

Modular CPU Card & Input / Output Card Types CPU M & IOC N

FEATURES

- 'One-Shot' configuration of all VM 600 cards using a direct Ethernet or RS-232 serial connection from an external PC (laptop, notebook, pen-computer, industrial PC or flat-panel PC) running Vibro-Meter's MPS software
- 'One-Shot' configuration of all VM 600 cards via Ethernet from a networked PC Host running MPS software
- Local micro-display for visualisation of monitor outputs and alarm limits
- External communication interfaces with third party devices such as DCS/PCS
- Up to 3 serial connections (RS232/422/485), as well as up to 2 Ethernet connections, can be accommodated simultaneously. 'Redundant' communications links can be configured where necessary
- Industry standard protocols including Modbus RTU, and Modbus/TCP, provided (possibility to configure for other protocols)
- Extended operating range of -20°C to +70°C



CPU M

DESCRIPTION

The CPU M is a modular Central Processing Unit (CPU) card intended for use in Vibro-Meter's VM 600 series of Machinery Protection System (MPS) and Condition Monitoring System (CMS) racks. Depending on system requirements, the CPU M may be used alone in the rack (it is installed in the front card cage) or in conjunction with the complementary IOC N Input / Output Card (installed in slot 0 of the rear card cage, directly behind the CPU M).

The modular and highly versatile design of the CPU M allows rack configuration, display interfacing and communications interfacing to all be performed on a single card.

The CPU M consists of a base carrier card having two PC/104 type slots, where each slot is capable of accommodating several PC/104 modules. In the most basic configuration, a single PC/104 type CPU module is mounted. This allows RS-232 communication with third party systems via a port on the CPU M front panel, or via a port on the IOC N if installed.

An Ethernet module may be added to allow a network connection via an RJ45 connector on the CPU M front panel, or via an RJ45 on the IOC N if installed.

Additional Ethernet or RS-485 (RS-422) PC/104 modules may be added to allow redundant communication with third party systems. In this case it is necessary to install an IOC N card in the rack.

The CPU M front panel contains an LCD display capable of showing the level of a selected monitored output in bar-graph and digital form. The Alert and Danger levels are indicated on the bar graph. The signal identification (slot and output number) is shown at the top of the display. The signal to be displayed is selected using the SLOT and OUT (output) keys on the front panel.

Coloured LEDs on the front panel indicate the OK, Alert and Danger status for the signal selected for display (these are green, yellow and red LEDs, respectively). If slot 0 is selected, these LEDs will indicate the general rack status. The green DIAG (diagnostic) LED is lit when the CPU M card is functioning correctly.

An Alarm Reset button resets all latched alarms (and associated relays) in the entire rack.

CPU M SPECIFICATIONS

CARRIER BOARD

Electrical

Supply voltage : $5 V_{DC} \pm 5\%$
 RS 485 isolation : $500 V_{DC}$
 Power consumption : $< 10 W$

Physical

Height : 6U (262 mm)
 Width : 40 mm
 Depth : 187 mm
 Weight : 0.4 kg

Environmental

Operating
 • *Temperature* : $-20^{\circ}C$ to $+70^{\circ}C$
 • *Humidity* : 0 to 90% non-condensing
 Storage
 • *Temperature* : $-20^{\circ}C$ to $+85^{\circ}C$
 • *Humidity* : 0 to 90% non-condensing

CPU MODULE (always installed)

Type : MSM486SL or equivalent
 Performance : 66 MHz
 Memory : 2 MB - 16 MB DRAM

Dimensions : 96 x 90 x 20 mm
 Operating temperature : $-25^{\circ}C$ to $+70^{\circ}C$
 Power supply : $+5 V_{DC}$, 270 mA
 Operating system : QNX

ETHERNET CONTROLLER MODULE (optional)

Type : MSME104 or equivalent
 Network interface : 10 Base-T
 Data transfer rate : 10 Mbits/s
 Memory : 64 kB buffer RAM
 Dimensions : 96 x 90 x 20 mm
 Operating temperature : $-25^{\circ}C$ to $+70^{\circ}C$
 Power supply : $+5 V_{DC}$, 250 mA

SERIAL COMMUNICATIONS MODULE (RS) (optional)

Type : AIM104COM4 or equivalent
 Network interface : 2x RS232 (not used)
 Isolated RS422 and/or RS485 (total of 2)
 Baud rate : ≤ 115.2 kbaud
 Isolation : $> 100 V_{DC}$
 Dimensions : 96 x 90 x 20 mm
 Operating temperature : $-20^{\circ}C$ to $+70^{\circ}C$
 Power supply : $+5 V_{DC}$, 220 mA

IOC N SPECIFICATIONS

Electrical

Supply voltage : $5 V_{DC} \pm 5\%$
 Power consumption : $< 2 W$

Physical

Height : 6U (262 mm)
 Width : 20 mm
 Depth : 125 mm
 Weight : 0.25 kg

Environmental

Operating
 • *Temperature* : $-20^{\circ}C$ to $+70^{\circ}C$
 • *Humidity* : 0 to 90% non-condensing
 Storage
 • *Temperature* : $-20^{\circ}C$ to $+85^{\circ}C$
 • *Humidity* : 0 to 90% non-condensing

ORDERING INFORMATION

To order please specify :

Type	Designation	Ordering Number
CPU M	Modular CPU Card	
	- Including carrier card and CPU PC/104 module	200-595-SSS-0Hh
	- Including carrier card, CPU and Ethernet PC/104 modules	200-595-SSS-1Hh
	- Including carrier card, CPU and Serial Communications PC/104 modules	200-595-SSS-2Hh
	- All other configurations	On request
IOC N	Input / Output Card for CPU M	
	- Standard version	200-566-000-1Hh
	- Separate circuits in accordance with IEC/CEI 60255-5 standard	200-566-000-2Hh

Note : "SSS" represents the firmware (embedded software) version and "Hh" the hardware version. "H" increments for major modifications that can affect product interchangeability. "h" increments for minor modifications that have no effect on interchangeability.



In this publication, a dot (.) is used as the decimal separator and thousands are separated by spaces. Example : 12 345.678 90
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