MANUFACTURER DOCUMENT PACKAGE

Manufacturer's Manual

Reference package for procurement and maintenance review

VIBRO-METER

VM600 RPS6U SIM-275D-24 200-582-200-013

RACK POWER SUPPLY UNIT

Used with the applicable VM600 RPS6U configuration.

REFERENCE PACKAGE

OFFICIAL DOCUMENT

Selected official manufacturer pages follow this cover.

Source: Meggitt SA RPS6U data sheet 268-011, version 9, 23.04.2015; pp.1 to 4,12

MEGGiTT
smart engineering for
extreme environments

RPS6U

Rack power supply unit

FEATURES

- From the Vibro-Meter® product line
- Power supply unit for VM600 system rack (6U)
- High performance
- Wide input voltage range
- Over-voltage protection
- Continuous short-circuit proof
- Minimal derating within the operating temperature range
- 6U height
- Compact design
- Fully VME compatible
- Conforms to EC standards for EMC
- Up to two RPS6U rack power supply units can be installed in a VM600 system rack (ABE04x)



**Rack power supply unit (RPS6U)
for a VM600 system rack (ABE04x)**

DESCRIPTION

The RPS6U rack power supply units are designed for use in the VM600 series of machinery protection systems and condition and performance monitoring systems, from Meggitt Sensing Systems' Vibro-Meter product line.

The RPS6U is installed in the front of a VM600 system rack (ABE04x) with a standard height of 6U and connects directly to the rack backplane via two connectors. The power supply provides +5 V_{DC} and ±12 V_{DC} power to all cards in the rack via the rack backplane.

One or two RPS6U power supplies can be installed in a VM600 system rack. A rack can have two RPS6U units installed for different reasons: to supply power to a rack with many cards installed, non-redundantly, or to supply power to a rack with fewer cards installed, redundantly. Typically, the cutoff point is when nine rack slots or fewer are used.

Information contained in this document may be subject to Export Control Regulations of the European Union, USA or other countries. Each recipient of this document is responsible for ensuring that transfer or use of any information contained in this document complies with all relevant Export Control Regulations. ECN N/A.

DESCRIPTION *(continued)*

When a VM600 system rack is operating with two RPS6U units for power supply redundancy, if one RPS6U fails, the other will provide 100% of the power requirement and the rack will continue to operate, thereby increasing the availability of the machinery monitoring system.

Various versions of the RPS6U exist, allowing a rack to be powered from external AC or DC mains supplies with a range of supply voltages.

A power supply check relay, available at the rear of a VM600 rack, indicates that the power supplies are operating normally. Refer to the *ABE040 and ABE042 VM600 system rack* and *ABE056 VM600 slimline rack* data sheets for additional information on power supply check relays.

In applications where the VM600 rack is powered by an AC mains supply, an auxiliary sensor power supply (ASPS) can also be included in the rack. The ASPS provides +24 V_{DC} outputs which can be used by external hardware such as front-end transducers, signal conditioners and galvanic separation units.

For specific applications, contact your nearest Meggitt Sensing Systems representative.

SPECIFICATIONS

Power supply

Input

Input voltage range (V_i nom.)	: See **Ordering information on page 12**
Mains frequency variations	: See **Ordering information on page 12**
Efficiency	: See **Ordering information on page 12**

Output

Nominal output (V_o nom. / I_o max.)

• *DC output 1*	: +5 V_{DC} / +35 A
• *DC output 2*	: +12 V_{DC} / +6 A
• *DC output 3*	: −12 V_{DC} / −2 A
Stability of output voltage U_o under full load conditions	: ≤ ±0.2%
Ripple (bandwidth 20 MHz)	: ≤ 50 mVpp
Output current limitation	: 35 A (electronic current limiter)
Output overvoltage protection	: 5.9 to 6.7 V (factory set)
Power derating	: 1%/°C from 60 to 70°C

Power

Rated power	: 300 W
Rated supply voltage	: See **Ordering information on page 12**

