

vibro-meter®

VM600^{Mk2}/VM600 ABE040 and ABE042 system racks



VM600^{Mk2} ABE040 system rack
(empty)

KEY FEATURES AND BENEFITS

- From the vibro-meter® product line
- 19" system racks with a standard height of 6U
- Robust aluminium construction
- Modular concept allows specific cards to be added for machinery protection and/or condition monitoring
- Cabinet or panel mounting
- Backplane supporting the VME bus, the VM600^{Mk2}/VM600 system's Tacho, Raw and Open collector (OC) buses, and power supply distribution
- Uses the VM600^{Mk2}/VM600 RPS6U rack power supply: AC and/or DC input versions
- Power supply check relay

APPLICATIONS

- VM600^{Mk2}/VM600 machinery protection and/or condition monitoring systems



DESCRIPTION

The VM600^{Mk2}/VM600 ABE040 and ABE042 system racks are used to house hardware for the VM600^{Mk2}/VM600 series of machinery protection and/or condition monitoring systems, from Parker Meggitt's vibro-meter® product line.

Two types of VM600^{Mk2}/VM600 ABE04x system rack are available: the ABE040 and the ABE042. These are very similar, differing only in the position of the mounting brackets. Both racks have a standard height of 6U and provide mounting space (rack slots) for up to 15 single-width VM600^{Mk2}/VM600 modules (card pairs), or a combination of single-width and multiple-width modules (cards). These racks are particularly suitable for industrial environments, where equipment must be permanently installed in 19" cabinets or panels.

The different versions of ABE04x system rack enable different mounting options to support various markets and applications.



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DESCRIPTION (continued)

The VM600^{Mk2}/VM600 ABE04x system rack has an integrated VME backplane which provides the electrical interconnections between the installed VM600^{Mk2}/VM600 modules (cards): power supply, signal processing, input/output, relay and CPUx “rack controller”. It also includes a power supply check relay, available at the rear of the rack, which is used to indicate that the installed RPS6U rack power supplies are operating normally.

Either one or two VM600^{Mk2}/VM600 RPS6U rack power supplies can be installed in a VM600^{Mk2}/VM600 ABE04x system rack. A rack with one RPS6U power supply (330 W version) supports the power requirements for a full rack of modules (cards) in applications with operating temperatures up to 50 °C (122 °F).

Alternatively, a rack can have two VM600^{Mk2}/VM600 RPS6U power supplies installed in order to either support rack power supply redundancy or in order to supply power to the modules (cards) non-

redundantly over a wider range of environmental conditions (see Power supply on page 4).

VM600^{Mk2}/VM600 processing modules (cards) are installed in the front of the rack and the associated input/output modules (cards) are installed in the rear. The input/output modules (cards) provide connectors for the connection of sensors/measurement chains and for the sharing of various signals with external systems such as a DCS or PLC.

In general, VM600^{Mk2}/VM600 ABE04x system racks are configured in the factory before delivery so they are supplied ready-to-use. Optionally, each module (card) can be reconfigured to meet the needs of a particular machinery monitoring application using the appropriate software package from Parker Meggitt: VibroSight[®] or VM600 MPSx.

For further information, contact your local Parker Meggitt representative.

SPECIFICATIONS

General

Housing	: Extruded aluminium frame and solid aluminium structural parts. Top and bottom plastic guide strips for VM600 ^{Mk2} /VM600 modules (cards).
Colour	: Aluminium
Power supply	: The VM600 ^{Mk2} /VM600 RPS6U rack power supply is used to provide the VM600 ^{Mk2} /VM600 rack itself and all installed modules (cards) with +5 V _{DC} and ±12 V _{DC} . See also Power supply on page 4.
Power supply inputs	: Power supply inputs (associated rear panels (PSB9xx)) typically have an AC and/or DC connector (with RFI filters), on/off switches and fuses. Note: For North American (USA and Canada) and some other international markets, a “CSA” version of the VM600 ^{Mk2} /VM600 ABE04x system rack is required. Such a “CSA” VM600 ^{Mk2} /VM600 system rack is obtained by using only the following associated rear panels for connection of power supply inputs to the rack: PSB910, PSB920, PSB962, or PSB990. Refer to the <i>VM600^{Mk2}/VM600 RPS6U rack power supplies data sheet</i> for further information on power supply inputs, associated rear panels (PSB9xx), mains power supply leads (power cords), etc.
Backplane	: Proprietary VM600 ^{Mk2} /VM600 rack buses (Tacho bus, Raw bus and Open collector (OC) bus) for data/signal sharing between modules (cards). VME bus for communication between CPUx modules (cards) and processing modules (cards).

