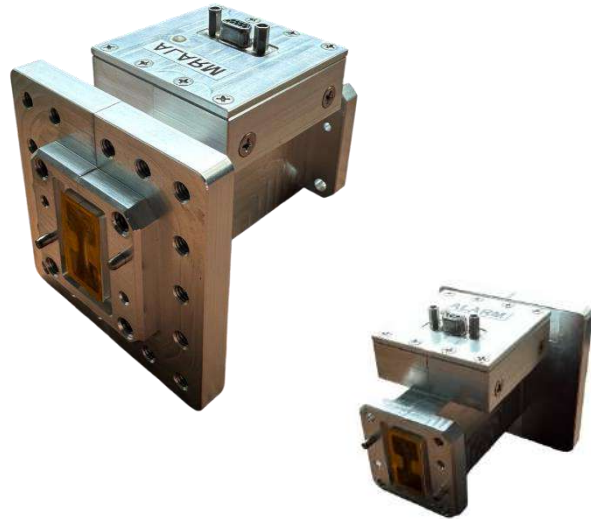


UNCLASSIFIED

DATASHEET

Product Features

- 5800 TO 16000 MHz Frequency
- 15 kW max power
- Insertion loss: < 0.05 dB
- High Power Handling Capability
- Electromagnetic Coupling > 110 dB



Applications

- Arc Detection
- Process Instabilities
- Ignition Phenomenon
- Missing RF Pulses
- Guard against Arcing and related damages

Description

5816-ARCDDET is a WRD580 Arc Detector operating from Freq. 5800 MHz to 16000 MHz with maximum power at 15 kW. The 5816-ARCDDET has electromagnetic coupling greater than 110 dB, less than 0.05dB Insertion loss and a typical VSWR of 1.06:1, along with spectral responsivity between 320 to 1050 nm (visible light and near-infrared spectrum). This RF Detector operates in a temperature range from -40° to 85°C, with a footprint 73.2 x 60 x 69.2 mm.

Electrical Specifications

Design	Passive
Interface Connector	Micro D-sub-Connector, Plug 9 pins (Male)

Description	Minimum	Typical	Maximum	Units
Frequency Range	5.8		16	GHz
Output VSWR		1.06 : 1		
Insertion Loss			0.05	dB
Power Handling		1.5	15	kW
Spectral Responsivity	320		1050	nm
DC Supply Voltage Typical	5.7	12	20	VDC
Output Voltage		0.5	5	V
Response Time			10	µsec

SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE

MICRO D-SUB CONNECTOR PINOUT		
Pin #	Function	Description
1	GND	Ground
2	OUTPUT	Initial state (NO ARC present) = TTL Logic 1 (HIGH). Active state (ARC detected) = TTL Logic 0 (LOW). Open drain circuit with pull-up 10k resistor.
3	RESET	Input internally pulled-up to +VDC. Active state = TTL Logic 0 (LOW), pulse to be applied for reset. Constant Logic 0 can be used to disable Arc detection mode.
4	TEST	Input is used for self-testing internal circuits' operation from optical receiver to output circuitry. If TTL Low level is applied, output (pin 2) is latched in the "Alarm" mode until "Reset" signal to be applied at pin 3.
5,6,7,8	GND	Ground
9	+V	Power DC Voltage

Mechanical Specifications

Size	
• Length	73.2mm [2.88 in]
• Width	60mm [2.36 in]
• Height	69.2mm [2.72 in]
• Weight	250 g [0.55 lb]
• Material	Aluminum 6061 T6
• Surface Finish	Silver-plating
• External Paint	RAL 9005 Matt
• Optical Sensitivity	Equal in both Directions
• Flange 1	Cover, 4x THROUGH HOLES
• Flange 2	Cover, 4x THROUGH HOLES
• Drive option	Latching

Environmental Specifications

Temperature	
• Operating Range	-40° C to 85 ° C
• Pressure Sealed to	30 PSI

SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE

Typical Performance Data



Figure 1 Optical pulse response (Typical Rise time).



Figure 2 Optical pulse response (Typical Fall time).

SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE

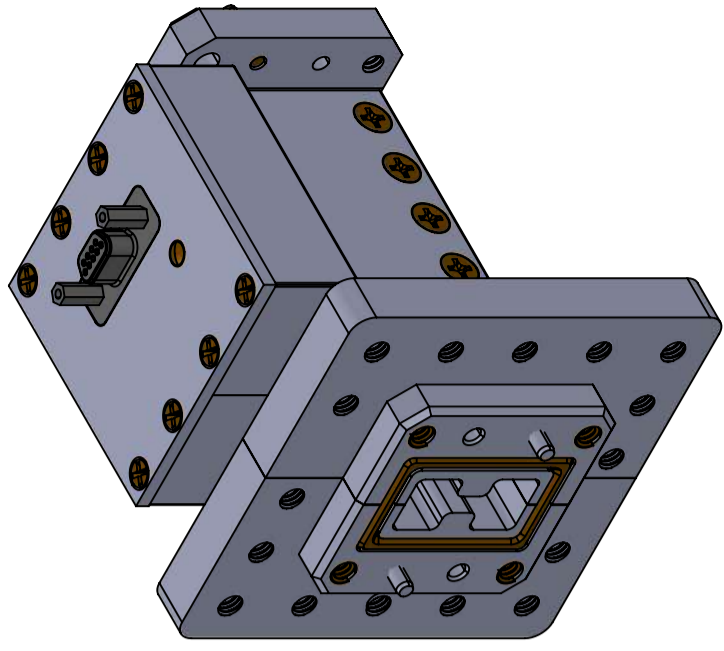
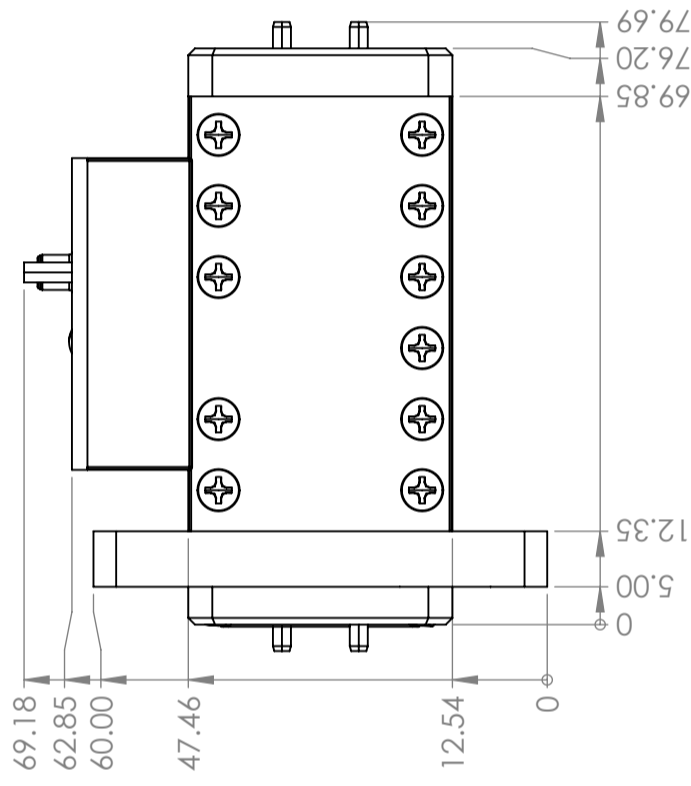
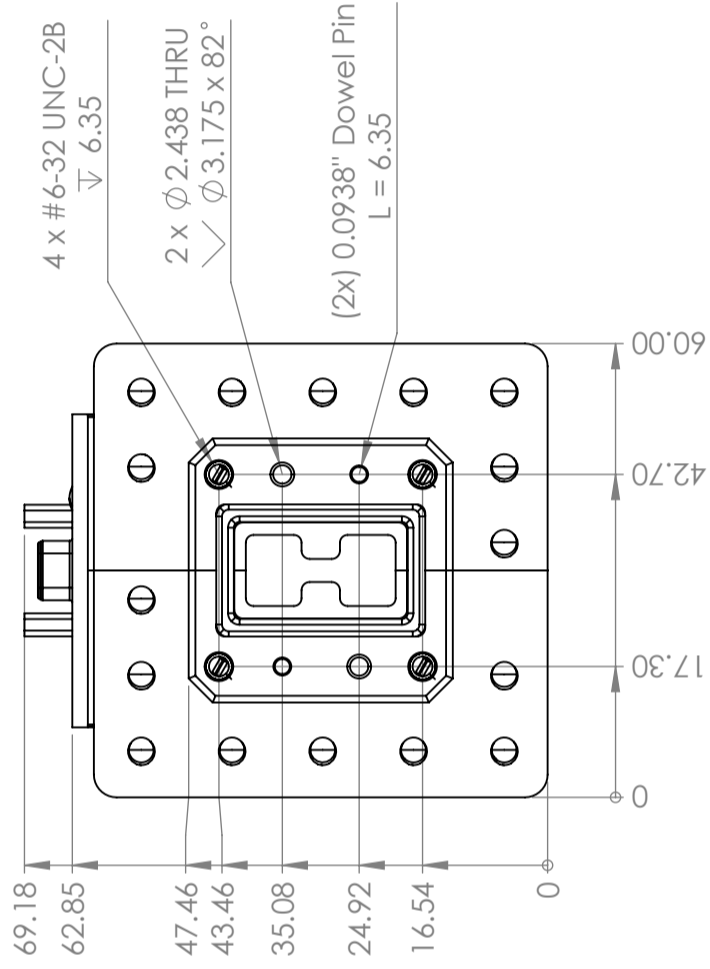
