



Substations & Smart Grid

— page 4

System Requirements:

- Compliance with IEC61850-3, ensuring the best EMI shielding and communication without error
- Communication redundancy: ERPS and compatible Ring, STP/RSTP/ MSTP/Master/Client
- Fiber optic uplinks for long-distance transmission, noise resistance, and huge bandwidth for upgrading
- Wide range of temperature support
- IEEE 1588 support
- Highest network availability in compliance with HSR/PRP.
- Security features based on IEEE 62443

Atop solution:

- EH95xx
- EHG95xx
- RHG95xx
- · RHG96xx















RAILWAY & TRANSPORTATION

— page 8

System requirements:

- PoE at/af support
- IP67 or IP30 enclosure
- EN50155 & IEC60571 for Rolling stock certificated
- EN50121-4 for trackside certificated
- EN45545-2 for Fire protection
- NEMA TS-2 & E-Mark certificated for traffic control applications
- DNV GL certified for marine application
- Security features based on IEEE 62443

Atop solution:

- EHG73xx
- RHG76xx
- EHG75xx
- EMG83xx
- EHG76xx
- EMG85xx

- RHG75xx
- EMG86xx























Industrial Automation & Process control

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System requirements:

- RSTP/ERPS... for network redundancy
- Wide range of operation temperature support
- Profinet CC-B certificated (EHG7504/08, EH75xx)
- Redundancy power supply
- Level-3 EMC protection
- IP30 metal housing with DIN-Rail /Wall mount (optional)
- Security features based on IEEE 62443 (Managed Switch)

Atop solution:

- EH20xx
- EHG75xx
- EH23xx
- EHG76xx
- EH33xx
- RHG75xx
- EHG64xx
- RHG76xx
- EHG65xx









OIL & GAS

— page 20

System Requirements:

- UL Class 1 Division 2 ATEX, and wide operating temperature capabilities
- Wide range of operation temperature support

Atop solution:

• FHG73xx









Substations & Smart Grid

Industrial Networking Solutions for the Power Industry

Over the decades, various utility communication protocols have been developed to manage power grid networks and their components such as control centers, RTUs, and IEDs. Due to which different standards are adopted and used abundantly around the world. Distributed Network Protocol (DNP 3), principally in North America has emerged to achieve open, standards based interconnectivity between substation computers, remote terminal units, intelligent electronic devices and master stations for the electric utility industry. On the other hand, Europe has relied mainly on IEC 60870-5 101/103/104 to send/receive values with time stamps, and use other commands, while much of the world used Modbus protocol, designed for data exchange of one-bit binary registers or 16-bit registers.

Thousands of manufacturers across the globe are using their own device of communications across wide spectrum of protocols. With many protocols, substations can't communicate with each other with regards to power transmission and distribution. With IEC 61850, developed to provide a standard defining communication protocol for electrical substations and power grid automation it enables integration of all protection, control, measurement and monitoring functions. By specializing its domain knowledge in electrical power grid systems, IEC 61850 works as 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. 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 require the device to:

- a. Operate in a temperature range from -40°C to 75°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. Guarantees 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/RHG9628 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.
- 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.

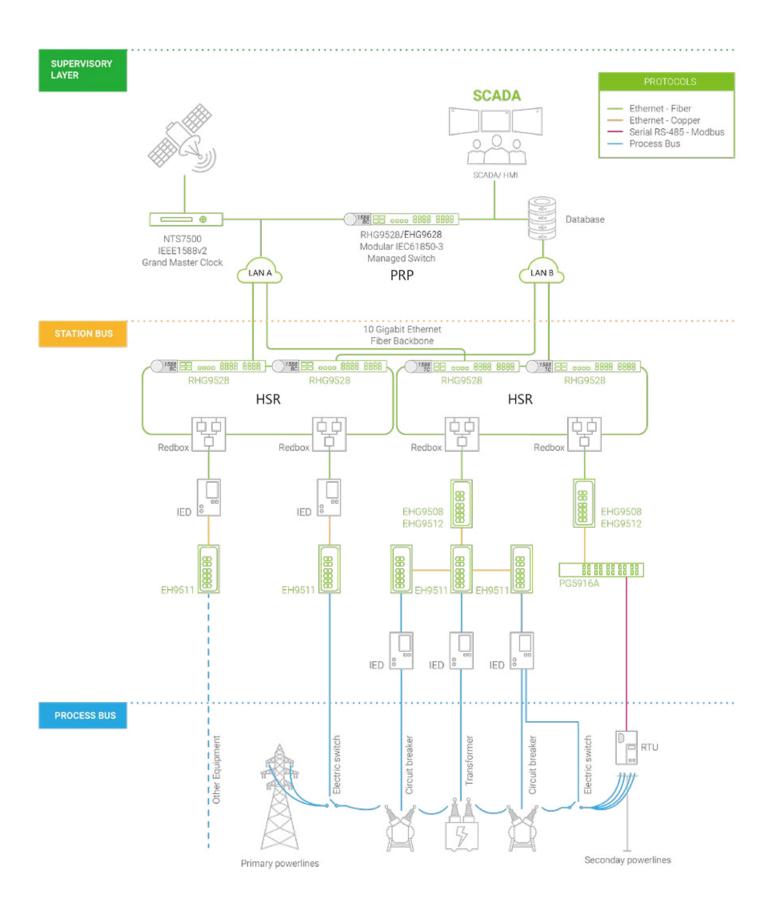














				Rack-mou	nt, Modular
	1	#			
Model Number	EH9511-3SFP	EHG9508-2SFP	EHG9512-4SFP	RHG9528-CPU-X RHG9628-CPU-X	RHG9528-CPU-X-BS RHG9628-CPU-X-BS
Modular Design					
Gigabit Copper Module				•	•
Gigabit Fiber Module				•	•
Number of ports					
Total number of ports	11	8	12	Max 28	Max 28
10 Gigabit Ethernet SFP	-	-	-	4	4
Gigabit Ethernet	3	8	12	Max 28	Max 28
10/100 BaseT(X)	8				
10/100/1000BaseT(X)	-	6	8	Max 24 Max 24	Max 24 Max 24
100/1000 Base-X SFP 1000Base-X SFP	3	-	4	Max 24 Max 28	Max 24 Max 28
HSR/PRP RJ45 ports or SFPs	-	2	-	Max 4	Max 4
1PPS output BNC	-	-	-	-	1
Power Supply input					
Power input	24-48VDC	24~57 VDC	24~57 VDC	24~120 VDC	24~120 VDC
	100~220 VAC	100~220 VAC or	100~220 VAC or	100~240 VAC or	100~240 VAC o
Power input (High-Voltage option)	100~370VDC	135~330VDC	135~330VDC	120~380VDC	120~380VDC
Power Redundancy	Dual input	Optional	Optional	•	•
Relay Output	•	•	•	•	•
Mechanical					
Housing	Metal	Metal	Metal	Metal	Metal
Installation	DIN-rail	DIN-rail	DIN-rail	Rack-mount	Rack-mount
Ingress Protection	IP30	IP30	IP30	IP30	IP30
Dimensions (L x W x H) mm	77 x 145 x 138	77 x 147 x 113	77 x 147 x 113	440 x 44 x 355	440 x 44 x 355
Supported Temperatures					
Operations Temperature	-40∼75° C	-40∼75° C	-40~75° C	-40∼75° C	-40~75° C
Storage Temperature	-40~85° C	-40~85° C	-40~85° C	-40~85° C	-40~75° C
Network Redundancy STP/RSTP/MSTP	•	•	•	•	•
HSR/PRP				with Module	with Module
ITU-T G.8032 ERPS Ring	•	•	•	•	•
Precision Timing					
	•	•	•	•	•
IEEE1588v2 Hardware-based E2E TC	•	•	•	•	
IEEE1588v2 Hardware-based BC/full TC					•
Synchronous Ethernet (SyncE) Hardware P2P TC					Optional
	•			•	•
SNMPv1/v2c/v3	•	•	•	•	•
Modbus TCP 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 L3 routing (static/RIP/OSPF/PIM/BGP)	•	•	•	RHG96xx only	RHG96xx only
				THI IGNOXX OHIY	TUDGAOXX OHIS
Compliance					
UL/EN/IEC(CB) 60950-1 and/or 62368-1				•	•
EN60950-1 and/or EN62368-1	•			•	•
UL61010-2-201	•	•	•	•	•



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Railway & Transportation

Industrial Networking for Railway, Public transportation and Marine

Railway and Trackside Made Easy

Industrial Networking for Railway transportation

Defining certain criteria that network devices must comply with when installed on trains include environmental, shock, power supply, vibration, power supply, humidity, electromagnetic interference, wide temperature range, EMC, power surge, electrostatic discharge (ESD) and transient factors.

EN 50155 is recognized internationally as a standard for covering electronic equipment in railway applications.

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.

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
ТЗ	-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



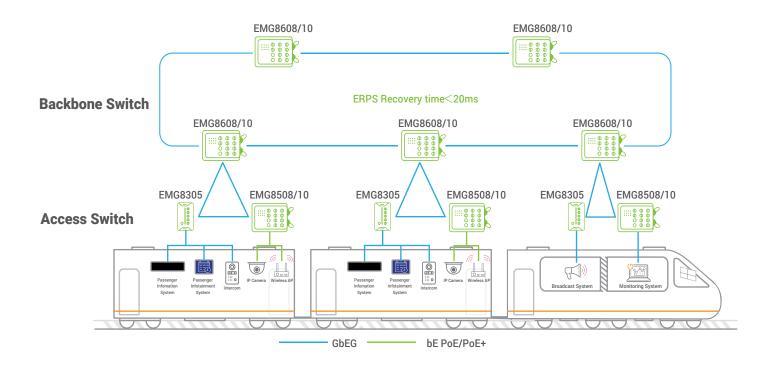


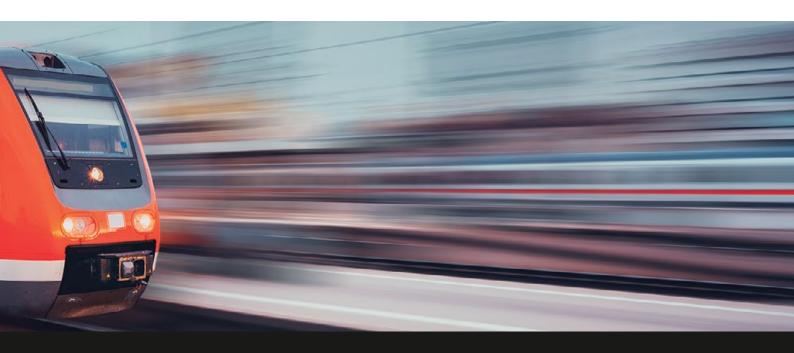






Possible topologies





Public transportation and Traffic Control

Industrial Networking for ITS

ATOP Fast-Ethernet and Gigabit Managed Switches obtained NEMA TS2 certification! NEMA TS2 is a standard for traffic control assemblies, such as traffic lights, emergency road condition signs and walk/don't walk signs. It is a fundamental standard for all devices that are to be used in smart cities in traffic management applications and in ITS (Intelligent Transportation System).

