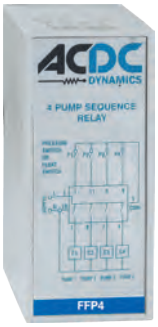
LEVEL & PUMP CONTROL

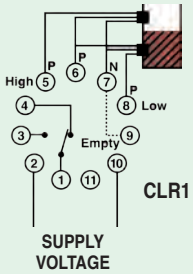
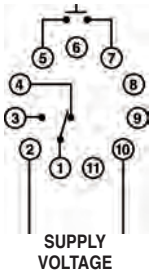
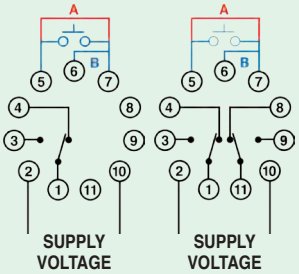
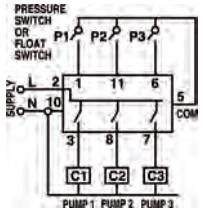
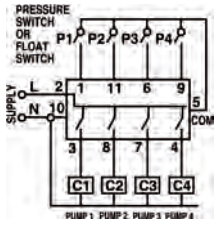
FAILSAFE DESIGN









Type	Capacitive Level Relay		Flip-Flop Relay Pulse Start			Flip-Flop Mains Controlled		Pump Sequence Control Relay	
Code	CLR1	CLR2	FNCP1	FNCP2	FFCP1	FFP1	FFP2	FFP3	FFP4
Outputs	SPDT		SPDT	DPDT	SPDT	SPDT	DPDT	3 Pumps	4 Pumps
Mode of Operation	**CLR1** **Using NPN Probe** ***Filling:*** The relay energises when the level drops below the lower level sensor and de-energises when it reaches the high level sensor. ***Emptying:*** As above with opposite function. Link 7 & 9. **Using PNP Probe** Functions reverse. NPN Sensor: **SD10G-ARN1** Page 2.4 NPN Sensor: **CS-09** page15.30 **CLR2** 2 Wire Probe connection: Probe 1 5(+) 6(–) Probe 2 7(+) 6(–) Probes **VR1A** or **VR1B** page 2.4 Single Probe connection: Probe 5(+) 7(–)		**For alternating pumps** **FNCP1** (No memory) Closing of contact across 5 & 7 the relay will energise. Closure of contact again, the relay will de-energise. When the relay is in the ON position and the supply voltage is removed, the relay will reset. (No memory). **FFCP1** (With memory) Closure of contact across 5 & 7, the relay will energise. On closure of the contact again the relay will de-energise. The relay remains in this position even on removal of supply. (with memory).			**Mains controlled: Change on removal of supply.** The relay is initially in any state, on or off, apply supply voltage. The relay keeps its state. Remove the supply voltage. The relay will now change state and will keep its state without the supply. Apply & remove the supply again for the next change in state. **Mains controlled: Change on application of supply.** Link pins 5 and 7 (Link A). Apply supply voltage. The relay changes state. Remove supply. The relay keeps its state. **Pulse controlled.** Link pins 6 & 7 (Link B). The relay is initially in any state, apply supply voltage. The relay keeps its state. When the contact between pins 5 & 7 closes, the relay will change state. Remove the supply voltage. The relay will keep its state without the supply. Minimum time supply connected for relay to react: 1 second.		Float or Pressure switches are connected to pins 1, 11, 6 and common on 5. When the first switch closes, relay 1 energises. When the second and third switches close, the second and third relays energise. There will always be as many relays energised as there are input switches closed. When 1, 2 or 3 pressure switches open, 1, 2 or 3 relays will de-energise. The positions of the pressure switches do not matter, only how many are switched on at a time. When all switches open and no relays are energised, and a switch closes again, then relay 2 will be the primary relay, that is the first relay to energise, then relay 3, and then relay 4 or 1. Every time the first switch closes, the next relay will be the first to energise. The supply must be connected for the relays to energise. The currently selected primary relay is stored in non-volatile memory. The relay will remember which relay to energise first, even if the supply is disconnected.	
Connection Diagram								NB: Voltage Free Inputs FFP3  FFP4 	
	Response time: 500mS Sensor connections NPN: Pin 5 (P) H Level - Black Pin 6 (P) Common - Brown Pin 7 (N) Common Blue Pin 8 (P) L Level - Black Use **SD10G-ARN1** or **CS09** page15.30		**FFCP1**: Not available in 12VDC			Response time: 0.2S Not available in 12VDC			
Power consumption	AC: ± 1.5VA DC: 100mA @ 12VDC								
Supply AC	Galvanic isolation with internal transformer 12, 24, 48, 115, 230, 400, 525VAC ±15% (Isolation test volts 2kV)								
Supply DC	12, 24, 48VDC								
Contact Rating	SPDT: 10A @ 250VAC DPDT: 5A @ 250VAC								

AUTOMATION

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