

## Transfer Electromechanical Relay Failsafe Switch, DC to 12 GHz, up to 600W, 2M Lifecycles, 12V, N

The FMSW6462 is a Transfer electromechanical relay switch that operates across a wide frequency range of DC to 12 GHz and can handle up to 600W of Average power in a break before make condition. The 50 Ohm design is rated for 2 million lifecycles and features a Failsafe Actuator. Impressive typical performance includes 0.2 dB insertion loss and isolation greater than 80 dB. This switch requires +12Vdc bias voltage and operates over a temperature range of -25°C to +65°C. The rugged and compact package assembly supports N type female connectors and solder terminal pins for DC control. And for highly reliable operation, the model is guaranteed to meet MIL-STD-202 environmental test conditions for shock and random vibration.

### Electrical Specifications

Switch Type	DPDT
Actuator Type	Failsafe
Switching Sequence	Break Before Make

Description	Min	Typ	Max	Units
Frequency Range	DC		12	GHz
Impedance		50		Ohms
Operating Voltage	11	12	13	Volts
Actuating Current @ 12 Volts			800	mA
VSWR		1.4:1	1.7:1	
Insertion Loss		0.2	0.7	dB
Isolation	60	80		dB
Input Power (CW)			1	kWatts
Switching Time			20	ms

### Performance by Frequency

Description	F1	F2	F3	F4	F5	Units
Frequency Range	DC - 2	2 - 4	4 - 8	8 - 12		GHz
VSWR, Max	1.2:1	1.4:1	1.5:1	1.7:1		
Insertion Loss, Max	0.2	0.4	0.5	0.7		dB
Isolation, Min	80	80	70	60		dB

### Mechanical Specifications

<b>Size</b>	
Length	2.52 in [64.01 mm]
Width/Diameter	1.75 in [44.45 mm]
Height	1.75 in [44.45 mm]
Finish	NICKEL
Package Type	Connectorized
Operating Life	2,000,000 Cycles

### Connectors

RF Connector Type	N Female
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### Features:

- Transfer Electromechanical Relay Switch
- DC to 12 GHz Frequency Range
- Failsafe Actuator
- 2M Lifecycle Rating
- Insertion Loss 0.2 dB typ
- Isolation > 80 dB typ
- VSWR as low as 1.2:1 max
- +12 Volt DC Bias
- Solder Terminal Pins for DC Control
- N Type Female Connectors
- -25°C to +65°C Operating Temperature
- Up to 600 Watt Average Power Handling
- 50 Ohm Design
- Hot Switching Capability - Consult Factory
- S-Parameter Data available upon request
- Rugged Design meets Mil-STD-202 Test Conditions

### Applications:

- Aerospace & Defense
- Test & Measurement
- Microwave Radio Systems
- Military & Commercial Communication Systems
- Research & Development
- SATCOM
- Wireless Communications
- Enterprise
- IoT

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**Environmental Specifications**

