

S2 WTR1



D2 BTR1



INTRODUCTION

It's the company's pleasure to enlist you as one of our esteemed user customer. Thank you for selecting and purchasing MINILEC make winding protection relay S2 WTR1/Bearing Temperature Relay D2 BTR1.

The Following installation instruction would guide you in installing your unit and making best use of it.

- 1) S2 WTR1 is a winding protection relay based on thermistor (PTC) input for monitoring the excessive temperature. It offers two change over Relay output contacts.
- 2) D2 BTR1 offers protection against Overheating of Bearings. It is having RTD (PT100 DIN) sensor i/p to measure and display the accurate temperature of the device like motor bearing, panel temperature etc. It is single channel temperature controller. It is having two relay outputs namely Trip relay (Healthy) and Pre Heat alarm relay. There are separate set point programmable for Trip relay output and Pre Heat alarm relay output.

Main feature of D2 BTR1 –

1. Type of sensor Pt100.
2. Monitoring functions (overtemperature).
3. All configurations and adjustments by front-face operating element.
4. Sensor Break detection.

D2 BTR1 DISPLAY BIAS:-(Display offset)

This function is used to adjust the PV value in cases where it is necessary for PV value to agree with another recorder/ indicator or when the sensor is located at remote place.

S2 WTR1 TRIP TIME DELAY :-

Your S2 WTR1 trips instantaneously (Less than 1 sec) at NRT + 5 C.

S2 WTR1 RESETTING : (AUTO / MANUAL / REMOTE)

In Auto mode S2 WTR1 will reset automatically when the total loop resistance of series connected thermistors drop below 1.65Kohms ±10%.

In manual mode user should reset the unit by pressing front push button or externally connected push button between terminal 3 and 4. But while using remote reset, just press the external push button and quickly release it, otherwise unit will enter in programming mode

Input Sensor S2 WTR1 -

Your S2 WTR1 is suitable for Positive Temperature coefficient Thermistors with the typical characteristic as shown in figure. The Thermistors are to be connected in series only. You may use either single Thermistor or max.3 Thermistors provided the total loop resistance of such series connected to Thermistors does not exceeds 1.65 Kohms at 25C temperature. The Thermistors are to be embedded at the hot spot locations in the motor windings.

Trip Setting S2 WTR1 -

You can use any PTC (Thermistor) with the desired Normal response Temperature (NRT) value ranging between 70 C to 180 C e.g. if you intend to control the Temperature above 80 C then select PTCs with 80 C NRT. Your S2 WTR1 deactuates the relay output contact at NRT + 5 C of the PTC (Thermistor) in use. Please see fig.4 for PTC chart. Your S2 WTR1 is factory set to actuate the relay at the total loop resistance of the series connected thermistors of 4kohms and above at NRT value.

S2 WTR1/D2 BTR1 are an Aux. Relay and it is to be used in the control circuit only. Electrical Connections: See figure For electrical connections details of S2 WTR1/D2 BTR1.

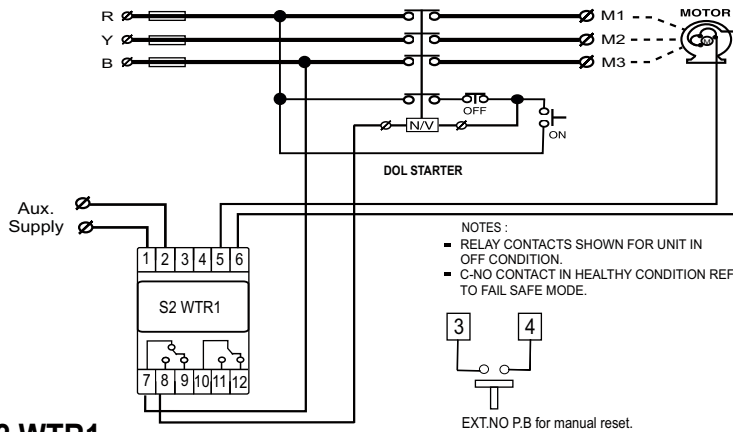
Mounting:

The S2 WTR1/D2 BTR1 are suitable for 35mm DIN RAIL mounting.

