Conductivity

Product catalog 2018

NOTE

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1 Contents

2 Instruments

2.1 Neon® EC

2.1.1 Description

Single channel water monitoring instrument

Neon® is a leading edge measuring and control instrument. Its range of functions can be tailored according to customers‘ applications.

The entry level version contains inputs for measurements and temperature, one digital input and an alarm relay.

Various add-ons are available to expand the functionality as well as wall mounted or panel mounted housing.

The process can be controlled at any time, from any place, on any device via Kuntze‘s Cloud Connect® service.

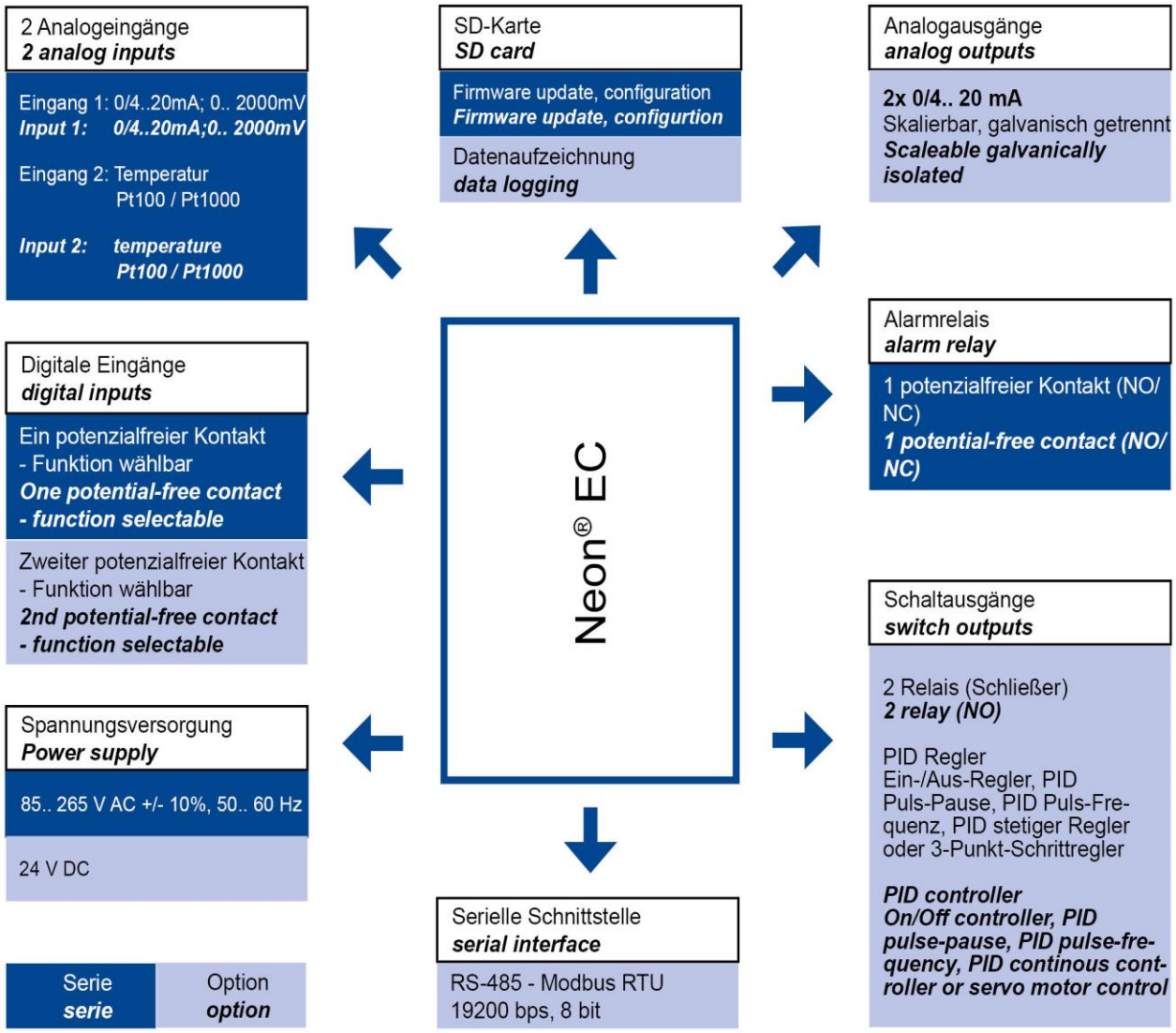
All Kuntze products are Made in Germany.