**Temperature**

Operating Range -25 to +65 deg C  
Storage Range -55 to +100 deg C

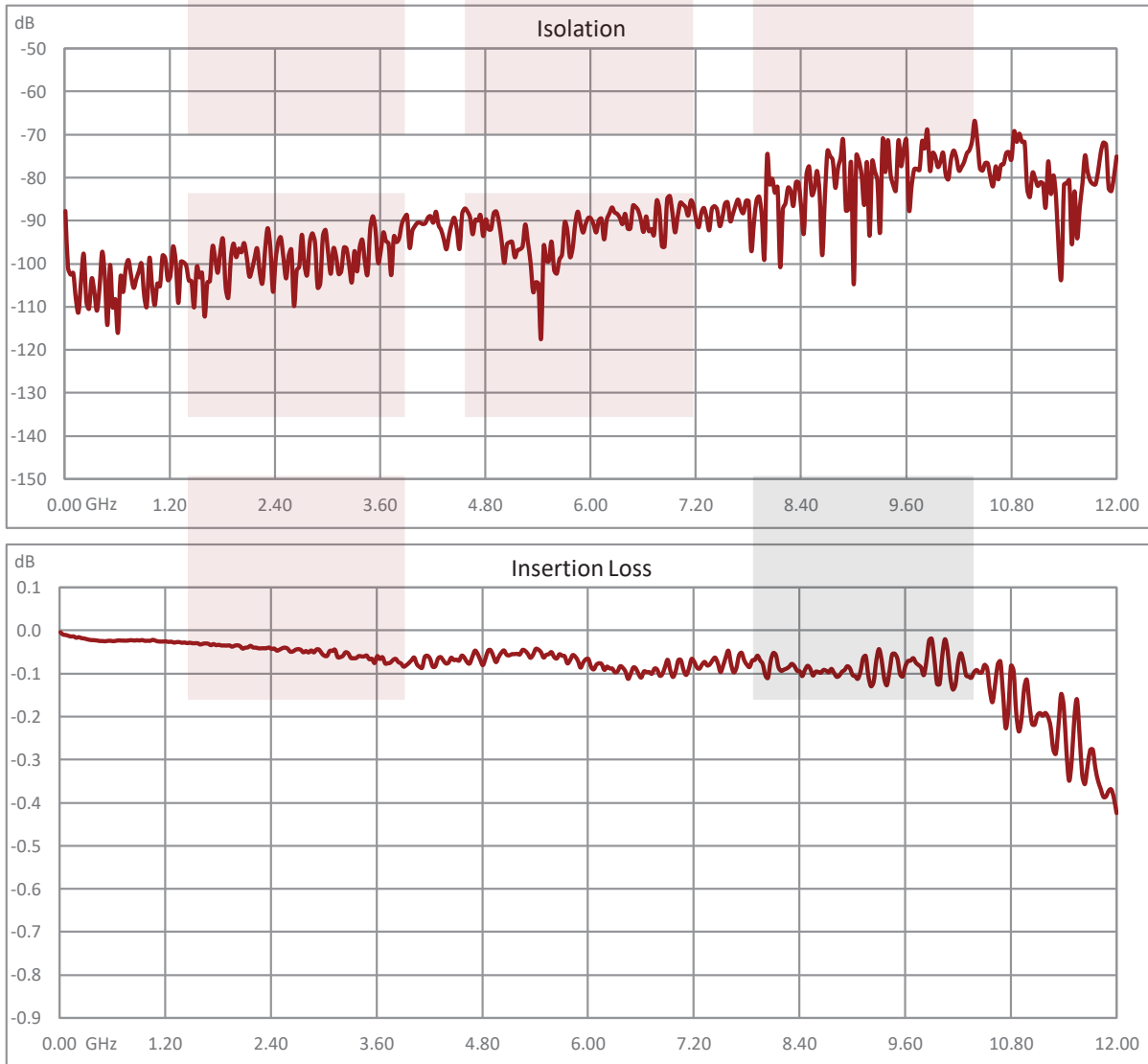
Humidity Moisture resistant or immersion sealing available  
Shock MIL-STD-202 Method 213, Condition D, 500G (non oper)  
Vibration MIL-STD-202 Method 214, Condition D, 10G RMS (non oper)