In our continuing endeavor to bring to our customers Industrial Networking products that have a wider range of Hardware platforms that are rich in features we are proud to announce an additional certification obtained by our Gigabit and Fast-Ethernet managed Switches.

NEMA TS2 is a standard for traffic control assemblies, such as traffic lights, emergency road condition signs and walk/don't walk signs. It is a fundamental standard for all devices that are to be used in smart cities in traffic management applications and in ITS (Intelligent Transportation System). The standard defines minimum requirements for resistance to high/low temperature, high humidity, vibration, and mechanical shock.



Marine

Networking solutions for the connected vessel

Det Norsek Veritas(DNV) and Germanischer Lloyd(GL) set standards for ships and offshore structure which comprise safety, reliability, and environmental requirements for the switch internationally.

Atop certified by DNV.GL for EHG9508/12 and EHG75 series Industrial Managed Gigabit Switch Series.









Number of ports				Unmanage	d Switches			Managed	aver-2 Gigat	it Switche
Mode Number		*		0.12	9.1	98	Bol	B!	R.	
Number of ports September		#				ää		6		
Number of ports										
Total number of ports	Model Number	EH2308	EHG7305	EHG7306	EHG7307	EHG6408	EMG8305	EH7506	EH7508	EH7512
Fast Ethernet TO/T00 Reser(P)	Number of ports									
Ggabit 10008ase XSP	Total number of ports	8	5	6	7	8	5	6	8	12
Gigaba to 1000 Base X SPP	Fast Ethernet 10/100 BaseT(X)	8	-	-	-	-	-	4	4	8
Gigabit 100/100/Basex SFP	- 1	-	5	5	5	8	5 (M12)	-	(4) combo	(4) comb
1/10 Gapahi SPP		-	-			-	-			-
PoseProfes - Max 4	0									(4) comb
Power input	~									-
Power input		-	Max 4	Max 4	Max 4	Max 8	-	Max 4	Max 4	Max 8
Prover input Prove	Power Supply input									
Power Redundancy Power Redun		9~48V					12~48V			9~57V (PoE from 4
Metal Meta										
Housing	*	•					•			•
Housing Aluminum Metal Metal Metal Metal DiN-rail										
Installation DIN-rail DIN-rail DIN-rail Ingress Protection IP30 I	Mechanical									
Ingress Protection	Housing	Aluminum	Metal	Metal	Metal	Metal	Aluminum	Metal	Metal	Metal
Dimensions (Lx W x H) mm										DIN-rail
Supported Temperature										IP30
Operations Temperature		40 X 90 X 70	32 X 90 X 110	40 X 90 X 110	40 X 90 X 110					
Storage Temperature						01/2110/2110	100 X 190 X 40	00 X 130 X 104	00 X 130 X 104	60 X 138 X
Network Redundancy STP/RSTP / MSTP										
STP/RSTP/MSTP	Operations Temperature	-10~70° C				-40~70° C	-40~75° C	-20~70° C	-20~70° C	-20~70°
MRP (Master/Client)	Operations Temperature	-10~70° C				-40~70° C	-40~75° C	-20~70° C	-20~70° C	-20~70°
MRP (Master/Client)	Operations Temperature Storage Temperature	-10~70° C				-40~70° C	-40~75° C	-20~70° C	-20~70° C	-20~70°
Protocols SNMPv1/v2c/v3 Modbus TCP Profinet CC-B IEEE802.1 ad LACP Port Trunking IEEE802.1 ay LACP IEEE802.1 ay LACP IEEE802.1 xy LACP IEEE1588 xy Hardware-based E2E TC IEEE1588 xy Hardware-based E2E TC IEEE1588 xy Hardware-based E2E TC IEEE158 xy Hardware-based	Operations Temperature Storage Temperature Network Redundancy	-10~70° C				-40~70° C	-40~75° C	-20~70° C -40~85° C	-20~70° C -40~85° C	-20~70°
SMMPV1/V2c/V3	Operations Temperature Storage Temperature Network Redundancy STP/RSTP/MSTP ITU-T G.8032 ERPS Ring	-10~70° C				-40~70° C	-40~75° C	-20~70° C -40~85° C	-20~70° C -40~85° C	-20~70° -40~85°
Modbus TCP	Operations Temperature Storage Temperature Network Redundancy STP/RSTP/MSTP ITU-T G.8032 ERPS Ring	-10~70° C				-40~70° C	-40~75° C	-20~70° C -40~85° C	-20~70° C -40~85° C	-20~70° -40~85°
Profinet CC-B IEEE802.1ad LACP Port Trunking IEEE802.1p QoS IEEE802.1 y VLAN IEEE802.1 x for Authentication IEEE802.1 x for Authentication IEEE1588v2 Hardware-based E2E TC DHCP Option 66/67/82 IPV4/IPv6 ACLs GARP, GVRP, GMRP Layer-3 Switching (Static, RIP, OSPF) Compliance UL/EN/IEC(CB) 60950-1 and/or 62368-1 EN COMPOSITION OF COMPLETE OF	Operations Temperature Storage Temperature Network Redundancy STP/RSTP/MSTP ITU-T G.8032 ERPS Ring MRP (Master/Client)	-10~70° C				-40~70° C	-40~75° C	-20~70° C -40~85° C	-20~70° C -40~85° C	-20~70° -40~85°
IEEE802.1ad LACP Port Trunking	Operations Temperature Storage Temperature Network Redundancy STP/RSTP/MSTP ITU-T G.8032 ERPS Ring MRP (Master/Client) Protocols	-10~70° C				-40~70° C	-40~75° C	-20~70° C -40~85° C	-20~70° C -40~85° C	-20~70° -40~85°
IEEE802.1p QoS	Operations Temperature Storage Temperature Network Redundancy STP/RSTP/MSTP ITU-T G.8032 ERPS Ring MRP (Master/Client) Protocols SNMPv1/v2c/v3 Modbus TCP	-10~70° C				-40~70° C	-40~75° C	-20~70° C -40~85° C	-20~70° C -40~85° C	-20~70° -40~85°
IEEE802.1 q VLAN	Operations Temperature Storage Temperature Network Redundancy STP/RSTP/MSTP ITU-T G.8032 ERPS Ring MRP (Master/Client) Protocols SNMPv1/v2c/v3 Modbus TCP	-10~70° C				-40~70° C	-40~75° C	-20~70° C -40~85° C	-20~70° C -40~85° C	-20~70° -40~85° (
IEEE802.1x for Authentication	Operations Temperature Storage Temperature Network Redundancy STP/RSTP/MSTP ITU-T G.8032 ERPS Ring MRP (Master/Client) Protocols SNMPv1/v2c/v3 Modbus TCP Profinet CC-B IEEE802.1ad LACP Port Trunking	-10~70° C				-40~70° C	-40~75° C	-20~70° C -40~85° C	-20~70° C -40~85° C	-20~70° -40~85°
IGMPV1/V2/V3/ IGMP Snooping	Operations Temperature Storage Temperature Network Redundancy STP/RSTP/MSTP ITU-T G.8032 ERPS Ring MRP (Master/Client) Protocols SNMPv1/v2c/v3 Modbus TCP Profinet CC-B IEEE802.1ad LACP Port Trunking IEEE802.1p QoS	-10~70° C				-40~70° C	-40~75° C	-20~70° C -40~85° C	-20~70° C -40~85° C	-20~70° -40~85°
EEEE1588v2 Hardware-based EZE TC	Operations Temperature Storage Temperature Network Redundancy STP/RSTP/MSTP ITU-T G.8032 ERPS Ring MRP (Master/Client) Protocols SNMPv1/v2c/v3 Modbus TCP Profinet CC-B IEEE802.1ad LACP Port Trunking IEEE802.1p QoS IEEE802.1q VLAN	-10~70° C				-40~70° C	-40~75° C	-20~70° C -40~85° C	-20~70° C -40~85° C	-20~70° -40~85°
DHCP Option 66/67/82 IPV4/IPV6 ACLs GARP, GVRP, GMRP Layer-3 Switching (Static, RIP, OSPF) Compliance UL/EN/IEC(CB) 60950-1 and/or 62368-1 EN60950-1 and/or EN62368-1 OLIGINO-2-201 Atex Zone 2 - UL C1D2 OLIGINATE OLIGINAT	Operations Temperature Storage Temperature Network Redundancy STP/RSTP/MSTP ITU-T G.8032 ERPS Ring MRP (Master/Client) Protocols SNMPV1/v2c/v3 Modbus TCP Profinet CC-B IEEE802.1ad LACP Port Trunking IEEE802.1p QoS IEEE802.1q VLAN IEEE802.1x for Authentication	-10~70° C				-40~70° C	-40~75° C	-20~70° C -40~85° C	-20~70° C -40~85° C	-20~70° -40~85°
IPV4/IPV6	Operations Temperature Storage Temperature Network Redundancy STP/RSTP/MSTP ITU-T G.8032 ERPS Ring MRP (Master/Client) Protocols SNMPV1/v2c/v3 Modbus TCP Profinet CC-B IEEE802.1ad LACP Port Trunking IEEE802.1p QoS IEEE802.1q VLAN IEEE802.1 v JCAN IEEE802.1 v For Authentication IGMPv1/v2/v3/ IGMP Snooping	-10~70° C				-40~70° C	-40~75° C	-20~70° C -40~85° C	-20~70° C -40~85° C	-20~70° -40~85°
ACLS GARP, GVRP, GMRP Layer-3 Switching (Static, RIP, OSPF) Compliance UL/EN/IEC(CB) 60950-1 and/or 62368-1 EN60950-1 and/or EN62368-1 OLIGINIA SWITCHING SWITCHIN	Operations Temperature Storage Temperature Network Redundancy STP/RSTP/MSTP ITU-T G.8032 ERPS Ring MRP (Master/Client) Protocols SNMPv1/v2c/v3 Modbus TCP Profinet CC-B IEEE802.1a d LACP Port Trunking IEEE802.1p QoS IEEE802.1q VLAN IEEE802.1x for Authentication IGMPv1/v2/v3/ IGMP Snooping IEEE1588v2 Hardware-based E2E TC	-10~70° C				-40~70° C	-40~75° C	-20~70° C -40~85° C	-20~70° C -40~85° C	-20~70° -40~85°
Compliance Com	Operations Temperature Storage Temperature Network Redundancy STP/RSTP/MSTP ITU-T G.8032 ERPS Ring MRP (Master/Client) Protocols SNMPv1/v2c/v3 Modbus TCP Profinet CC-B IEEE802.1ad LACP Port Trunking IEEE802.1p QoS IEEE802.1q VLAN IEEE802.1x for Authentication IGMPv1/v2/v3/ IGMP Snooping IEEE1588v2 Hardware-based E2E TC DHCP Option 66/67/82	-10~70° C				-40~70° C	-40~75° C	-20~70° C -40~85° C	-20~70° C -40~85° C	-20~70° -40~85°
Layer-3 Switching (Static, RIP, OSPF) Compliance UL/EN/IEC(CB) 60950-1 and/or 62368-1 • </td <td>Operations Temperature Storage Temperature Network Redundancy STP/RSTP/MSTP ITU-T G.8032 ERPS Ring MRP (Master/Client) Protocols SNMPv1/v2c/v3 Modbus TCP Profinet CC-B IEEE802.1ad LACP Port Trunking IEEE802.1p QoS IEEE802.1p VLAN IEEE802.1x for Authentication IGMPv1/v2/v3/ IGMP Snooping IEEE1588v2 Hardware-based E2E TC DHCP Option 66/67/82 IPv4/IPv6</td> <td>-10~70° C</td> <td></td> <td></td> <td></td> <td>-40~70° C</td> <td>-40~75° C</td> <td>-20~70° C -40~85° C</td> <td>-20~70° C -40~85° C</td> <td>-20~70° -40~85° </td>	Operations Temperature Storage Temperature Network Redundancy STP/RSTP/MSTP ITU-T G.8032 ERPS Ring MRP (Master/Client) Protocols SNMPv1/v2c/v3 Modbus TCP Profinet CC-B IEEE802.1ad LACP Port Trunking IEEE802.1p QoS IEEE802.1p VLAN IEEE802.1x for Authentication IGMPv1/v2/v3/ IGMP Snooping IEEE1588v2 Hardware-based E2E TC DHCP Option 66/67/82 IPv4/IPv6	-10~70° C				-40~70° C	-40~75° C	-20~70° C -40~85° C	-20~70° C -40~85° C	-20~70° -40~85°
Compliance UL/EN/IEC(CB) 60950-1 and/or 62368-1 •	Operations Temperature Storage Temperature Network Redundancy STP/RSTP/MSTP ITU-T G.8032 ERPS Ring MRP (Master/Client) Protocols SNMPv1/v2c/v3 Modbus TCP Profinet CC-B IEEE802.1a d LACP Port Trunking IEEE802.1p QoS IEEE802.1p VLAN IEEE802.1y for Authentication IGMPv1/v2/v3/ IGMP Snooping IEEE1588v2 Hardware-based E2E TC DHCP Option 66/67/82 IPv4/IPv6 ACLs	-10~70° C				-40~70° C	-40~75° C	-20~70° C -40~85° C	-20~70° C -40~85° C	-20~70° -40~85°
UL/EN/IEC(CB) 60950-1 and/or 62368-1 •	Operations Temperature Storage Temperature Network Redundancy STP/RSTP/MSTP ITU-T G.8032 ERPS Ring MRP (Master/Client) Protocols SNMPv1/v2c/v3 Modbus TCP Profinet CC-B IEEE802.1ad LACP Port Trunking IEEE802.1p QoS IEEE802.1 y VLAN IEEE802.1x for Authentication IEEE1588v2 Hardware-based E2E TC DHCP Option 66/67/82 IPV4/IPv6 ACLs GARP, GVRP, GMRP	-10~70° C				-40~70° C	-40~75° C	-20~70° C -40~85° C	-20~70° C -40~85° C	-20~70° -40~85°
EN60950-1 and/or EN62368-1	Operations Temperature Storage Temperature Network Redundancy STP/RSTP/MSTP ITU-T G.8032 ERPS Ring MRP (Master/Client) Protocols SNMPv1/v2c/v3 Modbus TCP Profinet CC-B IEEE802.1ad LACP Port Trunking IEEE802.1p QoS IEEE802.1p VLAN IEEE802.1x for Authentication IGMPv1/v2/v3/ IGMP Snooping IEEE1588v2 Hardware-based E2E TC DHCP Option 66/67/82 IPv4/IPv6 ACLs GARP, GVRP, GMRP Layer-3 Switching (Static, RIP, OSPF)	-10~70° C				-40~70° C	-40~75° C	-20~70° C -40~85° C	-20~70° C -40~85° C	-20~70° -40~85°
UL61010-2-201	Operations Temperature Storage Temperature Network Redundancy STP/RSTP/MSTP ITU-T G.8032 ERPS Ring MRP (Master/Client) Protocols SNMPV1/v2c/v3 Modbus TCP Profinet CC-B IEEE802.1a d LACP Port Trunking IEEE802.1p QoS IEEE802.1q VLAN IEEE802.1r for Authentication IGMPv1/v2/v3/ IGMP Snooping IEEE1588v2 Hardware-based E2E TC DHCP Option 66/67/82 IPV4/IPv6 ACLs GARP, GVRP, GMRP Layer-3 Switching (Static, RIP, OSPF) Compliance	-10~70° C -40~85° C				-40~70° C -40~85° C	-40~75° C	-20~70° C -40~85° C	-20~70° C -40~85° C	-20~70° I
Atex Zone 2 - UL C1D2 • • •	Operations Temperature Storage Temperature Network Redundancy STP/RSTP/MSTP ITU-T G.8032 ERPS Ring MRP (Master/Client) Protocols SNMPv1/v2c/v3 Modbus TCP Profinet CC-B IEEE802.1ad LACP Port Trunking IEEE802.1p QoS IEEE802.1p QoS IEEE802.1p VLAN IEEE802.1p VLAN IEEE802.1x for Authentication IGMPv1/v2/v3/ IGMP Snooping IEEE1588v2 Hardware-based E2E TC DHCP Option 66/67/82 IPv4/IPv6 ACLs GARP, GVRP, GMRP Layer-3 Switching (Static, RIP, OSPF) Compliance UL/EN/IEC(CB) 60950-1 and/or 62368-1	-10~70° C -40~85° C	-40~85° C	-40~85° C	-40~85° C	-40~70° C -40~85° C	-40~75° C -40~85° C	-20~70° C -40~85° C	-20~70° C -40~85° C	-20~70° (-40~85° (
	Operations Temperature Storage Temperature Network Redundancy STP/RSTP/MSTP ITU-T G.8032 ERPS Ring MRP (Master/Client) Protocols SNMPv1/v2c/v3 Modbus TCP Profinet CC-B IEEE802.1ad LACP Port Trunking IEEE802.1p QoS IEEE802.1q VLAN IEEE802.1q VLAN IEEE802.1q VLAN IEEE802.1x for Authentication IGMPv1/v2/v3/ IGMP Snooping IEEE1588v2 Hardware-based E2E TC DHCP Option 66/67/82 IPv4/IPv6 ACLs GARP, GVRP, GMRP Layer-3 Switching (Static, RIP, OSPF) Compliance UL/EN/IEC(CB) 60950-1 and/or 62368-1 EN60950-1 and/or EN62368-1	-10~70° C -40~85° C	-40~85° C	-40~85° C	-40~85° C	-40~70° C -40~85° C	-40~75° C -40~85° C	-20~70° C -40~85° C	-20~70° C -40~85° C	-20~70° -40~85°
	Operations Temperature Storage Temperature Network Redundancy STP/RSTP/MSTP ITU-T G.8032 ERPS Ring MRP (Master/Client) Protocols SNMPv1/v2c/v3 Modbus TCP Profinet CC-B IEEE802.1ad LACP Port Trunking IEEE802.1p QoS IEEE802.1g VLAN IEEE802.1x for Authentication IGMPv1/v2/v3/ IGMP Snooping IEEE1588v2 Hardware-based E2E TC DHCP Option 66/67/82 IPv4/IPv6 ACLs GARP, GVRP, GMRP Layer-3 Switching (Static, RIP, OSPF) Compliance UL/EN/IEC(CB) 60950-1 and/or 62368-1 EN60950-1 and/or EN62368-1 UL61010-2-201	-10~70° C -40~85° C	-40~85° C	-40~85° C	-40~85° C	-40~70° C -40~85° C	-40~75° C -40~85° C	-20~70° C -40~85° C	-20~70° C -40~85° C	-20~70° (-40~85° (
NEMA TS2	Operations Temperature Storage Temperature Network Redundancy STP/RSTP/MSTP ITU-T G.8032 ERPS Ring MRP (Master/Client) Protocols SNMPv1/v2c/v3 Modbus TCP Profinet CC-B IEEE802.1ad LACP Port Trunking IEEE802.1p QoS IEEE802.1p VLAN IEEE802.1x for Authentication IGMPv1/v2/v3/ IGMP Snooping IEEE1588v2 Hardware-based E2E TC DHCP Option 66/67/82 IPv4/IPv6 ACLs GARP, GVRP, GMRP Layer-3 Switching (Static, RIP, OSPF) Compliance UL/EN/IEC(CB) 60950-1 and/or 62368-1 EN60950-1 and/or EN62368-1 UL61010-2-201 Atex Zone 2 - UL C1D2	-10~70° C -40~85° C	-40~85° C	-40~85° C	-40~85° C	-40~70° C -40~85° C	-40~75° C -40~85° C	-20~70° C -40~85° C	-20~70° C -40~85° C	-20~70° (-40~85° (



