



ORION TELECOM NETWORKS INC.

VCL-3030, -101 to -104 Protocol Converter

Product Brochure & Data Sheet

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1. Introduction:

1.1 Introduction VCL-3030, -101 to -104 Protocol Converter:

VCL-3030, IEC 60870-5-101 to 60870-5-104 Protocol Converter is a ruggedized and robust, sub-station-hardened protocol converter which shall convert Serial -101 data to Ethernet -104 data.

The VCL-3030, meets and complies with the IEC-61850-3, EMI, EMC, Surge and Temperature specifications making it suitable for sub-station installations to provide uninterrupted service even in the most demanding and harsh environments.



VCL-3030, -101 to -104 Protocol Converter

1.2 -101 to -104 Protocol Converter Application:

The most common application for the **VCL-3030, -101 to -104 Protocol Converter** is for augmenting legacy IEC 60870-5-101 RTUs that provide serial -101 data in sub-stations and SCADA data networks. By simply installing a **VCL-3030, -101 to -104 Protocol Converter** the existing IEC 60870-5-101 RTUs can be upgraded to Ethernet based IEC 60870-5-104 RTUs without incurring a large capex and without the tiresome task of having to rewire the RTUs that require upgradation.

1.3 Technical Features:

Protocol:

- Serial Data: IEC 60870-5-101
- Ethernet Data: IEC 60870-5-104

Connectors:

- Power: Terminal Block, 2-Pin Supply Connector
- IEC 60870-5-101 Interface: DB9 Connector (RS232, RS485, RS422 user configurable interfaces).
- IEC 60870-5-104 Interface: RJ45, Ethernet Connector

Chassis:

- DIN Rail Mounting

Power Supply:

- Power Supply: 12V DC, 2A
48V DC, 110V DC and 220V DC Power Supply Options available.

Temperature:

- Operating: -20°C to +65°C
- Humidity: 95% R.H., non-condensing

Compliances:**EMI, EMC, Surge Withstand and other Compliances**

EN 50081-2	EN 50082-2	IEC 60068-2-29
IEC 61000-4-6 (Conducted Immunity)	IEC 60068-2-6	IEC 60068-2-2
IEC 60068-2-78	IEC 60068-2-1	IEC 60068-2-14
CISPR 22 / EN55022 Class B (Conducted Emission and Radiated Emission)		
IS 9000 (Part II Sec. 1-4, Part III Sec. 1-5, Part IV, Part 14 Sec. 1-3)		
IEC 60870-2-1	IEC 61000-4-5	IEC 61000-4-12
IEC 61000-4-3 (Radiated Immunity)	IEC 61000-4-8	IEC 61000-4-16
IEC 61000-4-2	IEC 61000-4-10	Telcordia GR-1089 Surge and Power Contact
IEC 61000-4-4	IEC 61000-4-11	

- ESD, Voltage and Surge Withstand: Meets and exceeds IEC 61000-4-2, IEC 61000-4-4, IEC 61000-4-5, Level 2 specifications.
- Immunity to Voltage Dips, Short Power Supply Interruptions and Voltage Variations meets and exceeds IEC 61000-4-11, Level 1 specifications.

Other Regulatory Compliances:

- Meets CE requirements
- Complies with FCC Part 68 and EMC FCC Part 15

Environmental

Operating Temperature	-20°C to +60°C
Maximum Operating Humidity	95% R.H., Non-Condensing
Maximum Operating Altitude	Up to 3,000 meters above sea level
Operation	Complies with ETS 300 019 Class 3.2
Storage Temperature	-40°C to +70°C
Storage	Complies with ETS 300 019 Class 1.2
Maximum Storage Humidity	98% R.H., Non-Condensing
Maximum Storage Altitude	Up to 3,000 meters above sea level
Transportation	Complies with ETS 300 019 Class 2.3

Electromagnetic Standards Compliance

- EN 50081-2
- EN 50082-2
- IEC 61000-6-2 (immunity)
- IEC 61000-6-4 (emission)

Compliance / Regulatory

- Meets CE requirements
- Complies to IEEE and IEC standards
- Complies with FCC Part 68 and EMC FCC Part 15 and CISPR 22 Class B
- Operation ETS 300 019 Class 3.2
- Operation ETS 300 019 Class 3.2
- Transportation ETS 300 019 Class 2.3

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