# Ultrasonic
# Evaluation Unit for Sensor Head
# Type UC EU 80 -1

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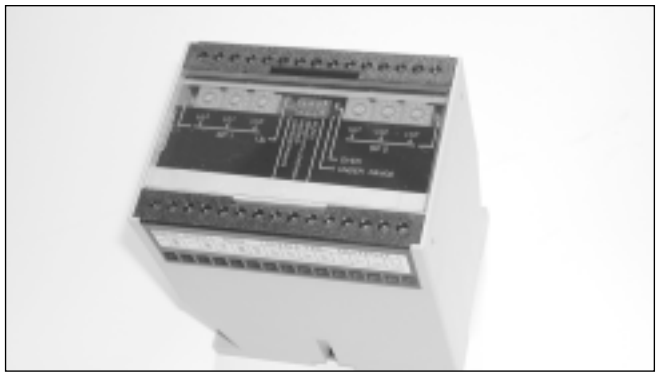


- **100 x 75 x 110 mm housing, DIN-rail mounting**
- **Outputs: PLC, Display, RS232, sensor supply**
- **Input: Sensor head UC 80 CND 80 FS M1**
- **Full programmable**
- **Hold function, 2 set points, over- and under range, analogue outputs 0-10 VDC and 4-20 mA**
- **Power supply: 24 VDC unregulated (19 to 30 VDC)**
- **Protection: Short-circuit, reverse polarity, transients**
- **Protection degree IP 40**
- **Screw terminals**
- **Distance to censor head: up to 100 m**

## Product Description

Evaluation unit for sensor head UC80CND80FSM1. From the evaluation unit it is possible to program all sensor settings e.g. sensitivity, NO or NC switching and angle of analog output. As the sensor and evaluation unit is separated it makes the two-part set-up an ideal solution for level measurement in high tanks. When the evaluation unit is mounted in a panel all settings can be fixed here and not on the top of the tank.

## Ordering Key

**UC EU 80 -1**

- **Ultrasonic sensor**
- **Housing style**
- **Evaluation unit**
- **Sensing distance**
- **Variant**

## Type Selection

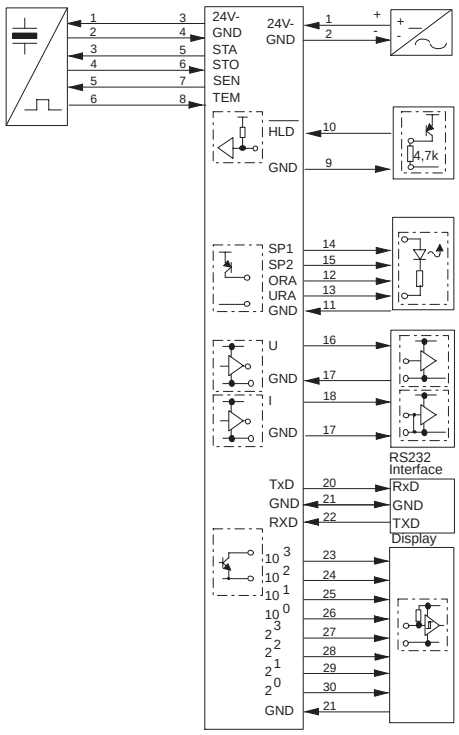
| Housing dimensions | Connection | Rated operating dist. ($S_n$) | Ordering no. |
|---|---|---|---|
| 100 x 75 x 110 mm | Screw terminals | 800-8000 mm | **UC EU 80 -1** |

## Specifications

| | |
|---|---|
| **Rated operational volt.** ($U_e$) | 19 to 30 VDC (ripple included) |
| **Ripple** | ≤ 10% |
| **Protection** | Short-circuit, transients and reverse polarity |
| **Rated insulation voltage** | > 1 kV |
| **Inputs** | |
| Sensor head | Pins 3, 4, 5, 6, 8 |
| Hold | Pin 10 (active LO) |
| **Outputs** | |
| Set point 1 | Pin 14 — *PNP, open collector 100 mA, Short circuit protected* |
| Set point 2 | Pin 15 — *PNP, open collector 100 mA, Short circuit protected* |
| Over range | Pin 12 — *PNP, open collector 100 mA, Short circuit protected* |
| Under range | Pin 13 — *PNP, open collector 100 mA, Short circuit protected* |
| Analogue output, 0-10 VDC | Pin 16, $R_{min}$ 1450 Ω |
| Analogue output, 4-20 mA | Pin 18, $R_{max}$ 250 Ω |
| Display | BCD, pins 23-26<br>HEX, pins 27-30<br>NPN, open collector, 30 VDC, 20 mA, short-circuit protected |
| **Carrier frequency** | 65 kHz |

