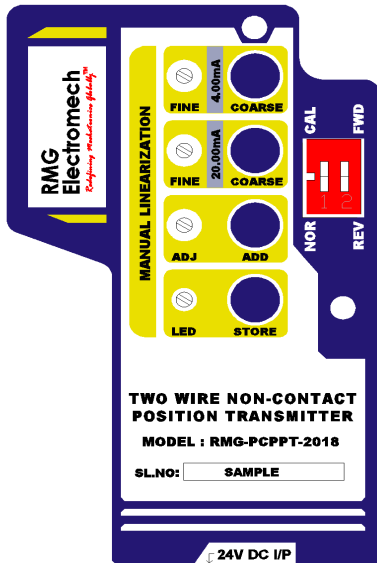


## POSITION TRANSMITTER 2 WIRE - NON-CONTACT – HALL EFFECT

MODEL: RMG –PCPPT-2018



### DESCRIPTION

**RMG-PCPPT-2018** is a 2 wire Position Transmitter, used to transmit the position of a Control Valve in Pneumatic actuators. The Contactless Hall effect based Position Transmitter is a 24V DC operated 2Wire System, which accepts angular movements ranging from 0°-15° to 0°-90° and converts into a 4.00 to 20.00mA signal when suitable back lever and linkages are used.

### SALIENT FEATURES

- Non-contact, Hall Effect type
- Accepts a wide supply voltage Range
- Wide operating temperature range
- Minimal effect of ambient temperature variance on accuracy
- Encapsulated electronics – to protect from moisture, vibration and tampering of the circuitry
- Compact in size as compared to other Position Transmitters available in the market
- Linearity can be adjusted for a maximum of 15 Points in the operating range.
- High accuracy with minimal Linearity and Hysteresis errors
- Reverse Polarity protected
- Suitable for use in very low stroke as well as for very high stroke applications

### APPLICATION

- Position control, monitoring and feedback
- Custom built operations.



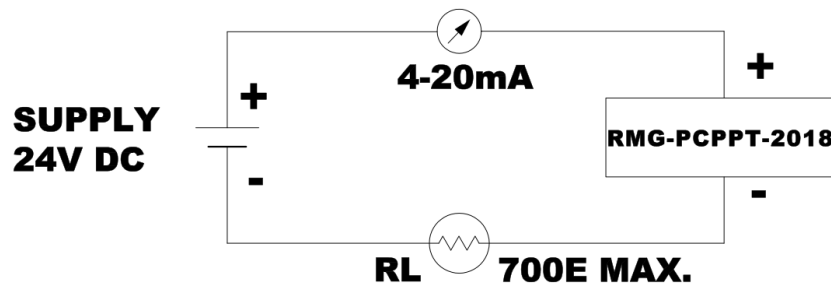
**SPECIFICATIONS**

SI No	Characteristics	Specified value
1	Input	Angular movements ranging from 0-15° to 0-90°
2	Output	4.00 to 20.00mA
3	Input Supply Voltage Range	10V DC to 60 V DC
4	Influence of Input Supply Voltage	≤0.2% of span
5	Type of Transmitter	Two wire
6	Type of Sensor	Hall Effect, Non contact
7	Load Impedance	700 Ω at 24 V DC
8	Burden Effect	<0.1% / 700Ω
9	Residual Ripple	<0.5% of I <sub>max</sub>
10	Response time for full range	<0.2 S
11	Operating Temperature Range	-20° C to 80° C
12	Effect of Temperature	≤0.1% / 10°C
13	Linearity Error	≤ 0.5% of span
14	Hysteresis Error	≤ 0.5% of span
15	Zero Adjustment	Independent adjustment using Push Button Switch. Current Adjustment possible from 03.90mA to 08.00mA typical using Trimpot.
16	Span Adjustment	Independent adjustment using Push Button Switch. Current Adjustment possible from 16.00mA to 22.00mA typical using trimpot.
17	Linearity Adjustment	Current at midpoints can be adjusted from -2.50 to +2.50 mA from the actual reading using trimpot. A maximum of 15 Points can be adjusted.
18	Direction Selection	Using Dipswitch
19	Connector	Screw type Terminals
20	Built in Protection	Epoxy moulded for protection from moisture, vibration and tampering of circuitry
		Reverse Polarity protected
21	Size	92 L x 48W x 77H mm
22	Weight	0.2 Kg approx.

