



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

Waveguide Electromechanical Relay Switches Technical

PEWGS6027

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
- +12 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 PEWGS6027 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 +12Vdc 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	10	12	20	Volts
Actuating Current @ 12 Volts		471	786	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, 12V, TTL, Self Cut Off PEWGS6027](#)



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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	1.715 lbs [777.91 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.



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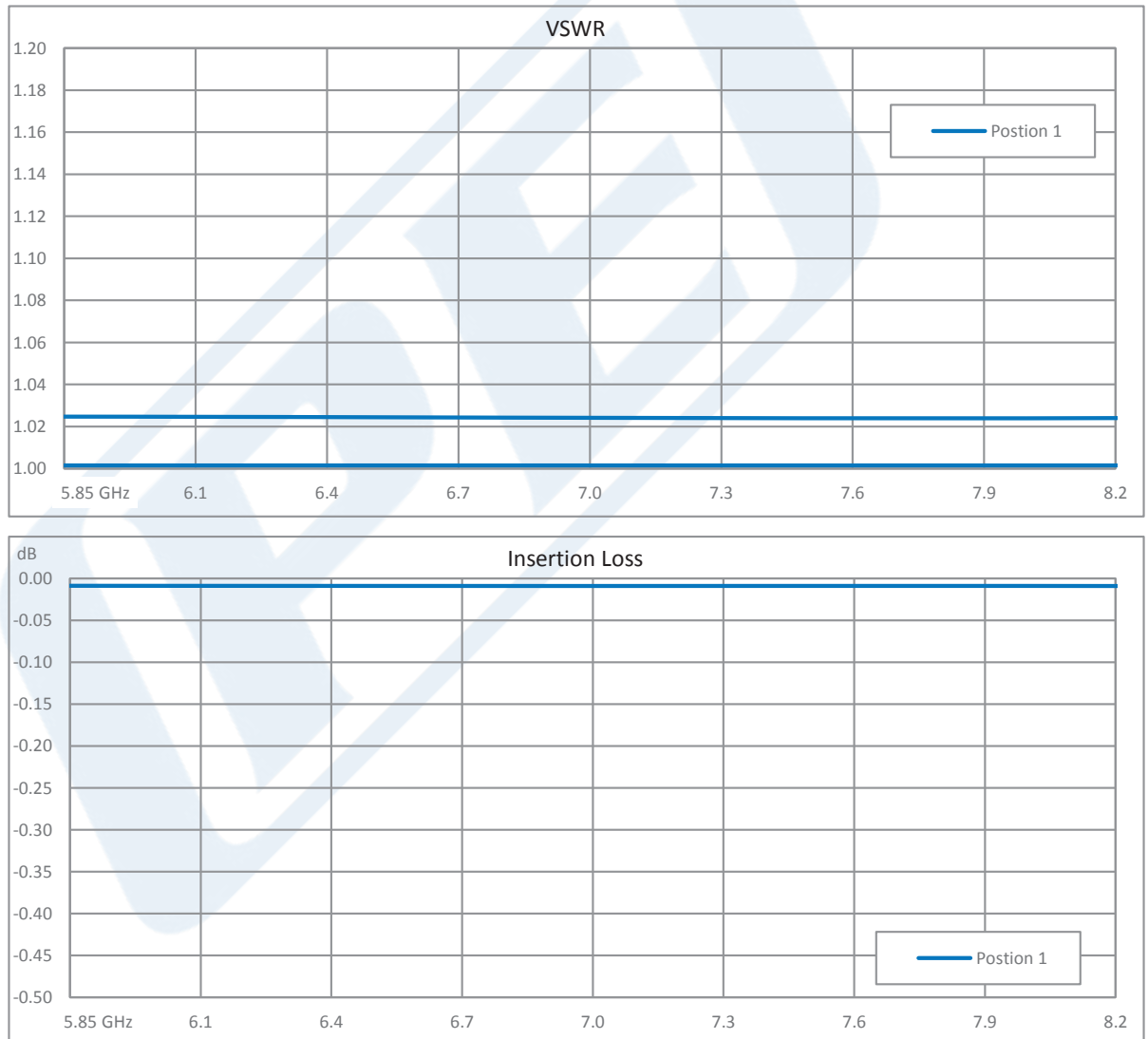
PEWGS6027

