

# Type 201

## Electronic Drum Level Indicator

### SYSTEM SPECIFICATION

**INPUTS** - Discrimination between water and steam for 12 independent channels numbered in ascending order. Discrimination threshold may be selected for minimum water conductivities of, 0.5, 1 or 2 $\mu$ S/cm. Each channel includes the selection of a one or two wire connection to the probe, depending on whether the probe is normally immersed in water or steam. Any wire disconnection will revert the channel to the opposite state to normal, thus indicating a fault. For standard situations where 6 probes are normally in water and 6 in steam a 10 metre length of special high temperature 20 core cable is supplied.

**ENCLOSURE** - Wall mounted glass-fibre reinforced polyester, offering IP65 NEMA4X protection for location in harsh environments.  
Dims: 220H x 200W x 120D (mm).  
Temperature Rating: -10 deg C to +35 deg C.

**POWER SUPPLY** - The system uses a single AC source: 92 to 127 or 184 to 254 Volts AC @ 15 VA, 48 - 63Hz.

**DISPLAY** - The unit incorporates a Two vertical column display of 10mm square LED's on the front of the enclosure. The green LED's represent water and Red LED's represents steam. Particular LED's can be selected to flash on initiation of alarm levels. On channels 1-5 the appropriate red LED (low water level) and on channels 8-12 the appropriate green LED (high water level) may be programmed to flash. The flashing is initiated after the selected delay period applied to the alarm relay.

**OUTPUTS** - Alarm/Trip Relays. Four sealed relays, each having Singlepole changeover contacts provide Alarm and Trip signalling. Each relay may be programmed for the normally energised or de-energised state. Two of these relays have integral delay action period of 1 to 30 seconds and provide low and high level alarms or each relay may provide an output for a combined high/low alarm. The two trip relays provide low level and high level trip initiation. A 2 out of 3 Probe channel voting circuit is applied. The normal Lo Trip level may be selected for channel 2 or 3 and the Hi-Trip level for channel 10 or 11.

Contact rating: 350 Volts 5 Amps.  
Max. Switching Power: AC-600VA  
DC- 30W / 110V, 120W / 30V

**REMOTE DISPLAY** - Fifteen terminals are provided for direct connection to one or two Remote Display units.

**4/20MA TRANSMISSION SIGNAL** - An integral 4 to 20mA circuit where each probe channel contributes a step change of 1.33mA. Selection of 4mA to represent the all water or all steam state. Max Load Impedance: 300 ohms

**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 20 cores terminated with ring crimps and ferules.

### REMOTE DISPLAY OPTIONS

Type 20151A. Panel mounted IP20

This unit duplicates the display on the front of the main unit as is intended for control room location.

Dims: 144H x 72W x 30D (mm)

Panel Cutout Dims: 138 x 67 (mm); 1.5 to 6.5mm thick

Type 20152 Plant mounted IP65.

Designed for mounting outside of control room where extra protection is needed.

Dims: 270H x 80W x 80W (mm)

### KEY FEATURES

*12 independent probe channels*

*Conductivity Settings for different water purity conditions*

*Single Power Supply*

*Local Indication using Red & Green high visibility LEDS*

*Remote Display units for control room and plant use*

*Probe Validation for tripping logic*

*IP65 Rating of enclosure for external use*

*4 Relay outputs for alarms and trips 12 independent probe channels*

### BACKGROUND INFORMATION

The Type 201 system is an electronic alternative to the gauge glass, providing a significant improvement in accuracy, visibility and safety, enabling transmission of the water level condition to a remote display and the application of alarm and control functions.

12 probes are spaced vertically in a side arm water column attached to the boiler drum and with each probe connected to its own sensing circuit. The results are displayed on the local are remote displays. The probes are spaced in the water column to suit the site range.

### RELATED PRODUCTS

The 201 electronic unit is used in conjunction with the following:

- Water column
- Probes
- Probe Cable
- Remote Display