Vibro-Meter

RPS 6U

Rack power supply unit

FEATURES

- Power supply unit for VM 600 series racks
- Fully VME compatible
- High performance
- Wide input voltage range
- Over-voltage protection
- Continuous short-circuit-proof
- Minimal derating within the temperature range
- Compact design
- Height 6U
- Supports redundancy
- Conforms to EC standards for EMC

DESCRIPTION

The RPS 6U rack power supply units are designed for use in Vibro-Meter's VM 600 series of machinery protection systems and condition and performance monitoring systems.

The RPS 6U is installed in the front of the ABE 04X rack and connects directly to the rack backplane via two connectors. The unit provides power (+5 V and ±12 V) for all cards in the rack.

The rack may be powered by a single RPS 6U unit. Optionally, a second unit may be installed to provide redundancy.

Various versions of the RPS 6U exist, enabling the rack to be powered from an AC or a DC supply and allowing various supply voltages to be used.

MEGGiTT
smart engineering for extreme environments

SPECIFICATIONS

POWER

Supply

Rated power	: 300 W
Rated supply voltage	: See ordering information on page 11

Output

Nominal output (U_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 (built-in electronic current limitation)
Output overvoltage protection	: 5.9 to 6.7 V (factory set)
Power derating	: 1% / °C from 60°C to 70°C

Input

Input voltage range (U_i nom)	: See ordering information on page 11
Mains frequency variations	: See ordering information on page 11
Efficiency	: See ordering information on page 11

ENVIRONMENTAL

Operating temperature range	: -25°C to +65°C (-13°F to +149°F)
Storage temperature range	: -40°C to +85°C (-40°F to +185°F)
Humidity (IEC 68-2-3)	: ≤ 95% non-condensing
Vibration (IEC 68-2-6)	: 10 to 2000 Hz, 5 g, 2 h in each direction
Shock (IEC 68-2-27)	: 100 g, 6 ms, half-sine pulse

PHYSICAL

Dimensions	: 6U / 12TE x 187 mm
Weight	: 2.1 kg approx.

SPECIFICATIONS

SAFETY

Applicable safety standards : UL 1950, CSA 22.2#234, IEC 950, EN 60950

Marking : See ordering information on page 11

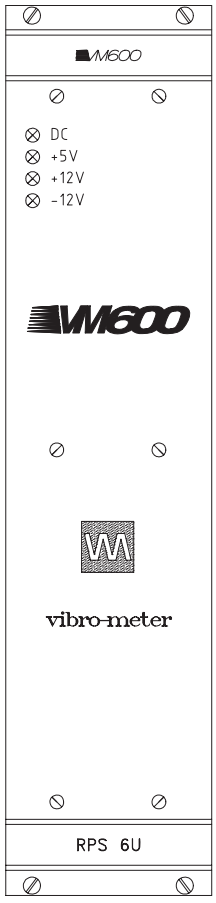
LR111641
Level 3

TOLERANCE TO MICRO-CUTS IN POWER SUPPLY

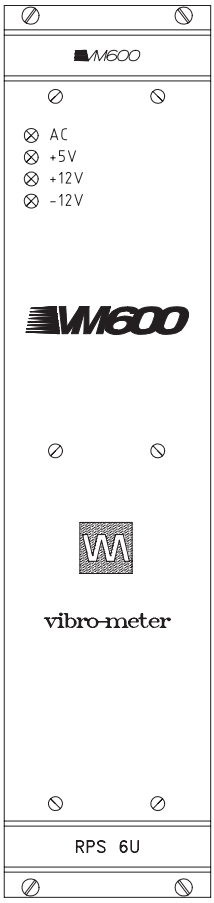
The table below shows the maximum permissible duration of a power cut which will not cause the MPC 4 cards to be reset. This value depends on the number of MPC 4 cards and RPS 6U units installed in the VM 600 rack.

	Number of RPS 6U units in VM 600 rack	
Number of MPC 4 cards in rack	1 unit	2 units
2 cards	190 ms	250 ms
12 cards	10 ms	20 ms