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

Plotted and Other Data

Notes:

Typical Performance Data



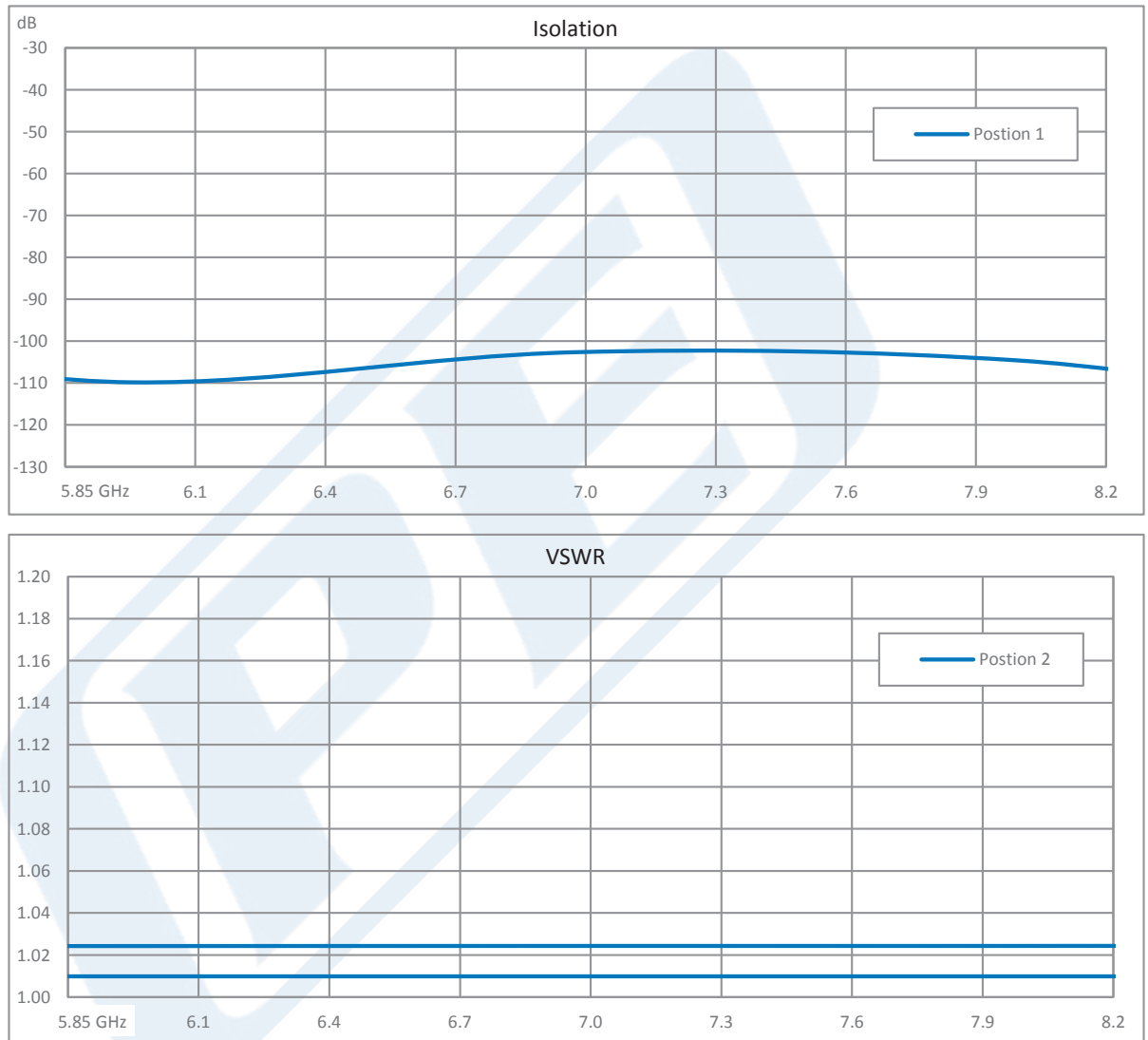
