

EHG7512 EHG7516 EHG7520 Series

12, 16 or 20-Port High-Bandwidth Industrial Managed Gigabit PoE Switch

FEATURE HIGHLIGHTS



- Up to 16 10/100/1000 RJ45 ports or 100/1000 BASE-X SFP slots. Plus 4 dedicated 1/10G Uplink SFP slots
- Up to 8x 802.3af/ 802.3at PoE/PoE+ Power over Ethernet ports, with maximum 30W PoE power per port and up to 240W power budget
- 128 Gbps High-Performance non-blocking Switching Fabric
- Redundancy through ITU-T G.8032 ERPS Ring, RSTP, STP, MRP (Manager/Client)
- IEEE 1588v2 Precision Time Protocol HW-Based E2E Transparent clock
- Wide temperature operations, from -40°C to 70°C
- UL 62368-1:2014, CE/FCC, NEMA TS-2 certified for traffic control applications
- DNV-GL Marine Application
- Security features based on IEC62443-4-2

PRODUCT DESCRIPTION

Designed to be adaptive, with unprecedented throughput: Atop's EHG7512/16/20 Series offers 24 different versions, making it a very flexible product based on your specific needs. No matter if the 12, 16 or 20 port version, this device offers 4 x 1/10 Gigabit Ethernet SFP uplinks making it a cost-effective, reliable industrial solution where high-throughput and high-reliability is fundamental.

Designed for PoE, in wide temperature: EHG7512/16/20 supports *up to 20 Gigabit ports in different configurations*, either Copper, PoE or Fiber, any 8-port multiple configuration. Specifically designed for bringing power through Ethernet cable virtually anywhere, a **maximum output Power over Ethernet of 240W over a maximum of 8 PoE/PoE+ ports is allowed** (802.3af/at).

Rugged, Wide-Temperature, Well protected design: EHG7512/16/20 is EN61000-6-2, EN61000-6-4, IEC/EN/UL62368-1:2014 and FCC certified and is designed to withstand the harshest environments and the most demanding EMC environment. Its fanless design and EMC Level 3 protection guarantee reliable **operations within -40 and +70°C**, guaranteeing no packet is lost with all ports running full power and makes it suitable to be used for almost every application.

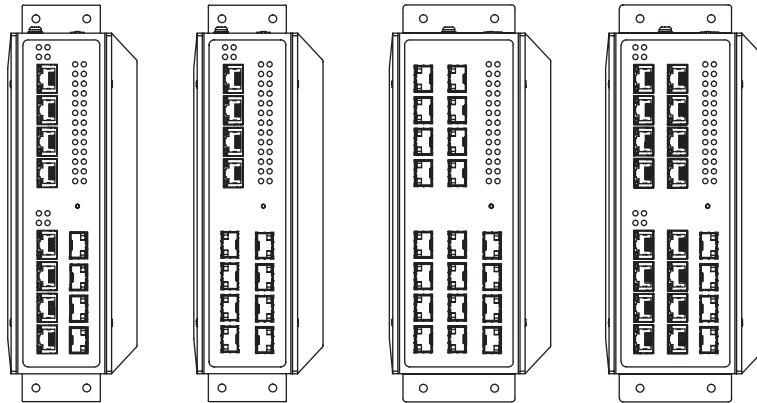
Powerful and versatile: With its high performance, it provides network redundant self-recovery mechanism in less than 20ms on full load, enabling the user to build a reliable network through almost any redundant ring topology. EHG7512/16/20 supports ITU-T G.8032 ERPS Ring, IEEE802.1D-2004 RSTP, STP, MSTP, MRP (Manager/Client), iA-Ring, iA-Chain and many compatible rings protocols for network redundancy. With a Multifunctional web dashboard, it offers intelligent features such as Quality of service (QoS) per port or per VLAN, VLAN, IGMP, Port mirroring and security. To prevent network intrusions, it is necessary to have a good accessing control mechanism that can identify, authenticate and authorize users. EHG7512/16/20 supports user account, password policy, and authentication interface managements functions that comply with IEC62443 standard.

Application-Specific: NEMA TS-2 Certification makes EHG7512/16/20 family the perfect choice for Smart City and Traffic Control applications.