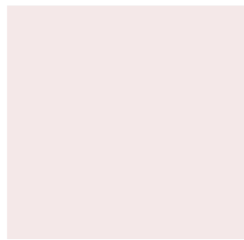
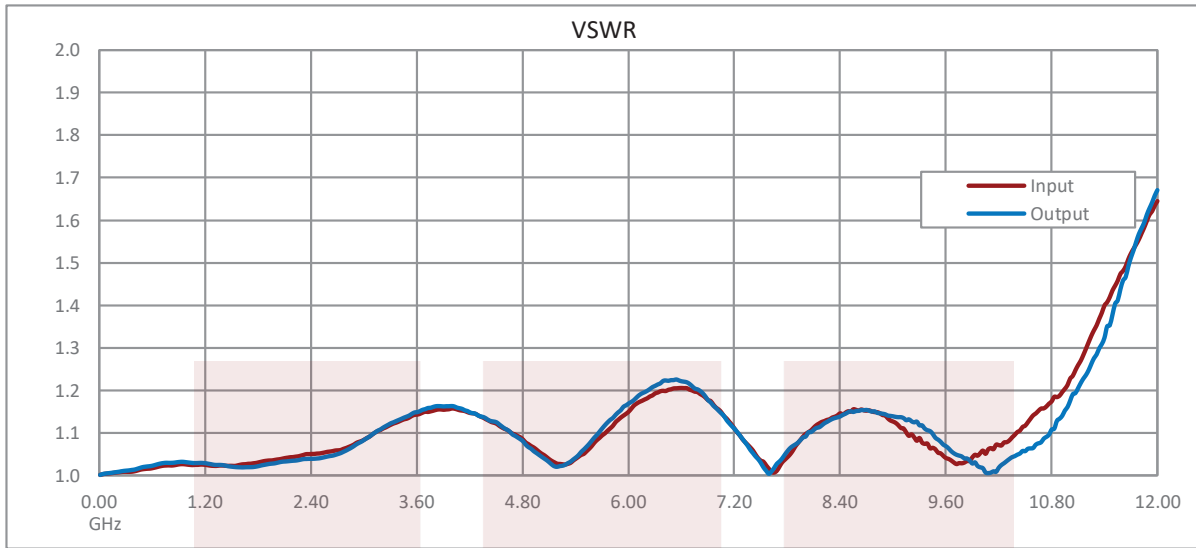
**Compliance Certifications** (see [product page](#) for current document)

**Plotted and Other Data**

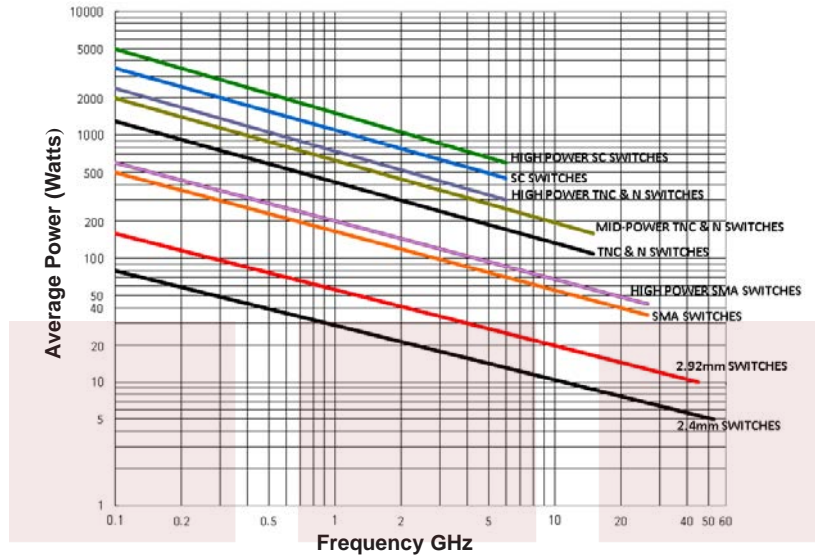
Notes:

**Typical Performance Data**

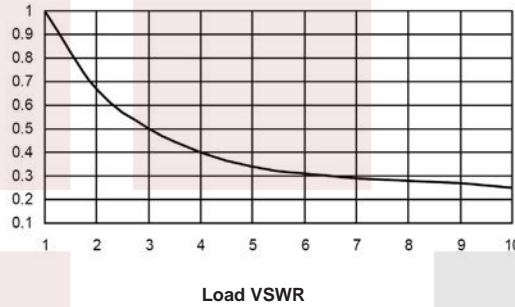




**Power Handling vs. Frequency**



**Power Handling De-rating vs. Load VSWR**



Power Handling Chart and Derating Curves based on the following Test and Environmental Conditions:  
 Ambient temperature: 20 - 25°C  
 Altitude: Sea Level to 1,000 feet  
 Relative Humidity: 50 - 55%  
 Load VSWR: ≤ 1.20:1  
 Operation: Cold Switching

Transfer Electromechanical Relay Failsafe Switch, DC to 12 GHz, up to 600W, 2M Lifecycles, 12V, N from Fairview Microwave is in-stock and available to ship same-day. All of our RF/microwave products are available off-the-shelf from our ISO 9001:2008 certified facilities in Lewisville, Texas. Fairview Microwave is RF on-demand.

