

WRD-650 Double Ridge Waveguide Latching Relay Switch SPDT/DPDT, 6.5 GHz to 18 GHz Frequency Band, 8,500 Watts, UG Cover, 12V, TTL

The FMWGS6047 electromechanical relay switch supports double ridge WRD-650 waveguide ports and operates across an ultra-wide frequency range from 6.5 GHz to 18 GHz. The switch 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 TTL Logic controlled 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 0.35 dB max insertion loss, 60 dB min Isolation, 1.18:1 max VSWR, and an operating life of 250K cycles minimum. The design operates across a temperature range of -40°C to +85°C, requires +12Vdc nominal bias voltage, and has an input power rating of up to 8.5 KW CW maximum. The double ridge waveguide ports have standard UG Cover Flanges. The rugged package design is fully weatherized for up to 100% humidity exposure and supports a quick connect circular 10 pin MIL-SPEC DC bias connector with mate included.

Electrical Specifications

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

| Description | Min | Typ | Max | Units |
|------------------------------|-----|-----|--------|--------|
| Frequency Range | 6.5 | | 18 | GHz |
| Operating Voltage | 10 | 12 | 20 | Volts |
| Actuating Current @ 12 Volts | | | 1 | A |
| VSWR | | | 1.18:1 | |
| Insertion Loss | | | 0.35 | dB |
| Isolation | 60 | | | dB |
| Switching Time | | 100 | | ms |
| Input Power (CW) | | | 8.5 | kWatts |

Mechanical Specifications

Size

| | |
|--------------------|----------------|
| Operating Life | 250,000 Cycles |
| Operating Pressure | 30 psig |

Configuration

| | |
|----------------------------|----------------|
| Waveguide Size | WRD-650 |
| Flange Type | UG Cover |
| 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 |



Features:

- 6.5 to 18 GHz SPDT Double Ridge Waveguide Switch
- Optional DPDT Configuration
- WRD-650 Double Ridge Waveguide
- Insertion Loss: 0.35 dB Max
- Isolation: 60 dB min
- +12 Vdc Nominal Voltage
- Input Power Rating up to 8.5 KW CW max
- Latching Self TTL Logic 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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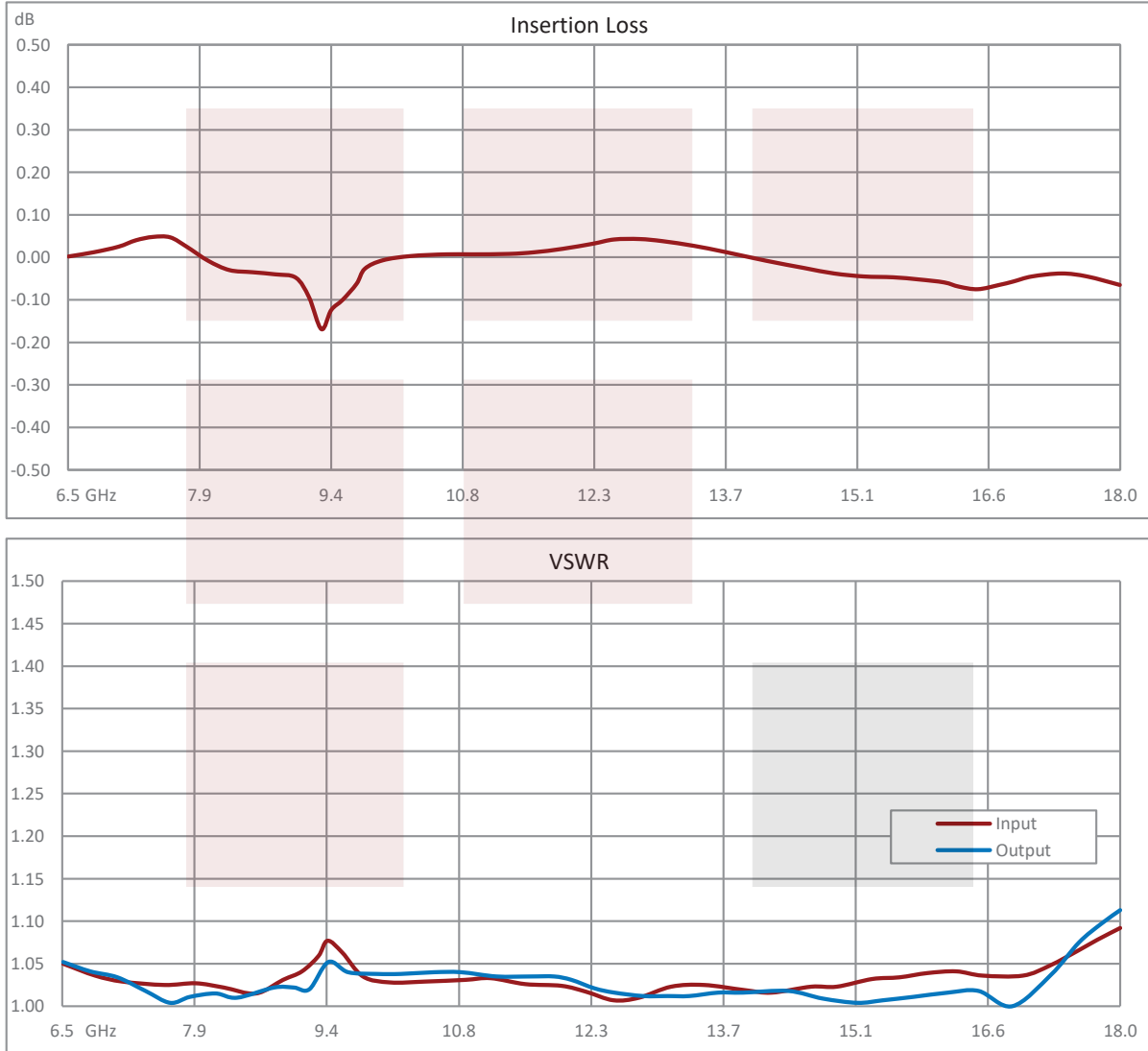
Humidity 0 to 100%, Fully Weatherized

