

M186 SERIES

*THREE-PHASE
AC/DC POWER SUPPLY*



PRODUCT HIGHLIGHTS

- **THREE PHASE AC/DC POWER SUPPLY**
- **103 to 127 VAC 3 phase Input**
- **400Hz**
- **SINGLE OUTPUT**
- **UP TO 2000 W**

M186 SERIES THREE-PHASE AC/DC POWER SUPPLY

<p>Applications <i>Military Power Supply (Airborne, ground-fix, shipboard), Ruggedized, Telecom, Industrial Power Supply</i></p>											
<p>Special Features</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 33%; border: none; vertical-align: top;"> <ul style="list-style-type: none"> • Miniature size • High efficiency • Wide input range • High density: up to 30.5 W/in³ • Input / Output isolation </td> <td style="width: 33%; border: none; vertical-align: top;"> <ul style="list-style-type: none"> • Limited Inrush Current • Remote Inhibit (On/Off) • <u>Fixed</u> switching freq. (400 kHz) • <u>EMI</u> filters included • Cos ϕ > 0.92 from 75% load </td> <td style="width: 33%; border: none; vertical-align: top;"> <ul style="list-style-type: none"> • Non-latching protections: <ul style="list-style-type: none"> ○ Output overload ○ Output short-circuit ○ Output over-voltage ○ Over temperature </td> </tr> </table>			<ul style="list-style-type: none"> • Miniature size • High efficiency • Wide input range • High density: up to 30.5 W/in³ • Input / Output isolation 	<ul style="list-style-type: none"> • Limited Inrush Current • Remote Inhibit (On/Off) • <u>Fixed</u> switching freq. (400 kHz) • <u>EMI</u> filters included • Cos ϕ > 0.92 from 75% load 	<ul style="list-style-type: none"> • Non-latching protections: <ul style="list-style-type: none"> ○ Output overload ○ Output short-circuit ○ Output over-voltage ○ Over temperature 						
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* Thresholds and protections can be modified / removed – please consult factory.

** Depending on configuration, an external filter may be required to comply with EMI requirements.

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Environmental Conditions

Designed to Meet MIL-STD-810F

Temperature

Methods 501.4 & 502.4

Operating: -55°C to +85°C (at baseplate)

Storage: -55°C to +125°C (ambient)

Altitude

Method 500.4

Procedure I – Storage/Air transport:
up to 70,000 ft. (non-operational)

Procedure II – Operation/Air Carriage:
up to 40,000 ft. (operational)

Humidity

Method 507.4

Up to 95% RH

Vibration

Method 514.5

Procedure I, Category 24

General minimum integrity exposure
IAW Figure 514.5C-17

1 hour per axis.

Shock

Method 516.5

Procedure I

20 g / 11 ms terminal peak sawtooth shock pulse

Salt Fog

Method 509.4

Reliability

100,000 hours, calculated IAW MIL-HDBK-217F Notice 2 at +85 °C baseplate, Ground fixed conditions.

M186 SERIES THREE-PHASE AC/DC POWER SUPPLY

Pin Assignment

Connector type: M24308/24-39F or eq.

Mating connector type M24308/2-3F or eq.

Pin No.	Description
4, 5, 17	PHASE A
7, 8, 20	PHASE B
10, 11, 23	PHASE C
15	+ SENSE †
2	- SENSE †
14	INHIBIT
1	SIGNAL RTN
25	CHASSIS

† Please inform factory if sense lines are required to be tied to the output from within, or if the remote sense compensation function will be used.

M186 SERIES THREE-PHASE AC/DC POWER SUPPLY

Functions and Signals

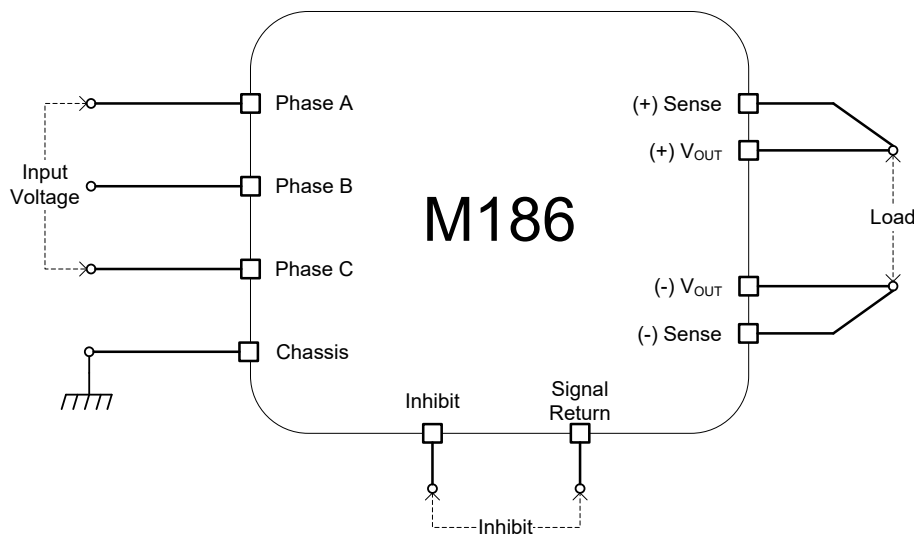
INHIBIT

The **INHIBIT** signal is used to turn the power supply ON and OFF.
 OPEN – will turn on the power supply.
 SHORT – between pin 14 and pin 1 will turn off the power supply.
 This signal is referenced to the **SIGNAL RTN** pin.

