**INPUT:**

- **Temperature Sensor (pressure, flow, etc.)**
- **Shunt Measurement and Signal Conversion with its Visualization and Retransmission.**

**FEATURES:**

- **Universal Measuring Input.**
- **Version: Standard, with SD Card, with Ethernet and Internal Memory.**
- **Mathematical Functions, i.e. Median Filter Function on Measured Value.**
- **Individual Characteristic (up to 21 Points).**
- **1 or 2 (Option) Alarm Outputs.**
- **Built-in Power Supply of Object Transducers 24V d.c. (Option).**
- **RS-485 Interface Modbus RTU Slave, RTU Master or Monitor.**
- **Modbus TCP Slave (Option).**
- **Possibility to Record One Measuring Value and Simultaneously up to 50 Read-out/Written Values via RS-485 Modbus Master.**
- **Data Recording in Internal Memory, up to 4MB or in External SD/SDHC Card or Internal File System Memory (8 GB) (Option).**
- **Transducer Programmable Using Buttons, eCon Freeware (through RS-485 or Ethernet) or Any Web Browser (through Ethernet).**
- **Firmware Upgradeable by the User.**

**EXAMPLE OF APPLICATION:**

- Measurement and Signal Conversion with its Visualization and Retransmission.

**INPUT TABLE:**

<table>
<thead>
<tr>
<th>Input type</th>
<th>Nominal Measuring Range</th>
<th>Coefficient k*</th>
<th>Input type</th>
<th>Range</th>
<th>Minimal Sub-range with Class Preservation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Voltage 10 V</td>
<td>-10...10 V</td>
<td>4</td>
<td>Thermocouple J type</td>
<td>0...400 °C</td>
<td>1</td>
</tr>
<tr>
<td>Voltage 24 V</td>
<td>-24...24 V</td>
<td>5</td>
<td>Thermocouple K type</td>
<td>-200...1200 °C</td>
<td>2</td>
</tr>
<tr>
<td>Current</td>
<td>-20...20 mA</td>
<td>10</td>
<td>Thermocouple S type</td>
<td>0...1760 °C</td>
<td>2</td>
</tr>
<tr>
<td>Resistance 400</td>
<td>0...400 Ω</td>
<td>4</td>
<td>Thermocouple N type</td>
<td>-200...420 °C</td>
<td>1</td>
</tr>
<tr>
<td>Resistance 2000</td>
<td>0...2000 Ω</td>
<td>2</td>
<td>Thermocouple E type</td>
<td>-200...1000 °C</td>
<td>2</td>
</tr>
<tr>
<td>Resistance 5500</td>
<td>0...5500 Ω</td>
<td>2</td>
<td>Thermocouple R type</td>
<td>0...1760 °C</td>
<td>2</td>
</tr>
<tr>
<td>Pt100</td>
<td>-20...850 °C</td>
<td>5</td>
<td>Thermocouple T type</td>
<td>-200...400 °C</td>
<td>1</td>
</tr>
<tr>
<td>Pt250</td>
<td>-200...600 °C</td>
<td>4</td>
<td>Thermocouple B type</td>
<td>400...1800 °C</td>
<td>1</td>
</tr>
<tr>
<td>Pt500</td>
<td>-200...850 °C</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pt1000</td>
<td>-200...250 °C</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N100</td>
<td>-60...180 °C</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N1000</td>
<td>-60...150 °C</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N1000-LG</td>
<td>-60...180 °C</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N10000-LG</td>
<td>-60...180 °C</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cu100</td>
<td>-50...180 °C</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Voltage mV</td>
<td>-5...20 mV</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>-75...75 mV</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>-200...200 mV</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**NOTE:**

- Accuracy class = 0.1 with the exception of N, E, and T Thermocouples, where accuracy class = 0.2 and S, R, and B Thermocouples, where accuracy class = 0.5.
- k* = coefficient of narrowing the measuring range with keeping the accuracy class.
- In the Master mode of RS-485 interface, the transducer can poll up to 50 registers from one device, with implemented Modbus protocol, using RS-485 interface. In this mode, it is not possible to poll the transducer by another Master device.
- In the Master mode of RS-485 interface, the transducer can monitor activity of the RS-485 connection and react (accept as a measured value) to the value of the frame of the selected slave device. The transducer can analyze up to 50 registers from one device. In this mode, it is not possible to poll the transducer by another Master device.

**EXPLANATION:**

- **Example:** 10 Z = -10...10V; k = 10
- Z/k = 2 V, so the minimal sub-range can be e.g. -1...1 V; 0...2 V; 5...7 V
**EXTERNAL FEATURES**

- **Overall dimensions**: 45 x 120 x 100 mm
- **Weight**: < 0.25 kg
- **Protection grade**
  - for housing: IP40/ IP30
  - for terminals: IP20
- **Readout field**: LCD 2 x 8

**RATED OPERATION CONDITIONS**

- **Supply voltage**
  - 85...253 V d.c. / a.c. (40...400 Hz)
  - 20...40 V a.c. (40...400 Hz) or 20…60 V d.c.
- **Power consumption**: < 6 VA
- **Temperature**
  - ambient: -25... 23...+55°C
  - storage: -30...+70°C
- **Relative humidity**: 25...95 %
- **Working position**: any

**SAFETY AND COMPATIBILITY REQUIREMENTS**

- **Electromagnetic compatibility**
  - noise immunity: acc. EN 61000-6-2
  - noise emissions: acc. EN 61000-6-4
- **Isolation between circuits**: basic
- **Pollution level**: 2
- **Installation category**: III
- **Maximal phase-to-earth voltage**
  - for supply circuits 300 V
  - for other circuits 50 V
- **Altitude above see level**: < 2000 m

**ORDERING**

- **Analog output**
  - current (range 0/4...20 mA)
  - voltage (0...10 V)
- **Relay**
  - 1 or 2 relays; voltageless contacts – NO
- **Supplying output**
  - 24 V d.c. / 30 mA (option)

**ACCESSORIES**

- **SD CARD**
  - Capacity: 1 GB, 2 GB
  - Ordering code: 20-199-00-00023, 20-199-00-00025

**Order example**

Code P30U-111100P0 means transducer execution with current output, slot for SD/SDHC card, with 2 alarm relays, 85...253 V a.c. / d.c. (40...400 Hz) power supply, standard version, Polish language, without extra requirements.

* after agreeing with the manufacturer.