Note : Due to continuous product improvement initiatives, specification is subject to change.

## CALIBRATION PROCEDURE

1. Inspect and ensure there are no damages during transit on the Position Feedback Transmitter (PFT).
2. After fixing the PFT assembly to the Positioner, ensure that Pneumatic positioner is working satisfactorily.
3. Connect 24VDC to the PFT as per the connection diagram given below.



4. Switch on the Power.
5. The milliammeter connected in series, will show some current between 2 to 35mA.
6. a) **Calibration – Direction Selection**

Select the DIP Switch-2 into the desired direction

FWD - FORWARD

REV - REVERSE

### b) **Calibration – Centre Setting**

1. Select the Dip switch-1 into position 'NOR' mode.
2. Move the Valve to the '50% OPEN position'. Press and hold switches "4.00mA COARSE" and "20.00mA COARSE" simultaneously and select Dip switch-1 into position 'CAL' mode. The LED will start blinking indicating that the centre position is set.
3. Release the switches. The milliammeter will show some reading. Move the Valve towards close position. The reading in the milliammeter should decrease. This ensures that Direction Selection is done properly. If the reading has increased, Change the Direction selection in Dipswitch-2 and repeat Step 2 for Centre setting.

**c) Calibration-End Positions**

1. Select the Dip switch-1 into position 'CAL' mode.
2. Move the Valve to the fully 'CLOSE' position. Press switch "4.00mACOARSE". The display will show 4mA. If the displayed current is not exactly 4.00mA, use "4.00mA FINE" trimpot and adjust the current to 4.00mA.
3. Move the Valve to the fully OPEN position. Press switch "20.00mACOARSE". The display will show 20mA. If the displayed current is not exactly 20.00mA, use "20.00mA FINE" trimpot and adjust the current to 20.00mA.

**d) Calibration of 25%,50% and 75% Valve position.**

- 1) Bring the valve to 0% (Full CLOSE) position
- 2) Move the Valve to 25% position. Press and hold the Switch "ADD" and adjust the trimpot "ADJ" so that the reading in the milliammeter shows 8.00mA. Release "ADD" switch. Press "STORE" switch and the red LED shall blink indicating the new set value is stored.
- 3) Move the valve to 50% position. Press and hold the Switch "ADD" and adjust the trimpot "ADJ" so that the reading in the mA meter shows 12.00mA. Release ADD switch. Press "STORE" switch and the red LED shall blink indicating the new set value is stored.
- 4) Move the valve to 75% position. Press and hold the Switch "ADD" and adjust the trimpot "ADJ" so that the reading in the mA meter shows 16.00mA. Release "ADD" switch. Press "STORE" switch and the red LED shall blink indicating the new set value is stored
- 5) Move the valve to 100% (Full OPEN) position. Press and hold the Switch "ADD" and adjust the trimpot "ADJ" so that the reading in the mA meter shows 20.00mA. Release "ADD" switch. Press "STORE" switch and the red LED shall blink indicating the new set value is stored
- 6) Move the valve to opposite direction to 75% position. Press and hold the Switch "ADD" and adjust the trimpot "ADJ" so that the reading in the mA meter shows 16.00mA. Release "ADD" switch. Press "STORE" switch and the red LED shall blink indicating the new set value is stored.
- 7) Move the valve to 50% position. Press and hold the Switch "ADD" and adjust the trimpot "ADJ" so that the reading in the mA meter shows 12.00mA. Release ADD switch. Press "STORE" switch and the red LED shall blink indicating the new set value is stored.
- 8) Move the valve to 25% position. Press and hold the Switch "ADD" and adjust the trimpot "ADJ" so that the reading in the mA meter shows 8.00mA. Release ADD switch. Press "STORE" switch and the red LED shall blink indicating the new set value is stored.

9) Move the valve to 0 % ( Full CLOSE) position. Press and hold the Switch “ADD” and adjust the trimpot “ADJ” so that the reading in the mA meter shows 4.00mA. Release ADD switch. Press “STORE” switch and the red LED shall blink indicating the new set value is stored.

**7. Important :**

After the above calibration procedure is successfully done take care not to press the “4.00mA COARSE “ and “20.00mA COARSE” switches even accidentally.

