



**WR-75 Waveguide Electromechanical Relay SPDT Latching Switch, X, Ku Band 15 GHz Max. Freq., 3,500 Watts, Square Cover, 12V, Self Cut Off**

## Waveguide Electromechanical Relay Switches Technical

**PEWGS6014**

### Features

- 10 to 15 GHz SPDT Waveguide Switch
- Optional DPDT Configuration
- WR-75 Waveguide with O-Rings
- Insertion Loss: 0.04 dB typ
- Isolation: 100 dB typ
- +12 Vdc Nominal Voltage
- Input Power Rating up to 3.5 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

### Description

The PEWGS6014 electromechanical WR-75 waveguide switch operates across a wide frequency range from 10 GHz to 15 GHz and is configured for single pole double throw (SPDT) operation. A shunting 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 0.04 dB typ insertion loss, 100 dB typ Isolation, 1.06:1 typ VSWR, and an operating life of 250K cycles minimum. The design operates across a temperature range of -40°C to +85°C, requires +12Vdc nominal bias voltage, and has an input power rating of up to 3.5 KW CW maximum. The waveguide ports have Grooved Square Cover Flanges (O-Rings included) for pressurized operation. 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                                            |
| Actuator Type      | Latching                                        |
| Switching Sequence | Break Before Make                               |
| Actuator Options   | Self Cut Off, Window Indicator, Manual Override |
| Polarity           | Negative Common                                 |

| Description                  | Minimum | Typical | Maximum | Units  |
|------------------------------|---------|---------|---------|--------|
| Frequency Range              | 10      |         | 15      | GHz    |
| Impedance                    |         | 50      |         | Ohms   |
| Operating Voltage            | 10      | 12      | 20      | Volts  |
| Actuating Current @ 12 Volts |         | 471     | 786     | mA     |
| VSWR                         |         | 1.06:1  | 1.1:1   |        |
| Insertion Loss               |         | 0.04    | 0.05    | dB     |
| Isolation                    | 75      | 100     |         | dB     |
| Switching Time               |         | 72      | 80      | ms     |
| Input Power (CW)             |         |         | 3.5     | KWatts |

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [WR-75 Waveguide Electromechanical Relay SPDT Latching Switch, X, Ku Band 15 GHz Max. Freq., 3,500 Watts, Square Cover, 12V, Self Cut Off PEWGS6014](#)



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Input Power (Peak) 10% Duty Cycle

100

KWatts

### Mechanical Specifications

#### Size

|                |                      |
|----------------|----------------------|
| Length         | 4.6 in [116.84 mm]   |
| Width/Diameter | 2.11 in [53.59 mm]   |
| Height         | 2.11 in [53.59 mm]   |
| Weight         | 1.176 lbs [533.42 g] |

Operating Life (Cold Switching)

250,000 Cycles

Operating Pressure

30 psig

#### Configuration

|                            |                              |
|----------------------------|------------------------------|
| Waveguide Size             | WR-75                        |
| Flange Type                | Square Cover                 |
| 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.



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

### Plotted and Other Data

Notes:

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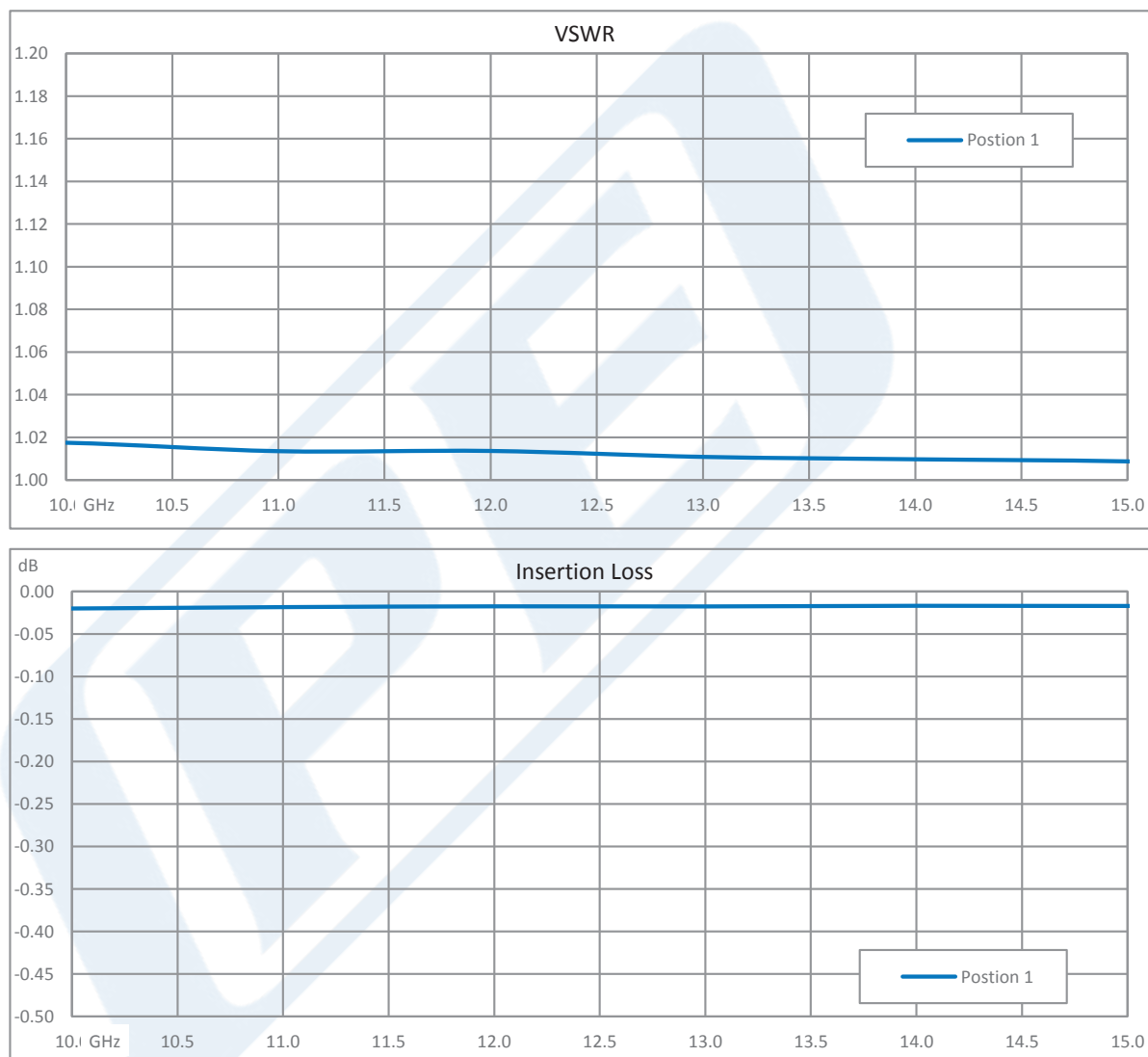


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## Waveguide Electromechanical Relay Switches Technical

