



WR-137 Waveguide Electromechanical Relay  
SPDT Latching Switch, C Band 8.2 GHz Max. Freq.,  
12,000 Watts, CPR-137F, 28V, TTL, Self Cut Off

## Waveguide Electromechanical Relay Switches Technical

PEWGS6025

### Features

- 5.85 to 8.2 GHz SPDT Waveguide Switch
- Optional DPDT Configuration
- WR-137 Waveguide
- Insertion Loss: 0.012 dB typ
- Isolation: 105 dB typ
- +28 Vdc Nominal Voltage
- Input Power Rating up to 12 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 PEWGS6025 electromechanical WR-137 waveguide switch operates across a wide frequency range from 5.85 GHz to 8.2 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 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 0.012 dB typ insertion loss, 105 dB typ Isolation, 1.03:1 typ 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-137F 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
Actuator Type	Latching
Switching Sequence	Break Before Make
Actuator Options	TTL Logic, Self Cut Off, Window Indicator, Manual Override
TTL Control	on: 2.4 to 5.5 Volts off: 0 to 0.8 Volts
TTL Control Current	1.2 mA at 5.5 Volts 1.2 mA at 0.8 Volts

Description	Minimum	Typical	Maximum	Units
Frequency Range	5.85		8.2	GHz
Impedance		50		Ohms
Operating Voltage	21	28	32	Volts
Actuating Current @ 28 Volts		212	243	mA
VSWR		1.03:1	1.05:1	

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [WR-137 Waveguide Electromechanical Relay SPDT Latching Switch, C Band 8.2 GHz Max. Freq., 12,000 Watts, CPR-137F, 28V, TTL, Self Cut Off PEWGS6025](#)



WR-137 Waveguide Electromechanical Relay  
SPDT Latching Switch, C Band 8.2 GHz Max. Freq.,  
12,000 Watts, CPR-137F, 28V, TTL, Self Cut Off

## Waveguide Electromechanical Relay Switches Technical

PEWGS6025

Insertion Loss		0.012	0.02	dB
Isolation	70	105		dB
Switching Time		56	100	ms
Input Power (CW)			12	KWatts
Input Power (Peak) 10% Duty Cycle			320	KWatts

### Mechanical Specifications

#### Size

Length	5.488 in [139.4 mm]
Width/Diameter	2.25 in [57.15 mm]
Height	2.25 in [57.15 mm]
Weight	1.721 lbs [780.63 g]
Operating Life (Cold Switching)	250,000 Cycles
Operating Pressure	30 psig

#### Configuration

Waveguide Size	WR-137
Flange Type	CPR-137F
Flange Designation	None
Body Material and Plating	Aluminum, Chem Film
Body Plating Specification	MIL-DTL-5541 Type II Class 3

#### Mechanical Specification Notes:

Production Burn-In IAW MIL-DTL-55041 1500 cycles

### Environmental Specifications

#### Temperature

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

#### Ingress Protection (IP) Rating

IP67

#### Humidity

0-100%, Fully Weatherized

#### ESD Sensitivity

ESD Sensitive Material, Transport material in Approved ESD bags. Handle in approved ESD Workstation.



Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [WR-137 Waveguide Electromechanical Relay SPDT Latching Switch, C Band 8.2 GHz Max. Freq., 12,000 Watts, CPR-137F, 28V, TTL, Self Cut Off PEWGS6025](#)



WR-137 Waveguide Electromechanical Relay  
SPDT Latching Switch, C Band 8.2 GHz Max. Freq.,  
12,000 Watts, CPR-137F, 28V, TTL, Self Cut Off

