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4~20mA FREQUENCY-TO-CURRENT CONVERTER WITOC14/min

INTRODUCTION

4~20mA current loop converter/transmitter. Used to transmit measurements to long distances with just two wires and without accuracy loss.

SENSOR INPUT

A green LED toggles On/Off to indicate sensor operation (i.e. rain gauge).

Input range: $0\sim14$ pulses/min. Conversion factor F/I: 0.875 pulse/min/mA. Accuracy: ±0.5 pulses. Input impedance: $1M\Omega$. Sensitivity: 100mV RMS (SIN position) $\dot{\eta}$ 2V peak-peak (TTL position).

SENSOR SUPPLY

+5V. Used for rain gauge or other sensor excitation.

Output voltage: 5VDC. Maximum output current: 0.5 mA. Accuracy: ±1%.

CURRENT LOOP OUTPUT

The power supply and the instrument's output are both carried on two wires. A red LED indicator is lit when the loop supply is present.

Power Supply (Voltage difference from +24V terminal to RETURN terminal): minimum 10VDC, maximum 30VDC.

SWITCHES

- FILTER ON/OFF switch: activates a low-pass input filter (about 50Hz). It is used when excessive noise is present and the output signal is unstable.
- SIN/TTL switch: selects type of signal; **low-level AC** (SIN suitable for MAX-40 type anemometers) or **unipolar** 0~5V (TTL for REED based sensors).
 - PROTECTION: From voltage surges and reverse connections.
 - ENCLOSURE: Sealed IP65, with cable glands, 80x160x55 mm.
 - WEIGHT: 200gr.
 - CONNECTION: spring-loaded terminals.
 - OPERATION TEMPERATURE: -30°~+70°C
 - WARRANTY: 1 year.



SYMMETRON WITOC1024

CONNECTIONS

Example: Connection to Reed-type rain gauge.

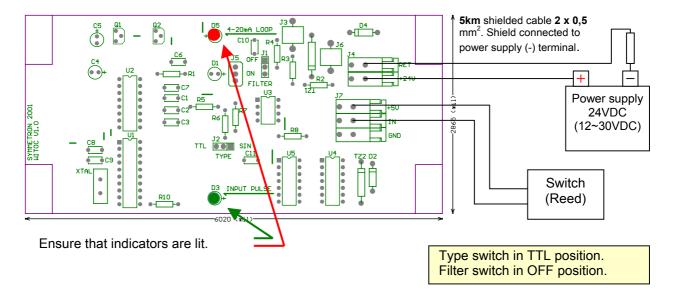
 \Rightarrow Voltage drop in cable: (40 Ω /km x 2 x 5km) x 20mA=8V

 \Rightarrow Voltage drop in measurement resistor: 250 Ω x 20mA=5V

⇒ Minimum voltage drop required on WITOC terminals: 10V

 \Rightarrow Minimum power supply voltage: 8 + 5 + 10=23V

Measurement resistor: 250Ω



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