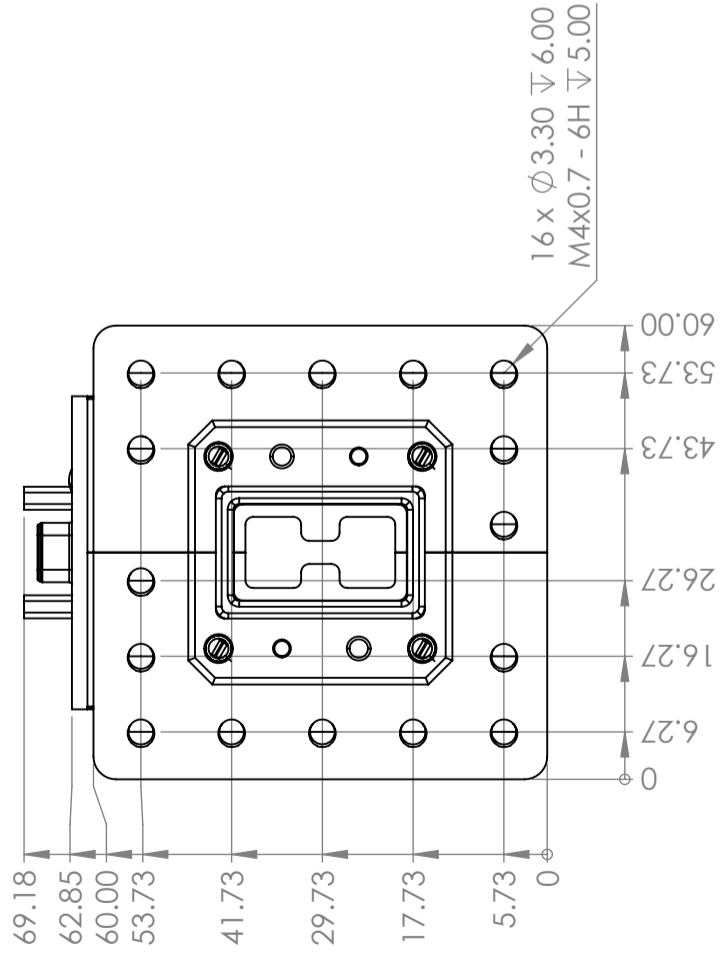
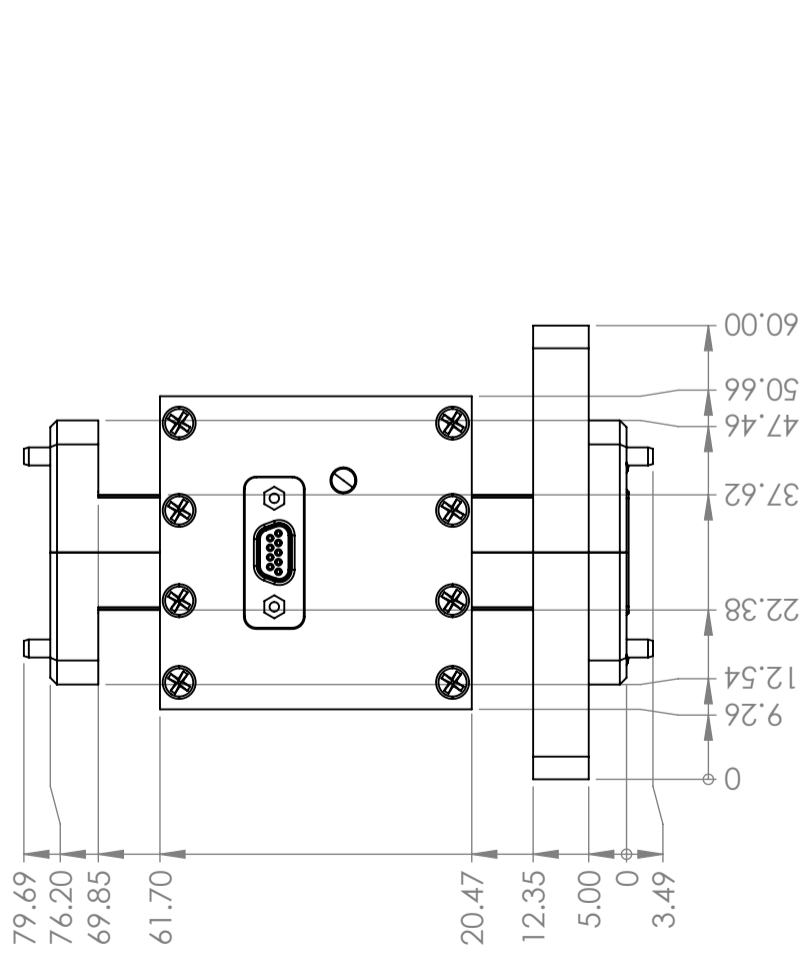
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REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
A	Release	08/07/2023	MoinM