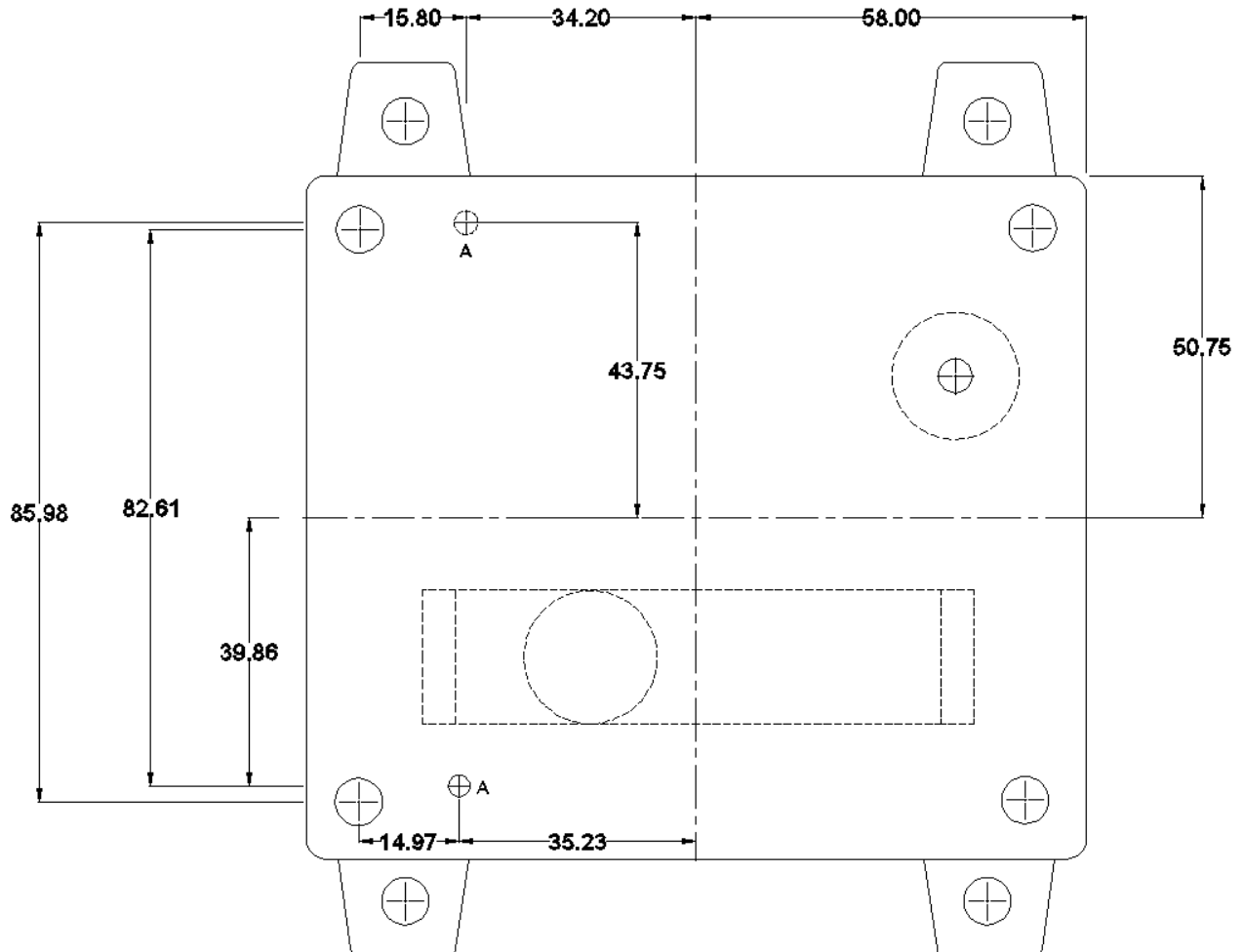
**8. Normal Mode :**

After the above calibration steps are successfully carried out, select the DIP switch -1 into ‘NOR’ mode meaning the PFT is now ready for use.

NOTE : A maximum of 15 mid points could be set and stored.

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**MOUNTING DETAILS**



**Use Holes 'A' with drill dia 3.2mm to Mount the Unit**