

# Technical Data Sheet

## pH-RS485-32

Part Number 0021.0240

The device converts the high-impedance input signal from a pH electrode into a low-impedance RS-485 output signal. The measured value and—if an NTC is connected—the temperature are transmitted via Modbus RTU.



## Technical Data

| Technical Specifications      |                                    |                     |                             |
|-------------------------------|------------------------------------|---------------------|-----------------------------|
| Measurement Range             | 0.00...14.00 pH                    | Power Supply        | 24 V DC $\pm$ 10%           |
| Resolution                    | 0.01 pH                            | Current consumption | 50 mA                       |
| Accuracy                      | $\pm$ 0.02 pH                      | Interface           | RS-485, Modbus RTU          |
| Temperature input             | NTC 2 k $\Omega$ , B = 3950 K      | Communication       | 9600 baud, 8N1              |
| Temperature measurement range | 0...90 °C                          | Device address      | 1...247, adjustable on-site |
| Temperature compensation      | NTC or controller reference        | Hardware address    | Fixed and unique            |
| NTC not connected             | No local temperature value         | Calibration data    | Stored non-volatily         |
| Measurement calculation       | 0.3 s                              | pH connection       | AS7                         |
| Dimensions                    | Length 200 mm, $\varnothing$ 32 mm | Modbus connection   | SAC-5P-M12MS                |
| Cable lengths                 | 1 m each                           | Housing material    | PP                          |
| Weight                        | approx. 250 g                      | Protection rating   | IP69                        |
| Ambient temperature           | -20...+50 °C                       | Compliance          | CE, RoHS                    |

**Behavior without NTC:** The temperature channel reports "not available" ( $3.0 \times 10^{97}$ ). For pH compensation, the reference temperature specified by the controller applies; 25 °C is used until the first value is specified.

## Pin Assignment SAC-5P-M12MS

| Pin | Signal   | Wire Color | Function     |
|-----|----------|------------|--------------|
| 1   | -        | brown      | Not assigned |
| 2   | +24 V DC | white      | Power supply |
| 3   | GND      | blue       | Ground       |
| 4   | RS-485 A | black      | Bus line A   |
| 5   | RS-485 B | gray       | Bus line B   |
|     |          |            |              |

**Connector view:** Pin side of the M12 connector. The pH electrode is not included.