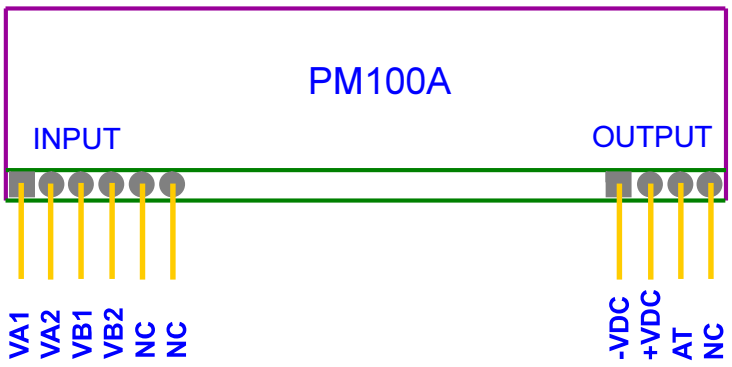
PM100A

IEEE802.3at PD Module

1. Features

- IEEE 802.3at compliant Power Device
- Small SIP package size - 55mm (L) x 16mm (H)
- Maximum Output Power 25 Watt for Class 4
- Low ripple and Low noise output
- Low ESR decoupling capacitor
- Input voltage range 43V to 57V
- Output overload, short-circuit, and over-temperature protection
- Support IEEE 802.3at Under voltage Lockout (UVLO)
- Adjustable Output Voltage: 9V, or 12V
- High efficiency DC/DC conversion
- Pb Free & RoHS Compliant



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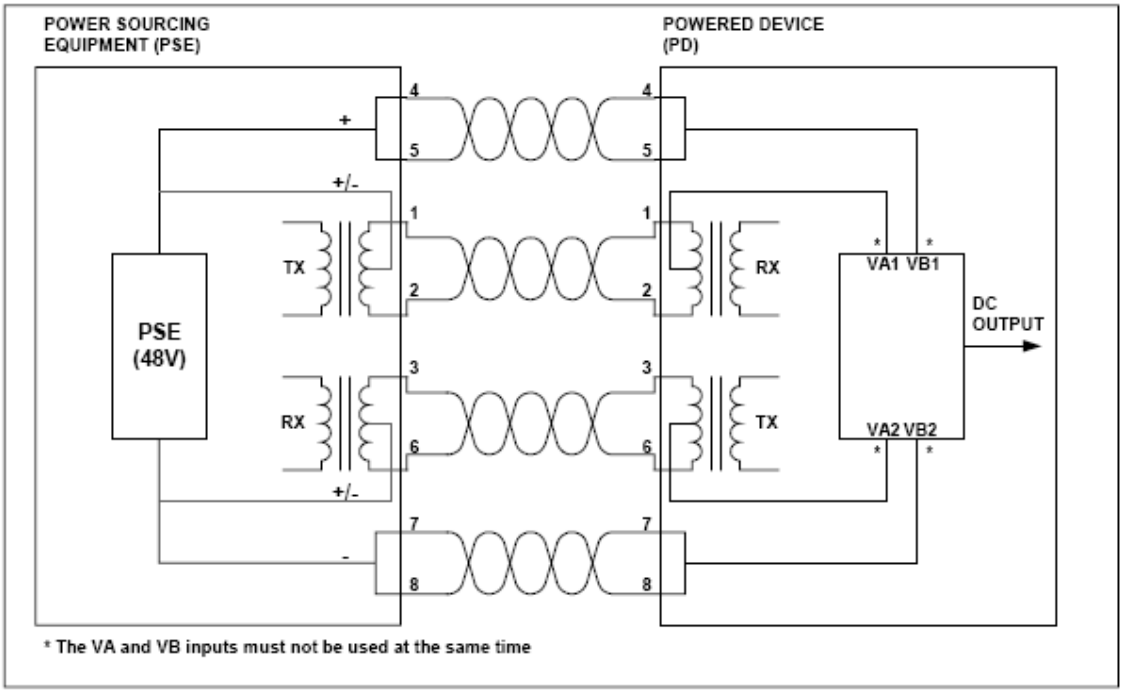
2. Descriptions

The PM100A modules are designed to extract power over Ethernet (PoE+) from a Power Sourcing Equipment (PSE) through a Category 5E Ethernet cable, to provide Power Device (PD) a stable DC voltage in compliant with the IEEE 802.3at PoE+ standard.

The PM100A series have two pairs of power inputs pins: VA1&2 and VB1&2, to accommodate IEEE 802.3at allowing for two power options with Category 5E cables as the following figure. The PM100A modules provides the PoE compatibility detection and power classification required by the Power Sourcing Equipment and up to 25W power to the Powered Device (PD).

With non-isolated regulation, PM100A provides low ripple and low noise output. In addition, PM100A implements protections for output overload, output short-circuit, and thermal shut-down. The modules also provide selections for PoE Class 0 to Class 4 equipments. The high efficiency DC/DC converter operates over a wide input voltage range from 43V to 57V.



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3. Pin Descriptions

Input Pin	Name	Description
1	VA1	RX Input (1). This input pin is used in conjunction with VA2 and connects to the centre tap of the transformer connected to pins 1 & 2 of the RJ45 connector (RX) - it is not polarity sensitive.
2	VA2	TX Input (2). This input pin is used in conjunction with VA1 and connects to the centre tap of the transformer connected to pins 3 & 6 of the RJ45 connector (TX) - it is not polarity sensitive.
3	VB1	Direct Input (1). This input pin is used in conjunction with VB2 and connects to pin 4 & 5 of the RJ45 connector.
4	VB2	Direct Input (2). This input pin is used in conjunction with VB1 and connects to pin 7 & 8 of the RJ45 connector.
5	NC	Reserved. Do NOT Connect.
6	NC	Reserved. Do NOT Connect.

Output Pin	Name	Description
1	-VDC	Negative DC Output. This pin provides the regulated output from the DC/DC converter.
2	+VDC	Positive DC Output. This pin provides the regulated output from the DC/DC converter.
3	AT	802.3at Connection Flag. 0V = AT Connection.
4	NC	Reserved. Do NOT Connect.

Note: 1. Grounding

If the input of PM100A is from a grounded source (e.g. a standard multi-channel PSE), it is important that the –VDC output NOT be connected to the same ground. Connecting –VDC to this ground might short circuit the input diode bridge, and cause improper operation of the PM100A.

The AT pin can only be used for enabling DC-DC conversion. It is suggested to leave floating if not used.

4. Technical Specifications

Maximum Output Power:

Ordering Info	Nominal Output Voltage	Maximum Output Power	Marking
PM100A-12	12.0V	25 Watts	12
PM100A-9	9.0V	25 Watts	9

Transient Surge Protection:

System-Level ESD immunity: Max 16KV for IEEE 802.3af

Conduction Surge: Max 1KV with 0.3 μ seconds rise time and 50 μ seconds fall time for IEEE 802.3af

Physical Dimension:

Height x Width x Depth:

16mm x 55mm x 17mm (with 90 degree Pin Header)

16mm x 55mm x 17mm (with 180 degree Pin Header)

Operating Environment:

- Ambient Temperature: 0 ~ 80 ℃