

Digital probes for measuring conductivity FYD 741 LFE01 and FYD 741 LFP with ALMEMO® D7 plug



ALMEMO® 202-S

Just one single probe for measuring conductivity from very low (10 $\mu\text{S}/\text{cm}$) up to very high levels (500 mS/cm)

4-contact graphite electrode with high linearity across the whole measuring range

Integrated NTC sensor for temperature compensation of measured conductivity values

Suitable for the latest ALMEMO® V7 devices, including professional measuring instrument ALMEMO® 202-S and precision measuring instrument ALMEMO® 710.

02/2024 • We reserve the right to make technical changes.

Technical data and functions

The digital conductivity probe provides this high level of precision irrespective of any extension cables used and of any processing in the ALMEMO® V7 display device / data logger.

Overall accuracy is determined exclusively by the conductivity electrode and the ALMEMO® D7 plug.

All parameters for the sensor can be programmed end-to-end via the programming menu on the ALMEMO® V7 measuring instrument. The desired measuring range can be selected and

temperature compensation can be activated or deactivated. The temperature coefficient of the solution to be measured, if known, can also be programmed.

The probe is delivered already adjusted and ready-to-use. The electrode's measured cell constant can also be entered, if so required, and / or the probe can be adjusted using a reference solution.

Common technical data FYD 741 LFE01 and FYD 741 LFP ALMEMO® D7 plug with A/D converter

| | | | |
|--------------------------|---|--------------------------|--|
| Measuring method | Electrical conductivity measurement with AC voltage (approx. 1 kHz) | Temperature coefficient | Natural surface water or linear in range 0.00 to 9,99 |
| Measuring ranges | | Linearization NTC | Calculated error-free (not an approximation) |
| Range DLF1 | up to maximum 500.00 $\mu\text{S}/\text{cm}$ Resolution 0.01 $\mu\text{S}/\text{cm}$ | Nominal temperature | +23 °C \pm 2 K |
| Range DLF2 | up to 50.000 mS/cm Resolution 0.001 mS/cm (factory default settings) | Temperature drift | 0.004 % / K (40 ppm) |
| Range DLF3 | with FYD 741 LFE01 up to 500.00 mS/cm with FYD 741 LFP up to 200.00 mS/cm Resolution 0.01 mS/cm | Refresh time | 2.5 seconds |
| Range NTC | Resolution 0.01 K | Sleep mode on the device | possible with wakeup delay of 5 seconds |
| Temperature compensation | either automatic or non-compensated | Supply voltage | 6 to 13 VDC, from ALMEMO® device (sensor supply voltage) |
| | | Current consumption | approx. 17 mA |

Digital probe for measuring conductivity FYD 741 LFP



Probe for process applications

General description and common technical data
see previous page

Technical data FYD 741 LFP

| | |
|-------------------------|---|
| Uses | Process applications |
| Conductivity | 10 µS/cm up to 200 mS/cm |
| Temperature | 0 to +70 °C |
| Pressure | up to 16 bar under nominal conditions |
| Process connection | Thread G ¾-inch Fitted length 145 mm |
| Electrode type | 4-contact graphite electrode electrically connected to the power supply (ALMEMO® device ground) |
| Cell constant | approx. 0.5 cm ⁻¹ |
| Temperature sensor | NTC 10 kilohms, integrated |
| Accuracy | |
| Conductivity | ±3% of meas. value ±0.2% of final value under nominal conditions |
| Temperature | ±0.2 K under nominal conditions |
| Nominal conditions | +25 °C ±2 K |
| Minimum immersion depth | 30 mm |
| Electrode shaft | Material PVC-C diameter 20 mm, length 130 mm |
| Connecting cable | length = 1.5 meters, permanently fitted, with ALMEMO® D7 plug |

Digital probe for measuring conductivity FYD 741 LFE01



Probe for laboratory applications

General description and common technical data
see previous page

Technical data FYD 741 LFE01

| | |
|-------------------------|---|
| Uses | Laboratory applications |
| Conductivity | 10 µS/cm up to 200 mS/cm, on demand up to 500 mS/cm |
| Temperature | 0 to +80 °C |
| Pressure | Ambient pressure (unpressurized) |
| Electrode type | 4-contact graphite electrode electrically connected to the power supply (ALMEMO® device ground) |
| Cell constant | approx. 0.5 cm ⁻¹ |
| Temperature sensor | NTC 30 kilohms, integrated |
| Accuracy | |
| Conductivity | ±2% of meas. value ±0.2% of final value under nominal conditions |
| Temperature | ±0.4 K under nominal conditions |
| Nominal conditions | +25 °C ±2 K |
| Minimum immersion depth | 30 mm |
| Electrode shaft | Material PC (+ABS) diameter 12 mm, length 120 mm |
| Connecting cable | length = 1 meter, permanently fitted, with ALMEMO® D7 plug |

Variants

Digital probe for measuring conductivity, integrated temperature sensor, with process connection G ¾-inch, permanently fitted cable with ALMEMO® D7 plug,
probe for process applications

Order no.

FYD741LFP

Variants

Digital probe for measuring conductivity, integrated temperature sensor, with permanently fitted cable with ALMEMO® D7 plug,
probe for laboratory applications

Order no.

FYD741LFE01