PEWGS6014

Typical Performance Data



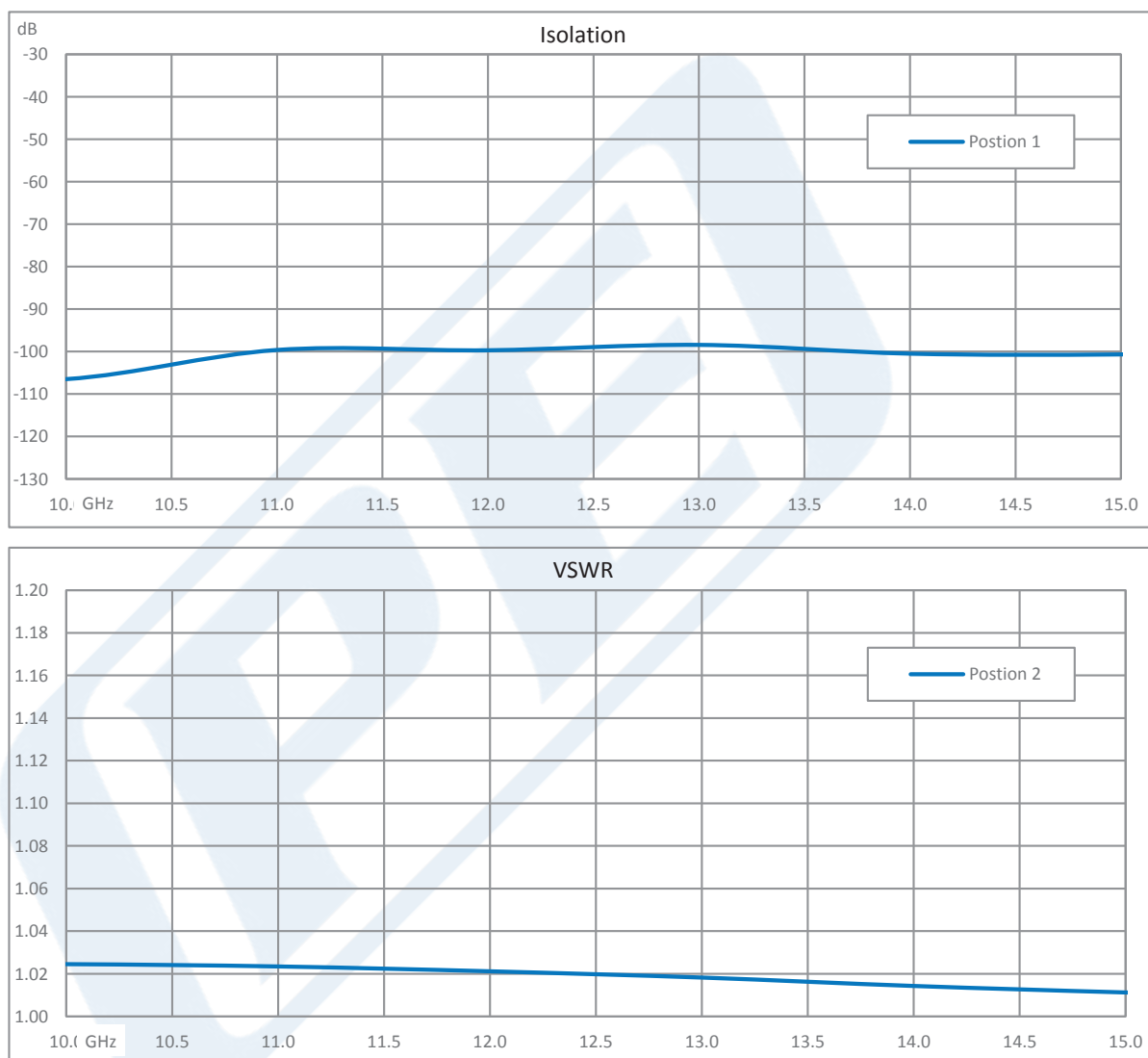
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