managed Layer-2 Switch				
							
General Information		NEW!				NEW!	NEW!
Model Number	EH7310-X	EMG8305	EH7506	EH7508	EH7512	EHG7504	EHG7508
Number of ports							
Total number of ports	10	5	6	8	12	4	8
Fast Ethernet 10/100 BaseT(X)	8	-	4	4	8	-	-
Gigabit 10/100/1000 BaseT(X)	(2)	5 (M12)	-	(4)	(4)	Max 4	Max 8
Gigabit 1000Base-X SFP	(2)	-	-	-	-	Max 4	Max 4
Gigabit 100/1000Base-X SFP	-	-	2	(4)	(4)	-	-
PoE/PoE+ ports	-	-	Max 4	Max 4	Max 8	Max 4	Max 8
Power Supply input							
9~57 VDC (PoE requires min 45 VDC)	-	-	Dual	Dual	Dual	Dual	Dual
18~30 VDC	-	-	-	-	-	-	-
12~48 VDC	Dual	Dual	Dual	Dual	Dual	Dual	Dual
12~57 VDC (PoE requires min 45 VDC)	-	-	Dual	Dual	Dual	Dual	Dual
50~145 VDC	-	-	-	-	-	-	-
Relay Output	2	-	2	2	2	2	2
Installation Options							
DIN-Rail Mount	Yes	Optional	Yes	Yes	Yes	Yes	Yes
19" Rack Mount	-	-	-	-	-	-	-
Field Mount	Optional	Yes	Optional	Optional	Optional	Option	Optional
Ingress Protection	IP30	IP67	IP30	IP30	IP30	IP30	IP30
Supported Operating Tempratures							
-20/70 Celsius	Yes	Yes	Yes	Yes	Yes	Yes	Yes
-25/60 Celsius	-	-	-	-	-	-	-
-40/75 Celsius	Yes	Yes	-	-	-	-	-
Network Redundancy							
STP/RSTP/MSTP	-	-	Yes	Yes	Yes	Yes	Yes
ITU-T G.8032 ERPS Ring	-	-	Yes	Yes	Yes	Yes	Yes
MRP (Client)	-	-	Yes	Yes	Yes	Yes	Yes
Precision Timing							
IEEE1588v2 Hardware-based E2E TC	-	-	Yes	Yes	Yes	Yes	Yes
IEEE1588v2 Software-based BC	-	-	Yes	Yes	Yes	Yes	Yes
Synchronous Ethernet (SyncE)	-	-	-	-	-	-	-
Management							
SNMPv1/v2c/v3	-	-	Yes	Yes	Yes	Yes	Yes
Ethernet/IP	-	-	Yes	Yes	Yes	Yes	Yes
Modbus TCP	-	-	Yes	Yes	Yes	Yes	Yes
Profinet CC-B	-	(only 802.1p)	Certified	Certified	Certified	Certified	Certified
IEEE802.1ad LACP Port Trunking	-	-	Yes	Yes	Yes	Yes	Yes
IEEE802.1p QoS	-	-	Yes	Yes	Yes	Yes	Yes
IEEE802.1q VLAN	-	-	Yes	Yes	Yes	Yes	Yes
IEEE802.1x for Authentication	-	-	Yes	Yes	Yes	Yes	Yes
IGMPv1/v2/v3/ IGMP Snooping	-	-	Yes	Yes	Yes	Yes	Yes
DHCP Option 66/67/82	-	-	Yes	Yes	Yes	Yes	Yes
IPv4/IPv6	-	-	Yes	Yes	Yes	Yes	Yes
ACLs	-	-	Yes	Yes	Yes	Yes	Yes
GARP, GVRP, GMRP			Yes	Yes	Yes	Yes	Yes
Layer-3 Switching (Static, RIP, OSPF)	-	-	-	-	-	-	-
Mechanical							
Housing	Metal	Aluminum	Metal	Metal	Metal	Metal	Metal
Dimensions (mm)	53 x 146 x 120	106 x 196 x 48	60 x 138 x 164	60 x 138 x 164	60 x 138 x 164	54 x 113 x 145	54 x 113 x 145
Compliance							
UL60950-1	Yes	-	Yes	Yes	Yes	Yes	Yes
EN60950-1	Yes	Yes	Yes	Yes	Yes	Yes	Yes
UL61010-2-201	-	Yes	-	-	-	-	-
IEC61850-3 / IEEE1613	-	-	-	-	-	-	-
DNV.GL (Former KEMA)	-	-	-	-	-	-	-
NEMA TS2	-	-	Yes	Yes	Yes	Yes	Yes
EN50155/ EN50121-4	Yes	Yes	-	-	-	Yes	Yes