Environmental

According to IEC 60068-2 recommendations

Operating temperature range	: −25 to +65°C (−13 to +149°F)
Storage temperature range	: −40 to +85°C (−40 to +185°F)
Humidity	: ≤ 95% non-condensing
Vibration	: 10 to 2000 Hz, 5 g, 2 h in each direction
Shock	: 100 g, 6 ms, half-sine pulse

© Meggitt SA / 268-011 / Version 9 / 23.04.2015 / E

SPECIFICATIONS *(continued)*

Physical

Dimensions : 6 U / 12 HP (TE) x 187 mm
Weight (approx.) : 2.1 kg (4.63 lb)

Safety

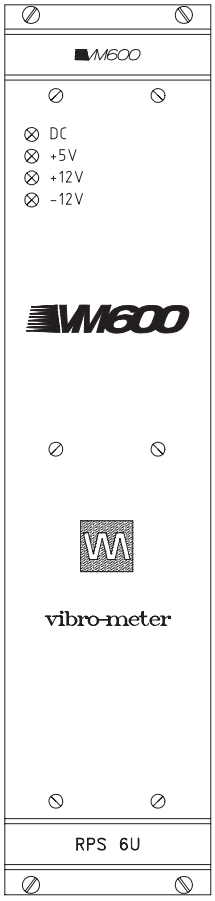
Applicable safety standards : UL 1950, CSA 22.2#234, IEC 950, EN 60950
Marking : See **Ordering information on page 12**
LR111641
Level 3

TOLERANCE TO MICRO-INTERRUPTIONS IN THE SUPPLY INPUT

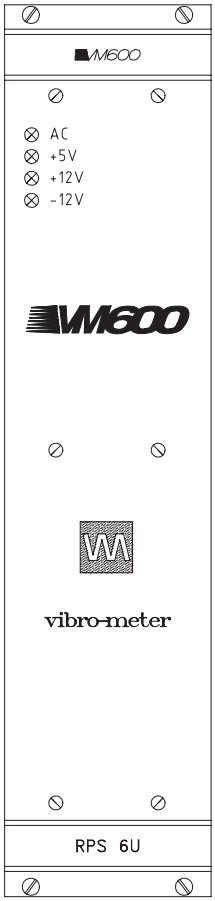
The table below shows the maximum permissible duration of a power cut which will not cause MPC4 cards to be reset. This value depends on the number of MPC4 cards and RPS6U units installed in the VM600 rack.

	Number of RPS6U power supplies in VM600 system rack	
Number of MPC4 cards in VM600 system rack	1 unit	2 units
2 cards	190 ms	250 ms
12 cards	10 ms	20 ms

RPS6U POWER SUPPLY FRONT PANELS



DC input version



AC input version

© Meggitt SA / 268-011 / Version 9 / 23.04.2015 / E

ORDERING INFORMATION

Rack power supply units

To order please specify the type, designation and ordering number

Type: RPS6U rack power supply unit.
Designation: See the table below.
Ordering number: See the table below.

Power supply	DC input versions				AC input version
Type	RPS6U 24 DC	RPS6U 48 DC	RPS6U 72 DC	RPS6U 110 DC	RPS6U AC
Ordering number (1)	200-582-200-01h	200-582-300-01h	200-582-400-01h	200-582-600-01h	200-582-500-01h
Rated supply voltage	24 V_{DC}	48 V_{DC}	72 V_{DC}	110 V_{DC}	120 / 230 V_{AC} (2)
Input voltage range (U_i nom)	18 to 32 V_{DC}	38.4 to 57.6 V_{DC}	57.6 to 100 V_{DC}	80 to 145 V_{DC}	90 to 264 V_{AC} (auto-ranging)
Mains frequency variations	Not applicable				48 to 65 Hz
Efficiency	>70%				>75%
Markings	According to CE low voltage directive				
	LR111641 Level 3				

Notes

(1) “h” represents the hardware version.
“h” increments are for minor modifications that have no effect on product interchangeability.

(2) This AC input version can also operate on a 178 to 264 V_{DC} supply.

© Meggitt SA / 268-011 / Version 9 / 23.04.2015 / E