

# IC303 RPM CONTROLLER USER'S MANUAL

Manufactured by

Proximon Controls Pvt. Ltd.  
An ISO 9001 Company

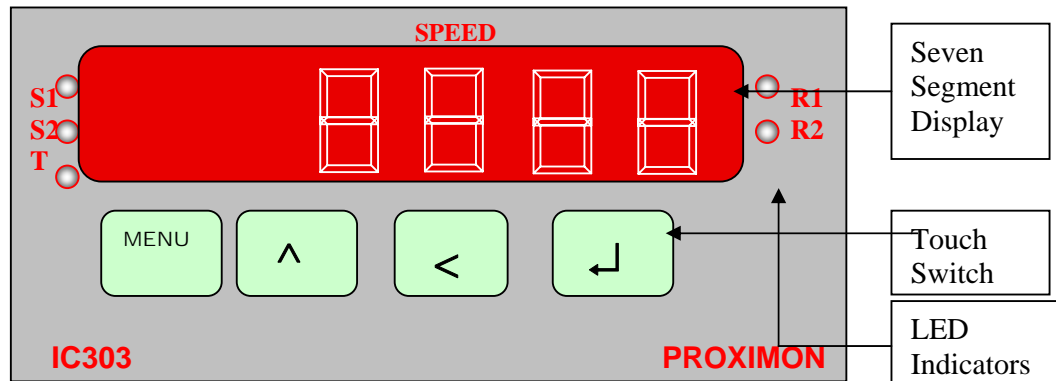
## Introduction:

RPM Controller is a micro controller based unit for displaying the detected Count's RPM (Rate Per Minute). Here user can set High-speed & Low speed limits.

Whenever detected RPM is greater than High speed limit, High-speed relay will activate & gives Led indications. Similarly when detected RPM is less than Low speed limit, Low-speed relay will activate & gives Led indication.

## Front Panel Description:


Figure below illustrates the front panel of IC303 RPM Controller.

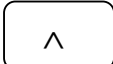


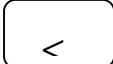
❑ **Display:** RPM Controller has four 7-segment displays, which is used to display sensed input's RPM.


❑ **Keypad:** RPM Controller has 4-touch key.

❑ **Key and its function:**

 : - Menu Key is used to select appropriate mode.

 : - Increment Key

 : - Shift Key.

 : - Acknowledge Key.

❑ **Indicators:**

RPM Controller provides 5 LEDs.

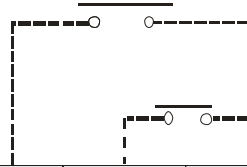
- **S1:** - Sets High when High Speed Limit is adjusted.
- **S2:** - Sets High when Low Speed Limit is adjusted.
- **T:** - Sets High when time delay is adjusted.
- **R1:** - Activates when RPM Count > High Speed Limit.
- **R2:** - Activates when RPM Count < Low Speed Limit.

## **Back Panel Description:**

The back panel of the unit is illustrated on the next page. It has screw connectors for connecting unit power supply & sensor input.



**Be careful while connecting the line voltage. If the line voltage is given to any input other than power input it might damage the controller.**

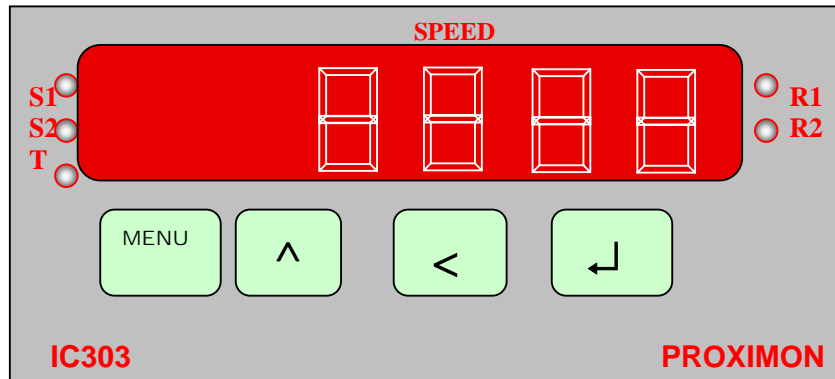


+12V	GND	I/P1	-	8Hz	100Hz	GND	-
1	2	3	4	5	6	7	8
		RELAY1			RELAY2		
9	10	11	12	13	14	15	16
L	N	COM	NO	NC	COM	NO	NC

TERMINAL NUMBER	DETAILS
1	+12 VDC
2	GROUND
3	INPUT 1
4	-
5	8Hz FREQUENCY
6	100Hz FREQUENCY
7	GROUND
8	-
9	LINE (230 VAC)
10	N ( Nutral )
11	RLY1-COM
12	RLY1-NO
13	RLY1-NC
14	RLY2-COM
15	RLY2-NO
16	RLY2-NC

- 1) Give Line Supply to 9 & 10.
- 2) Give PNP/NPN Sensor Input to 1,2 & 3.