- Conductive, TDS
- Unit: conductive: µS/cm, mS/cm, MOhm
  TDS: ppt, ppm, ppb
- Connection of 2-pole conductivity cells
- Temperature measurement Pt 100 / Pt 1000
- Temperature compensation: linear and ultra-pure water

2.1.2 Applications

Process water **Drinking water** **Waste water treatment**

2.1.3 Interface diagram



2.1.4 Technical data

Measuring range

Conductivity (conductiv)	0.. 2.000 µS/cm (C=0.05 / cm) 0.. 20.00 µS/cm (C=0.05 / cm) 0.. 200.0 µS/cm (C=0.05 / cm) 0.. 2.000 mS/cm (C=0.20 / cm) 0.. 20.00 mS/cm (C=1.00 / cm) 0.. 20.00 MΩ (C=0.05 / cm)
TDS	0.. 1000 mg/l = ppm 0.. 10.00 mg/l = ppm 0.. 100.0 mg/l = ppm 0.. 1.000 g/l = ppt 0.. 10.00 g/l = ppt 0.. 100.0 g/l = ppt

Input characteristic

Temperature measuring range	-30.. +140°C (-22.. 284 °F)
Temperature compensation	0.. 8% / K adjustable or non-linear
Digital input	1st as controller stop by external contact, option: 2nd as controller stop or flow measurement for volume based dosing.

Output characteristics

Alarm relay	1 potential-free N/O contact, max. 250 V, 6 A, 550 VA (invertable)
Output signal	Optional: 2 x 0/4.. 20 mA (scalable, galvanically isolated) Load: max. 500 Ohm Registration range: scalable within the measuring range
Storage media	SD card up to 1 GB - Industry standard
Serial interface	Option: RS 485 Modbus RTU Baud rate: 19200 bps Data format: 8 bit even

Power supply

Line voltage	85.. 265 V AC, +6/-10%, 40.. 60Hz; option: 24 V DC
Power consumption	10 VA

Process conditions

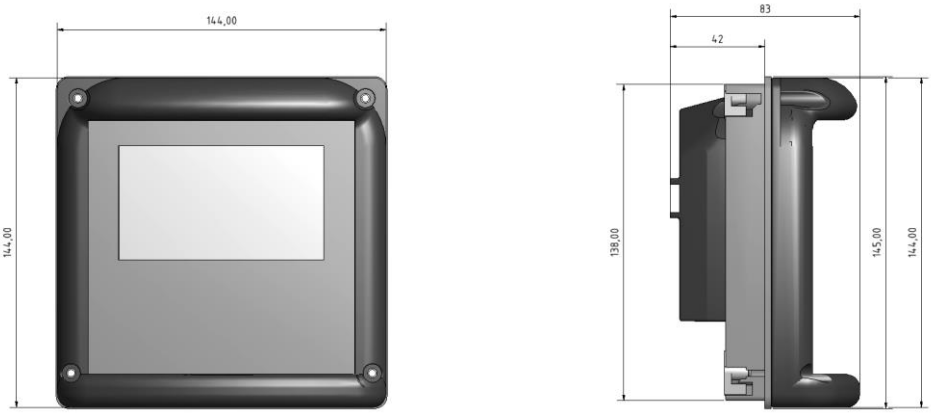
Temperature	Storage: -20.. +65°C (-4.. 149 °F), operation: 0.. +50°C (32.. 122 °F)
Humidity	max. 90% rH at 40°C (104 °F) (non-condensing)
Protection class	Wall mounted: IP 65 Panel mounted: IP 54 (front), IP 30 (housing)

Controller

Control response	Option: on/off controller (adjustable hysteresis) P/PI/ PID controller (pulse-pause, pulse-frequency or continuous output) 3-point controller

