

Product Overview:

VCL-6046 SMART RACK CONTROL UNIT is an intelligent device designed for use in private data centers to manage data storage racks housing critical data storage equipment and supporting critical infrastructure and utility applications.

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

Security:

- Secure Boot
- SSH (Secure Access Control) with encrypted password
- SNMPv3

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
- SNMPv2
- 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 External LCD Display (optional):

VCL-DISP 2461	LCD Display (1 per UNIT)
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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]

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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