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Transportation Switches

	Managed L2 Switch		Managed L3 Switch	
				
General Information	NEW!	NEW!	NEW!	NEW!
Model Number	EMG8508	EMG8510	EHG7604	EHG7608
Number of ports				
Total number of ports	8	10	4	8
Fast Ethernet 10/100 BaseT(X)	-	-	-	-
Gigabit 10/100/1000 BaseT(X)	8 (M12)	8 (M12)	Max 4	Max 8
Gigabit 1000Base-X SFP	-	2	Max 4	Max 4
Gigabit 100/1000Base-X SFP	-	-	-	-
PoE/PoE+ ports	Max 8	Max 8	Max 4	Max 8
Power Supply input				
9~57 VDC (PoE requires min 45 VDC)	-	-	Dual	Dual
18~30 VDC	-	-	-	-
12~48 VDC	Dual	Dual	Dual	Dual
12~57 VDC (PoE requires min 45 VDC)	Dual	Dual	Dual	Dual
50~145 VDC	Dual	Dual	-	-
Relay Output	2	2	2	2
Installation Options				
DIN-Rail Mount	Optional	Optional	Yes	Yes
19" Rack Mount	-	-	-	-
Field Mount	Yes	Yes	Option	Optional
Ingress Protection	IP67	IP67	IP30	IP30
Supported Operating Tempratures				
-20/70 Celsius	Yes	Yes	Yes	Yes
-25/60 Celsius	-	-	-	-
-40/75 Celsius	Yes	Yes	-	-
Network Redundancy				
STP/RSTP/MSTP	Yes	Yes	Yes	Yes
ITU-T G.8032 ERPS Ring	Yes	Yes	Yes	Yes
MRP (Client)	Yes	Yes	Yes	Yes
Precision Timing				
IEEE1588v2 Hardware-based TC	Yes	Yes	Yes	Yes
IEEE1588v2 Software-based BC	Yes	Yes	Yes	Yes
Synchronous Ethernet (SyncE)	-	-	-	-
Management				
SNMPv1/v2c/v3	Yes	Yes	Yes	Yes
Ethernet/IP	Yes	Yes	Yes	Yes
Modbus TCP	Yes	Yes	Yes	Yes
Profinet CC-B	Compatible	Compatible	Compatible	Compatible
IEEE802.1ad LACP Port Trunking	Yes	Yes	Yes	Yes
IEEE802.1p QoS	Yes	Yes	Yes	Yes
IEEE802.1q VLAN	Yes	Yes	Yes	Yes
IEEE802.1x for Authentication	Yes	Yes	Yes	Yes
IGMPv1/v2/v3/ IGMP Snooping	Yes	Yes	Yes	Yes
DHCP Option 66/67/82	Yes	Yes	Yes	Yes
IPv4/IPv6	Yes	Yes	Yes	Yes
ACLs	Yes	Yes	Yes	Yes
GARP, GVRP, GMRP	Yes	Yes	Yes	Yes
Layer-3 Switching (Static, RIP, OSPF)	-	-	Yes	Yes
Mechanical				
Housing	Aluminum	Aluminum	Metal	Metal
Dimensions (mm)	216 x 232 x 72	216 x 232 x 72	54 x 113 x 145	54 x 113 x 145
Compliance				
UL60950-1	-	-	Yes	Yes
EN60950-1	Yes	Yes	Yes	Yes
UL61010-2-201	Yes	Yes	-	-
IEC61850-3 / IEEE1613	-	-	-	-
DNVGL (Former KEMA)	-	-	-	-
NEMA TS2	-	-	Yes	Yes
EN50155/ EN50121-4	Yes	Yes	Yes	Yes

