

# RPT-2012G-4F-T-X1 | IEC 61850-3 12-Port Managed Gigabit Switch



## Feature Highlights

- IEC61850-3 Certified, KEMA-KEUR
- 8 10/100/1000 BASE-T(X) ports
- 4 1000 BASE-X SFP ports
- IEEE1588v2 Precision Time
- ERPS and Ring (recovery time < 20ms @ 40 switches)
- Remote management:  
Web browser, Telnet, Serial console, Utility
- PROFINET v2 Class B compatible
- Generic Station Descr file to integrate with SIMATIC Step 7

## DESCRIPTION

RPT-20012G-4F-T is Sbjlink power substation switch series and fully compliant to IEC61850-3 and KEMA (DNL.GL) certificates. The IEEE1588 v2 precision-time function is specially implemented to allow the deployment with stringent time Synchronization requirements. The product equips 8 10/100/1000BASE-T(X) RJ-45 ports and 4 1000BASE-X SFP ports. It provides network redundancy self-recovery mechanisms less than 20ms on full load. Users can build a reliable network through a redundant ring topology with ERPS, STP, MSTP, RSTP, MRP (Client) and other compatible rings. The product also offers intelligent features such as Quality of service (QoS), Virtual LAN (VLAN), IGMP Snooping, port mirroring and security features with multifunctional web dashboard. To design to be used in core power utilities, this product has dual redundant power inputs with reverse polarity protection and two sets of relay that allow users to build up a stand-alone fault alarm system. Its wide operating temperature between -40 to 85°C is designed to sustain the product's reliability in harsh environment.

# RPT-2012G-4F-T-X1 | IEC 61850-3 8-Port Managed Gigabit Switch

## SPECIFICATIONS

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	1.5MB	
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 802.3x 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	
Protocols	IEEE 802.1X for Authentication	
	IEEE 802.3ad for Port Trunk with LACP	
Time Synchronization	IEEE 802.3az for Energy Efficient Ethernet	
	IPv4, IPv6, IGMPv1/v2/v3, IGMP Snooping, GARP, GMRP, GVRP, SNMPv1/v2c/v3, SNMP Inform, ICMP, Telnet, SSH, DHCP Relay/Client, BootP, RARP, TFTP, SNTP, SMTP, SMTP (Gmail), RMON, HTTP, HTTPS, Syslog, MRP (Client), LLDP, 802.1x, EAP, RADIUS, TACACS+, Mirror port, QoS, ACL, ITU-T G.8032 ERPS Ring, STP, RSTP, MSTP, Compatible Ring, Serial Console	
Automation Profiles	Network Synchronization	NTP Server/Client, SNTP
	Precision Network Synchronization	IEEE1588v1 OC/BC (Software) IEEE1588v2 E2E TC (Hardware) - ns acc. IEEE1588v2 OC/BC (Software)
SNMP MIB	Profinet CC-B compatible, Ethernet/IP ready, Modbus/TCP status registers	
	MIB II, IF-MIB, SNMPv2 MIB, BRIDGE-MIB, RMON MIB Group 1,2,3,9, 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	