SR. NO.	PARAMETER	S2 WTR1	D2 BTR1
1	Auxiliary supply	110-120 / 220-240 VAC ± 20% 12 / 24 VDC ± 20%	85 - 265 VAC, 50 / 60 Hz. ± 3%
2	Frequency of AC voltage	42 Hz to 63 Hz	50 Hz / 60 Hz ± 3%
3	Output contact	2CO	C1 - NO1 - NC1 FOR TRIP C2 - NO2 - NC2 FOR PRE HEAT ALARM
4	Contact rating (resistive)	5 Amp at 240 VAC [Resistive]	5 Amp, 240VAC [RESISTIVE]
5	Input	PTC Thermistor	PT 100
6	Setting for PTC 1. Sensor Short 2. Sensor Healthy 3. Sensor Trip 4. Sensor Open 5. Sensor Cut in	0 - 39 ohm 40 Ohm - 4K ohm 4.1 K Ohm - 5.5 K ohm 5.6K Ohm & Above 1.5K Ohm - 1.8K ohm (for 1/3 PTC) 2.2K Ohm - 2.28K ohm (for 6/9 PTC)	Trip Range 0 - 300 °C Alarm Range 0 - 299 °C
7	Temperature range for Thermistor	70°C to 180°C (for PTC)	0-3°C
8	Trip time delay	Less than 1 sec.	Less than 1 Sec.
9	Resetting	Auto / Manual(Remote)	AUTO / MANUAL (PROGRAMMABLE)
10	Mode of operation	Fail safe / Non-fail safe	Fail safe / Non-fail safe
11	Indications: 1) Power on 2) Sensor faulty/Healthy	ON RLY	A1 : HEALTHY (GREEN) A2 : ALARM / PRE HEAT (RED)
12	Enclosure	ABS / PC ABS	ABS
13	Dimensions (mm)	90 X 35 X 60	76 X 56.5 X 117.5
14	Mounting	35 mm Rail Mounting	67 X 48 Center to Center / 35 mm DIN Rail
15	Weight(gms.)	120 [Approx.]	210 gms (Approx.)
16	Number of thermistor	1/3 (6/9)	
17	Operating Conditions Temperature Humidity	-5°C to +60°C Up to 95 % Rh	TEMPERATURE = -5 TO +60 Deg. C HUMIDITY = UPTO 95% Rh.
18	ALARM RANGE / PRE HEAT	NA	0 - 290 Deg. C

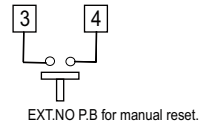
WARRANTY - AGAINST ALL MANUFACTURING DEFECTS FOR 18 MONTHS FROM DATE OF SUPPLY OR 12 MONTHS FROM INSTALLATION WHICHEVER IS EARLIER

ELECTRICAL CONNECTION IN POWER AND CONTROL WIRING



S2 WTR1

- NOTES :
- RELAY CONTACTS SHOWN FOR UNIT IN OFF CONDITION.
 - C-NO CONTACT IN HEALTHY CONDITION REFERS TO FAIL SAFE MODE.



MOUNTING DIMENSIONS

D2 BTR1

FIG.2A : D2 - 03 TYPE BOX

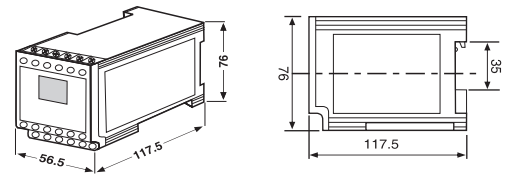


FIG.2B : DIN RAIL MOUNTING

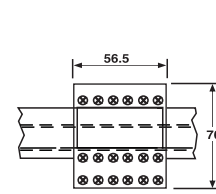
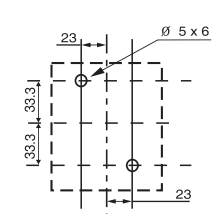
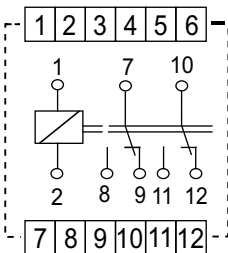