DIMENSIONS & LAYOUT

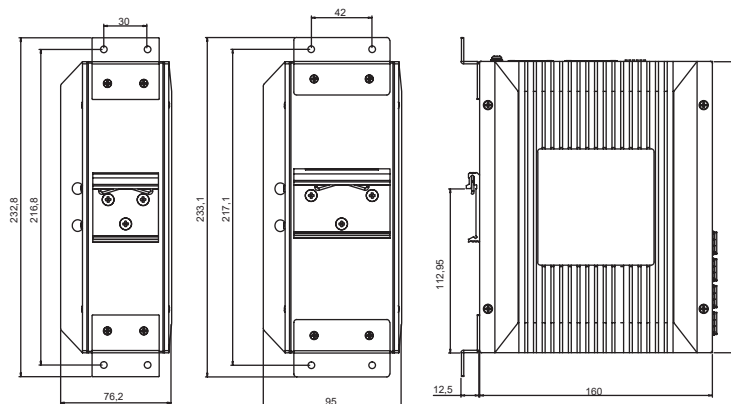
Front View

EHG7512-4PoE-410GSFP EHG7512-4PoE-4SFP-410GSFP EHG7520-16SFP-410GSFP EHG7520-8PoE-410GSFP
 EHG7512-8PoE-410GSFP EHG7512-4SFP-410GSFP
 EHG7512-410GSFP
 EHG7520-4PoE-410GSFP
 EHG7520-410GSFP



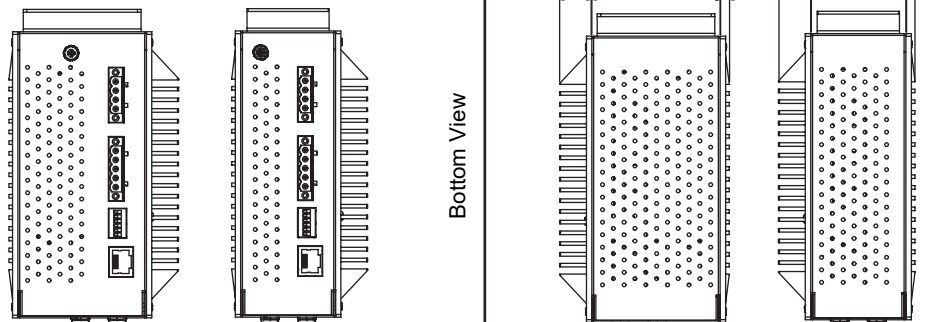
Back View

Side View



Top View

Bottom View



SPECIFICATIONS

Technical Specifications			
Model Name		EHG7512 (12 ports); EHG7516 (16 ports); EHG7520 (20 ports)	
Switch Properties			
Priority Queues		8	
VLAN Table		4096	
MAC-Based VLAN		512	
VLAN ID Range		VID 1 to 4094	
Trunk Group		4	
Static IGMP Groups		128	
Dynamic IGMP Groups		256	
MAC Table Size		16K	
Packet Buffer Size		1.5 MB	
Jumbo Frame		9216 Byte	
Ethernet			
Standards		IEEE 802.3 for 10BaseT IEEE 802.3u for 100BaseT(X) IEEE 802.3ab for 1000BaseT(X) IEEE 802.3z for 1000BaseX IEEE 802.3ae For 10 Gigabit Ethernet Fiber IEEE 802.3x for Flow Control, back pressure flow control IEEE 802.1D-2004 for Spanning Tree Protocol IEEE 802.1w for Rapid Spanning Tree Protocol IEEE 802.1s for Multiple Spanning Tree Protocol IEEE 802.1Q for VLAN Tagging IEEE 802.1p for Class of Service IEEE 802.1X for Authentication IEEE 802.3ad for Port Trunk with LACP IEEE 802.3az for Energy Efficient Ethernet	
Protocols		IPv4, IPv6, IGMPv1/v2/v3, IGMP Snooping, GARP, GMRP, GVRP, SNMPv1/v2c/v3, SNMP Inform, ICMP, Telnet, SSH, DHCP Relay/Client, BootP, TFTP, SMTP, SMTP (Gmail), RMON, HTTP, HTTPS, Syslog, MRP (Manager/Client), LLDP, 802.1x, EAP, RADIUS, TACACS+, Mirror port, QoS, ACL, ITU-T G.8032 ERPS Ring, STP, RSTP, MSTP, Compatible Ring/Chain, U-Ring, NTP Server/Client, Serial Console,Modbus/TCP, IEEE 1588 PTP V1/V2, UDLD, Security, Trunk, LACP, MLD, 802.1Q VLAN, Port-Based VLAN, MAC-Based VLAN, IP-Subnet-Based VLAN, Protocol-Based VLAN, QinQ, 802.1x, ARP spoof Prevention, DHCP snooping, IP source Guard, Dynamic ARP Inspection, DHCP relay Agent	
Redundancy		ITU-T G.8032 ERPS Ring, STP, RSTP, MSTP, Compatible Ring/Chain, U-Ring	
Time Synchronization		Network Synchronization	NTP Server/Client, SNTP
		Precision Network Synchronization	IEEE1588v1 OC/BC (Software) IEEE1588v2 E2E TC (Hardware) - ns acc. IEEE1588v2 OC/BC (Software)
Automation Profiles		Modbus/TCP device status registers provided	
SNMP MIB		MIB II, IF-MIB, SNMPv2 MIB, BRIDGE-MIB, RMON MIB Group 1,2,3,9, RFC RFC 1157, RFC 1213, RFC 1215, RFC 1493, RFC 1643, RFC 1757, RFC 2011, RFC 2012, RFC 2013, RFC 2233, RFC 2571, RFC 2742, RFC 2819, RFC 2863, RFC 3411, RFC 3412, RFC 3413, RFC 3414, RFC 3415, RFC 2674	

