

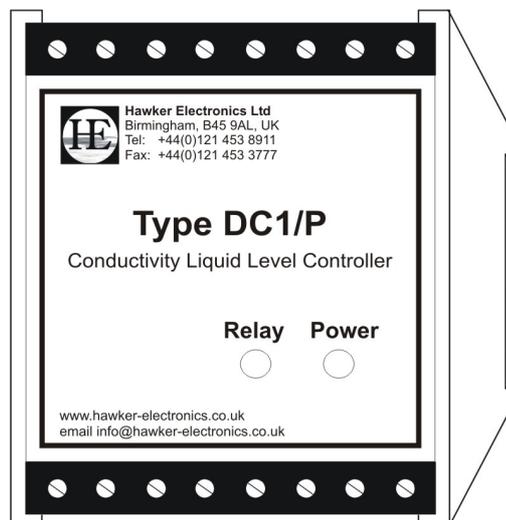


HAWKER

LEVEL CONTROL SYSTEMS

DC1/P *Conductivity Level Control for Control between two levels or High or Low Alarms with one Controller*

- Low power D.C. supply
- Timer feature
- Eco friendly
- Low running costs
- Adjustable sensitivity
- Full isolation
- Works in sewage and 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 a low power DC supply which is reverse polarity protected, and generates a 10V A.C. supply to the electrodes. The A.C. 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, seaweed and chemicals.

Failsafe 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. Failsafe low is for emptying or low alarm. Failsafe 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 A.C. from the incoming D.C. 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 the 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 faultfinding and checking.



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TECHNICAL SPECIFICATION

Technical Data

Specification given at 25°C over full input span. Rights are reserved to change.

Supply

Voltage current: 10-27V DC
 10V DC 110mA 1.1W
 12V DC 90mA 1.08W
 24V DC 49mA 1.2W
 Reverse polarity protected. Maximum current under fault condition is limited to approx 150mA.

Electrodes

Configuration: P1, P2 and G.
 Voltage: 10VAC RMS max.
 Peak to peak: 18V A.C.
 Current: 5mA RMS max.
 Frequency: 40Hz ±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 – 2.5mm, 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-splash on/off delay timer. User adjustable via facia DIL switch 0, 2s, 6s, 10s ±0.25s.
 Response timer: <0.4s.

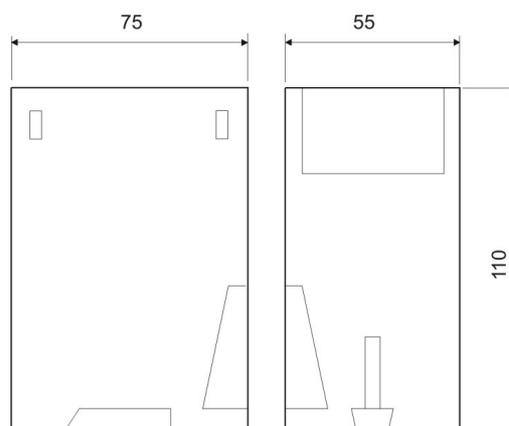
Output

Indication LED Green: Power on.
 Indication led Red: Relay energised LED on, relay de-energised LED off.
 Relay: SPCO, contact rating 5A 250V A.C./30V D.C., res. load
 Max switching power 1250VA/150W.
 Mechanical endurance 1×10^7 ops raised to power
 Electrical endurance min 1×10^5 ops (full load)
 Dielectric between open contacts 1000V A.C. 1 min
 Operating temperature: -10°C to +50°C.

Enclosure

Material: Polycarbonate, IP20
 Mounting: Snap fastener for DIN rail mounting DIN 46277
 Dimensions: 55W x 110D x 75H mm
 Weight: 200g.
 Terminals: Captive self-locking screws, accepts up to 4mm² conductor.
 Certification: Electro magnetic compatibility directive 89/336/EEC as amended overall specification EN61000-6-4:2001, EN61000-6-2:2001

Enclosure Dimensions



This product has been designed and complies to the relevant standards as listed in its certificate of conformity. The installer/user must ensure compliance. The crossed out bin symbol, placed on the product, reminds you of the need to dispose of the product correctly at the end of its life. Because of continuing development we reserve the right to change the specifications without notice

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