

DESCRIPTION

This class AB GaN 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 +28VDC at 25°C in a 50Ω system

Tx SPECIFICATIONS				
PARAMETER	MIN	TYP.	MAX	UNIT
Operating Frequency	6400		7200	MHz
PSat Power Output		+45.0		dBm
Gain	44.0	45.0		dB
Gain Flatness		1.0	2.0	± dB
Input Return Loss	-12			dB
Operating Voltage	+27	+28	+32	VDC
Current Draw		4.0	5.0	A
Tx / Rx Switching Time		1.0	2.0	μs

Rx SPECIFICATIONS				
PARAMETER	MIN	TYP.	MAX	UNIT
P1dB Power Output		+5.0		dBm
Gain	19.0	20.0		dB
Gain Flatness		0.5	1.3	± dB
Noise Figure		4.0	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	Circular Locking	--
Cooling	Baseplate Conduction - Optional Heatsink Available	--
Mounting	4-40 Thru Holes	--
Weight	13	oz.
Weight With Heatsink	35	oz.

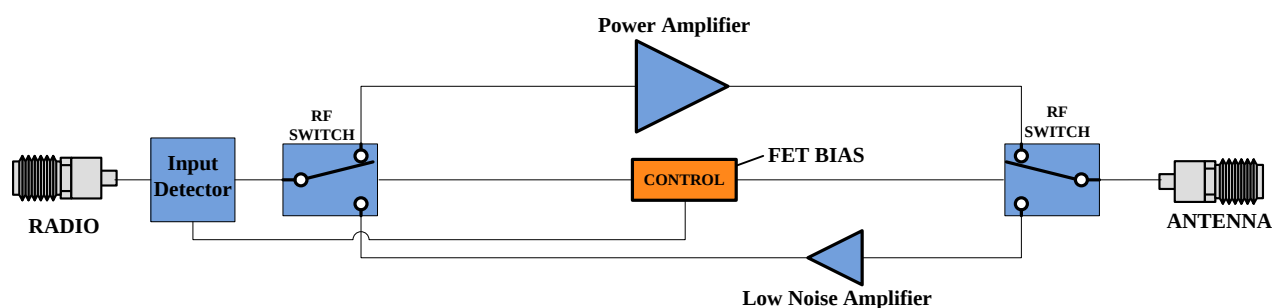
ENVIRONMENTAL / PROTECTIONS			
PARAMETER	MIN	MAX	UNIT
Operating Temperature (Housing Temp.)	-40	+85	°C
Humidity Range	0-100		%
Altitude	0-30,000		ft.
Shock / Vibration	MIL-STD-810 and equivalents		--
Max RF Input	3		dBm
PA Baseplate Shutoff Temperature	+90		°C

INPUT/OUTPUT PINS				
AMPLIFIER CONNECTOR TYPE:		CIRCULAR PUSH/PULL MALE		
TRIAD CABLE PART NUMBER:		CBL16		
PIN LABEL	NAME	DESCRIPTION	TYPE	LEVEL
1	GND	Ground	Power	--
2	TEMP	Temp Monitor: Temp in DegC = (Vout - 0.5V) *100	Output	Analog
3	Tx/Rx	Tx / Rx Switching (+5V = Tx Amp Active / 0V = Rx Amp Active)	Input	5V TTL
4	FWD	Forward Power Detection	Output	Analog
5	REV	Reverse Power Detection	Output	Analog
6	+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	8	≤ -27 dB
16QAM	36 Mbps	14	≤ -21 dB
QPSK	12 Mbps	16	≤ -15 dB
BPSK	9 Mbps	25	≤ -7 dB

