

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 designed to be suitable for operation under harsh process plant environment in meeting with the relevant electromagnetic compatibility (EMC) and safety standards.

2. DESIGN

Unless stated otherwise in the Particular Specification, the power supply unit shall meet the following design requirements :-

(a) Input

Supply voltage : 220V \pm 10% and 50 Hz \pm 2% with load variation of 0-100%

(b) Output

No. of output : One independent output isolated from mains input and floating with respect to mains earth, unless otherwise specified in the Particular Specification

Voltage : 24V d.c.

Voltage regulation : Less than \pm 1% for \pm 10% mains voltage variation and 0-100% load change

Ripple not exceed 100 mV peak-to-peak

Protection : Protection circuitry shall be incorporated to protect the power supply unit against overload and short-circuit

(c) Operating environment : 0 – 50°C with relative humidity up to 98%

3. CONSTRUCTION

The power supply unit shall normally be DIN rail mounted inside panel. Where outdoor application or external mounting is specified, it shall be housed in an IP54 enclosure and suitable for wall mounting.

4. EQUIPMENT PARTICULARS

The contractor should refer to the Particular Specification for the following particulars of the equipment :-

- (a) No. of output : If it is different from one output
- (b) Mounting requirements : If it is different from mounted inside panel