ATOP's Industrial Networking Products

Entry Level

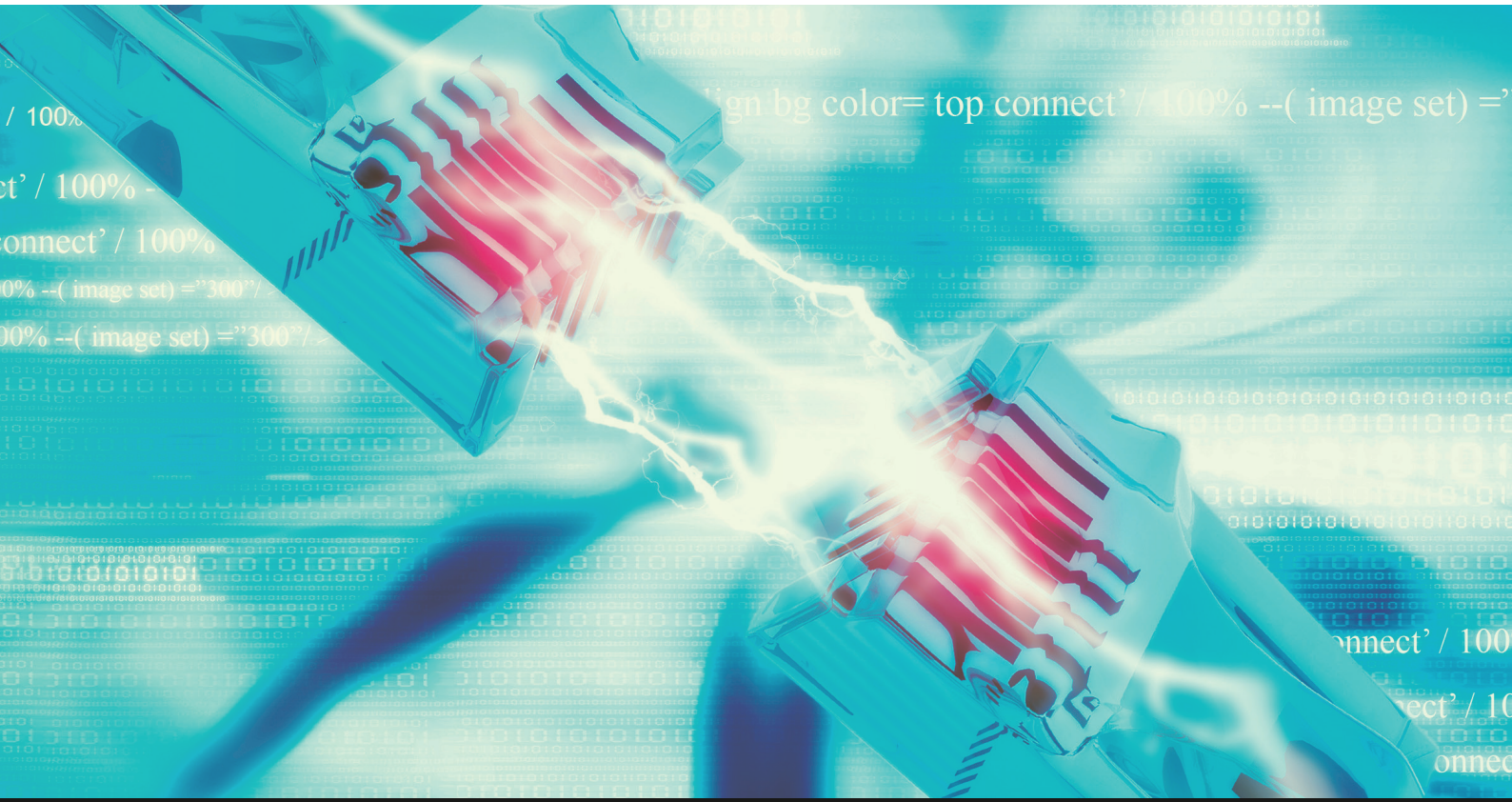
ATOP's entry level din-rail mount Unmanaged Switches offer a reliable, robust but cost-effective solution for simple network topologies. IP30-rated, **all of them are certified for Industrial EMC** (EN61000-6-4 and EN61000-6-2). They're built with either plastic, steel or aluminum housing to suit different application environments and budgets. They operate in temperatures ranging from -10°C to 70°C, with units with plastic housing supporting an operating range of 0°C to 60°C. For enhanced safety and backup, redundant power supplies feature on every model. Our products feature 4 to 8 Fast Ethernet or Gigabit Ethernet ports. Selected versions have single-mode or multi-mode Fiber optic uplink, and selected versions feature Power over Ethernet (PoE) and Gigabit speeds.