RPS 6U POWER SUPPLY FRONT PANELS



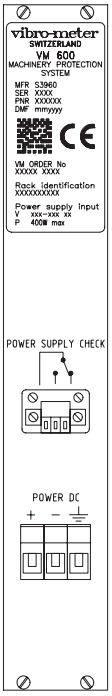
Version for
DC mains supply

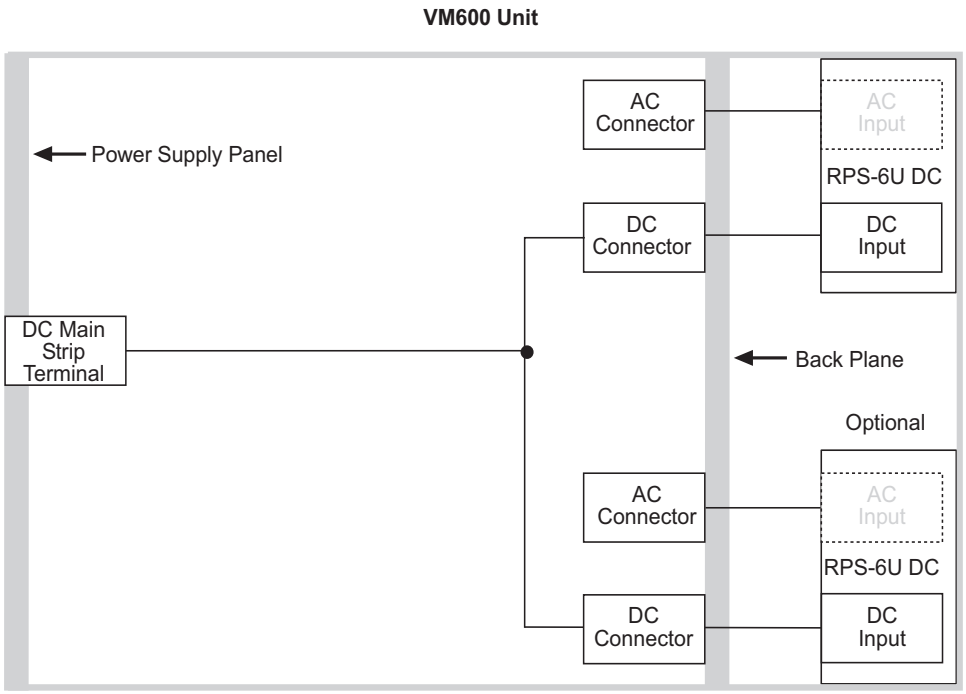


Version for
AC mains supply

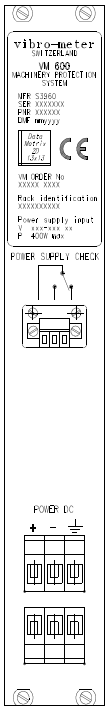
ASSOCIATED REAR PANELS

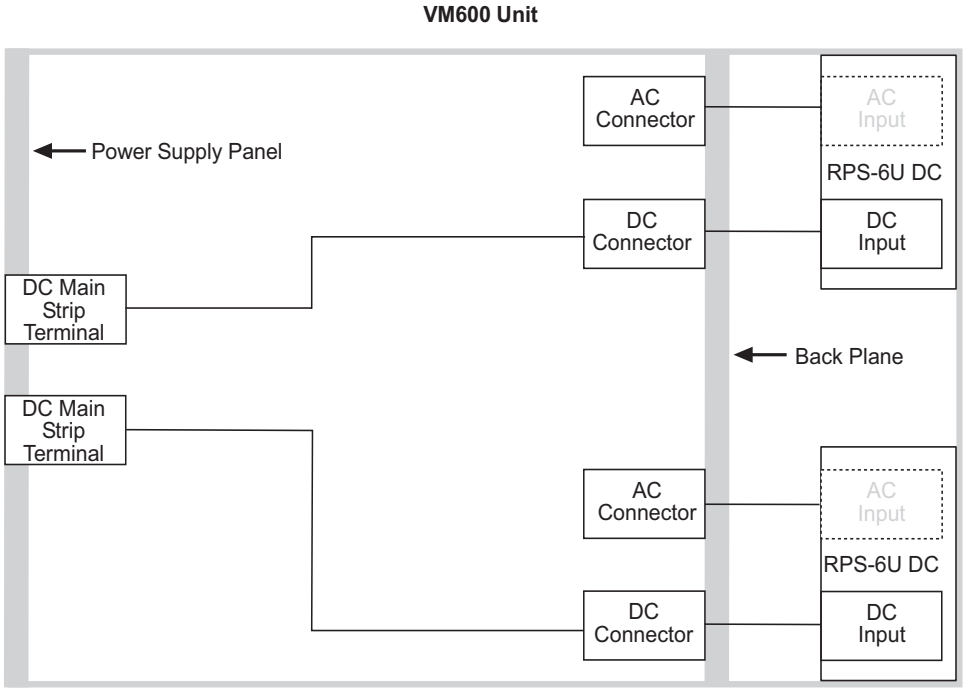
(a) Standard DC version (ordering number: 200-582-920-01h)





(b) DC version (ordering number: 200-582-993-01h)

