



**WR-75 Waveguide Electromechanical Relay SPDT  
Latching Switch, X, Ku Band 15 GHz Max. Freq.,  
3,500 Watts, Square Cover, 28V, TTL**

## Waveguide Electromechanical Relay Switches Technical

PEWGS6013

### 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
- +28 Vdc Nominal Voltage
- Input Power Rating up to 3.5 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 PEWGS6013 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 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 0.04 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 +28Vdc 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 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	10		15	GHz
Impedance		50		Ohms
Operating Voltage	21	28	32	Volts
Actuating Current @ 28 Volts		212	243	mA
VSWR		1.06:1	1.1:1	

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, 28V, TTL PEWGS6013](#)



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Insertion Loss		0.04	0.05	dB
Isolation	75	100		dB
Switching Time		72	80	ms
Input Power (CW)			3.5	KWatts
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	1.204 lbs [546.13 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.



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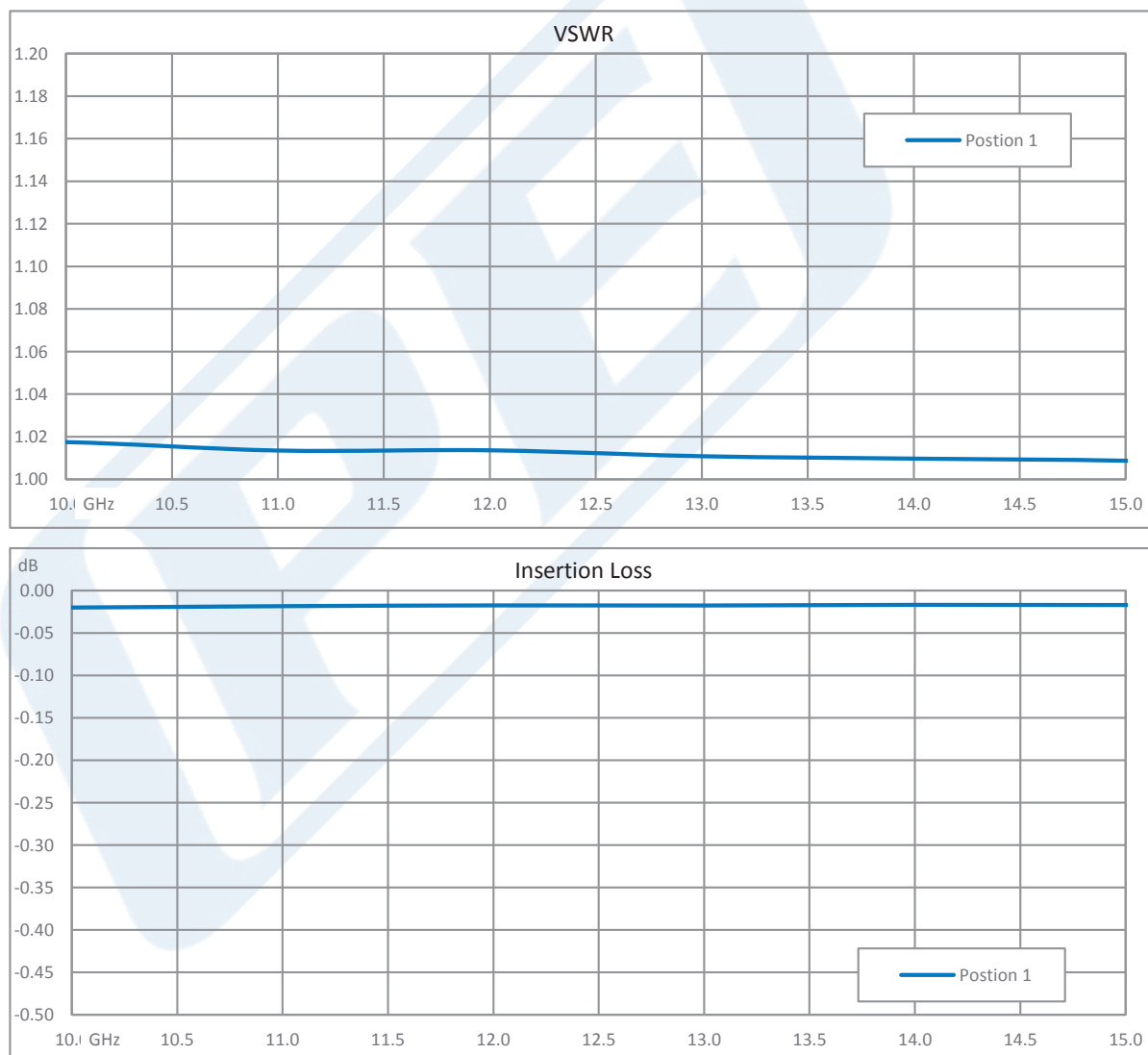
PEWGS6013

