

RELIABLE SECURE CONNECTIVITY

XRG7528 Series

Industrial Rack-Mount Managed Modular Gigabit Ethernet PoE Switch





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FEATURE HIGHLIGHTS

- Maximum 128Gbps switching capacity, 95.24Mpps throughput
- Rugged industrial design for -40~75° C harsh environment operation
- Flexible modular configuration, 3 Module-dedicated slots
- Up to 24 PoE ports, with maximum 720W of PoE power budget
- 4 x 1 Gigabit or 4 x 10 Gigabit SFP Uplink slots
- Up to 20 possible configurations in 4 power input versions
- ITU-T G.8032 ERPS Ring, RSTP, or MRP (client) redundancy
- EN50155 / EN50121-4 Certified for Railway applications
- PROFINET v2.33 CC-B conformance, Provides GSD Description file
- Advanced management features



PRODUCT DESCRIPTION

Flexible: AGATEL's high-density XRG7528 Managed Rack-mount switch will provide you the flexibility your application needs. You will be able to choose among 8 different Core versions (based on power supply and uplink port configurations) and three different 8-Port modules and customize your device in a very simple way.

Designed for PoE, in wide temperature: XRG7528 supports up to 24 Gigabit ports in any 8-port multiple configuration. Specifically designed for bringing power through Ethernet cable virtually anywhere, a maximum output Power over Ethernet of 720W over the 24 ports is allowed (PoE/PoE+ configuration - 802.3af/at). Available in four power input variants, XRG7528 is EN 60950-1:2006 certified and is designed to withstand the harshest environments. Its fanless design and EMC Level 3 protection guarantee reliable operations within -40 and +75°C.

Powerful and versatile: With its high performance, its 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. XRG7528 supports ITU-T G.8032 ERPS Ring, IEEE802.1D-2004 RSTP, STP, MSTP, MRP (Client), iA-Ring, iA-Chain and many compatible rings protocols for network redundancy. With a Multifunctional web dashboard, its offers intelligent features such as Quality of service (QoS), IGMP, Port mirroring and security.

Automation and IoT ready: Conforming with Profinet CC-B v2.33 and being EtherNet/IP ready make XRG7528 the perfect candidate for being the backbone of your Industrial automation network.

The XRG7528 Series is fully EN50155-certified to ensure reliable performance under a wide range of power supply conditions, and it complies with essential sections of EN50121-4 for ground equipment.



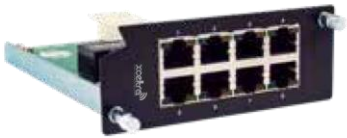
CONFIGURATION



XRG7528-C-410GS-R Main unit, with 4 x 10 Gigabit SFP uplink slots and redundant AC power input