Harsh Environments

ATOP's most advanced product line offers hundreds of different possible configurations. Our Harsh environment switches are the best choice to support highly demanding networks – and in highly demanding environments. **They feature 4 to 28 Fast Ethernet, Gigabit or 10 Gigabit ports**, an operating temperae range from -20°C to 70°C or wider, PoE/PoE+ ports, Relay Output, Redundant power input, Ethernet/IP, Profinet Packet Prioritization (for Unmanaged Switches), and **Profinet CC-B v2.33 certification** (Managed Switches). Selected products offer MIL-STD shock and vibration certification, and performance in high humidity and operating temperatures of -40°C to 75°C.

ATOP's Layer-2 Managed Switches enable **advanced network management**, with features to maximize network performance and minimize downtimes. **Our Managed Switches support ERPS, RSTP, STP and MSTP redundancy protocols,** enable Precision time Synchronization with IEEE1588 Precision Time Protocol, and will provide you the ability to manage networks efficiently by SNMP, Web, Telnet or Console. QoS, VLAN and many more functionalities allow bandwidth optimization, increased security and more.

Layer-3 Switches provide an ideal solution for scaling up industrial networks or large surveillance applications. They support IPv4 Static Routing, RIPv1 and RIPv2, OSPFv2, and multicast protocols such as PIM-DM, PIM-SM, DVMRP and IGMPv1, IGMPv2, and IGMPv3.



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Industrial Ethernet Switches

	Unmanaged Switches							
								
General Information								
Model Number	EH2005	EH2006	EH2305	EH2306	EH2308	EH2304-PR	EH2308-PR	EHG2308
Number of ports								
Total number of ports	5	6	5	6	8	4	8	8
Fast Ethernet 10/100 BaseT(X)	4	6	4	6	8	4	8	-
Fast Ethernet Fiber ports	1	-	1	-	-	-	-	-
Gigabit 10/100/1000 BaseT(X)	-	-	-	-	-	-	-	8
Gigabit 1000Base-X SFP	-	-	-	-	-	-	-	-
MACsec 802.1AE secure ports	-	-	-	-	-	-	-	-
PoE/PoE+ ports	-	-	-	-	-	-	-	-
Power Supply input								
9~30 VDC	Dual	Dual	Dual	Dual	Dual	Dual	Dual	Dual
9~48 VDC	-	-	-	-	Dual	Dual	Dual	Dual
12~52 VDC (PoE requires min 45 VDC)	-	-	-	-	-	-	-	-
48~57 VDC	-	-	-		-	-	-	-
Relay Output	-	-	-	-	-	-	-	-
Installation Options								
DIN-Rail Mount	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
19" Rack Mount	-	-	-	-	-	-	-	-
Field Mount	Optional	Optional	Optional	Optional	Optional	Optional	Optional	Optional
Ingress Protection	IP30	IP30	IP30	IP30	IP30	IP30	IP30	IP30
Supported Operating Tempratures								
0/60 Celsius	Yes	Yes	Yes	Yes	Yes	Yes	Yes	-
-10/70 Celsius	-	-	Yes	Yes	Yes	Yes	Yes	Yes
-40/70 Celsius	-	-	-	-	-	-	-	-
-40/75 Celsius	-	-	-	-	-	-	-	-
Network Redundancy								
STP/RSTP/MSTP	-	-	-					-
ITU-T G.8032 ERPS Ring	-	-	-					-
MRP (Client)	-	-	-					-
Precision Timing								
IEEE1588v2 Hardware-based TC	-	-	-					-
IEEE1588v2 Software-based BC	-	-	-					-
Management								
SNMPv1/v2c/v3	-	-	-	-	-	-	-	-
Ethernet/IP	-	-	-	-	-	-	-	-
Modbus TCP	-	-	-	-	-	-	-	-
Profinet CC-A	-	-	-	(only 802.1p)	(only 802.1p)	(only 802.1p)	(only 802.1p)	(only 802.1p)
IEEE802.1ad LACP Port Trunking	-	-	-	-	-	-	-	-
IEEE802.1p QoS	-	-	-	-	-	-	-	-
IEEE802.1q VLAN	-	-	-	-	-	-	-	-
IEEE802.1x for Authentication	-	-	-	-	-	-	-	-
IGMPv1/v2/v3 IGMP Snooping	-	-	-	-	-	-	-	-
DHCP Option 66/67/82	-	-	-	-	-	-	-	-
IPv4/IPv6	-	-	-	-	-	-	-	-
ACLs	-	-	-	-	-	-	-	-
GARP, GVRP, GMRP	-	-	-	-	-	-	-	-
Layer-3 Switching (Static, RIP, OSPF)	-	-	-	-	-	-	-	-
Mechanical								
Housing	Plastic	Plastic	Aluminum	Aluminum	Aluminum	Metal	Metal	Aluminum
Dimensions (mm)	45 x 90 x 80	45 x 90 x 80	45 x 90 x 78	45 x 90 x 78	45 x 90 x 78	22.5 x 110 x 78	45 x 110 x 90	45 x 90 x 78
Compliance								
UL60950-1	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
EN60950-1	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
UL61010-2-201	-	-	-	-	-	-	-	-
IEC61850-3 / IEEE1613	-	-	-	-	-	-	-	-
Atex Zone 2 - UL C1D2	-	-	-	-	-	-	-	-
EN50155/ EN50121-4	-	-	-	-	-	-	-	-

