

**WATER SUPPLIES DEPARTMENT**  
**STANDARD SPECIFICATION E-86-03**  
**POWER SUPPLY UNITS FOR INSTRUMENT TRANSMITTERS**

1. GENERAL

Power supply units are used to power the two-wire current loop of 4-20 mA instrument transmitters. The equipment shall be suitable for process plant operation under critical environment and shall meet the relevant electromagnetic compatibility (EMC) standards.

2. DESIGN

The power supply unit shall meet the following design requirements :-

(a) Input

Supply voltage : 220V  $\pm$ 10% and 50 Hz  $\pm$ 2%

(b) Output

Voltage : 24V d.c.

Line regulation : Less than  $\pm$ 0.5%

Load regulation : Less than  $\pm$ 1%

Ripple : Less than 100 mV peak-to-peak

Protection : Detection circuitry shall be built in to protect the power supply unit against overload, overvoltage and short-circuit to the output.

(c) Status indicator : Indication lamp or LED indicator shall be built in to display the 24V d.c. power available status.

(d) Operating environment : 0 – 50°C with relative humidity up to 90%

3. CONSTRUCTION

The power supply unit shall normally be DIN rail mounted inside panel. Where outdoor application is specified, it shall be housed in an IP65 enclosure and suitable for wall mounting.

- End of this Specification -