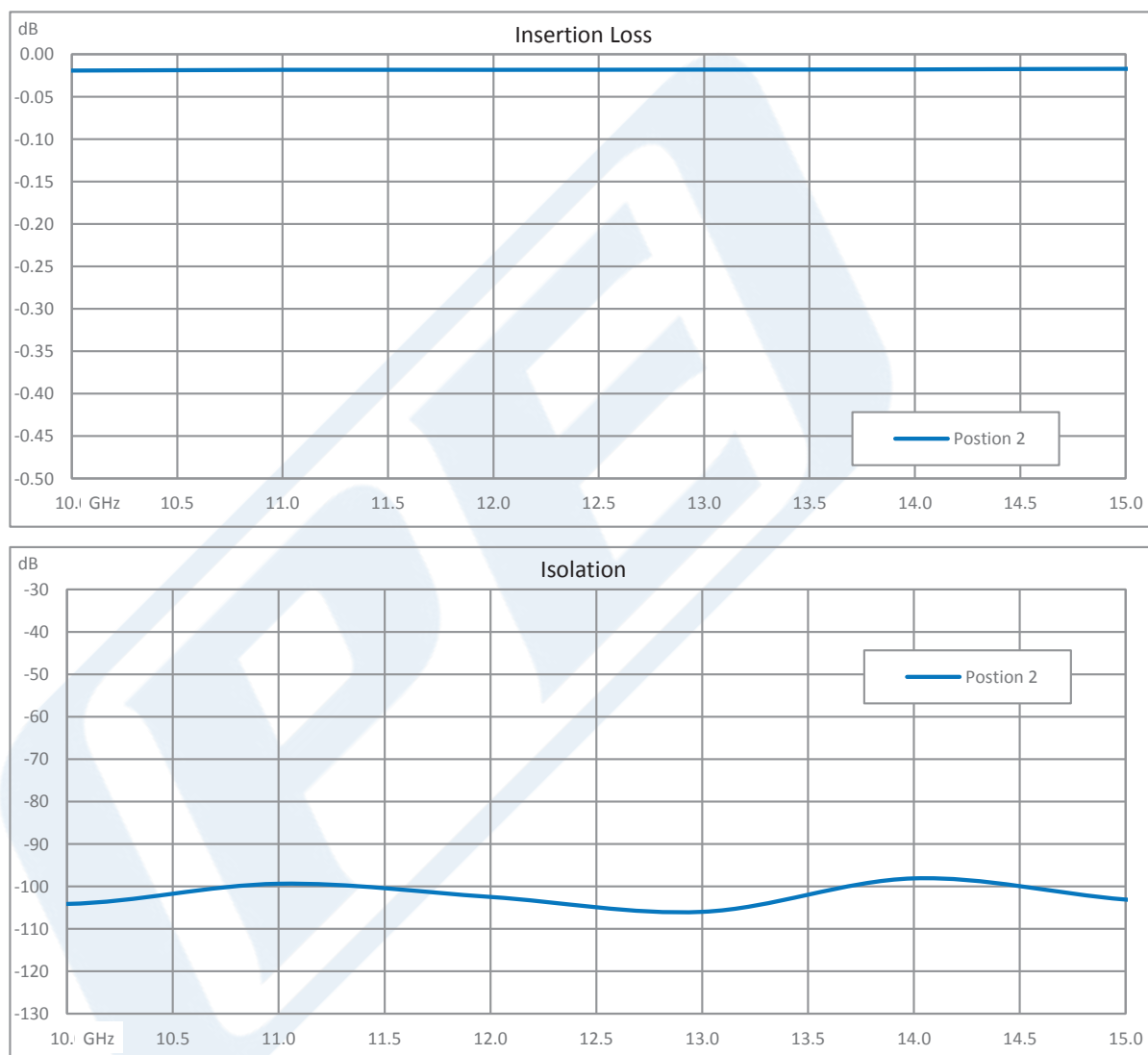
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