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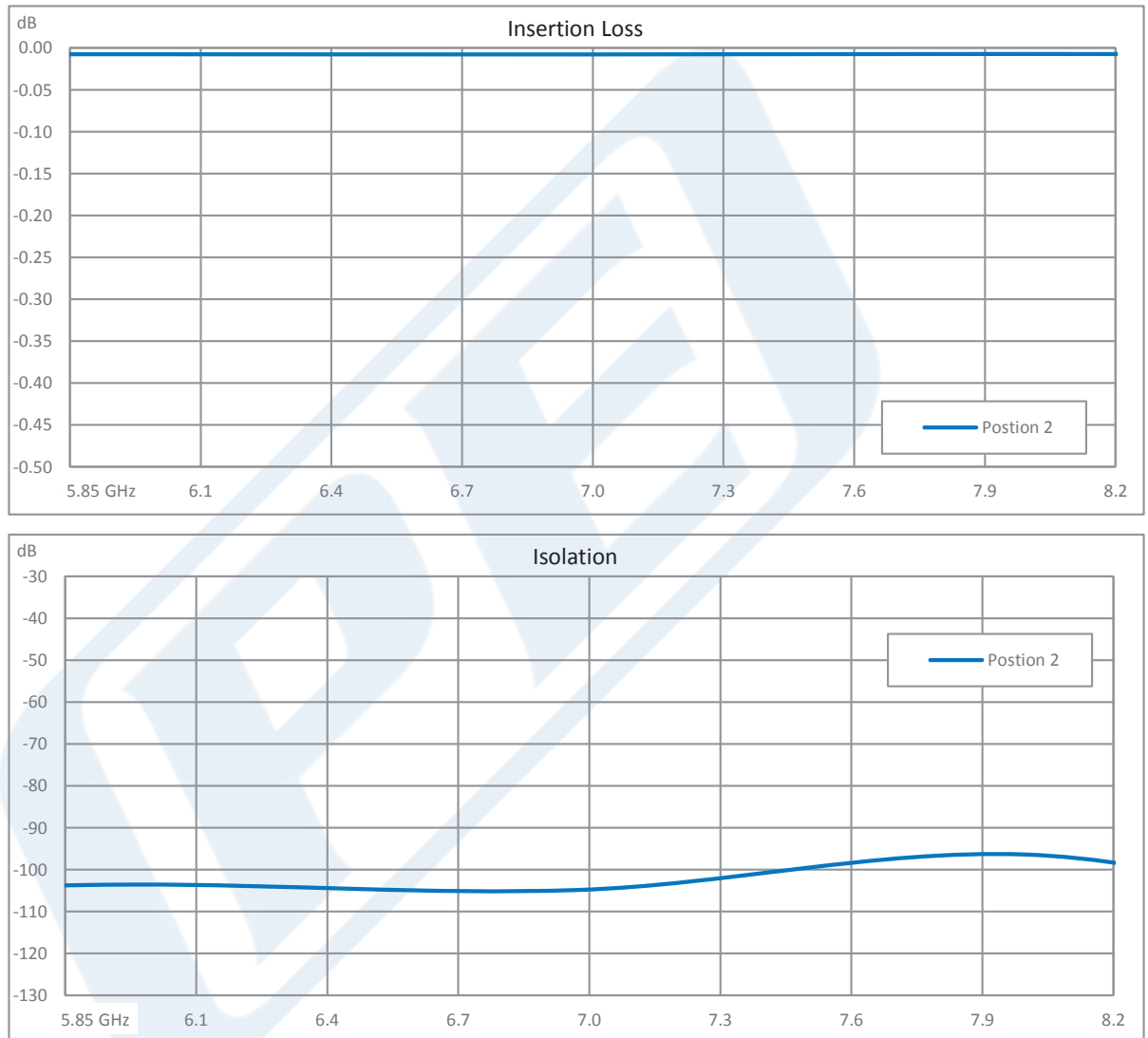
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