## Waveguide Electromechanical Relay Switches Technical

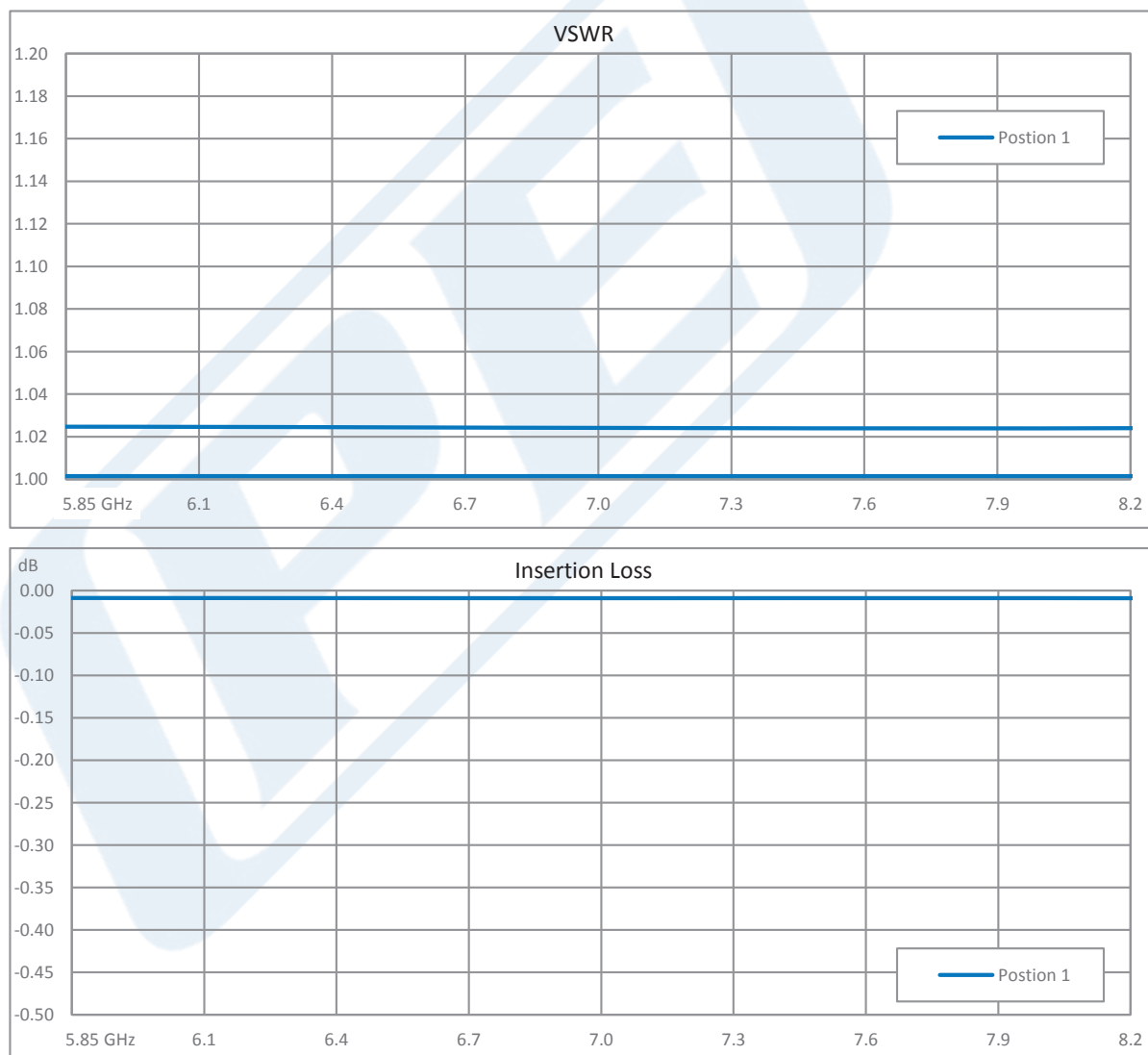
PEWGS6025

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

### Plotted and Other Data

Notes:

#### Typical Performance Data



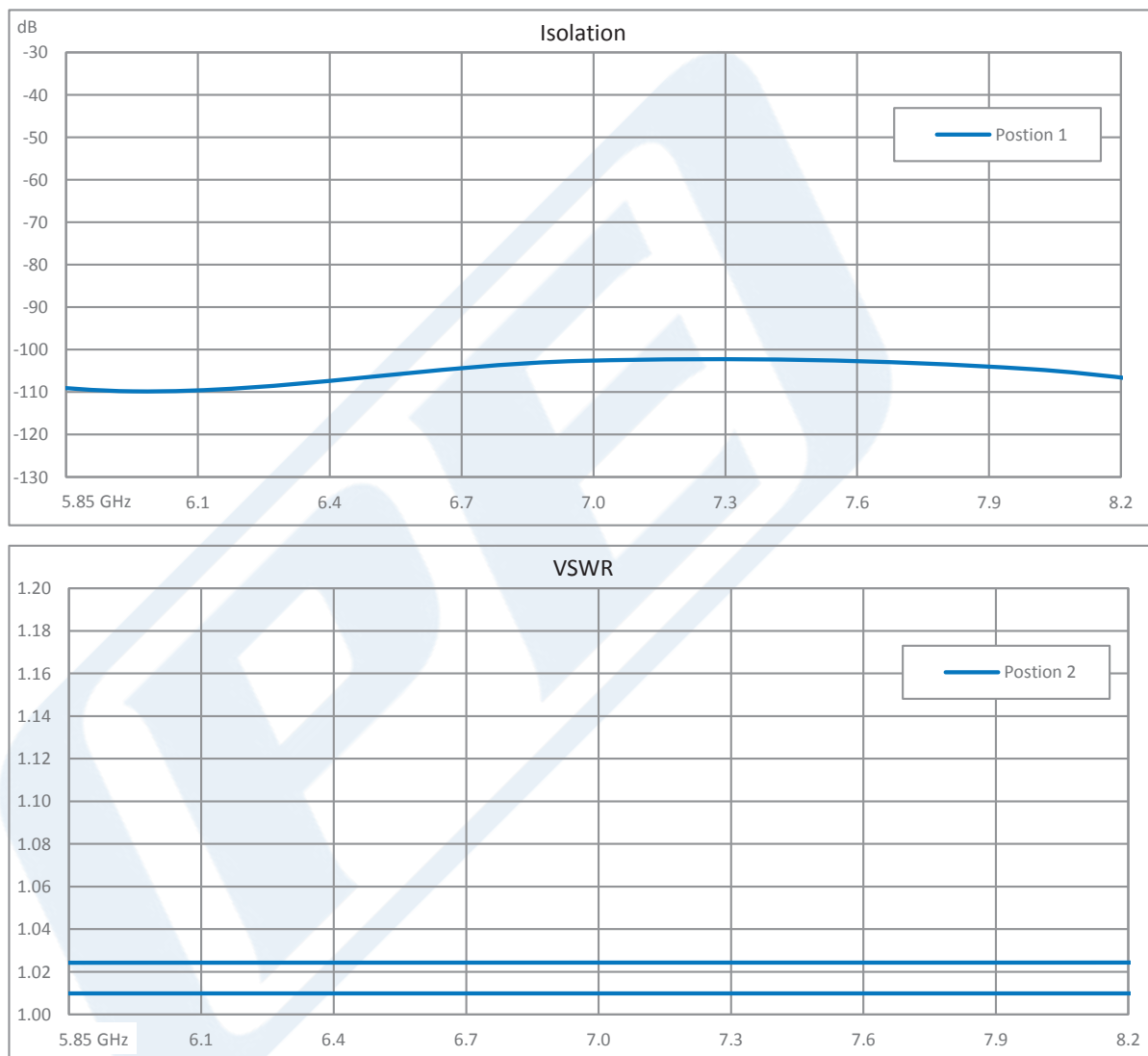
Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [WR-137 Waveguide Electromechanical Relay SPDT Latching Switch, C Band 8.2 GHz Max. Freq., 12,000 Watts, CPR-137F, 28V, TTL, Self Cut Off PEWGS6025](#)