# RPT-2012G-4F-T-X1 | IEC 61850-3 8-Port Managed Gigabit Switch

## SPECIFICATIONS

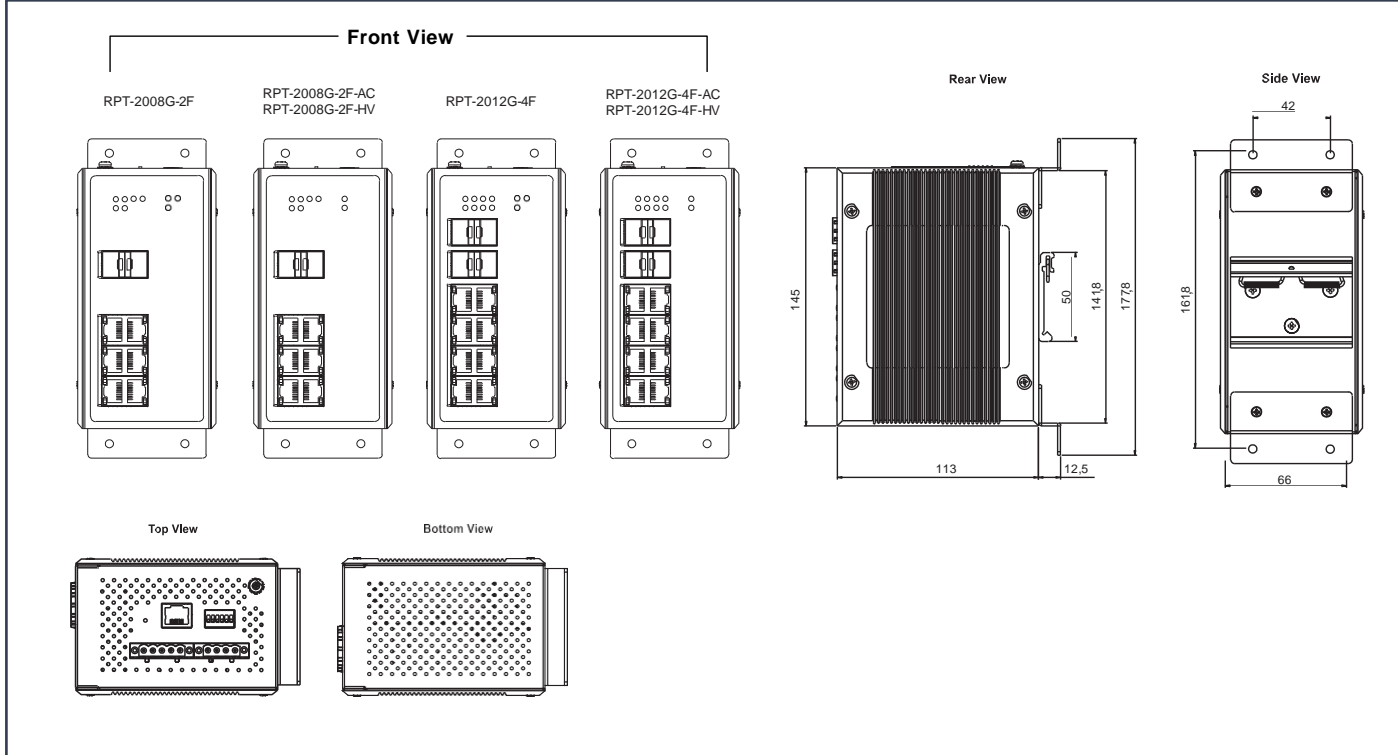
Power	
Input Voltage	24-57 VDC 100~240 VAC for AC series 110~370 VDC for HV Series
Input Current (System)	0.63A @ 24 VDC 0.16A @ 100 VAC for AC series 0.12A @ 110 VDC for HV series
Connector	5-Pin 5.08mm Lockable Terminal Block
Reverse Polarity Protection	Yes
Interfaces	
RJ45 Ports	8 10/100/1000BASE-T(X) auto negotiation speed
Fiber Optics Ports	4 1000 Base-X SFP slots
LED Indicators	PWR1, PWR2, Alarm, Run, Ring, Ring Master, RJ-45 Link/Speed, SFP Link
Console	RS232 (RJ45 connector)
Relay Output	2 relay outputs with current carrying capacity of 1A @ 24 VDC
DIP Switches	Ring Control
Button	Reset Button
Physical Characteristics	
Housing	IP30 SPCC black housing
Dimension (W x H x D)	77 x 145 x 113 mm
Weight	1,000g (AC/HV versions) / 1,200g (other)
Installation	DIN-Rail, Wall mount (optional kit)
Environmental Limits	
Operating Temperature	-40°C~85°C (-40°F~185°F)
Storage Temperature	-40°C~85°C (-40°F~185°F)
Ambient Relative Humidity	5%~95% RH, 55°C (Non-condensing)
Regulatory Approvals	
Safety	UL/CUL/IEC(CB) 61010-2-201, KEMA-KEUR (All series are UL61010-2-201 certified except HV series)
Industry Specific	IEC61850-3 (Including 6.10.3 Seismic test), IEEE 1613
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,

## SPECIFICATIONS

Test	Item	Value	Level
IEC 61000-4-2	ESD	Contact Discharge Air	±8KV
		Discharge	±15KV
IEC 61000-4-3	RS	80-1000MHz	10(V/m)
		1.0-3.0GHz	80%AM
IEC 61000-4-4	EFT	AC Power Port	±4.0kV@2.5kHz
		DC Power Port	±4.0kV@2.5kHz
		Signal Port	±2.0kV@5.0kHz
IEC 61000-4-5	Surge	AC Power Port	Line-to Line ±2.0kV
		AC Power Port	Line-to Earth ±4.0kV
		DC Power Port	Line-to Line ±1.0kV
		DC Power Port	Line-to Earth ±2.0kV
		Signal Port	Line-to Earth ±4.0kV
IEC 61000-4-6	CS	AC Power Port	10V, 150kHz~80MHz, 80% AM
		DC Power Port	10V, 150kHz~80MHz, 80% AM
		Signal Port	10V, 150kHz~80MHz, 80% AM
IEC 61000-4-8	PFMF	Enclosure	100A/m continuous,
			1000A/m for 3S
IEC 61000-4-10	Damped Oscillatory Magnetic Field	Enclosure	100A/m, 100KHz, 1MHz
IEC 61000-4-11	DIP	AC Power Port	Drop 70% 3 times/S (1 Period) Drop 40% 3 times/1 mS (50 Period) Drop 100% 3 times/50mS (5&50 Period)
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		
RoHS II	Yes		
MTBF	20 Years		

# RPT-2012G-4F-T-X1 | IEC 61850-3 8-Port Managed Gigabit Switch

## DIMENSIONS



### Ordering information

Model name	10/100/1000 RJ45	1000Base(X) SFP
RPT-2008G-2F-T-X1	6	2
RPT-2008G-2F-HV-T-X1	6	2
RPT-2008G-2F-AC-T-X1	6	2
RPT-2012G-4F-T-X1	8	4
RPT-2012G-4F-HV-T-X1	8	4
RPT-2012G-4F-AC-T-X1	8	4