

DESCRIPTION

This class A GaAs module is designed for both military and commercial applications. It is capable of supporting any signal type and modulation format, including but not limited to 3-4G telecom, WLAN, OFDM, DVB, and CW/AM/FM. The latest device technologies and design methods are employed to offer high power density, efficiency, and linearity in a small, lightweight package.



FEATURES

Over / Under / Reverse Voltage Protection
 Reflected Power Measurement
 Temperature Output
 Manual or Automatic Tx/Rx Switching Available

Forward Power Measurement
 High Speed Tx/Rx Switching Control
 Optional Heatsink

Specifications subject to change without notice. Typical performance at +12VDC at 25°C in a 50Ω system

Tx SPECIFICATIONS				
PARAMETER	MIN	TYP.	MAX	UNIT
Operating Frequency	2500		2700	MHz
P1dB Power Output	+46.0	+47.0		dBm
Gain	46.0	47.0		dB
Gain Flatness		1.0	1.5	± dB
Input Return Loss	-16	-18		dB
Operating Voltage	+11	+12	+13	VDC
Current Draw		14.0	15.0	A
Tx / Rx Switching Time		1.0	2.0	uS

Rx SPECIFICATIONS				
PARAMETER	MIN	TYP.	MAX	UNIT
P1dB Power Output		+5.0		dBm
Gain	19.0	20.0		dB
Gain Flatness		1.0	1.5	± dB
Noise Figure		2.0	3.0	dB
OIP3		+15.0		dBm
Input Return Loss	-8	-10		dB
Current Draw		200.0		mA

MECHANICAL		
PARAMETER	VALUE	UNIT
Dimensions (L x W x H)	5.3 x 3.25 x 0.57	in
RF Connectors (Input / Output)	SMA-F / SMA-F	--
DC / Control Connector	7W2 Male	--
Cooling	Baseplate Conduction - Optional Heatsink Available	--
Mounting	4-40 Thru Holes	--
Weight	13	oz.
Weight With Heatsink	35	oz.

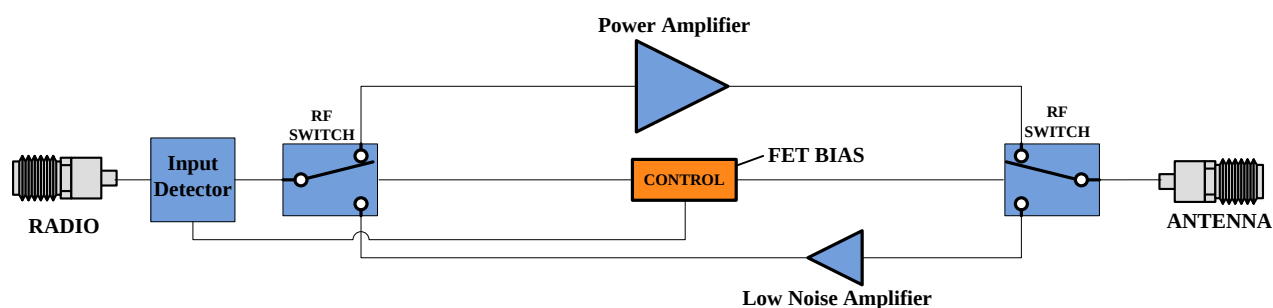
ENVIRONMENTAL / PROTECTIONS			
PARAMETER	MIN	MAX	UNIT
Operating Temperature (Housing Temp.)	-40	+85	°C
Humidity Range	0-100		%
Altitude	0-30,000		ft.
Shock / Vibration	MIL-STD-810 and equivalents		--
Max RF Input	3		dBm
PA Baseplate Shutoff Temperature	+90		°C