Industrial Ethernet Switches

	Unmanaged Switches						Smart Swithes	
								
General Information						NEW!	NEW!	NEW!
Model Number	EH7310	EHG7305	EHG7306	EHG7307	EHG6308	EMG8305	EHG2408	EHG2408-2SFP
Number of ports								
Total number of ports	10	5	6	7	8	5	8	8
Fast Ethernet 10/100 BaseT(X)	8	-	-	-	-	-	-	-
Fast Ethernet Fiber ports	(2)	-	-	-	-	-	-	-
Gigabit 10/100/1000 BaseT(X)	(2)	5	5	5	4 or 8	5 (M12)	8	6
Gigabit 1000Base-X SFP	(2)	-	1	2	0 or 4	-	-	2
MACsec 802.1AE secure ports	(2)	-	1	2	0 or 4	-	2	2 (SFP)
PoE/PoE+ ports	-	Max 4	Max 4	Max 4	4	-	-	-
Power Supply input								
9~30 VDC	Dual	-	-	-	-	-	Dual	Dual
9~48 VDC	Dual	-	-	-	-	Dual	Dual	Dual
12~52 VDC (PoE requires min 45 VDC)	-	Dual	Dual	Dual	-	-	-	-
48~57 VDC	-	-	-		Dual	-	-	-
Relay Output	2	1	1	1	1	-	-	-
Installation Options								
DIN-Rail Mount	Yes	Yes	Yes	Yes	Yes	Optional	Yes	Yes
19" Rack Mount	-	-	-	-	-	-	-	-
Field Mount	Optional	Optional	Optional	Optional	Optional	Yes	Option	Optional
Ingress Protection	IP30	IP30	IP30	IP30	IP30	IP67	IP30	IP30
Supported Operating Tempratures								
0/60 Celsius	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
-10/70 Celsius	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
-40/70 Celsius	Yes	Yes	Yes	Yes	-	Yes	-	-
-40/75 Celsius	Yes	-	-	-	-	Yes	-	-
Network Redundancy								
STP/RSTP/MSTP	-	-	-	-	-	-	-	-
ITU-T G.8032 ERPS Ring	-	-	-	-	-	-	-	-
MRP (Client)	-	-	-	-	-	-	-	-
Precision Timing								
IEEE1588v2 Hardware-based TC	-	-	-	-	-	-	-	-
IEEE1588v2 Software-based BC	-	-	-	-	-	-	-	-
Management								
SNMPv1/v2c/v3	-	-	-	-	-	-	-	-
Ethernet/IP	-	-	-	-	-	-	-	-
Modbus TCP	-	-	-	-	-	-	-	-
Profinet CC-A	-	-	-	-	-	(only 802.1p)	(only 802.1p)	(only 802.1p)
IEEE802.1ad LACP Port Trunking	-	-	-	-	-	-	-	-
IEEE802.1p QoS	-	-	-	-	-	-	-	-
IEEE802.1q VLAN	-	-	-	-	-	-	-	-
IEEE802.1x for Authentication	-	-	-	-	-	-	-	-
IGMPv1/v2/v3 IGMP Snooping	-	-	-	-	-	-	-	-
DHCP Option 66/67/82	-	-	-	-	-	-	-	-
IPv4/IPv6	-	-	-	-	-	-	-	-
ACLs								
GARP, GVRP, GMRP	-	-	-	-	-	-	-	-
Layer-3 Switching (Static, RIP, OSPF)	-	-	-	-	-	-	-	-
Mechanical								
Housing	Metal	Metal	Metal	Metal	Metal	Aluminum	Metal	Metal
Dimensions (mm)		32 x 90 x 110	45 x 90 x 110	45 x 90 x 110	53 x 146 x 120	106 x 196 x 48	--	--
Compliance								
UL60950-1	Yes	-	-	-	Yes	-	Yes	Yes
EN60950-1	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
UL61010-2-201	-	Yes	Yes	Yes	-	Yes	-	-
IEC61850-3 / IEEE1613	-	-	-	-	-	-	-	-
Atex Zone 2 - UL C1D2	-	Yes	Yes	Yes	-	-	-	-
EN50155/ EN50121-4	Yes	Yes	Yes	Yes	-	Yes	-	-