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

### Plotted and Other Data

Notes:

#### Typical Performance Data



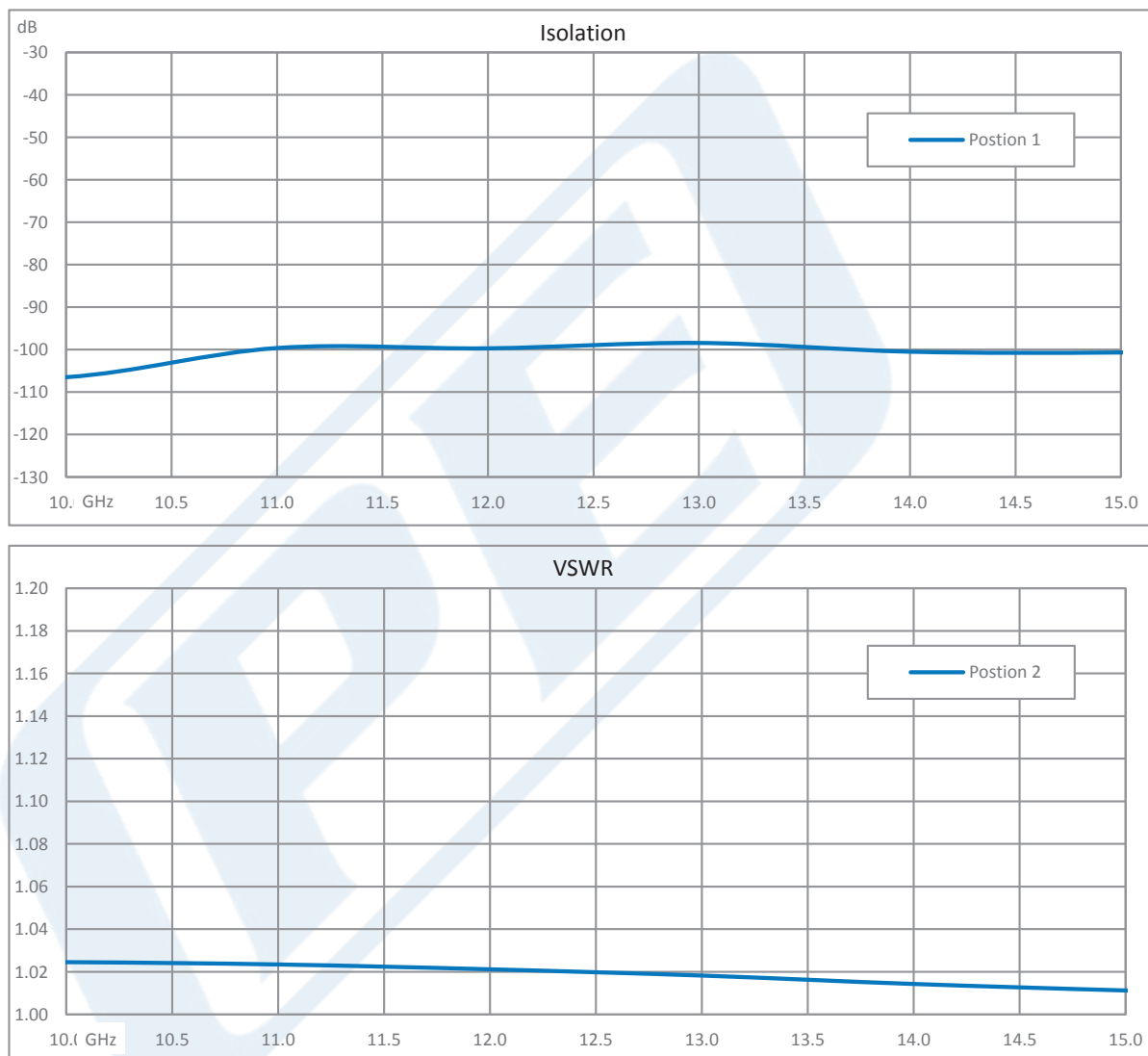
