
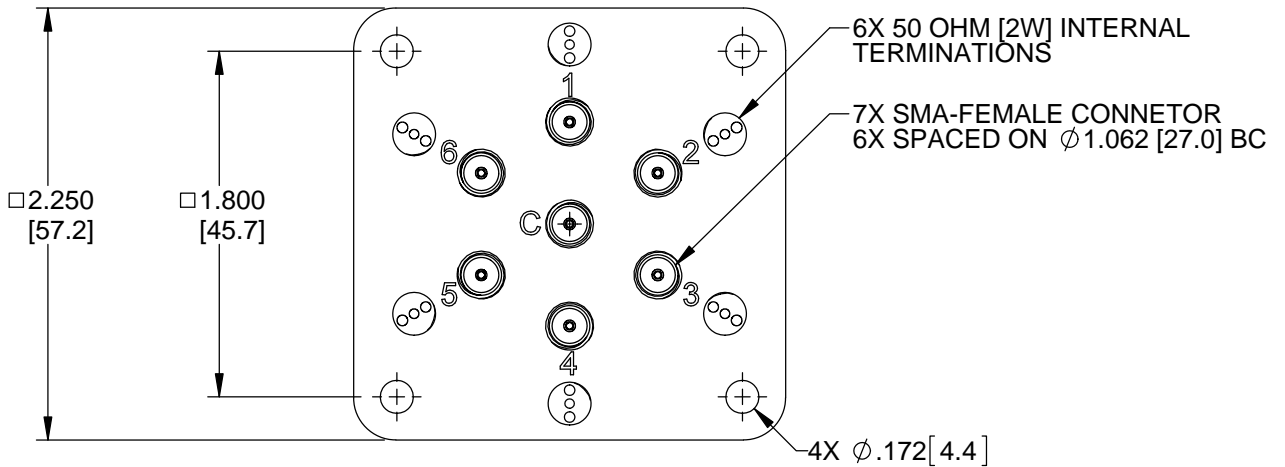
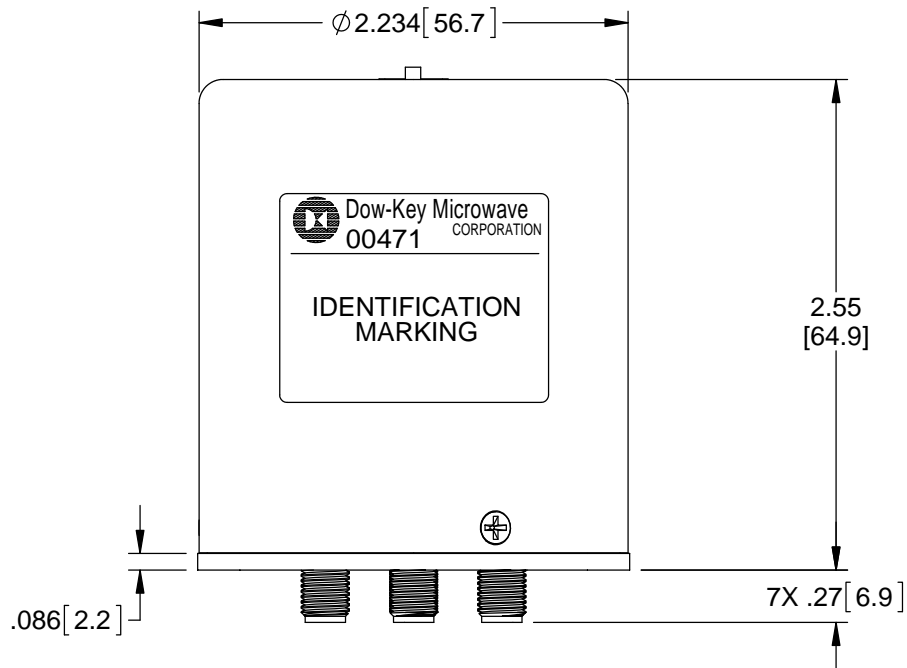
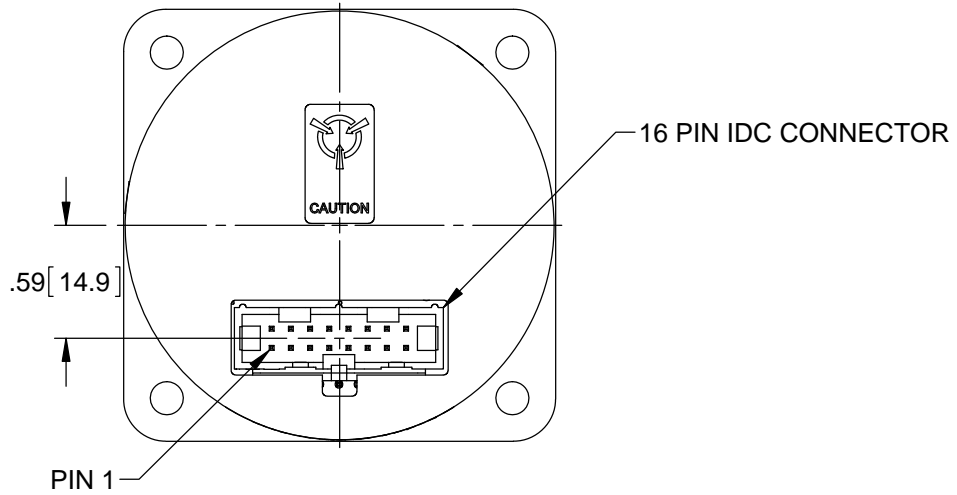


REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
A	PRODUCTION RELEASE	11/16/16	K.R.
B	REVISED PER ECO 11684	4/25/17	K.R.

Nominal Coil Voltage	Part Number
12 Vdc	R461JK-420853A
24 Vdc	R461JK-480853A

REVISIONS	B	B	B	B	B		 DowKey[®] Microwave CORPORATION <small>A DOVER TECHNOLOGIES COMPANY</small>	4822 McGrath Street Ventura, CA. 93003-5641 PH: (805) 650-0260 FAX: (805) 650-1734
SHEET NO.	1	2	3	4	5			
APPROVALS		DATE					SWITCH, SP6T, LATCHING, SELF CUTOFF, IDC-16P, SMA FEMALE CONNECTORS, OPTICAL INDICATORS, 50 OHMS [2W] TERMINATIONS, TTL-HI CONTROL, 5 MIL CYCLE, 26.5 GHz	
DRAWN E. DELA CRUZ		11/10/2016						
ENGINEERING J. WESSELY		4/18/2017						
QUALITY S. LYNCH		11/15/2016						
MANUFACTURING R. GARCIA		11/16/2016						
CODE IDENT. NO.			DWG. NO.					
00471			R461JK-4X0853A					
SCALE	NONE		FINAL ASSY: R461JK-480853A			SHEET 1 OF 5		

OUTLINE DRAWING:



[] MILLIMETERS

UNLESS OTHERWISE SPECIFIED TOLERANCES ARE: .XXX ±.010 ANGLES: ±3° .XX ±.030	CODE IDENT. NO. 00471	DWG. NO. R461JK-4X0853A	REV. B
	SCALE NONE	FINAL ASSY: R461JK-480853A	SHEET 2 OF 5

SPECIFICATION:

1.0 RF CHARACTERISTICS:

1.1 FREQUENCY (GHz)	DC - 4	4 - 12.4	12.4 - 18	18 - 26.5
1.2 VSWR (RATIO MAX)	1.20:1	1.30:1	1.45:1	1.65:1
1.3 VSWR, TERMINATION (RATIO MAX)	1.20:1	1.30:1	1.45:1	1.70:1
1.4 INSERTION LOSS (dB MAX)	0.20	0.35	0.45	0.70
1.4.1 REPEATABILITY (MAX)	0.03 dB @ 25 °C (DC - 26.5 GHz)			
1.5 ISOLATION (dB TYP)	100	100	75	70
1.6 HOT SWITCHING (WATTS CW)	2	2	2	2
1.7 IMPEDANCE (NOMINAL)	50 OHMS			

