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8 Channel Digital Frequency Synthesizer: Driver for Acousto-optic Deflector or Acousto-optic Tunable Filter

MSD040-150-0.2ADM-A5H-8X1

FORMER MODEL NUMBER:

(64040-150-0.2ADMDFS-8X1-A)

Description:

The MSD040-150-0.2ADM-A5H-8X1 is an 8 channel Digital Frequency Synthesizer driver with the output signals combined into one output for use with an Acousto-Optic Deflector (AOD) allowing up to 8 simultaneous optical beams to be output from the AOD or up to 8 wavelengths output from an Acousto-Optic Tunable Filter (AOTF). The driver allows independent analog (intensity) and digital (blanking) control of up to eight wavelengths / beams of light. The frequency, phase and maximum power for each channel can be setup through software* interfaced through the USB port. The driver requires forced air cooled and must be maintained below +40^{0}C.

The product delivered will be manufactured to be compliant with EU Directive 2002/95/EC for Reduction of Hazardous Substance. The product will be manufactured to other standards upon customer request.

Key Features:

- 40 to 150 MHz
- Up to 8 Frequencies Simultaneously Output
- 0.2 watts Power Output per Channel
- Analogue (intensity) Modulation
- TTL Digital (Blanking) Modulation
- Random Access to any Frequency
- Frequency Settling Time: 250 ns
- Operates on +24 VDC and +5 VDC**

Applications:

- RF Driver for an Acousto-Optic Deflectors or Tunable Filters used in the following applications:
- Beam shaping in AODs
- Multiple beam deflection in AODs
- Filter band pass shaping in AOTFs
- Wavelength selection in fluorescence microscopy applications and Laser displays using AOTFs
- Super-continuum light sources using AOTFs
- Line selection in Agile Light Sources
- Hyperspectral Imaging
- Real-time online monitoring of processes
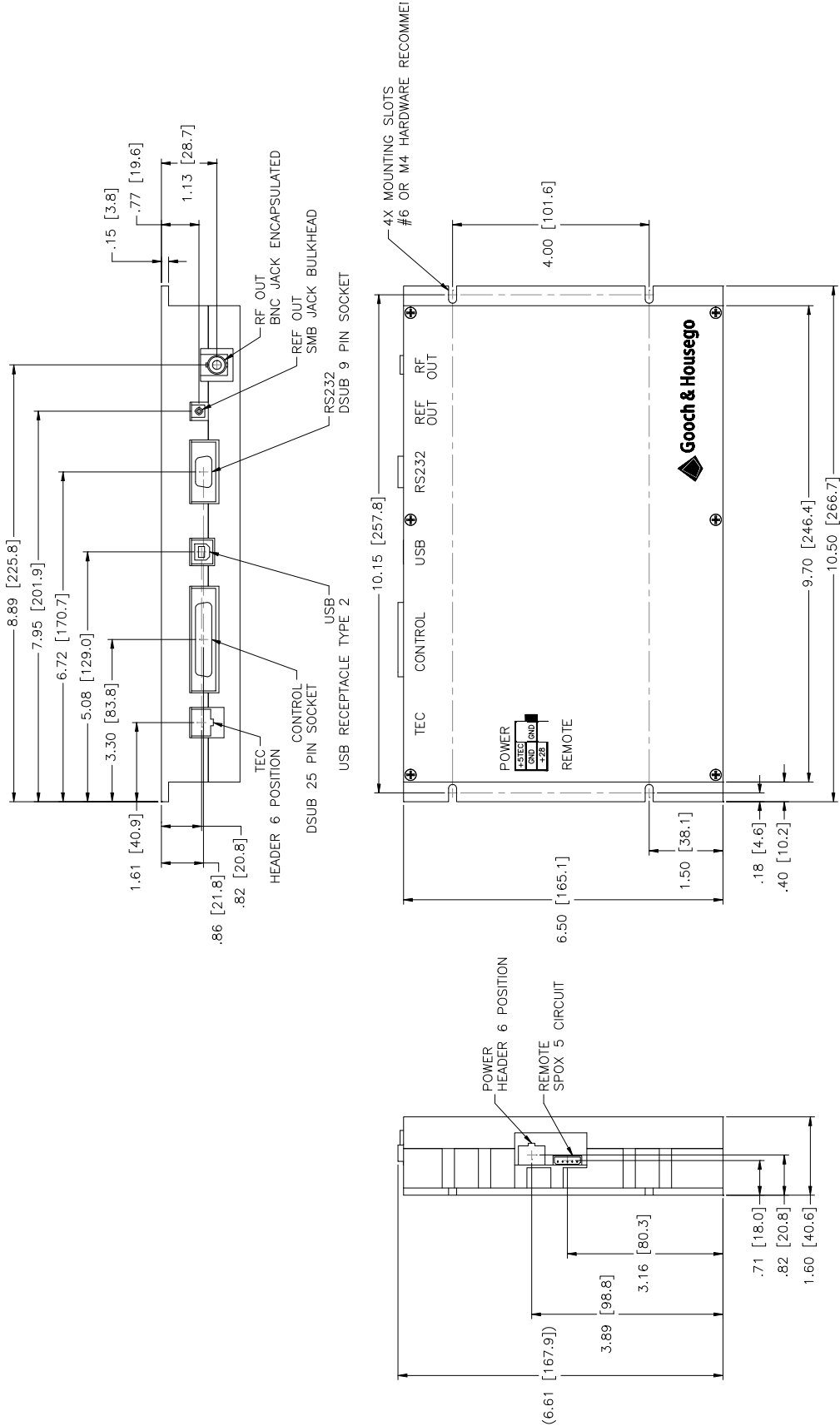- Used in industrial, medical, or military applications.

