

WR-159 Waveguide Electromechanical Relay

Latching Switch SPDT/DPDT 7.05 GHz Max Freq., 12,000 Watts CPR Flat, 28V, Self Cut Off

The FMWGS6032 electromechanical WR-159 waveguide switch operates across a wide frequency range from 4.90 GHz to 7.05 GHz and is configured for single pole double throw (SPDT) operation. A shorting plate on port 3 can be removed for optional double pole double throw (DPDT) operation. This innovative design features a latching Self Cut Off actuator and patented motor drive with arc suppression. The motor drive housing supports a viewable position indicator window and a cover that can be removed for manual override access.

Impressive performance includes 0.02 dB max insertion loss, 70 dB min Isolation, 1.10:1 max VSWR, and an operating life of 250K cycles minimum. The design operates across a temperature range of -40°C to +85°C, requires +28Vdc nominal bias voltage, and has an input power rating of up to 12 KW CW maximum. The waveguide ports have standard CPR Flat Flanges. The rugged package design is fully weatherized for up to 100% humidity exposure and supports a quick connect circular 6 pin MIL-SPEC DC bias connector with mate included.

Electrical Specifications

Switch Type	SPDT/DPDT			
Actuator Type	Latching			
Actuator Options	Self Cut Off, Set Indicators, Manual Override, Viewing Window			

Description	Min	Typ	Max	Units
Frequency Range	4.9		7.05	GHz
Operating Voltage	21	28	32	Volts
Actuating Current @ 28 Volts			1	A
VSWR			1.1:1	
Insertion Loss			0.02	dB
Isolation	70			dB
Switching Time		100		ms
Input Power (CW)			12	kWatts

Mechanical Specifications

Size

Operating Life	250,000 Cycles
Operating Pressure	30 psig

Configuration

Waveguide Size	WR-159
Flange Type	CPR Flat
Body Material and Plating	Aluminum, Gold
Body Plating Specification	MIL-DTL-5541

Environmental Specifications

Temperature

Operating Range	-40 to +85 deg C
Storage Range	-55 to +100 deg C

Humidity	0 to 100%, Fully Weatherized
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Features:

- 4.90 to 7.05 GHz SPDT Waveguide Switch
- Optional DPDT Configuration
- WR-159 Waveguide
- Insertion Loss: 0.02 dB Max
- Isolation: 70 dB min
- +28 Vdc Nominal Voltage
- Input Power Rating up to 12 KW CW max
- Latching Self Cut Off Actuator
- Position Indicator and Manual Override Access
- Fully Weatherized Package
- Quick Connect Circular DC Connector with Mate
- -40°C to +85°C Operating Temperature

Applications:

- Electronic Warfare
- Electronic Countermeasures
- Microwave Radio
- VSAT
- Radar
- Space Systems
- Test Instrumentation
- Research and Development

