

FEATURES

- 100% Burn In
- Synchronizable
- Output Trim $\pm 10\%$
- 1500VDC Isolation
- Operation to No Load
- Very Low Output Ripple
- Output Current up to 60A
- Fast Transient Response
- Fixed Switching Frequency
- 250-300 Watts Output Power
- Remote Sense Compensation
- Remote ON/OFF (Active High/Low)
- Short Circuit and Over Temperature Protection
- 90% Efficient at Half Load, 88% Efficient at Full Load
- Optional Chassis Mount Version Available (See CMFA Series)



DESCRIPTION

The FA series is a high-density full brick converter that incorporates the desired features required in today's demanding low voltage bus applications. Its unique dual interleaved phase-shifted topology minimizes both input and output noise. When performance, reliability, and low cost are needed, the FA series delivers.

SPECIFICATIONS: FA Series

All specifications apply @ 25°C ambient unless otherwise noted

INPUT SPECIFICATIONS

Input Voltage Range.....	10-36VDC
UVLO Turn On at	10VDC max
UVLO Turn off at	9.5VDC max
Input Filter	1,000 μ F low ESR capacitor recommended
Input Surge Voltage (100ms).....	50VDC
Reflected Ripple Current (nominal Vin and full load).....	20mA
Remote ON/OFF	See Technical Datasheet
Input Current under Remote Off	1mA
Maximum Input Current (Low Line).....	.35A
No Load Input Current.....	0.1A

OUTPUT SPECIFICATIONS

Output Voltage	see table
Voltage Accuracy	$\pm 1\%$
Output Adjustability	$\pm 10\%$
Output Current	see table
Output Power	see table
Line Regulation (LL to HL at FL).....	$\pm 0.2\%$
Load Regulation (NL to FL)	$\pm 0.2\%$
Ripple/Noise (20 MHz BW).....	1% Vout max
Temperature Coefficient.....	$\pm 0.02\%$ / °C max.
Transient Response (50% load step).....	5% total deviation

PROTECTION SPECIFICATIONS

Current Limit	130%
Short Circuit Protection	Continuous, self re-setting
Over Temperature Protection	110°C, self re-setting

GENERAL SPECIFICATIONS

Efficiency	90% typical
Switching Frequency.....	700KHz typ.
Isolation Voltage (Input to Output).....	1500VDC min.
Isolation Resistance.....	1G Ω min.
Isolation Capacitance.....	0.01 μ F

ENVIRONMENTAL SPECIFICATIONS

Operating Temperature (ambient)	-40°C ~ +100°C (case)
Storage Temperature	-55°C ~ +125°C
Humidity.....	fully potted construction
Cooling	heatsink optional (see Note 4)
MTBF.....	2,212,456 hours

PHYSICAL SPECIFICATIONS

Weight	11.22oz (318g)
Dimensions	4.6 x 2.4 x 0.50 inches
Case Material.....	Aluminum alloy
Shielding.....	six-sided

