



WRD-180 Double Ridge Waveguide SPDT/DPDT Latching Relay Switch, 18 GHz to 40 GHz Frequency Band, 2,000 Watts, UG Cover, 28V, TTL

Waveguide Electromechanical Relay Switches Technical

PEWGS6053

Features

- 18 to 40 GHz SPDT Double Ridge Waveguide Switch
- Optional DPDT Configuration
- WRD-180 Double Ridge Waveguide
- Insertion Loss: 0.40 dB Max
- Isolation: 50 dB min
- +28 Vdc Nominal Voltage
- Input Power Rating up to 2 KW CW max
- Latching TTL Logic 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

Description

The PEWGS6053 electromechanical relay switch supports double ridge WRD-180 waveguide ports and operates across an ultra-wide frequency range from 18 GHz to 40 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 0.40 dB max insertion loss, 50 dB min Isolation, 1.30:1 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 2 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	Minimum	Typical	Maximum	Units
Frequency Range	18		40	GHz
Operating Voltage	21	28	32	Volts
Actuating Current @ 28 Volts			1	A
VSWR			1.3:1	
Insertion Loss			0.4	dB
Isolation	50			dB
Switching Time		80		ms
Input Power (CW)			2	kWatts

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [WRD-180 Double Ridge Waveguide SPDT/DPDT Latching Relay Switch, 18 GHz to 40 GHz Frequency Band, 2,000 Watts, UG Cover, 28V, TTL PEWGS6053](#)



WRD-180 Double Ridge Waveguide SPDT/DPDT
Latching Relay Switch, 18 GHz to 40 GHz Frequency
Band, 2,000 Watts, UG Cover, 28V, TTL

Waveguide Electromechanical Relay Switches Technical

PEWGS6053

Mechanical Specifications

Size

Operating Life	250,000 Cycles
Operating Pressure	30 psig

Configuration

Waveguide Size	WRD-180
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

Humidity	0 to 100%, Fully Weatherized
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Compliance Certifications (see [product page](#) for current document)

Plotted and Other Data

Notes:

WRD-180 Double Ridge Waveguide SPDT/DPDT Latching Relay Switch, 18 GHz to 40 GHz Frequency Band, 2,000 Watts, UG Cover, 28V, TTL from Pasternack Enterprises has same day shipment for domestic and International orders. Our RF, microwave and millimeter wave products maintain a 99.4% availability and are part of the broadest selection in the industry.

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URL: <https://www.pasternack.com/wrd-180-waveguide-electromechanical-relay-spd-dpdt-latching-switch-40-ghz-pewgs6053-p.aspx>