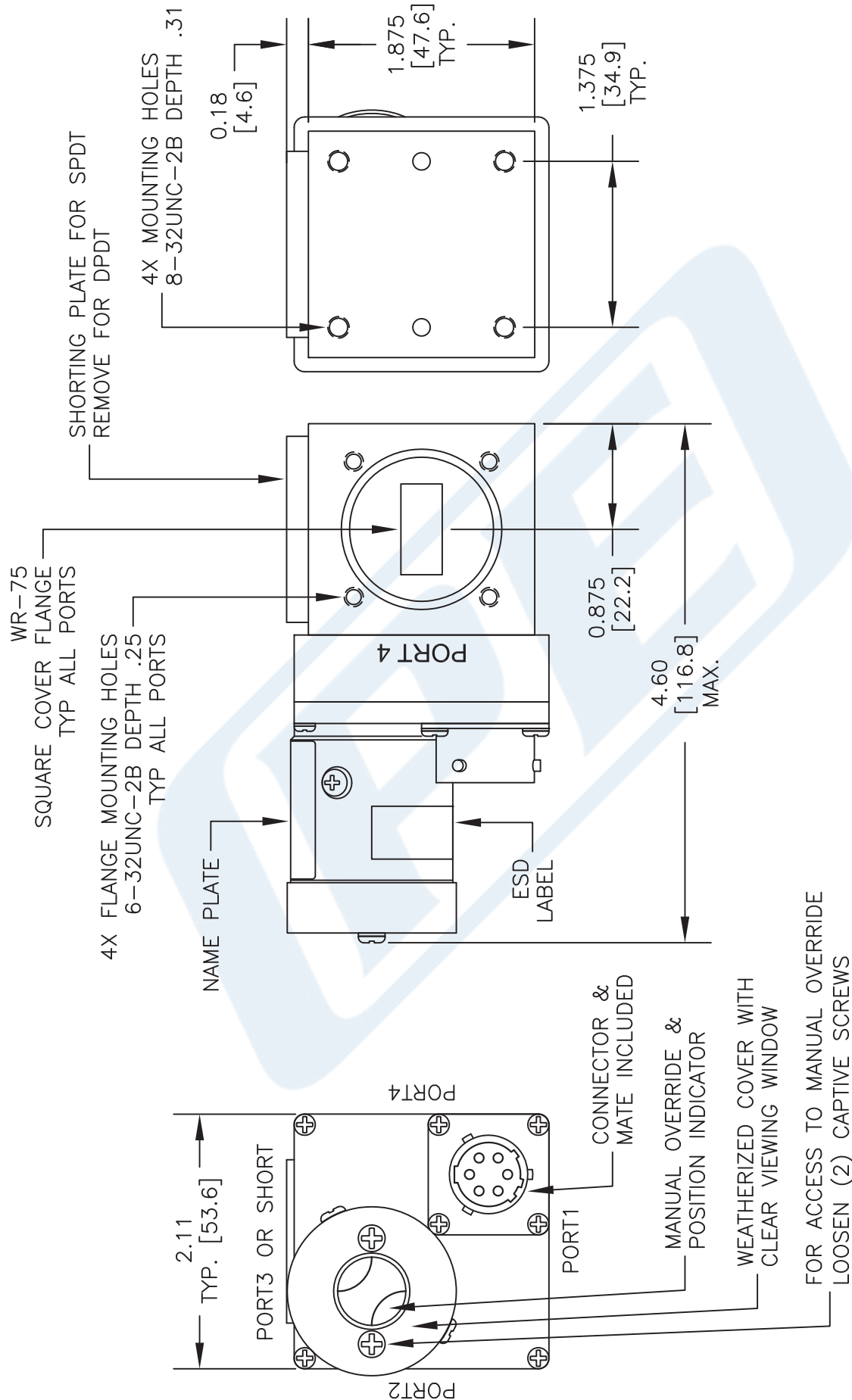
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# PEWGS6014 CAD Drawing