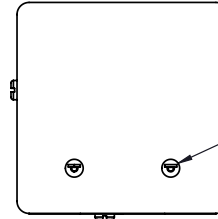
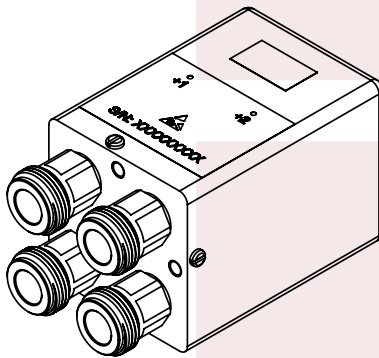
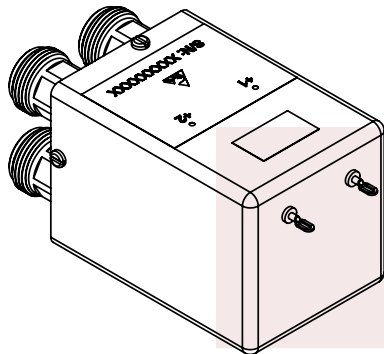
For additional information on this product, please click the following link: [Transfer Electromechanical Relay Failsafe Switch, DC to 12 GHz, up to 600W, 2M Lifecycles, 12V, N FMSW6462](#)

URL: <https://www.fairviewmicrowave.com/dpdt-failsafe-12-ghz-electro-mechanical-relay-switch-1000w-12v-n-fm-sw6462-p.aspx>

The information contained in this document is accurate to the best of our knowledge and representative of the part described herein. It may be necessary to make modifications to the part and/or the documentation of the part, in order to implement improvements. Fairview Microwave reserves the right to make such changes as required. Unless otherwise stated, all specifications are nominal. Fairview Microwave does not make any representation or warranty regarding the suitability of the part described herein for any particular purpose, and Fairview Microwave does not assume any liability arising out of the use of any part or documentation.

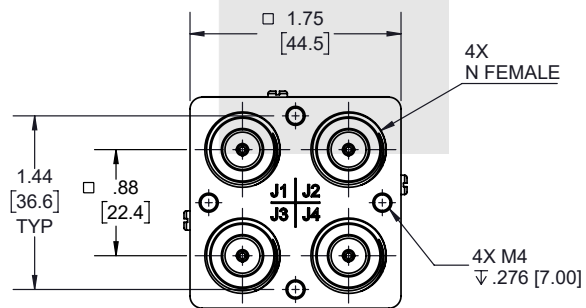
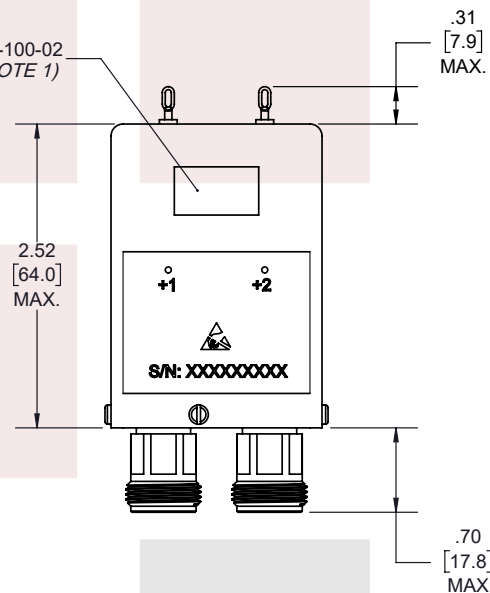


REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
A	INITIAL RELEASE	2/1/2021	T.GALLA



2X SOLDER TERMINALS,  
SOLDER WIRE USING SN96,  
MAXIMUM TEMP 250°C FOR  
NO MORE THAN 5 SEC.

LABEL PER ILS-100-02  
(SEE NOTE 1)



**NOTES:**

- LABEL PER ILS-100-02. FOR INTERNAL REFERENCE ONLY. LABEL LOCATION FOR REFERENCE ONLY.