INPUT/OUTPUT PINS				
AMPLIFIER CONNECTOR TYPE:		7W2 MALE		
TRIAD CABLE PART NUMBER:		CBL1		
PIN LABEL	NAME	DESCRIPTION	TYPE	LEVEL
A1	GND	Ground	Power	--
1	TEMP	Temp Monitor: Temp in DegC = (Vout - 0.5V) *100	Output	Analog
2	Tx/Rx	Tx / Rx Switching (+5V = Tx Amp Active / 0V = Rx Amp Active)	Input	5V TTL
3	REV	Reverse Power Detection	Output	Analog
4	GND	Ground	Power	--
5	FWD	Forward Power Detection	Output	Analog
A2	+VDC	Supply Voltage - Range Specified in Datasheet	Power	--

802-11G (20 MHz BW) DATA RATE VS. OUTPUT POWER			
OFDM MODULATION	DATA RATE	POUT (W) MIN.	EVM
64QAM	54 Mbps	16	≤ -27 dB
16QAM	36 Mbps	25	≤ -21 dB
QPSK	12 Mbps	35	≤ -15 dB
BPSK	9 Mbps	50	≤ -7 dB

See our [application note](#) that describes how this table was calculated and provides notes on in-system performance

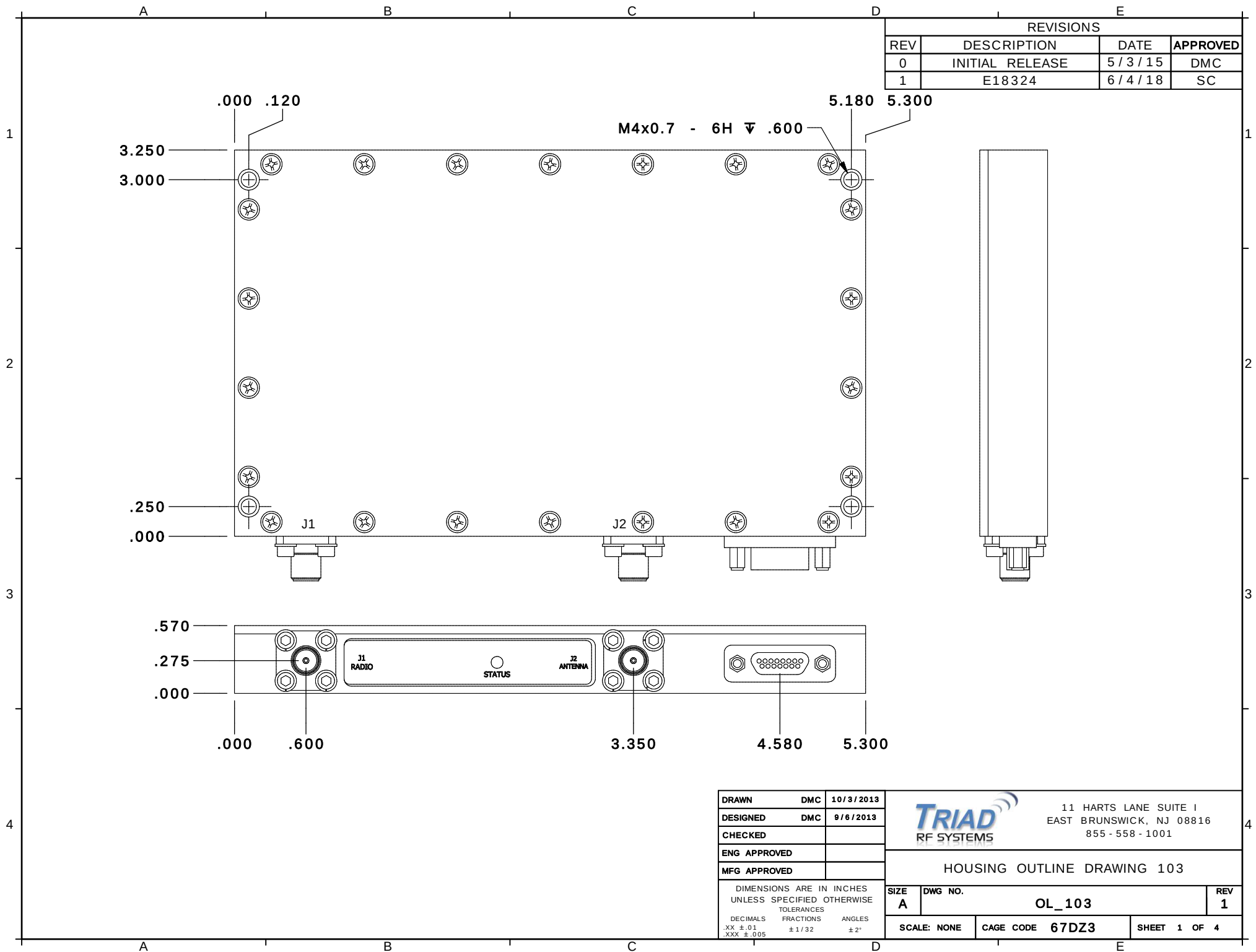
High-Level Block Diagram



Ordering Guide – Configuration Information

Model Number	Amplifier Option	Heat Sink Option
TTRMXXXX	- XXX	- XXX

Amplifier Options		Heat Sink Options	
Suffix	Description	Suffix	Description
D01	Automatic Tx/Rx Switching	(none)	No Heat Sink Included
D02	Manual Tx/Rx Switching	HS	Standard Heat Sink
DXX	Custom Amplifier Configuration (issued by Triad upon customer request)	HSF	Heat Sink with Integrated Cooling Fan
		HSX	Custom Heat Sink Configuration



REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
0	INITIAL RELEASE	5 / 3 / 15	DMC
1	E18324	6 / 4 / 18	SC

DRAWN	DMC	10 / 3 / 2013
DESIGNED	DMC	9 / 6 / 2013
CHECKED		
ENG APPROVED		
MFG APPROVED		

DIMENSIONS ARE IN INCHES
UNLESS SPECIFIED OTHERWISE
TOLERANCES
DECIMALS FRACTIONS ANGLES
.XX ±.01 ± 1 / 32 ± 2°
.XXX ±.005