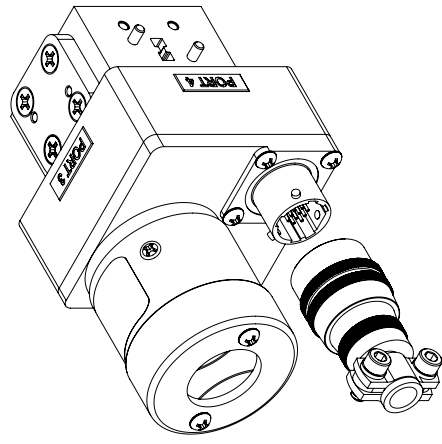
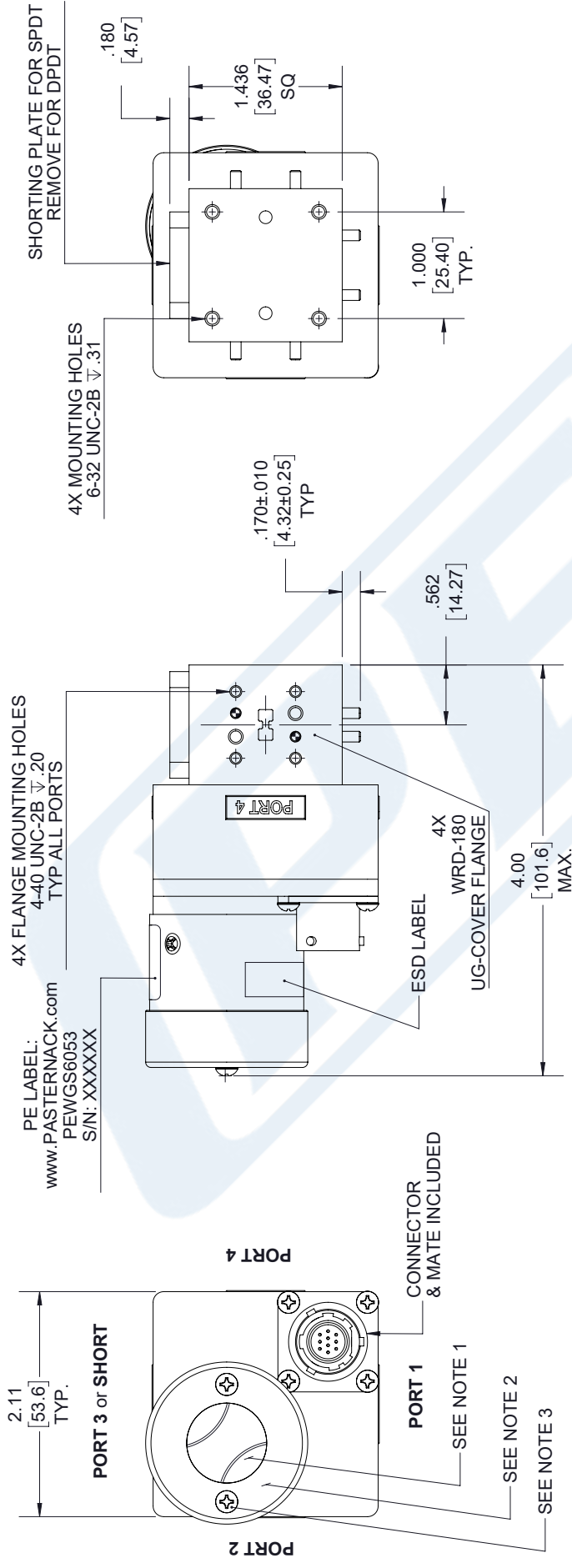
The information contained in this document is accurate to the best of our knowledge and representative of the part described herein. It may be necessary to make modifications to the part and/or the documentation of the part, in order to implement improvements. Pasternack reserves the right to make such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

PEWGS6053 CAD Drawing

WRD-180 Double Ridge Waveguide SPDT/DPDT Latching Relay Switch,
18 GHz to 40 GHz Frequency Band, 2,000 Watts, UG Cover, 28V, TTL

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
A	INITIAL RELEASE	07/16/19	T. GALLA

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

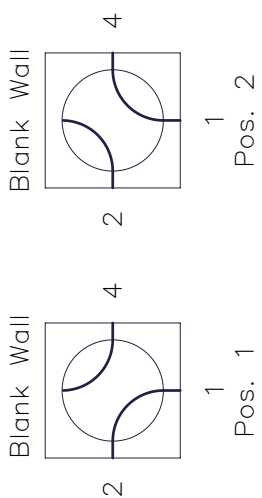


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X±.2	[5.08]	FRACTIONS										
.XX±.01	[.25]	±.132										
.XXX±.005	[.13]	ANGLES ± 1°										
<p>PE PASTERNAK an INFINITI® brand</p> <p>Pasternack Enterprises, Inc. P.O. Box 16759, Irvine, CA 92623. Phone: 1.949.261.1920 1.866.727.8376 Fax: 1.949.261.7451 www.pasternack.com e-mail: sales@pasternack.com</p>		<p>SIZE [CAGE] DRAWN BY PART NUMBER REV</p> <p>A 53919 K.DANG PEWGS6053 A</p>										

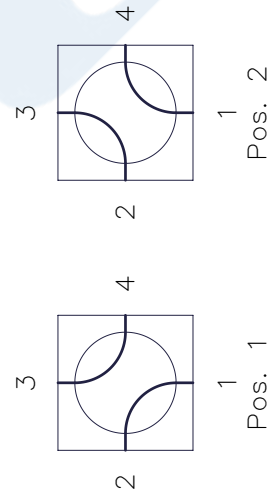
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PEWGS6053 CAD Drawing