SPECIFICATIONS *(continued)*

Rack slots (module (card) positions)	<p>: Front of rack:</p> <ul style="list-style-type: none"> • 12 × slots – module (card) positions 03 to 14 – for processing modules (cards) such as MPC4^{Mk2}, XMx16, MPC4 and/or AMC8. • 2 × slots – module (card) positions 00 to 01 – for rack controller and communications interface modules (cards) such as CPUM^{Mk2} or CPUx. • 1 × slot – module (card) position 02 – reserved for application-specific modules (cards). <p>Rear of rack:</p> <ul style="list-style-type: none"> • Up to 19 × slots – module (card) positions 00 to 18 – for associated input/output modules (cards) such as IOC4^{Mk2}, XIO16T, IOC4T and/or IOC8T, IOCN^{Mk2} or IOCx, and relay modules (cards) such as RLC16^{Mk2}, RLC16 and/or IRC4. • Up to 4 × slots – module (card) positions 17 to 20 – for associated rear panels for inputs to the VM600^{Mk2}/VM600 RPS6U rack power supply or supplies. <p>See also Mechanical drawings – front and rear views on page 6.</p> <p>Note: In general, associated input/output modules (cards) are required while relay modules (cards) are optional. For safety reasons, any VM600^{Mk2}/VM600 rack slot not populated by a module (card) must be covered by a blank panel(s).</p>
Rack slot number coding	<p>: For modules (cards) installed in the rear of an ABE04x rack, an electronic keying mechanism known as slot number coding is used to help ensure that the module (card) is installed in the correct slot, as defined by the configuration (that is, by the VibroSight[®] or VM600 MPSx software).</p> <p>For ABE04x racks, the rack's slot numbers are fixed (hard-wired) and slot number coding requires that a module's slot number is set to match the rack slot (module (card) position) where it is installed.</p>
Slot number coding range	: 3 to 14
Slot number coding defaults	<p>: Fixed (hard-wired) as follows:</p> <ul style="list-style-type: none"> • Slot 03 = 3 (0011 binary) • Slot 04 = 4 (0100 binary) ... • Slot 13 = 13 (1101 binary) • Slot 14 = 14 (1110 binary).
Galvanic separation	<p>: Galvanic separation units (GSIxxx) are available for accelerometer and proximity systems mounted in explosive atmospheres. These units cannot be supplied by the rack and require an external power supply. They must be mounted outside the rack in a remote housing or in a cabinet.</p>

SPECIFICATIONS *(continued)*

Power supply

VM600 ^{Mk2} /VM600 RPS6U rack power supplies	: A VM600 ^{Mk2} /VM600 ABE04x system rack can have either one or two VM600 ^{Mk2} /VM600 RPS6U rack power supplies installed, as follows: <ul style="list-style-type: none"> • 1 × RPS6U power supply (330 W) supports the power requirements for a full rack of modules (cards) in applications with operating temperatures up to 50°C (122°F). • 2 × RPS6U power supplies (330 W) – operating redundantly – supports the power requirements for a full rack of modules (cards) in applications with operating temperatures up to 50°C (122°F). With this rack power supply redundancy, if one RPS6U fails, the other will provide 100% of the rack’s power requirements so that the rack will continue to operate. <p>Note: This is known as a redundant RPS6U rack power supply configuration.</p> <ul style="list-style-type: none"> • 2 × RPS6U power supplies (330 W) – operating non-redundantly – supports the power requirements for a full rack of modules (cards) in applications with operating temperatures above 50°C (122°F), where RPS6U output power derating is required. <p>Note: Even though two RPS6U rack power supplies are installed in the rack, this is not a redundant RPS6U rack power supply configuration.</p> <p>Refer to the <i>VM600^{Mk2}/VM600 RPS6U rack power supplies data sheet</i> and a <i>VM600^{Mk2}/VM600 machinery protection system (MPS) hardware manual</i> for further information.</p>
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Power supply check relay

Maximum switching voltage	: $\pm 30 V_{\text{RMS}}$ / $\pm 42.4 V_{\text{AC(PEAK)}}$ or $60 V_{\text{DC}}$
Maximum switching current	: $4 A_{\text{AC}}$, $3 A_{\text{DC}}$

Environmental

According to IEC 60068-2 recommendations

Temperature	
• Operating	: 0 to 70°C (32 to 158°F)
• Storage	: -40 to 85°C (-40 to 185°F)
Humidity	: 0 to 90%, non-condensing
Vibration	: 10 to 55 Hz, 0.35 mm peak, 6 hours in each direction
Shock	: 15 g peak, 11 ms, half-sine pulse
Indoor use	: Limited to indoor use only

SPECIFICATIONS *(continued)*

Approvals

Conformity	: European Union (EU) declaration of conformity (CE marking). cCSAus certificate of compliance. EAC marking, Eurasian Customs Union certificate/declaration of conformity.
Electromagnetic compatibility	: IEC/EN 61000-6-2 and IEC/EN 61000-6-4
Electrical safety	: IEC/EN 61010-1
Vibration	: IEC 60255-21-1 (Class 2)
Environmental management	: RoHS compliant

Physical

Dimensions	: See Mechanical drawings starting on page 4
Weight	: 6.5 kg (14.3 lb) approx. Note: This is the weight without any VM600 ^{Mk2} /VM600 RPS6U power supplies and modules (cards) installed.