	Switch							
			Mar	naged Layer-2	Gigabit Switc	hes		
			Occasional Common	Townson or second		, HH, HH, HH, SQ	Meg.	See.
Model Number	EHG7504	EHG7508	EHG7512	EHG7516	EHG7520	RHG7528	EMG8508	EMG851
Number of ports								
Total number of ports	4	8	12	16	20	Max 28	8	10
Fast Ethernet 10/100 BaseT(X)	-	-	-	-	-	-	-	-
Gigabit 10/100/1000 BaseT(X)	Max 4	Max 8	Max 8	Max 12	Max 16	Max 24	8 (M12)	8 (M12
Gigabit 1000Base-X SFP	Max 4	Max 4	-	-	-	4 or 4x10G	-	2
Gigabit 100/1000Base-X SFP	-	-	Max 8	Max 12	Max 16	Max 24	-	-
1/10 Gigabit SFP	-	-	4	4	4	-	-	-
PoE /PoE+ ports	Max 4	Max 8	Max 8	Max 8	Max 8	Max 24	Max 8	Max 8
Power input	9~57V (PoE from 45V)	48~57V	12~57V (PoE from 45V)	12~57\ (PoE from				
Power input (High-Voltage option)	(1 02 110111 101)	(102110111101)	(102110111101)	(1021101111101)	(1 02 110111 101)	110~220VAC	50~145VDC	50~145\
Power Redundancy	•	•	•	•	•	Optional	•	•
Relay Output	•	•	•	•	•	•	•	•
Mechanical								
Housing	Metal	Metal	Metal	Metal	Metal	Metal	Aluminum	Aluminu
nstallation	DIN-rail	DIN-rail	DIN-rail	DIN-rail	DIN-rail	Rack-mount	Field-mount	Field-mo
ngress Protection	IP30	IP30	IP30	IP30	IP30	IP30	IP67	IP67
Dimensions (L x W x H) mm	54 x 113 x 145	54 x 113 x 145	76 x 200 x 160	95 x 200 x 160	95 x 200 x 160	440 x 44 x 340	216 x 232 x 72	216 x 232
Supported Temperatures								
Operations Temperature	-20~70° C	-20~70° C	-40~70° C	-40~70° C	-40~70° C	-40~70° C	-40∼75° C	-40~75°
Storage Temperature	-40~85° C	-40~85° C	-40~85° C	-40~85°				
Network Redundancy								
STP/RSTP/MSTP	•	•	•	•	•	•	•	•
TU-T G.8032 ERPS Ring	•	•	•	•	•	•	•	•
MRP (Master/Client)	•	•	•	•	•	•	•	•
NMPv1/v2c/v3		•	•	•	•	•	•	•
Modbus TCP	•	•	•	•	•	•	•	•
Profinet CC-B	•	•						
EEE802.1ad LACP Port Trunking	•	•	•	•	•	•	•	•
EEE802.1p QoS	•	•	•	•	•	•	•	•
EEE802.1q VLAN	•	•	•	•	•	•	•	•
EEE802.1x for Authentication	•	•	•	•	•	•	•	•
GMPv1/v2/v3/ IGMP Snooping	•	•	•	•	•	•	•	•
EEE1588v2 Hardware-based E2E TC	•	•	•	•	•	•	•	•
DHCP Option 66/67/82	•	•	•	•	•	•	•	•
Pv4/IPv6 ACLs	•	•	•	•	•	•	•	•
GARP, GVRP, GMRP	•	•	•	•	•	•	•	•
_3 routing (static/RIP/OSPF/PIM/BGP)	-	-	_	-	-		<u> </u>	-
Compliance JL/EN/IEC(CB) 60950-1 and/or 62368-1		•	•	•		•		
EN60950-1 and/or EN62368-1	•	•	•	•	•	•	•	•
JL61010-2-201	-	_		_	-		•	•
NEMA TS2	•	•	•	•	•		<u> </u>	
Marine (DNV.GL)			•	•			1	









			Man	aged Layer-3	Gigabit Swite	ches	l e	
	# 0000			B. T.		, 1995°, 2000°, 2000°, 2000°	10 ala	
Model Number	EHG7604	EHG7608	EHG7612	EHG7616	EHG7620	RHG7628	EMG8608	EMG8610
Number of ports								
Total number of ports	4	0	12	16	20	Max 28	8	10
Fast Ethernet 10/100 BaseT(X)	-	8	-	-	-	-	-	-
Gigabit 10/100/1000 BaseT(X)	Max 4	Max 8	Max 8	Max 12	Max 16	Max 24	8 (M12)	8 (M12)
Gigabit 1000Base-X SFP	Max 4	Max 4	-	-	-	4 or 4x10G	-	2
Gigabit 100/1000Base-X SFP	-	-	Max 8	Max 12	Max 16	Max 24	-	-
1/10 Gigabit SFP	-	-	4	4	4	-	-	-
PoE/PoE+ ports	Max 4	Max 8	Max 8	Max 8	Max 8	Max 24	Max 8	Max 8
Power Supply input								
Power input	9~57V	9~57V	9~57V	9~57V	9~57V	40. 571	12~57V	12~57\
	(PoE from 45V)	(PoE from 45V)	(PoE from 45V)	(PoE from 45V)	(PoE from 45V)	48~57V	(PoE from 45V)	(PoE from
Power input (High-Voltage option)						110~220VAC	50~145VDC	50~145V
ower Redundancy	•	•	•	•	•	Optional	•	•
Relay Output	•	•	•	•	•	•	•	•
Mechanical								
lousing	Metal	Metal	Metal	Metal	Metal	Metal	Aluminum	Aluminu
nstallation	DIN-rail	DIN-rail	DIN-rail	DIN-rail	DIN-rail	Rack-mount	Field-mount	Field-mor
ngress Protection	IP30	IP30	IP30	IP30	IP30	IP30	IP67	IP67
Dimensions (L x W x H) mm	54 x 113 x 145	54 x 113 x 145	76 x 200 x 160	95 x 200 x 160	95 x 200 x 160	440 x 44 x 340	216 x 232 x 72	216 x 232
	34 X 113 X 143	34 X 113 X 143	70 x 200 x 100	93 x 200 x 100	93 X 200 X 100	440 X 44 X 340	210 x 252 x 72	210 x 232
Supported Temperatures								
perations Temperature	-20~70° C	-20~70° C	-40~70° C	-40~70° C	-40~70° C	-40~70° C	-40~75° C	-40~75°
storage Temperature	-40~85° C	-40~85° C	-40~85° C	-40~85° C	-40~85° C	-40~85° C	-40~85° C	-40~85
Network Redundancy								
STP/RSTP/MSTP	•	•	•	•	•	•	•	•
TU-T G.8032 ERPS Ring	•	•	•	•	•	•	•	•
MRP (Master/Client)	•	•	•	•	•	•	•	•
NMPv1/v2c/v3	•	•	•	•	•	•	•	•
Modbus TCP	•	•	•	•	•	•	•	•
EEE802.1ad LACP Port Trunking	•	•	•	•	•	•		
EEE802.1p QoS	•	•	•	•	•	•	•	•
EEE802.1q VLAN	•	•	•	•	•	•	•	•
EEE802.1x for Authentication	•	•	•	•	•	•	•	•
GMPv1/v2/v3/ IGMP Snooping	•	•	•	•	•	•	•	•
EEE1588v2 Hardware-based E2E TC	•	•	•	•	•	•	•	•
DHCP Option 66/67/82	•	•	•	•	•	•	•	•
Pv4/IPv6 ACLs	•	•	•	•	•	•	•	•
GARP, GVRP, GMRP	•	•	•	•	•	•	•	•
Layer-3 Switching (Static, RIP, OSPF)	•	•	•	•	•	•		
.3 routing (static/RIP/OSPF/PIM/BGP)	•	•	•	•	•	•	•	•
Compliance								
					-			
JL/EN/IEC(CB) 60950-1 and/or 62368-1	•	•	•	•	•	•		<u> </u>
EN60950-1 and/or EN62368-1	•	•	•	•	•	•	•	•
JL61010-2-201							•	•
E-Mark								
NEMA TS2	•	•	•	•	•			
Marine (DNV.GL)								

Industrial Automation & Process control

Entry Level

ATOP's entry level din-rail mount Unmanaged Switches offer a reliable, robust and cost-effective solution for simple network topologies offering features such as PoE connectivity and performance in harsh environments. IP30-rated, all of them are certified for Industrial EMC (EN61000-6-4 and EN61000-6-2). They are built with either industrial plastic, steel or aluminium housing to suit different application environments for industrial environments, such as in hazardous locations that comply with FCC, TUV, UL, and CE standards. 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 are featured 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

By offering both Layer 2 and layer 3 options, ATOP's most advanced, fault tolerant product lines offer hundreds of different possible configurations. Our Harsh environment switches are the best choice to support highly demanding networks – in highly demanding environments. They feature 4 to 28 Fast Ethernet, Gigabit or 10 Gigabit ports, an operating temperature range from -20°C to 70°C or wider, PoE/PoE+ ports, Relay Output, Redundant power input, Profinet Packet Prioritization (for Unmanaged Switches), and Profinet CC-B v2.33 certification (EH75xx, EHG7504/EHG7508). Selected products offer MIL-STD shock and vibration certification, in high humidity and operating temperatures of between -40°C to 75°C.

Being Profinet CC-B v2.33 certified, this switch Series is Automation and IoT ready.

Engineered for reliable performance in harsh industrial environments, 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. It provides 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 Stat¬ic Routing, RIPv1 and RIPv2, OSPFv2, BGP and multicast protocols such as PIM-DM, PIM-SM and DVMRP. With higher port density and faster switching capabilities ATOP BGP Layer-3 switches route data packets without making extra network hops, thus making it faster than routers.

To confront the increasing number of cyber incidents, system integrators have to prove that their network devices meet the technical requirements defined in the relevant guidelines of the IEC 62443 standard. The solutions must include enhanced component-level security and a mechanism to manage the security level of devices.

Atop Security Solution can meet the technical requirements defined in the IEC 62443 standard which protects the overall security of networks. Atop is going to get the certification of IEC 61443-4-1 by end of the 2021.











