SYMMETRON
ELECTRONIC APPLICATIONS

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4~20mA VOLTAGE-TO-CURRENT CONVERTER

VOTOC3

INTRODUCTION

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

SENSOR INPUT

Two options of input range (by request):

- *0~4.5VDC. Conversion factor: 0.28125 Volt/mA.*
- *0~2VDC. Conversion factor: 0.125 Volt/mA*

  Conversion accuracy V/I: ±0.15%. Input impedance: 5MΩ

SENSOR SUPPLY

+V OUT. Used for wind vane or other sensor excitation.

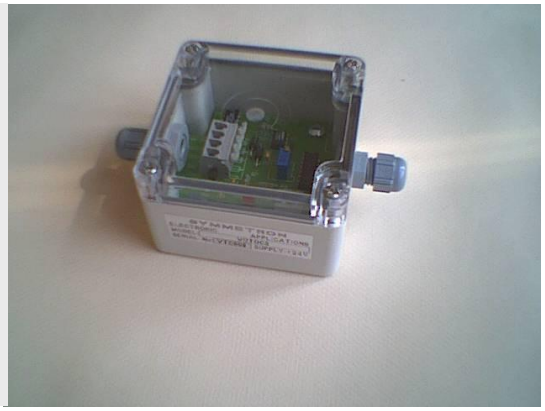
Two options of output voltage: 4.5VDC. Maximum output current: 1.25 mA. Accuracy: ±0.15%.

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 15VDC, maximum 30VDC.

- *PROTECTION: From voltage surges and reverse connections.*
- *ENCLOSURE: Sealed IP65, with cable glands, 80x82x55 mm.*
- *WEIGHT: 160gr.*
- *CONNECTION: spring-loaded terminals.*
- *OPERATION TEMPERATURE: -30°~+70°C*
- *WARRANTY: 1 year.*



CONNECTIONS

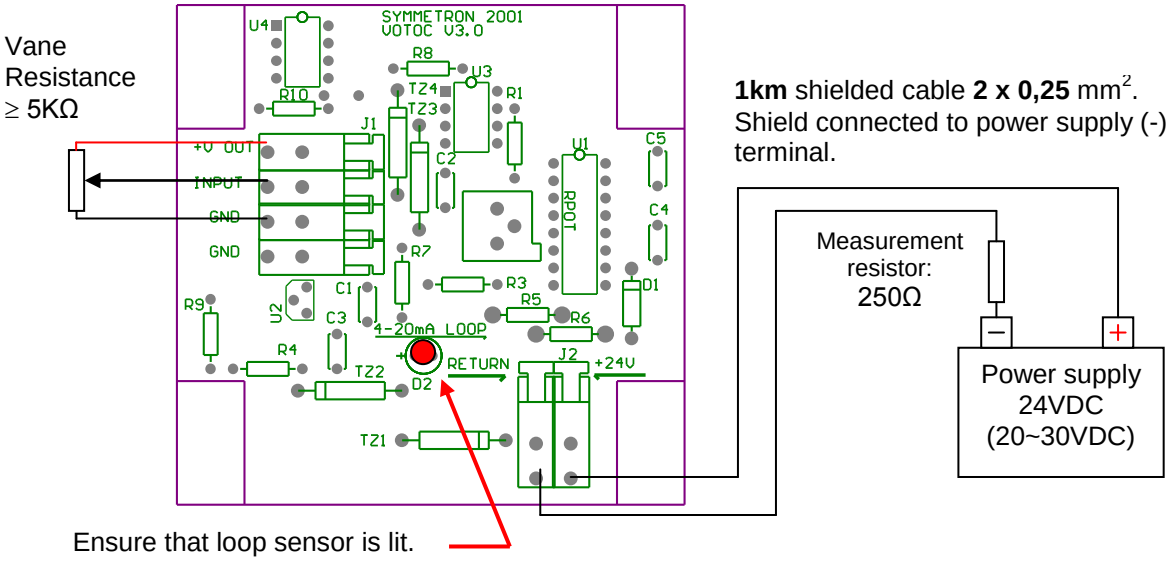
Example 1: Connection to wind vane.

⇒ 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 VOTOC3 terminals: 15V

⇒ Minimum power supply voltage: 3,28 + 5 + 15=23.28V



Example 2: Connection to temperature sensor.

⇒ 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 VOTOC3 terminals: 15V

⇒ Minimum power supply voltage: 8 + 5 + 15=28V