

DATA SHEET

Vibro-Meter®

APF197 24 V_{DC} 5 A power supply



KEY FEATURES AND BENEFITS

- From the Vibro-Meter® product line
- Input: 85 to 277 V_{AC} or 80 to 370 V_{DC}
- Output: 24 V_{DC} 5 A
- Status indicators
- Rugged compact design
- Metal enclosure with DIN-rail mounting adaptor

APPLICATIONS

- Outputs can be connected in parallel for increased output current or power supply redundancy
- Ideal for use with VM600 and/or VibroSmart® machinery monitoring systems

DESCRIPTION

The APF197 is a high-performance 24 V_{DC} 5 A power supply for use in industrial applications such as machinery monitoring.

A single APF197 power supply can be used to power any equipment requiring a 24 V_{DC} up to 5 A (120 W), for example, external hardware such as GS112x galvanic separation units or VibroSmart® devices. Up to five APF197 power supplies can be connected in parallel in order to increase performance.

The APF197 is a compact and robust switched-mode power supply that works with either AC or DC inputs. It includes a front-panel LED (DC OK) to indicate the status of the power supply locally and a relay that can be used to monitor the status of the power supply remotely.

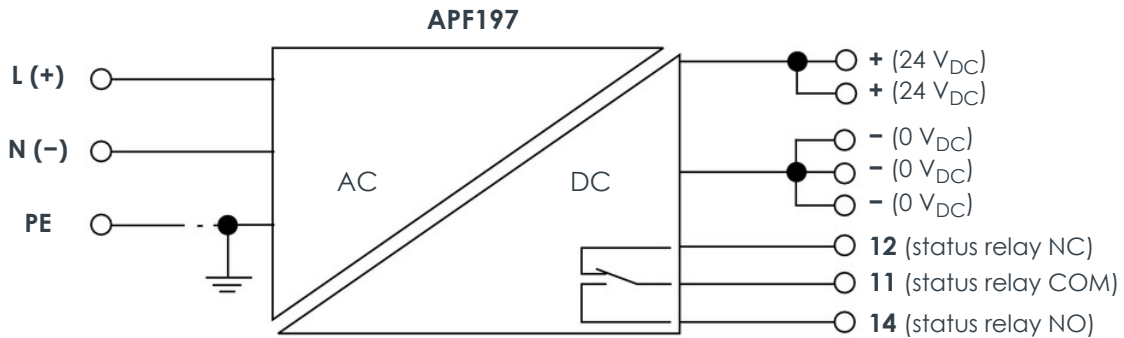
The APF197 is DIN-rail mounting and is typically installed in a cubicle containing other equipment such as VM600 and/or VibroSmart® monitoring systems.

For specific applications, contact your local Meggitt representative.



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.

SYSTEM OVERVIEW



Notes

The APF197 power supply accepts either an AC or a DC input. When using a DC input, ensure that the correct input polarity is observed (+ and – inputs as shown above).

Up to five APF197 power supplies can be connected and operated in parallel:

- APF197 power supplies can be connected with a common input voltage connection if increased output current is required, with no redundancy.
- APF197 power supplies can be connected with separate input voltage connections if APF197 power supply redundancy is required.

External diodes are not required when operating APF197 power supplies in parallel as they are included internally.

However, the individual output voltages should be the same (± 50 mV) and the wiring should be symmetrical in order to ensure an even current distribution.

SPECIFICATIONS

Electrical

Rated Input voltage	: 100 to 240 V _{AC}
Input voltage	
• AC	: 85 to 277 V _{AC} (45 to 65 Hz)
• DC	: 80 to 370 V _{DC}
Current consumption	
• AC	: 1 A at 230 V _{AC} / 2.5 A at 115 V _{AC}
• DC	: 1.5 A at 370 V _{DC} / 2.5 A at 120 V _{DC}
Efficiency	: 89% typ.
Inrush current	: 15 A max.
Input fuse	: Yes (internal)
Surge protection	: Varistor (internal). Note: The internal varistor found in a switch-mode power supply does not replace the need for surge protection within a system.
Nominal output	
• Voltage	: 24 V _{DC}
• Current	: 5 A
• Power	: 120 W
Output stability (regulation)	: $\pm 1\%$
Residual ripple	: < 50 mV _{PK-PK}
Output voltage range	: 22.5 to 29.5 V _{DC} (adjustable via front-panel potentiometer)

SPECIFICATIONS *(continued)*

Continuous output current (at 24 V_{DC})

- At 45°C (113°F) : 6 A
- At 60°C (140°F) : 5 A.