Central Information			Switch						
Mode Number EH2005 EH2006 EH2008 EH2005 EH2005 EH2006 EH200					Unmanage	d Switches		11,000	1
Manufact Number FH2005		#				Ξ			
Number of ports									
Total number of ports	Model Number	EH2005	EH2006	EH2008	EHG2008	EH2305	EH2306	EH2308	EH2304-PR
Fast Ethernet Floor Discostroy 4 6 8 - 4 6 8 4 6 8 4 6 8 4 6 8 4 6 6 8 4 6 6 6 6 6 6 6 6 6	Number of ports								
Feet Ethnore Fiber ports (SPR) Lor (ST)	Total number of ports		6		8		6	8	4
Glaphath 107/1096 Bases TXP			6	8	-	4	6	8	4
Glaphat 100008abc XSPP									-
Graphic Notices (SEP)			-				-	-	-
McCase 802/1AE secure ports	<u> </u>								
Power input	~								
Power Supply input									
Pewer input 99-30 V 99-30 V 99-30 V 99-48 V 99-48 V 99-30 V 99-30 V 99-48 V				_					
Power Institution Power Pedundancy Power Pedu		0.001/	0.001/	0.401/	0.401/	0.001/	0.001/	0.401/	0 4014
Power Redundancy Power Relay output Power Rel		9~30 V	9~30 V	9~48 V	9~48 V	9~30 V	9~30 V	9~48 V	9~48 V
Relay output									
Housing									
Plastic Plastic Plastic Plastic Plastic Plastic Plastic Plastic Plastic Aluminum Aluminum Aluminum Metal Installation DIN-Rail DIN-Ra									
Installation		DI vi	DI II	DI I	DI ::			AL .	
Ingress Protection									
Dimensions (L. W. X. H.) mm									
Supported Temperature									
Operations Temperature									
Storage Temperature		0.6000	0.6000	0.0000	0.600	10.7000	10 700 0	10. 70% 0	10. 70% 0
Network Redundancy STP/RSTP/MSTP									
STP/RSTP/MSTP		-40~00 C	-40~00 C	-40~00 C	-40/-000 C	-40/-85	-40%83 C	-40/-853 C	-40/983 C
ITU-T G.8032 ERPS Ring					ı.	1			
MRP (Master/Client)									
Protocols SNMPv1/v2c/v3 Modbus TCP IEEE802.1ad LACP Port Trunking IEEE802.1 y U.AN IEEE802.1 y U.									
SNMPV1/V2c/V3									
Modbus TCP	Protocols								
IEEE802.1a LACP Port Trunking									
IEEE802.1q VLAN									
IEEE802.1x for Authentication									
IEEE802.1x for Authentication									
EEE1588v2 Hardware-based E2E TC									
IGMPv1/v2/v3 IGMP Snooping									
DHCP Option 66/67/82									
IPv4/IPv6									
ACLS GARP, GVRP, GMRP Layer-3 Switching (Static, RIP, OSPF) Compliance UL/EN/IEC(CB) 60950-1 and/or 62368-1 • • • • • • • • • • • • • • • • • •									
Compliance •									
Compliance UL/EN/IEC(CB) 60950-1 and/or 62368-1 •	GARP, GVRP, GMRP								
UL/EN/IEC(CB) 60950-1 and/or 62368-1 •	Layer-3 Switching (Static, RIP, OSPF)								
UL/EN/IEC(OB) 60950-1 and/or 62368-1 •	Compliance								
EN60950-1 and/or EN62368-1 • </td <td></td> <td>•</td> <td>•</td> <td>•</td> <td>•</td> <td>•</td> <td>•</td> <td>•</td> <td>•</td>		•	•	•	•	•	•	•	•
UL61010-2-201 </td <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>									
Atex Zone 2 - UL C1D2									
NEMA TS2									
Marine (DNV.GL)								•	
	NEMA TS2								



Industrial U	IIIIaiia	iyeu a	iiu Lite	- IVIAIIC			Cowitt	пеѕ		
				_	Unmanage	ed Switches				
	0000					00000	120000 - 120000 - 120000 - 1200000 - 1200000 - 1200000 - 1200000 - 12000000 - 120000000 - 120000000000			
				NEW!	NEW!					
Model Number	EH2308-PR	EHG2308	EH2316-2G	EH3305	EHG3305	EHG6408	EHG6410	EHG7305	EHG7306	EHG7307
Number of ports										
Total number of ports	8	8	16	5	5	8	10	5	6	7
Fast Ethernet 10/100 BaseT(X)	8	-	14	5	-	-	-	-	-	-
Fast Ethernet Fiber ports (SFP, LC or ST)	-	-	-	-	-	-	-	-	-	-
Gigabit 10/100/1000 BaseT(X)	-	8	2	-	5	8	8	5	5	5
Gigabit 100/1000Base-X SFP Gigabit 1000Base-X SFP	-	-	-	-	-	-	2	-	1 -	2
MACsec 802.1AE secure ports	-	-	-	_	-	-	-	-	_	_
PoE/PoE+ ports	-	-	-	-	-	Max 8 (boost)	Max 8 (boost)	Max 4	Max 4	Max 4
Power Supply input										
Power input	9~48 V	9~48 V	9~48 V	12-48V	12-48V	12~57V (PoE from 12V)	12~57V (PoE from 12V)	12~57V (PoE from 12V)	12~57V (PoE from 12V)	12~57\ (PoE from
Power input (High-Voltage option)										
Power Redundancy	•	•	•			•	•	•	•	•
Relay output						•	•	•	•	•
Mechanical										
Housing	Metal	Aluminum	Metal	Metal	Metal	Metal	Metal	Metal	Metal	Metal
Installation	DIN-Rail	DIN-Rail	DIN-Rail	DIN-Rail	DIN-Rail	DIN-Rail	DIN-Rail	DIN-Rail	DIN-Rail	DIN-Rai
Ingress Protection	IP30	IP30	IP30	IP30	IP30	IP30	IP30	IP30	IP30	IP30
Dimensions (L x W x H) mm	45 x 110 x 90	45 x 90 x 78	54 x 113 x 145	23 x 93 x 70	23 x 93 x 70	54 x 113 x 145	54 x 113 x 145	32 x 90 x 110	45 x 90 x 110	45 x 90 x 1
Supported Temperatu										
Operations Temperature	-10~70° C	-10~70° C	-10~60° C	-40~70° C	-40~70° C	-40~75° C	-40~75° C	-40~70° C	-40~70° C	-40~70°
Storage Temperature	-40~85° C	-40~85° C	-40~85° C	-40~70° C	-40~70° C	-40~85° C	-40~85° C	-40~85° C	-40~85° C	-40~85°
Network Redundancy										
STP/RSTP/MSTP										
ITU-T G.8032 ERPS Ring										
MRP (Master/Client)										
SNMPv1/v2c/v3										
Modbus TCP										
IEEE802.1ad LACP Port Trunking										
IEEE802.1p QoS IEEE802.1g VLAN										
IEEE802.1q VLAN IEEE802.1x for Authentication										
IEEE1588v2 Hardware-based E2E TC										
IGMPv1/v2/v3 IGMP Snooping										
DHCP Option 66/67/82										
IPv4/IPv6										
ACLs										
GARP, GVRP, GMRP										
Layer-3 Switching (Static, RIP, OSPF)										
Compliance										
UL/EN/IEC(CB) 60950-1 and/or 62368-1	•	•	•	•	•	•	•			
EN60950-1 and/or EN62368-1	•	•	•			•	•	•	•	•
								•	•	•
UL61010-2-201										
Atex Zone 2 - UL C1D2								•	•	_
Atex Zone 2 - UL C1D2 E-Mark								•	•	
Atex Zone 2 - UL C1D2								•	•	









	Unmanaged		Smart Switche		Manag	jed Layer-2 Fa	st-Ethernet Sv	vitches
	886)	Harden Harden	#00000 #00000		B *	SALE MAN	Adhe Carrie	
			NEW!	NEW!				
Model Number	EMG8305	EHG2408	EHG6508	EHG6510	EH7506	EH7508	EH7512	EH7520
Number of ports								
Total number of ports	5	8	8	10	6	8	12	20
Fast Ethernet 10/100 BaseT(X)	-	-	-	-	4	4	8	16
Fast Ethernet Fiber ports (SFP, LC or ST)	-	-	-	-	2 (SFP)	-	-	-
Gigabit 10/100/1000 BaseT(X)	5 (M12)	8	8	8	-	(4) combo	(4) combo	(4) comb
Gigabit 100/1000Base-X SFP	-	-	-	2	-	(4) combo	(4) combo	(4) comb
Gigabit 1000Base-X SFP	-	-	-	2	-	-	-	-
MACsec 802.1AE secure ports	-	2	-	-	-	-	-	-
PoE/PoE+ ports	-	-	Max 8 (boost)	Max 8 (boost)	Max 4	Max 4	Max 8	Max 8
Power Supply input								
Power input Power input (High-Voltage option)	9~48 V	9~48 V	12~57V (PoE from 12V)	12~57V (PoE from 12V)	9~57V (PoE from 45V)	9~57V (PoE from 45V)	9~57V (PoE from 45V)	9~57V (PoE from 4
Power Redundancy	•	•	•	•	•	•	•	•
Relay output			•	•	•	•	•	•
Mechanical								
Housing	Aluminum	Metal	Metal	Metal	Metal	Metal	Metal	Metal
Installation	Field-Mount	DIN-Rail	DIN-Rail	DIN-Rail	DIN-Rail	DIN-Rail	DIN-Rail	DIN-Rai
Ingress Protection	IP67	IP30	IP30	IP30	IP30	IP30	IP30	IP30
Dimensions (L x W x H) mm	106 x 196 x 48	110 x 89 x 45	54 x 113 x 145	54 x 113 x 145	60 x 138 x 164	60 x 138 x 164	60 x 138 x 164	78 x 138 x
Supported Temperatures								
Operations Temperature	0~60° C	0~60° C	0~60° C	0~60 C	-10~70° C	-10~70° C	-10~70° C	-10~70°
Storage Temperature	-40~60° C	-40~60° C	-40~60° C	-40~60° C	-40~85° C	-40~85° C	-40~85° C	-40~85°
Network Redundancy			'					
STP/RSTP/MSTP		RSTP only	RSTP only	RSTP only	•	•	•	•
ITU-T G.8032 ERPS Ring					•	•	•	•
MRP (Master/Client)					•	•	•	•
Protocols								
SNMPv1/v2c/v3		•	•	•	•	•		
Modbus TCP		•	•	•	•	•	•	•
Profinet					CC-B	CC-B	CC-B	CC-B
IEEE802.1ad LACP Port Trunking			•	•	•	•	•	•
IEEE802.1p QoS			•	•	•	•	•	•
IEEE802.1q VLAN			•	•	•	•	•	•
EEE802.1x for Authentication		•			•	•	•	•
IEEE1588v2 Hardware-based E2E TC								
IGMPv1/v2/v3 IGMP Snooping					•	•	•	•
DHCP Option 66/67/82					•	•	•	•
IPv4/IPv6		IPv4	IPv4	IPv4	•	•	•	•
ACLs					•	•	•	•
GARP, GVRP, GMRP			-		•	•	•	•
Layer-3 Switching (Static, RIP, OSPF)								
Compliance								
JL/EN/IEC(CB) 60950-1 and/or 62368-1		•	•	•	•	•	•	•
EN60950-1 and/or EN62368-1	•	•	•	•	•	•	•	•
UL61010-2-201	•							
Atex Zone 2 - UL C1D2								
E-Mark NEMA TS2					•	•	•	