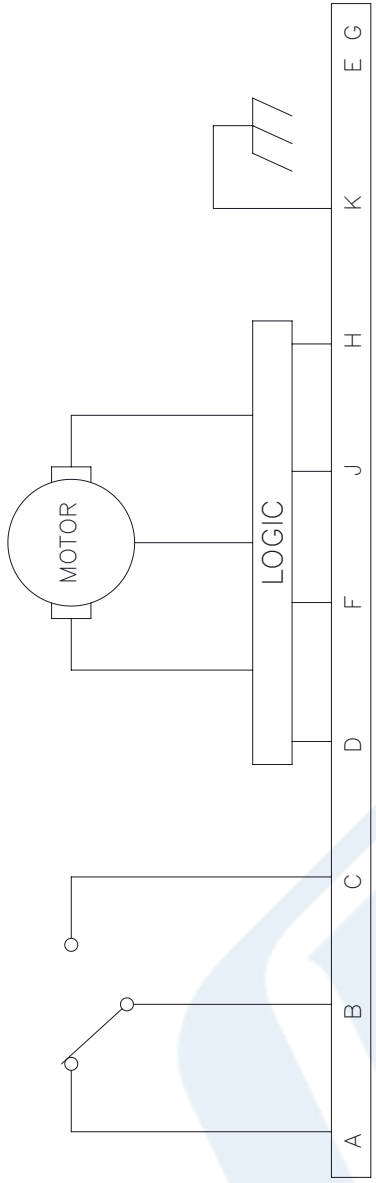
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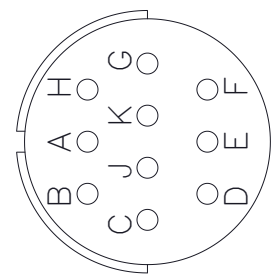
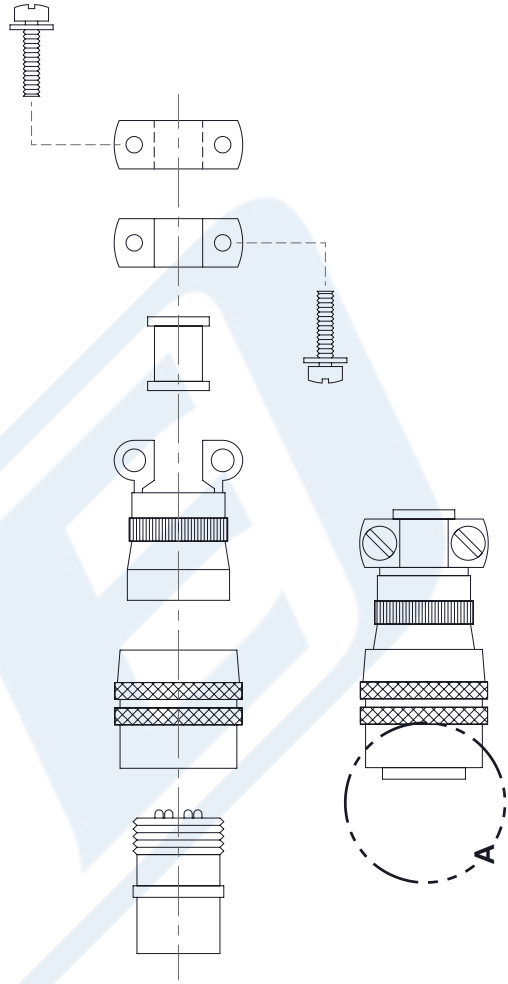
Pos. 1 Pos. 2
R.F. PATHS—SPDI



Pos. 1 Pos. 2
R.F. PATHS—DPDI



Ind. Pos. 1 Ind. Pos. 2
Pos. 1 Ind. Pos. 2
Command Logic Command Logic
Voltage Voltage
+Vdc
Nominal
Voltage
Case
Ground
Spares
E G



VIEW A

UNLESS OTHERWISE SPECIFIED
LEADING DIMENSIONS ARE INCHES
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TOLERANCES:
X±.2 [5.08]
.XX±.01 [.25]
.XXX±.005 [0.13]

FRACTIONS
±1/32
ANGLES ± 1°

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THIRD-ANGLE PROJECTION

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SHEET 2 OF 2
SCALE N/A

SIZE A CAGE 53919 DRAWN BY K.DANG PART NUMBER PEWGS6053 REV A

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