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

Plotted and Other Data

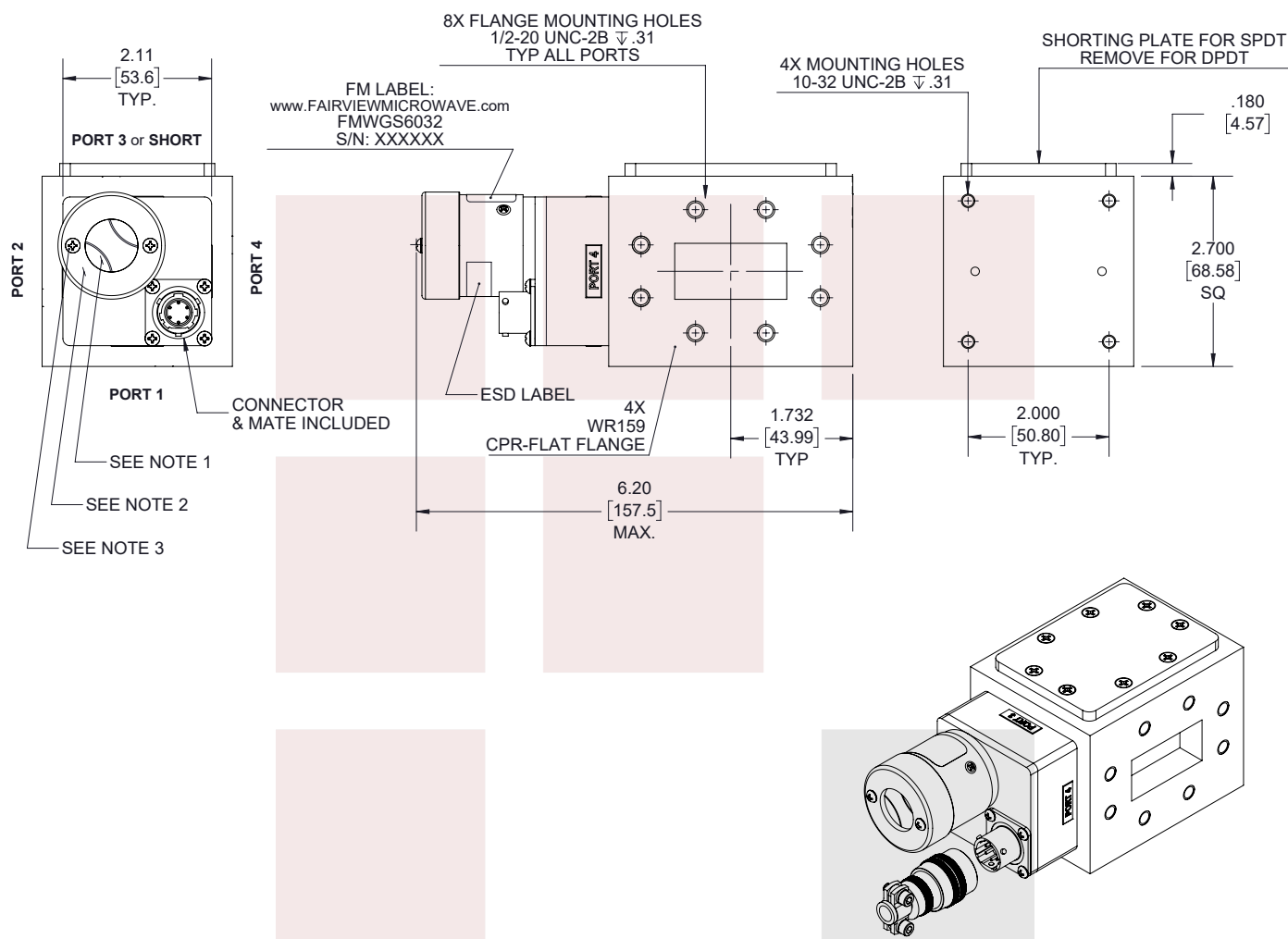
Notes:

WR-159 Waveguide Electromechanical Relay Latching Switch SPDT/DPDT 7.05 GHz Max Freq., 12,000 Watts CPR Flat, 28V, Self Cut Off 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: [WR-159 Waveguide Electromechanical Relay Latching Switch SPDT/DPDT 7.05 GHz Max Freq., 12,000 Watts CPR Flat, 28V, Self Cut Off FMWGS6032](#)

URL: <https://www.fairviewmicrowave.com/wr-159-waveguide-electromechanical-relay-latching-switch-spdt-dpdt-7.05-ghz-fmwgs6032-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.



