

## DATA SHEET

## Vibro-Meter®

# VM600 CPUM and IOCN modular CPU card and input/output card



### KEY FEATURES AND BENEFITS

- From the Vibro-Meter® product line
- VM600 CPUM/IOCN rack controller and communications interface card pair with support for Modbus RTU/TCP and PROFINET, and a front-panel display
- “One-Shot” configuration management of protection cards (MPC4 and AMC8) in a VM600 rack using an Ethernet or RS-232 serial connection to a computer running the VM600 MPSx software
- Front-panel display for visualisation of monitored outputs and alarm limits from protection cards
- Front-panel alarm reset (AR) button
- VM600 MPS rack (CPUM) security
- Industry standard fieldbus communications interfaces: Modbus RTU/TCP and PROFINET
- Two Ethernet connections and up to three serial connections (RS-232 / RS-422 / RS-485) can run simultaneously
- Communications redundancy with multiple fieldbuses: Ethernet and/or serial

### KEY BENEFITS AND FEATURES *(continued)*

- VM600 system event and measurement event logs available via the VM600 MPSx software
- Supports live insertion and removal of protection cards (“hot-swapping”) with automatic configuration
- Ethernet (100 Mbps) communication
- Front-panel status indicators (LEDs)
- Compatible with all VM600 ABE04x system racks

### APPLICATIONS

- Rack controller for a VM600 system
- Communications gateway between VM600 and third-party systems, such as a DCS or PLC
- Enables sharing of measurement data from VM600 monitoring cards in machinery protection, condition monitoring and/or combustion monitoring applications



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## DESCRIPTION

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### Introduction

The VM600 CPUM and IOCN modular CPU card and input/output card is a rack controller and communications interface card pair that acts as a system controller and data communications gateway for a VM600 rack-based machinery protection system (MPS) and/or condition monitoring system (CMS) from Meggitt's Vibro-Meter® product line.

### Different versions of CPUx/IOCx card pair

Different versions of CPUx/IOCx rack controller and communications interface card pair are available, as follows:

- The CPUM/IOCN is the original version with a front-panel display and support for Modbus RTU/TCP and PROFINET (PNR 200-595-VVV-VVV).
- The CPUR/IOCR is a version with rack controller redundancy and support for Modbus RTU/TCP (PNR 600-007-VVV-VVV).
- The CPUR2/IOCR2 is a version with mathematical processing of fieldbus data and support for Modbus TCP and PROFIBUS DP (PNR 600-026-000-VVV).

### VM600 rack-based monitoring systems

The Vibro-Meter® VM600 rack-based monitoring system is part of Meggitt's solution for the protection and monitoring of rotating machinery used in the power generation and oil & gas industries. The VM600 is recommended when a centralised monitoring system with a medium to large number of measurement points (channels) is required. It is typically used for the monitoring and/or protection of larger machinery such as gas, steam and hydro turbines, and generators, smaller machines such as compressors, fans, motors, pumps and propellers, as well as balance-of-plant (BOP) equipment.

A VM600 system consists of a 19" rack, a rack power supply and one or more monitoring card pairs. Optionally, relay cards and rack controller and communications interface cards can also be included.

Two types of VM600 rack are available: a VM600 ABE04x system rack (6U) that can house up to 12 monitoring card pairs, and a VM600 ABE056

slimline rack (1U) that can house 1 monitoring card pair. VM600 racks are typically mounted in standard 19" rack cabinets or enclosures installed in an equipment room.

Different VM600 monitoring cards are available for machinery protection, condition monitoring and/or combustion monitoring applications. For example, machinery protection cards such as the MPC4/IOC4T machinery protection card pair and AMC8/IOC8T analogue monitoring card pair, and condition monitoring cards such as the XMV16/XIO16T monitoring card pair for vibration and XMC16/XIO16T monitoring card pair for combustion.

The RLC16 relay card is an optional card used to provide additional relays when the four relays per MPC4/IOC4T or AMC8/IOC8T card pair are not enough.

The CPUx/IOCx rack controller and communications interface card pairs (CPUM/IOCN, CPUR/IOCR or CPUR2/IOCR2) are optional cards used to provide additional VM600 system functionality such as configuration management, "hot-swapping" with automatic reconfiguration, front-panel display, CPUx/IOCx card pair redundancy, fieldbus data processing, front-panel alarm reset (AR) button, MPS rack (CPUx) security, system event and measurement event logging, fieldbus communications (Modbus, PROFIBUS and/or PROFINET) and/or communications redundancy.

Note: Different versions of CPUx/IOCx rack controller and communications interface card pair support different combinations of VM600 system functionality.

VM600 rack-based monitoring systems complement the VibroSmart® module-based distributed monitoring systems that are also available from Meggitt's Vibro-Meter® product line.

## ORDERING INFORMATION

To order please specify

Type	Designation	Ordering number (PNR)
CPUM	Different versions of the VM600 modular CPU card:	
	– Ethernet redundant Modular CPU card with a CPU module that supports two Ethernet interfaces and two serial interfaces. This CPUM supports Ethernet interfaces on the front panel (CPUM) and the rear panel (IOCN), a serial interface (RS-232) on the front panel (CPUM) and a serial interface (isolated RS-232/RS-485) on the rear panel (IOCN).	200-595-0Ss-33h (601-003-000-VVV\3\610-1CC-CCC when pre-configured <sup>See notes</sup> )
	– Ethernet redundant varnished Same as the (standard) Ethernet redundant version, with a conformal coating for additional environmental protection.	200-595-0Ss-33hl (601-003-000-VVV\3V\610-1CC-CCC when pre-configured <sup>See notes</sup> )
	– Serial redundant Modular CPU card with a CPU module that supports two Ethernet interfaces and two serial interfaces, and a serial communications module that supports additional serial interfaces. This CPUM supports Ethernet interfaces on the front panel (CPUM) and the rear panel (IOCN), a serial interface (RS-232) on the front panel (CPUM) and a serial interface (isolated RS-232/RS-485) on the rear panel (IOCN). It also supports two additional serial interfaces (RS-422/RS-485) on the rear panel (IOCN).	200-595-0Ss-53h (601-003-000-VVV\5\610-1CC-CCC when pre-configured <sup>See notes</sup> )
IOCN	Different versions of the input/output card for the CPUM:	
	– Ethernet redundant	200-566-000-1Hh
	– Ethernet redundant varnished Same as the (standard) Ethernet redundant version, with a conformal coating for additional environmental protection.	200-566-000-1HhL

### Notes

Different versions of the CPUM card can be supplied pre-configured with different configurations, as denoted by the 9-digit code in the ordering number (610-1CC-CCC).

"1CC-CCC" represents the different configurations that can be used by a finished product. For example, 610-100-000 corresponds to the 'standard' configuration that is uploaded to a CPUM card (200-595-0Ss-HHh), if no other configuration is specified. For information on other configurations, contact your local Meggitt representative or Meggitt SA for further information.

"Ss" represents the firmware (embedded software) version and "Hh" the hardware version of a card. "S/H" increments for major modifications that can affect product interchangeability and "s/h" increments for minor modifications that have no effect on interchangeability.

"VVV" represents the different firmware (embedded software) versions and hardware versions that can be used by a finished product.