➤ **OPERATING INSTRUCTION: -**



**SET POINT PROGRAMMING OF RPM CONTROLLER: -**

- a) To enter set point programming, press MENU Key ones.
- b) S1 led will go ON.

Display Screen: - 

0	0	0	0
---	---	---	---

Minimum Value 

0	0	0	0
---	---	---	---

Maximum Value 

9	9	9	9
---	---	---	---

Using ^ key, user can set the desired values for set High-speed limit. Press ACK (↵) key after feeding the Set 1 value.

- c) S2 led will go ON. But Low-speed Limit should be less than High-speed Limit.

Display Screen: - 

0	0	0	0
---	---	---	---

Minimum Value 

0	0	0	0
---	---	---	---

Maximum Value 

9	9	9	8
---	---	---	---

Using increment (^) key and shift (<) key, user can set the desired values for set Low-speed limit. Press ACK (↵) key after feeding the Set 2 value.

d) T led will go ON.

Display Screen: - 

t	,	0	0
---	---	---	---

Minimum Value 

t	,	0	0
---	---	---	---

Maximum Value 

t	,	9	9
---	---	---	---

Using increment (^) key and shift (<) key, user can set the desired values for set Start-Delay. Delay time is in minutes. Press ACK (↵) key after feeding the Set 3 value.

e) Display Screen: -

F	0	0	0
---	---	---	---

Default setting 

F	0	0	1
---	---	---	---

 1 pulse corresponds to 1 rotation for RPM

The flag value can be set to any value between 01 upto 999.

e.g. If a tooth wheel which gives 60 pulses per rotation through a sensor, then since 60 pulses correspond to 1 rotation; 60 has to be entered to get correct RPM reading.

f) To exit from set point programming and to return back to original Display mode press MENU key once.

□ **LOW FREQUENCY APPLICATION:**

There are two Low Frequency modes.

- **Frequency up to 8Hz:**  
Put a short link between pin number 5 & 7 of Back Panel Terminal. Give pulse input to Terminal 3.
- **Frequency up to 100Hz:**  
Put a short link between pin number 6 & 7 of Back Panel Terminal. Give pulse input to Terminal 3.

Pin 5 of Back Panel Terminal w.r.t Gnd	Pin 6 of Back Panel Terminal w.r.t Gnd	Input Frequency
Open	Open	6 KHz
Short	Open	8 Hz
Open	Short	100Hz

**Table 1**

□ **RELAY OPERATION: -**

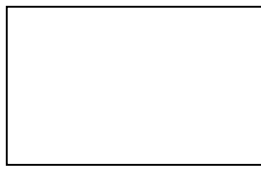
- a) Relay 1 for High-speed Limit gets ON when RPM value is greater than High-speed Limit value. R1 led is used to indicate relay1 ON.
- b) Relay 2 for Low-speed Limit gets ON when RPM value is lesser than Low-speed Limit value. R2 led is used to indicate relay2 ON.

➤ **SPECIFICATION: -**

- **Display:** 4- digit Seven Segment Display (17mm Height)
- **Range:** Auto Ranging (4 to 9999 RPM).
- **Scale:** 1:1 Fixed.
- **Set Points:** 3 user programmable set points.
  - 1) Set1: Dedicated for High Speed Limit.
  - 2) Set2: Dedicated for Low Speed Limit.
  - 3) Set3: Dedicated for Setting Starting Time Delay.
- **Count Input:**
  - 1) Voltage pulse: 8 to 30V DC amplitude from proximity switch, encoder.
  - 2) Potential free contacts from limit switch, micro switch.
- **Input frequency:** 0 to 8Hz, 100Hz (User selectable from Back Panel). (For 8/ 100 Hz Low frequency setting, check LOW FREQUENCY APPLICATION description of Page 5 ).
- **Sensor Supply:** 12V DC, 60mA (+/- 10%)
- **Memory Retention:** Up to 10 years.
- **Supply:** 230V AC (+/- 10%)
- **Mounting:** Panel Mounting
- **Weight:** approximately 580gms
- **Operating temperature:** 0° to 50° C
- **Relative Humidity:** 10-95% non-condensing.

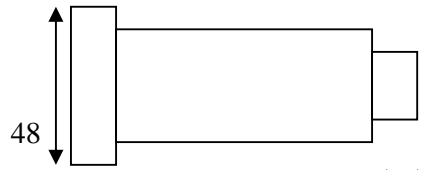
➤ **OVERALL DIMENSIONS: -**  
(All Dimensions are in mm)

Front View



96

Side View



48

10

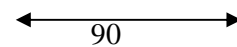
110

10

Panel Cutout



45



90