WR-137 Waveguide Electromechanical Relay  
SPDT Latching Switch, C Band 8.2 GHz Max. Freq.,  
12,000 Watts, CPR-137F, 28V, TTL, Self Cut Off

## Waveguide Electromechanical Relay Switches Technical

PEWGS6025



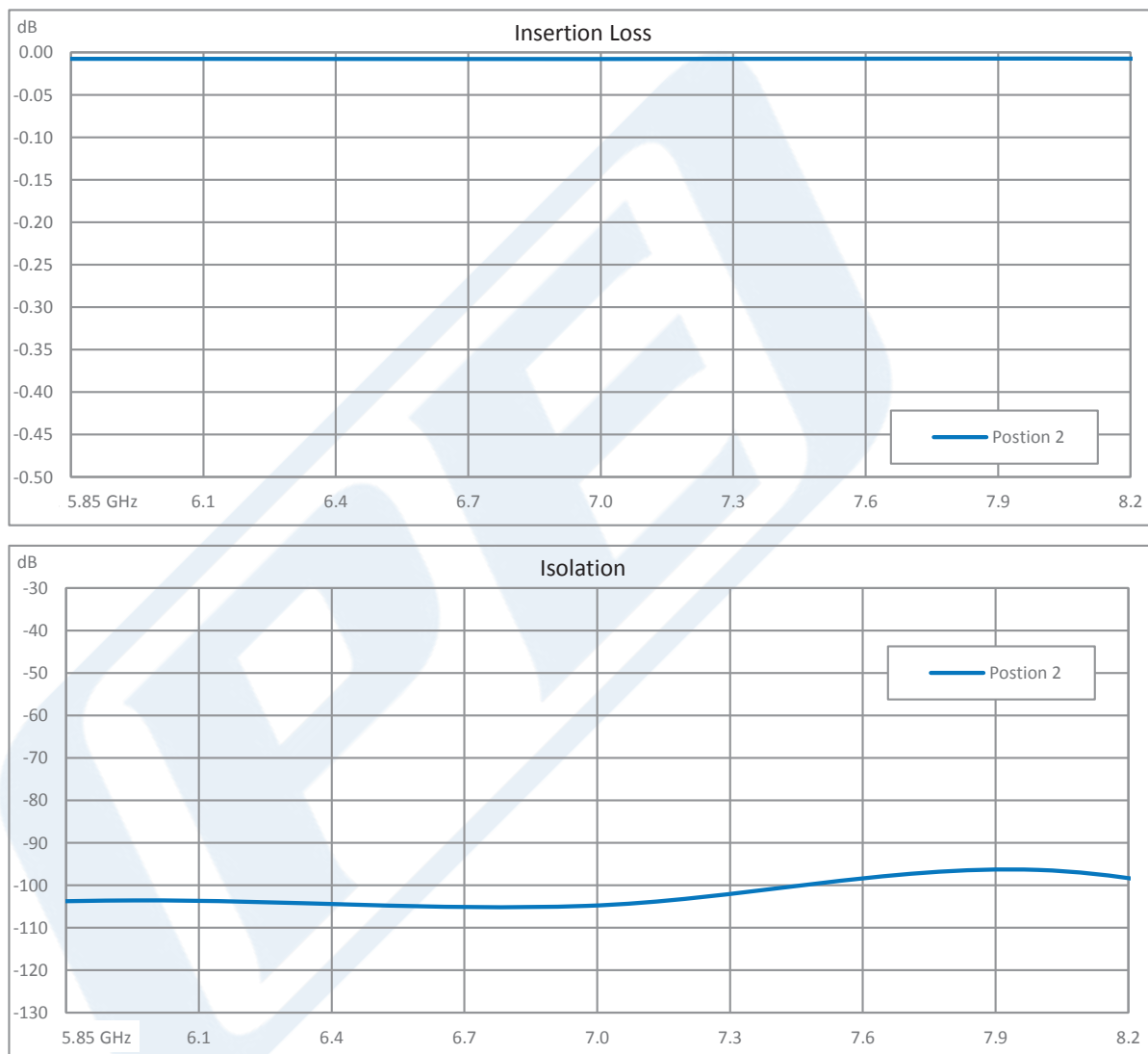
Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [WR-137 Waveguide Electromechanical Relay SPDT Latching Switch, C Band 8.2 GHz Max. Freq., 12,000 Watts, CPR-137F, 28V, TTL, Self Cut Off PEWGS6025](#)



