



## SP4T Electromechanical Relay Normally Open Switch DC to 10 GHz, N, 160 Watts, 12V Control

### Electromechanical Relay Switches Technical Data Sheet

**PE71S6190**

#### Features

- Single Pole Four Throw Relay Switch
- DC to 10 GHz Frequency Range
- 1M Cycle Min Operating Life
- Normally Open Actuator
- Insertion Loss 0.6 dB max
- Isolation 60 dB min
- 160 Watts Avg Power Max
- Switching Sequence Break Before Make

#### Applications

- Test & Measurement
- Communications System
- Instrumentation

#### Description

The PE71S6190 is a Single Pole Four Throw Electromechanical Relay Switch that operates from DC to 10 GHz and has a rating of 160 Watts input power (CW) in a Break Before Make condition. The design features a Normally Open Actuator and is rated for 1M Life Cycles for high reliability operation. Insertion loss is specified from 0.25 dB max and Isolation from 80 dB min, with +12 Vdc operating voltage and performance is guaranteed over -25°C to +65°C. The package interface uses solder terminals and N Female connectors.

#### Electrical Specifications

|                    |                   |
|--------------------|-------------------|
| Switch Type        | SP4T, Reflective  |
| Actuator Type      | Normally Open     |
| Switching Sequence | Break Before Make |

| Description                     | Minimum | Typical | Maximum | Units |
|---------------------------------|---------|---------|---------|-------|
| Frequency Range                 | DC      |         | 10      | GHz   |
| Impedance                       |         | 50      |         | Ohms  |
| Operating Voltage               |         | 12      |         | Volts |
| Actuating Current @ 12 Volts    |         | 255     |         | mA    |
| VSWR                            |         |         | 1.6:1   |       |
| Insertion Loss                  |         |         | 0.6     | dB    |
| Isolation                       | 60      |         |         | dB    |
| Input Power (CW)<br>(at 10 GHz) |         |         | 160     | Watts |

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [SP4T Electromechanical Relay Normally Open Switch DC to 10 GHz, N, 160 Watts, 12V Control PE71S6190](#)



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### Performance by Frequency

| Description         | F1      | F2     | F3      | F4 | F5 | Units |
|---------------------|---------|--------|---------|----|----|-------|
| Frequency Range     | DC to 4 | 4 to 8 | 8 to 10 |    |    | GHz   |
| VSWR, Max           | 1.25:1  | 1.4:1  | 1.6:1   |    |    |       |
| Insertion Loss, Max | 0.25    | 0.4    | 0.6     |    |    | dB    |
| Isolation, Min      | 80      | 70     | 60      |    |    | dB    |

### Mechanical Specifications

#### Size

|                           |                      |
|---------------------------|----------------------|
| Length                    | 2.3 in [58.42 mm]    |
| Width/Diameter            | 2.47 in [62.74 mm]   |
| Height                    | 2.47 in [62.74 mm]   |
| Weight                    | 1.156 lbs [524.35 g] |
| Body Material and Plating | Aluminum             |
| Package Type              | Connectorized Module |

|                |                  |
|----------------|------------------|
| Operating Life | 1,000,000 Cycles |
| Switching Time | 50 ms Max        |

#### Connectors

|                                           |                            |
|-------------------------------------------|----------------------------|
| RF Connector Type                         | N Female                   |
| RF Connector Contact Material and Plating | Beryllium Copper, Gold     |
| RF Connector Body Material and Plating    | Passivated Stainless Steel |
| Control Connector                         | Solder Pin                 |

### Environmental Specifications

#### Temperature

|                 |                                                                                                      |
|-----------------|------------------------------------------------------------------------------------------------------|
| Operating Range | -25 to +65 deg C                                                                                     |
| ESD Sensitivity | ESD Sensitive Material. Transport material in Approved ESD bags. Handle in approved ESD Workstation. |



Environmental Specification Notes:  
Designed to meet MIL-DTL-3928

### Compliance Certifications (visit [www.Pasternack.com](http://www.Pasternack.com) for current document)

Not RoHS Compliant

### Plotted and Other Data

Notes:

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [SP4T Electromechanical Relay Normally Open Switch DC to 10 GHz, N, 160 Watts, 12V Control PE71S6190](#)