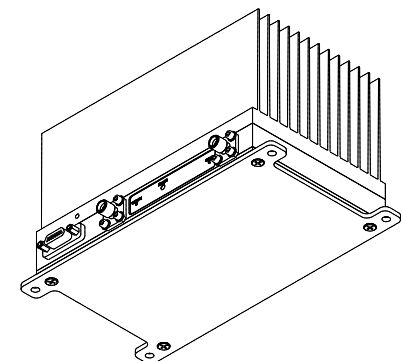
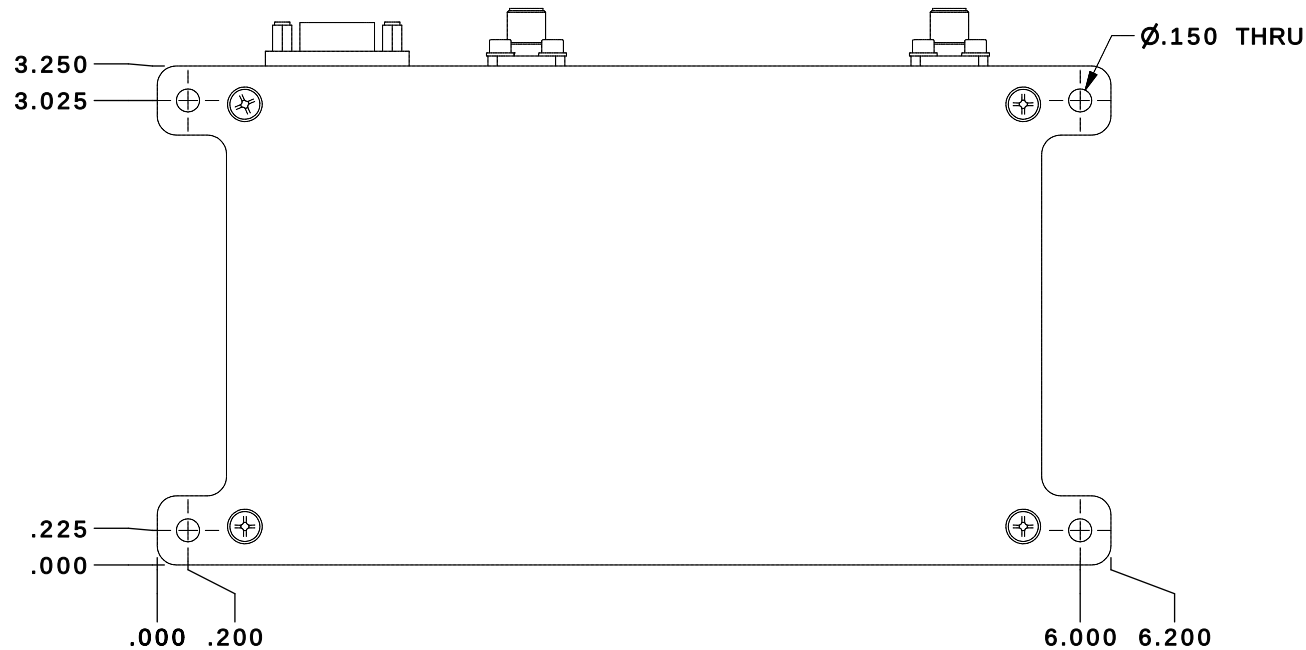
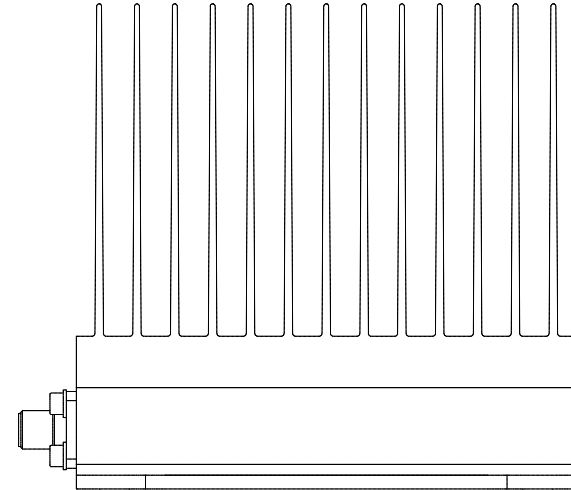
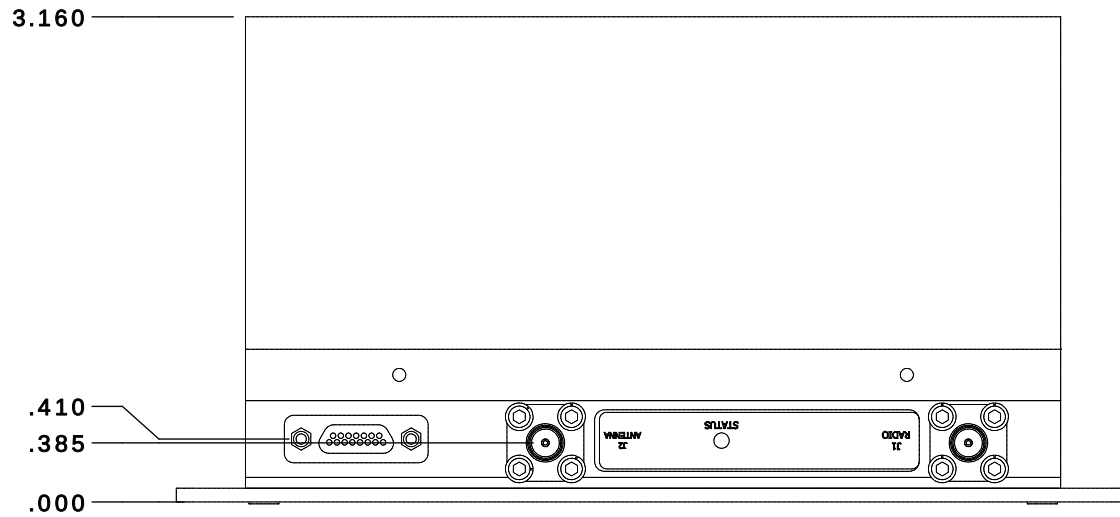


