



## DESCRIPTION

- TCM-94N-1 Measurement of alternating current, measuring range 0-5 Amps. Frequency 50 Hz.
- TCM-94N-2 DC Measurement of Direct current range 0-75 mV or 0-150 mV from R-Shunt
- 7-Segments, 5 Digits size 0.56 inches
- There are 3 Alarm Relay Outputs with 4 Alarm Function settings.
- Can be connected computer with RS-485 (Modbus RTU Protocol).
- 4-20 mA / 0-10 Vdc Transfer Output can be either Direct or Inverse.
- Absolute Input Function shows positive value all the time, regardless of the positive lead input or minus input for TCM-94N-2.
- Sensor Break Alarm when sensor break

## TECHNICAL SPECIFICATION

Model.		TCM-94N-1	TCM-94N-2
Power Supply		100 - 250 VAC 50-60 Hz	
		10 - 24 VAC/VDC	
Power Consumption		3 VA	
Display		7-Segment, Size 0.56 Inch, 5 Digit	
		3 LED (Show Alarm Relay)	
		1 LED (Show Communication)	
Input	Current	AC Current	DC Current
		0 - 5 Amp (Direct)	0-75 mV
	0 - 20000 Amp (With CT)	0-150 mV(With R-Shunt)	
	Accuracy	±0.1% of Measurement Range at 25 °C	
Output	Relay Alarm	3 Alarm 5A 250VAC	
	Transfer Current	4 - 20 mA	
	Transfer Voltage	0 - 10 VDC	
	Output Impedance	Load 500Ω for 4 - 20 mA Output	
		Load 1kΩ for 0 - 10 VDC Output	
	Accuracy	± 0.25 % of Output Range	
Communication	Protocol	MODBUS RTU	
	Address	1 - 127	
	Baud Rate	2400, 4800, 9600,19200, 38400	
	Parity	None, even, odd	
	Data Bit	8 bit	
	Stop Bit	1, 2	
	Support Device Node	32	
Ambient Operation	Temperature	-10 °C to 60 °C	
	Humidity	85 % RH Non-Condensing	
Ambient Storage	Temperature	-20 °C to 80 °C	
	Humidity	85 % RH Non-Condensing	
Protection Degree	Front Protection Rating	IP52	
	Case Protection Rating	IP30	
Installation		Panel, Mounting	
Material		ABS-V0	
Size		48 x 96 x 80 mm.	
Weight		240g.	

**FRONT DISPLAY**

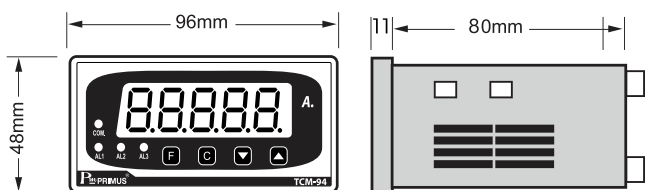
Display for push button and LED status.



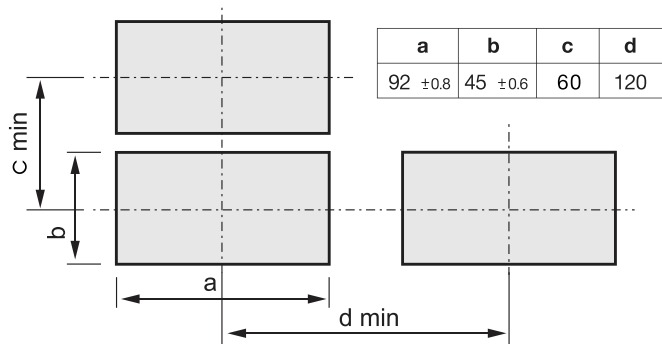
- AL1 ● Alarm 1 Operation
- AL2 ● Alarm 2 Operation
- AL3 ● Alarm 3 Operation
- COM ● Communication Status

- F Enter for Setting
- ▲ Increment push button
- ▼ Decrement push button

**DIMENSION**



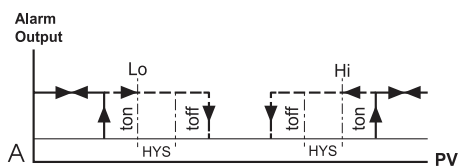
**CUTTING PANEL**



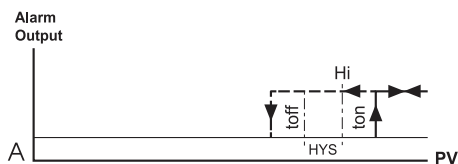
**ALARM OUTPUT**

Stand-by Sequence : After Starting Operation of Step, Alarm Output Does Not Turn on Unless The Process Value Reach The Value of OFF Position of Alarm Output.

