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Communication Networks

Electrical Substation-Rated 10/100/1000 Mbps 3-Port Self-Managed Ethernet Switch with Universal PoE (PoE++, 60 Watts)

RLGE2+1SMSPOEHO

LIFETIME ∞ WARRANTY	IEC 61850-3 IEEE 1613		HARDENED	PoE	PoE 60W PoE++	SFP	GIGABIT ETHERNET
EXCLUSIVE	**SUBSTATION**	**DIN RAIL**	**-40° TO +85°**	**UNIVERSAL**	**IEEE802.3at**	**FLEXIBILITY**	**2+1**

The ComNet RLGE2+1SMSPOEHO is a substation-rated and industrially hardened 3-port self-managed Ethernet switch with uplink management capability, that supports Universal PoE (Power over Ethernet) powered devices requiring up to 60 watts of operating power. Designed to the requirements of IEC 61850-3, IEEE 1613 Class 2, EN50155, and NEMA TS-1/TS-2, it is intended for deployment in environments where high levels of electromagnetic noise and interference (EMI) and severe voltage transients and surges are routinely encountered, such as electrical utility substations and switchyards, heavy manufacturing facilities, trackside and roadside electronic equipment, and other difficult out-of-plant applications. User-selectable link fault pass-through provides remote indication of a network fault, and two summary fault alarms provide a local or remote indication via dry contact closures in the event of loss of optical link or operating power. The 10/100/1000BASE-TX ports support both auto-negotiation and automatic MDI/MDI-X crossover for full and half-duplex operation; manual MDI/MDI-X switching is not required. The RLGE2+1SMSPOEHO comes pre-programmed, preventing network video flooding with DIP-switch selection of the SFP port as uplink or as an unmanaged switch.

The internal/self-contained power supply features redundant 48 VDC inputs, for the highest possible reliability. The simple to install, plug-and-play RLGE2+1SMSPOEHO is DIN-rail or panel-mountable, and is ideal for mission-critical applications where very high levels of reliability and network availability are of the utmost importance.

FEATURES

› Supports PoE PDs (Powered Devices) requiring PoE (15 watts), PoE+ (30 watts), and Universal PoE/PoE++ (60 watts)

› Full duplex transmission of 10/100/1000 Mbps Ethernet:
 (2) 10/100/1000BASE-TX ports and
 (1) 100BASE-FX or 1000BASE-FX SFP port

› Designed to the requirements of IEC 61850-3 and IEEE 1613 Class 2 for electrical utility substations, EN50155 for railway applications, and NEMA TS-1/TS-2 for traffic signal control equipment, and IEC/EN60950-1

› Extended ambient operating temperature range of -40° to +85° C, for use in virtually any environment. Optional conformal coating available for humidity with condensation or airborne particulate matter environments

› Uses customer-installed ComNet SFPs for compatibility with a wide range of optical fibers, optical connector types, and optical transmission distances of up to 120 km

› Link fault pass-through provides a remote indication of a network fault

› 10/100/1000BASE-TX ports support both auto-negotiation and automatic MDI/MDI-X crossover for full and half-duplex operation; manual MDI/MDI-X switching is not required

› 48 VDC operating power

› Internal/self-contained high-reliability power supply eliminates the need for an external power supply, and a screw terminal block connects directly to the power source for permanent, reliable, and maintenance-free operation

› Features redundant power inputs, for extremely high levels of reliability and availability

› No fans or forced-air cooling required; cooling via natural convection eliminates unreliable and troublesome fans/moving parts for improved reliability

› Indicating LEDs confirm operating status of the switch and the link for ease in troubleshooting

› Summary fault alarm provides a local or remote indication via dry contact closure in the event of loss of optical link or operating power

› Rugged 19-gauge galvanized & powder-coated steel enclosure may be DIN-rail or panel-mounted

› Made in the USA

› Lifetime Warranty

APPLICATIONS

› For supporting NERC-CIP-014 compliance, and other critical infrastructure physical security applications where PoE-powered IP video cameras, access control equipment, perimeter security sensing devices, etc., are utilized

› Electrical substation automation & SCADA networks, protective relaying systems

› Power transmission & distribution systems, remote wind farm, hydroelectric, and solar/photovoltaic power generation facilities, and other electrical utility-specific applications

