

MULTIFLOW

- * Built to customer requirements
- * Three simultaneous frequency inputs
- * Six 12 bit analogue inputs
- * Three 12 bit analogue outputs
- * Ratio Control
- * CE conformity

Designed to meet the ever changing requirements of flow metering the Multiflow can be tailored to virtually any flow application from the most basic of rate and total indicators to a batcher or full control system with computer and printer interface. The system will operate with any flow sensor or sensors that give a signal output. The display is user configurable. Power supply can be either mains ac or 12V dc.

Inputs Up to three frequency inputs can be accepted from flow sensors; each input with a 30 point linearisation curve for the derivation of flow and a programmable factor for unit conversion. Programmable cut-off points enable displays of both frequency and flow to be inhibited below pre-set values.

Up to six analogue process inputs are available for use with sensors of temperature; flow; density; viscosity; pressures - absolute, barometric, gauge or differential, and other factors requiring compensation. Each input has a five point linearisation curve. For conversion to alternative mass units a programmable mass factor can be used.

Outputs Up to three analogue outputs, proportional to any desired parameter, are available for connection to remote facilities such as alarms, indicators, chart recorders, PLCs and the like. The analogue output reference parameter may be configured by the user.

Three TTL pulse outputs are available for retransmission of rate, or for output of pulses per unit volume of total. These outputs, too, may be connected to remote indicators, totalisers or PLCs.

The Multiflow board can also accommodate up to six volt-free relays which can be deployed for alarm purposes. If the process includes a batching unit or controller, the relays can be used to control valves or pump solenoids.



Communications To monitor parameters or programme calibration data RS232, RS485 and IEEE488 interfaces can be incorporated. For connection to panel or desk mounted printers either a serial or parallel port can be incorporated, with the option of time and date indication.

The Multiflow data logging option allows inputs and process data to be logged for storage or downloading to a host computer.

Display The standard display is alphanumeric with red dot matrix characters, 152mm wide and 18mm high, which give an exceptionally wide viewing angle. The display itself comprises three fields: on the left, a maximum of five characters may be used to give the parameter denomination; in the centre is the read-out of the quantity being measured; and to the right are the characters defining the units of measurement.

To enable the user to customise the primary display of the Multiflow, a software feature has been incorporated which enables the parameter denomination and the units of measurement to be altered.

A secondary display may also be incorporated to provide an extra two lines of twenty characters for simultaneous display of the parameters.

Data entry All calibration data are entered by means of a hand-held infra-red keypad following a successful pass-code entry.

To prevent incorrect data entry, when two Multiflow units are positioned in close proximity, the reception of the unit that is not being addressed can be inhibited by a sequence of keystrokes on the front panel keyboard.



Specification

All Multiflow systems are specifically tailored to the customers' requirements by the addition of the available options. The systems may be in the form of rate and total; batchers, or completely special units. PID type ratio control may be programmed by the user.



Rate and frequency have up to six characters available for display: total and batch have up to eight characters available.

Entry of calibration data is performed with an infra-red, hand-held keypad, with passcode protection. Display selection can be made at the front panel of the unit or with the infra-red keypad. Parameter denominations and measurements are configured by the user. Calculations employ full floating point. Multiflow conforms to CE requirements.

Inputs

Frequency: A maximum of three voltage pulse frequency inputs is available. Flow rate may be derived from a 30 point linearisation curve of frequency versus flow rate; by interpolation between points and, by extrapolation, from the first and last two points of the curve. An engineering factor is included for the conversion of units.

Standard frequency range: 0.5hertz to 20kHz with accuracy $\pm 0.01\text{Hz}$ \pm least significant digit.

Extended frequency range: 0.001hertz to 20kHz is available on request.

Cut-off points for both frequency and flow are programmable.

Signal conditioning boards are available for contact closure (reed switch): sine wave; low level input to base of PNP transistor and two wire modulated current frequency inputs.

Analogue: Up to six analogue inputs, each with 5 point linearisation, can be either 4-20mA or 0-10V dc.

Resolution: 12 bit.

Accuracy: $\pm 0.025\%$ of full scale.

Outputs

Analogue: Up to three analogue outputs either 4-20mA or 0-10V dc.

Accuracy: $\pm 0.025\%$ of full scale \pm least significant digit.

Pulse: Up to three TTL outputs with a range of 1 hertz to 1 kHz.

Regulated dc: Three regulated 12 to 24Vdc outputs; 100mA each; available only when used on ac supply.

Relays: Up to six single pole relays.

Rating: 0.25A at 240Vac.

Communications

Full control via the communications interface for the programming and monitoring of parameters.

Printer: RS232/RS485 – serial bi-directional. IEEE488 parallel bi-directional.

Hardware

Display: Red LED dot matrix display (152mm wide x 18mm high) for display of alphanumeric characters. Optional secondary display with two lines of 20 characters.

Dimensions: Panel mounted steel double DIN enclosure; 192mm wide x 96mm high x 210mm deep.

Panel cut-out size: 186mm wide x 92mm high ($\pm 1.00\text{mm}/-0.0\text{mm}$).

Terminations: Plug-in Combicon terminals for flexible wires up to 2.5mm².

Weight: 2kg to 4kg dependent on options fitted.

Power supply: 220 to 240Vac 50-60Hz or 110 to 120Vac 50-60Hz; selected by user. 12-24Vdc supply.



I INEAD MEMORY METER LTD