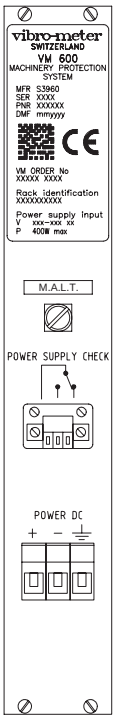


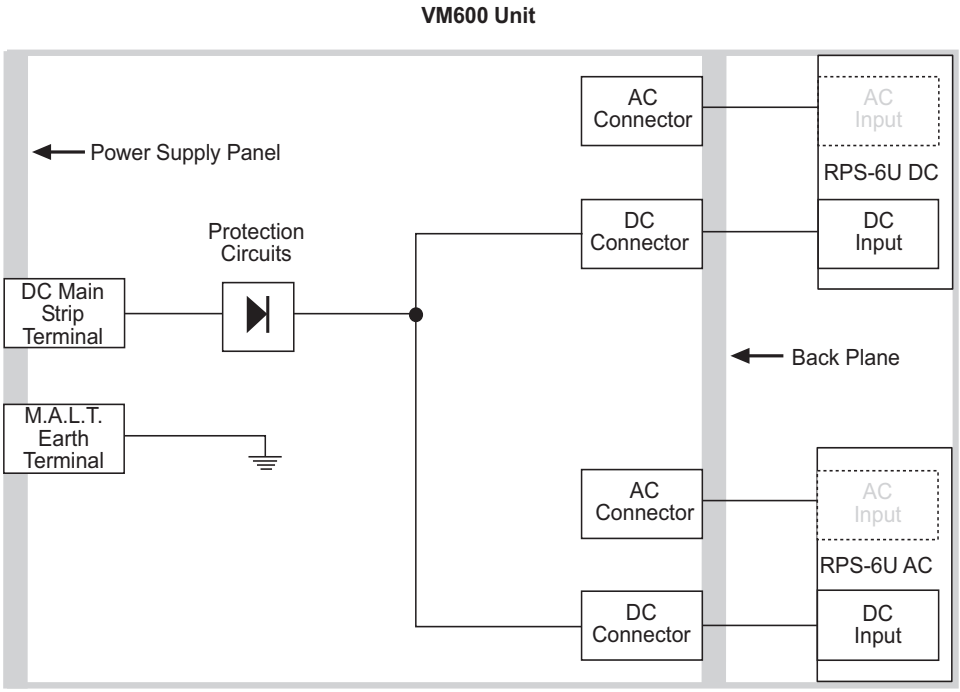


This version has two DC screw strip terminal inputs, and individual inputs on each RPS.

ASSOCIATED REAR PANELS *(Continued)*

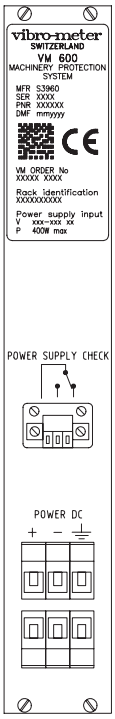
(c) DC version with earth terminal (ordering number: 200-582-922-01h)

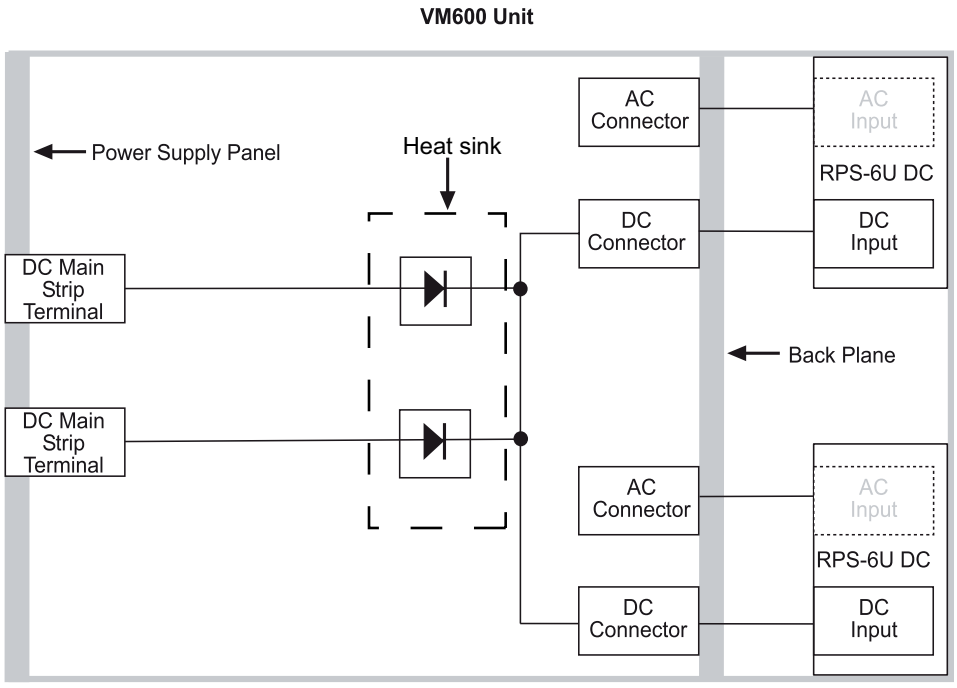




This version has a standard DC screw terminal strip and a special earth terminal (marked M.A.L.T.).

(d) Special DC version (ordering number: 200-582-990-01h)