11 HARTS LANE SUITE I
EAST BRUNSWICK, NJ 08816
855 - 558 - 1001

HOUSING OUTLINE DRAWING 103

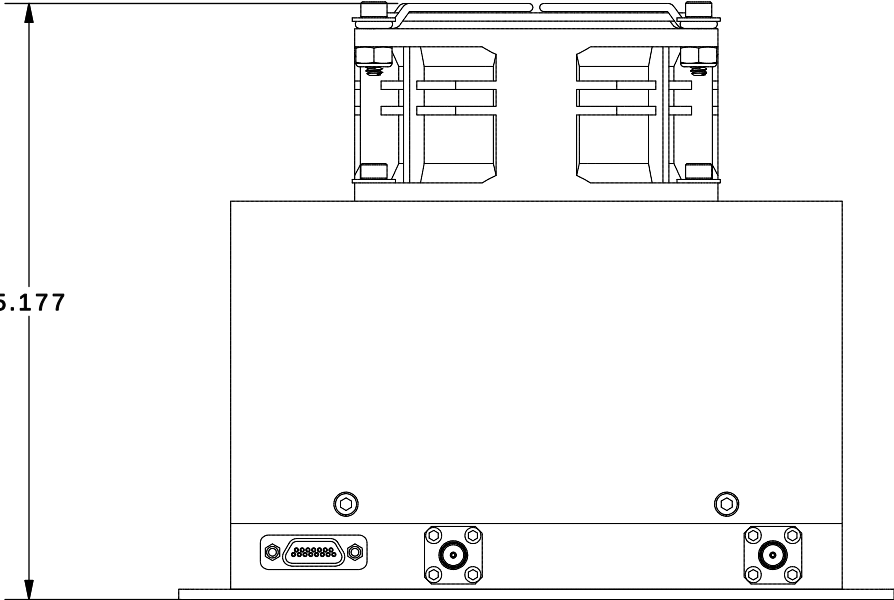
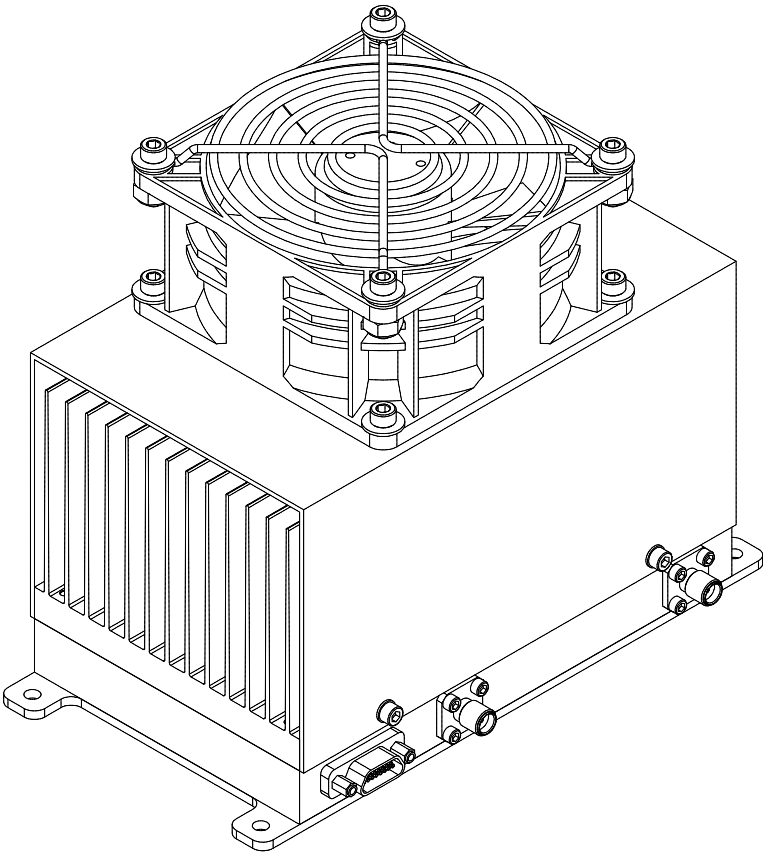
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SCALE: NONE	CAGE CODE 67DZ3	SHEET 1 OF 4