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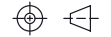
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Transfer Electromechanical Relay Failsafe Switch, DC to 12 GHz, up to 600W, 2M Lifecycles, 12V, N

UNLESS OTHERWISE SPECIFIED LEADING DIMENSIONS ARE INCHES  
DIMENSIONS IN [ ] ARE MILLIMETERS

TOLERANCES: CABLE LENGTH (L) TOLERANCES:

.X = ±.2 [5.08]	FRACTIONS	L ≤ 12 [305] = +.1 [25] / -0
.XX = ±.02 [.51]	± 1/32	12 [305] < L ≤ 60 [1524] = +.2 [51] / -0
.XXX = ±.005 [.13]	ANGLES ± 1°	60 [1524] < L ≤ 120 [3048] = +.4 [102] / -0
		120 [3048] < L ≤ 300 [7620] = +.6 [152] / -0
		300 [7620] < L = +5%L / -0

THIRD-ANGLE PROJECTION



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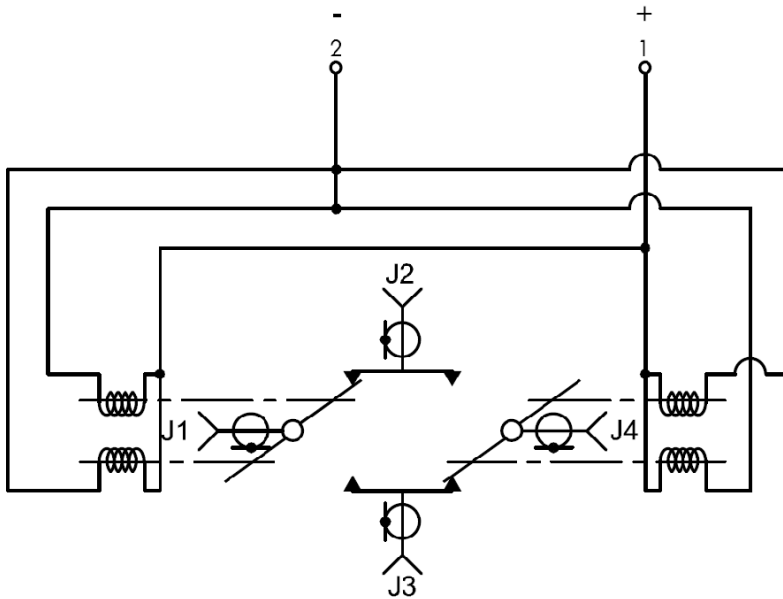
SHEET 1 OF 2

ALL DIMENSIONS SHOWN ARE FOR REFERENCE ONLY.

SCALE N/A

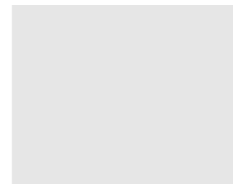
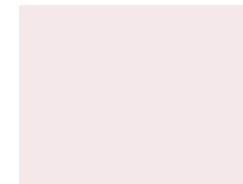
SIZE A	CAGE CODE 3FKR5	DRAWN BY K.DANG	ITEM NO. FMSW6462	REV A
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T-Rev.D



VOLTAGE	RF PATH
DE-ENERGIZED	J1-J2, J3-J4
ENERGIZED	J1-J3, J2-J4

SCHEMATIC



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	TOLERANCES:		CABLE LENGTH (L) TOLERANCES:	
TITLE Transfer Electromechanical Relay Failsafe Switch, DC to 12 GHz, up to 600W, 2M Lifecycles, 12V, N	.X = ±.2 [ .51]	FRACTIONS ± 1/32	L ≤ 12 [305] = +1 [25] / -0	THE INFORMATION AND DESIGN IN THIS DOCUMENT IS THE PROPERTY OF FAIRVIEW MICROWAVE CORPORATION. ALL RIGHTS RESERVED. SHEET 2 OF 2
	.XX = ±.02 [ .51]	ANGLES ± 1°	12 [305] < L ≤ 60 [1524] = +2 [51] / -0 60 [1524] < L ≤ 120 [3048] = +4 [102] / -0 120 [3048] < L ≤ 300 [7620] = +6 [152] / -0 300 [7620] < L = +5%L / -0	
ALL DIMENSIONS SHOWN ARE FOR REFERENCE ONLY.				SCALE N/A
SIZE A	CAGE CODE 3FKR5	DRAWN BY K.DANG	ITEM NO. FMSW6462	REV A

T-Rev.D