Low Chlorine in Drum Alarm

Operating Description

1. A load cell is used to weigh a drum of chlorine. The signal from the load cell is conditioned by the USC701 to produce a 4-20mA output and a relay alarm.

2. The 4-20mA output will represent 0 to 920kg of chlorine liquid within a drum.

3. P2 is pressed after a full chlorine drum is placed on weigh platform the combined weight of a full drum of chlorine is stored in constant "b". As this is a non-volatile save changes must be greater than the jitter value before writing into the eeprom to prevent continuously writing data into the internal eeprom.

4. With P2 in the un-pressed sate the value read from the weigh platform is subtracted from the tare weight (constant b) and added to 920 (constant a weight of chlorine in a full drum) and saved in memory 5. The value in memory 5 will be 920kg when the drum is full. The value in memory 5 will reduce to zero as the chlorine empties out of the drum.

5. Relay 1 will switch when the chlorine is reduced to 20kg.

6. Relay 2 could optionally be used to switch on the actual weight of the drum plus chlorine as a safety measure in the event that the tare button was pressed when the drum was not full.

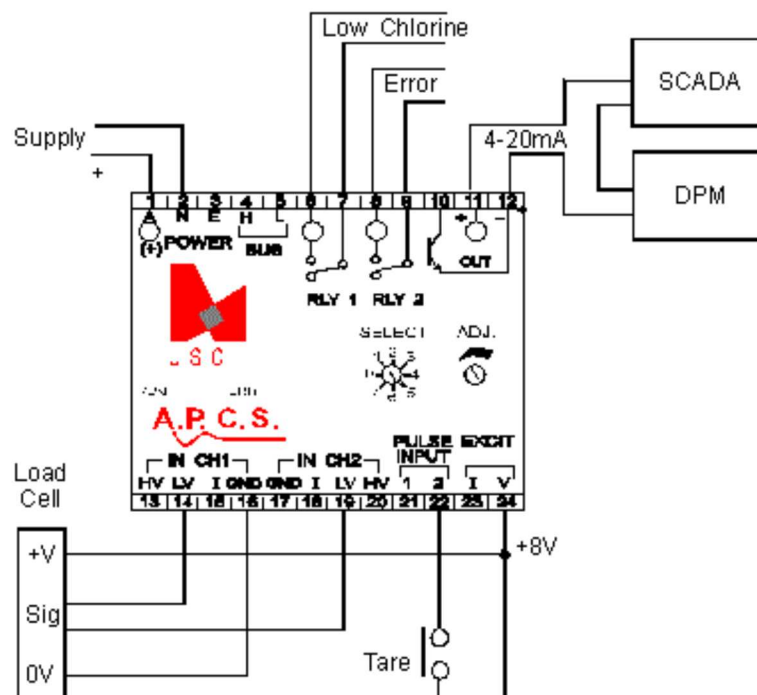| USC Component	Label	Description
Con_a	FullDrum	weight of chlorine in a full drum (920)kg
Con_b	TareValu	Tare weight of full drum.
Con_c	Jitter	Used to prevent continuously writing data into the internal eeprom if input P2 (save tare) was permanently enabled.
Relay 1		Low chlorine alarm (20)kg.
Relay 2		Error alarm (optional). The tare button was pressed with a drum that was not full. This alarm will occur when the true weight of an empty drum.

Calibration

1. Calibrate load cell such that CH1 (access module display) reads correctly in kg. See UAP0016 for calibration instructions.

Test

2. Load full drum onto the weigh platform and press reset. The output will be 20mA.

3. Load an empty drum onto the weigh platform. The output will be 4mA.

Connection

USC Programs

File	Comment
Help	If unexpected results occur when loading the .usc file press back and click on help for instructions.
UAP00221.usc	Issue 1 and 2 saved the tare value in memory 4, this value is lost when the power is removed from the USC
UAP0022c.usc	Issue 3 (c) saves the tare value in constant b, this is retained after power loss in a eeprom.

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