

M1987 SERIES

SINGLE-OUTPUT, 300W FILTER

Intended for use with Single-Phase PFC AC/DC power supply M1982.

The M1987 is a series of mechanically robust, base plate cooled, high performance, 300W input filter, for Navy shipboard applications.

The M1987 has input per MIL-STD-1399-300B.

The product meet MIL-STD requirements (specified herein)



M1987 Series – AC Input Filter

Standard Models List (for other voltages – consult factory)

Part number	Input		Output
	Voltage range	Frequency	
M1987-100	85 to 265 V _{AC}	50/60/400Hz	Following input
M1987-800	85 to 265 V _{AC}	50/60/400Hz	Following input

- Additional standard configurations available. **Contact factory for more details.**
- All of our products can be configured to comply with EU REACH regulations. **Contact factory for more details.**

SPECIAL FEATURES:

- **M1987-800:** this variant is REACH Compliant
- **M1987-800:** The aluminum parts comprising this variant are chromate conversion coated per MIL-DTL-5541F, Type II CLASS 1A or eq.
- **M1987-800:** The shell of the connectors are Zinc:
 - **J1 - Input connector:** M24308/24-37Z or eq.
 - **J2 - Output connector:** M24308/23-25Z or eq.

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THE MAIN FEATURES OF THE M1987 ARE:

- UP to 300W
- Miniature size
- Wide input range
- Improve 1399-300B performance

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SPECIFICATIONS:

AC Input	<i>Voltage Range</i>	85 to 265 VAC ; 50/60Hz Single-phase, 5A max
	<i>Isolation</i>	AC Input to Chassis: 1000 VDC
AC Output	<i>Rating</i>	Following input

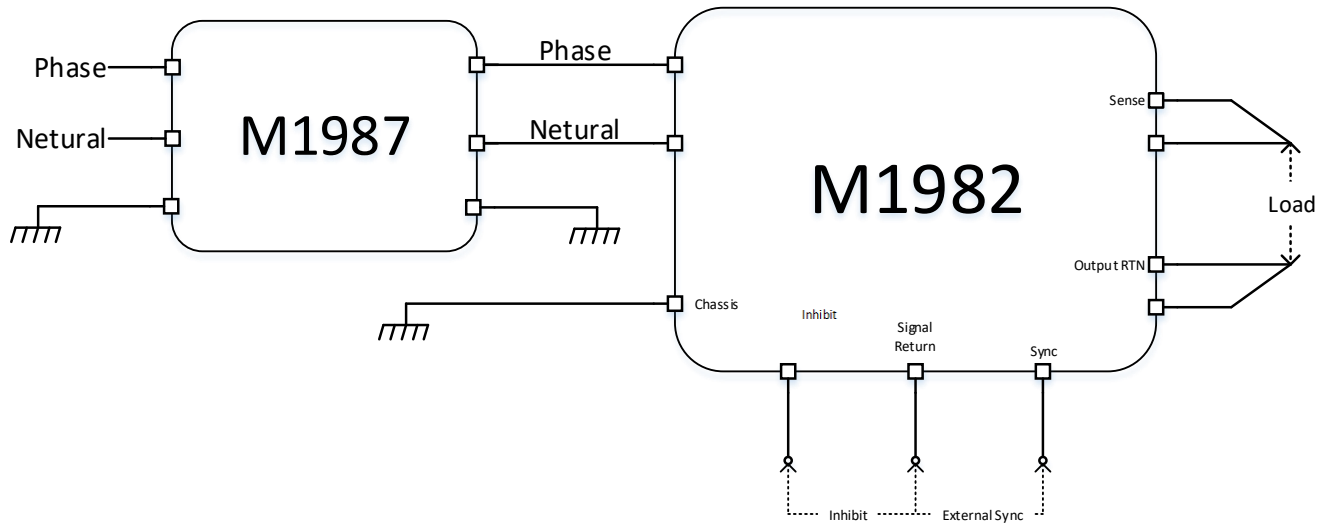
M1987 Series – AC Input Filter

Specifications (Cont.):

Environment Designed to meet MIL- STD-810F	Temperature	Methods 501.4 & 502.4 Operating: –40°C to +85°C (at baseplate) Storage: –55°C to +125°C (ambient)
	Humidity	Method 507.4 Up to 95% RH
	Salt-fog	Method 509.4
	Altitude	Method 500.4 Procedures I – Storage/Air transport: up to 70,000 ft. (non-operational) Procedure II – Operation/Air Carriage: up to 40,000 ft. (operational)
	Mechanical Shock	Method 516.5 Procedure I 20 g / 11 ms terminal peak sawtooth shock pulse
	Vibration	Method 514.5 Procedure I, Category 24 General minimum integrity exposure IAW Figure 514.5C-17 1 hour per axis.
	Fungus	Method 509.4
EMI	MIL-STD-461F*	CE101, CE102, CS101, CS114, CS115, CS116, RE101, RE102, RS101, RS103 * When tested with M1982 at full load and in accordance with the provisions of MIL-STD-461F– with shielded Output and Signals cables.
Reliability	2M hours, calculated IAW MIL-HDBK-217F Notice 2 at +85°C baseplate, Ground fixed conditions.	
Cooling Requirements	The M1987 is a baseplate cooled unit. The base of the M1987 should be thermally attached to a suitable heatsink that maintains it below +85 °C.	
Form factor	3.965" wide, 1.34" high and 4.179" deep. For detailed dimensions and tolerances see Drawing: M1987001	
Weight	380gram Typical	
Connectors	See Page 6	