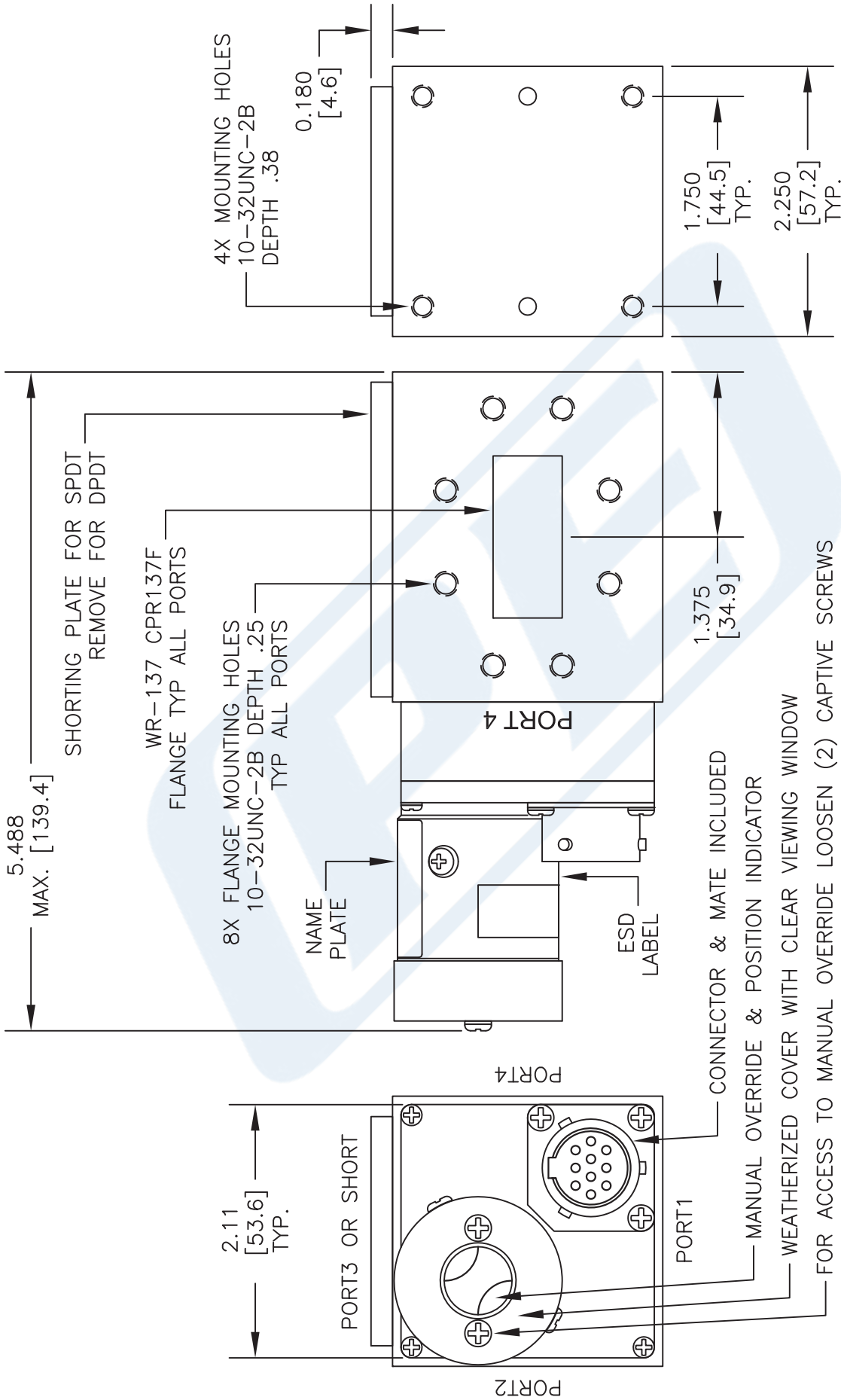
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PEWGS6027 CAD Drawing

