

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.
- Powerful Layer-3 Switching, supporting BGPv4, IPv4 Static, RIPv1/v2 and OSPFv2
- Redundancy through ITU-T G.8032 ERPS Ring, RSTP, STP, MRP (Manager/ Client), compatible rings and compatible chains.
- UL 62368-1:2014, CE/FCC, NEMA TS-2 certified for traffic control
- IEEE 1588v2 Precision Time Protocol Hardware-Based End-to-End TC
- Wide temperature operations, from -40°C to 70°C

PRODUCT DESCRIPTION

Designed to be adaptive, with unprecedented throughput: Atop's EHG7612/16/20 Series offers 24 different versions and 24 making it a very flexible product based on your specific needs for Layer-3 Switching. 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.

Layer-3 routing support BGPv4, IPv4 static routing, RIP v1/v2 and OSPFv2.

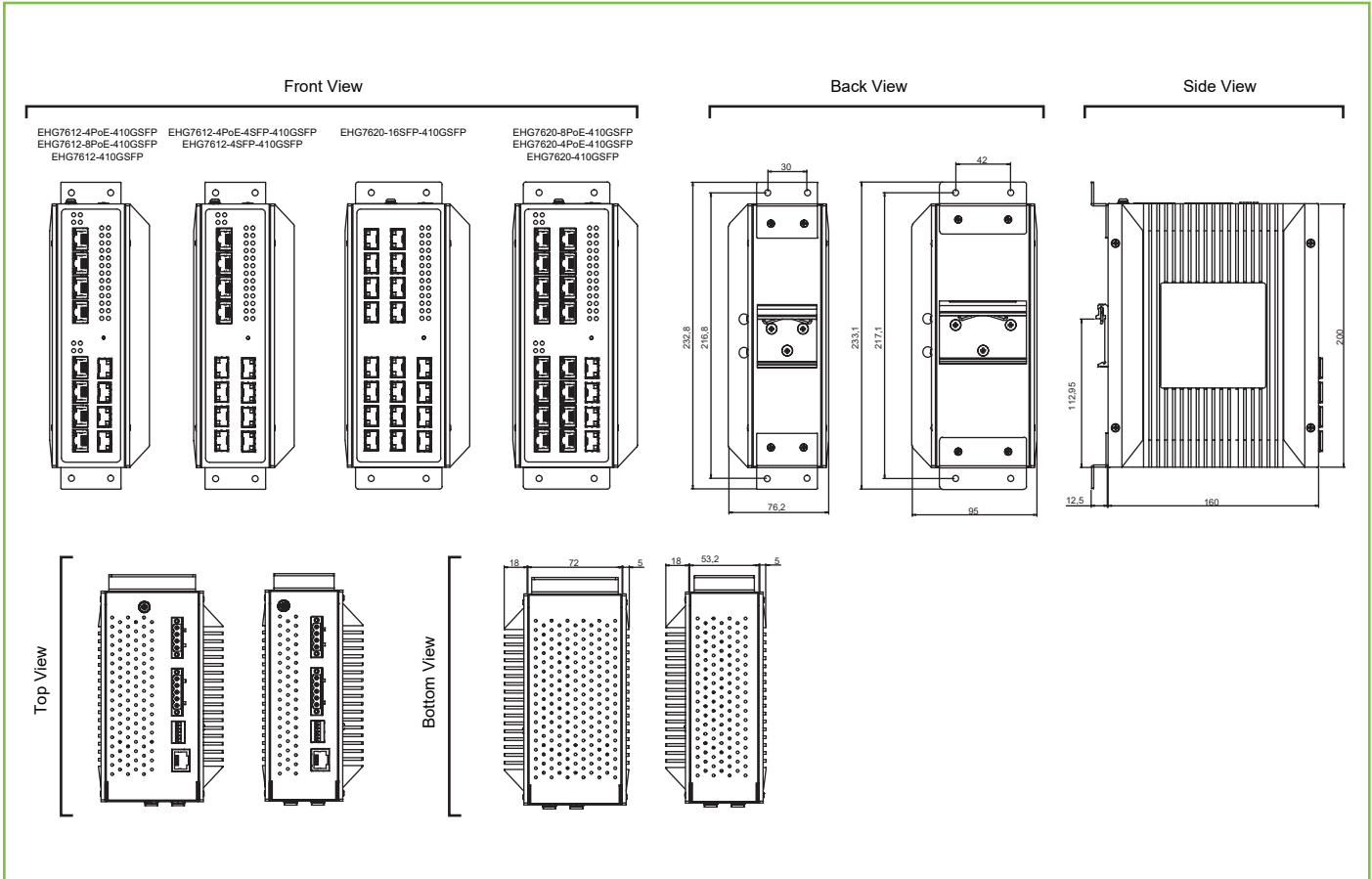
Designed for PoE, in wide temperature: EHG7612/16/20 supports *up to 20 Gigabit ports in different configurations*, either Copper, PoE or Fiber, any 8-port multiple configuration. Specifically designed for bringing power through Ethernet cable virtually anywhere, a **maximum output Power over Ethernet of 240W over a maximum of 8 PoE/PoE+ ports is allowed** (802.3af/at).