Due to advances in technology, specifications subject to change without notice

MODEL SELECTION TABLE

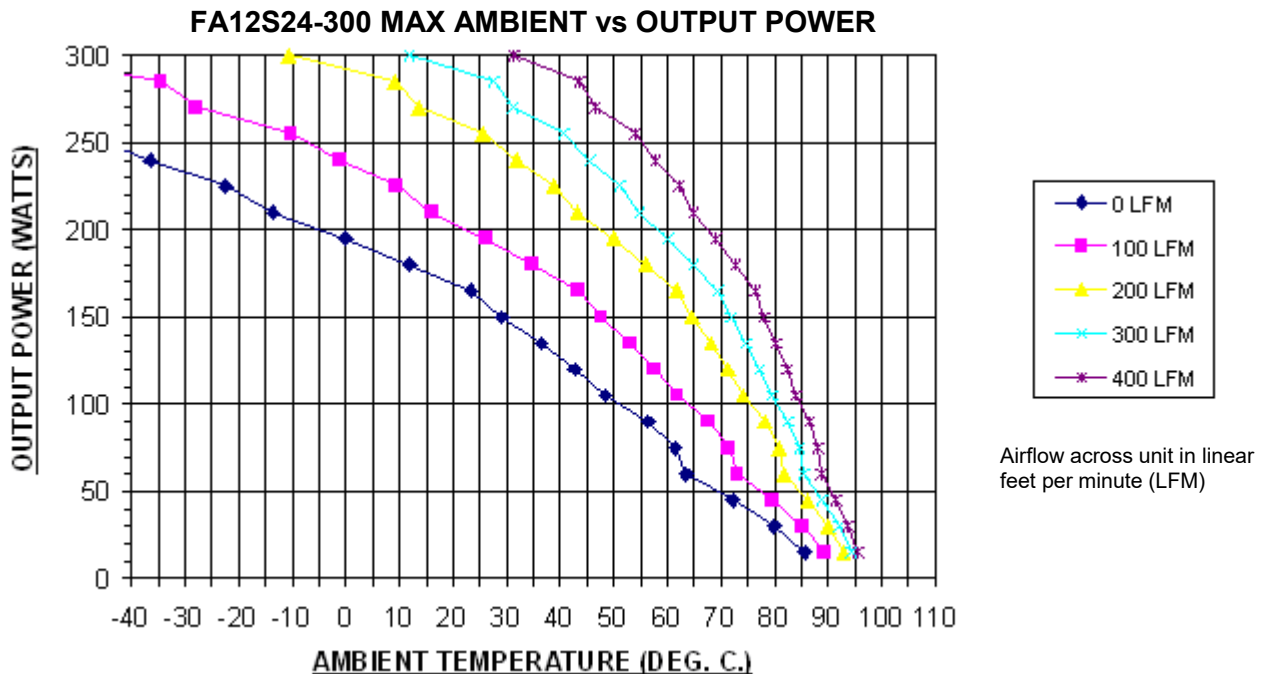
Model Number for Threaded Inserts	Model Number for Thru-Hole Inserts	Input Voltage Range	Output Voltage	Output Current	Output Power
FA12S43-250	FA12S43-250TH	12 VDC (10 - 36 VDC)	43 VDC	5.814A	250W
FA12S48-250	FA12S48-250TH		48 VDC	5.208A	250W
FA12S5-300	FA12S5-300TH		5 VDC	60A	300W
FA12S12-300	FA12S12-300TH		12 VDC	25A	300W
FA12S15-300	FA12S15-300TH		15 VDC	20A	300W
FA12S20-300	FA12S20-300TH		20 VDC	15A	300W
FA12S24-300	FA12S24-300TH		24 VDC	12.5A	300W
FA12S26-300	FA12S26-300TH		26 VDC	11.538A	300W
FA12S28-300	FA12S28-300TH		28 VDC	10.714A	300W

NOTES

1. Pin to pin tolerance $\pm 0.01"$ [$\pm 0.3\text{mm}$]. Pin diameter tolerance $\pm 0.005"$ [$\pm 0.13\text{mm}$].
2. Case material: 0.040" [1.02mm] thick, aluminum alloy 3003-0, Per: QQA 250/2.
3. Unit comes with either 3M x 0.5 threaded thru inserts or for 0.125 thru-hole add "TH" suffix to the model part number. Ex: FA12S24-300TH.
4. For Heat sink add "HS" suffix to the model part number. Ex: FA12S24-300HS.
5. Active High Enable is standard; for Active Low Enable add "R" suffix to the model number. Ex: FA12S24-300R.
6. See CMFA Series for chassis mount version.