HEATSINK



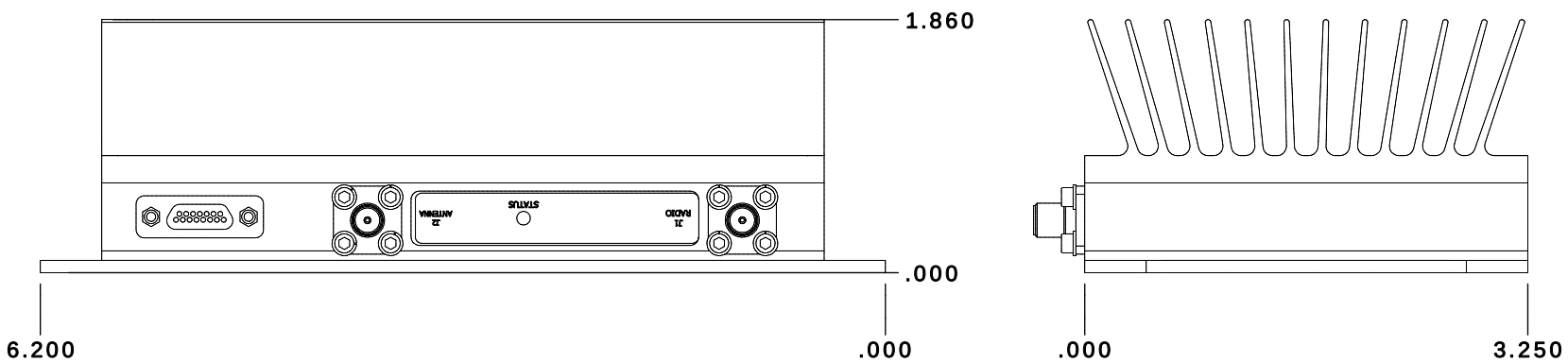
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DESIGNED	DMC	9/6/2013			
CHECKED			SIZE	DWG NO.	REV
ENG APPROVED			A	OL_103	1
MFG APPROVED			SCALE: NONE	CAGE CODE 67DZ3	SHEET 2 OF 4

HEATSINK AND FAN



DRAWN	DMC	10/3/2013	HOUSING OUTLINE DRAWING 103		
DESIGNED	DMC	6/11/2015			
CHECKED			SIZE	DWG NO.	REV
ENG APPROVED			A	OL_103	1
MFG APPROVED			SCALE: NONE	CAGE CODE 67DZ3	SHEET 3 OF 4

LOW PROFILE HEATSINK OPTION
CONTACT TRIAD FOR SAFE OPERATING
CONDITIONS REQUIRED FOR USE OF LOWER
HEIGHT HEATSINK



DRAWN	DMC	10/3/2013	HOUSING OUTLINE DRAWING 103			
DESIGNED	DMC	9/6/2013				
CHECKED			SIZE	DWG NO.	REV	
ENG APPROVED			A	OL_103	1	
MFG APPROVED			SCALE: NONE	CAGE CODE 67DZ3	SHEET 4 OF 4	