2.0 ACTUATION DATA:

2.1	NOMINAL VOLTAGE	OPERATING VOLTAGE	(I _(cc)) COIL CURRENT (TYP) @ NOMINAL VOLTAGE & 25 °C
	12	11 - 14	180mA
	24	20 - 32	75mA

2.2 SWITCHING TIME	15mS MAX
2.3 OPERATING MODE	LATCHING SELF CUT-OFF
2.4 STAND BY CURRENT (I _(Q))	50 mA MAX
	$I(T) = I(Q) + (I(cc) \times N)$
	N IS THE NUMBER OF POSITIONS SIMULTANEOUSLY OPENED OR CLOSED.

3.0 MECHANICAL:

3.1 CONTACT ARRANGEMENT	SP6T
3.2 RF CONTACTS	BREAK BEFORE MAKE OR MAKE BEFORE BREAK
3.3 WEIGHT	8.4 oz (238 g) NOMINAL
3.4 DESIGN LIFE*	5,000,000 CYCLES MINIMUM

4.0 ENVIRONMENTAL:

4.1 OPERATING TEMPERATURE	-25 °C TO +75 °C
4.2 STORAGE TEMPERATURE	-55 °C TO +85 °C
4.3 VIBRATION	
4.3.1 SINUSOIDAL OPERATING	7g, 10 - 2000 Hz
4.3.2 SINUSOIDAL SURVIVAL	20g, 20 - 2000 Hz at 0.06 in p-p
4.3.3 RANDOM (OPERATING)	2.41g (rms), 12 min/AXIS
4.4 SHOCK (OPERATING)	50 g at 11mS
4.5 ALTITUDE (SURVIVAL)	50,000 FEET

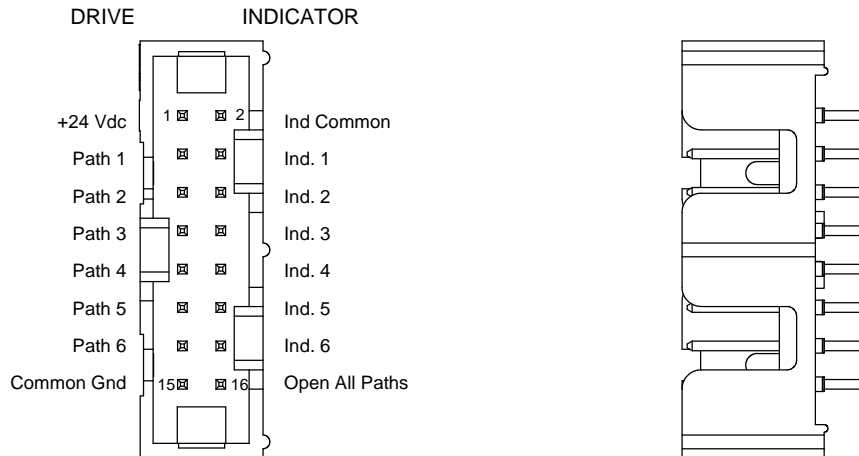
* FOR 24V UNITS:

DESIGN LIFE IS 5 MILLION CYCLES MINIMUM, WHEN DRIVEN AT VOLTAGES $20 \leq V_{supply} \leq 28$ VDC

DESIGN LIFE IS 2 MILLION CYCLES MINIMUM WHEN DRIVEN AT VOLTAGES $28 < V_{supply} \leq 32$ VDC.