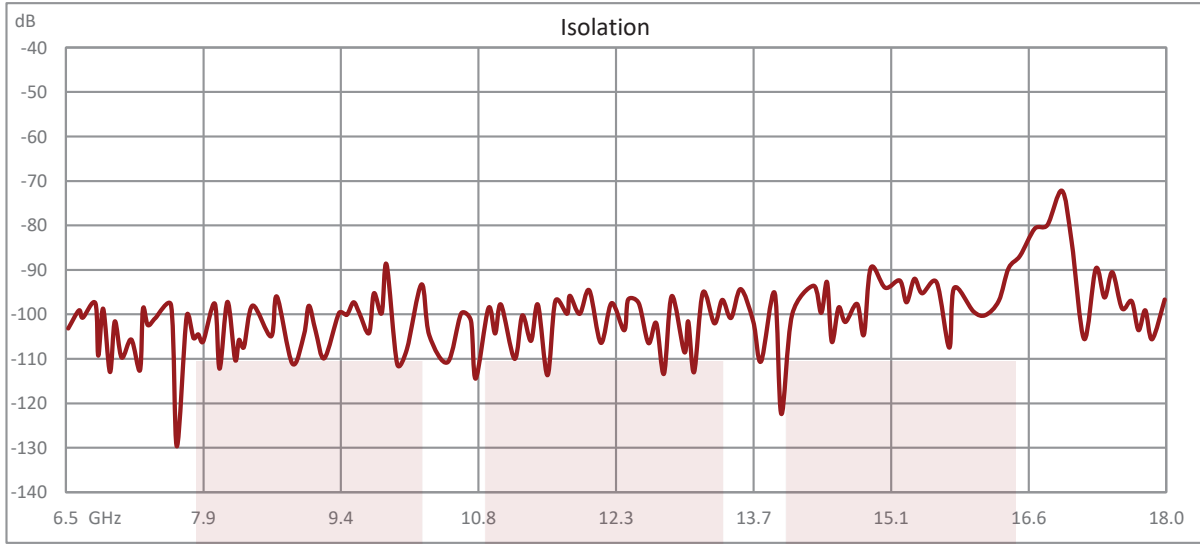
Compliance Certifications (see [product page](#) for current document)

Plotted and Other Data

Notes:

Typical Performance Data



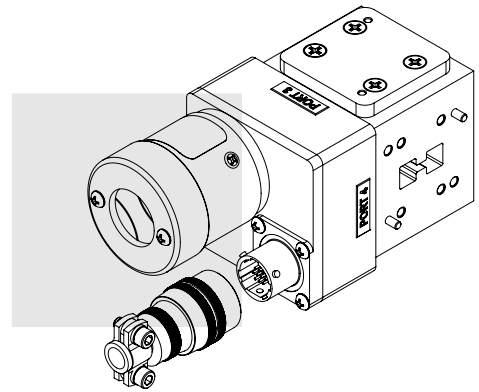
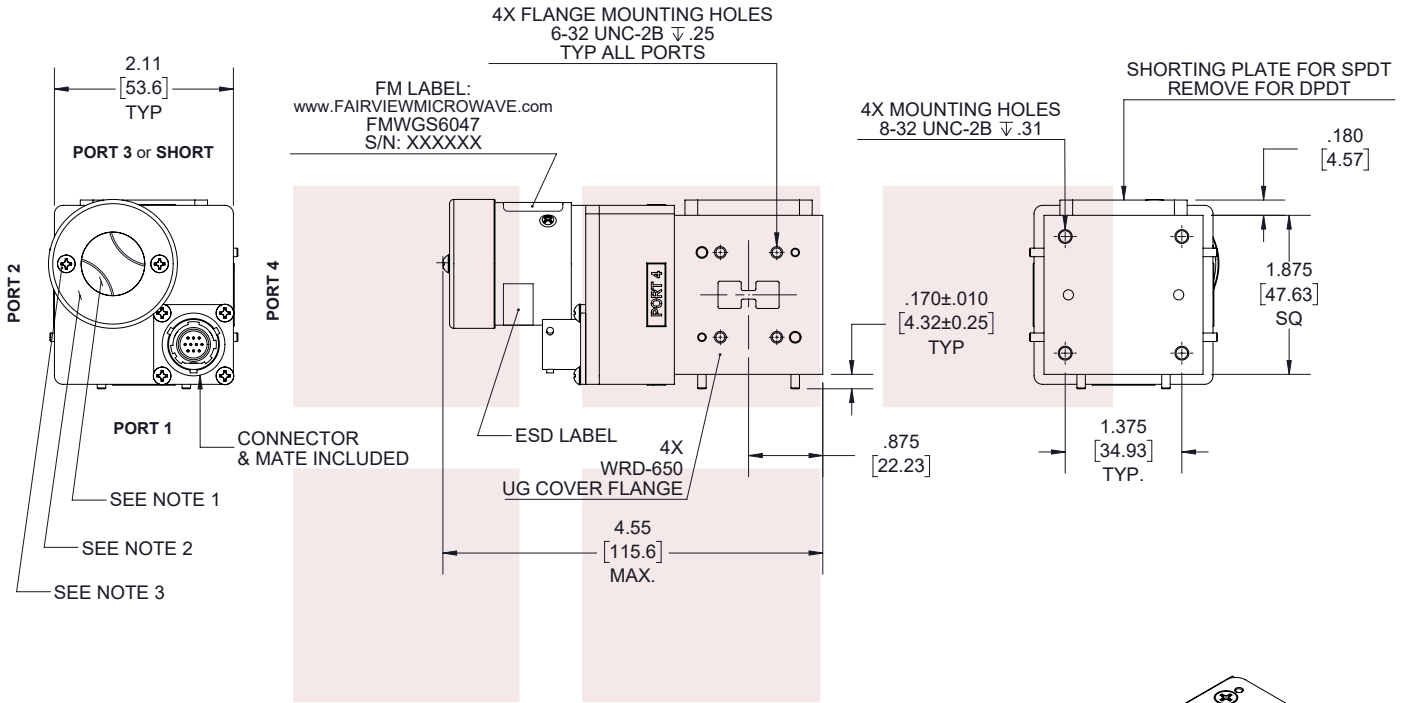


WRD-650 Double Ridge Waveguide Latching Relay Switch SPDT/DPDT, 6.5 GHz to 18 GHz Frequency Band, 8,500 Watts, UG Cover, 12V, TTL from Fairview Microwave is in-stock and available to ship same-day. All of our RF/microwave products are available off-the-shelf from our ISO 9001:2008 certified facilities in Lewisville, Texas. Fairview Microwave is RF on-demand.

For additional information on this product, please click the following link: [WRD-650 Double Ridge Waveguide Latching Relay Switch SPDT/DPDT, 6.5 GHz to 18 GHz Frequency Band, 8,500 Watts, UG Cover, 12V, TTL FMWGS6047](https://www.fairviewmicrowave.com/wrd-650-waveguide-electromechanical-relay-latching-switch-spdt-dpdt-18-ghz-fmwgs6047-p.aspx)

URL: <https://www.fairviewmicrowave.com/wrd-650-waveguide-electromechanical-relay-latching-switch-spdt-dpdt-18-ghz-fmwgs6047-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