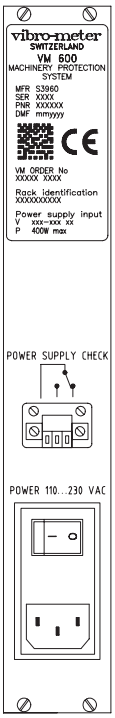


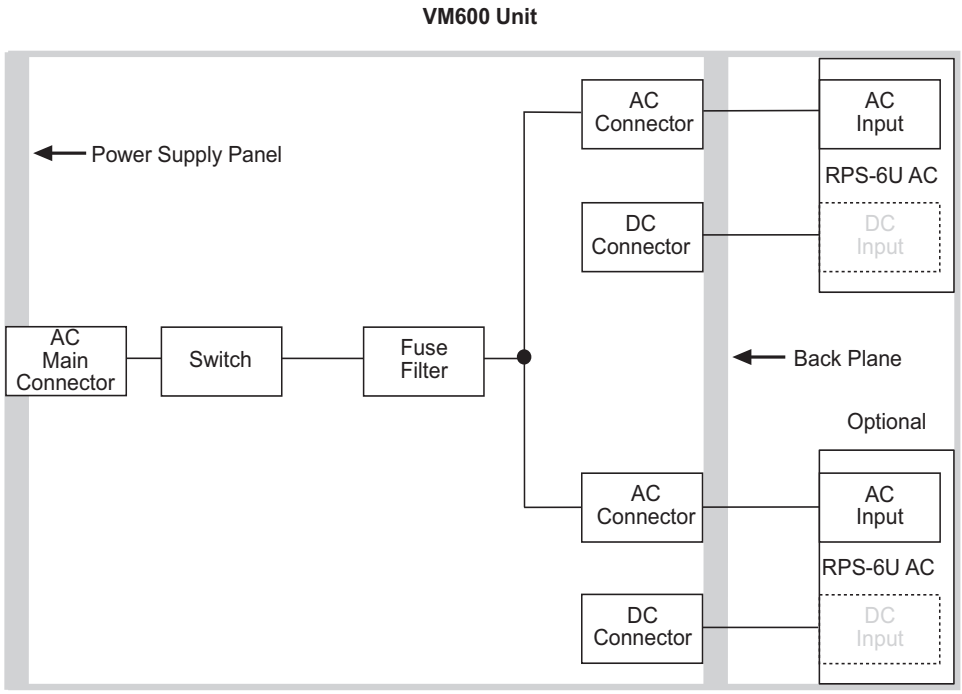


This version has two DC screw terminal strips, intended for the connection of two independent DC mains supplies. Both strips are wired to the same points on the rack backplane, each through a protection diode. This allows the rack to continue operating even if one of the DC mains supplies is defective. This unit must be used only with RPS 6U 24(DC), part number: 200-585-200-01h.

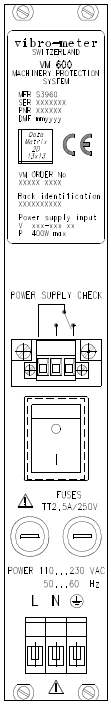
ASSOCIATED REAR PANELS *(Continued)*

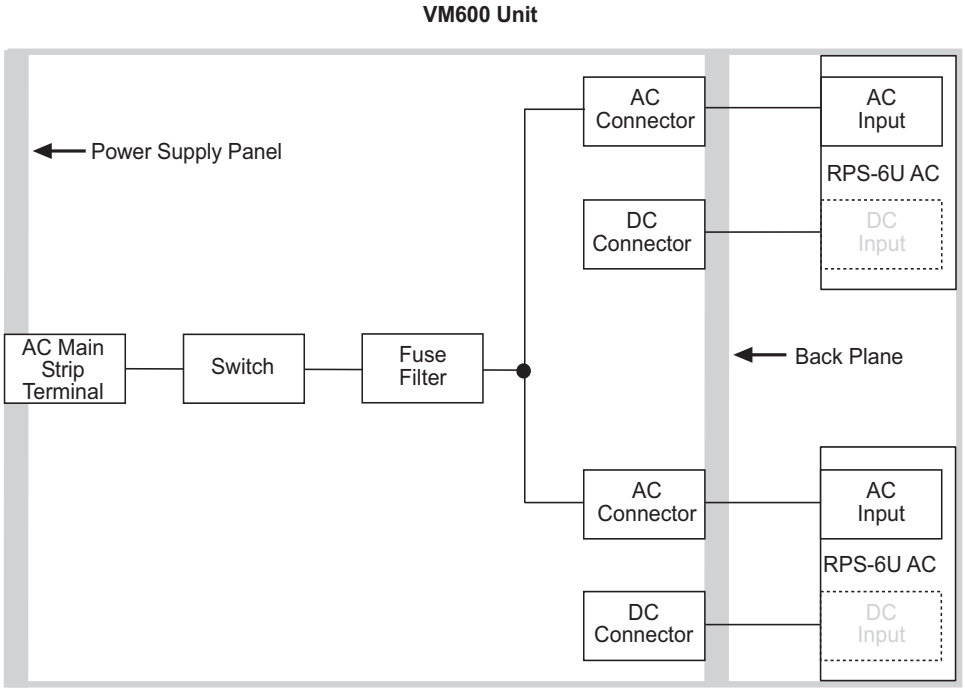
(e) Standard AC version (ordering number: 200-582-910-02h)





(f) AC version (ordering number: 200-582-911-02h)