WR-137 Waveguide Electromechanical Relay  
SPDT Latching Switch, C Band 8.2 GHz Max. Freq.,  
12,000 Watts, CPR-137F, 28V, TTL, Self Cut Off

## Waveguide Electromechanical Relay Switches Technical

PEWGS6025



Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [WR-137 Waveguide Electromechanical Relay SPDT Latching Switch, C Band 8.2 GHz Max. Freq., 12,000 Watts, CPR-137F, 28V, TTL, Self Cut Off PEWGS6025](#)



WR-137 Waveguide Electromechanical Relay  
SPDT Latching Switch, C Band 8.2 GHz Max. Freq.,  
12,000 Watts, CPR-137F, 28V, TTL, Self Cut Off

## Waveguide Electromechanical Relay Switches Technical

PEWGS6025

WR-137 Waveguide Electromechanical Relay SPDT Latching Switch, C Band 8.2 GHz Max. Freq., 12,000 Watts, CPR-137F, 28V, TTL, Self Cut Off 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.

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [WR-137 Waveguide Electromechanical Relay SPDT Latching Switch, C Band 8.2 GHz Max. Freq., 12,000 Watts, CPR-137F, 28V, TTL, Self Cut Off PEWGS6025](https://www.pasternack.com/wr-137-waveguide-electromechanical-relay-spdt-latching-switch-8.2-ghz-pewgs6025-p.aspx)