FIG.2C : PANEL MOUNTING

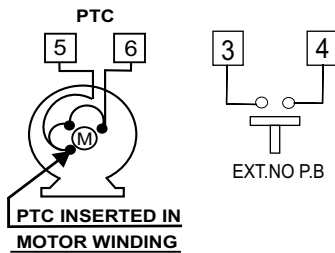


TERMINAL DETAILS



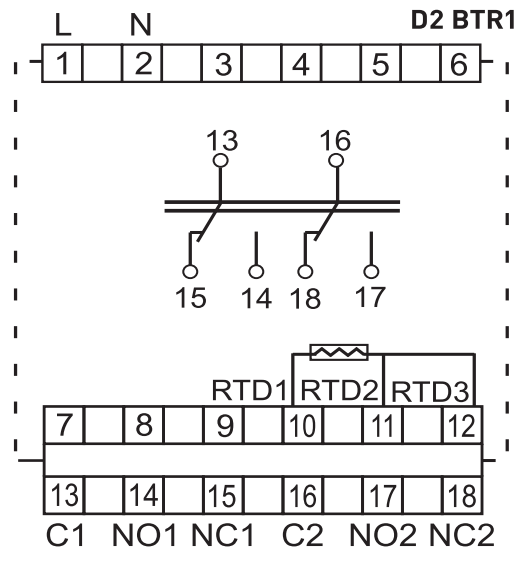
NOTES :

- AUX. SUPPLY TO BE CONNECTED AS MENTIONED ON THE UNIT.
- RELAY CONTACT SHOWN IN POWER OFF CONDITION
- 1 - 2 : AUX. SUPPLY FOR DC SUPPLY, CONNECT +ve TO [1] & -ve TO [2] TERMINALS.
- 5 - 6 : PTC SENSOR
- 7 - 8 - 9 : C - NO - NC
- 10-11-12: C - NO - NC
- 3 - 4 : EXTERNAL NO P. B FOR MANUAL RESET ONLY

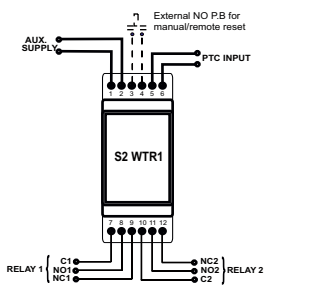


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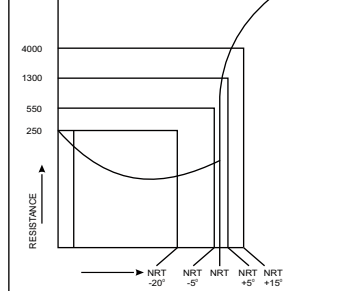
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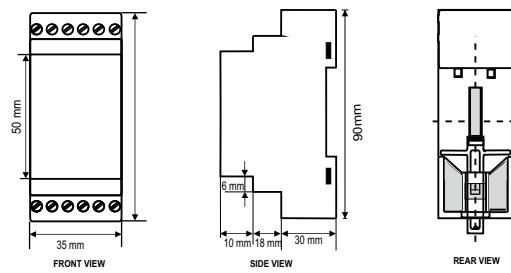
CONNECTION DIAGRAM



TEMPERATURE VS RESISTANCE CHART



MOUNTING ON DIN RAIL



VERSION 07(21.07.2009)