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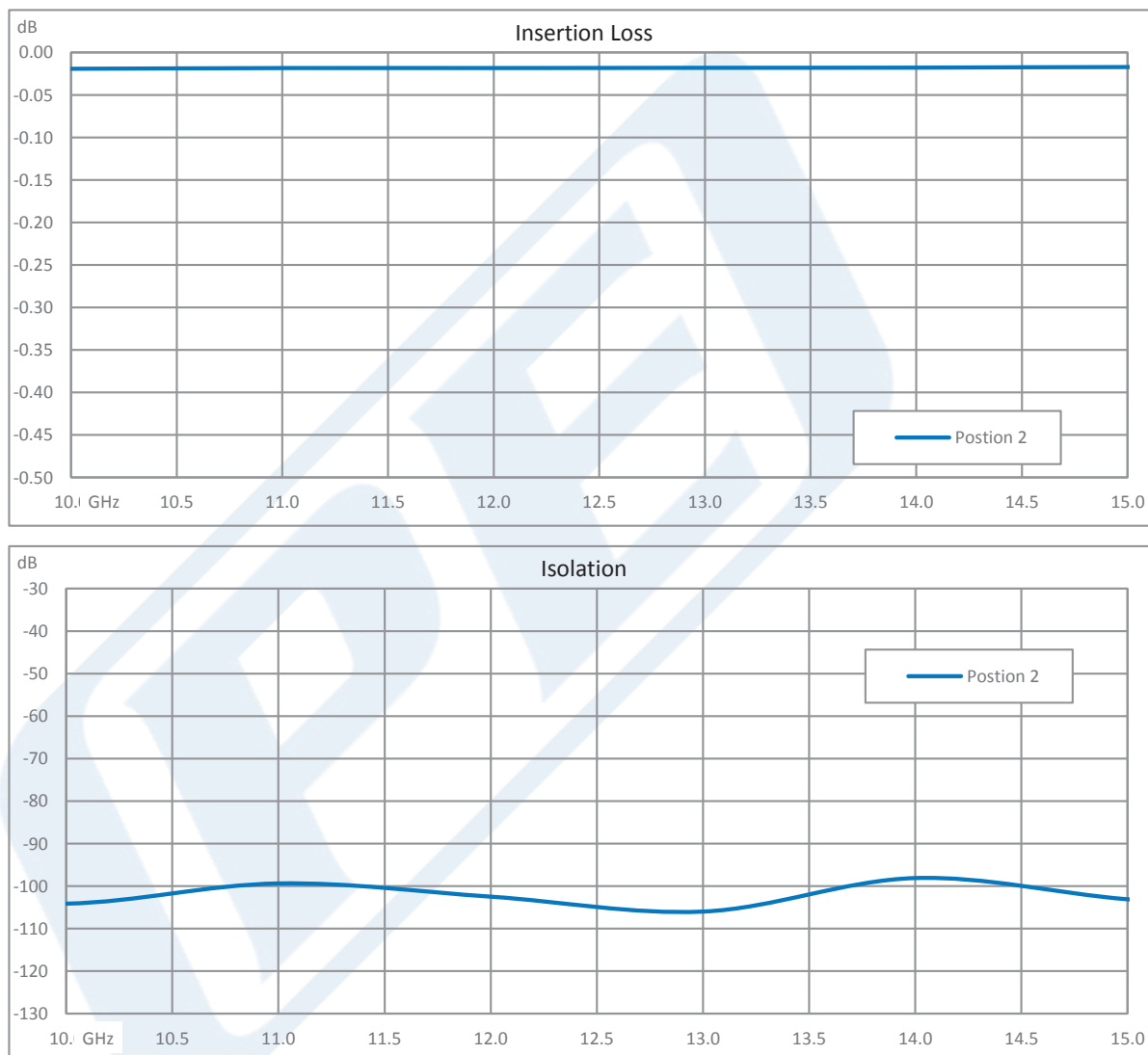
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