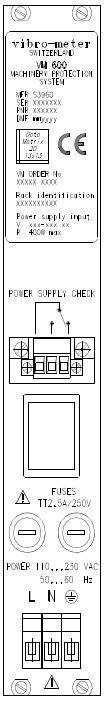


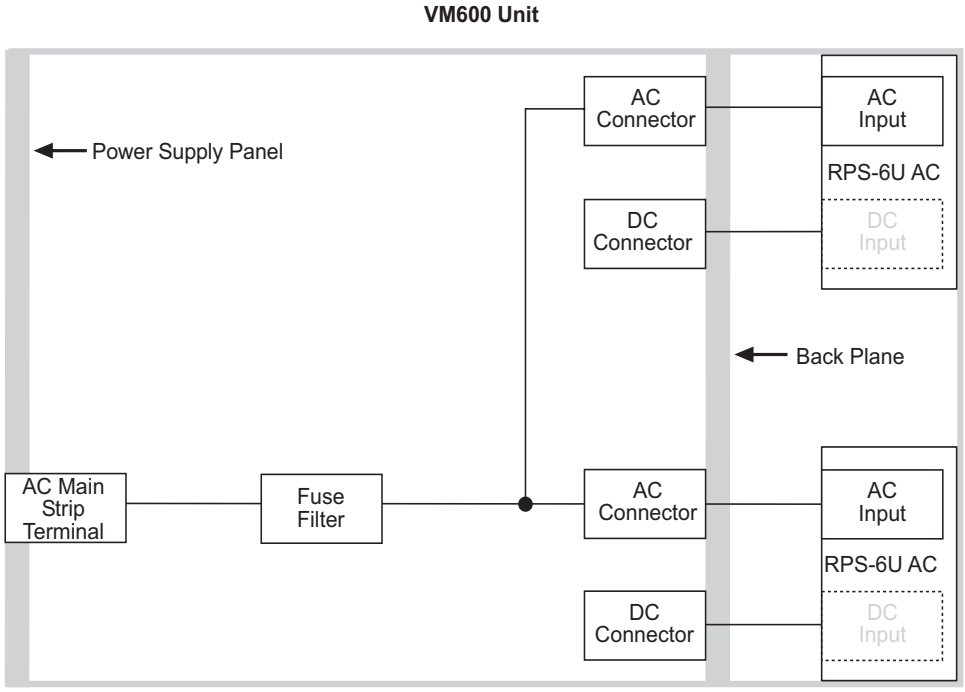


This version has a screw terminal strip and mains switch.

ASSOCIATED REAR PANELS *(Continued)*

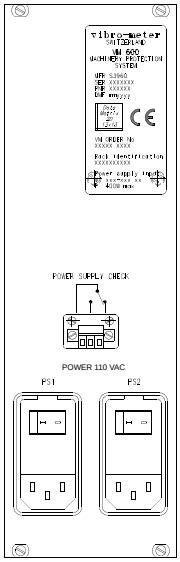
(g) AC version (ordering number: 200-582-912-02h)

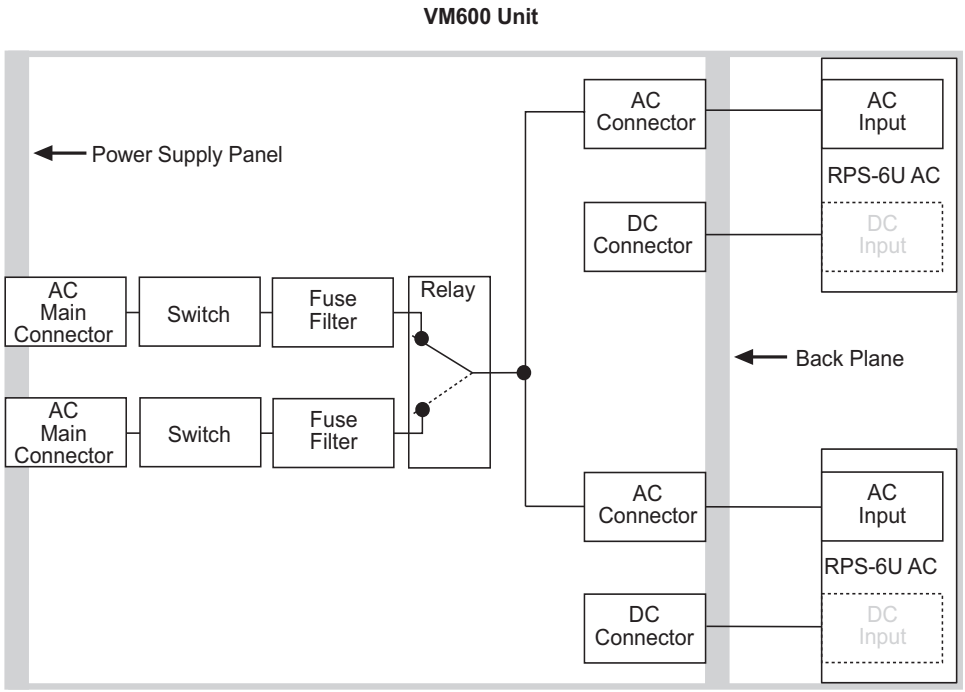




This version has a screw terminal strip, but no mains switch.

(h) AC version (ordering number: 200-582-962-01h)