XRG7X28-M1
8-port Gigabit RJ45 PoE module



XRG7X28-M2
8-port Gigabit RJ45 module



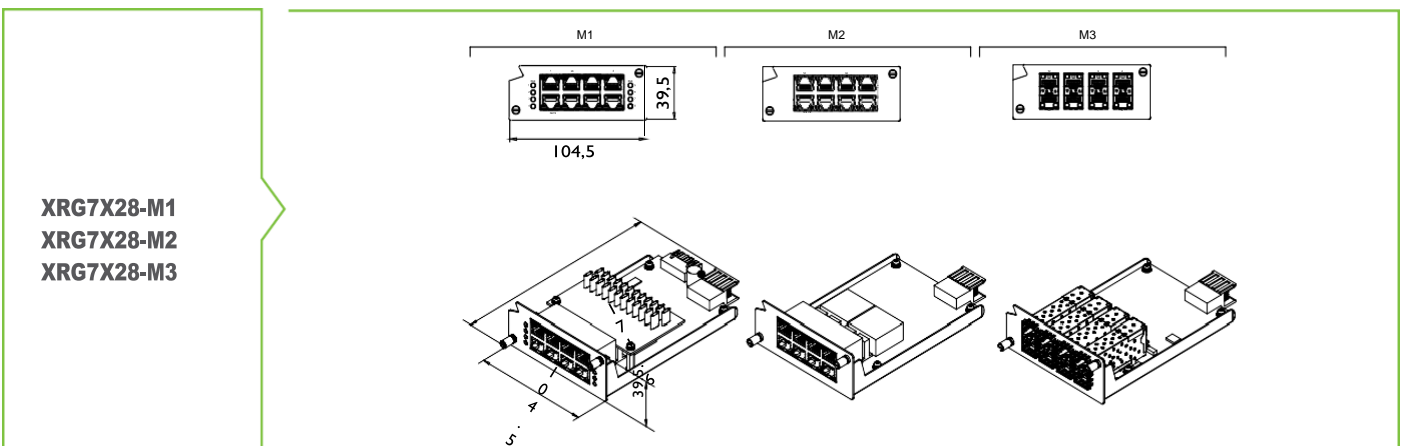
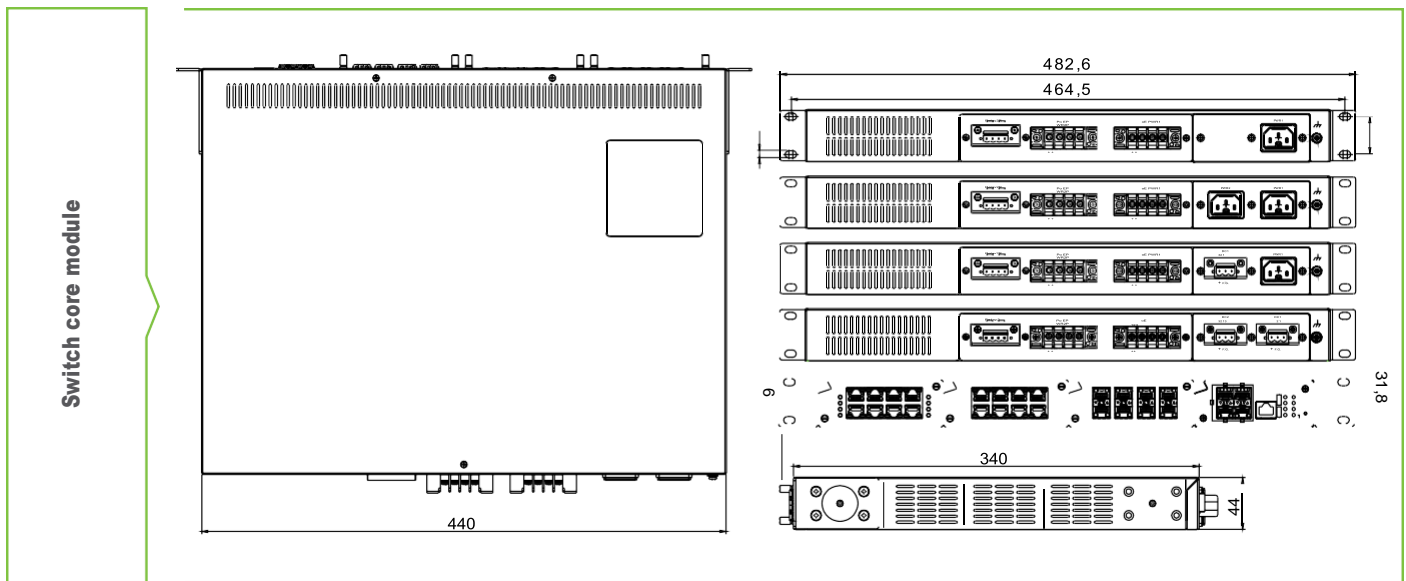
XRG7X28-M3
8 port 100/1000 SFP module



24 port Layer-2 Managed Switch, with 8 Gigabit PoE ports, 8 Gigabit RJ45 ports, 8 100/1000 SFP slots and 4 x 1/10 GbE SFP uplink slots



DIMENSIONS & LAYOUT





Switch core



Technical Specifications

Model Name	XRG7528
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Switch Properties

Priority Queues	8
VLAN Table	4096
MAC-Based VLAN VLAN ID Range Static IGMP Groups	512
Dynamic IGMP Groups MAC Table Size Packet Buffer Size Jumbo Frame	VID 1 to 4094
Switching Fabric Capacity Maximum throughput	128
	256
	16k
	1.5 MB 9216
	Byte
	56 Gbps (1G uplinks) / 128 Gbps (10G uplinks)
	41.67 Mpps (1G uplinks) / 95.24 Mpps (10G uplinks)

Ethernet

Standards	<p>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 802.1ae for MAC security (MACsec) – on XRGM4-XRGM5 only IEEE 802.3ad for Port Trunk with LACP IEEE 802.3az for Energy Efficient Ethernet</p>
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Protocols	<p>IPv4, IPv6, IGMPv1/v2/v3, IGMP snooping, GARP, GMRP, GVRP, SNMPv1/v2c/ v3, SNMP Inform, ICMP, Telnet, SSH, DHCP Relay/Client/IP-port-mapping, DHCP Option 66/67/82, BootP, RARP, TFTP, SMTP, SMTP (Gmail), RMON, HTTP, HTTPS, Syslog, MRP(Client), LLDP, 802.1x, EAP, RADIUS, TACACS+, Mirror port, QoS, ACL</p>
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Redundancy	ITU-T G.8032 ERPS Ring, STP, RSTP, MSTP, Compatible Ring/Chain, U-Ring
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Time Synchronization	Network Synchronization	NTP Server/Client, SNTP
	Precision Network Synchronization	IEEE1588v1 OC/BC (Software) IEEE1588v2 TC (Hardware) - ns accuracy IEEE1588v2 OC/BC (Software)