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

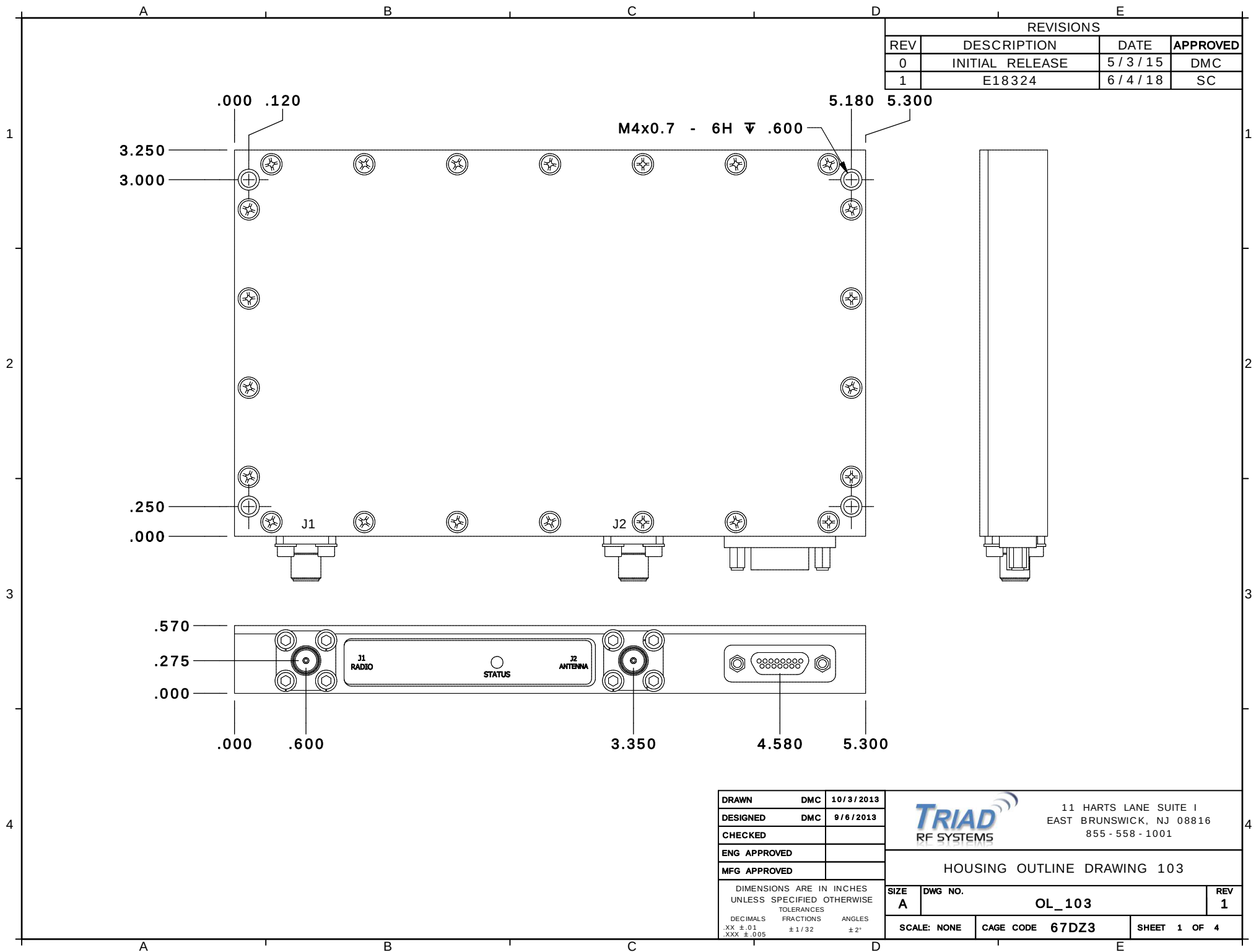
High-Level Block Diagram



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



