

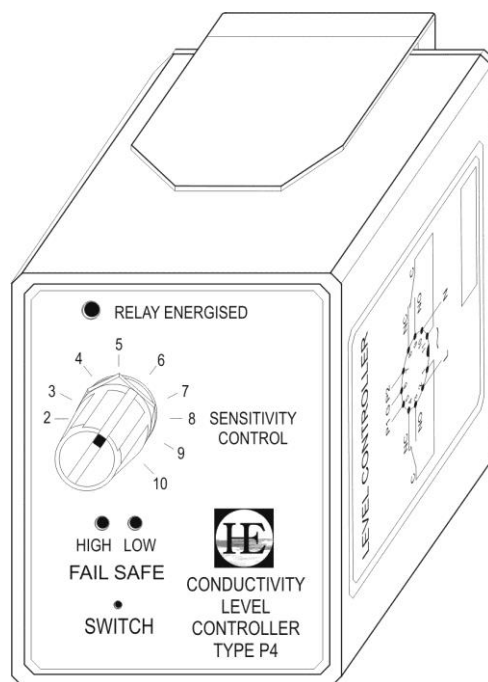


HAWKER LEVEL CONTROL SYSTEMS

TYPE P4 Conductivity Level Controller

Control between two levels for high or low alarm with a single unit controller

- Suitable for a wide range of conductive liquids e.g. sewage, water, acids, alkalis, milk, beverages, paper stock, detergents, wine etc.
- Precise level detection with no dead-band.
- Protection against dry running.
- Prevents pump overrun resulting in reduced operating costs.
- Ignores electrode fouling.
- Simple 'low cost' installation.
- Wide selection of electrodes and mounting accessories.
- ATEX/ IECEx Approved version available (P8/IS)



Principle of Operation: Relies on the conducting properties of liquids to complete an electrical circuit between an electrode and metal tank. For non-metal or coated tanks, the path may be through pump pipework. Alternatively, an earth electrode extending below the lowest active electrode may be fitted. Level sensing electrodes are normally mounted vertically and the controller switching actions occurs as the liquid touches or leaves the electrode. Pressure tight electrodes are available for side entry if required. A low voltage A.C. signal is used on the electrodes to prevent electrolysis.

Sensitivity: The switching point is adjustable between 100 & approx 18,000 ohms, which suits most applications, higher values up to 500,00 ohms are available for high purity water.

Switching Differential: Better than 5% of set sensitivity i.e. 50 ohms at 1000 ohms (5 ohms at 100 ohms sensitivity). This is necessary to avoid relay hold-on at the lower electrode caused by material clinging to the probe, electrode wetting, and viscous liquids such as sludge. This close switching differential also allows the high electrodes to ignore foam layers. (fixed sensitivity controllers without a close switching differential are only suitable for clean applications).

Fail Safe Feature: Set by a switch on the front panel. The control relay will revert to the alarm condition in the event of a failure. L.E.D. status indication is provided. As a general rule emptying applications require a fail safe low (FSL) setting and filling applications a fail safe high (FSH) setting.

Mounting Details: The plug-in controller is designed for mounting into an international 11 pin DIN rail/surface mounting socket enabling ease of installation and servicing. The base of the plug-in enclosure has two plastic clips which enable the P4 unit to be securely locked into the Hawker supplied 11-pin base. (The P4 will however fit other bases but the clips may not secure it).



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TECHNICAL SPECIFICATION

Technical Data

Supply Voltage: 110V or 230V 50/60Hz
(to be specified when ordering)

Supply Tolerance: +10% to -20%

Power Consumption: 6VA max

Inputs: Up to 2 level electrodes plus earth return remotely mounted.

Ambient Temperature: -10°C to +60°C

Sensitivity: Adjustable 100 ohms to approx 18,000 ohms (approx 0 to 10 on the dial) higher values up to 500,000 ohms are available for high purity water (ref: Hi-Sen)

Switching Differential: Better than 5% of sensitivity setting (e.g. less than 50 ohms at 1000 ohms sensitivity).

Relay Output: Double pole changeover voltage free contacts. Contacts rated 4A @ 250V A.C resistive.

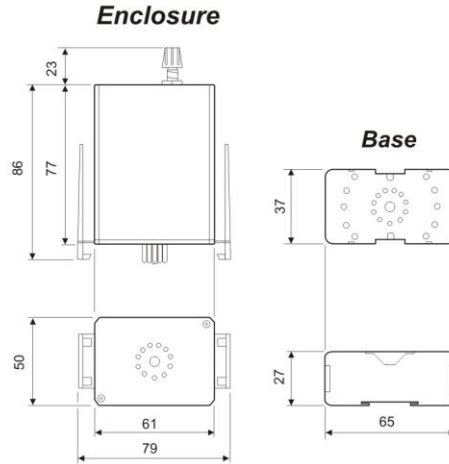
Indication: Red L.E.D. showing relay energised. Green L.E.D.'s (2) fail safe mode and power status.

Connections: 11 pin DIN rail/surface mounting base (optional extra).

Intrinsic Safety: P8/IS ATEX approved level alarm or control system. The controller is situated in the safe area and the electrodes in the hazardous area. See data sheet No 329.

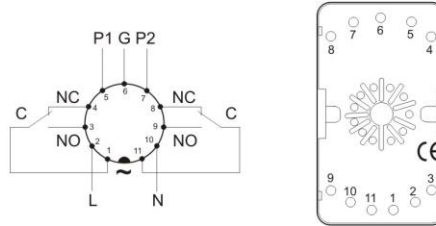
Distance of Controller to Electrodes: Nominally 100m but greater distances using standard cable is possible in liquids of high conductivity, such as acid, sewage, sea water.

Dimensions



Connection Details

11 Pin Base, 2 C/O Contacts



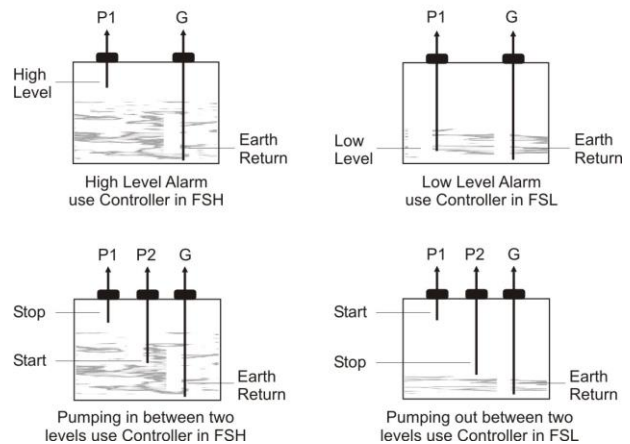
Level Electrodes

The Hawker range of level electrode holders and mounting accessories have been designed to cover a wide range of level control applications. Electrodes available in 316L Stainless Steel, Hastelloy C, Monel, Titanium, etc., supplied plain or suitably insulated. For more information, refer to data sheet No 241.

Ordering Information

P4: Plug-in level controller without base.
P4/Hi-Sen: High sensitivity version of the above.
B11: DIN mount base for P4/P4 Hi-Sen.
***Note:** Voltage required TBA when ordering

Typical Applications



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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FM 10000

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