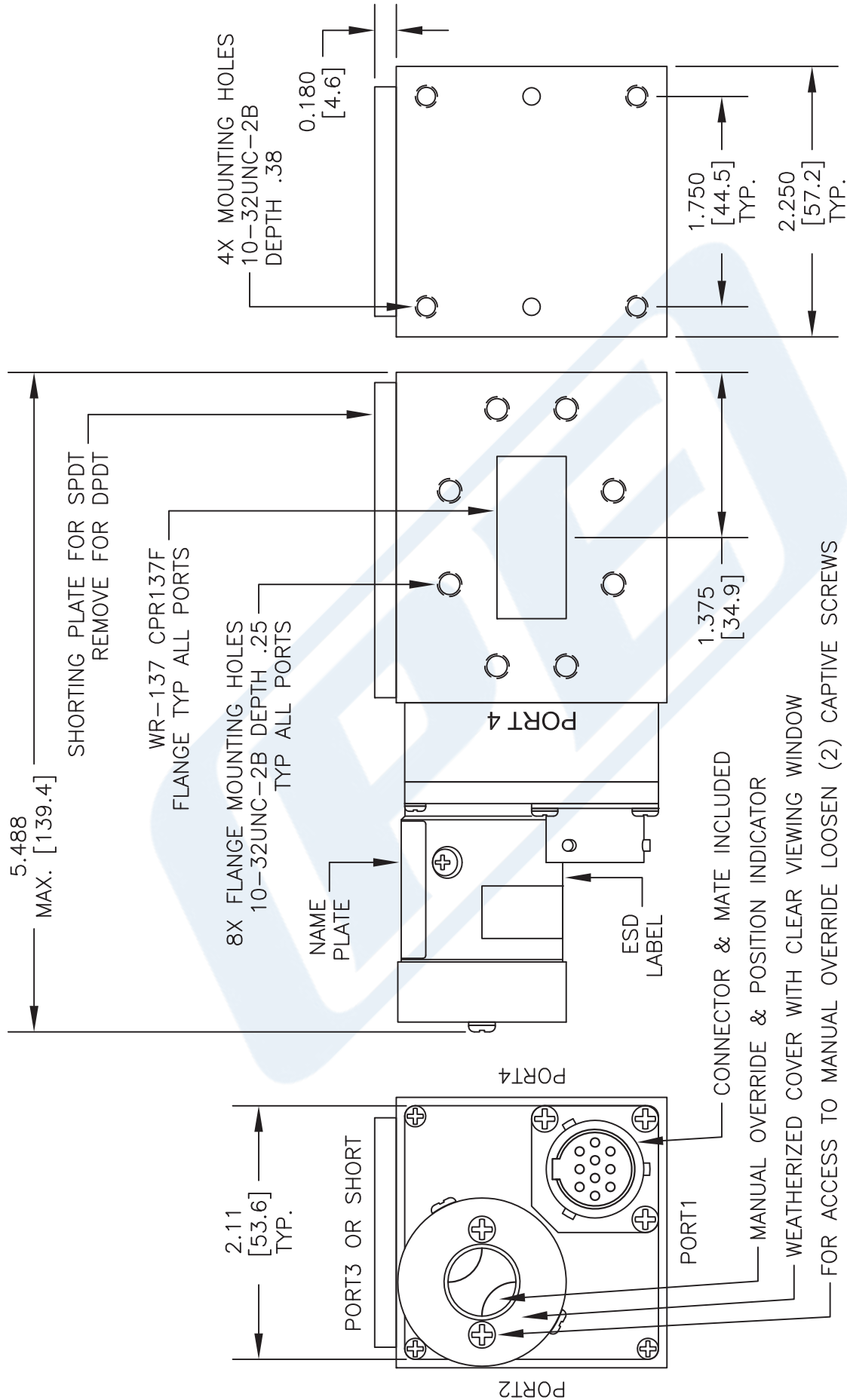
URL: <https://www.pasternack.com/wr-137-waveguide-electromechanical-relay-spdt-latching-switch-8.2-ghz-pewgs6025-p.aspx>

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.



# PEWGS6025 CAD Drawing

WR-137 Waveguide Electromechanical Relay SPDT Latching Switch, C Band  
8.2 GHz Max. Freq., 12,000 Watts, CPR-137F, 28V, TTL, Self Cut Off



DWG TITLE

**PEWGS6025**

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].

**Pasternack Enterprises, Inc.**  
P.O. Box 16759 | Irvine | CA | 92623  
Phone: (949) 261-1920 | Fax: (949) 261-7451  
Website: www.pasternack.com | E-Mail: sales@pasternack.com