Relay	2 relays, each with a potential-free N/O contact, max. 250 V, 6A, 550 VA
Start delay	0.. 200 sec until controller active
Controller stop	Digital input
Proportion to volum	
Control mode	Option: volumed based by flow measurement
Flow measurement	Impuls measurement NPN (by digital input 2) Engine speed 0.030.. 9.999 l / Imp
Relay 1	Potential-free N/O contact, max. 250V, 6 A, 550 VA (pulse-pause, pulse-frequency)
Relay 2	Activating circulation pump
Languages	
	German, English
Certificates and approval	
CE-Symbol	The product meets the requirements of the harmonized European standards and complies with the legal requirements of the EC directives.
EMC	EN 61000 6-1 (3) EN 61000 6-2 (4) EN 61326-1
Design configuration	
Material	ABS
Dimensions	Panel mounted housing: 138 x 138 x 83 mm (max. wall thickness: 5 mm); wall mounted housing: 144 x 144 x 156 mm
Weight	0.55 kg (wall mounted: 0.75 kg)
Electrical connection	cable inlet: 2 x M16, 2 x M12; optional 2 x M12 und 1 x M25 plug-in terminal: rigid / flexible 0.2 – 2.5 / 0.2 – 2.5 mm² measurement: rigid / flexible 0.2-1 / 0.2 – 1.5 mm²

2.1.5 Mechanical drawing

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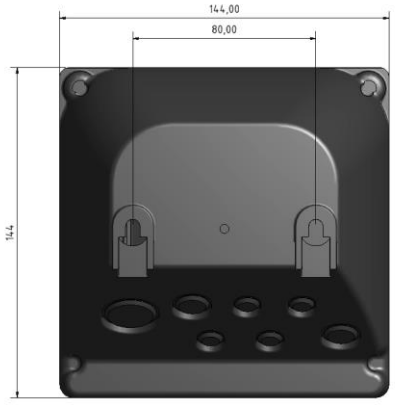

144,00
80,00
144

2.1.6 Order information

Type	Art. number	Description
	142100K	Neon® EC (conductive conductivity) (1 digital input and alarm relay)
Power supply		
	type	85.. 265 V AC
	19514100K	24 V DC
Interfaces		
	19514100K	Modbus RTU
Controller		
	19514200K	PID with 2 control relays
	19514201K	Volume based dosing with 2 relays* *only in combination with 2nd digital input (Art. 19514202K)
Inputs		
	19514202K	Second digital input
Outputs		
	19514203K	First mA output
	19514204K	Second mA output
Special functions		
	19514205K	Datalogging
Housing		
	19514000K	Panel mounted (Front IP 54)
	19514001K	Wall mounted (IP 65)

NOTE

Choose the components you need and that's how your „assembly version" is designed. We will have to technically inspect and approve a free combination of individual key features.

2.2 Neon® EC IL

2.2.1 Description

Single channel water monitoring instrument

Neon® is a leading edge measuring and control instrument. Its range of functions can be tailored according to customers‘ applications.

The entry level version contains inputs for measurements and temperature, one digital input and an alarm relay.

Various add-ons are available to expand the functionality as well as wall mounted or panel mounted housing.

The process can be controlled at any time, from any place, on any device via Kuntze‘s Cloud Connect® service.