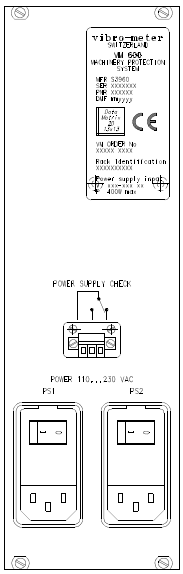


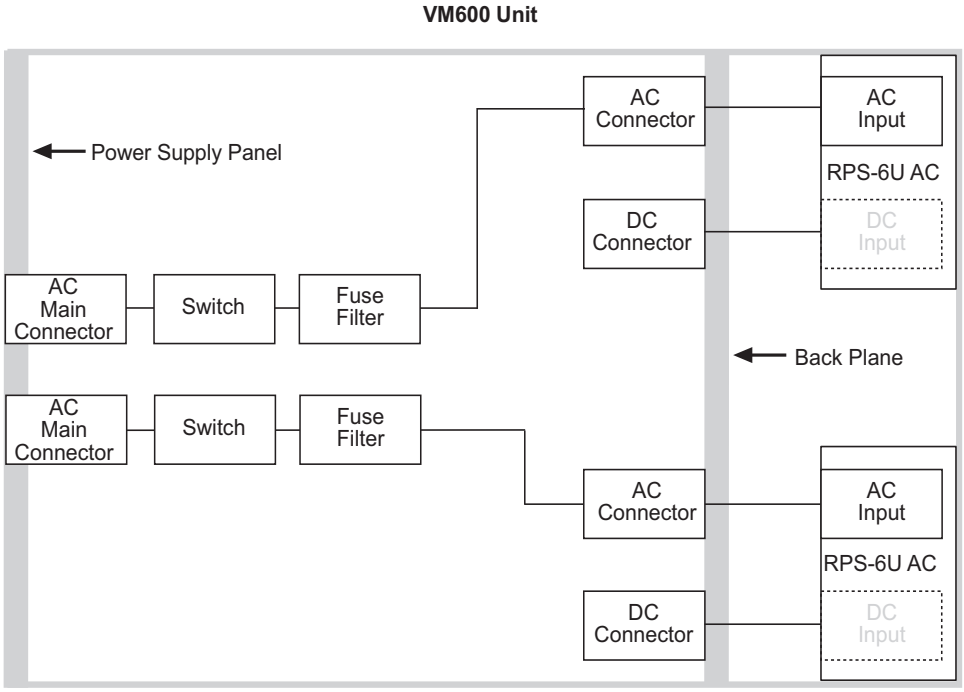


This version has two AC main connectors, operating at 110 V_{AC}

ASSOCIATED REAR PANELS *(Continued)*

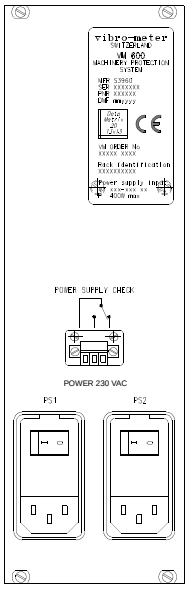
(i) AC version (ordering number: 200-582-963-01h)

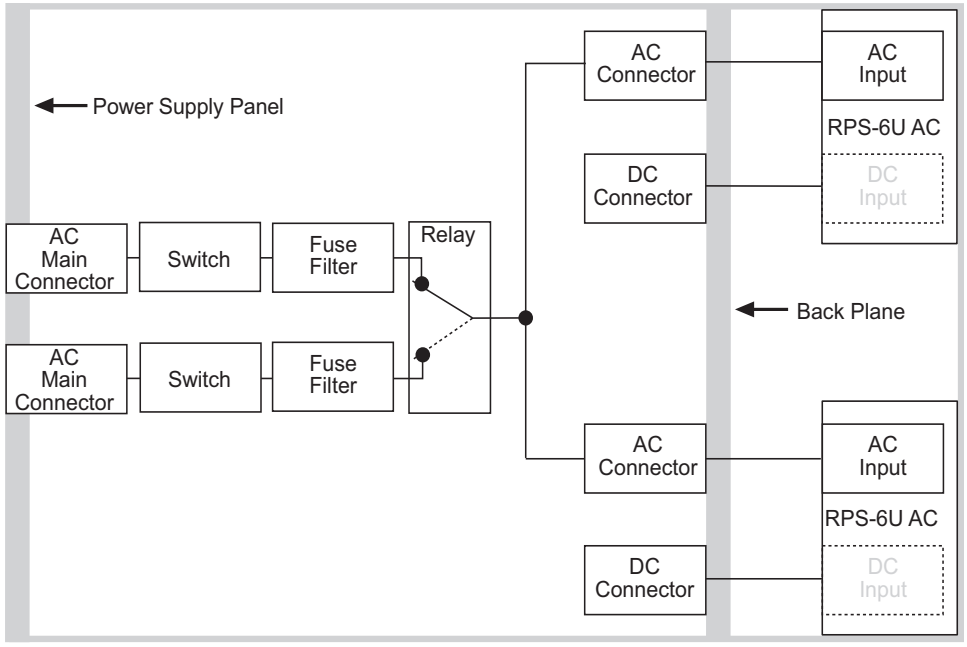




This version has two AC main connectors and individual outputs to each RPS.

(j) Special AC version (ordering number: 200-582-960-03h)

