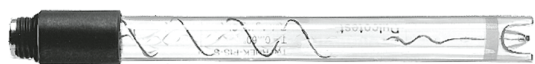


pH One-Bar Measuring Chain FY96PHEK



Applications:

manual measurements e.g. swimming pools, drinking water ...

Technical Data

pH range::	1 ... 12	Reference (Electrolyt):	KCl containing gel
Operating range	0 ... 60°C	Shaft length:	120 ±3mm
Operating pressure:	unpressurised	Shaft diameter:	12mm (polycarbon)
Conductivity:	> 150 µS / cm	Electrode head:	plug head SN6
Diaphragm type:	ceramic		

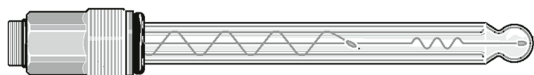
Type

pH-one-bar measuring chain pH 1 ... 12, 0 ... 60°C for unpressurised operating

Order no.

FY96PHEK

pH One-Bar Measuring Chain FY96PHER



Applications:

Generally for water with solid content (turbid water), water with low conductivity, e.g. from reverse osmosis. Municipal and industrial wastewater, cooling water, industrial water, water in chemistry and paper production.

Technical Data

pH range:	1 ... 12	Reference (Electrolyt):	KCl-containing polymer)
Operating range:	0 ... 80°C	Shaft diameter:	12mm (glass)
max. pressure:	6 bar	Screw connection	thread PG13.5
Conductivity:	> 50 µS / cm	Shaft length:	120 ±3mm
Diaphragm type:	PTFE ring diaphragm	Electrode head:	plug head SN6

Type

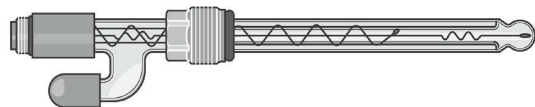
pH-one-bar measuring chain pH 1 ... 12; 0 ... 80°C, up to 6 bar

Order no.

FY96PHER

pH One-Bar Measuring Chain FY96PHEN2

new



Applications:

only for clear water, waste water, cooling water, chemically contaminated water.

Technical Data

pH range:	1 ... 12	Reference (Electrolyt):	KCl solution, refillable)
Operating range	0 ... 80°C	Installation length:	120 ±3mm
Operating pressure:	unpressurised	Shaft diameter:	12mm (material: glass)
Conductivity:	> 150 µS / cm,	Screw connection	thread PG13.5
Diaphragm type:	ceramic	Electrode head:	plug head SN6

Type

pH-one-bar measuring chain pH 1 ... 12, 0 ... 80°C for unpressurised operating

Order no.

FY96PHEN2

pH Insertion Electrode FY96PHMEE1

new



Applications:

Hand measurements, for piercing solid and semi-solid samples such as meat, cheese, fruit, vegetables.

Technical Data

Operating range:	pH 1 ... 11 / 0 ... 80 °C	Shaft:	Ø 8 / 12 mm, length approx. 90 mm (incl. tip), material glass
max. pressure:	unpressurized operation	Electrical connection:	plug head S7
Diaphragm / Reference:	no diaphragm / polymer		
Piercing tip: Ø approx. 6 mm, Penetration depth approx. 25 mm			

Type

pH Insertion Electrode, for food

Order no.

FY96PHMEE1

pH Insertion Electrode FY96PHMEE2

new



Applications:

Stable insertion electrode, for food such as meat, sausage, cheese/butter, fruits.

Technical Data

Operating range:	pH 2 ... 11 / 0 ... 80 °C	Shaft:::	Ø 8 / 16 mm, length approx. 100 mm (incl. tip), material glass, with plastic cover of PBT.
max. pressure:	unpressurized operation	Electrical connection:	plug head S7
Diaphragm / Reference:	no diaphragm / polymer		
Piercing tip: Ø approx. 6 mm, Penetration depth approx. 25 mm			

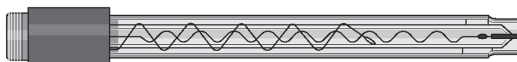
Type

pH Insertion Electrode, für for food

Order no.

FY96PHMEE2

Redox-One-Bar Measuring Chain FY96RXEK



Applications:

manual measurements e.g. swimming pools, drinking water

Technical Data

Operating temperature	0 ... 60°C	Metal electrode :	platinum
Operating pressure:	unpressurised	Shaft length:	125 ±3mm
Conductivity:	> 150 µS / cm	Shaft diameter:	12 mm (material: polycarbonate)
Diaphragm / Electrolyt	ceramic / KCl containing gel	Electrode head:	plug head SN6

Type

Redox-one-bar measuring chain 0 ... 60°C for unpressurised operating

Order no.