Industrial Man	aged Et	hernet S	Switche	S				
			Ma	naged Layer-2				
		- 00000		# 'B' T 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		Beg	RG CONTRACTOR	, +····', ······' -
Model Number	EHG7504	EHG7508	EHG7512	EHG7516	EHG7520	EMG8508	EMG8510	RHG7528
Number of ports								
Total number of ports	4	8	12	16	20	8	10	Max 28
Fast Ethernet 10/100 BaseT(X)	-	-	-	-	-	-	-	-
Fast Ethernet Fiber ports (SFP, LC or ST)	-	-	-	-	-	-	-	-
Gigabit 10/100/1000 BaseT(X)	Max 4	Max 8	Max 8	Max 12	Max 16	8 (M12)	8 (M12)	Max 28
Gigabit 100/1000Base-X SFP	-	-	Max 8	Max 12	Max 16	-	-	Max 24
Gigabit 1000Base-X SFP	Max 4	Max 8	-	-	-	-	2	-
MACsec 802.1AE secure ports	-	-	4	4	4	-	-	Max 4
PoE/PoE+ ports	Max 4	Max 8	Max 8	Max 8	Max 8	Max 8	Max 8	Max 24
Power input	9~57V (PoE from 45V)	9~57V (PoE from 45V)	9~57V (PoE from 45V)	9~57V (PoE from 45V)	9~57V (PoE from 45V)	12~57V (PoE from 45V) 45~145 VDC	12~57V (PoE from 45V) 45~145 VDC	48~57V (PoE from 48
Power input (High-Voltage option) Power Redundancy		•	•	•	•	45~145 VDC	45~145 VDC	Optional
Relay output	•	•	•	•	•	•	•	• Optional
Mechanical								
Housing	Metal	Metal	Metal	Metal	Metal	Aluminum	Aluminum	Metal
Installation	DIN-Rail	DIN-Rail	DIN-Rail	DIN-Rail	DIN-Rail	Field-Mount	Field-Mount	Rack-moun
Ingress Protection	IP30	IP30	IP30	IP30	IP30	IP67	IP67	IP30
Dimensions (L x W x H) mm	54 x 113 x 145	54 x 113 x 145	76 x 160 x 200	95 x 160 x 200	95 x 160 x 200	216 x 232 x 72	216 x 232 x 72	440 x 44 x 34
Supported Temperatures								
Operations Temperature	-20~70° C	-20~70° C	-40~70° C	-40~70° C	-40~70° C	-40~75° C	-40~75° C	-40~70° C
Storage Temperature	-40~85° C	-40~85° C	-40∼85° C	-40∼85° C	-40∼85° C	-40∼85° C	-40~85° C	-40~85° C
Network Redundancy								
STP/RSTP/MSTP	•	•	•	•	•	•	•	•
ITU-T G.8032 ERPS Ring	•	•	•	•	•	•	•	•
MRP (Master/Client)		•	•	•	•	•	•	•
Protocols								
		-	_	_	_	_	_	_
SNMPv1/v2c/v3	•	•	•	•	•	•	•	•
Modbus TCP Profinet	CC-B	CC-B	•	•	•	•	•	•
	•	•	•	•	•	•	•	•
IEEE802.1ad LACP Port Trunking IEEE802.1p QoS		•	•	•	•	•	•	•
IEEE802.1q VLAN		•	•	•	•	•	•	•
IEEE802.1x for Authentication	•	•	•	•	•	•	•	•
IEEE1588v2 Hardware-based E2E TC	•	•	•	•	•	•	•	•
IGMPv1/v2/v3 IGMP Snooping	•	•	•	•	•	•	•	•
DHCP Option 66/67/82	•	•	•	•	•	•	•	•
IPv4/IPv6	•	•	•	•	•	•	•	•
ACLs	•	•	•	•	•	•	•	•
GARP, GVRP, GMRP	•	•	•	•	•	•	•	•
Layer-3 Switching (Static, RIP, OSPF)								
Compliance								
UL/EN/IEC(CB) 60950-1 and/or 62368-1								
EN60950-1 and/or EN62368-1	•	•	•	•	•	_	_	•
UL61010-2-201	•	•	•	•	•	•	•	•
E-Mark						-		
NEMA TS2		•	•	•	•			
Marine (DNV.GL)		_	•	•	-			









