

Product Overview:

VCL-6046, SMART RACK CONTROL UNIT, is an intelligent device which is designed for use in private data centres to manage data storage racks which house critical data storage equipment.

The VCL-6046, SMART RACK CONTROL UNIT can monitor the critical parameters of the data storage racks such as:

- a) Smoke Alarm
- b) Fire Alarm
- c) High Temperature Alarm
- d) Low Temperature Alarm
- e) Door Open Alarm
- f) Rack Fan Failure Alarms
- g) Flooding Alarm

The VCL-6046, SMART RACK CONTROL UNIT can also be used to:

- i. To turn-on / turn-off / connect / disconnect the equipment from the network at pre-programmed time of day / night.
- ii. To turn-on / turn-off / power-cycle network equipment, such as Routers and Ethernet switches remotely.
- iii. To automatically switch on / switch off auxiliary cooling, in the event of an abnormal rise in the ambient temperature.
- iv. To access external serial RS232 / RS485 devices remotely.

The VCL-6046, SMART RACK CONTROL UNIT is a ruggedized unit which makes it suitable for remotely monitoring and managing critical infrastructure such as un-manned, critical data storage racks and in similar applications that require high reliability industrial equipment to be monitored and managed remotely.

Network Interfaces:

- 1 x Fiber Optical port (SFP based)
- 1 x 10/100BaseT RJ45 Electrical port

Management Interfaces:

- 1 x USB management port
- 1 x 10/100BaseT Electrical port

Environmental (Operational):

- Operating Temperature: -10 °C to 55 °C
- Storage Temperature: -20 °C to 75 °C
- Operating Humidity: 10% ~95% relative humidity, non-condensing
- Storage Humidity: 10%~95% @40 °C; non-condensing.



VCL-6046, Smart Rack Control Unit
Front View and Back View

Smart Rack Interfaces:

- 1 x RS232/RS485 port (user switchable / user selectable) for accessing serial devices remotely over an IP network
- 4 x Dry contact relay open/close sensing inputs with timestamping
- 2 x 5V Digital IO's for monitoring status alarms with timestamping
- 4 x Dry contact relay outputs
- 1 x Temperature Sensor input & 3 x internal temperature zones

Highlights:

- High-Reliability, Industrial Grade Hardware
- Dual redundant power supply inputs
- Suitable for installation in critical infrastructures like utilities, sub stations, railways and airports
- Supports Ethernet Electrical and Optical Transmission Interfaces
- Secure Boot
- Easy Installation and Management
- SSH (Secure Access Control) with encrypted password
- SNMPv2 and SNMPv3
- Infrastructure neutral
- Provides NTP/SNTP time and date synchronization
- Provides Real-time Alarm and Event Logging
- Designed to monitor and control the ambient temperature of an equipment rack by "switching on" / "switching off" racks cooling fans according to the user-desired thermal environment in the equipment rack.
- Fan Performance Monitoring
- Fan Failure Alerts
- Supports user-configurable fan speed (RPM) thresholds
- LCD Display (External)
- Provides remote (10/100BaseT Ethernet) management port to enable the user to manage multiple units remotely from an NMS over the IP network.
- Transport protocol supported MQTT/TCP-IP/UDP.

Other Specifications:**Power Supply Input Options:**

- 24V DC (1+0) or (1+1) Redundant Power Inputs
- 48V DC (1+0) or (1+1) Redundant Power Inputs
- 110VAC/60Hz, (1+0) or (1+1) Redundant Power Inputs
- 240VAC/50Hz, (1+0) or (1+1) Redundant Power Inputs
- 110V DC (1+0) or (1+1) Redundant Power Inputs
- 220V DC (1+0) or (1+1) Redundant Power Inputs

Indicators	2 x Power Supply Indicators
MTBF (hours)	101292
IP Level Protection	IP20
Max. Power Consumption	< 20 Watts

CE Compliance:

- Low Voltage Directive 2014/35/EU
- Electromagnetic Compatibility 2014/30/EU

Other Regulatory Compliance:

- RoHS
- CE Marking
- Complies with FCC Part 68 and EMC FCC Part 15

Physical Dimension:**19 Inch, 1U High Rack Mount**

- D x W x H: 178mm x 477mm x 45mm
- Net Weight: 3.50 Kgs

EMI, EMC, Surge Withstand and other Compliances:

EN 50081-2	EN 50082-2	IEC 60068-2-29
IEC 61000-4-6 (Conducted Immunity)	IEC 60068-2-1	IEC 60068-2-2
IEC 60068-2-78	IEC 60068-2-14	IEC 60870-2-1
CISPR 32 / EN55032 Class A (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 61000-4-4	IEC 61000-4-5	IEC 61000-4-8
IEC 61000-4-3 (Radiated Immunity)		IEC 61000-4-2

Ordering Information:

Part#	Description
VCL-6046-2455-RAC	VCL-6046, SMART RACK CONTROL UNIT 19-Inch, Rack Mount Version Transmission Interfaces: - 1 x 10/100 Optical Fiber Port (SFP based / without SFP) - 1 x 10/100 Base-T RJ45 Electrical port - 1 x USB port - Management: CLI, GUI, SSH, SNMP - Installation Kit: System Core Cables, Mounting Hardware, Documentation Add Power Supply Option

Add alarm / sensor options:

Part Number	Description	Max. Qty per Unit
VCL-ESEN 0001	Smart Rack Water Level / Flooding Sensor	04
VCL-ESEN 0003-0002	Smart Rack-Door Open Sensor	04
VCL-ESEN 0004	Smart Rack Smoke Alarm (12V DC Power Supply Input required)	02
VCL-ESEN 0006	Smart Rack Smoke Alarm (48V DC Power Supply Input required)	02
VCL-ESEN 2459	Smart Rack Temperature Sensor	01
VCL-EFAN 0005	Smart Rack Ventilation FAN (120x120x32mm) with Pulse (Tach-RPM) Sensor, 48V DC, 3-wire	03
VCL-EMOD 0423-AC220	(Please add Power Supply for VCL-ESEN 0004, Smoke Alarm) External Power Supply - DIN Rail Mount Power Supply (External) AC to DC Converter, DIN Rail Mount: - Input: 1 x AC Input [90~240V AC, 50-60Hz] - Output: 1 x DC Output [12V DC~2.1A, 25.2W]	
VCL-EMOD 0423-DC220	(Please add Power Supply for VCL-ESEN 0004, Smoke Alarm) External Power Supply - DIN Rail Mount Power Supply (External) DC to DC Converter, DIN Rail Mount: - Input: 1 x DC Input [110~250V DC] - Output: 1 x DC Output [12V DC~2.1A, 25.2W]	

Add Power Supply (Any one option):

AC220	1 x 110~240V AC, 50/60 Hz, Power Supply Input
DC024	1 x 24V DC Power Supply Input
DC048	1 x 48V DC Power Supply Input
DC220	1 x 110~250V DC Power Supply Input
ACDC	1 x 110~240V AC, 50/60 Hz, Power Supply Input 1 x 48V DC Power Supply Input
AC220R	2 x 110~240V AC, 50/60 Hz, Power Supply Input [Redundant]
DC024R	2 x 24V DC Power Supply Input [Redundant]
DC048R	2 x 48V DC Power Supply Input [Redundant]
DC220R	2 x 110~250V DC Power Supply Input [Redundant]

Add External LCD Display (optional):

VCL-DISP 2461	LCD Display (1 per UNIT)
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Select SFP Option from below:

VCL-EMOD 0193	SFP Transceiver, Duplex LC, 100Mbps, 13dB, 1310nm, 9 Miles / 15Km, SM (Single-Mode)
VCL-EMOD 0194	SFP Transceiver, Duplex LC, 100Mbps, 29dB, 1310nm, 25 Miles / 40Km, SM (Single-Mode)
VCL-EMOD 0217	SFP Transceiver, Duplex LC, 100Mbps, 34dB, 1550nm, 49 Miles / 80Km, SM (Single-Mode)
VCL-EMOD 0402	SFP Transceiver, Duplex LC, 100Mbps, 36dB, 1550nm, 99 Miles / 160Km, SM (Single-Mode)

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Technical specifications are subject to changes without notice.

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