› Perimeter security, surveillance monitoring, and controlled access to electrical substations and power generating facilities, and other high-value, mission-critical sites

› Industrial/Factory Automation & Process Control SCADA Networks

› Chemical and petrochemical refining and processing facilities, oil and gas pipelines/transmission systems, and mining installations

› Food processing operations

› Wastewater treatment plants

› ITS/Transportation Traffic Signalization & Surveillance/Incident Detection Networks

› Railway/trackside control and monitoring systems

› Integrated IP-Video, VOIP, and Data Transmission Networks

› Cellular telephony and wireless backhaul networks

* SFP = Small Form-Factor Pluggable Module

SPECIFICATIONS

Data

Compliance	IEEE 802.3
	IEEE 802.3ab
	IEEE802.3z
	IEEE 802.3u
Ethernet Data Interface	Electrical: 10/100/1000BASE-TX, half or full-duplex.
	Optical: 100BASE-FX or 1000BASE-FX, full-duplex

Fiber Connectors[1]

Requires selection of sold-separately SFP modules. See ComNet data sheet for number, description, and compatibility of SFP modules

Connectors

Power	4-Position Screw Terminal Block
10/100/1000BASE-TX	2 × RJ45
100/1000BASE-FX	1 × SFP[1] pluggable optics
	Requires selection of sold-separately SFP modules. See ComNet data sheet for number, description, and compatibility of SFP modules
Fault Relay	3-Position Screw Terminal Block

Summary Fault Alarm

Form C contacts for local or remote indication of loss of operating power, or loss of optical link

Relay Contacts:	Rated at 110 VDC @ 0.25A, non-inductive load; or 125 VAC @ 0.3A, non-inductive load

Power

Power Consumption	5 W (max)
Operating Voltage Range	44 to 57 VDC (max)
Features redundant and floating DC inputs, for use in positive or negative grounding arrangements	
Current Protection	Automatic Resettable Solid-State Current Limiters

Mechanical

Indicator LEDs	- Operating Power
	- SFP Throughput Rate: 100FX or 1000FX
	- Fault
	- Optical Link Activity
Housing	19-Gauge galvanized steel, power-coated finish
Ingress Protection	IP-30 Rated
Mounting	Standard DIN-Rail or panel-mount. Panel-mounting adapter included.
Housing Dimensions	4.3 × 2.3 × 3.7 in (10.9 × 5.8 × 9.4 cm)
Weight (unpacked)	1.5lbs (0.68kg)
Circuit Board	Meets IPC standards

Environmental

MTBF	>250,000 hours
Operating Temperature	-40°C to +85°C
	CSA/UL 60950 approved for +85°C operation
Storage Temperature	-40°C to +85°C
Operating Humidity	5% to 95% (Non-condensing)[2]

Applicable EMI Immunity and Environmental Standards

IEC 61850-3 for Electrical Utility Substations
IEEE 1613, Class 2 for Electrical Utility Substations
EN50155 for Railway Applications
NEMA TS-1/TS-2 For Traffic Signal Control Equipment

[1] Multimode fiber needs to meet or exceed fiber standard ITU-T G.651. Single mode fiber needs to meet or exceed fiber standard ITU-T G.652

AGENCY COMPLIANCE

FC PART 15 COMPLIANT CE cULus RoHS

MADE IN THE USA

ORDERING INFORMATION

Part Number	Description
RLGE2+1SMSPOEHO	Electrical Substation-Rated 10/100/1000 Mbps 3-Port Self-managed Ethernet Switch, Universal PoE, 1 SFP FX + 2TX, redundant 48 VDC inputs
Included Accessories	Panel Mounting Adaptor Plate Kit with Mounting Hardware DIN Rail mounting Adaptor Clip Kit with Mounting Hardware
Options	48 VDC DIN Rail Power supply (Extra charge, consult factory) User selection of ComNet SFP (see SFP Modules data sheet for product numbers and compatibility before ordering) [2] Add suffix '/C' for Conformally Coated Circuit Boards to extend to humidity-with-condensation and airborne particulate matter environments conditions (Extra charge, consult factory)

Note: In a continuing effort to improve and advance technology, product specifications are subject to change without notice.

OUTLINE AND INSTALLATION DRAWING

WALL MOUNT BRACKET

DIN RAIL MOUNTING BRACKET

Low Power Consumption