

WATER SUPPLIES DEPARTMENT
STANDARD SPECIFICATION E-82-22
SIGNAL ADDITION / SUBTRACTION UNIT

1. GENERAL

Signal addition / subtraction unit shall process analogue input signals such as level, flow or pressure signals and provide a d.c. current output as a function of the required computation.

2. DESIGN

The signal addition / subtraction unit shall meet the following design requirements :

Mode of operation	:	Selection of addition / subtraction function shall be set by field selectable jumpers
Input signals	:	4-20 mA d.c.
Input resistance	:	Not exceeding 250 ohms
Scaling of input signals	:	Each input shall be individually scaled by integral multi-turn potentiometer
Output signal range	:	4-20 mA d.c.
Maximum output load	:	600 ohms
Operating conditions	:	0-55 °C 5-95 % relative humidity
Power supply	:	220V 50 Hz or 24V d.c. as specified in the Particular Specification
Supply protection	:	Quick blow fuse to IEC 60269-1 & 4
Isolation	:	1000 V a.c. between input, output, power supply and earth
Accuracy	:	Better than $\pm 0.25\%$ of calibrated span
Linearity error	:	Less than $\pm 0.1\%$ of span
Temperature effects	:	Less than $\pm 0.02\%$ of span per °C

3. CONSTRUCTION

The signal addition / subtraction unit shall be suitable for internal panel mounting or wall mounting as specified in the Particular Specification. When wall mounting is specified, the degree of protection of the unit shall be to IEC 60529 IP54 or better.

4. EQUIPMENT PARTICULARS

The following equipment particulars will be specified in the Particular Specification :

- (a) Computation function
- (b) Types of input signals
- (c) Power supply
- (d) Mounting requirements