| | |
|---|---|
| **Programmable functions** | Basic set-up, saving of basic set-up, analogue output range and offset, set points, over- and under range, repetition frequency, false echos, read-out of parameters, mode register. |
| **Rated operating distance** | 800-8000 mm |
| **Ambient temperature** | |
| Operating | 0° to +50°C (32° to +122°F) |
| Storage | -25° to +85°C (-13° to +185°F) |
| **Degree of protection** | IP 40 |
| **Housing material** | ABS (Teluran 877T) |
| **Housing dimensions** | 100 x 75 x 110 mm |
| **Connection** | Screw terminals |
| **Weight** | 370 g |
| **CE-marking** | Yes |

## Wiring




**External power supply**

| | | |
|---|---|---|
| 1 | 24 V | Power supply |
| 2 | GND | Ground, power supply |

**Sensor head UC80CND80FSM1**

| | | |
|---|---|---|
| 3 | 24 V | Sensor supply |
| 4 | GND | Ground, sensor supply |
| 5 | STA | Transmit pulse |
| 6 | STO | Received pulse |
| 7 | SEN | Receiver sensitivity (not connected) |
| 8 | TEM | Temperature signal |

**Remote control**

| | | |
|---|---|---|
| 9 | GND | Ground |
| 10 | HLD | Transmit disable, synchronisation |

**Switching outputs**

| | | |
|---|---|---|
| 11 | GND | Ground |
| 12 | ORA | Over Range, no received pulse |
| 13 | URA | Under Range, “blind zone” |
| 14 | SP1 | Setpoint 1 |
| 15 | SP2 | Setpoint 2 |

**Analogue outputs**

| | | |
|---|---|---|
| 16 | U | Voltage output 0... 10V |
| 17 | GND | Ground for voltage output |
| 18 | I | Current output 4... 20mA |
| 19 | GND | Ground for current output |

**Interface, serial output (UDSProg A4N)**

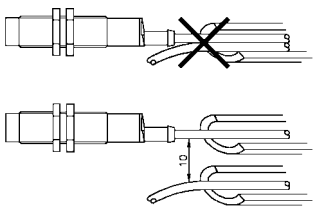
| | | |
|---|---|---|
| 20 | TxD | Data output, serial |
| 21 | GND | Ground, Data output, serial |
| 22 | RxD | Data input, serial |

**Display outputs**

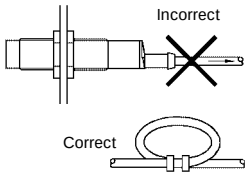
| | | |
|---|---|---|
| 23 | $10^3$ | Digit 3 |
| 24 | $10^2$ | Digit 2 |
| 25 | $10^1$ | Digit 1 |
| 26 | $10^0$ | Digit 0 |
| 27 | $2^3$ | Digit 3 |
| 28 | $2^2$ | Digit 2 |
| 29 | $2^1$ | Digit 1 |
| 30 | $2^0$ | Digit 0 |

## Installation Hints

*To avoid interference from inductive voltage/ current peaks, separate the prox. switch power cables from any other power cables, e.g. motor, contactor or solenoid cables*

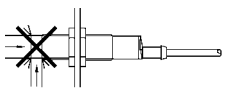



*Relief of cable strain*



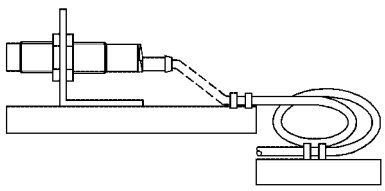

The cable should not be pulled

*Protection of the sensing face*



A proximity switch should not serve as mechanical stop

*Switch mounted on mobile carrier*



Any repetitive flexing of the cable should be avoided

## Dimensions