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TYPICAL CONNECTION DIAGRAM



M1987 Series – AC Input Filter

PIN ASSIGNMENT:

Input Connector

Connector type: M24308/24-37F, OR EQ

Pin No.	Description
1	115V AC
2	115V AC
3	115V AC NEUTRAL
4	115V AC NEUTRAL
5	115V AC NEUTRAL
6	115V AC
7	CHASSIS
8	CHASSIS
9	CHASSIS

Output Connector

Connector type: M24308/23-55F, OR EQ

Pin No.	Description
1	115V AC NEUTRAL
2	115V AC NEUTRAL
3	115V AC NEUTRAL
4	115V AC
5	115V AC
6	CHASSIS
7	CHASSIS
8	CHASSIS
9	115V AC

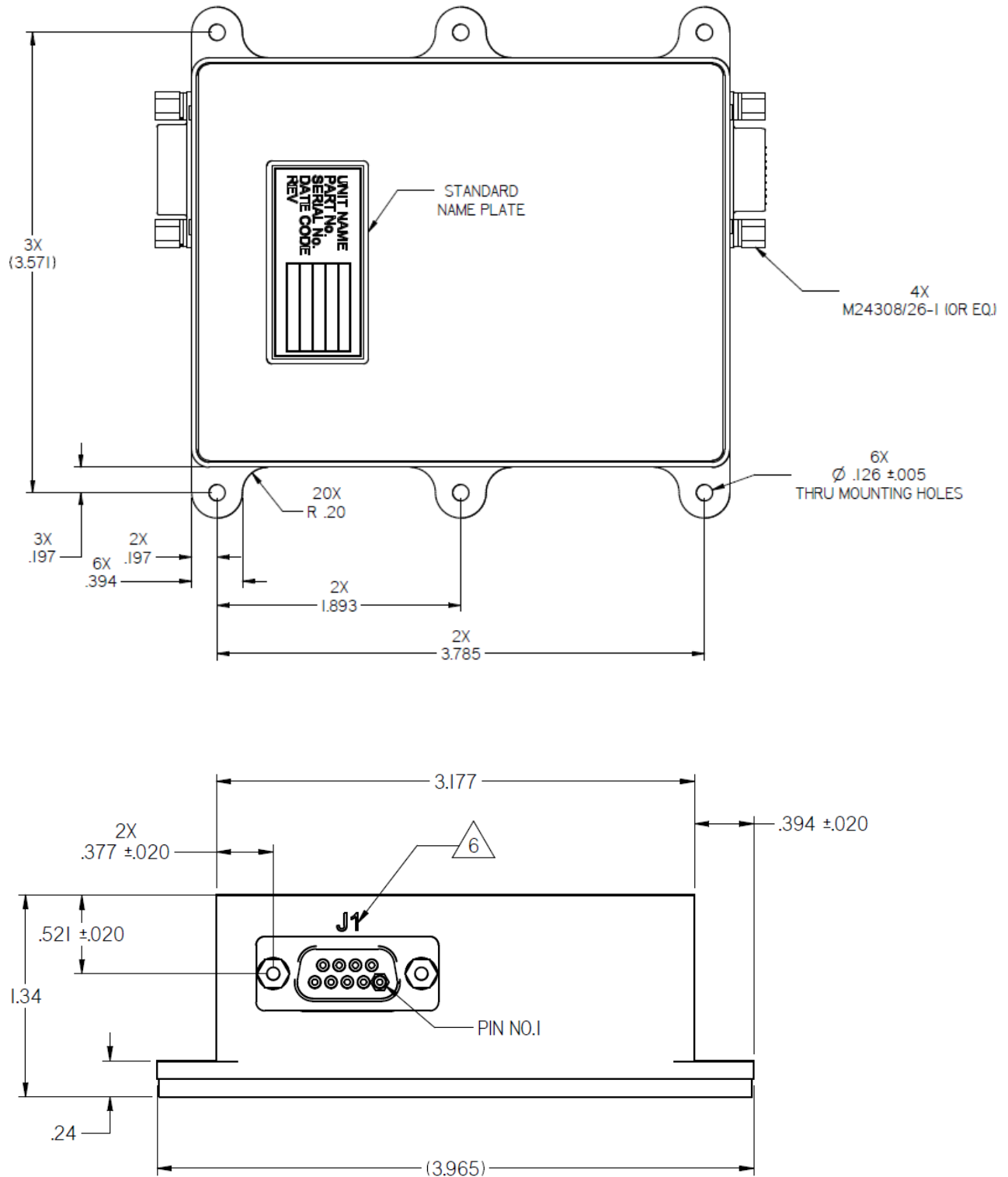
Note: All pins with identical function/designation should be connected together for optimal performance.