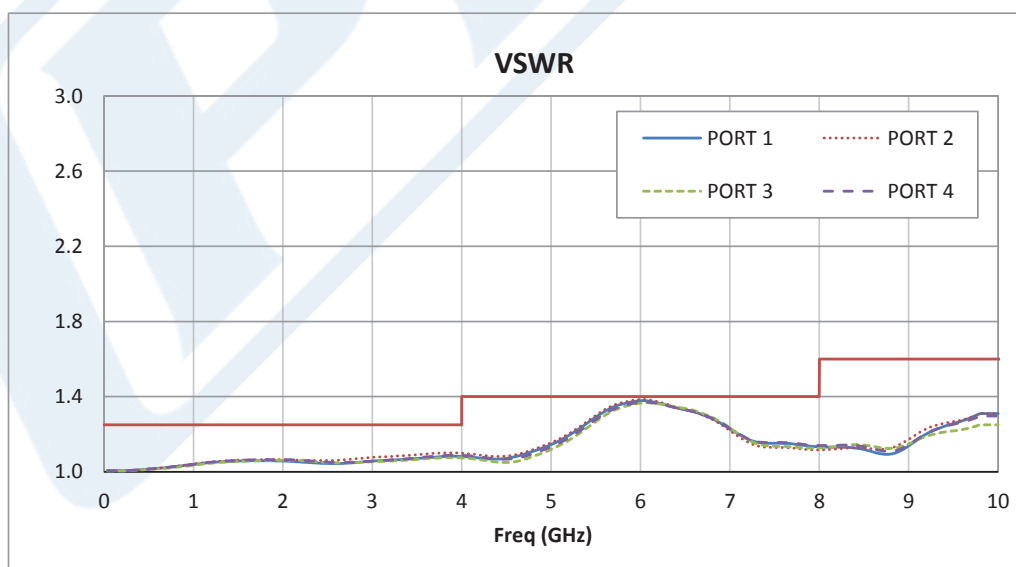
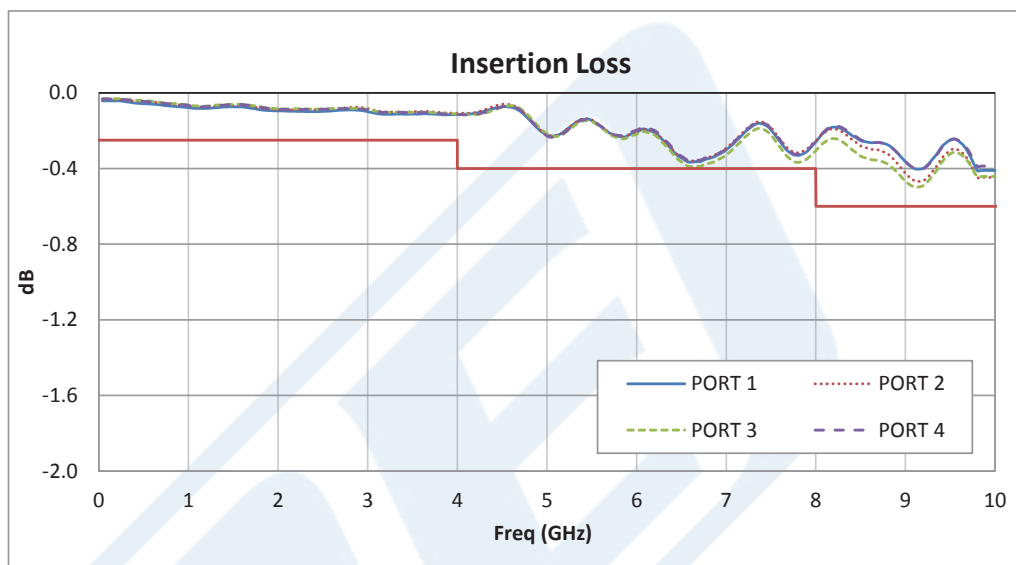


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## Electromechanical Relay Switches Technical Data