Power	
Input Voltage	9-57 VDC for Non-PoE models 45-57 VDC for 802.3af mode 51-57 VDC for 802.3at mode
Input Current (System)	Max. 2.2 A @ 12 VDC (without PoE) Max. 3.3 A @ 45 VDC (Support up to 8 ports at 15.4W per PoE port) Max. 5.2 A @ 51 VDC (Support up to 8 ports at 30W per PoE port)
Power Consumption (System)	Max. 26.4 W @ 12 VDC (without PoE) Max. 148.5 W @ 45 VDC (Support up to 8 ports at 15.4W per PoE port) Max. 265.2 W @ 51 VDC (Support up to 8 ports at 30W per PoE port)
Connector Reverse Polarity Protection	5-Pin 5.08mm Lockable Terminal Block Yes
Interfaces	
RJ45 Ports Fiber Optics Ports LED Indicators Console Relay Output DIP Switches Button	Up to 16 10/100/1000BASE-T(X) auto negotiation speed Up to 16 100/1000BASE-X SFP slot plus 4 1000BASE-X or 4 10G SFP slots PWR1, PWR2, Alarm, Run, Ring, Ring Master, RJ-45 Link/Speed, SFP Link, PoE RS232 (RJ45 connector) 2 relay outputs with current carrying capacity of 1A @ 24 VDC Ring Control and Profinet Setting Reset Button
Physical Characteristics	
Housing Dimension (W x H x D) Weight Installation	IP30 SPCC Metal housing, ruggedized Heat-sink EHG7512: 76 x 200 x 160 mm; EHG7516-EHG7520: 95 x 200 x 160 mm 2,500 g DIN-Rail, Wall mount (optional kit)
Environmental Limits	
Operating Temperature Storage Temperature Ambient Relative Humidity	-40°C~70°C (-40°F~158°F) -40°C~85°C (-40°F~185°F) 5%~95%, 55°C (Non-condensing)

REGULATORY APPROVALS

Regulatory Approvals				
Safety	UL62368-1, 2nd Ed., CSAC22.2 N. 62368-1-14,NZS62368.1:2018,EN62368-1:2014+A11:2017			
Traffic Control	NEMA TS-2			
EMC	FCC Part 15, Subpart B, Class A EN 55032, EN 55024, EN 61000-3-2, EN 61000-3-3, EN 61000-6-2, EN 61000-6-4,			
DNVGL Maritime	DNV-GL			
Test	Item		Value	Level
IEC 61000-4-2	ESD	Contact Discharge	±6kV	3
		Air Discharge	±8kV	3
IEC 61000-4-3	RS	80-1000MHz	10(V/m)	3
		1.4-2.0GHz	3(V/m)	3
		2.0-2.7GHz	10(V/m)	3
IEC 61000-4-4	EFT	AC Power Port	±2.0kV	3
		DC Power Port	±2.0kV	3
		Signal Port	±1.0kV	3
IEC 61000-4-5	Surge	DC Power Port	Line-to Line±1.0kV	3
		DC Power Port	Line-to Earth±2.0kV	3
		Signal Port	Line-to Earth±2.0kV	3
IEC 61000-4-6	CS	0.15-80MHz	10V rms	3
IEC 61000-4-8	PFMF	Enclosure	30 V/m	4
IEC 61000-4-11	DIP	AC Power Port	-	A
Shock Drop Vibration	MIL-STD-810G Method 516.5 MIL-STD-810F Method 516.5 MIL-STD-810F Method 514.5 C-1 & C-2			
RoHS II	Yes			
MTBF	20 Years			