Note: Output power derating is required above 60°C (see **Derating curve on page 3**).

- At 70°C (158°F) : 3.75 A

Parallel connection : Yes, up to a maximum of five APF197 power supplies (see **System overview on page 2**)

Short-circuit protection : Yes

Inverse-voltage protection : Yes

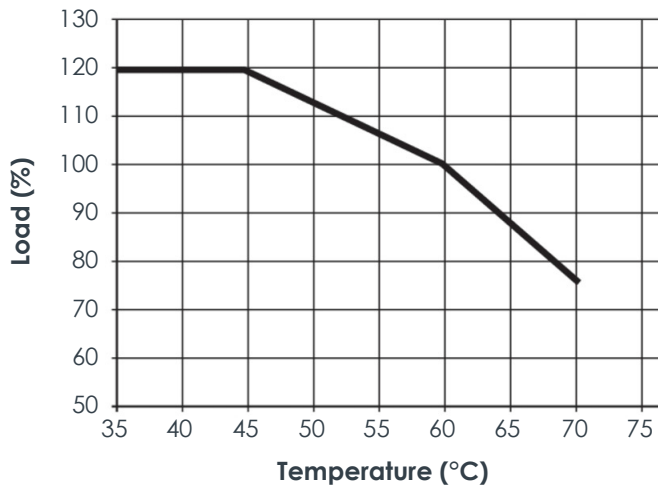
Protection against reverse voltages : Yes

Protection against over-heating : Yes.

Automatic shut off at over-temperature with automatic restart after cooling.

Note: Output power derating is required above 60°C (see **Derating curve on page 3**).

Derating curve



Note: Output power derating of 2.5%/°C is required for operating temperatures above 60°C (140°F).

Environmental

Temperature

- Operating : -25 to 70°C (-13 to 158°F)
- Storage : -40 to 85°C (-40 to 185°F)

Humidity : 5 to 95% RH (non-condensing)

Protection rating : IP20
(according to IEC 60529)

MTBF : >500000 hours
(according to IEC 61709 (SN 29500))

Vibration : 2.3 g
(according to IEC 60068-2-6)

Shock acceleration : 30 g (in all directions)
(according to IEC 60068-2-27)

SPECIFICATIONS *(continued)*

Approvals

Conformity	: CE marking, European Union (EU) declaration of conformity. EAC marking, Eurasian Customs Union (EACU) certificate/ declaration of conformity.
Other standards	: cULus, cURus and TÜV Rheinland
Electromagnetic compatibility	: EN 61000-3-2 and EN 61000-3-3. EN 61000-4-2, EN 61000-4-3, EN 61000-4-4, EN 61000-4-5, EN 61000-4-6, EN 61000-4-8 and EN 61000-4-11. IEC 61204.
Electrical safety	: EN 60204
Extra-low voltage systems	: SELV, according to EN 60950. PELV, according to EN 60204.
Environmental management	: RoHS compliant (2011/65/EU)

Control inputs

Adjust potentiometer	: To adjust the output voltage.
----------------------	---------------------------------

Status indicators

DC OK LED	: Green indicates normal operation. Red indicates a power supply problem such as output out of normal range, short-circuit, overload and/or over-heating.
Status relay (single-pole double-throw)	: Energised indicates normal operation. De-energised indicates an output problem. Note: The status relay supports signals and resistive loads up to 30 V _{AC/DC} and 1 A.