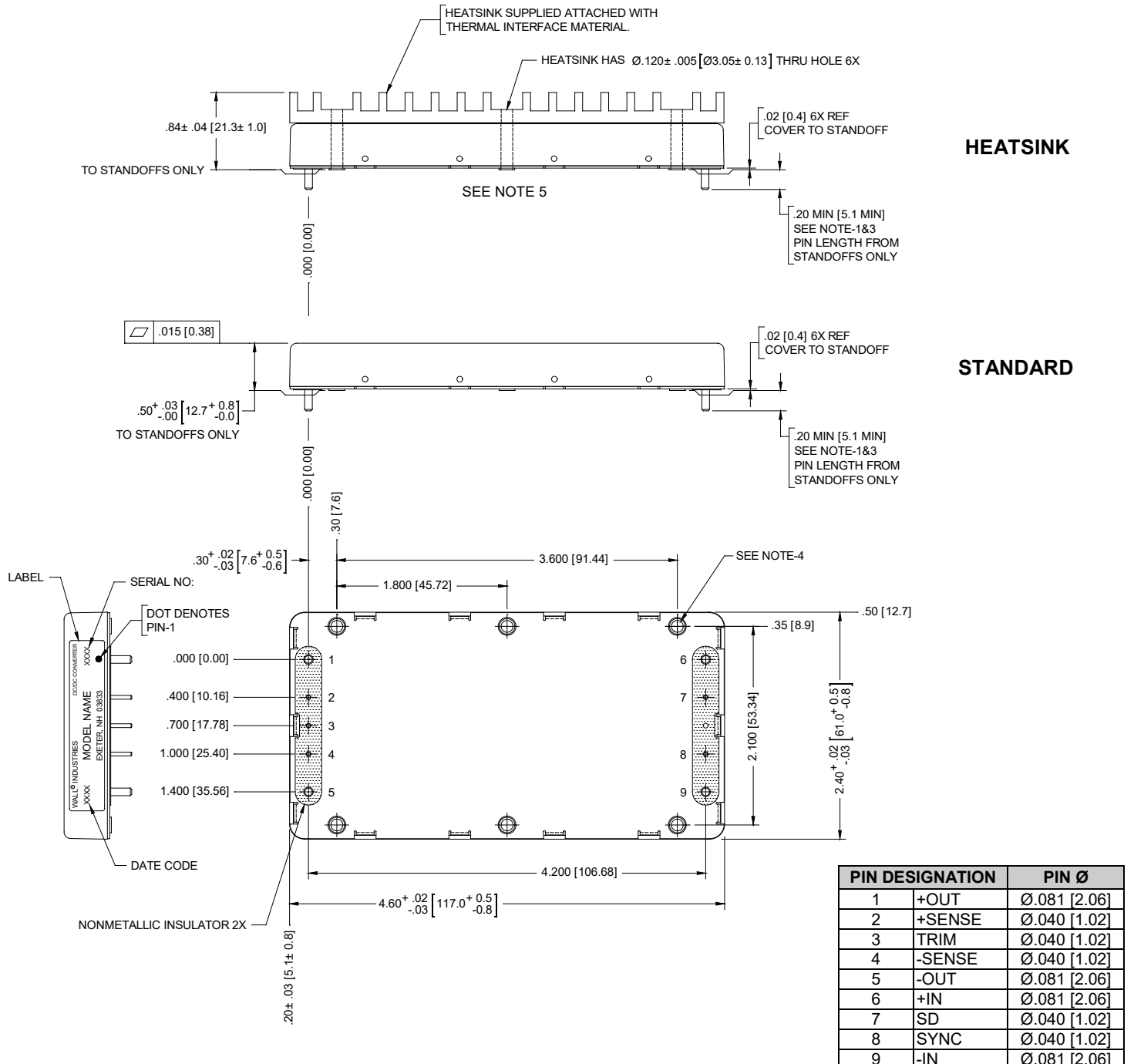
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DERATING CURVE



MECHANICAL DRAWING

Unit: inches [mm]



HEATSINK

STANDARD

NOTES:

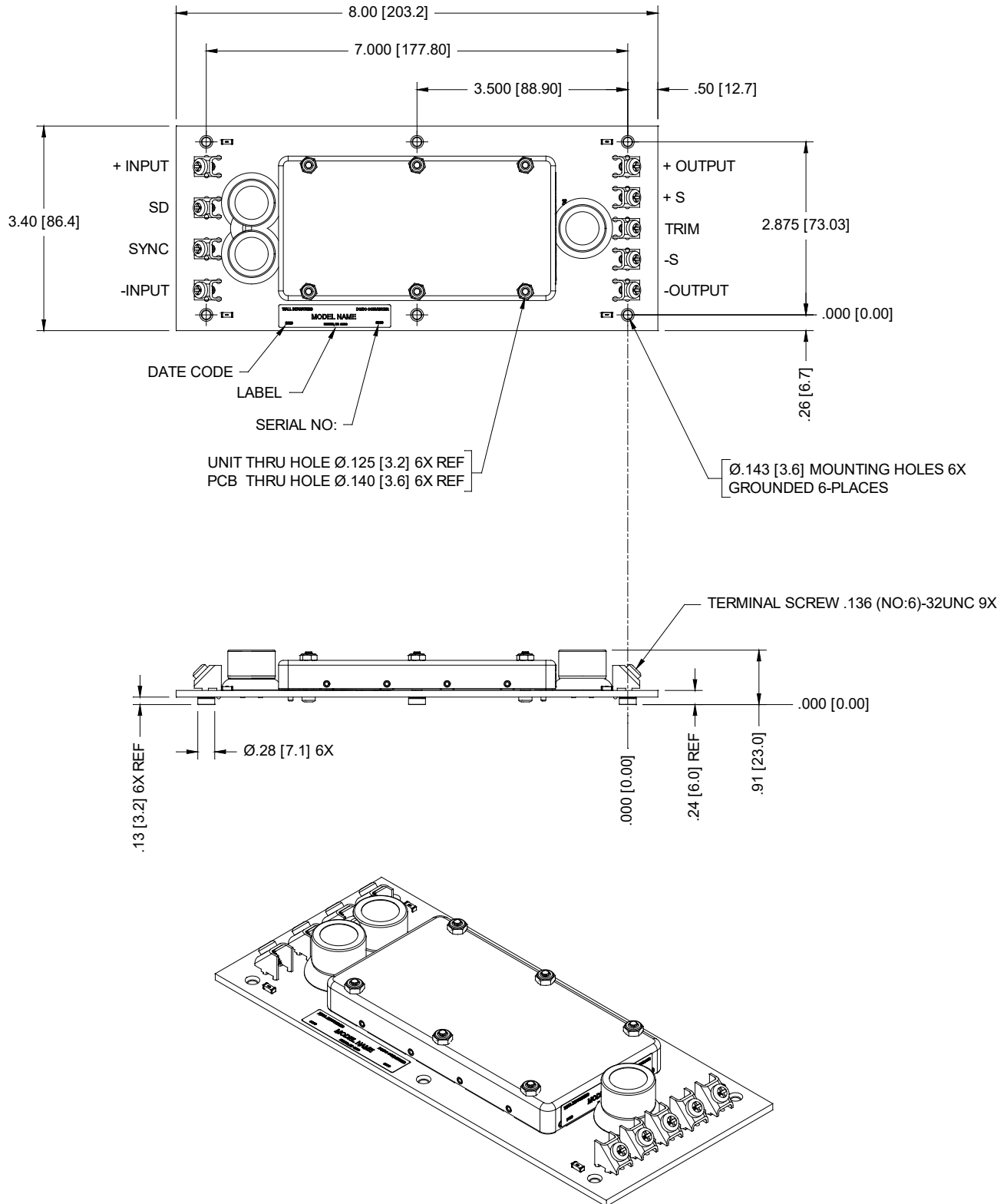
- PIN TO PIN TOLERANCE $\pm .01$ [± 0.3],
PIN DIAMETER TOLERANCE: $\pm .005$ [± 0.13].
- CASE MATERIAL: .040 [1.02] THICK, ALUMINUM ALLOY 3003-0,
PER: QQA 250/2.
- UNLESS OTHERWISE SPECIFIED.

TO ORDER:

- UNIT COMES WITH EITHER 3M x 0.5 THREADED
THRU INSERTS OR FOR Ø.125 THRU-HOLE ADD:
"TH" SUFFIX TO MODEL PART NUMBER.
EXAMPLE: FA12S24-300TH
- FOR HEAT SINK ADD: "HS" SUFFIX TO MODEL
PART NUMBER. EXAMPLE: FA12S24-300HS.
- OPTIONAL CHASSIS MOUNT VERSION
AVAILABLE (SEE CMFA SERIES).

OPTIONAL CHASSIS MOUNT VERSION (SEE CMFA SERIES)

Unit: inches [mm]





Wall Industries, Inc.

Rev E

FA Series
250-300 Watt
Single Output
Full Brick DC/DC Converter

COMPANY INFORMATION

Wall Industries, Inc. has created custom and modified units for over 50 years. Our in-house research and development engineers will provide a solution that exceeds your performance requirements on-time and on budget. Our ISO9001: 2015 certification is just one example of our commitment to producing a high quality, well-documented product for our customers.

Our past projects demonstrate our commitment to you, our customer. Wall Industries, Inc. has a reputation for working closely with its customers to ensure each solution meets or exceeds form, fit and function requirements. We will continue to provide ongoing support for your project above and beyond the design and production phases. Give us a call today to discuss your future projects.

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