Automation Profiles	Profinet v2.33 CC-B conformance, EtherNet/IP, Modbus/TCP status registers
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MIB	<p>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</p>
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Protocols	IPv4, IPv6, IGMPv1/v2/v3, IGMP snooping, GARP, GMRP, GVRP, SNMPv1/v2c/ v3, SNMP Inform, ICMP, Telnet, SSH, DHCP Relay/Client/IP-port-mapping, DHCP Option 66/67/82, BootP, RARP, TFTP, SMTP, SMTP (Gmail), RMON, HTTP, HTTPS, Syslog, MRP(Client), LLDP, 802.1x, EAP, RADIUS, TACACS+, Mir-ror port, QoS, ACL	
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Power		
Input Voltage	Switch Core:	DC version: redundant 48~57 VDC AC version: single 110~220 VAC Redundant AC version: dual 110~220 VAC Mixed AC/DC -Redundant: 1x110~220VAC & 48~57VDC
	PoE:	2 x 48-57 VDC (each power input max 360W)
Input Current (Max)	CPU board AC/redundant AC: 110-220 VAC, 0.58 A Max, 64W Max CPU board redundand DC 48-57 VDC , 0.68A Max, 32.7W Max 802.3af PoE full loading: 45-57 VDC, 8.4A Max, 370W Max 802.3at PoE+ full loading: 51-57 VDC, 14.4A Max, 720W Max	
Connectors	2x Lockable 5-pin terminal blocks for PoE power input (all vers.) 2x Lockable 3-pin terminal blocks for DC power input (DC vers.) 1-2 x AC power inlet (non-redundant(x1) / -MR version(x1) / -R(x2)) 1 x Lockable 3-pin terminal blocks for DC power input (-MR version)	
Reverse Polarity Protection	Yes	
Physical Characteristics		
Housing Dimension (W x H x D) Weight Installation	IP30 SPCC metal housing 440 x 44 x 340 mm (not including screws and rack-mount kit) 5Kg (not including module but module cover only) 1U Rack-mount, Rack-mount kit included	
Environmental Limits		
Operating Temperature Storage Temperature Ambient Relative Humidity	-40°C~75°C (-40°F~167°F) -40°C~85°C (-40°F~185°F) 5%~95%, 55°C (Non-condensing)	



Switch Modules



Technical Specifications

Description	8-Port RJ45 PoE module	8-Port RJ45 module	8-Port SFP module
Model Name	XRG7X28-M1	XRG7X28-M2	XRG7X28-M3

Properties

PoE Power per port	15.4/30W (802.3af/at)	-	-
Total Max Power	240 W	-	-
Number of ports	8	8	8
Port speed	10/100/1000 BASE-T(X)	10/100/1000 BASE-T(X)	100/1000 BASE-F(X)
Interface	RJ45	RJ45	SFP slot
Dimensions	104.5 x 171.6 x 39.5mm	104.5 x 171.6 x 39.5mm	104.5 x 171.6 x 39.5mm
Weight	550 g	500 g	450 g
Fixing	2 x screws (included)	2 x screws (included)	2 x screws (included)





REGULATORY APPROVALS

Regulatory Approvals				
Safety	UL 60950-1 2nd Ed./CSA C22.2 No.60950-1-07 2nd Ed./EN 60950-1/UL 62368-1/IEC 62368-1			
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	±8KV	4
		Air Discharge	±15KV	4
IEC 61000-4-3	RS	Enclosure Port	10(V/m), 80-1000MHz	3 *
IEC 61000-4-4	EFT	AC Power Port	±2.0KV	3
		DC Power Port	±2.0KV	3
		Signal Port	±2.0KV	4
IEC 61000-4-5	Surge	AC Power Port	Line-to Line±1.0KV	3
		AC Power Port	Line-to Earth±2.0KV	3
		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)	AC 50Hz 10A/m	3
IEC 61000-4-11	DIP	AC Power Port	-	-
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			
Rail Traffic	EN50155 / EN50121-4 Certified			
RoHS2	Yes			
MTBF	12.20 Years			
Warranty	5 years			

