Smart solutions for smart networks

Version 1.3

SWMM-H-7528 & 7628

MODULAR 10GE SWITCH

EN-50121-4 & EN-50155

MODULAR
12 to 28 ports

RAILWAY
EN-50121-4
EN-50155

POE 30W
802.3af/at

RESILIENCY
VRRP
G.8032

PTP IEEE.1588
BC and TC

SECURITY
MACsec

LAYER 2 & 3
RIP OSPF VRRP

Introduction

SWMM-H-7528 and SWMM-H-7628 are 19'' manageable switches that bring higher versatility to industrial networks. The range of products is made of 8 products with options for 10GE uplink ports and redundant power converters with 48 Vdc or 110-230 Vac inputs. Three modular cards can be inserted in the equipment with a choice of 5 different cards for RJ45 or SFP interfaces, POE and MACsec options.

SWMM-H-7628 adds layer 3 protocols including IMGP, RIP, OSPF and VRRP.

Designed for the Railway and other Mission Critical Networks : SWMM-H-7528 is certified according the environmental requirements of the EN-50121-4 and EN-50155 standards. It is a great solution for the Smart-Citiy, Intelligent Traffic Systems, Railway networks that require ruggedized products with POE interfaces to IP cameras and other POE devices.

High accuracy synchronization : SWMM-H-7528 embeds a hardware synchronization system for IEEE-1588 PTP services with a high accuracy OCXO oscillator for best quality synchronization and hold-over with a stability performance better than 1µs / day.

MACsec encryption : SWMM-H-7528 supports authentication and encryption based on MACsec IEEE 802.1ae standard. Communication between two MACsec is highly secured.

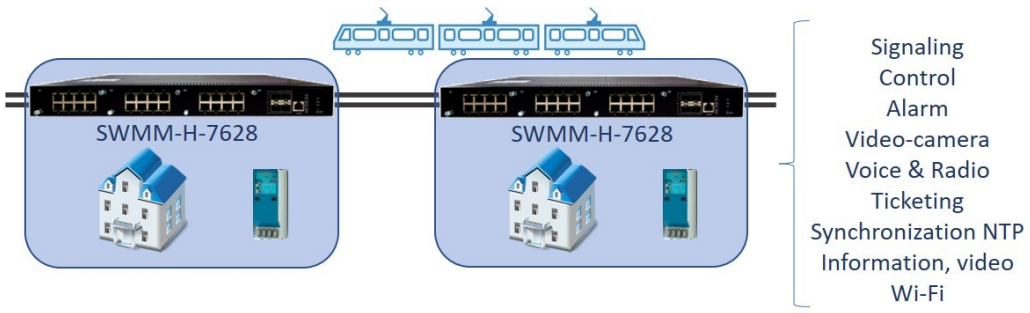
Automatin and IoT : SWMM-H-7528 is designed for the automation industry with Profinet CCB v2.33 and EtherNET/IP features.

Higher availability, versatility, performance : SWMM-H-7528 suits the most demanding requirements of the transport networks thanks to its high performances and resiliency protocols that perform network recovery within less than 20ms based on G.8032 ring protection. SWMM-H-7528 is highly manageable and it supports all functionalities for QoS, VLAN, IGMP, 802.1X and Radius authentication for stronger network security.

Applications

SWMM-H-7528 is a perfect solution for the automation, smart city and public transportation networks. It is certified according to the EN-50121-4 and EN-50155 railway standards.

SWMM-H-7528 is a very versatile Ethernet switch thanks to its modularity and a large choice of POE, SFP optical ports, MACsec options and scalability to 40 Gigabit uplink bandwidth. Its feature rich software serves any network requirements with higher added-value from layer 3 routing, PTP synchronisation, ERPS resiliency, VLAN and QoS traffic control and extensive cybersecurity services.