**PE71S6190**

### Typical Performance Data



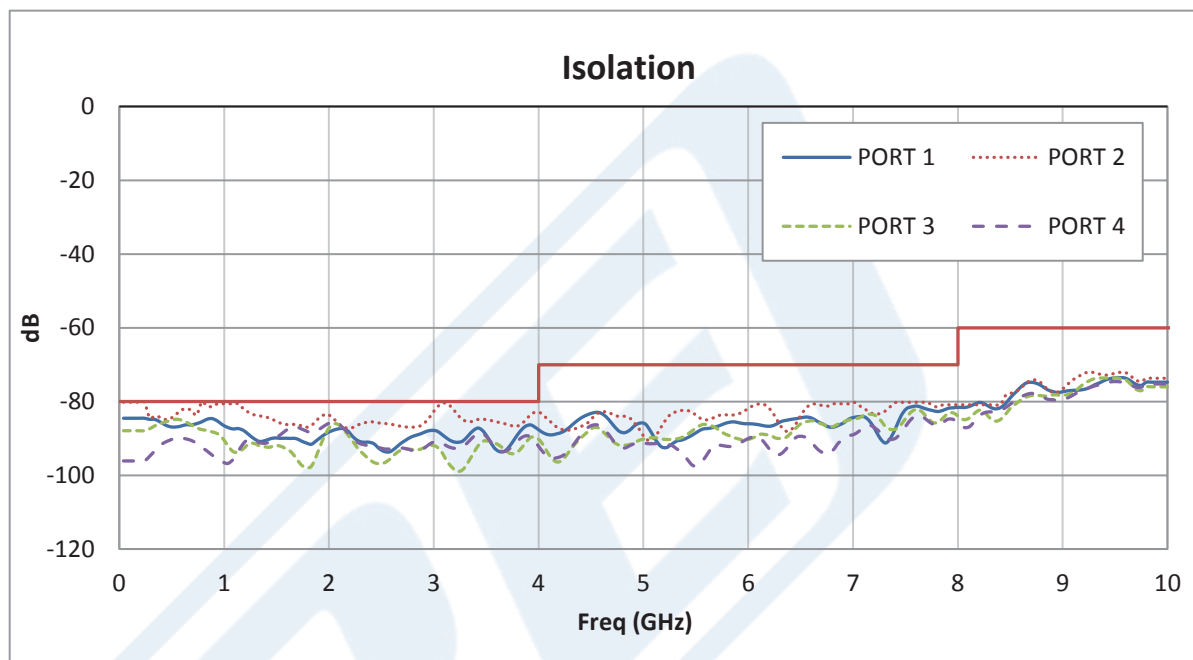
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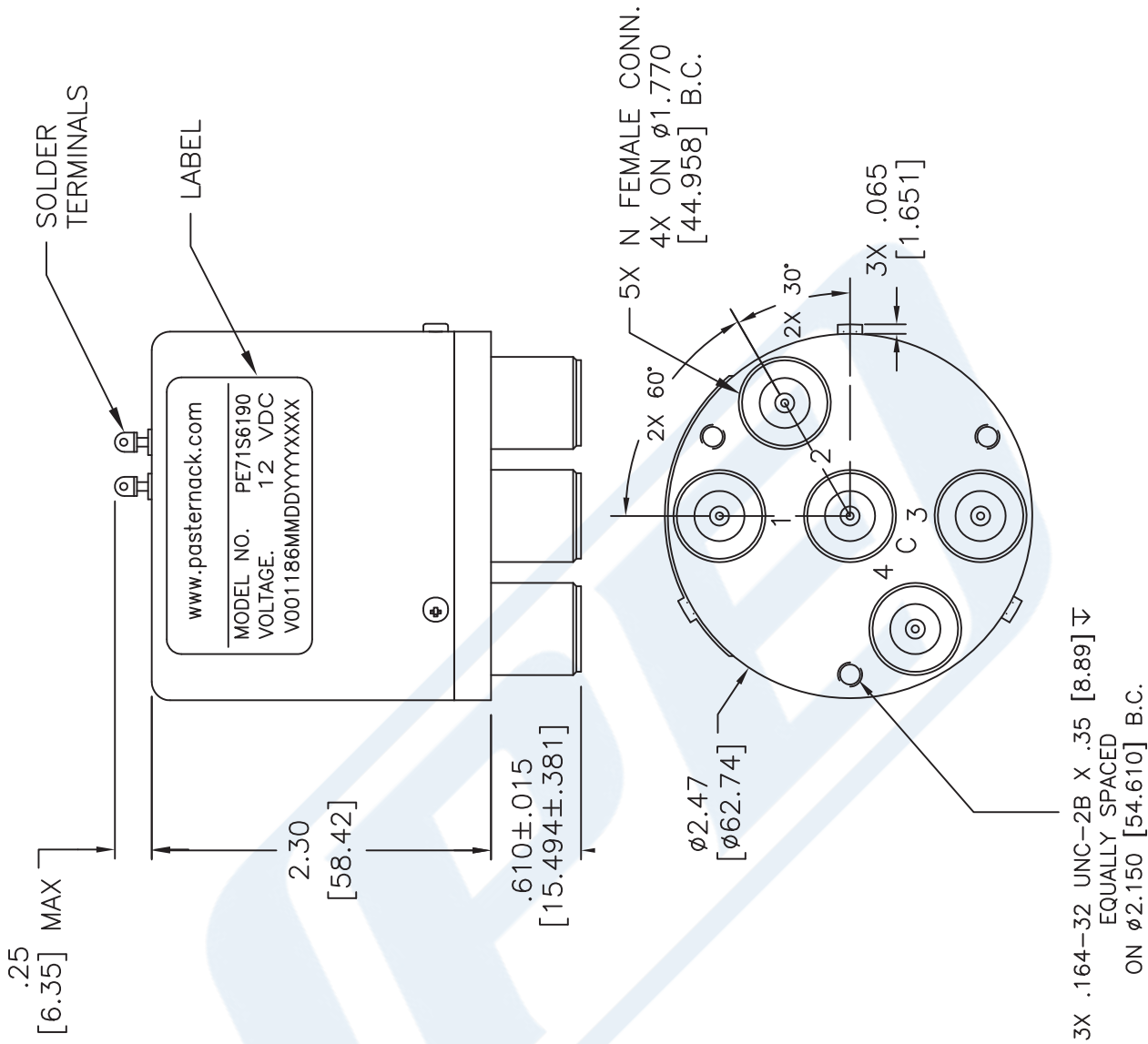
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The information contained in this document is accurate to the best of our knowledge and representative of the part described herein. It may be necessary to make modifications to the part and/or the documentation of the part, in order to implement improvements. 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.

