



HAWKER

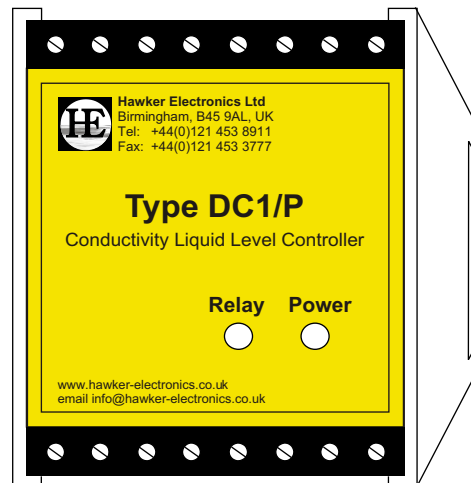
LEVEL CONTROL SYSTEMS

DC1/P

Conductivity
Level Control

Control between two levels
or High or Low Alarm
with one controller

- * Low power DC supply
- * Timer feature
- * Eco friendly
- * Low running costs
- * Adjustable sensitivity
- * Full isolation
- * Works in sewage & chemicals



Principle of Operation

The controller in conjunction with Hawker electrodes is used to detect the presence (or absence) of a conducting liquid in a vessel. When the liquid is detected the DC1/P controller de-energises or energises a relay depending on the fail safe setting and provides the user with a set of volt free changeover contacts. The unit may be used for pump control or for high or low alarms. The DC1/P operates from 20-27VDC supply reverse polarity protected, and generates a 10VAC supply to the electrodes. The AC supply is critical to prevent electrode corrosion due to electrolytic action.

Close Switching Differential

The DC1/P incorporates the unique Hawker circuit used on its conductivity operated controllers which allows operation in high earthy liquids such as foaming sewage with entrained solids, seawater and chemicals.

Fail Safe Feature

Set by a switch on the front panel. The control relay will revert to the alarm state in the event of a power failure. Fail Safe Low is for emptying or low alarm. Fail Safe High is for filling and high alarm.

Timer

The timer switch has four settings, OFF, 2, 6, and 10 seconds. Erratic switching caused during fast filling and wave action can be overcome. The delay will also allow for a run on so that a manual varying OFF position can be set to obviate scum levels.

Sensitivity

The input switching point is adjustable between 200 and 18,000 ohms which suits most applications.

Master/Slave Feature

The DC1/P develops its own AC from the incoming DC supply. When more than one controller is being used together in the same tank (or with a group of electrodes) it is important that the two controllers are in the same phase to prevent interaction. One controller will act as the master with any other controller being a slave.

Mounting Details

The DIN mounted controller is designed for panel mounting with all user adjustments concealed below the clip on cover to prevent tampering. Terminals are at the front of the unit to facilitate fault finding and checking.



HAWKER TECHNICAL SPECIFICATION

Technical Specification

Supply

| | |
|--------------------|---|
| Voltage current: | 20-27VDC reverse polarity protected 58mA relay de-energised, 79mA with relay energised. Maximum current under fault condition is limited to approx 150mA. |
| Power consumption: | 1.5W @ 20VDC, 1.8W @ 24VDC |

Electrodes

| | |
|-----------------------|--|
| Configuration | P1,P2 and G |
| Voltage: | 10VAC RMS max |
| Peak to peak | 18VAC |
| Current: | 5mA RMS max |
| Frequency: | 40HZ \pm 10% |
| Cable capacitance: | Max cable capacitance is 180nF at maximum sensitivity, see cable manufacturers data sheet. Typically 300m max using instrument type cable < 150pF/m core/core. |
| Cable type: | Typically 0.75-2.5 ^{mm} , single or multi-core, See general cable recommendations in user Operating manual. |
| Liquid sensing range: | Approximately 200 to 18,000 ohms, user adjustable via facia sensitivity potentiometer |
| Switching hysteresis: | Better than 5% |
| Fail Safe | Fail Safe High or Fail Safe Low user adjustable via facia DIL switch. |
| Timer: | Auto resetting anti-spash On/Off delay timer. User adjustable via facia DIL switch 0, 2s, 6s, 10s \pm 0.25s. |
| Response time: | <0.4s |

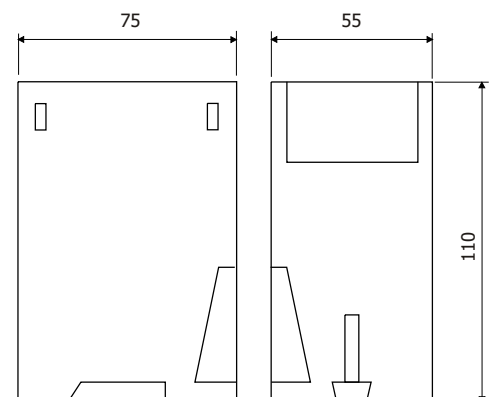
Output

| | |
|------------------------|--|
| Indication LED Green: | Power On |
| Indication LED Red: | Relay energised LED ON, relay de-energised LED OFF |
| Relay: | SPCO, contact rating 5A 250VAC/30VDC, Res. Load Max switching power 1250VA/150W Mechanical endurance 1x10 ⁷ ops Electrical endurance min 1x10 ⁵ ops (full load) Dielectric between open contacts 1000VAC 1 min |
| Operating temperature: | -10°C to +50°C |

Enclosure

| | |
|----------------|---|
| Material: | Polycarbonate |
| Mounting: | Snap fastener for DIN rail mounting meeting DIN 46277 |
| Protection: | IP20 |
| Dimensions: | 55W x 110D x 75Hmm |
| Terminals: | Captive and self locking screws, accepts up to 4mm ² conductor |
| Weight: | 200g |
| Certification: | Electro Magnetic Compatibility Directive 89/336/EEC as amended Overall specification EN61000-6-4:2001, EN 61000-6-2:2001 |

Enclosure Dimensions



Because of continuing development we reserve the right to change the specifications without notice

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