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NOTES:
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2. ALL SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE AT ANY TIME.
3. DIMENSIONS ARE IN INCHES [mm].

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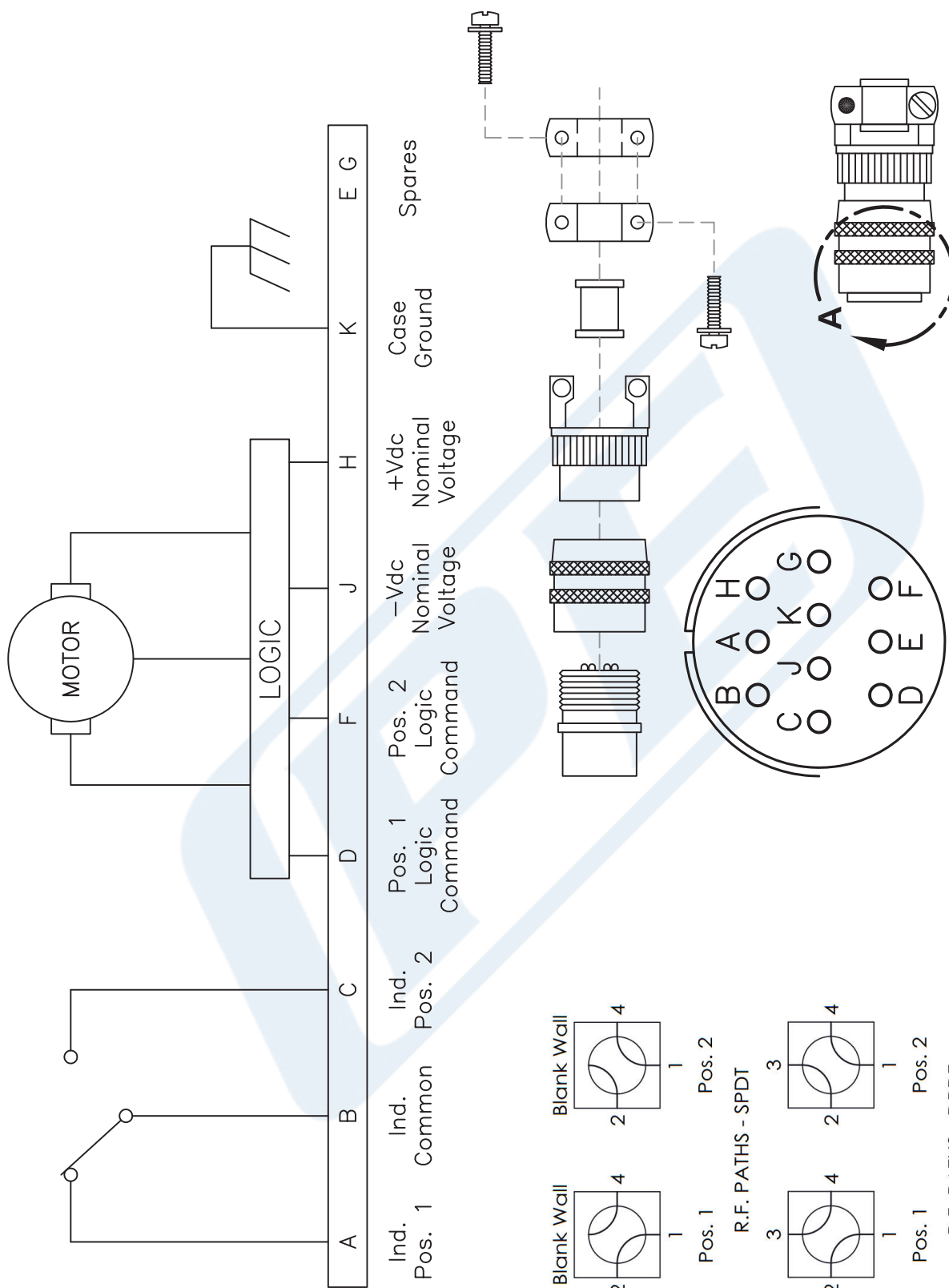
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