* EMC level 3 on CS/RS pass conditional to the use of Shielded Ethernet Cable



ORDERING INFORMATION

Main core switch ordering information

Model Name	Slots	Uplink ports	Power supply
XRG7528-C-4GS-R	3	4 x 1 Gb SFP	Single 110~220 VAC + Dual 48~57 VDC PoE
XRG7528-C-4GS-R	3	4 x 1 Gb SFP	Dual 110~220 VAC + Dual 48~57 VDC for PoE
XRG7528-C-4GS-MR	3	4 x 1 Gb SFP	Single 110~220 VAC + Single 48~57 VDC (CPU) and Dual 48~57 VDC for PoE
XRG7528-C-4GS-DC	3	4 x 1 Gb SFP	Dual 48~57 VDC + Dual 48~57 VDC for PoE
XRG7528-C-410GS-R	3	4 x 10 Gb SFP	Single 110~220 VAC + Dual 48~57 VDC PoE
XRG7528-C-410GS-R	3	4 x 10 Gb SFP	Dual 110~220 VAC + Dual 48~57 VDC for PoE
XRG7528-C-410GS-MR	3	4 x 10 Gb SFP	Single 110~220 VAC + Single 48~57 VDC (CPU) and Dual 48~57 VDC for PoE
XRG7528-C-410GS-DC	3	4 x 10 Gb SFP	Dual 48~57 VDC + Dual 48~57 VDC for PoE

Modules ordering information

Model Name	RJ45 PoE ports	RJ45 non-PoE ports	SFP ports
XRG7X28-M1	8	-	-
XRG7X28-M2	-	8	-
XRG7X28-M3	-	-	8



OPTIONAL ACCESSORIES

Model name	Description
XPC-7X28-US	XRG7X28-M1 US AC Power Cable (SS004-240)
XPC-7X28-EU	XRG7X28-M1 EU AC Power Cable (SS004-241)
XDP-240-48	DINRAIL POWER SUPPLY / T; AC 100~240V to 48V~55V DC 5A; 240W
XDP-480-48	DINRAIL POWER SUPPLY / T; AC 100~240V to 48V~55V DC 10A; 480W
XTR-38-FM-2K	SFP Transceiver, 155Mbps, 1310nmFP, Multi-mode, 2km, 3.3V, -40~85°C
XTR-38-FS-30K	SFP Transceiver, 155Mbps, 1310nmFP, Single-mode, 30km, 3.3V, -40~85°C
XTR-28-SX-550M	SFP Transceiver, 1250Mbps, 850nmVCSEL, Multi-mode, 550m, 3.3V, -20~85°C
XTR-38-SX-2K	SFP Transceiver, 1250Mbps, 1310nmFP, Multi-mode, 2km, 3.3V, -40~85°C
XTR-38-LX-10K	SFP Transceiver, 1250Mbps, 1310nmFP, Single-mode, 10km, 3.3V, -40~85°C
XTR-38-LX-30K	SFP Transceiver, 1250Mbps, 1310nmDFB, Single-mode, 30km, 3.3V, -40~85°C
XTR-28-10G-SR	SFP Transceiver, 10.3Gbps, 850nmFP, Multi-mode, 10km, 3.3V, -10~85°C
XTR-38-10G-LR	10G SFP Transceiver, 10000Mbps, 1310nm, Single-mode, 10km
XTR-48-10G-ER	10G SFP Transceiver, 10000Mbps (10Gbps), 1550nm, Single-mode, 40km



WHO WE ARE

Built on 20 years of experience in designing and manufacturing industrial networking products, **Agatel** was established from the UK to serve the infrastructure and industrial sectors in EMEA markets with reliable connectivity for mission-critical systems in demanding environments.

Experienced in hardware and software design and integration, we produce high-quality yet cost-effective industrial networking and communication products with great customization capabilities and robust implementations, equipping our customers for reliable secure industrial networks.



WHAT WE OFFER

The needs of our customers' industry are different from those of corporate IT environments – industrial operating environments are tough and the impact of failure in the field can lead to business threatening situations, hence our products will have lifetimes in excess of 20 years.

From entry-level to high-performance industry-certified hardware, **Agatel** offers a full solution spectrum to suit our customers' budgets and application requirements, with features such as industrial-grade reliability, integrated security, network redundancy, and advanced performance.

Our product solution profile includes industrial Ethernet switches, network time servers, media converters, industrial wireless devices, and serial device servers, covering a wide array of mission-critical applications such as automation, security, transport, water, oil and gas, and power grids.



WHY CHOOSE US

We help our customers reduce downtime and operational costs of their industrial applications in harsh environments. Leading system integrators in EMEA rely on our niche technical expertise and product quality to increase their applications' robustness, revenues, and competitive differentiation.

Agatel ruggedized high-quality solutions are designed to deliver zero-network-downtime for harsh project demands, allowing for reliable connectivity to keep people and assets safe and secure in harsh and hazardous environments, and allowing customers to focus on growing their business.

Agatel Ltd

1st Floor, Apex House
Calthorpe Road, Edgbaston
Birmingham B15 1TR
United Kingdom

Tel: +44 121 809 8855

E-mail: info@agatel.co.uk

Website: www.agatel.co.uk