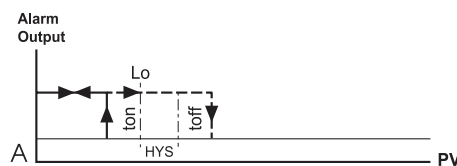
**1. Absolute value High Low Band Alarm**



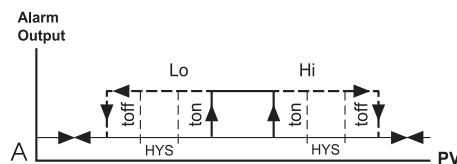
**2. Absolute value High Alarm**



**3. Absolute value Low Alarm**

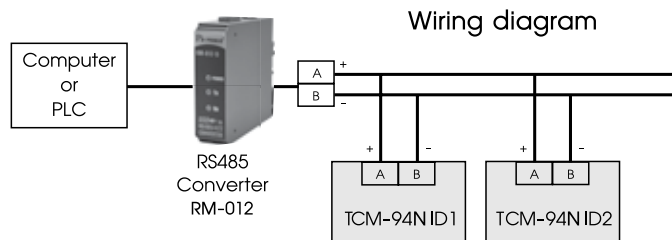


**4. Absolute value High Low Band Alarm**



**SERIAL COMMUNICATIONS**

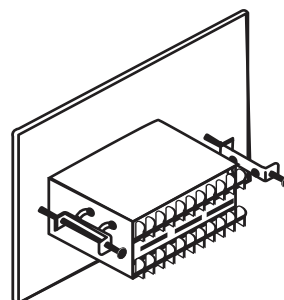
The TCM-94N are Equipped With a RS485 Serial Communications Interface to Allow Connection to Computers or PLCs. MODBUS RTU Protocol is Provide as Standard Communication. The User Can Connect TCM-94N as Network up 127 Meters.



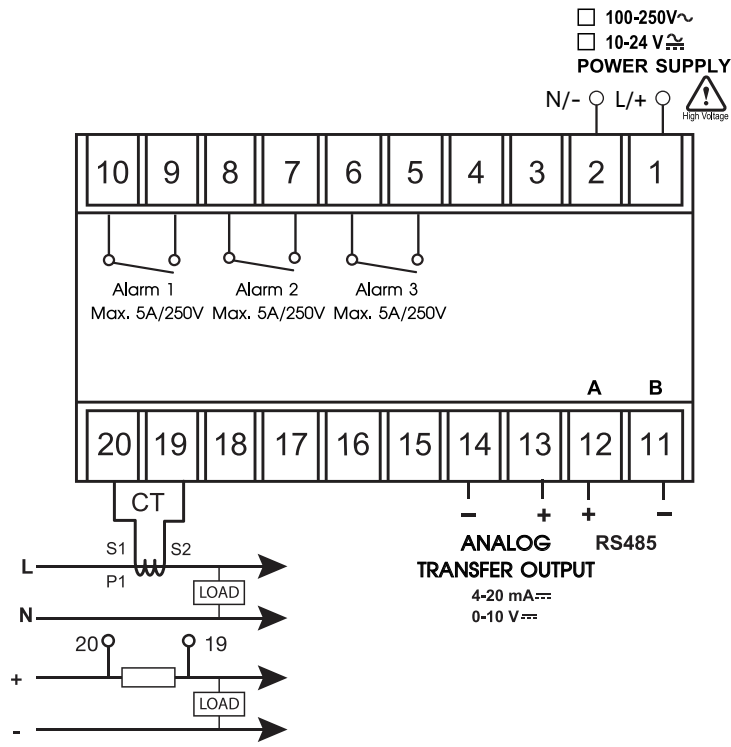
**MODBUS PROTOCOL**

- This MODBUS Protocol Has Been Implement in Accordance With MODBUS.ORG MODBUS Application.
- Protocol Specification V1.1 With the Following Conditions Applying.
- The Following Conditions Apply.
- Baudrate Can Selected Refer Speed setting
- The Format is MODBUS RTU
- UART Data Can Selected Refer Communication Setting
- Data is Considered to Be Half Duplex Using 2 Wire

**INSTALLATION**



**WIRING DIAGRAM**



**WARNING**

- Make sure the correct wiring connection before turning on electricity. Mis-wiring may cause malfunction of the unit and fire.
- Never modify the unit to prevent damage or incident such as malfunction and fire etc.

**ORDERING CODE**