PROGRAMMING FLOWCHART

S2 WTR1

PRESS RST/PRG PUSH BUTTON FOR	RLY LED STATUS	MODE
≥ 5 sec	☼	Entered in programming mode
1 TO 2 sec	○ And becomes ● after 2-3 sec	Test mode, relay becomes on for 2-3 sec and then becomes off
≥ 5 sec	☆	Auto/manual reset selection
1 TO 2 sec	○	Auto reset mode
1 TO 2 sec	●	Manual/remote reset mode
≥ 5 sec	☼	Fail safe/non-fail safe selection
1 TO 2 sec	○	Fail safe mode
1 TO 2 sec	●	Non-fail safe mode
-	☆	Auto exit

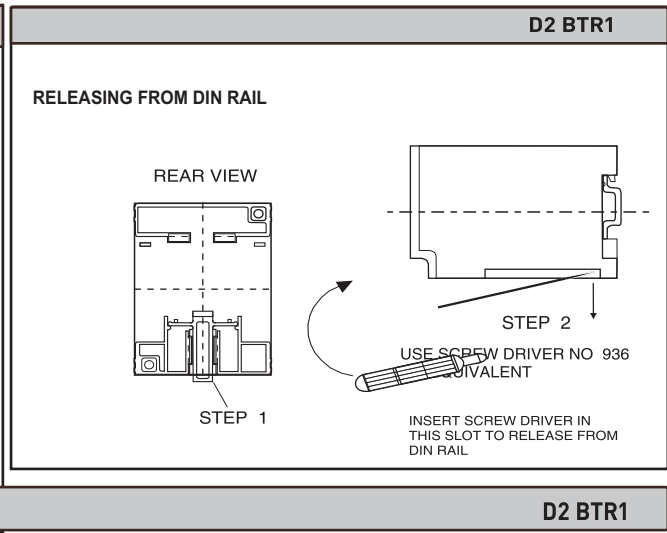
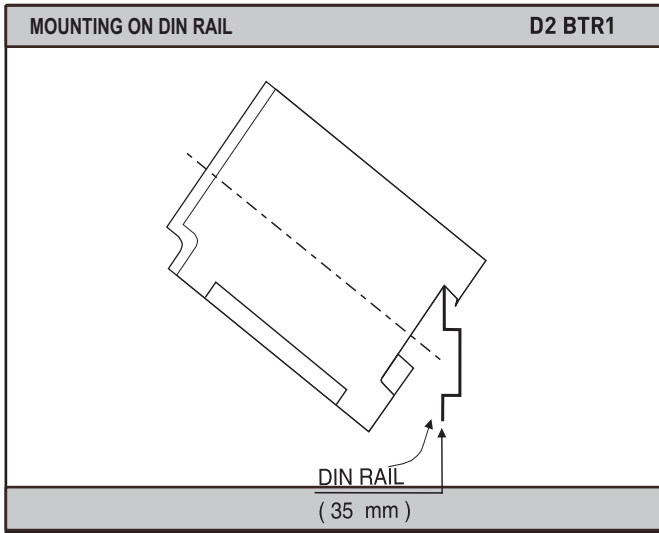
☼ - Fast flash