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

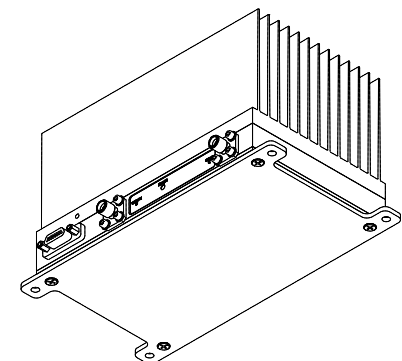
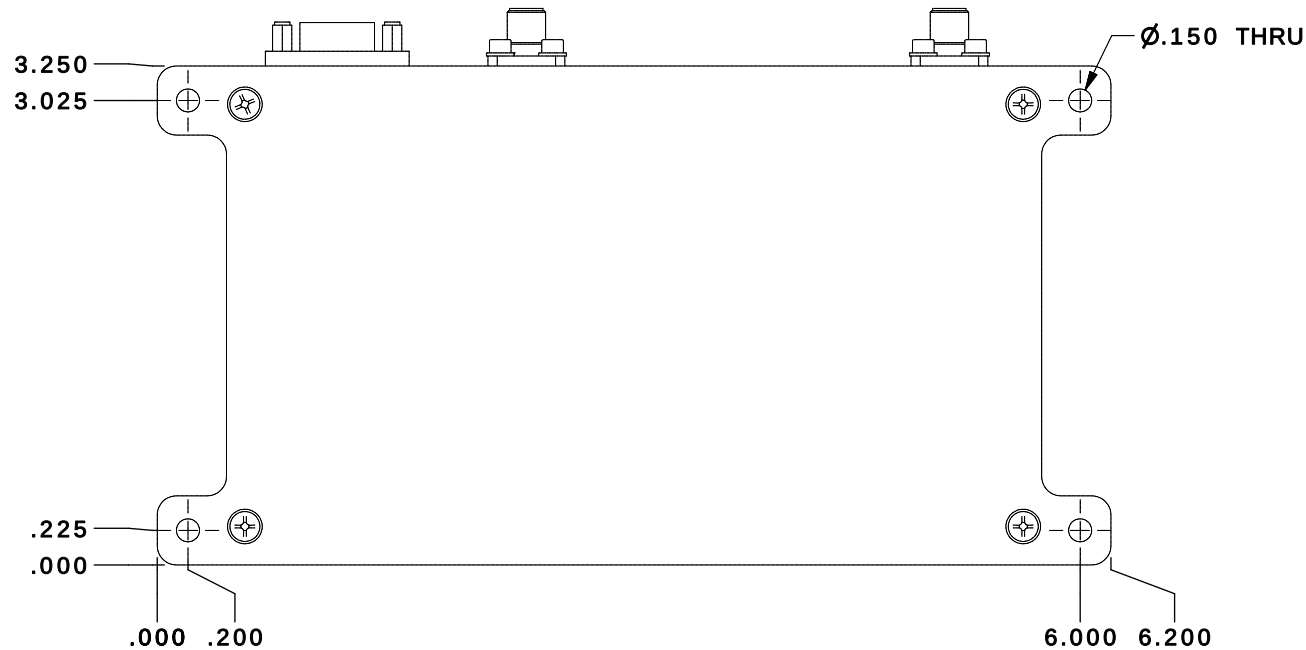
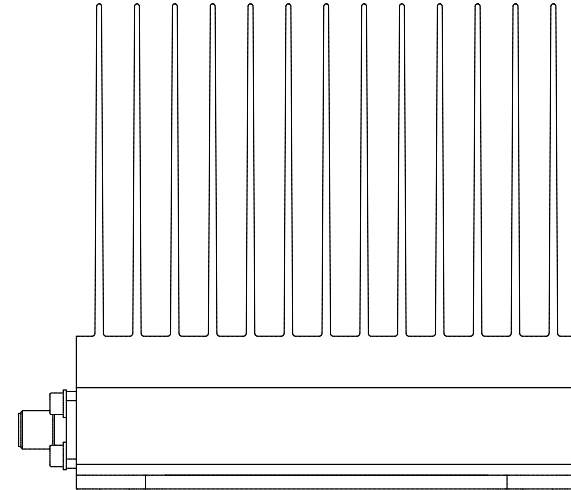
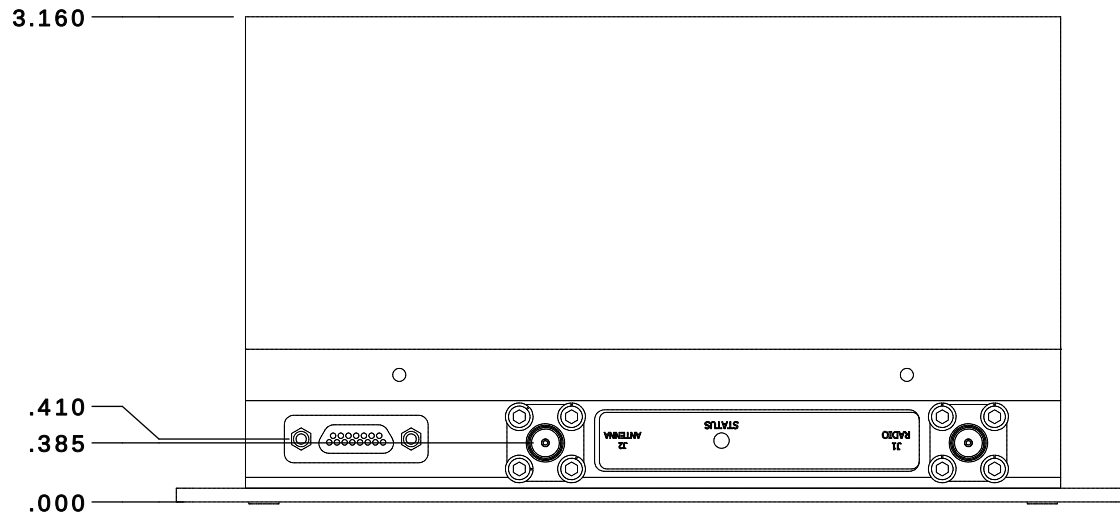