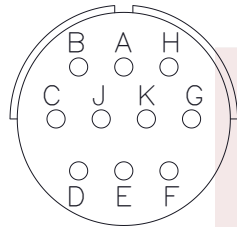
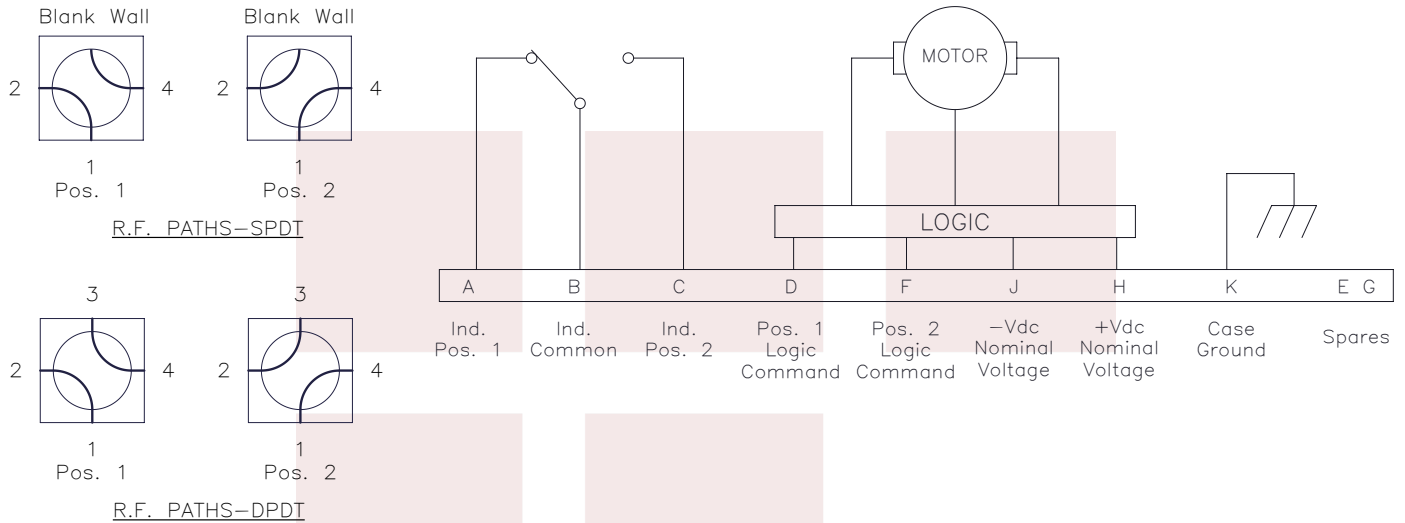
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NOTES:

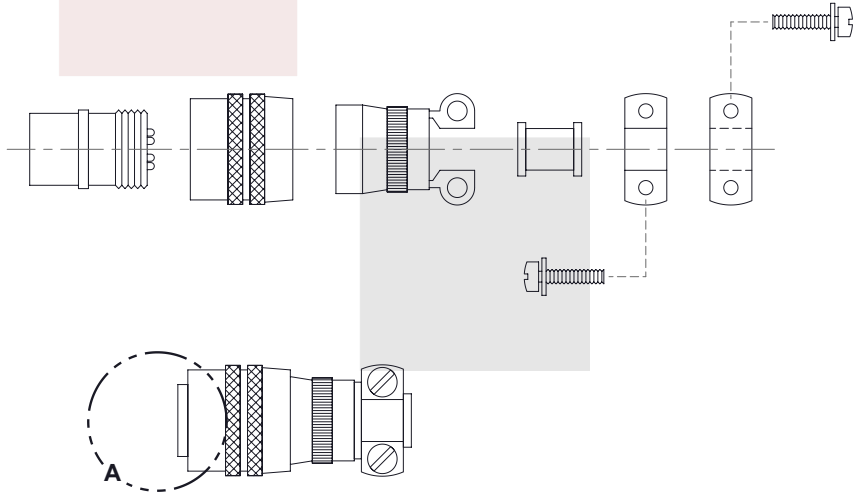
1. MANUAL OVERRIDE & POSITION INDICATOR.
2. WEATHERIZED COVER WITH CLEAR VIEWING WINDOW.
3. FOR ACCESS TO MANUAL OVERRIDE LOOSEN (2) CAPTIVE SCREWS.

*STANDARD TOLERANCES APPLY ONLY TO DIMENSIONS IN INCHES

| | | | | | | | | |
|---|----------|---|--------|-----------|-----|------|---|------|
| <p>Fairview Microwave an INFINIT[®] brand</p> | | <p>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].</p> | | | | | | |
| TITLE | | DWG NO | | CAGE CODE | | | | |
| WRD-650 Double Ridge Waveguide Latching Relay Switch SPDT/DPDT, 6.5 GHz to 18 GHz Frequency Band, 8,500 Watts, UG Cover, 12V, TTL | | FMWGS6047 | | 3FKR5 | | | | |
| CAD FILE | 07/29/19 | SHEET | 1 OF 2 | SCALE | N/A | SIZE | A | 7361 |



VIEW A



| STANDARD TOLERANCES | |
|---------------------|--------|
| .X | ±0.2 |
| .XX | ±0.01 |
| .XXX | ±0.005 |

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| | | | |
|---|----------|---|--------|
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| CAD FILE | 07/29/19 | SHEET | 2 OF 2 |
| SCALE | N/A | SIZE | A |
| | | 7361 | |