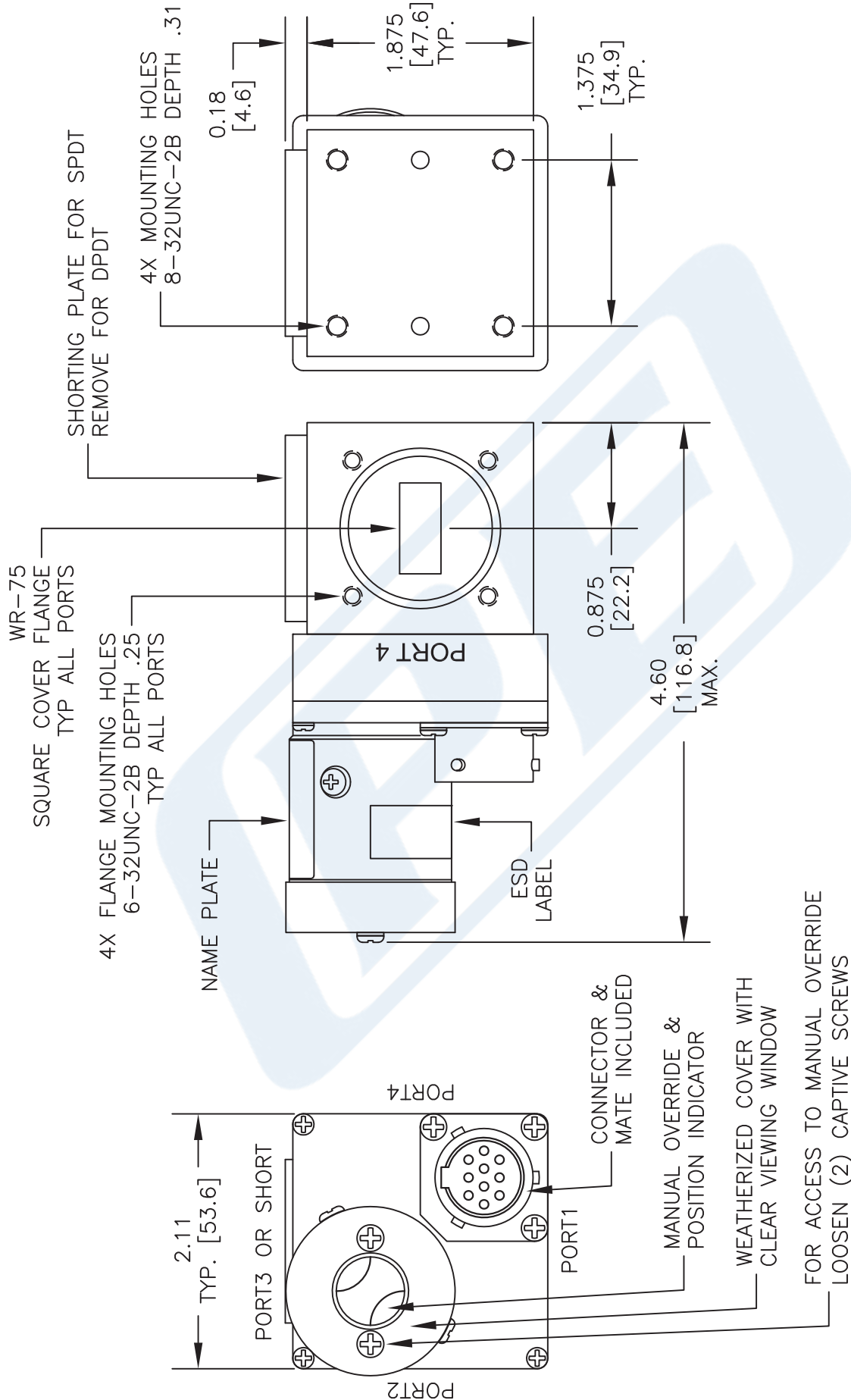
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# PEWGS6013 CAD Drawing