11 HARTS LANE SUITE I
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HOUSING OUTLINE DRAWING 103

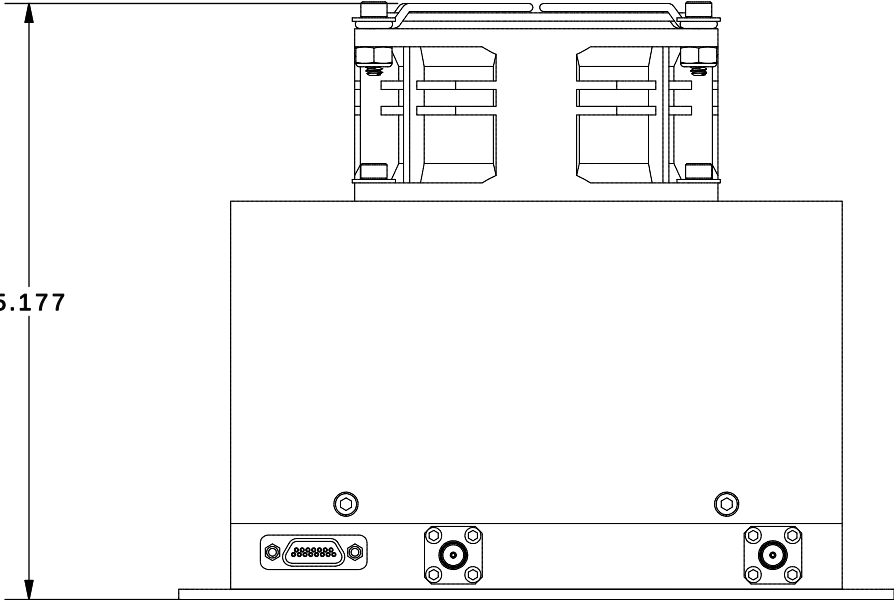
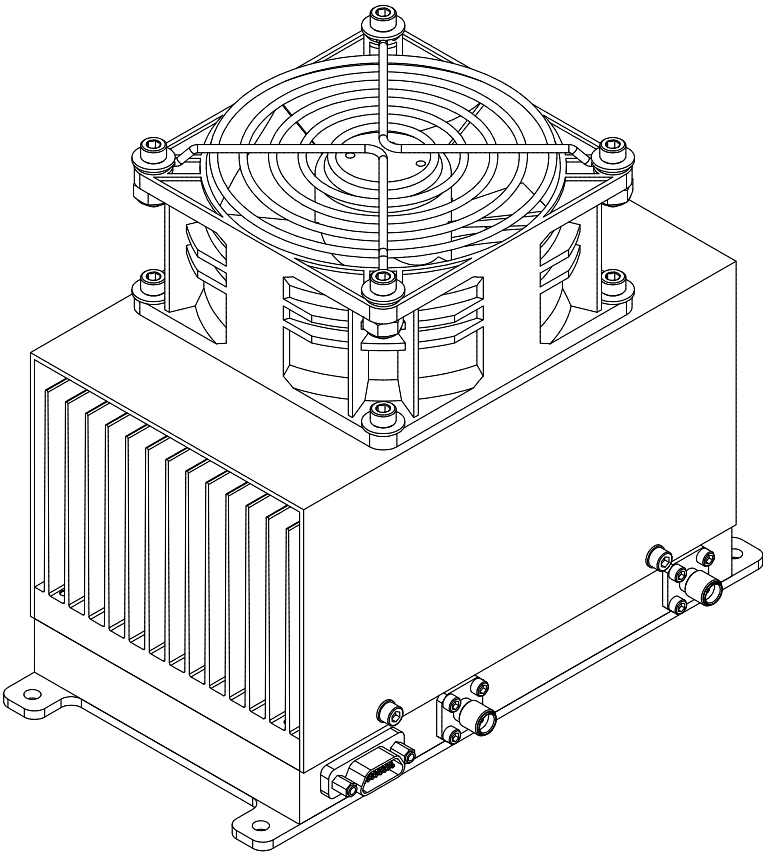
SIZE	DWG NO.	REV
A	OL_103	1
SCALE: NONE	CAGE CODE 67DZ3	SHEET 1 OF 4