CXR Networks

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Specifications

Switch	
Model	SWMM-H-7528 & SWMM-H-7628
Ethernet	
Priority Queues VLAN Table MAC-Based VLAN VLAN ID Range Trunk Group Static IGMP Groups Dynamic IGMP Groups MAC Table Size Packet Buffer Size Jumbo Frame Switching Fabric Capacity Maximum throughput	8 4,096 512 VID 1 to 4094 8 128 256 16k 1.5 MB 9216 Byte 128 Gbps 95.24 Mpps
Ethernet and IP Protocols	
Standards	IEEE 802.3 for 10BASE-T IEEE 802.3u for 100BASE-T(X) IEEE 802.3u for 100BASE-FX IEEE 802.3ab for 1000BASE-T(X) IEEE 802.3z for 1000BASE-X IEEE 802.3ae For 10 Gigabit Ethernet Fiber IEEE 802.3x for Flow Control, backpressure control IEEE 802.1D-2004 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 8021X for Authentication IEEE 802.1AB Link Layer Discovery Protocol (LLDP) IEEE 802.1Q VLAN IEEE 802.3ad for Port Trunk with LACP
Ethernet Protocols	IPv4, IPv6, IGMPv1/v2/v3, GMRP, GVRP, SNMPv1/v2c/v3, SNMP Inform, ICMP, Telnet, SSH, DHCP Server/Relay/Client, DHCP Option 66/67/82, BootP, TFTP, NTP Server/Client, SNTP, SMTP, RMON, HTTP, HTTPS, Telnet, Syslog, MRP, ERPS, LLDP, IEEE 1588 PTP V2(Hw-based), 802.1x, RADIUS
Layer 3 IP Protocols SWMM-H-7628	Routing : static, RIP v1/v2, OSPF v2 Multicast : IGMP v1/v2/v3, DVMRP, PIM-DM, PIM-SM, PIM-SSM L3 Resiliency : VRRP
Resiliency	ITU-T G.8032 ERPS, STP, RSTP, MSTP, MRP, Compatible Ring/Chain, U-Ring
Automation Profile	Profinet v2.33 CC-B, Modbus TCP
MIB	MIB II, IF-MIB, SNMPv2 MIB, BRIDGE-MIB, RMON MIB Group 1,2,3,9

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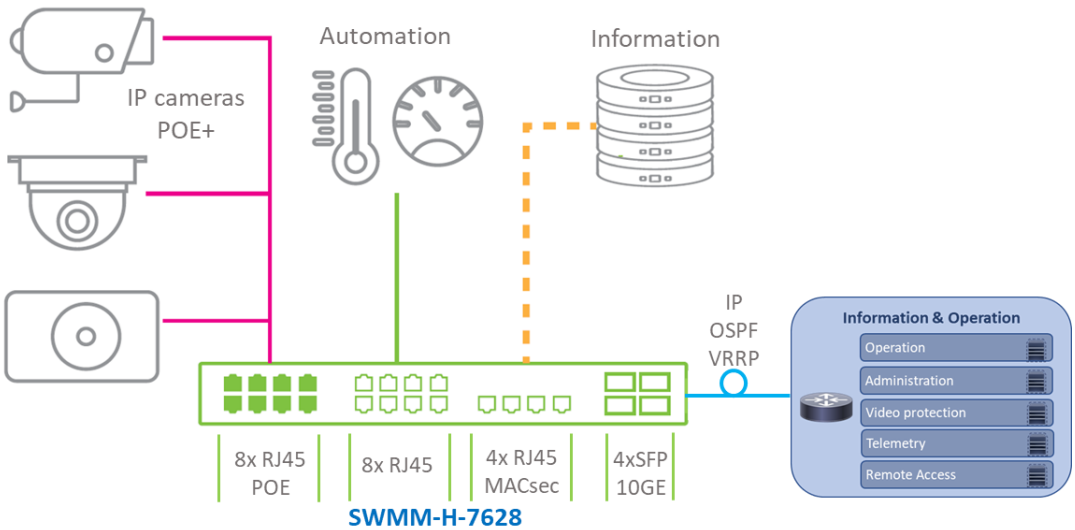
Specifications