As part of our policy of continuous product improvement we reserve the right to change specifications at any time.

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SPECIFICATIONS

PARAMETER	SPECIFICATION

Number of Channels: 8

Frequency Stability: $\pm$ .01 %

Power Out: 50 – 200 mW per channel

Tuning Range: 40 to 150 MHz in 1 kHz Steps

Analog Inputs (8):   0-5 volts into 10 k ohms

Blanking Inputs (8):   TTL with 4.7 k ohms pull up
TTL HIGH or open   = full output (not blanked)
TTL LOW   = minimum output (blanked)

Rise/Fall Time: 150 ns maximum

Extinction Ratio: 70 dB minimum

Thermoelectric Cooler Controller: On board controller available for AO devices that have TECs for thermal stability.

Cooling   Forced Air Cooling. Must be maintained below 40^0C.

Applied Power: 24 VDC @ 2A maximum
** 5 VDC @ 3A maximum Required if using the TEC

Connectors:

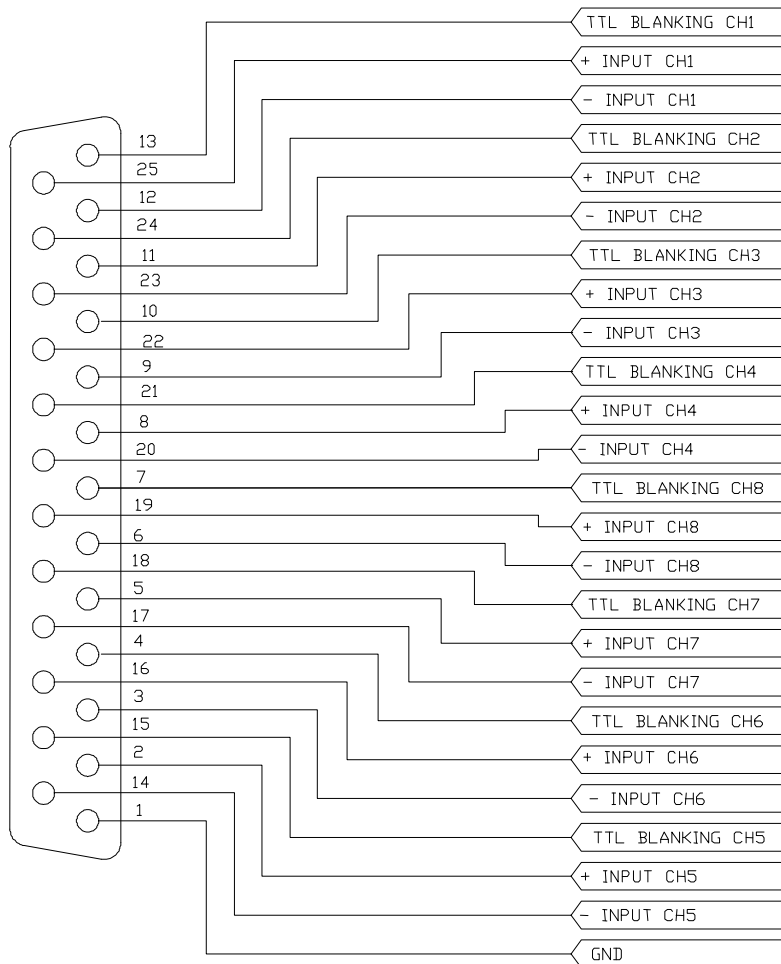|		Part no.
RF Out:	BNC Female	1-1478035-0
Modulation In:	25 Pin D-Sub Female	RDM25SA5
Reference Out	SMB Male	1060464-1
RS-232 Interface:	9 Pin D	RDM9SA5
USB Interface:	USB B style receptacle*	61729-0010BLF
Power + TEC	6 pin	1-794448-1
Remote (not used currently)	5 pin SPOX	22-05-7055

