

DCL 6/10 Chute Level Transducer

Data Sheet



Principle of Operation

The DCL chute level transmitter operates by measuring the conductivity between 6 or 10 specially designed stainless steel electrodes and the mill chute metalwork. The electrodes are mounted on insulating material such as Plexiglas windows in the side or rear of the mill chute. When the electrodes are covered by cane the resistance to the chute metalwork will be reduced. The electronic circuitry senses the resistance changes and operates local LEDs accordingly. The analogue output is ramped to give an appropriate output between 4 and 20mA according to the number of electrodes covered by cane. The independent operating mode is normally used in the first mill where the occasional presence of cane sticks may cause voids in the feeding mat in the mill chute. The gated operating mode is normally used for all successive mills where voids are unlikely to occur. Where high imbibition rates are used, liquid running down the faces of the chute can cause false level indication. PTFE electrode spacers are available to divert the liquid around the electrodes and considerably increase the reliability

Specification

| | |
|---------------------------|---|
| Mounting | Wall / Surface |
| Protection | IP65 |
| Dimensions | H 300mm, W 250mm, D 170mm |
| Ambient Temperature | 0 to 45°C |
| Supply Voltage | 85 to 264Vac, at 47 to 440Hz. 10VA max. |
| Output 1 | Analogue 4 to 20mA, isolated, into a maximum external resistance of 550 Ω . |
| Output 2 | Drive for 6 or 10 remotely mounted LEDs (using external resistors). Alternatively, can be used to drive external miniature mechanical relays or solid-state relays. 30mA max per output. +5Vdc supply output short-circuit protected. |
| Number of Channels | 6 or 10 (sensing electrode inputs). |
| Electrode Material | 316 stainless steel. |
| Electrode Voltage | 5Vp-p at 2kHz. |
| Electrode Cable Length | 10 meters maximum (Available as an option with water-proof connector). |
| Operating Sensitivity | Each input channel independently adjustable from 1k Ω to 60k Ω . Hysteresis 5% nominal. Operational time delay 0.5 seconds on / off. |
| Local Indication | 10 high-brightness, wide viewing angle LEDs. |
| Alarm / Trip Relay | S.P.C.O. contacts rated at 10A, 250Vac / 5A, 30Vdc. Minimum switched capacity 100mA, 5Vdc. Driven by the highest operating level indicator (6 or 10). Fail-safe (de-energises on high level). |
| Independent / Gated Modes | All channels operating independently, or gated so that successive channels will not activate until all lower channels are activated. Selection by two-position switch. |
| Six / Ten Channel Modes | Option of 6 channel operation with the upper and lower two channels disabled, or 10 channel operation. Selection by two-position switch. The 4 to 20mA output automatically adjusts to span the channels that are in use. |