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DWG TITLE

**PEWGS6014**

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].

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CAGE CODE 53919

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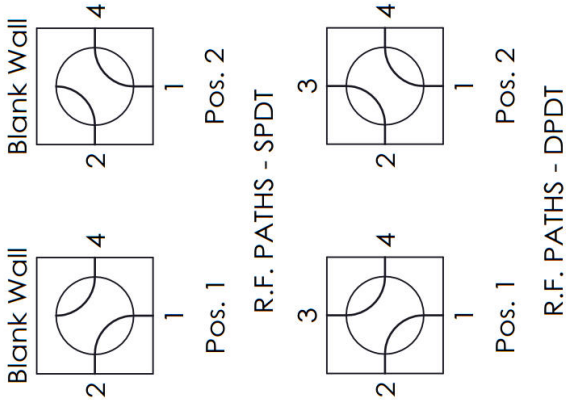
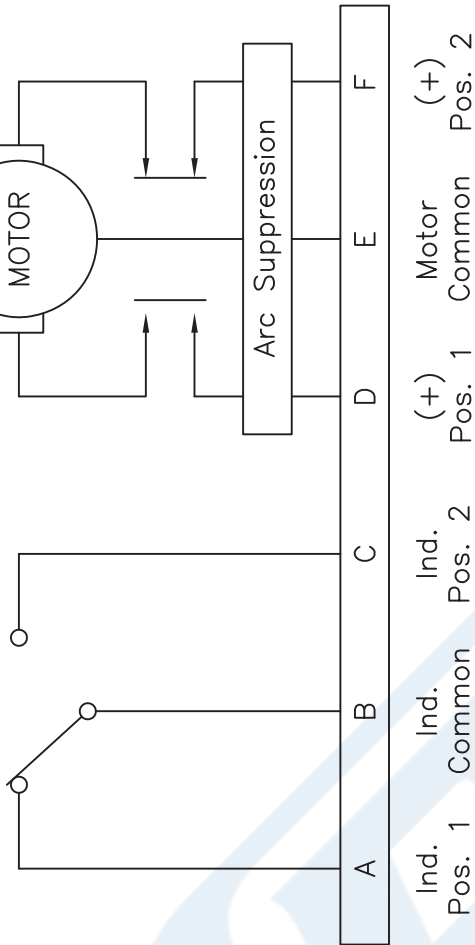
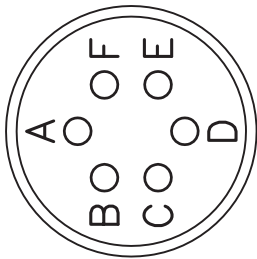
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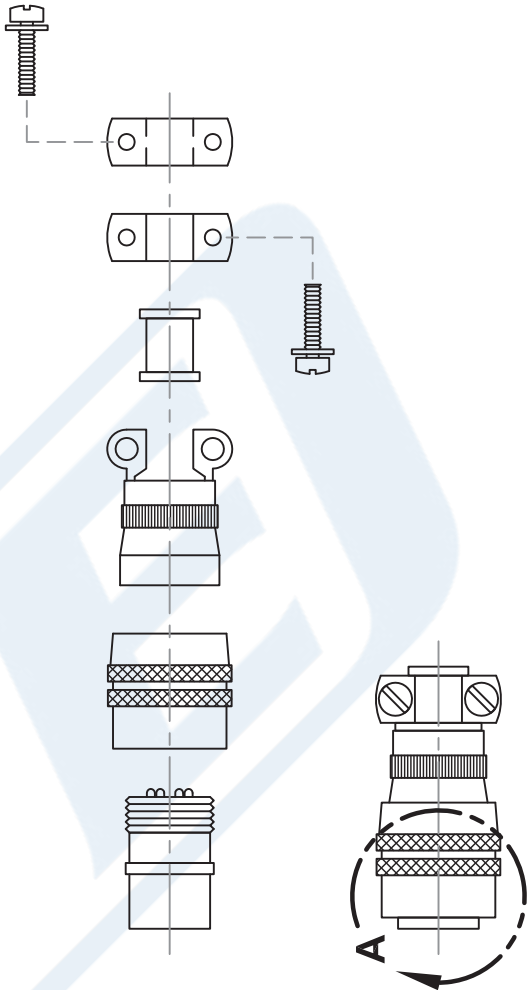
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View A




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DWG TITLE  
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