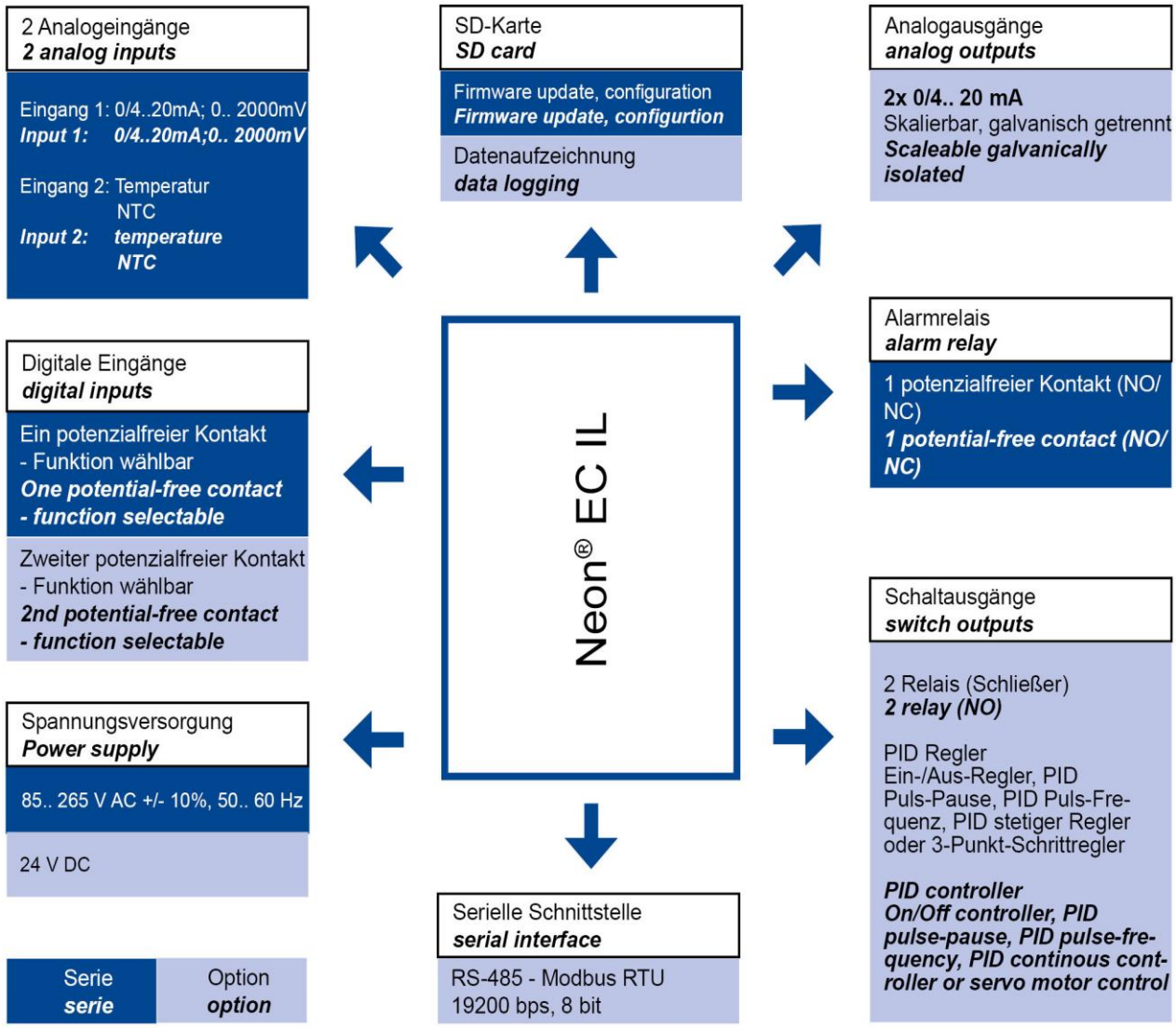
All Kuntze products are Made in Germany.

- Inductive, TDS
- Unit: inductive: mS/cm, MOhm x cm, TDS: ppm
- Connection of 2-pole conductivity cells
- Temperature measurement: NTC
- Temperature compensation: linear and ultra-pure water

2.2.2 Applications

Process water **Drinking water** **Waste water treatment**

2.2.3 Interface diagram



2.2.4 Technical data

Measuring range

Conductivity (inductive)	0.. 2.000 mS/cm
	0.. 20.00 mS/cm
	0.. 200.0 mS/cm
	0.. 2000 mS/cm