PTP Sync-E Synchronization		
Synchronization	NTP Server	NTP Server/Client, SNTP
	PTP IEEE 1588 v2 Boundary Clock, Transparent Clock Holdover < 30 ns/s Layer 2 : Multicast, E2E/P2P, one or two-step Layer 3 IP v4 : Multicast, Unicast, Unicast Neg. (E2E/P2P) Profiles : IEC-61850-9-3 Power Profile, Télécom Profile	
Power suplpy		
System power supply	DC : 2x 48 Vdc inputs and converters AC : 2x 110-230 Vac inputs and converters Typical power consumption : 45 W Max power consumption : 65 W	
POE power supply	2x POE power supply inputs Input range : 48–57 Vdc Max power on each POE input : 360 W Total POE power : 720 W	
Reverse Polarity Protection	Yes	
Connectors	AC : IEC 60320 C15 socket and power cord System DC : 3 pin screw bloc POE : 5 pin screw bloc	
Relay output	2x dry relay outputs (24V/1A)	
Mechanical specifications		
Enclosure Dimensions (W x H x D) Weight Installation	Metallic enclosure with IP30 protection 440 x 44x 340 mm (without screw, connectors and 19'' brackets) 5 kg (no add-on card – each add-on card : 0.5 kg) 1U / 19'', 19'' mounting kit included	
Environmental specifications		
Operating temperature Stocking temperature Hygrometry Electromagnetic Environment Protection Conformity MTBF	-40°C to 75°C -40°C to 85°C 5% to 95% at 55°C, non-condensing EN-61000-6-2, EN-61000-6-4, EN-50121-4, EN-50155 MIL-STD-810-F/G IP-30 CE, EN-63268-1, ROHS 185 000 Hours	

Automation Network Application



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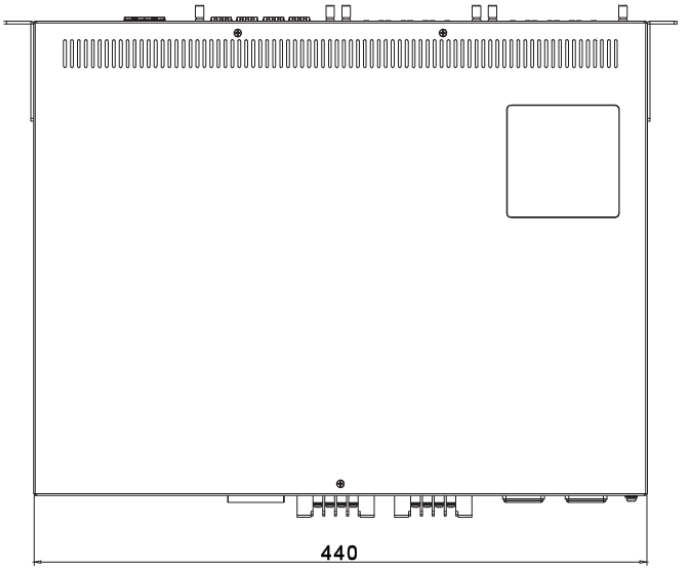
Certifications