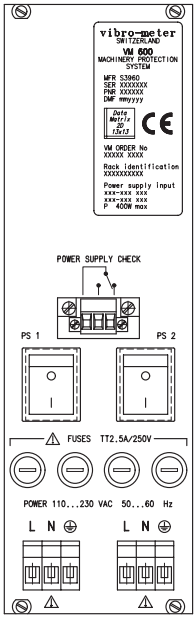


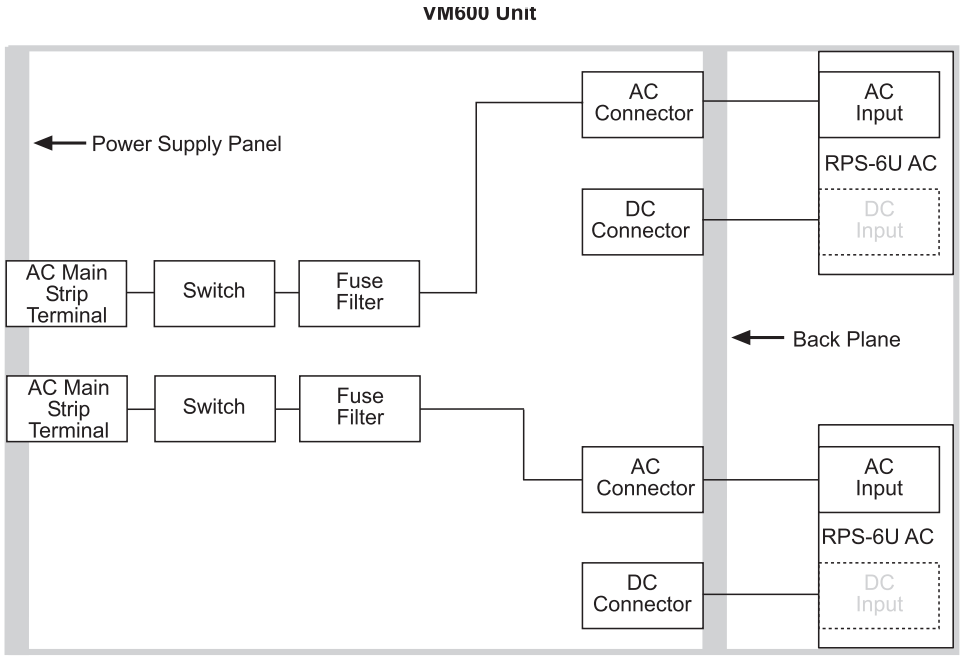


This version has two AC sockets, intended for the connection of two independent AC mains supplies. Both sockets are independently wired to a switching circuit on the rack back plane. The rack is normally powered by the PS1 AC mains supply. If this supply is defective, the switching circuit allows operation to continue with the PS2 AC mains supply.

ASSOCIATED REAR PANELS *(Continued)*

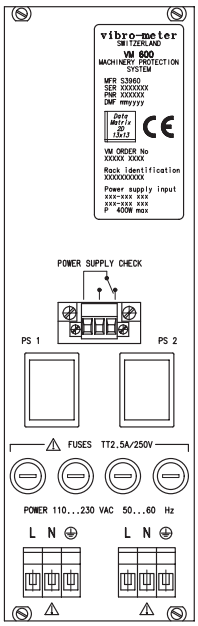
(k) Special AC version (ordering number: 200-582-915-01h)

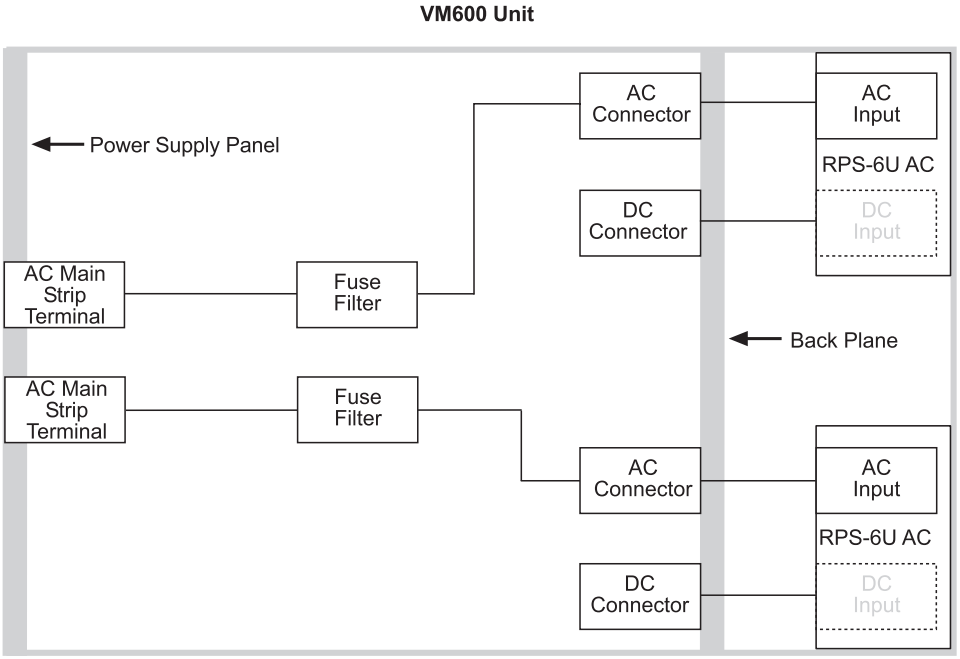




This version has two screw terminal strips and individual outputs to main switch.

(l) Special AC version (ordering number: 200-582-916-01h)