Connectors

Screw-terminal connector (bottom front)	: Three contacts for the power supply input: L(+) for live, N(-) for neutral and PE for protective earth.
Screw-terminal connector (top front)	: Five contacts for the power supply output: +, + for 24 V _{DC} and -, -, - for 0 V _{DC} .
Screw-terminal connector (top front)	: Three contacts for the status relay: 12, 11 and 14 for relay COM, NC and NO contacts. Note: See System overview on page 2 .
Input conductor cross-section	
• Flexible	: 0.22 to 4 mm ²
• Rigid	: 0.18 to 6 mm ²
• AWG	: 26 to 10
Output conductor cross-section	
• Flexible	: 0.5 to 4 mm ²
• Rigid	: 0.5 to 6 mm ²
• AWG	: 26 to 12
Insulation stripping length	: 6 mm
Tightening torque	: 0.5 to 0.6 N•m

SPECIFICATIONS *(continued)*

Physical

Housing	: Corrosion resistant metal
Mounting	: Mounts on a TH 35 DIN rail (according to EN 50022 / IEC 60715). For example, TH 35-15 or TH 35-7.5. Note: 50 mm (1.97 in) of vertical clearance at the top and bottom of the housing is required for air circulation (cooling). No horizontal clearance is required so APF197 power supplies can be mounted directly side-by-side (adjacent to each other).
Dimensions (height × width × depth)	: 130 × 40 × 125 mm (5.12 × 1.57 × 4.92 in)
Weight	: 860 g (1.9 lb) approx.

ORDERING INFORMATION

To order please specify

Type	Designation	Ordering number (PNR)
APF197	24 V _{DC} 5 A power supply	957.07.21.2003

RELATED PRODUCTS

APF195	24 V _{DC} 0.26 A power supply	Refer to corresponding data sheet
APF196	24 V _{DC} 3 A power supply	Refer to corresponding data sheet
APF198	24 V _{DC} 7.5 A power supply	Refer to corresponding data sheet
APF200	24 V _{DC} 3.75 A power supply with Ex certification	Refer to corresponding data sheet
APF201	24 V _{DC} 7.5 A power supply with Ex certification	Refer to corresponding data sheet
APF202	24 V _{DC} 5 A power supply with Ex certification	Refer to corresponding data sheet
ASPS	VM600 auxiliary sensor power supply	Refer to corresponding data sheet

Meggitt (Meggitt PLC) is a leading international engineering company, headquartered in England, that designs and delivers high-performance components and subsystems for aerospace, defence and selected energy markets. Meggitt comprises four customer-aligned divisions: Airframe Systems, Engine Systems, Energy & Equipment and Services & Support.

The Energy & Equipment division includes the Energy Sensing and Controls product group that specialises in sensing and monitoring solutions for a broad range of energy infrastructure, and control valves for industrial gas turbines, primarily for the Power Generation, Oil & Gas and Services markets. Energy & Equipment is headquartered in Switzerland (Meggitt SA) and incorporates the Vibro-Meter® product line, which has over 65 years of sensor and systems expertise and is trusted by original equipment manufacturers (OEMs) globally.



All information in this document, such as descriptions, specifications, drawings, recommendations and other statements, is believed to be reliable and is stated in good faith as being approximately correct, but is not binding on Meggitt (Meggitt SA) unless expressly agreed in writing. Before acquiring and/or using this product, you must evaluate it and determine if it is suitable for your intended application. You should also check our website at www.meggittsensing.com/energy for any updates to data sheets, certificates, product drawings, user manuals, service bulletins and/or other instructions affecting the product.

Unless otherwise expressly agreed in writing with Meggitt SA, you assume all risks and liability associated with use of the product. Any recommendations and advice given without charge, whilst given in good faith, are not binding on Meggitt SA. Meggitt (Meggitt SA) takes no responsibility for any statements related to the product which are not contained in a current Meggitt SA publication, nor for any statements contained in extracts, summaries, translations or any other documents not authored and produced by Meggitt SA.

The certifications and warranties applicable to the products supplied by Meggitt SA are valid only for new products purchased directly from Meggitt SA or from an authorised distributor of Meggitt SA.

In this publication, a dot (.) is used as the decimal separator and thousands are separated by thin spaces. Example: 12345.67890.

Copyright© 2019 Meggitt SA. All rights reserved. The information contained in this document is subject to change without prior notice.

Sales offices

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

Local representative

Head office

Meggitt SA
Rte de Moncor 4
PO Box 1616
CH-1701 Fribourg
Switzerland

Tel: +41 26 407 11 11

Fax: +41 26 407 13 01

energy@ch.meggitt.com

www.meggittsensing.com/energy

www.meggitt.com