FY96RXEK

Accessories for pH-One-Bar Meas. Chains and Redox-One-Bar Meas. Chain

Order no.

	Order no.		Order no.
Buffer solution pH 4.0 50 ml	ZB98PHPL4	Redox buffer solution 220 mV	ZB98RXPL2
Buffer solution pH 7.0 50 ml	ZB98PHPL7	KCl solution, 3-molar, 50ml	
Buffer solution pH 10.0 50 ml	ZB98PHPL10	for refilling and storage	ZB98PHNL

ALMEMO® connecting cable for pH and redox probes

10/2021 • We reserve the right to make technical changes.



Transducer cable with various electrodes

Applications:

Transducer cables are available for all popular electrodes with a coaxial connector. To avoid the measuring signal being corrupted by the measuring instrument itself an extremely high-impedance amplifier is integrated in the ALMEMO® connector on the connecting cable.

Technical Data

Transducer	High-impedance measuring amplifier (>500 Gohm), integrated in the ALMEMO® connector	Electrode terminal	For plug-on head S7/SN6 or SMEK (see variants)
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Type	Order no.
ALMEMO® connecting cable with transducer (ALMEMO® connector, spray-coated) <u>For probes with plug-on head S7/SN6 (coaxial connector, screw-fit):</u>	
Programming for pH probe	
Cable length 2 meters	ZA9610AKY4
Cable length 5 meters	ZA9610AKY4L05
Programming for redox probes	
Cable length 2 meters	ZA9610AKY5
Cable length 5 meters	ZA9610AKY5L05
Programming for pH or redox probe (1 probe connectable at a time)	
Cable length 2 meters	ZA9610AKY6
Cable length 5 meters	ZA9610AKY6L05



Type	Order no.
ALMEMO® connecting cable with transducer <u>For probes with SMEK plug-on head</u>	
Cable length 2 meters	
Programming for pH probe with integrated temperature sensor NTC (30 kohm at 25 °C), linearization saved in ALMEMO® connector (only for current V6 ALMEMO® devices)	ZA9640AKY8
Programming for pH probe	ZA9610AKY8
Programming for redox probe	ZA9610AKY9

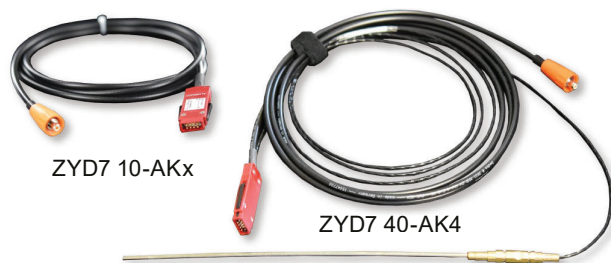
NTC temperature sensor for automatic temperature compensation when measuring pH



Connector programming designation *T for ALMEMO® 2490 and 2590-2/-3S/-4S and (with effect from 07/2006) for ALMEMO® 2690/ 2890/ 5690/ 8590/ 8690

Type	Order no.
Stainless-steel sheathed sensor (see page 07.06) Diameter 3.0 mm, length 250 mm, Hexagonal cable sleeve with 1.5 meters PVC cable and ALMEMO® connector	FNA30L0250T
Safety hose made from PTFE (for aggressive media) Hermetically sealed on one side, inside diameter 3.1 mm, outside diameter 5.1 mm, length 500 mm	ZT9000TS7

Digital connection cable for pH and redox probes ZYD7 10-AKx and ZYD7 40-AKx, with ALMEMO® D7 plug



- Digital ALMEMO® D7 connection cable.
- Galvanically isolated from the measuring instrument.
- Temperature dependence of the probe can be compensated manually or automatically.
- Comparison of the pH probe at three points.

Technical data and functions

Digital connection cable.

The voltage of the probe is measured by an A/D converter integrated into the ALMEMO® D7 plug. Extension cables and the measuring device itself have no influence on the measurement accuracy.

Galvanic Isolation to the ALMEMO® V7 measuring device.

It is possible to operate several pH probes simultaneously in the same sample solution on one measuring device without influencing each other.

Compensation of the temperature dependence of the probe.

To compensate the temperature dependence of the probe, the temperature of the sample solution can be entered manually. The connection cable ZYD7 40-AKx additionally features a temperature sensor. As a result, the measured temperature value will be used for automatic compensation.

Comparison of the pH probe possible at three points.

The comparison will be saved at pH 7 as well as at one point in the acid range and at one point in the alkaline range. The values of the reference solutions can be specified as set points.