SENSE

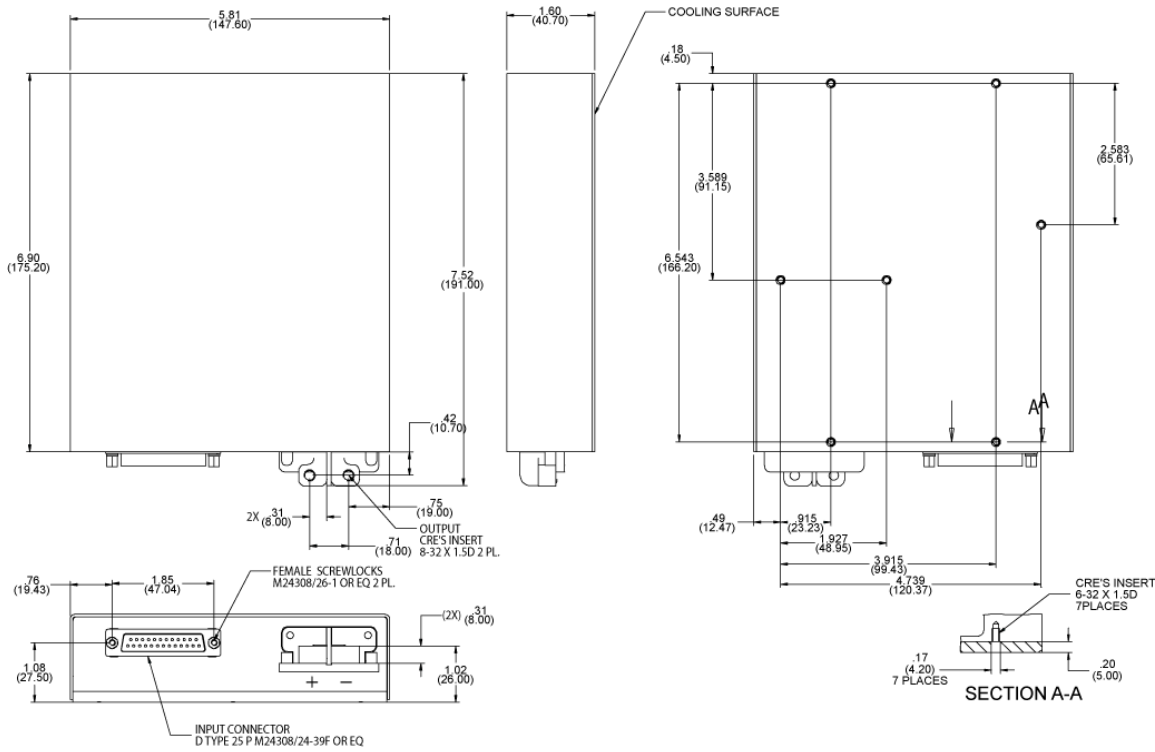
The **SENSE** is used to achieve accurate load regulations at load terminals (this is done by connecting the pins directly to the load's terminals).
 The use of remote sense has a limit of voltage dropout between converter's output and load terminals of 2-10% of voltage output (up to 2V).
 Please note that if Sense lines are not used the output may rise as much as 2V above nominal outputs.

Typical Connection Diagram

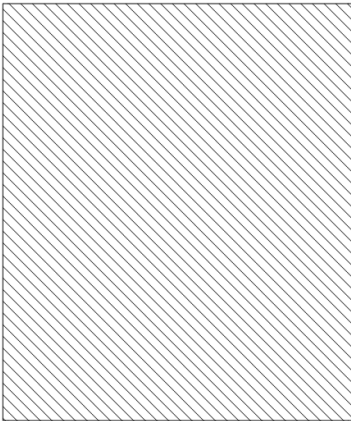


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Outline Drawing



Heat Dissipation Surface



Dissipation Area
40.08 in²
(258.6 cm²)

Notes

1. Dimensions are in inches [mm]
2. Tolerance is:
.XX ± 0.025 in
.XXX ± 0.010 in
3. Weight: Approx. 4.4 lbs [2 kg]

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Standard Configurations

Part number	Input		Output	
	Voltage range	Frequency	Voltage	Current
M186-100	3-phase, 103 to 127 V _{AC}	400 Hz	12 V _{DC}	70 A
M186-101	3-phase, 103 to 127 V _{AC}	400 Hz	15 V _{DC}	70 A
M186-102	3-phase, 103 to 127 V _{AC}	400 Hz	24 V _{DC}	70 A
M186-103	3-phase, 103 to 127 V _{AC}	400 Hz	28 V _{DC}	70 A
M186-104	3-phase, 103 to 127 V _{AC}	400 Hz	36 V _{DC}	55 A
M186-105	3-phase, 103 to 127 V _{AC}	400 Hz	48 V _{DC}	40 A
M186-110	3-phase, 103 to 127 V _{AC}	300-800Hz	12 V _{DC}	70 A
M186-111	3-phase, 103 to 127 V _{AC}	300-800Hz	15 V _{DC}	70 A
M186-112	3-phase, 103 to 127 V _{AC}	300-800Hz	24 V _{DC}	70 A
M186-113	3-phase, 103 to 127 V _{AC}	300-800Hz	28 V _{DC}	70 A
M186-114	3-phase, 103 to 127 V _{AC}	300-800Hz	36 V _{DC}	55 A
M186-115	3-phase, 103 to 127 V _{AC}	300-800Hz	48 V _{DC}	40 A

Note: Specifications are subject to change without prior notice by the manufacture