

OPTION 3013

RS232 Communications Option

Ensure that maximum cable length from instrument to PC is less than 15 meters.

- Use the TX, RX and digital ground terminals.
- TX designates the panel meter transmit line. This should be connected to your RX line.

Asciibus Protocol:

ASCIIbus, which is described here, is much easier to use as it can easily interface to third party systems with very little engineering work required. It is a purely ASCII based (7 bit) protocol. The protocol is essentially designed for one way communications (instrument to PC). Under the "Conn" (connection) programming menu, ASCIIbus is enabled by selecting "ASCII" to "ON". If "OFF" is selected, the DIGibus protocol will be active. Although designed for one way communications only, the ASCIIbus protocol contains an address. The address range is "00" to "99".

Using address "00" : If this address is selected, the instrument will only transmit data on demand by either momentarily pressing the 'menu' key, or by transmitting a byte (any ASCII character) to the DPM. This mode is useful for interfacing to printers. In addition, field 'A A' will contain the ASCII character "blank/space". Field 'P' will also contain the ASCII character "blank/space".

Using address "01" to "99". If any of these addresses are used, the meter continuously transmits information at approximately 5 times a second.

The data format string output from the indicator is (7 bit ASCII code is used):

Line Settings : 7 Data Bits, 1 Parity bit, Odd Parity, 1 Stop Bit.
Baud Rate : Selectable 2400, 4800, 9600, 19200.
Data Bits : Numerical ASCII characters : 0, 1, 2, 3, 4, 5, 6, 7, 8, 9
Other ASCII characters : #, blank/space, +, -, CR, LF
Protocol format is : # A A S D D D D D D D P CR LF
where : # = indicates start of message
: A A = Instrument address. ASCII 00 to 99. 00 is default.
: S = sign (polarity) (ASCII "+" or "-").
: D = data bits (data for 8 numerals). See Note (1).
: P = decimal point position. ASCII 0 to 8.
: CR = ASCII carriage return.

The output will follow the display reading. This means that if the peak-hold option has been ordered and activated, the communications output will peak-hold as well.

Note 1 : This protocol allows for future expansion. Therefore if Model 4001 is used for example, the first four digit data will contain the ASCII character "blank/space" and the last four digits will contain the display reading. Similarly, if the Model 5001 is used for example, the first 2 digit data will contain the ASCII character "blank/space" and the last six digits will contain the display reading.

NOTE: See Digibus Application Note.



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