Outline Drawing: 53D4875

*The software driver connects the communications program to a standard USB port and emulates a standard COM port. The software driver is available from FTDI (http://www.ftdichip.com/Drivers/VCP.htm)

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Mechanical Dimensions:

Dimensions in inches and [mm]

53D4875

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Figure 2
Pinout 25 pin D-sub control connector

Pin	Signal
13	TTL BLANKING CH1
25	+ INPUT CH1
12	− INPUT CH1
24	TTL BLANKING CH2
11	+ INPUT CH2
23	− INPUT CH2
10	TTL BLANKING CH3
22	+ INPUT CH3
9	− INPUT CH3
21	TTL BLANKING CH4
8	+ INPUT CH4
20	− INPUT CH4
7	TTL BLANKING CH8
19	+ INPUT CH8
6	− INPUT CH8
18	TTL BLANKING CH7
5	+ INPUT CH7
17	− INPUT CH7
4	TTL BLANKING CH6
16	+ INPUT CH6
3	− INPUT CH6
15	TTL BLANKING CH5
2	+ INPUT CH5
14	− INPUT CH5
1	GND

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Figure 3
Pinout of TEC connector

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Pin No.	Name
1	No Connection
2	GND (Thermistor)
3	No Connection
4	Thermistor
5	TECP
6	TECN
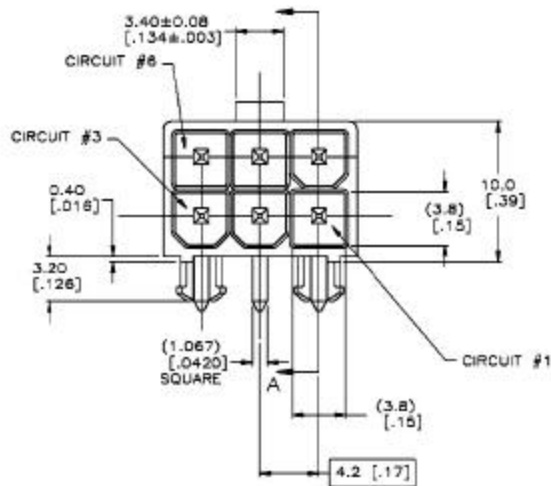
Figure 4
Pinout Power connector

