



HOKKIM
Giving You Control

Control & Protection Relays

Model : TFR-N

Description : Floatless Relay - Single Tank Control

Utilization:

The TFR-N monitors the levels of conducting liquids by using 3 probes as shown in figure. The operation is as follows:

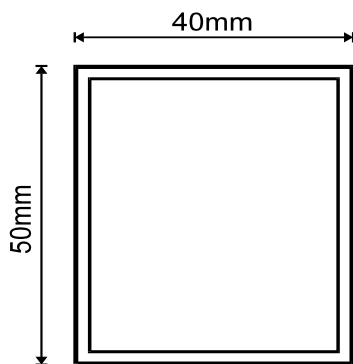
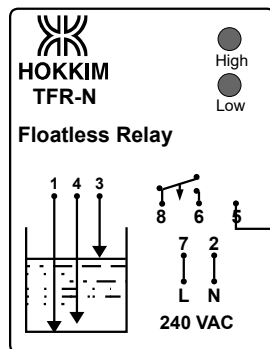
- On supply, the AMBER LED (Low) is lighted and remains lighted when the liquid level rises to contact with CO (1) & LO (4).
- When the liquid level rises to probe HI (3) the GREEN LED goes off, the RED (High) LED is lighted and the relay energizes.
- When the level drops below HI (3) the RED LED remains on and the relay remains latched.
- When the level drops below LO (4), the RED LED goes off, the AMBER LED lights and the relay releases.

The LEDs indicate the condition of the relay. For pump-in operation of tank, connect the starter through contacts 8 & 5. For pump-out operation of well, connect the starter through contacts 8 & 6.

Technical Data

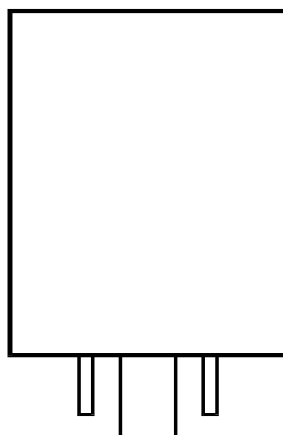
Supply Voltage	q240VAC q115VAC q24VDC q12VDC
Frequency	50~60Hz for AC Supply
Consumption	1VA
ON/TRIP Hysteresis	2% of rated
ON Response Time	100 msec.
OFF Response Time	100 msec.
Sensitivity of Probes	>50kOhms
Voltage between Probes	31VDC
Current through Probes	250uA
Indication	AMBER LED (Relay OFF) RED LED (Relay ON)
Dielectric Strength Between:	1 KV 2 KV
Probes & Supply Circuit Output & Supply Circuit	
Output Contacts	Relay ON 8-6 Close 8-5 Open Relay OFF 8-6 Open 8-5 Close

The above specifications and instructions assumes that the HIGH LED is RED and the LOW LED is AMBER. Colours may differ for different production batches.

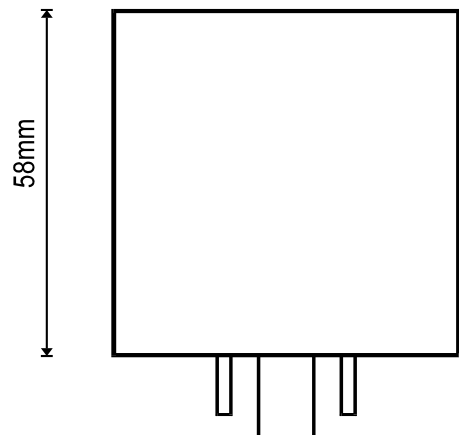


Dimensions

Top View



Front View



Side View