

Type 300MP

Electronic Level Switch

SYSTEM SPECIFICATION

The principle of resistance probe discrimination between water and steam is well established and accepted by the Power Plant industry as the most reliable, convenient and maintenance free method of detecting alarm levels and initiating protective actions.

1,2, 3 or 4 independent probe channels in one electronic enclosure means the installed cost per detection point can be appreciably lower than traditional float level switches. The system incorporates a probe fault circuit that can distinguish whether probes are in a healthy state. The process fault circuit indicates a change in the normal operating state of each probe (e.g. from steam to water).

The Probe Insert Assembly is welded into pipework or vessels at the selected detection points. This provides internal shrouding of the probe for defined water conductivities and a robust housing for external protection of the probe. Multiple Probe Pipework Assemblies can be supplied to suit particular applications.

The system is a micro-processor based system that uses a handheld programmer for setup and adjustment.

ENCLOSURE - Wall mounted glass-fibre reinforced polyester. Protection IP65/NEMA 4X. Dims: 320H x 200W x 120D.

Inputs - Discrimination between water and steam for 4 independent isolated channels. Switching threshold selected for water conductivities of 0.5, 1 or 2mS/cm. Probe cable monitoring to suit water or steam normal condition for each channel.

OUTPUTS - Selection for Relays energised in the Safe plant condition.

Two pole changeover contacts per channel.
Single pole Changeover contact for System Fault.
Contact Rating: Max Voltage - 250Vac, 220Vdc
Max Current - 8Amps
Load Switching - 240W / 2000 VA.

RS485 compatible output for connection of remote display unit.

DISPLAY - LED indication on each channel, illuminated Red for abnormal (alarm) state. Yellow LED indication for Process Fault and 1 for Probe Fault. The selection of horizontal, vertical or combination configurations of probe channel validations, or Mains Supply failure initiates the System Fault indication.

PROBE CABLE - Special PTFE high temperature cable is supplied to connect the electronic unit to the probes. The standard length is 10m with a maximum 30 of meters. The cable consists of 4 cores, 2 earths and 2 supply. Each probe uses a separate cable.

POWER SUPPLY -

The system uses a two AC sources:
110V - 250V @ 15VA, 48 - 63Hz
Temperature Rating: -10 to 65 °C Amb.
-50 to 100 °C Storage.

PROBE INSERT ASSEMBLY

Probes can be installed in a pressure vessel for drain pot applications or via a shrouded insert assembly. These inserts can be made from carbon steel or stainless steel. They are welded into points in steam lines or other pipework. Two probes side by side in a steam line can offer horizontal validation of the presence of water.



KEY FEATURES

4 independent probe channels
Micro-Processor based with handheld programmer
Conductivity Settings for different water purity conditions
Dual Power Supplies
Local Indication using Red & Green high visibility LEDs
Remote Display via the integral RS485 compatible port
Probe Validation for both horizontal and vertical installation
IP65 Rating of enclosure for external use
5 Relay outputs for probe channel output and system fault
Process and system fault features

RELATED PRODUCTS

The 300-MP electronic unit is used in conjunction with the following:

- Water column or Pipe inserts
- Probes
- Probe Cable
- Remote Display