Technical data

ALMEMO® D7 plug		Supply voltage:	from 6 V up, from the ALMEMO® measuring device
Measuring ranges:		Current consumption:	approx. 8 mA
pH value	0.00 to 14.00 pH	Temperature sensor NTC	
Redox potential	-1100.0 to +1100.0 mV	Design:	FN030L0250 with OPK03L0020
Temperature NTC	-50.00 to +125.00 °C	Accuracy:	see chapter 07
A/D converter	Delta Sigma	Measuring tip:	stainless steel sheathed line, d = 3.0 mm, NL = 250 mm
Accuracy:		Cable sleeve:	Brass, hexagonal, L = 65 mm, width across corners = 9 mm
pH/redox	±0,02 % of measured value ±2 digits	Cable:	2 m, FEP/FEP isolated, permanently mounted in the ALMEMO® D7 plug
temperature NTC	±0,05 K at -50 to +100 °C	Operating temperature:	-20 to 100 °C
Nominal temperature:	23 °C ±2 K		
Temperature drift:	max. 0.004 %/K (40 ppm)		
Operative range:	-10 to +60 °C / 10 to 90 % RH (non-con- densing)		
Refresh rate:	0.8 s		

Accessories

ALMEMO® D7 extension cable up to 100 m, see chapter 06

Safety hose made from PTFE (for aggressive media) for temperature sensors:

hermetically sealed on one side, inside diameter 3,0 mm, outside diameter 4,0 mm, length 700 mm

Order no.

ZT9000TS7

Type

Digital ALMEMO® D7 connection cable for probes with plug-on head S7/SN6 (coaxial connector, screw-fit)

Programming for pH probe

Cable length = 2 m

Cable length = 5 m

Programming for redox probe

Cable length = 2 m

Cable length = 5 m

Additionally with permanently connected temperature sensor NTC,

Programming for pH probe and temperature sensor

Cable length = 2 m

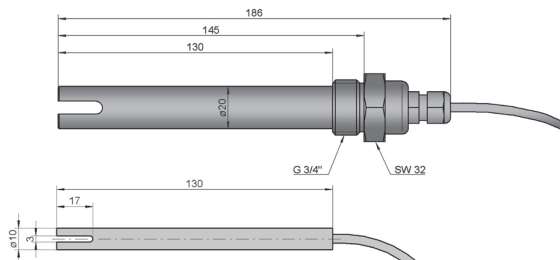
Order no.

ZYD710AK4
ZYD710AK4L05

ZYD710AK5
ZYD710AK5L05

ZYD740AK4

Conductivity Probe FYA641LFP1 / LFL1



Applications:

Concentrated waste water, aggressive waters, general aqueous and partly aqueous solutions, beer, emulsions, electroplating, waters, concentrated acidic and alkaline solutions, corrosive acids and alkaline solutions, lacquers and paints, substances containing protein, soaps, detergents, suspensions, titrations in organic substances, environmental analysis.

Technical Data

Measuring range:	0.01 to 20mS/cm LFL1 up to 10mS/cm	Shaft material:	PVC - C
Temperature sensor:	NTC, type N (10k at 25°C)	Shaft length/shaft diameter:	LFP1: 130mm/20mm LFL1: 130mm/10mm
Temperature compensation:	0 to +70°C, automatic	Fitting length / thread	only LFP1 145 mm / G $\frac{3}{4}$ "
Compensation coefficient:	1.9 linear	Maximum pressure	LFP1: 16 bar at 25 °C LFL1: not suitable for use under pressure
Cell constant:	approx. 1cm ⁻¹	Cable length:	1.5m
Electrode material:	special coal	Power supply:	8 to 12V through meas. instr.
Accuracy:	± 3% of meas. val. ± 0.1mS/cm	Current consumption:	approx ca. 3 mA
Nominal temperature:	25°C ± 3°C		
Operating temperature:	-5 to 70°C		
Minimum insertion depth:	30mm		

Type (including manufacturer's test certificate)

Active conductivity probe with automatic temperature compensation, Built-in probe, G 3/4" thread, suitable for use under pressure up to 20mS/cm

Laboratory probe, not suitable for use under pressure up to 10mS/cm

Factory calibration KY90xx conductivity for measuring chain (sensor + device) (see chapter Calibration certificates)

Order no.

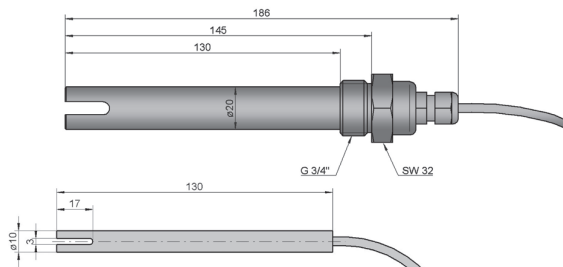
FYA641LFP1

FYA641LFL1

On request: Sensor for dissolved oxygen FYA 640-O2



Conductivity Probe FYA641LFP2 / LFL2



Applications:

Low-salt waste water, general aqueous and partly aqueous solutions, fish tanks, emulsions, desalting/ion exchanger, beverages, waters, cold/boiler feed water, lacquers and paints, milk, samples with low ionic strength, substances containing protein, purest water, soaps, detergents, suspensions, drinking water, environmental analysis.