# PE71S6190 CAD Drawing

SP4T Electromechanical Relay Normally Open Switch  
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| UNLESS OTHERWISE SPECIFIED<br>DIMENSIONS ARE IN INCHES.<br>TOLERANCES ARE: |                                        | ANGLES<br>±1°<br>FRACTIONS<br>±1/16 |
|----------------------------------------------------------------------------|----------------------------------------|-------------------------------------|
| DECIMALS                                                                   |                                        |                                     |
| .XX ± .03 (0.76)                                                           |                                        |                                     |
| .XXX ± .010 (0.254)                                                        |                                        |                                     |
| HOLE DIAMETER                                                              | TOLERANCE                              |                                     |
| .0135 TO .125<br>(0.343 TO 3.175)                                          | + .004 TO - .001<br>(+0.102 TO -0.025) |                                     |
| .126 TO .250<br>(3.200 TO 6.350)                                           | + .005 TO - .001<br>(+0.127 TO -0.025) |                                     |
| .251 TO .500<br>(6.375 TO 12.700)                                          | + .006 TO - .001<br>(+0.152 TO -0.025) |                                     |
| .501 TO .750<br>(12.725 TO 19.050)                                         | + .008 TO - .001<br>(+0.203 TO -0.025) |                                     |
| .751 TO 1.000<br>(19.075 TO 25.400)                                        | + .010 TO - .001<br>(+0.254 TO -0.025) |                                     |
| 1.001 TO 2.000<br>(25.425 TO 50.800)                                       | + .012 TO - .001<br>(+0.305 TO -0.025) |                                     |

\* THESE DIMENSIONS AND TOLERANCES  
SUPERSEDE NOTE #1 ON TITLE BLOCK.

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DWG TITLE  
**PE71S6190**

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].

FSCM NO. 53919

CAD FILE 042715

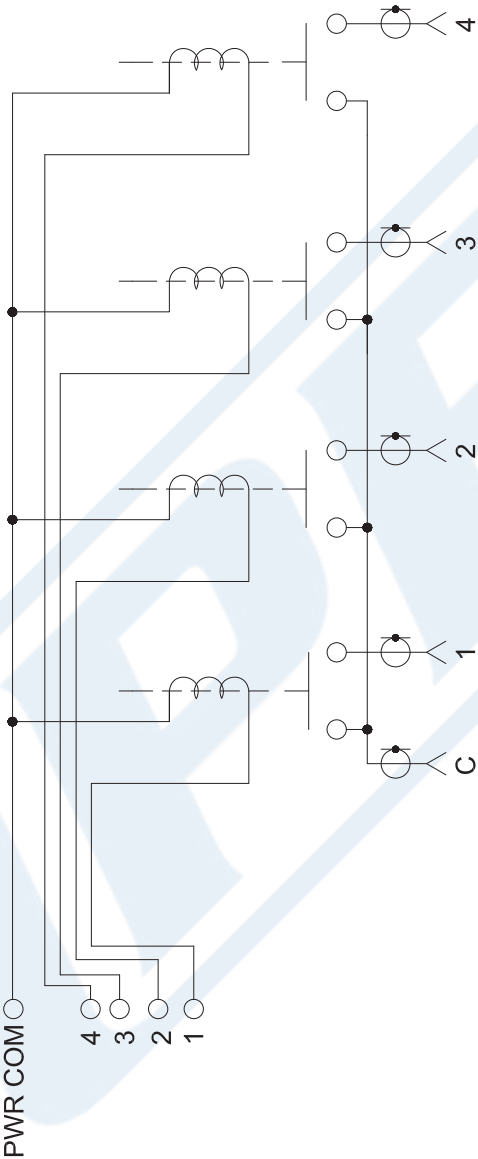
SCALE N/A

SIZE A

2233

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SCHEMATIC NORMALLY OPEN SHOWN IN DE-ENERGIZED POSITION

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SCALE N/A

SIZE A

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