CAGE CODE 53919

CAD FILE 012417

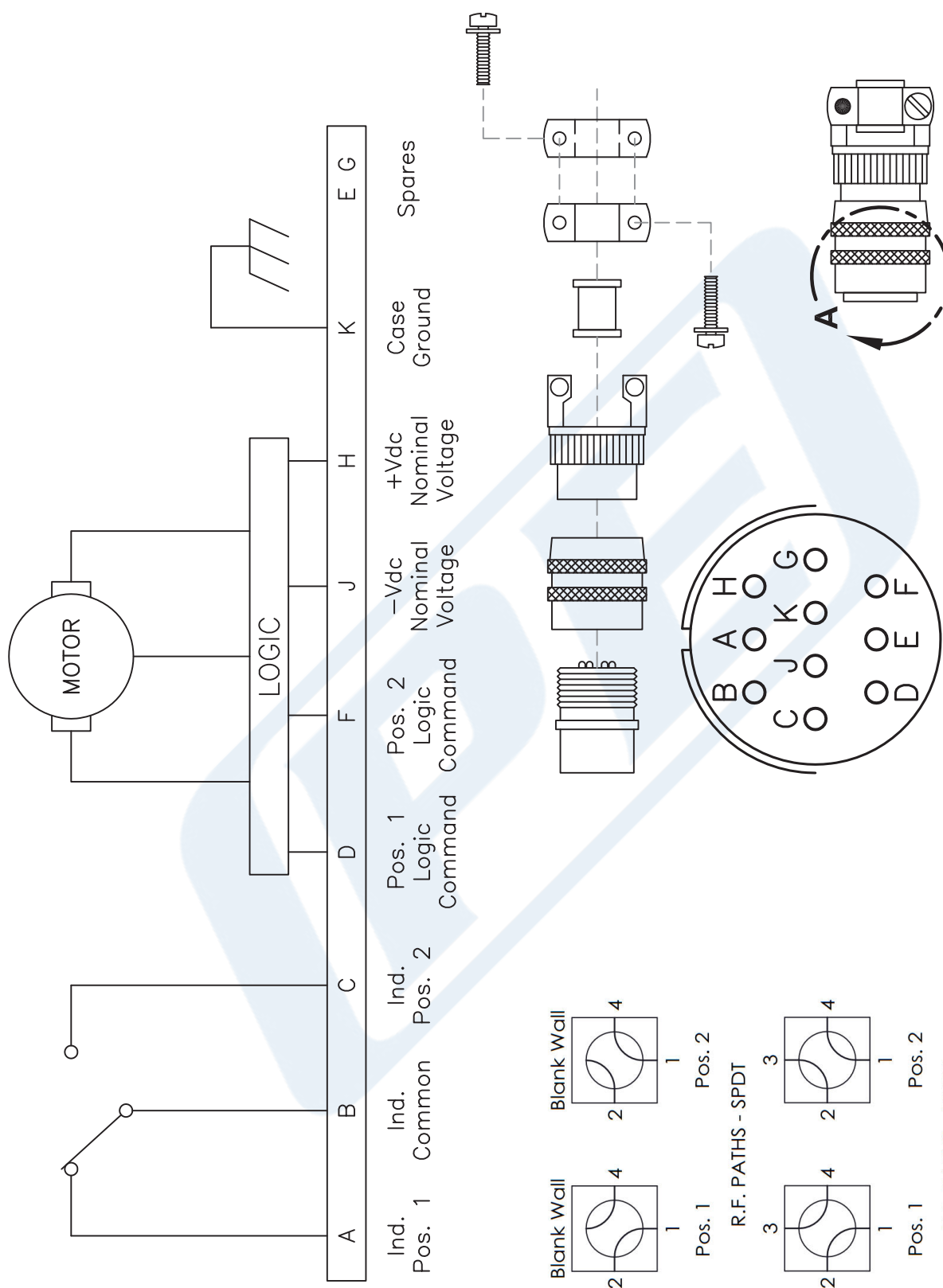
SCALE N/A

SIZE A

2233

WR-137 Waveguide Electromechanical Relay SPDT Latching Switch, C Band  
8.2 GHz Max. Freq., 12,000 Watts, CPR-137F, 28V, TTL, Self Cut Off

WR-137 Waveguide Electromechanical Relay SPDT Latching Switch, C Band  
8.2 GHz Max. Freq., 12,000 Watts, CPR-137F, 28V, TTL, Self Cut Off



## View A

DWG TITLE

PEWGS6025

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].

**Phone:** (949) 201-1922 | **Fax:** (949) 201-7431  
**Website:** [www.pasternack.com](http://www.pasternack.com) | **E-Mail:** [sales@pasternack.com](mailto:sales@pasternack.com)

**SIZE A**

2233

CAD FILE 012417

2233