STANDARD TOLERANCES

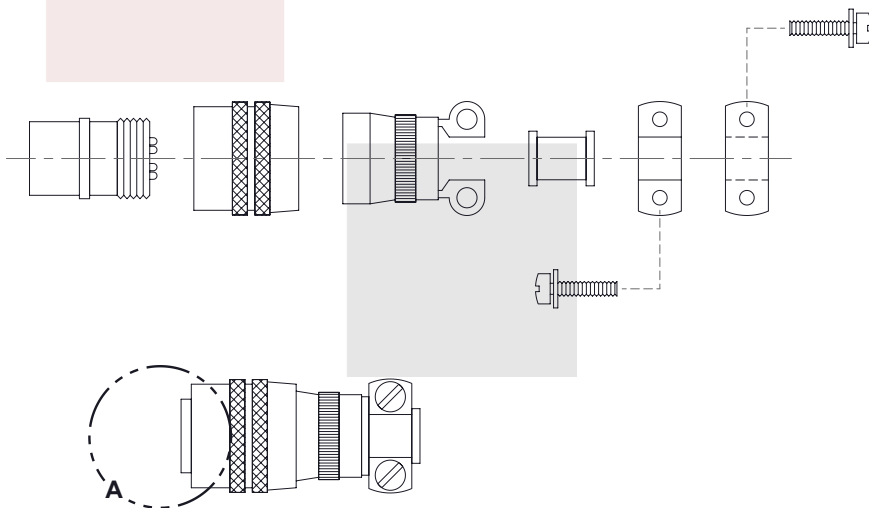
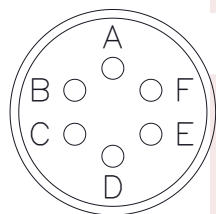
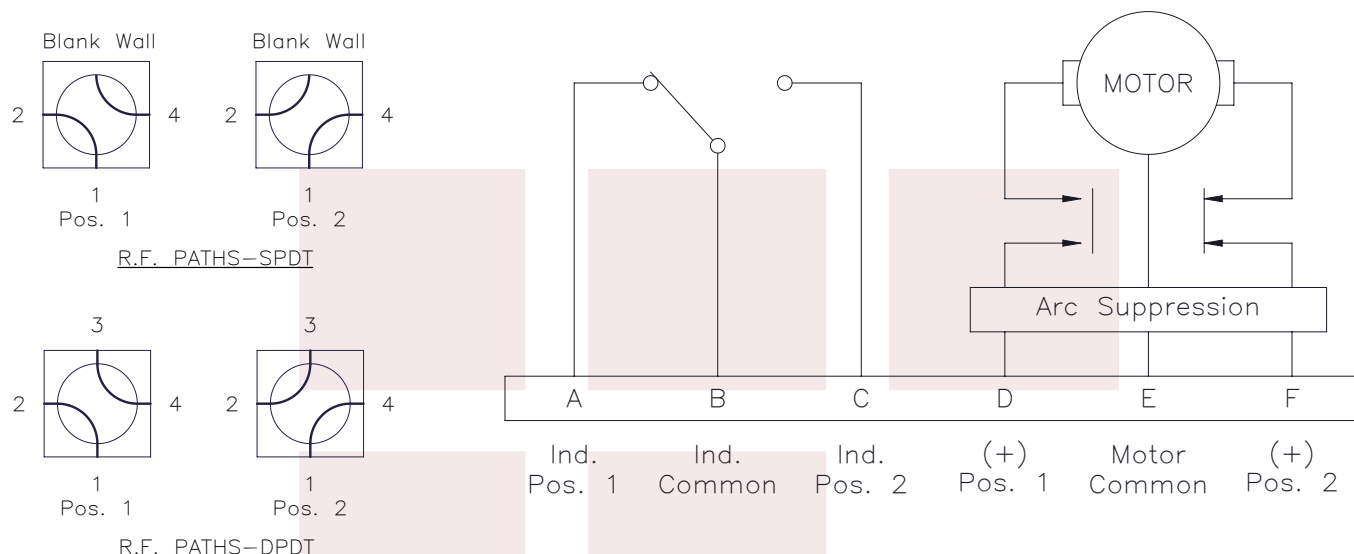
.X	±0.2
.XX	±0.01
.XXX	±0.005

NOTES:

1. MANUAL OVERRIDE & POSITION INDICATOR.
2. WEATHERIZED COVER WITH CLEAR VIEWING WINDOW.
3. FOR ACCESS TO MANUAL OVERRIDE LOOSEN (2) CAPTIVE SCREWS.

*STANDARD TOLERANCES APPLY ONLY TO DIMENSIONS IN INCHES

Fairview Microwave an INFINITE brand		NOTES: 1. UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE NOMINAL. 2. ALL SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE AT ANY TIME. 3. DIMENSIONS ARE IN INCHES [mm].				
TITLE		DWG NO		CAGE CODE		
WR-159 Waveguide Electromechanical Relay Latching Switch SPDT/DPDT 7.05 GHz Max Freq., 12,000 Watts CPR Flat, 28V, Self Cut Off		FMWGS6032		3FKR5		
CAD FILE	07/26/19	SHEET	1 OF 2	SCALE	N/A	SIZE A 7361



STANDARD TOLERANCES

.X ± 0.2
.XX ± 0.01
.XXX ± 0.005

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CPR Flat, 28V, Self Cut Off

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