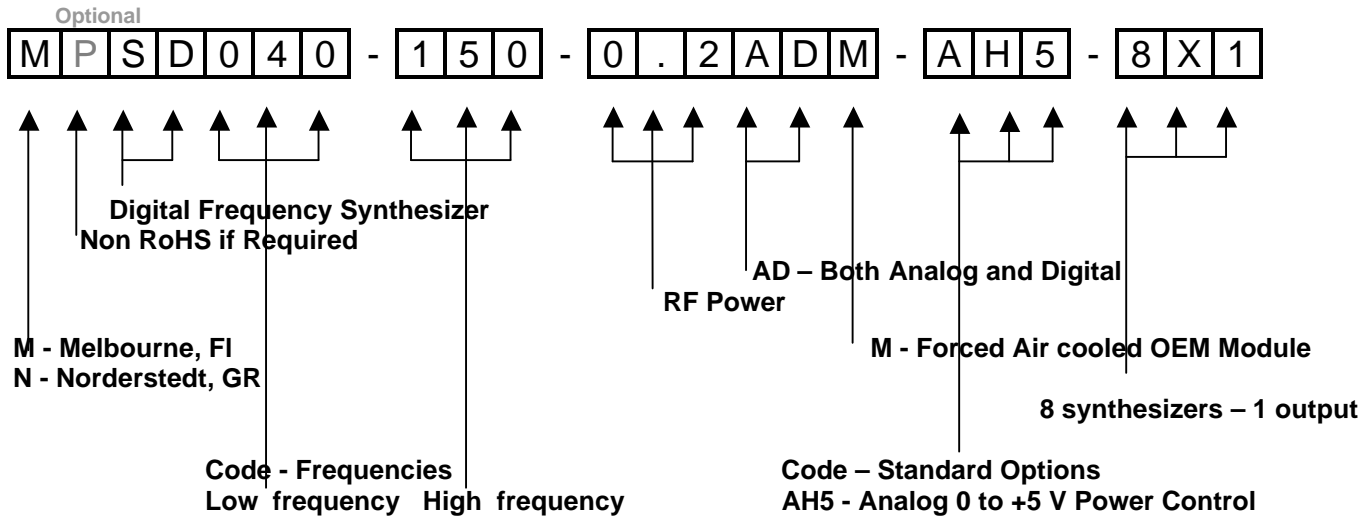| Pin No.	Name
1	+28V
2	GND
3	+5 V TEC
4	NC
5	GND
6	NC

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Figure 5
RS 232 connector

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Pin No.	Name	Dir	Notes / Description
1	DCD	IN	No Connection
2	RD	IN	Receive Data (a.k.a RxD, Rx). Arriving data from DCE.
3	TD	OUT	Transmit Data (a.k.a TxD, Tx). Sending data from DTE.
4	DTR	OUT	No Connection
5	SGND	-	Ground
6	DSR	IN	No Connection
7	RTS	OUT	No Connection
8	CTS	IN	No Connection
9	RI	IN	No Connection
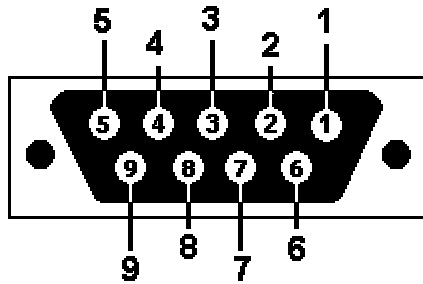
DB9: View looking into female connector

Ordering Codes:

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Example: MSD040-150-0.2ADM-A5H-8X1
An 8 Channel, 0.2 watt per channel, 40 to 150 MHz, Digitally Frequency Synthesized RF Driver with TTL Digital and 0 to 5 volt Analog Modulation. Delivered as an, RoHS compliant, forced air cooled, OEM module. Typically used for an AOD or AOTF Device needing random access and multiple drive frequencies at the same time.

| M | P | S | D | 0 | 4 | 0 | - | 1 | 5 | 0 | - | 0 | . | 2 | A | D | M | - | A | H | 5 | - | 8 | X | 1 |

Optional

Digital Frequency Synthesizer
Non RoHS if Required

AD – Both Analog and Digital

RF Power

M - Melbourne, Fl
N - Norderstedt, GR

M - Forced Air cooled OEM Module

8 synthesizers – 1 output

Code - Frequencies
Low frequency   High frequency

Code – Standard Options
AH5 - Analog 0 to +5 V Power Control

Ordering Information:

XSoptix

800 Village Walk #316
Guilford, CT 06437
Ph: 203-401-8093

Email orders to: sales@xsoptix.com
Fax orders to: 800-878-7282

Technical Assistance & Customization

Our Engineering and Sales team are available to discuss your requirements and will assist you in selecting the most appropriate AOD or AOTF/ Diver combination for your Application.

For More Information, Contact: sales@goochandhousego.com www.goochandhousego.com

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