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DWG TITLE

**PEWGS6013**

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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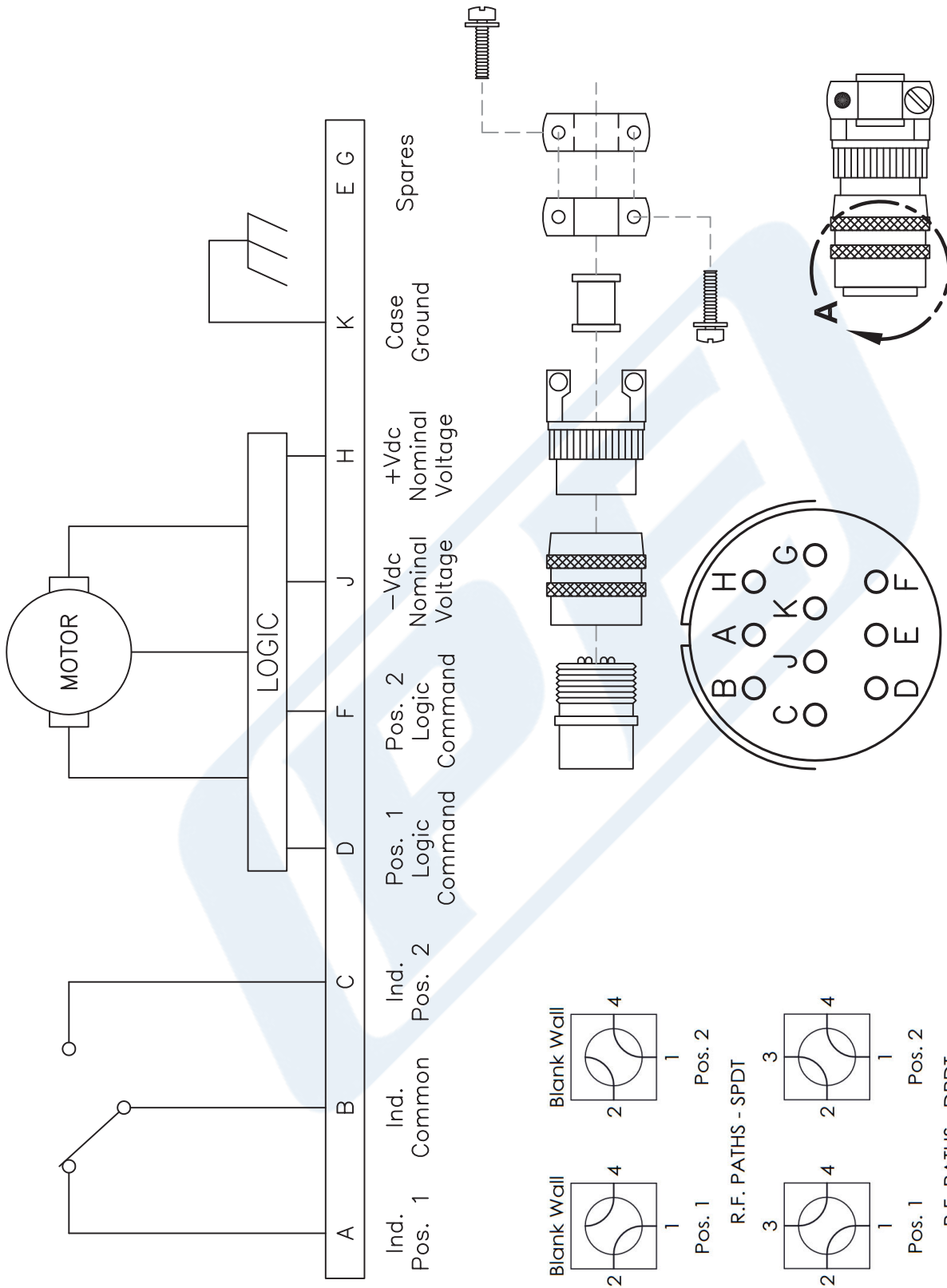
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**View A**

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