SYMMETRON
ELECTRONIC APPLICATIONS

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4~20mA FREQUENCY-TO-CURRENT CONVERTER
WITOC1024

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 anemometer operation.

Input range: 0~1024Hz. Conversion factor F/I: : 64 Hz/mA. Accuracy: ±0.5Hz. Input impedance: 1MΩ. Sensitivity: 100mV RMS (SIN position) ή 2V peak-peak (TTL position).

SENSOR SUPPLY

+5V. Used for anemometer 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.*

CONNECTIONS

Example 1: Connection to TTL anemometer.

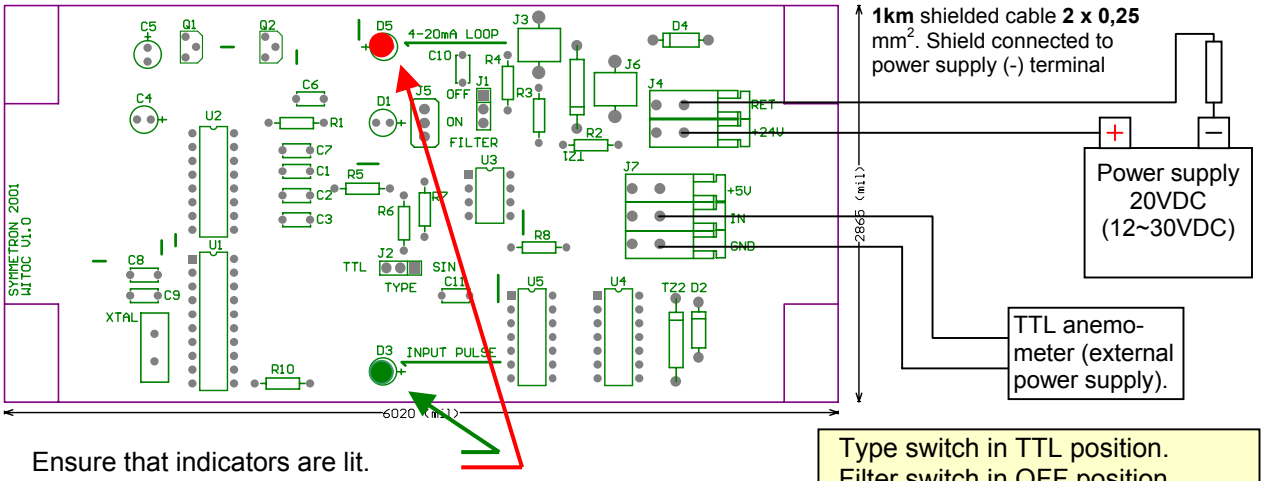
⇒ Voltage drop in cable: (82Ω/km x 2 x 1km) x 20mA=3,28V

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

⇒ Minimum voltage drop required on WITOC terminals: 10V

⇒ Minimum power supply voltage: 3,28 + 5 + 10=18.28V

Measurement resistor: 250Ω



Ensure that indicators are lit.

Type switch in TTL position.
Filter switch in OFF position

Example 2: Connection to Reed-type anemometer.

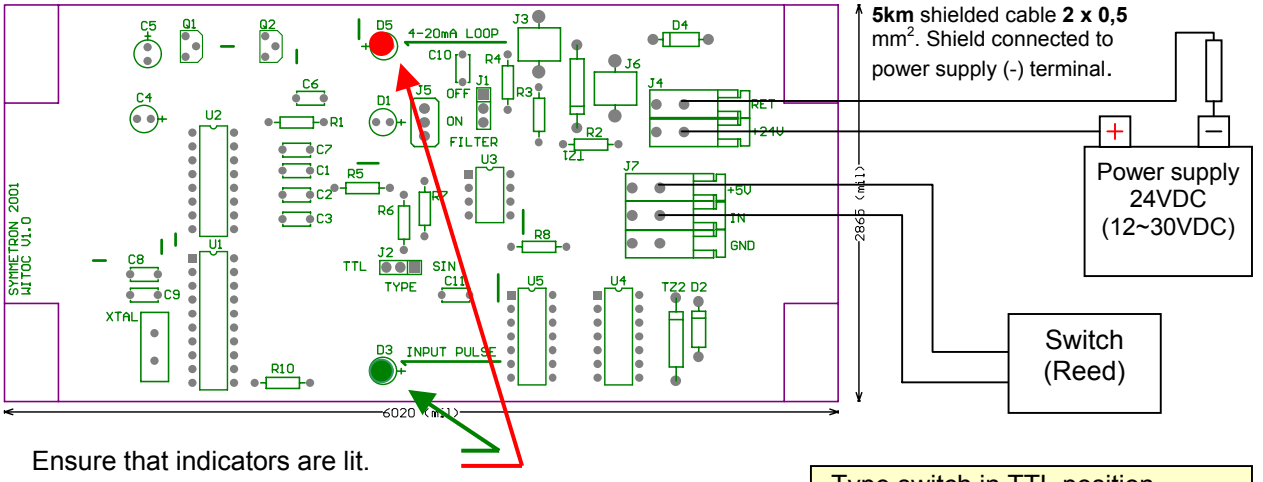
⇒ Voltage drop in cable: (40Ω/km x 2 x 5km) x 20mA=8V

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

⇒ Minimum voltage drop required on WITOC terminals: 10V

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

Measurement resistor: 250Ω



Ensure that indicators are lit.

Type switch in TTL position.
Filter switch in OFF position.