NAME	DATE
MOINM	08-07-23
Karrens	08-07-23
APPVD	08-07-23

TITLE: 5.8-16 GHz Arc Detector

REV. A	DESCRIPTION Release	DATE 08/07/2023	APPROVED MoinM
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DEBURR AND BREAK SHARP EDGES

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN MILLIMETERS

X ± 0.50
XX ± 0.10
.XXX ± 0.05

∇ ± 0.1°

THIRD ANGLE PROJECTION

SIZE A3 SCALE 1:1

DO NOT SCALE DRAWING

PART NO. DVB-5816-ARCDDET-A DWG NO. DVB-5816-ARCDDET REVISION 00

MATERIAL: Aluminium 6061 FINISH: SURTEC650

SHEET 1 OF 1

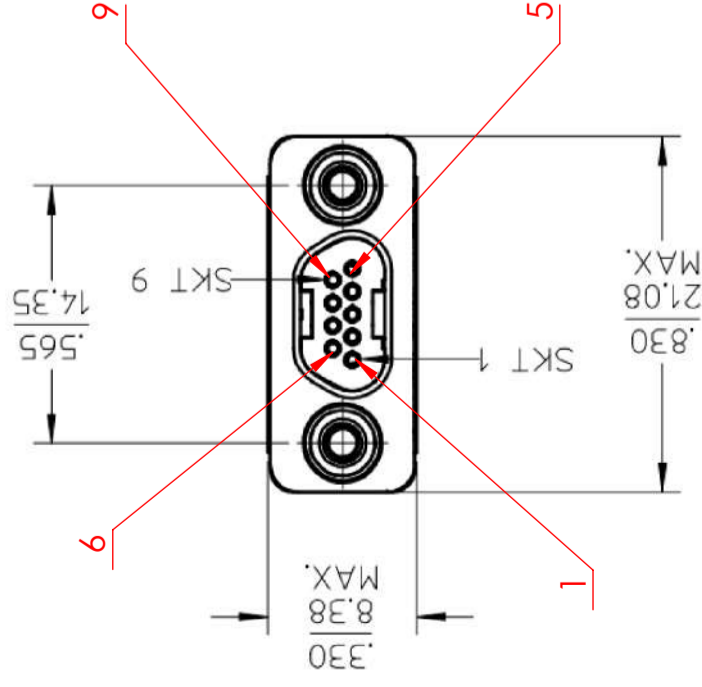


REVISIONS

REV.	DESCRIPTION	DATE	APPROVED
01	First Release	July,23	V.S.

Housing 083421-9014 (Molex p/n) with 0830000083 socket female contacts

GND	WIRE, 28AWG, STR, TFE, BLACK	GND
OUT	WIRE, 28AWG, STR, TFE, GREEN DARK	OUT
RESET	WIRE, 28AWG, STR, TFE, BLUE LIGHT	RESET; ENDBLED/DISABLE
TEST	WIRE, 28AWG, STR, TFE, WHITE	TEST
GND	WIRE, 28AWG, STR, TFE, BLACK	GND
+VDC	WIRE, 28AWG, STR, TFE, RED	+VDC



NOTES:

- Wire "RESET;ENABLE/DISABLE" is not used in NON-LATCHED Configuration



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NAME		DATE
DRAWN	V.S.	04-08-23
CHKD	V.S.	04-08-23
APPVD	A.M.	04-08-23

DEBURR AND BREAK SHARP EDGES		THIRD ANGLE PROJECTION
UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN MILLIMETERS		
X	± 0.50	
XX	± 0.10	
.XXX	± 0.05	
∠	± 0.1°	

TITLE: D-Sub MICRO D RECT 9 POS Cables		
SIZE A3	SCALE 2:1	DO NOT SCALE DRAWING
PART NO. 083421-9014	DWG NO. 834219014	REVISION 00
MATERIAL: Steel, Nickel Plated		FINISH: Nickel Plated
		SHEET 1 OF 1