Technical Data

Measuring range:	10 to 200 μ S/cm	Shaft material:	PVC - C
Temperature sensor:	NTC, type N (10k at 25°C)	Shaft length/Shaft diameter:	LFP2: 130mm/20mm LFL2: 130mm/10mm
Temperature compensation:	0 to +70°C, automatic	Fitting length / thread	only LFP2 145 mm / G $\frac{3}{4}$ ''
Compensation coefficient:	1.9 linear	Maximum pressure	LFP2: 16 bar at 25 °C LFL2: not suitable for use under pressure
Cell constant:	approx. 1cm ⁻¹	Cable length:	1.5m
Electrode material:	special coal	Power supply:	8 to 12V through meas. instr.
Accuracy:	\pm 3% of meas. val. \pm 1 μ S/cm	Current consumption:	approx. 3 mA
Nominal temperature:	25°C \pm 3°C		
Operating temperature:	-5 to 70°C		
Minimum insertion depth:	30mm		

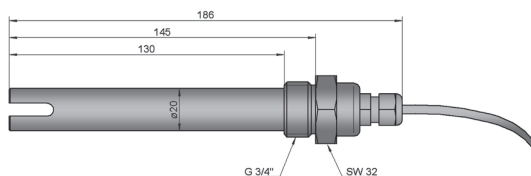
Type (including manufacturer's test certificate)

Active conductivity probe 0 to 200 μ S/cm with automatic temperature compensation,
Built-in probe, G 3/4'' thread, suitable for use under pressure
Laboratory probe, not suitable for use under pressure
Factory calibration KY90xx conductivity for measuring chain (sensor + device) (see chapter Calibration certificates)

Order no.

FYA641LFP2
FYA641LFL2

Conductivity Probe FYA641LFP3



Applications:

Concentrated waste water, aggressive waters, general aqueous and partly aqueous solutions, beer, emulsions, electroplating, waters, concentrated acid and alkaline solutions, corrosive acids and alkaline solutions, lacquers and paints, substances containing protein, soaps, detergents, suspensions, titrations in organic substances, environmental analysis.

Technical Data

Measuring range:	1 to 200 mS/cm	Shaft material:	PVC - C
Temperature sensor:	NTC, type N (10k at 25°C)	Shaft length:	145mm
Cell constant:	approx. 1cm ⁻¹	Shaft diameter:	20mm
Electrode:	4 electrodes, special coal	Fitting length / thread	130 mm / G $\frac{3}{4}$ ''
Accuracy:	\pm 3% of meas. val. \pm 1 mS/cm	Maximum pressure	16 bar at 25 °C
Nominal temperature:	25°C \pm 3°C	Cable length:	1.5m
Operating temperature:	0 to 70°C	Power supply:	8 to 12V through meas. instr.
Minimum insertion depth:	30mm	Current consumption:	approx. 15 mA

Type (including manufacturer's test certificate)

Conductivity probe 0 to 200mS/cm without temp. compensation
Factory calibration KY90xx conductivity for measuring chain (sensor + device) (see chapter Calibration certificates)

Order no.

FYA641LFP3

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

10/2021 • We reserve the right to make technical changes.



ALMEMO® 202

Just one single probe for measuring conductivity from very low (10 $\mu\text{S/cm}$) 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 and precision measuring instrument ALMEMO® 710.

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 $\mu\text{S/cm}$ Resolution 0.01 $\mu\text{S/cm}$	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. 10 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 $\mu\text{S/cm}$ up to 200 mS/cm
Temperature	0 to +70 °C
Pressure	up to 16 bar under nominal conditions
Process connection	Thread G 3/4-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	$\pm 3\%$ of meas. value $\pm 0.2\%$ of final value under nominal conditions (200 mS/cm)
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

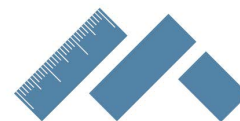


Probe for laboratory applications

General description and common technical data
see previous page

Technical data FYD 741 LFE01

Uses	Laboratory applications
Conductivity	10 $\mu\text{S/cm}$ 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	$\pm 2\%$ of meas. value $\pm 0.2\%$ of final value under nominal conditions (200 mS/cm)
Temperature	± 0.2 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



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Variants

Digital probe for measuring conductivity, integrated temperature sensor, with process connection G 3/4-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