Number of ports Total number of ports Fast Ethernet 10/100 BaseT(X) Fast Ethernet Fiber ports (SFP, LC or ST) Gigabit 10/100/1000 Base-X SFP Gigabit 100/1000Base-X SFP MaCsec 802.1AE secure ports Poe/PoE+ ports Power Supply input Power input (High-Voltage option) Power Redundancy Relay output Mechanical Housing Ingress Protection Dimensions (L x W x H) mm Supported Temperatures Operations Temperature Storage Temperature Network Redundancy STP/RSTP/MSTP ITU-T G.8032 ERPS Ring MRP (Master/Client) Protocols SNMPV1/v2c/v3 Modbus TCP IEEE802.1ad LACP Port Trunking IEEE802.1q VLAN	7604 EHG7608 4 8	### EHG7612 12	EHG7616 16	EHG7620 20 Max 16 Max 16 4 Max 8 9~57V (PoE from 45V) • • Metal DIN-Rail IP30 95 x 160 x 200	Max 28
General Information Model Number of ports Total number of ports Fast Ethernet 10/100 BaseT(X) Fast Ethernet Fiber ports (SFP, LC or ST) Gigabit 10/100/1000 BaseT(X) Gigabit 100/1000Base-X SFP Gigabit 1000Base-X SFP MACSec 802.1AE secure ports PoE/PoE+ ports Power Supply input Power input (High-Voltage option) Power Redundancy Relay output Mechanical Housing Methodisation Ingress Protection Dimensions (L x W x H) mm 54 x 11 Supported Temperatures Operations Temperature -20~ Network Redundancy STP/RSTP/MSTP ITU-T G.8032 ERPS Ring MRP (Master/Client) Protocols SNMPV1/v2c/v3 Modbus TCP IEEE802.1ad LACP Port Trunking IEEE802.1q VLAN	4 8	12	16	EHG7620 20 Max 16 Max 16 - 4 Max 8 9~57V (PoE from 45V) • • Metal DIN-Rail IP30 95 x 160 x 200	Max 28
Number of ports Total number of ports Fast Ethernet 10/100 BaseT(X) Fast Ethernet Fiber ports (SFP, LC or ST) Gigabit 10/100/1000 BaseT(X) Gigabit 100/1000Base-X SFP Gigabit 1000Base-X SFP McMacSec 802.1AE secure ports PoE/PoE+ ports Power Supply input Power input (High-Voltage option) Power Redundancy Relay output Mechanical Housing McInstallation DIM Ingress Protection IP Dimensions (L x W x H) mm 54 x 11 Supported Temperatures Operations Temperature Network Redundancy STP/RSTP/MSTP ITU-T G.8032 ERPS Ring MRP (Master/Client) Protocols SNMPv1/v2c/v3 Modbus TCP IEEE802.1ad LACP Port Trunking IEEE802.1p QoS IEEE802.1q VLAN	4 8	12	16	20	Max 28
Number of ports Total number of ports Fast Ethernet 10/100 BaseT(X) Fast Ethernet Fiber ports (SFP, LC or ST) Gigabit 10/100/1000 BaseT(X) Gigabit 100/1000Base-X SFP Gigabit 1000Base-X SFP MACSec 802.1AE secure ports PoE/PoE+ ports Mac Power Supply input Power input (High-Voltage option) Power Redundancy Relay output Mechanical Housing Installation DIN Ingress Protection Dimensions (L x W x H) mm Supported Temperatures Operations Temperature Totage Temperature Network Redundancy STP/RSTP/MSTP ITU-T G.8032 ERPS Ring MRP (Master/Client) Protocols SNMPv1/v2c/v3 Modbus TCP IEEE802.1ad LACP Port Trunking IEEE802.1q VLAN	4 8	12	16	20	Max 28
Total number of ports		- Max 8 Max 8 Max 8 - 4 Max 8 - 9~57V (PoE from 45V) • • • • Metal DIN-Rail IP30 76 x 160 x 200	- Max 12 Max 12 Max 12 - 4 Max 8 9~57V (PoE from 45V) • • • • Metal DIN-Rail IP30 95 x 160 x 200 -40~70° C	- Max 16 Max 16 Max 16 - 4 Max 8 9~57V (PoE from 45V) • • Metal DIN-Rail IP30 95 x 160 x 200	
Total number of ports		- Max 8 Max 8 Max 8 - 4 Max 8 - 9~57V (PoE from 45V) • • • • Metal DIN-Rail IP30 76 x 160 x 200	- Max 12 Max 12 Max 12 - 4 Max 8 9~57V (PoE from 45V) • • • • Metal DIN-Rail IP30 95 x 160 x 200 -40~70° C	- Max 16 Max 16 Max 16 - 4 Max 8 9~57V (PoE from 45V) • • Metal DIN-Rail IP30 95 x 160 x 200	
Fast Ethernet 10/100 BaseT(X) Fast Ethernet Fiber ports (SFP, LC or ST) Gigabit 10/100/1000 BaseT(X) Magabit 100/1000Base-X SFP Gigabit 1000Base-X SFP Gigabit 1000Base-X SFP MACSec 802.1AE secure ports PoE/PoE+ ports Power Supply input Power input Power input (High-Voltage option) Power Redundancy Relay output Mechanical Housing McInstallation Ingress Protection Dimensions (L x W x H) mm Supported Temperatures Operations Temperature Total Temperature Network Redundancy STP/RSTP/MSTP ITU-T G.8032 ERPS Ring MRP (Master/Client) Protocols SNMPv1/v2c/v3 Modbus TCP IEEE802.1ad LACP Port Trunking IEEE802.1p QoS IEEE802.1q VLAN		- Max 8 Max 8 Max 8 - 4 Max 8 - 9~57V (PoE from 45V) • • • • Metal DIN-Rail IP30 76 x 160 x 200	- Max 12 Max 12 Max 12 - 4 Max 8 9~57V (PoE from 45V) • • • • Metal DIN-Rail IP30 95 x 160 x 200 -40~70° C	- Max 16 Max 16 Max 16 - 4 Max 8 9~57V (PoE from 45V) • • Metal DIN-Rail IP30 95 x 160 x 200	
Gigabit 10/100/1000 BaseT(X) Gigabit 100/1000Base-X SFP Gigabit 1000Base-X SFP MACSec 802.1AE secure ports PoE/PoE+ ports Power Supply input Power input (High-Voltage option) Power Redundancy Relay output Mechanical Housing Mr. Installation Ingress Protection Dimensions (L x W x H) mm Supported Temperatures Operations Temperature Network Redundancy Storage Temperature Network Redundancy STP/RSTP/MSTP ITU-T G.8032 ERPS Ring MRP (Master/Client) Protocols SNMPv1/v2c/v3 Modbus TCP IEEE802.1ad LACP Port Trunking IEEE802.1p QoS IEEE802.1p QoS IEEE802.1q VLAN	x 4	Max 8 Max 8 - 4 Max 8 9~57V (PoE from 45V) • • Metal DIN-Rail IP30 76 x 160 x 200	Max 12 Max 12 - 4 Max 8 9~57V (PoE from 45V) • • Metal DIN-Rail IP30 95 x 160 x 200 -40~70° C	Max 16 Max 16 - 4 Max 8 9~57V (PoE from 45V) • • Metal DIN-Rail IP30 95 x 160 x 200	Max 28 Max 24 - Max 4 Max 24 48~57V (PoE from 48V 110~220VAC Optional • Metal Rack-mount IP30 440 x 44 x 340
Gigabit 100/1000Base-X SFP Gigabit 1000Base-X SFP MACSec 802.1AE secure ports PoE/PoE+ ports Power Supply input Power input Power input (High-Voltage option) Power Redundancy Relay output Mechanical Housing Minstallation Din Ingress Protection Dimensions (L x W x H) mm Supported Temperatures Operations Temperature Network Redundancy STP/RSTP/MSTP ITU-T G.8032 ERPS Ring MRP (Master/Client) Protocols SNMPv1/v2c/v3 Modbus TCP IEEE802.1ad LACP Port Trunking IEEE802.1p QoS IEEE802.1q VLAN		Max 8 - 4 Max 8 9~57V (PoE from 45V) • • Metal DIN-Rail IP30 76 x 160 x 200	Max 12 - 4 Max 8 9~57V (PoE from 45V) • • Metal DIN-Rail IP30 95 x 160 x 200 -40~70° C	Max 16 - 4 Max 8 9~57V (PoE from 45V) • • • Metal DIN-Rail IP30 95 x 160 x 200	Max 24
Gigabit 1000Base-X SFP MACSec 802.1AE secure ports Power Supply input Power input Power input Power input (High-Voltage option) Power Redundancy Relay output Mechanical Housing Installation Ingress Protection Dimensions (L x W x H) mm Supported Temperatures Operations Temperature Torage Temperature Operations Temperature Network Redundancy STP/RSTP/MSTP ITU-T G.8032 ERPS Ring MRP (Master/Client) Protocols SNMPV1/v2c/v3 Modbus TCP IEEE802.1ad LACP Port Trunking IEEE802.1q VLAN	x 4	- 4 4 Max 8 9~57V (PoE from 45V) • • • • • Metal DIN-Rail IP30 76 x 160 x 200	- 4 Max 8 9~57V (PoE from 45V) • • • • • • • • • • • • • • • • • • •	4 Max 8 9~57V (PoE from 45V) • • • Metal DIN-Rail IP30 95 x 160 x 200	- Max 4 Max 24 48~57V (PoE from 48V 110~220VAC Optional • Metal Rack-mount IP30 440 x 44 x 340
MACSec 802.1AE secure ports PoE/PoE+ ports Ma Power Supply input Power input Power input Power Redundancy Relay output Mechanical Housing Installation Ingress Protection Dimensions (L x W x H) mm Supported Temperatures Operations Temperature Storage Temperature Network Redundancy STP/RSTP/MSTP ITU-T G.8032 ERPS Ring MRP (Master/Client) Protocols SNMPv1/v2c/v3 Modbus TCP IEEE802.1ad LACP Port Trunking IEEE802.1p QoS IEEE802.1q VLAN		4 Max 8 9~57V (PoE from 45V) • • • Metal DIN-Rail IP30 76 x 160 x 200	4 Max 8 9~57V (PoE from 45V) • • • Metal DIN-Rail IP30 95 x 160 x 200	4 Max 8 9~57V (PoE from 45V) • • • Metal DIN-Rail IP30 95 x 160 x 200	Max 4 Max 24 48~57V (PoE from 48V 110~220VAC Optional • Metal Rack-mount IP30 440 x 44 x 340
Poer/Poe+ ports Power Supply input Power input Power input (High-Voltage option) Power Redundancy Relay output Mechanical Housing Installation Ingress Protection Dimensions (L x W x H) mm Supported Temperatures Operations Temperature Storage Temperature -40~ Network Redundancy STP/RSTP/MSTP ITU-T G.8032 ERPS Ring MRP (Master/Client) Protocols SNMPv1/v2c/v3 Modbus TCP IEEE802.1ad LACP Port Trunking IEEE802.1p QoS IEEE802.1q VLAN	x 4	Max 8 9~57V (PoE from 45V) • • • • Metal DIN-Rail IP30 76 x 160 x 200	Max 8 9~57V (PoE from 45V) • • • • Metal DIN-Rail IP30 95 x 160 x 200	Max 8 9~57V (PoE from 45V) • • • Metal DIN-Rail IP30 95 x 160 x 200	Max 24 48~57V (PoE from 48V 110~220VAC Optional Metal Rack-mount IP30 440 x 44 x 340
