

**Introduction:**

The VCL-3020, Serial RS232 to Ethernet Converter is a ruggedized and robust, sub-station-hardened protocol converter which converts Serial RS232 data to Ethernet data. VCL-3020 supports point-to-point as well as for point-to-multi-point transmission required for data conference applications in which one VCL-3020 (Master) can communicate with up to 5 x VCL-3010 Slave devices at a time.

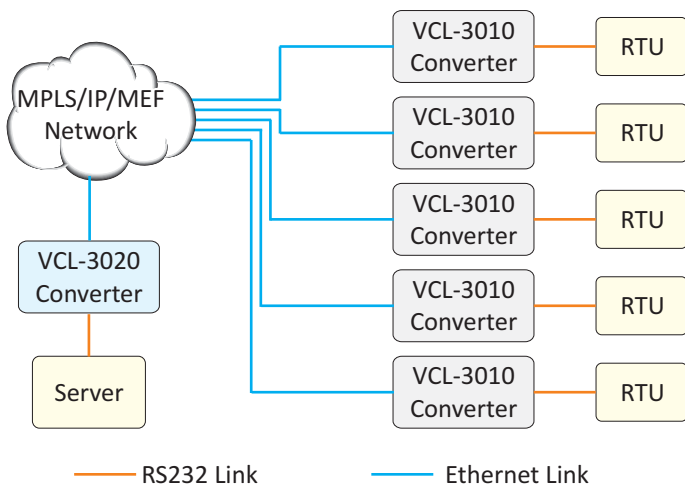
The VCL-3020 meets and complies with the IEC-61850-3, EMI, EMC, Surge and Temperature specifications making it suitable for sub-station installations to provide uninterrupted service even in the most demanding and harsh environments.

**VCL-3020, RS232 to Ethernet Application:**

The most common application for the VCL-3020, Converter is for augmenting legacy IEC 60870-5-101 RTUs that provide serial RS232 data in sub-stations and SCADA data networks. By simply installing a VCL-3020, Converter the existing IEC 60870-5-101 RTUs data can be transmitted over the Ethernet network without incurring a large capex and without the tiresome task of having to rewire the RTUs that require upgradation.

Another common application for the RS232 to Ethernet module is for augmenting legacy products that contain a serial port for a configuration or control interface. Simply installing a RS232 to Ethernet module into the legacy serial device provides instant networking capability with no major board redesign or software changes, a tiny form-factor for unobtrusive implementation and cable lengths much longer than what is available for simple serial connections.

**Application Diagram:**



**Technical Features:**

**Connectors:**

- Power: Terminal Block, 2-Pin Supply Connector
- IEC 60870-5-101 Interface: DB9 Connector (RS232 interfaces)
- Ethernet Interface: RJ45 (Female) Connector

**Power Supply:**

- Power Supply: 15V~55V DC, 2A
- Additional 110V DC and 220V DC Power Supply Options available.

**RS232 Interface Specifications:**

Mode / Protocol	RS232 Asynchronous / IEC 60870-5-101
Conformity	To CCITT rec. V.24
Baud rate	300 / 600 / 1200 / 2400 / 4800 / 9600 / 14400 / 19200
Character Length	5 / 6 / 7 / 8
Parity	Even / Odd / None / Mark / Space
Stop Bit	1 / 2
Flow Control	None / Hardware

**Ethernet Interface Specifications:**

Interface	10/100BaseT (Electrical)
IP Option	Static / DHCP (AutoIP)
Telnet Port	User Programmable (23 by default)
Telnet Mode	Server / Client
Telnet Timeout	0 to 255 seconds
Maximum Number of Slaves per unit	05

**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
IEC 61000-4-4	IEC 61000-4-11	GR-1089 Surge and Power Contact

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

**Environmental:**

Operating Temperature	-20C to +60C
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	-40C to +70C
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

**Chassis:**

- DIN Rail Mounting.

**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 A
- Operation ETS 300 019 Class 3.2
- Operation ETS 300 019 Class 3.2
- Transportation ETS 300 019 Class 2.3

**Ordering Information:****BASE UNIT without PSUs**

Part #	Description
VCL-3020	VCL-3020, Serial RS232 to Ethernet Converter DIN Rail Mounting Version Supports: - 1 x RS232 Asynchronous / IEC 60870-5-101 (DB9 (Female)) - 1 x 10/100BaseT (Electrical) (Ethernet) (RJ45 (Female)) * Add Power Supply Option from below

**Power Supply Option (Any one Option)**

Part #	Description
AC220	1 x 100-240V AC Power Supply Input
DC024	1 x 24V DC Power Supply Input
DC048	1 x 48V DSC Power Supply Input
DC110	1 x 110V DC Power Supply Input
DC220	1 x 220V DC Power Supply Input

Technical specifications are subject to changes without notice.  
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**U.K.**

Valiant Communications (UK) Ltd  
Central House Rear Office,  
124 High Street, Hampton Hill,  
Middlesex, TW12 1NS, UK

E-mail: gb@valiantcom.com

**U.S.A.**

Valcomm Technologies Inc.  
4000 Ponce de Leon,  
Suite 470, Coral Gables,  
FL 33146, U.S.A.

E-mail: us@valiantcom.com

**INDIA**

Valiant Communications Limited  
71/1, Shivaji Marg,  
New Delhi - 110015,  
India

E-mail: mail@valiantcom.com