

FLM-100 Communication Information - Software 677500

1. General.

Software 677500 is designed to provide the control function for the FLM-100 flow monitoring module. The FLM-100 uses the RS-485 channel to respond to communications from the host computer system.

This document describes the format of the communications protocol.

2. Baud Rate.

The software supports two different baud rates (9600 or 1200) selected by an on board PCB jumper. Refer to ref 677902 for configuration information. Communication is always 8 data bits, no parity, 1 stop bit. The recommended baud rate is 9600 baud.

3. Communications Format.

Communications is achieved using an ascii character based protocol. Each string is output with a terminating <CR> character.

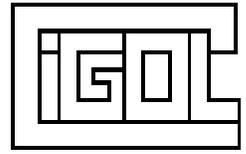
The FLM-100 can be configured (using Jumper J9 - refer also to reference 667902) for use with either a single dedicated RS485 connection (with only one FLM-100 on) or a simple RS485 networked connection (with between 1 and 16 FLM-100 units all connected to the same RS485 bus).

When used in the single dedicated mode (J9 open circuit) the RS485 port is always an output and the communications string described in section 3 below is automatically output once a second.

When used in the networked mode (J9 present) the RS485 port remains in active until the following data request string is received

?A (terminated with a <CR>, incoming <LF> chars are ignored without an error)

A is a decimal number which must be equal to the assigned address of the FLM-100 (refer to 667902). Data request with non-matching addresses are ignored without error (they are presumed to be intended for a different FLM-100 on the same RS485 network). When the matching data request is received the RS485 port is made active (output) and the communications string described in section 3 below is sent.



4. Communication String.

The FLM-100 output format is as follows

?A|P|C1|C2|C3|C4|S

Where all numbers are decimal integers as follows

A = device address (0 to 15)

P = time period in seconds over which the FLM-100 is counting the pulses

C1 = number of pulses in channel 1 over this time period

C2 = number of pulses in channel 2 over this time period

C3 = number of pulses in channel 3 over this time period

C4 = number of pulses in channel 4 over this time period

S = Software number of installed firmware (eg 677500)

The string is terminated with a <CR>

5. Flow Meter Indication Utility.

A simple PC based terminal utility is available for communication with the FLM-100. This requires an RS485 COM port wired to one or more suitably configured FLM-100 units. It allows the flow rates of the four channels to be monitored and displayed.