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L55 Controller and T/LL50 Transducer

Installation Instructions

DESCRIPTION

Designed for the use with the Fozmula T/LL50 series of transducers, the Fozmula L55 Controller not only monitors liquid level, but also controls the level as well.

The liquid level is displayed on a large built in meter as well as being represented by three industry standard analogue outputs for remote monitoring and control.

Control of the liquid level is achieved by four internal change-over relays which can be set to operate at any level from 0-100%. Typically two of the relays are used to control a latching pump contactor and the other two relays used to give high and low level alarms.

The Fozmula L55 controller is factory set to operate from one of three AC voltage supplies. In addition it can operate from a 24 Volt DC supply. If both supplies are connected simultaneously then the controller will take its power from the AC supply and only if this supply fails will it draw any power from the DC supply. If the controller is normally AC driven then providing battery backup simply involves connecting the battery supply to the L55.

SPECIFICATION

Supply Voltage	:	24/110/230 VAC, 50-60 Hz.(Supplied as requested)
	:	24VDC. (Can be used as sole supply or as a battery backup)
Power	:	6 W @ 240 VAC all relays on
	:	2.5 W @ 24 VDC all relays on
Input	:	T/LL50 Level Transducer. 3 wire potentiometric . 5K norm.
Outputs	:	4(0)-20mA R=600 Ohms max. (Supplied as requested)
	:	0-100 uA R=30K Ohms max. (Auto calibrating)
	:	0-10V R=1000 Ohms min. (Short circuit protected)
Relays	:	Rating 10A @ 240 VAC/28 VDC Switching capacity 2000 VA max.
Enclosure	:	Impact resistant Polycarbonate. Double insulation (IEC 439, SEN 362130). IP67 rated with IP68 cable glands.
	:	L = 230 W = 140 D = 95mm
	:	Fixing centres 212 x 122mm
Temperature Range	:	-25°C to + 50°C

INSTALLATION

1. Decide where to mount the controller and drill four fixing holes in the mounting surface. The fixing hole centres are given on the back of the enclosure. Remove the lid to gain access to the mounting holes and fix the box to the mounting surface using four M4 x 25mm screws or similar.
2. Install the T/LL50 Transducer in the required measurement location. Connect the T/LL50 level transducer to the controller with terminal 1 of the transducer connected to terminal 1 of the controller etc.
3. Connect any of the required outputs to remote metering, monitoring or recording equipment, observing the polarity for each output as shown on the circuit board. Unused outputs can be left unconnected.
4. Connect the relay contacts to external contactors to provide latching pump control and alarm functions as required. (NB. Any inductive load connected to the controller such as a contactor must have a suppression circuit fitted to its coil to prevent the inducted back EMF from damaging the on board relays. The contactor supplier will normally supply these to match).
5. Ensuring the supply is isolated connect the power cables to the controller. The polarity of the AC supply is not important and because the enclosure is double insulated no earth connection is required. The polarity of the DC supply must be observed.
6. All that remains is to set up the relay switching points. This should be done initially with power isolated from the external pumps and alarms. Apply power to the unit. The meter should now be displaying the liquid level.
7. Just to the right of centre of the circuit board are four black micro switches and to the right of each of these is an adjuster labelled 1 – 4. These correspond to relays 1 – 4. To set relay 1, press and hold the top micro switch and look at the meter. It is now displaying the level at which relay 1 is set to switch. Now gently turn adjuster 1 until the meter displays the switching level you require. Release the micro switch. The meter automatically reverts back to displaying liquid level.
8. Repeat the operation with each of the relay set points and finally re-check all four by pressing each of the micro switches in turn.
9. Finally, screw the lid into position and apply power to any external circuitry.
10. Installation of the Model L55 Controller is now complete.

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