Power Supply input	57V 9~57V (PoE from 45V) tal Metal Metal DIN-Rail 30 IP30 3 x 145 54 x 113 x 145	9~57V (PoE from 45V) • • • • Metal DIN-Rail IP30 76 x 160 x 200	9~57V (PoE from 45V) • • • • Metal DIN-Rail IP30 95 x 160 x 200	9~57V (PoE from 45V) • • • • Metal DIN-Rail IP30 95 x 160 x 200	48~57V (PoE from 48V) 110~220VAC Optional • Metal Rack-mount IP30 440 x 44 x 340
Power input (High-Voltage option) Power Redundancy Relay output Mechanical Housing Mr. Installation DIN Ingress Protection Dimensions (L x W x H) mm 54 x 11 Supported Temperatures Operations Temperature -20~ Storage Temperature -40~ Network Redundancy STP/RSTP/MSTP ITU-T G.8032 ERPS Ring MRP (Master/Client) Protocols SNMPv1/v2c/v3 Modbus TCP IEEE802.1ad LACP Port Trunking IEEE802.1p QoS IEEE802.1q VLAN	ental Metal -Rail DIN-Rail 30 IP30 3 x 145 54 x 113 x 145	(PoE from 45V) • • • Metal DIN-Rail IP30 76 x 160 x 200	(PoE from 45V) • • • Metal DIN-Rail IP30 95 x 160 x 200	(PoE from 45V) • • • • • • • • • • • • • • • • • •	(PoE from 48V 110~220VAC Optional Metal Rack-mount IP30 440 x 44 x 340
Power input Power input (High-Voltage option) Power Redundancy Relay output Mechanical Housing Mr. Installation DIN Ingress Protection IP Dimensions (L x W x H) mm 54 x 11 Supported Temperatures Operations Temperature -20~ Storage Temperature -40~ Network Redundancy STP/RSTP/MSTP ITU-T G.8032 ERPS Ring MRP (Master/Client) Protocols SNMPv1/v2c/v3 Modbus TCP IEEE802.1ad LACP Port Trunking IEEE802.1p QoS IEEE802.1q VLAN	ental Metal -Rail DIN-Rail 30 IP30 3 x 145 54 x 113 x 145	(PoE from 45V) • • • Metal DIN-Rail IP30 76 x 160 x 200	(PoE from 45V) • • • Metal DIN-Rail IP30 95 x 160 x 200	(PoE from 45V) • • • • • • • • • • • • • • • • • •	(PoE from 48V 110~220VAC Optional Metal Rack-mount IP30 440 x 44 x 34(
Power Redundancy Relay output Mechanical Housing Mr. Installation DIN Ingress Protection IP Dimensions (L x W x H) mm 54 x 11 Supported Temperatures Operations Temperature -20~ Network Redundancy STP/RSTP/MSTP ITU-T G.8032 ERPS Ring MRP (Master/Client) Protocols SNMPv1/v2c/v3 Modbus TCP IEEE802.1ad LACP Port Trunking IEEE802.1p QoS IEEE802.1q VLAN	tal Metal Rail DIN-Rail 30 IP30 3 x 145 54 x 113 x 145 70° C -20~70° C	Metal DIN-Rail IP30 76 x 160 x 200	Metal DIN-Rail IP30 95 x 160 x 200	Metal DIN-Rail IP30 95 x 160 x 200	Optional Metal Rack-mount IP30 440 x 44 x 340
Relay output Mechanical Housing Minstallation DIM Ingress Protection IP Dimensions (L x W x H) mm 54 x 11 Supported Temperatures Operations Temperature -20~ Storage Temperature -40~ Network Redundancy STP/RSTP/MSTP ITU-T G.8032 ERPS Ring MRP (Master/Client) Protocols SNMPv1/v2c/v3 Modbus TCP IEEE802.1ad LACP Port Trunking IEEE802.1p QoS IEEE802.1q VLAN	tal Metal Rail DIN-Rail 30 IP30 3 x 145 54 x 113 x 145 70° C -20~70° C	Metal DIN-Rail IP30 76 x 160 x 200	Metal DIN-Rail IP30 95 x 160 x 200	Metal DIN-Rail IP30 95 x 160 x 200	Metal Rack-mount IP30 440 x 44 x 34(
Mechanical Housing Mechanical Housing DIM Installation DIM Ingress Protection IP Dimensions (L x W x H) mm 54 x 11 Supported Temperatures Operations Temperature -20~ Storage Temperature -40~ Network Redundancy STP/RSTP/MSTP ITU-T G.8032 ERPS Ring MRP (Master/Client) Protocols SNMPv1/v2c/v3 Modbus TCP IEEE802.1ad LACP Port Trunking IEEE802.1p QoS IEEE802.1q VLAN	etal Metal Rail DIN-Rail 30 IP30 3 x 145 54 x 113 x 145 70° C -20~70° C	Metal DIN-Rail IP30 76 x 160 x 200 -40~70° C	Metal DIN-Rail IP30 95 x 160 x 200 -40~70° C	Metal DIN-Rail IP30 95 x 160 x 200	Metal Rack-mount IP30 440 x 44 x 340
Housing Mentallation DIN ngress Protection IP Dimensions (L x W x H) mm 54 x 11 Supported Temperatures Diperations Temperature -20~ Network Redundancy STP/RSTP/MSTP TU-T G.8032 ERPS Ring MRP (Master/Client) Protocols SNMPV1/v2c/v3 Modbus TCP EEE802.1ad LACP Port Trunking EEE802.1q VLAN	Rail DIN-Rail 30 IP30 3 x 145 54 x 113 x 145 70° C -20~70° C	DIN-Rail IP30 76 x 160 x 200	DIN-Rail IP30 95 x 160 x 200	DIN-Rail IP30 95 x 160 x 200	Rack-mount IP30 440 x 44 x 34
Installation DIN Ingress Protection IP Dimensions (L x W x H) mm 54 x 11 Supported Temperatures Departations Temperature Departations Temperature -20~ Network Redundancy STP/RSTP/MSTP TU-T G.8032 ERPS Ring MRP (Master/Client) Protocols SNMPV1/V2c/V3 Modbus TCP EEE802.1ad LACP Port Trunking EEE802.1p QoS EEE802.1q VLAN	Rail DIN-Rail 30 IP30 3 x 145 54 x 113 x 145 70° C -20~70° C	DIN-Rail IP30 76 x 160 x 200	DIN-Rail IP30 95 x 160 x 200	DIN-Rail IP30 95 x 160 x 200	Rack-mount IP30 440 x 44 x 34
Ingress Protection Dimensions (L x W x H) mm Supported Temperatures Operations Temperature Operations Temperature -20~ Network Redundancy STP/RSTP/MSTP ITU-T G.8032 ERPS Ring MRP (Master/Client) Protocols SNMPv1/v2c/v3 Modbus TCP IEEE802.1ad LACP Port Trunking IEEE802.1p QoS IEEE802.1q VLAN	30 IP30 3 x 145 54 x 113 x 145 70° C -20~70° C	IP30 76 x 160 x 200 -40~70° C	IP30 95 x 160 x 200 -40~70° C	IP30 95 x 160 x 200 -40~70° C	IP30 440 x 44 x 340
Dimensions (L x W x H) mm Supported Temperatures Operations Temperature Storage Temperature -20~ Network Redundancy STP/RSTP/MSTP ITU-T G.8032 ERPS Ring MRP (Master/Client) Protocols SNMPv1/v2c/v3 Modbus TCP IEEE802.1ad LACP Port Trunking IEEE802.1p QoS IEEE802.1q VLAN	3 x 145 54 x 113 x 145 70° C -20~70° C	76 x 160 x 200 -40~70° C	95 x 160 x 200 -40~70° C	95 x 160 x 200 -40~70° C	440 x 44 x 340
Supported Temperatures Operations Temperature -20~ Storage Temperature -40~ Network Redundancy STP/RSTP/MSTP ITU-T G.8032 ERPS Ring MRP (Master/Client) Protocols SNMPv1/v2c/v3 Modbus TCP IEEE802.1ad LACP Port Trunking IEEE802.1p QoS IEEE802.1q VLAN	70° C -20~70° C	-40~70° C	-40~70° C	-40~70° C	
Operations Temperature -20~ Storage Temperature -40~ Network Redundancy STP/RSTP/MSTP ITU-T G.8032 ERPS Ring MRP (Master/Client) Protocols SNMPv1/v2c/v3 Modbus TCP IEEE802.1ad LACP Port Trunking IEEE802.1p QoS IEEE802.1q VLAN					-40~-70° C
Storage Temperature Network Redundancy STP/RSTP/MSTP ITU-T G.8032 ERPS Ring MRP (Master/Client) Protocols SNMPv1/v2c/v3 Modbus TCP IEEE802.1ad LACP Port Trunking IEEE802.1p QoS IEEE802.1q VLAN					-40~.70° ∩
Storage Temperature -40~ Network Redundancy STP/RSTP/MSTP ITU-T G.8032 ERPS Ring MRP (Master/Client) Protocols SNMPv1/v2c/v3 Modbus TCP IEEE802.1ad LACP Port Trunking IEEE802.1p QoS IEEE802.1q VLAN					
Network Redundancy STP/RSTP/MSTP ITU-T G.8032 ERPS Ring MRP (Master/Client) Protocols SNMPv1/v2c/v3 Modbus TCP IEEE802.1ad LACP Port Trunking IEEE802.1p QoS IEEE802.1q VLAN			-40~85° C	-40~85° C	-40~85° C
STP/RSTP/MSTP ITU-T G.8032 ERPS Ring MRP (Master/Client) Protocols SNMPv1/v2c/v3 Modbus TCP IEEE802.1ad LACP Port Trunking IEEE802.1p QoS IEEE802.1q VLAN					
ITU-T G.8032 ERPS Ring MRP (Master/Client) Protocols SNMPv1/v2c/v3 Modbus TCP IEEE802.1ad LACP Port Trunking IEEE802.1p QoS IEEE802.1q VLAN	•		•		
MRP (Master/Client) Protocols SNMPv1/v2c/v3 Modbus TCP IEEE802.1ad LACP Port Trunking IEEE802.1p QoS IEEE802.1q VLAN		•	•	•	•
Protocols SNMPv1/v2c/v3 Modbus TCP IEEE802.1ad LACP Port Trunking IEEE802.1p QoS IEEE802.1q VLAN		•	•	•	•
SNMPv1/v2c/v3 Modbus TCP IEEE802.1ad LACP Port Trunking IEEE802.1p QoS IEEE802.1q VLAN					
Modbus TCP IEEE802.1ad LACP Port Trunking IEEE802.1p QoS IEEE802.1q VLAN					
IEEE802.1ad LACP Port Trunking IEEE802.1p QoS IEEE802.1q VLAN	•	•	•	•	•
IEEE802.1p QoS IEEE802.1q VLAN	•	•	•	•	•
IEEE802.1q VLAN	•	•	•	•	•
· · · · · · · · · · · · · · · · · · ·	•	•	•	•	•
		•	•	•	•
		•	•	•	•
	•	•	•	•	•
	•	•	•	•	•
Pv4/IPv6	•	•	•	•	•
ACLs	•	•	•	•	•
GARP, GVRP, GMRP	•	•	•	•	•
Layer-3 Switching (Static, RIP, OSPF)	•	•	•	•	•
Compliance					
UL/EN/IEC(CB) 60950-1 and/or 62368-1	•	•	•	•	•
	•	•	•	•	•
UL61010-2-201					
E-Mark					
NEMA TS2					
Marine (DNV.GL)	0	•	•	•	