Rugged, Wide-Temperature, Well protected design: EHG7612/16/20 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 is less than 20ms on full load that enables the user to build a reliable network through almost any redundant ring topology. It 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, its offers intelligent features such as QoS, VLAN, IGMP, Port mirroring and security.

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

DIMENSIONS & LAYOUT



SPECIFICATIONS

Technical Specifications

Model Name EHG7612 (12 ports) ; EHG7616 (16 ports); EHG7620 (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 Server/Relay/Client, DHCP Option 66/67/82, BootP, RARP, TFTP, SMTP, SMTP (Gmail), RMON, HTTP, HTTPS, Syslog, MRP (Manager/ Client), LLDP, 802.1x, EAP, RADIUS, TACACS+, Mirror port, QoS, ACL, BGPv4, DHCP Snooping, ARP Spoof Prevention, Dynamic ARP Inspection, MLD, UDLD, IP Source Guard
Layer-3 Protocols	Routing: IPv4 Unicast static routing, RIP v1/v2, OSPFv2, Multicast: IGMPv1/v2/v3, DVMRP, PIM-DM, PIM-SM, PIM-SSM Routing Redundancy: VRRP (Virtual Router Redundancy Protocol)
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
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)e
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	IP30 SPCC Metal housing, ruggedized Heat-sink
Dimension (W x H x D)	EHG7612: 76 x 200 x 160 mm; EHG7616-EHG7620: 95 x 200 x 160 mm
Weight	2,500 g
Installation	DIN-Rail, Wall mount (optional kit)
Environmental Limits	
Operating Temperature	-40°C~70°C (-40°F~158°F)
Storage Temperature	-40°C~85°C (-40°F~185°F)
Ambient Relative Humidity	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,			
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
EHG7612-8PoE-410GSFP	1P1EHG76120001G	4P*1GTX RJ45/PoE;4P*10GFX SFP
EHG7612-410GSFP	1P1EHG76120002G	8*1G RJ45;4*10G SFP
EHG7612-4PoE-410GSFP	1P1EHG76120003G	4*1G RJ45;4*1G PoE;4*10G SFP
EHG7612-4SFP-410GSFP	1P1EHG76120004G	4*1G RJ45;4*1G/4*10G SFP
EHG7612-4PoE-4SFP-410GSFP	1P1EHG76120005G	4*1G PoE;4*1G/4*10G SFP
EHG7616-410GSFP	1P1EHG76160001G	12*1G RJ45;4*10G SFP
EHG7616-4PoE-410GSFP	1P1EHG76160002G	8*1G RJ45;4*1G PoE;4*10G SFP
EHG7616-8PoE-410GSFP	1P1EHG76160003G	4*1G RJ45;8*1G PoE;4*10G SFP
EHG7616-4SFP-410GSFP	1P1EHG76160004G	8*1G RJ45;4*1G/4*10G SFP
EHG7616-4PoE-4SFP-410GSFP	1P1EHG76160005G	4*1G RJ;4*1G PoE;4*1G/4*10G SFP
EHG7616-8PoE-4SFP-410GSFP	1P1EHG76160006G	8*1G PoE;4*1G/4*10G SFP
EHG7616-8SFP-410GSFP	1P1EHG76160007G	8*1G RJ45;4*1G/4*10G SFP
EHG7616-4PoE-8SFP-410GSFP	1P1EHG76160008G	4*1G PoE;8*1G SFP;4*10G SFP
EHG7616-12SFP-410GSFP	1P1EHG76160009G	12*1G SFP;4*10G SFP
EHG7516-8PoE-410GSFP (Marine)	1P1EHG7516000AG	4*1G RJ45;8*1G PoE;4*10G SFP
EHG7620-410GSFP	1P1EHG76200001G	12*1G RJ45;4*10G SFP
EHG7620-4PoE-410GSFP	1P1EHG76200002G	12*1G RJ45;4*1G PoE;4*10G SFP
EHG7620-8PoE-410GSFP	1P1EHG76200003G	8*1G RJ45;8*1G PoE;4*10G SFP
EHG7620-4SFP-410GSFP	1P1EHG76200004G	12*1G RJ45;4*1G/4*10G SFP
EHG7620-4PoE-4SFP-410GSFP	1P1EHG76200005G	8*1G RJ;4*1G PoE;4*1G/4*10G SFP
EHG7620-8PoE-4SFP-410GSFP	1P1EHG76200006G	4*1G RJ;8*1G PoE;4*1G/4*10G SFP
EHG7620-8SFP-410GSFP	1P1EHG76200007G	8*1G RJ45;8*1G SFP;4*10G SFP
EHG7620-12SFP-410GSFP	1P1EHG76200008G	4*1G RJ45;12*1G SFP;4*10G SFP
EHG7620-4PoE-12SFP-410GSFP	1P1EHG76200009G	4*1G PoE;12*1G SFP;4*10G SFP
EHG7620-16SFP-410GSFP	1P1EHG7620000AG	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