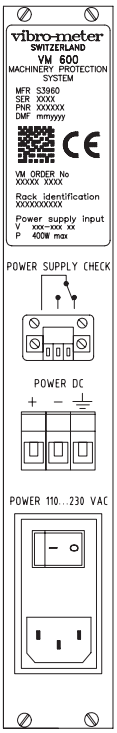


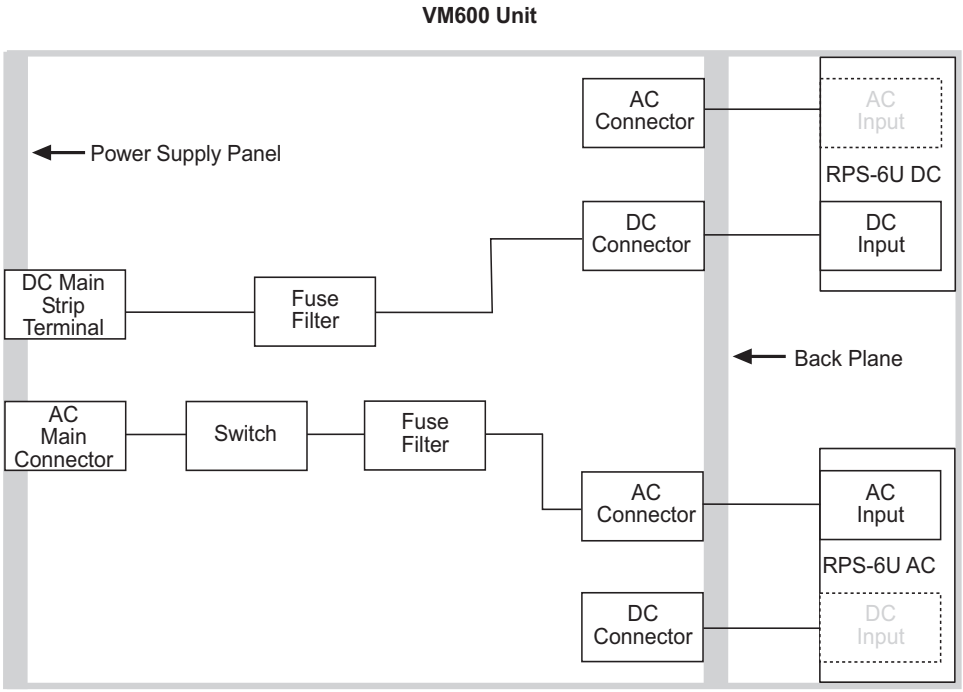


This version has two screw terminal strips and individual outputs, but no main switch.

ASSOCIATED REAR PANELS *(Continued)*

(m) Special AC and DC version (ordering number: 200-582-970-01h)





This version has an AC socket and a DC screw terminal strip, intended for the connection of two independent mains supplies. These are wired separately to the back plane's AC and DC inputs, respectively. This allows the rack to continue operating even if one of the mains supplies is defective.

ORDERING INFORMATION

Rack power supply units

To order please specify the designation, type and ordering number:
Designation: Rack power supply unit
Type: see table below
Ordering number: see table below

Power supply	DC versions				AC version
Type	RPS 6U 24 DC	RPS 6U 48 DC	RPS 6U 72 DC	RPS 6U 110 DC	RPS 6U 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}	110 / 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%
Marking	According to CE low voltage directive	LR111641 Level 3			

(1): "h" represents the hardware version. "h" increments for minor modifications that have no effect on interchangeability.
(2): This AC version can also operate on a 178 V_{DC} to 264 V_{DC} supply.

Rear panels

To order please specify the designation, type and ordering number from the table below (also refer to drawings on page 4 - 9, references (a) to (k)). All rear panels come fully equipped with cables.

Drawing	Designation	Ordering number
(a)	Rear panel for DC rack power supply units for 24 V_{DC}, 48 V_{DC}, 72 V_{DC} and 110 V_{DC}	200-582-920-01h
(b)	Rear panel for DC rack power supply units for 24 V_{DC}, 48 V_{DC}, 72 V_{DC} and 110 V_{DC}; with two DC inputs for independent mains supplies (individual I/P per RPS)	200-582-993-01h
(c)	Rear panel for DC rack power supply units for 24 V_{DC}, 48 V_{DC}, 72 V_{DC} and 110 V_{DC}; with special earth terminal (marked M.A.L.T.)	200-582-922-01h
(d)	Rear panel for DC rack power supply units for 24 V_{DC}; with two DC inputs for independent mains supplies. This panel must not be used with other DC versions.	200-582-990-01h
(e)	Rear panel for AC rack power supply units for 110 / 230 V_{AC}	200-582-910-02h
(f)	Rear panel for AC rack power supply units for 110 / 230 V_{AC}; with screw terminal strip and mains switch	200-582-911-02h
(g)	Rear panel for AC rack power supply units for 110 / 230 V_{AC}; with screw terminal strip	200-582-912-02h
(h)	Rear panel for AC rack power supply units for 115 V_{AC}; with two AC inputs for independent mains supplies	200-582-962-01h
(i)	Rear panel for AC rack power supply units for 110 / 230 V_{AC}; with two AC inputs for independent mains supplies (individual I/P per RPS)	200-582-963-01h
(j)	Rear panel for AC rack power supply units for 110 / 230 V_{AC}; with two AC inputs for independent mains supplies, fully equipped with switching circuit	200-582-960-03h
(k)	Rear panel for AC rack power supply units for 110 / 230 V_{AC}; with two screw terminal strips and individual outputs to main switch	200-582-915-01h
(l)	Rear panel for AC rack power supply units for 110 / 230 V_{AC}; with two screw terminal strips and individual outputs, but no main switch	200-582-916-01h
(m)	Rear panel for rack with an AC and a DC rack power supply unit for 110 / 230 V_{AC} and 24 V_{DC}, 48 V_{DC}, 72 V_{DC} and 110 V_{DC} respectively; with an AC and a DC input for independent mains supplies	200-582-970-01h

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

Sales offices

Vibro-Meter has offices in more than 30 countries. For a complete list, please visit our website.

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