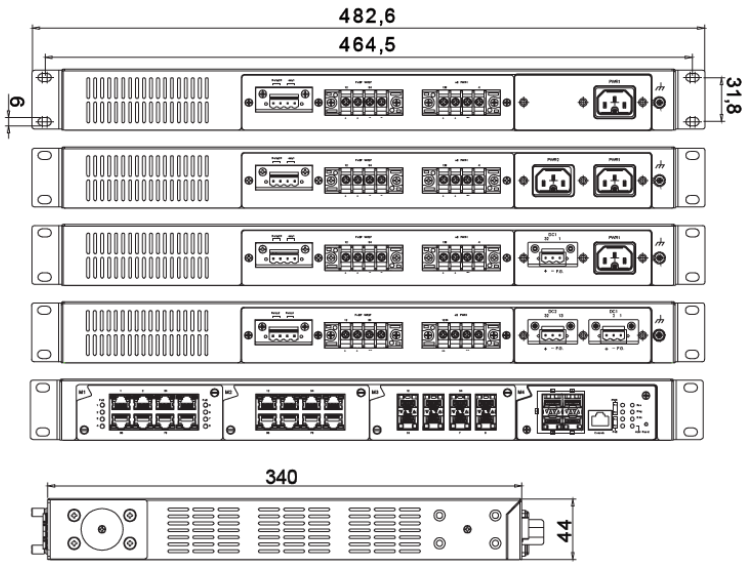
CERTIFICATION	STANDARD
safety	UL 60950-1 2nd Ed./CSA C22.2 No.60950-1-07 2nd Ed. / EN 60950-1 / UL 62368-1 / IEC 62368-1
EMC	FCC Part 15, Subpart B, Class A EN 55032, EN55024, EN 61000-3-2, EN 61000-3-3, EN 61000-6-2, EN 61000-6-4
Rail Traffic	EN 50155 / EN 50121-4
RoHS 2	Yes

STANDARD	ITEM	TEST	VALUE	LEVEL
IEC 61000-4-2	ESD	Contact Discharge	±8kv	4
IEC 61000-4-2	ESD	Air Discharge	±15kv	4
IEC 61000-4-3	RS	80-1000MHz	10V/m	3
IEC 61000-4-4	EFT	AC Power Port	±2.0kV	3
IEC 61000-4-4	EFT	DC Power Port	±2.0kV	3
IEC 61000-4-4	EFT	Signal Port	±2.0kV	4
IEC 61000-4-5	Surge	AC Power Port (L-2-L)	±1.0kV	3
IEC 61000-4-5	Surge	AC Power Port (L-2-L)	±2.0kV	3
IEC 61000-4-5	Surge	DC Power Port (L-2-L)	±1.0kV	3
IEC 61000-4-5	Surge	DC Power Port (L-2-E)	±2.0kV	3
IEC 61000-4-5	Surge	Signal Port (L-2-E)	±2.0kV	3
IEC 61000-4-6	CS	0.15-80MHz	10 V rms	3
IEC 61000-4-8	PFMF	Enclosure	AC 50Hz 10A/m	4
IEC 61000-4-11	DIP	AC Power Port	-	-

CERTIFICATION	STANDARD
Shock	MIL-STD-810G Method 516.5
Drop	MIL-STD-810F Method 516.5
Vibration	MIL-STD-810F Method 514.5 C-1 & C-2
Warranty	2 years
MTBF	20 years

Mechanical specifications





Ordering informations

SWMM-H-7528 & SWMM-H-7628				
Reference	**Layer 3 routing**	**Slots**	**Uplink**	**Power supply**
SWMM-H-7628-10-2A	**RIP OSPF VRRP**	3	4x 10GE SFP+	2x 230 Vac
SWMM-H-7628-10-2D	**RIP OSPF VRRP**	3	4x 10GE SFP+	2x 24-48 Vdc
SWMM-H-7628-2A	**RIP OSPF VRRP**	3	4x GE SFP	2x 230 Vac
SWMM-H-7628-2D	**RIP OSPF VRRP**	3	4x GE SFP	2x 24-48 Vdc
SWMM-H-7528-10-2A	-	3	4x 10GE SFP+	2x 230 Vac
SWMM-H-7528-10-2D	-	3	4x 10GE SFP+	2x 24-48 Vdc
SWMM-H-7528-2A	-	3	4x GE SFP	2x 230 Vac
SWMM-H-7528-2D	-	3	4x GE SFP	2x 24-48 Vdc

Modular add-on cards for SWMM-H-7528 & SWMM-H-7628

Characteristics	SWMM7528-8P	SWMM7528-8R	SWMM7528-8S	SWMM7528-4R-MSEC	SWMM7528-4S-MSEC
10/100/1000BT RJ45	8	8	-	4	-
100/1000FX SFP	-	-	8	-	4
POE 30W	8	-	-	-	-
MACsec	-	-	-	MACsec	MACsec

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