NIEUWKOOP

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LEAFLET

EC3001

EC TRANSMITTER, 4-20 mA,
RS485 - MODBUS




TO MEASURE = TO KNOW

EC3001

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The **EC3001** conductivity / TDS transmitter is the best solution for the installations where it is necessary the retransmission of the measures at distance. Thanks to a "current loop" 4-20 mA isolated output and RS485 serial interface, the transmitter can be easily connected to the most common PLC or other remote supervision and control systems. The calibration of the sensor and the configuration of the transmitter can be done locally or remotely via the serial interface.

Main features

Range

0 ÷ 2.000/20.00/200.0/2000 µS
0 ÷ 2.000/20.00/200.0/2000 mS
0 ÷ 1.000/10.00/100.0/1000 ppm
0 ÷ 1.000/10.00/100.0/1000 ppt
-10.0 ÷ 110.0 °C , 14.0 ÷ 230.0 °F

Display

It shows the values of the measures and the messages that guide the user in the various stages of set-up and configuration.

Keyboard

The keys include zero calibration and sensitivity.

Temperature compensation

The transmitter performs the manual or automatic temperature compensation.

Calibration

Standard solutions are stored in the transmitter's memory and they are automatically recognized during calibration.

Filter software

The user can set two filters in order to obtain a stable reading and a faster response to the variations of the measurement in the process.

Analog output

The 4-20 mA current loop is galvanically isolated, so that can be interfaced directly to a PLC or data acquisition cards.

Serial interface

The isolated RS485 serial interface allows connection to a PLC, terminals or PC, using the B&C (ASCII) or Modbus RTU protocol.
The B&C (ASCII) protocol allows the transmission of measures and the management of calibration and configuration.
The Modbus RTU protocol features the 03, 06, 16 functions.
The digital and analog mode can be used simultaneously.

Logic input

The free voltage contacts can create the hold condition.

Power supply

The transmitter is 9 ÷ 36 Vdc current loop powered, directly from a PLC, from data acquisition boards or by a power supply in series between the analog output and the acquisition apparatus.

Easy installation

The small size of the transmitter and the removable terminal blocks facilitate the installation in control cabinets or waterproof enclosures for DIN Rail components.

Sensors

The transmitter is compatible with all 2 and 4 electrodes conductivity probes offered by B&C/Nieuwkoop.
Temperature is measured by means of Pt100 3 wires probes.

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Applications

- **Primary water**
- **Food industry**
- **Paper and pulp**
- **Chemical industry**
- **Pharmaceutical**
- **Electroplating**
- **Printing industry**
- **Textile industry**
- **Irrigation and agriculture**
- **Swimming pools**
- **Safety**
- **Water treatment**
- **Surface treatment**

Technical specifications

Inputs: 2 or 4-electrodes cell
Pt100
K cell: 0.1 – 0.5 – 1.0 - 10
Temperature coefficient: 0.00 ÷ 3.50 %/°C
TDS/EC conversion factor: 0.450 ÷ 1.000
Reference temperature: 20/25 °C
Zero: ± 10%, ± 5 °C, ± 9 °F
Sensitivity: 60 ÷ 160 %
Resolution: 1 digit
Accuracy: 0.2 %
Repeatability: 0.1 %
Non-linearity: 0.1 %
Filter software: large signal: 2 seconds
small signal: 1 ÷ 20 seconds
Analog output: 4-20 mA, Rmax 600 ohm
Operating temperature: 0 ÷ 50 °C
Humidity: 95% without condensation
Power supply: 9/36 Vcc
Terminal blocks: extractable
Weight: 250 g
Enclosure : IP 40
Dimensions: 71 X 95 X 58 MM (4 DIN modules)
Registered design: 002564666-001
EMC/RFI conformity: EN 61326

Technical specifications could be changed without notice

Installation accessories

Enclosure for 1 transmitter
Dimensions: 143x210x100 mm
Protection: IP65
Wall mounting: with brackets, to be ordered separately

Enclosure for 2 transmitters
Dimensions: 215x210x100 mm
Protection: IP65
Wall mounting: with brackets, to be ordered separately

Enclosure for 3 transmitters
Dimensions: 298x260x140 mm
Protection: IP65
Wall mounting: with brackets, to be ordered separately

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