HEATSINK



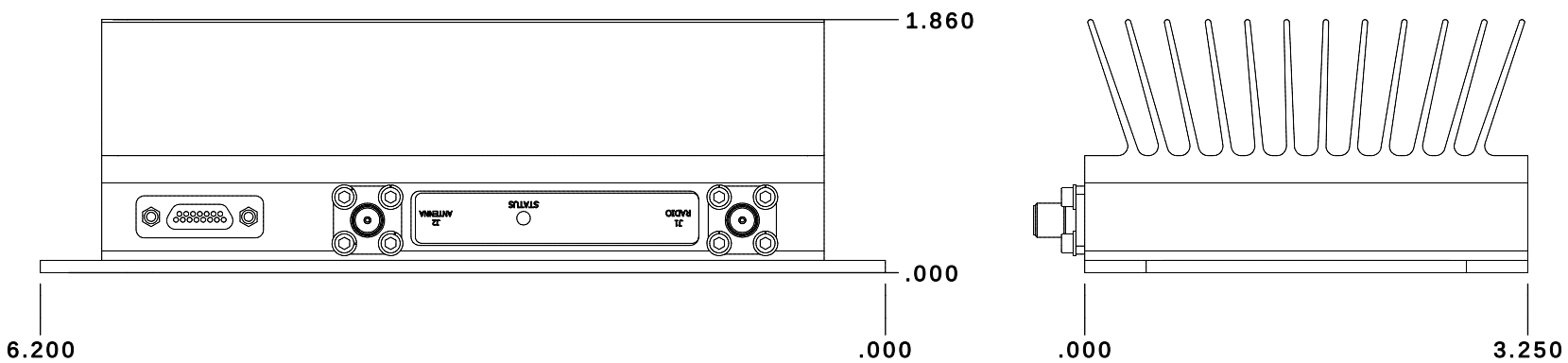
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DESIGNED	DMC	9/6/2013			
CHECKED			SIZE	DWG NO.	REV
ENG APPROVED			A	OL_103	1
MFG APPROVED			SCALE: NONE	CAGE CODE 67DZ3	SHEET 2 OF 4

HEATSINK AND FAN



DRAWN	DMC	10/3/2013	HOUSING OUTLINE DRAWING 103			
DESIGNED	DMC	6/11/2015				
CHECKED			SIZE	DWG NO.		
ENG APPROVED			A	OL_103	REV	
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	