● - OFF

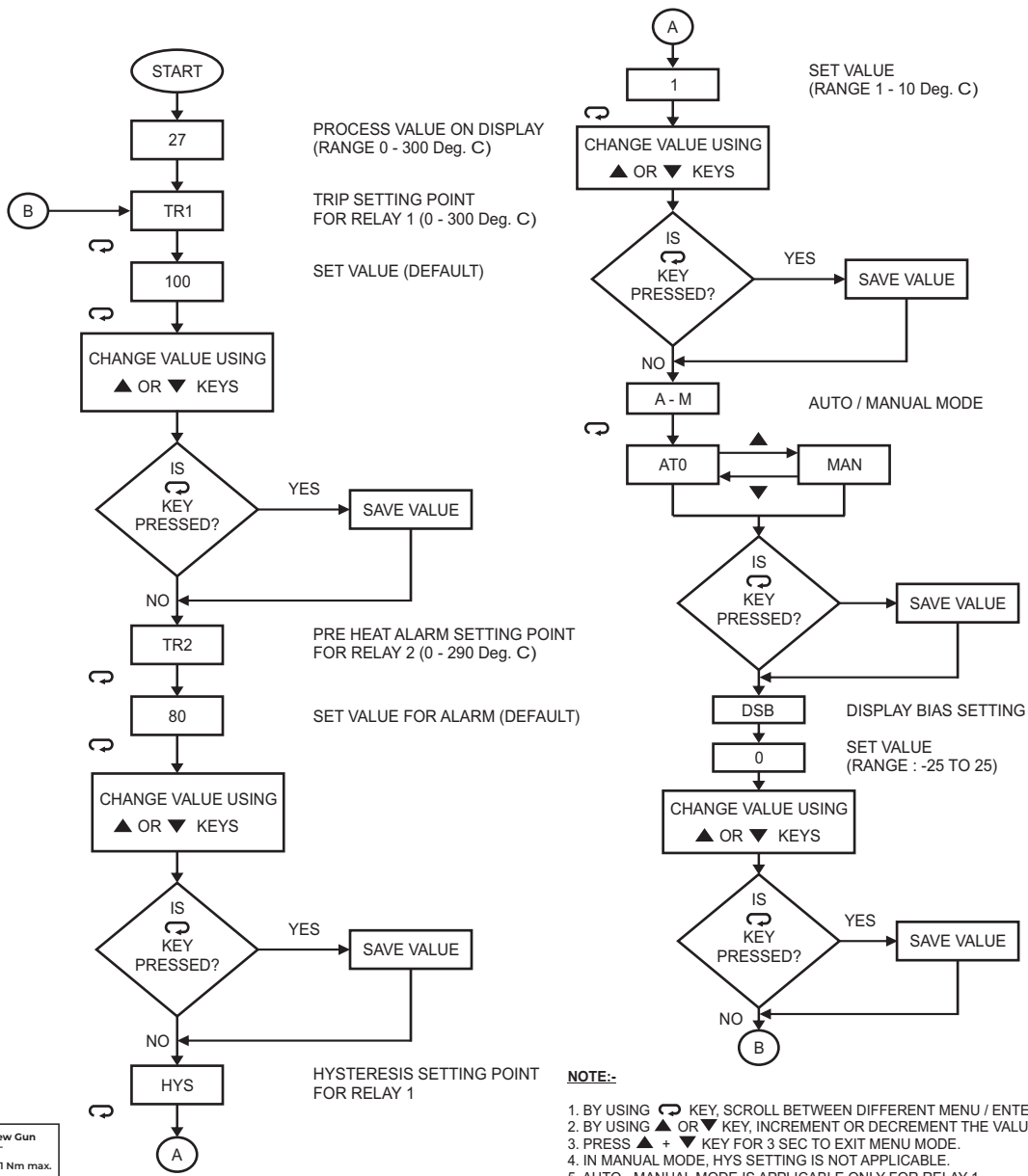
☆ - Slow flash

○ - ON

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OPERATING FLOW



Instructions for Screw Gun torque adjustment

- Torque should be 1 Nm max.
- Max 2.5 sq. mm size wire can be used.

NOTE:-

1. BY USING ↻ KEY, SCROLL BETWEEN DIFFERENT MENU / ENTER.
2. BY USING ▲ OR ▼ KEY, INCREMENT OR DECREMENT THE VALUE.
3. PRESS ▲ + ▼ KEY FOR 3 SEC TO EXIT MENU MODE.
4. IN MANUAL MODE, HYS SETTING IS NOT APPLICABLE.
5. AUTO - MANUAL MODE IS APPLICABLE ONLY FOR RELAY 1.

WEEE (Waste Electrical & Electronic Equipment) Regulations: After end of equipment life, recycle or disposal needs to be done as per guidelines or handover it to Ewaste processing authorized agencies. For more details contact us.

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