ORDERING INFORMATION

Ordering information		
Model name	Part Number	Description
EHG7512-8PoE-410GSFP	1P1EHG75120001G	4P*1GTX RJ45/PoE;4P*10GFX SFP
EHG7512-410GSFP	1P1EHG75120002G	8*1G RJ45;4*10G SFP
EHG7512-4PoE-410GSFP	1P1EHG75120003G	4*1G RJ45;4*1G PoE;4*10G SFP
EHG7512-4SFP-410GSFP	1P1EHG75120004G	4*1G RJ45;4*1G/4*10G SFP
EHG7512-4PoE-4SFP-410GSFP	1P1EHG75120005G	4*1G PoE;4*1G/4*10G SFP
EHG7512-4PoE-4SFP-410GSFP (Marine)	1P1EHG75120006G	4*1G PoE;4*1G/4*10G SFP
EHG7516-410GSFP	1P1EHG75160001G	12*1G RJ45;4*10G SFP
EHG7516-4PoE-410GSFP	1P1EHG75160002G	8*1G RJ45;4*1G PoE;4*10G SFP
EHG7516-8PoE-410GSFP	1P1EHG75160003G	4*1G RJ45;8*1G PoE;4*10G SFP
EHG7516-4SFP-410GSFP	1P1EHG75160004G	8*1G RJ45;4*1G/4*10G SFP
EHG7516-4PoE-4SFP-410GSFP	1P1EHG75160005G	4*1G RJ;4*1G PoE;4*1G/4*10G SFP
EHG7516-8PoE-4SFP-410GSFP	1P1EHG75160006G	8*1G PoE;4*1G/4*10G SFP
EHG7516-8SFP-410GSFP	1P1EHG75160007G	8*1G RJ45;4*1G/4*10G SFP
EHG7516-4PoE-8SFP-410GSFP	1P1EHG75160008G	4*1G PoE;8*1G SFP;4*10G SFP
EHG7516-12SFP-410GSFP	1P1EHG75160009G	12*1G SFP;4*10G SFP
EHG7516-8PoE-410GSFP (Marine)	1P1EHG7516000AG	4*1G RJ45;8*1G PoE;4*10G SFP
EHG7520-410GSFP	1P1EHG75200001G	12*1G RJ45;4*10G SFP
EHG7520-4PoE-410GSFP	1P1EHG75200002G	12*1G RJ45;4*1G PoE;4*10G SFP
EHG7520-8PoE-410GSFP	1P1EHG75200003G	8*1G RJ45;8*1G PoE;4*10G SFP
EHG7520-4SFP-410GSFP	1P1EHG75200004G	12*1G RJ45;4*1G/4*10G SFP
EHG7520-4PoE-4SFP-410GSFP	1P1EHG75200005G	8*1G RJ;4*1G PoE;4*1G/4*10G SFP
EHG7520-8PoE-4SFP-410GSFP	1P1EHG75200006G	4*1G RJ;8*1G PoE;4*1G/4*10G SFP
EHG7520-8SFP-410GSFP	1P1EHG75200007G	8*1G RJ45;8*1G SFP;4*10G SFP
EHG7520-12SFP-410GSFP	1P1EHG75200008G	4*1G RJ45;12*1G SFP;4*10G SFP
EHG7520-4PoE-12SFP-410GSFP	1P1EHG75200009G	4*1G PoE;12*1G SFP;4*10G SFP
EHG7520-16SFP-410GSFP	1P1EHG7520000AG	16*1G SFP;4*10G SFP

Optional Accessories		
Model name	Part Number	Description
WMK-450-Black	70100000000052G	Aluminum wall mount kit
CBL-RJ45(8P)-DB9(F)-90-C	50891971G	RJ45 to DB9 Female Cross Over Console Cable, 90cm
SDR-75-24	50500752240001G	75W/3.2A DIN-Rail 24VDC power supply 88~264VAC / 124~370VDC input
SDR-240-48	50502401480001G	240W/5A DIN-Rail 48~55VDC power supply 88~264VAC / 124~370VDC input
SDR-480-48	50504801480001G	480W/10A DINRail 48~55VDC power supply 88~264VAC /124~370VDC input
AXFD-1314-0523	522AXFD1314001G	SFP Transceiver;155Mbps, Multi-mode;1310nm;2km;-40~85, DDMI
AXFD-1314-0553	522AXFD1314011G	SFP Transceiver;155Mbps, Single-mode;1310nm;30km;-40~85, DDMI
AXGD-5854-0513	522AXGD5854001G	SFP Transceiver, 1250Mbps, 850nm, Multi-mode, 550m, 3.3V, -40~85°C, DDMI
AXGD-1354-0523	522AXGD1354001G	SFP Transceiver, 1250Mbps, 1310nm, Multi-mode, 2km, 3.3V, -40~85°C, DDMI
AXGD-1354-0533	522AXGD1354011G	SFP Transceiver, 1250Mbps, 1310nm, Single-mode, 10km, 3.3V, 40~85°C,DDMI
AXGD-3354-0593	522AXGD3354001G	SFP Transceiver, 1250Mbps, 1310nm, Single-mode, 40km, 3.3V, 40~85°C,DDMI
AXXE-5886-05B3	522AXXE5886001G	SFP Transceiver;10Gbps Multi;850nm;300m;-40~85°C