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Industrial Ethernet Switches

	Managed Layer-2 Fast-Ethernet Switches				Managed Layer-2 Gigabit Switches			
								
General Information							18-Q2	18-Q2
Model Number	EH7506	EH7508	EH7512	EH7520	EHG7504	EHG7508	EHG7512	EHG7516
Number of ports								
Total number of ports	6	8	12	20	4	8	12	16
Fast Ethernet 10/100 BaseT(X)	4	4	8	16	-	-	-	-
Fast Ethernet Fiber ports	2 (SFP)	-	-	-	-	-	-	-
Gigabit 10/100/1000 BaseT(X)	-	(4) combo	(4) combo	(4) combo	Max 4	Max 8	Max 8	Max 12
Gigabit 100/1000Base-X SFP		(4) combo	(4) combo	(4) combo			Max 8	Max 12
Gigabit 1000Base-X SFP	-				Max 4	Max 8	(4)	(4)
Gigabit 1/10 Gigabit Base-X	-	-	-	-	-	-	(4)	(4)
PoE/PoE+ ports	Max 4	Max 4	Max 8	Max 8	Max 4	Max 8	Max 8	Max 8
Power Supply input								
9~57 VDC (PoE requires min 45 VDC)	Dual	Dual	Dual	Dual	Dual	Dual	Dual	Dual
12~57 VDC (PoE requires min 45 VDC)	-	-	-	-	-	-	-	-
50~145 VDC	-	-	-	-	-	-	-	-
110~220 VAC	-	-	-	-	-	-	-	-
Relay Output	2	2	2	2	2	2	2	2
Installation Options								
DIN-Rail Mount	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
19" Rack Mount	-	-	-	-	-	-	-	-
Field Mount	Optional	Optional	Optional	Optional	Optional	Optional	Optional	Optional
Ingress Protection	IP30	IP30	IP30	IP30	IP30	IP30	IP30	IP30
Supported Operating Tempratures								
-20/70 Celsius	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
-40/70 Celsius	-	-	-	-	-	-	Yes	Yes
-40/75 Celsius	-	-	-	-	-	-	-	-
Network Redundancy								
STP/RSTP/MSTP	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
ITU-T G.8032 ERPS Ring	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
MRP (Client)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Precision Timing								
IEEE1588v2 Hardware-based TC	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
IEEE1588v2 Software-based BC	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Management								
SNMPv1/v2c/v3	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Ethernet/IP	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Modbus TCP	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Profinet CC-B	Certified	Certified	Certified	Certified	Certified	Certified	Compatible	Compatible
IEEE802.1ad LACP Port Trunking	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
IEEE802.1p QoS	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
IEEE802.1q VLAN	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
IEEE802.1x for Authentication	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
IGMPv1/v2/v3 IGMP Snooping	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
DHCP Option 66/67/82	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
IPv4/IPv6	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
ACLs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
GARP, GVRP, GMRP	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Layer-3 Switching (Static, RIP, OSPF)	-	-	-	-	-	-	-	-
Mechanical								
Housing	Metal	Metal	Metal	Metal	Metal	Metal	Metal	Metal
Dimensions (mm)	60 x 138 x 164	60 x 138 x 164	60 x 138 x 164	78 x 138 x 164	54 x 113 x 145	54 x 113 x 145	76 x 160 x 200	95 x 160 x 200
Compliance								
UL60950-1	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
EN60950-1	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
UL61010-2-201	-	-	-	-	-	-	-	-
NEMA TS2	Yes	Yes	Yes	-	Yes	Yes	-	-
Atex Zone 2 - UL C1D2	-	-	-	-	-	-	-	-
EN50155/ EN50121-4	-	-	-	-	Yes	Yes	-	-