CHASSIS Note: The CHASSIS pin allows additional connection of unit's chassis to system ground.

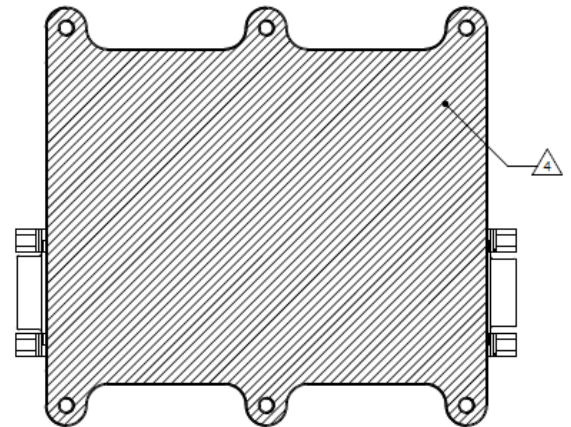
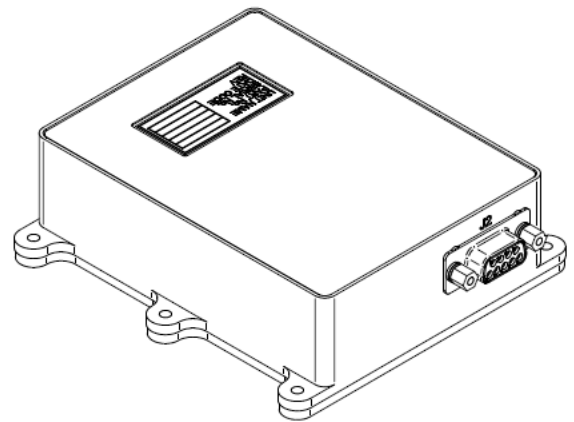
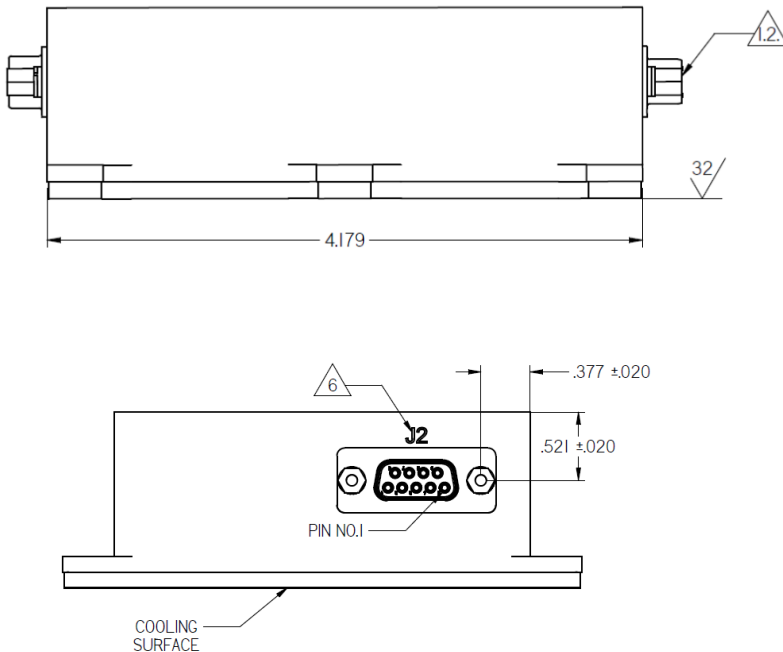
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OUTLINE DRAWING:

For detailed dimensions and tolerances see Drawing: M1987100



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NOTES:

1. CONNECTORS LIST:

- 1.1. J1- INPUT, D-TYPE 9M, M24308/24-37F, OR EQ.
- 1.2. J2- OUTPUT, D-TYPE 9F, M24308/23-55F, OR EQ.

2. MTL. AL 6061-T651, AL 5052-H32.

3. FINISH: CHROMATE CONVERSION COATING PER MIL-DTL-5541, TYPE I, CLASS 1A, OR EQ.

4. HEAT DISSIPATION AREA- 13.1 [IN²].

5. WORKMANSHIP SHALL BE MIL-STD-454, REQT. 9.

6. ENGRAVING

6.1. FONT: ARIAL.

6.2. CHARACTER HEIGHT: .12 [IN].

6.3. CHARACTER DEPTH: .02 [IN].

6.4. FILL ENGRAVING WITH BLACK LUSTERLESS EPOXY PAINT, COLOR PER FED-STD 595 NO: 37038.

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