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SCALE NONE	FINAL ASSY: R461JK-480853A	SHEET 3 OF 5

DRIVING THE SWITCH



Each RF path can be closed by applying TTL-HIGH to the corresponding "drive" pin. Any non-driven path will be simultaneously opened by internal logic.

Standard drive:

- Connect pin 15 to ground.
- Connect pin 1 to supply voltage
- Select (close) desired RF path by applying TTL HIGH to the corresponding "drive" pin (Ex: apply TTL HIGH to pin 3 to close RF path 1).
- To select another path, ensure that all unwanted RF path "drive" pins are connected to TTL LOW (to prevent multiple RF path engagement). Apply TTL HIGH to the "drive" pin which corresponds to the desired RF path.
- To open all RF paths, ensure that all RF path "drive" pins are connected to TTL LOW. Complete the operation by applying TTL HIGH to pin 16.

Break-Before-Make

Open the undesired RF path. After 15 mS (minimum), close the new RF path.

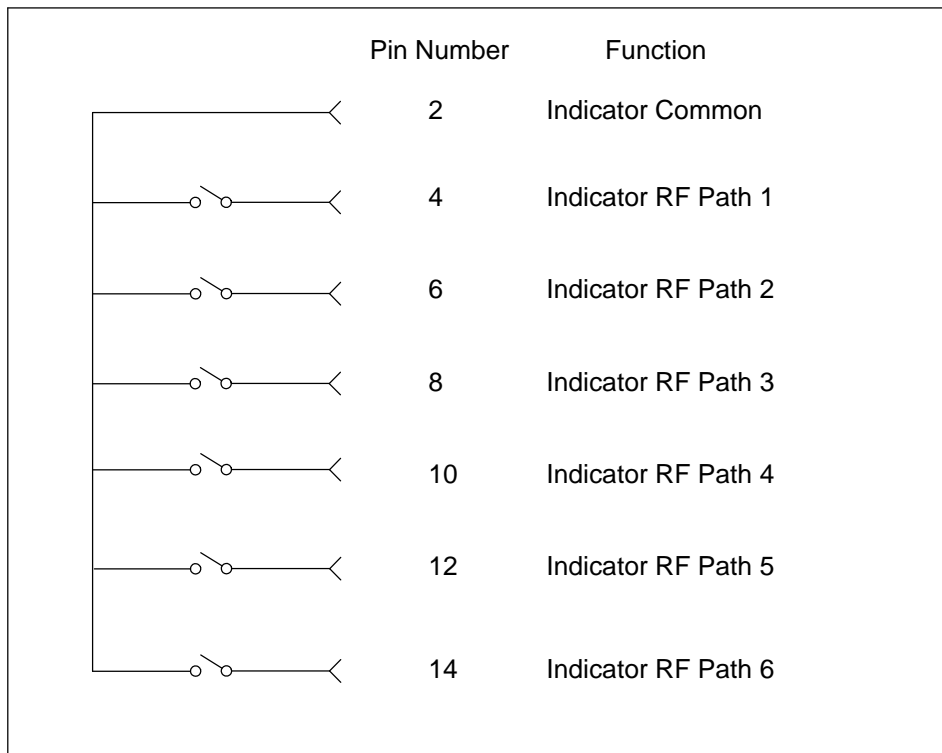
Make-Before-Break

Ensure that the previously selected RF path "drive" is connected to TTL-HIGH, then close the new RF path. The previously selected path can then be de-selected.

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ELECTRONIC POSITION INDICATORS:

The electronic position indicators consist of optically isolated, solid state relays which are driven by, photo-electric sensors coupled to the mechanical position of the RF paths moving elements. The circuitry consists of a common which can be connected to an output corresponding to the selected RF path. If one or more RF paths are closed, the corresponding indicators will be connected to the common. The solid state relays are configured for AC and/or DC operation. The electronic position indicators require the supply voltage to be connected to pin 1 and Ground connected to pin 15.



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