Industrial Ethernet Switches

	Managed Layer-2 Gigabit Switches				Managed Layer-3 Gigabit Switches			
								
General Information	18-Q2	NEW!	NEW!	NEW!	NEW!	NEW!	18-Q2	18-Q2
Model Number	EHG7520	EMG8508	EMG8510	RHG7528	EHG7604	EHG7608	EHG7612	EHG7616
Number of ports								
Total number of ports	20	8	10	28 (Max)	4	8	12	16
Fast Ethernet 10/100 BaseT(X)	-	-	-	-	-	-	-	-
Fast Ethernet Fiber ports	-	-	-	-	-	-	-	-
Gigabit 10/100/1000 BaseT(X)	Max 16	8 (M12)	8 (M12)	28 (Max)	Max 4	Max 8	Max 8	Max 12
Gigabit 100/1000Base-X SFP	Max 16	-	-	24 (Max)			Max 8	Max 12
Gigabit 1000Base-X SFP	(4)	-	2		Max 4	Max 8	(4)	(4)
Gigabit 1/10 Gigabit Base-X	(4)	-	-	4 (Max)	-	-	(4)	(4)
PoE/PoE+ ports	Max 8	Max 8	Max 8	Max 24	Max 4	Max 8	Max 8	Max 8
Power Supply input								
9~57 VDC (PoE requires min 45 VDC)	Dual	-	-	Dual	Dual	Dual	Dual	Dual
12~57 VDC (PoE requires min 45 VDC)	-	Dual	Dual	-	-	-	-	-
50~145 VDC	-	Dual	Dual	-	-	-	-	-
110~220 VAC	-	-	-	Dual	-	-	-	-
Relay Output	2	2	2	2	2	2	2	2
Installation Options								
DIN-Rail Mount	Yes	Optional	Optional	-	Yes	Yes	Yes	Yes
19" Rack Mount	-	-	-	Yes	-	-	-	-
Field Mount	Optional	Yes	Yes	-	Optional	Optional	Optional	Optional
Ingress Protection	IP30	IP67	IP67	IP30	IP30	IP30	IP30	IP30
Supported Operating Tempratures								
-20/70 Celsius	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
-40/70 Celsius	-	Yes	Yes	Yes	-	-	Yes	Yes
-40/75 Celsius	-	Yes	Yes	Yes	-	-	-	-
Network Redundancy								
STP/RSTP/MSTP	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
ITU-T G.8032 ERPS Ring	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
MRP (Client)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Precision Timing								
IEEE1588v2 Hardware-based TC	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
IEEE1588v2 Software-based BC	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Management								
SNMPv1/v2c/v3	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Ethernet/IP	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Modbus TCP	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Profinet CC-B	Compatible	Compatible	Compatible	Compatible	Compatible	Compatible	Compatible	Compatible
IEEE802.1ad LACP Port Trunking	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
IEEE802.1p QoS	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
IEEE802.1q VLAN	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
IEEE802.1x for Authentication	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
IGMPv1/v2/v3 IGMP Snooping	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
DHCP Option 66/67/82	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
IPv4/IPv6	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
ACLs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
GARP, GVRP, GMRP	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Layer-3 Switching (Static, RIP, OSPF)	-	-	-	-	Yes	Yes	Yes	Yes
Mechanical								
Housing	Metal	Aluminum	Aluminum	Metal	Metal	Metal	Metal	Metal
Dimensions (mm)	95 x 160 x 200	216 x 232 x 72	216 x 232 x 72	440 x 44 x 340	54 x 113 x 145	54 x 113 x 145	76 x 160 x 200	95 x 160 x 200
Compliance								
UL60950-1	Yes	-	-	Yes	Yes	Yes	Yes	Yes
EN60950-1	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
UL61010-2-201	-	Yes	Yes	-	-	-	-	-
NEMA TS2	-	-	-	-	Yes	Yes	-	-
Atex Zone 2 - UL C1D2	-	Compatible	Compatible	-	-	-	-	-
EN50155/ EN50121-4	-	Yes	Yes	Yes	Yes	Yes	-	-