Oil & Gas

In hazardous environments, guaranteeing safety

The important assets of oil and gas need the highest level of performance, reliability, and safety from components operating in demanding conditions. Utilizing non-sparking components in dangerous environments is the best policy to guarantee safety. In order to achieve the standard of UL Class I Division II and ATEX, Atop designs the hazardous series with Industrial solution in gas, oil, and mine related environments. These places are full with flammable gases, liquids, vapors, and combustible dusts. In addition, we classified apparatus that has no normally arcing parts or these areas in hazardous environments because disasters may be caused with only one small spark. To guarantee the safety thermal effects capable of ignition and the safety of property and people. Atop releases EHG73xx series switches to fulfill this kind of applications. These series can be deployed in components which are hermetically sealed hazardous or explosive condition without increasing the risk of explosion or accelerating the damage if an accident occurs.















	naged Switches	Unmanaged Switches	
		Unmanaged Switches	
General Information			
Model Number	EHG7305	EHG7306	EHG7307
Number of ports			
otal number of ports	5	6	7
ast Ethernet 10/100 BaseT(X)	-	-	-
ast Ethernet Fiber ports (SFP, LC or ST)	-	-	-
Sigabit 10/100/1000 BaseT(X)	5	5	5
Sigabit 100/1000Base-X SFP	-	1	2
Gigabit 1000Base-X SFP	-	-	-
MACsec 802.1AE secure ports	- Mov 4	- Mov 4	- Mov 4
PoE/PoE+ ports	Max 4	Max 4	Max 4
Power input	12~57V (PoE from 12V)	12~57V (PoE from 12V)	12~57V (PoE from 12V)
Power input (High-Voltage option)			
Power Redundancy	•	•	•
Relay output	•	•	•
Mechanical			
Housing	Metal	Metal	Metal
nstallation	DIN-Rail	DIN-Rail	DIN-Rail
ngress Protection	IP30	IP30	IP30
Dimensions (L x W x H) mm	32 x 90 x 110	45 x 90 x 110	45 x 90 x 110
Supported Temperatures			
	40. 700.0	40, 700.0	40, 700.0
Operations Temperature Storage Temperature	-40~70° C -40~85° C	-40~70° C -40~85° C	-40~70° C -40~85° C
	-40.003 6	-40°65 C	-40.003 C
Network Redundancy			
STP/RSTP/MSTP			
ΓU-T G.8032 ERPS Ring			
MRP (Client)			
SNMPv1/v2c/v3			
Modbus TCP			
EEE802.1ad LACP Port Trunking			
EEE802.1p QoS			
EEE802.1q VLAN			
EEE802.1x for Authentication			
EEE1588v2 Hardware-based E2E TC			
GMPv1/v2/v3 IGMP Snooping OHCP Option 66/67/82			
Pv4/IPv6			
CLs			
GARP, GVRP, GMRP			
ayer-3 Switching (Static, RIP, OSPF)			
Compliance			
IL/EN/IEC(CB) 60950-1 and/or 62368-1			
N60950-1 and/or EN62368-1	•	•	•
JL61010-2-201	•	•	•
atex Zone 2 - UL C1D2	•	•	•
E-Mark			
E-Mark NEMA TS2 Marine (DNV.GL)			

















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