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Industrial Ethernet Switches

Managed Layer-3 Gigabit Switches

		
General Information	18-Q2	NEW!
Model Number	EHG7620	RHG7628
Number of ports		
Total number of ports	20	28 (Max)
Fast Ethernet 10/100 BaseT(X)	-	-
Fast Ethernet Fiber ports	-	-
Gigabit 10/100/1000 BaseT(X)	Max 16	28 (Max)
Gigabit 100/1000Base-X SFP	Max 16	24 (Max)
Gigabit 1000Base-X SFP	(4)	
Gigabit 1/10 Gigabit Base-X	(4)	4 (Max)
PoE/PoE+ ports	Max 8	Max 24
Power Supply input		
9~57 VDC (PoE requires min 45 VDC)	Dual	Dual
12~57 VDC (PoE requires min 45 VDC)	-	-
50~145 VDC	-	-
110~220 VAC	-	Dual
Relay Output	2	2
Installation Options		
DIN-Rail Mount	Yes	-
19" Rack Mount	-	Yes
Field Mount	Optional	-
Ingress Protection	IP30	IP30
Supported Operating Tempratures		
-20/70 Celsius	Yes	Yes
-40/70 Celsius	Yes	Yes
-40/75 Celsius	-	Yes
Network Redundancy		
STP/RSTP/MSTP	Yes	Yes
ITU-T G.8032 ERPS Ring	Yes	Yes
MRP (Client)	Yes	Yes
Precision Timing		
IEEE1588v2 Hardware-based TC	Yes	Yes
IEEE1588v2 Software-based BC	Yes	Yes
Management		
SNMPv1/v2c/v3	Yes	Yes
Ethernet/IP	Yes	Yes
Modbus TCP	Yes	Yes
Profinet CC-B	Compatible	Compatible
IEEE802.1ad LACP Port Trunking	Yes	Yes
IEEE802.1p QoS	Yes	Yes
IEEE802.1q VLAN	Yes	Yes
IEEE802.1x for Authentication	Yes	Yes
IGMPv1/v2/v3 IGMP Snooping	Yes	Yes
DHCP Option 66/67/82	Yes	Yes
IPv4/IPv6	Yes	Yes
ACLs	Yes	Yes
GARP, GVRP, GMRP	Yes	Yes
Layer-3 Switching (Static, RIP, OSPF)	Yes	Yes
Mechanical		
Housing	Metal	Metal
Dimensions (mm)	95 x 160 x 200	440 x 44 x 340
Compliance		
UL60950-1	Yes	Yes
EN60950-1	Yes	Yes
UL61010-2-201	-	-
NEMA TS2	-	-
Atex Zone 2 - UL C1D2	-	-
EN50155/ EN50121-4	-	Yes

...more information and datasheets available on Atop's website

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