Input characteristic

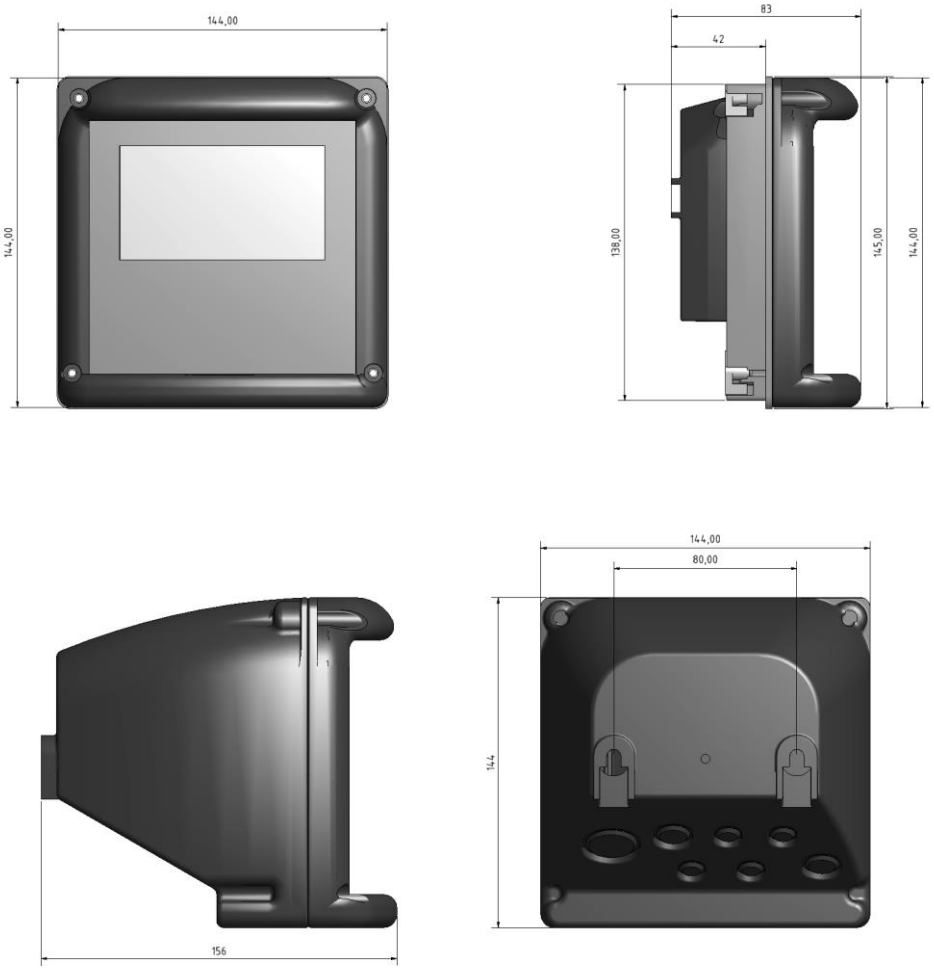
Temperature measuring range	-30.. +140°C (-22.. 284 °F)
Temperature compensation	0.. 8% / K adjustable or non-linear

Digital input	1st as controller stop by external contact, option: 2nd as controller stop or flow measurement for volume based dosing.
Output characteristics	
Alarm relay	1 potential-free N/O contact, max. 250 V, 6 A, 550 VA (invertable)
Output signal	Optional: 2 x 0/4.. 20 mA (scalable, galvanically isolated) Load: max. 500 Ohm Registration range: scalable within the measuring range
Storage media	SD card up to 1 GB - Industry standard
Serial interface	Option: RS 485 Modbus RTU Baud rate: 19200 bps Data format: 8 bit even
Power supply	
Line voltage	85.. 265 V AC, +6/-10%, 40.. 60Hz; option: 24 V DC
Power consumption	10 VA
Process conditions	
Temperature	Storage: -20.. +65°C (-4.. 149 °F), operation: 0.. +50°C (32.. 122 °F)
Humidity	max. 90% rH at 40°C (104 °F) (non-condensing)
Protection class	Wall mounted: IP 65 Panel mounted: IP 54 (front), IP 30 (housing)
Controller	
Control response	Option: on/off controller (adjustable hysteresis) P/PI/ PID controller (pulse-pause, pulse-frequency or continuous output) 3-point controller
Relay	2 relays, each with a potential-free N/O contact, max. 250 V, 6A, 550 VA
Start delay	0.. 200 sec until controller active
Controller stop	Digital input
Proportion to volum	
Control mode	Option: volumed based by flow measurement
Flow measurement	Impuls measurement NPN (by digital input 2) Engine speed 0.030.. 9.999 l / Imp
Relay 1	Potential-free N/O contact, max. 250V, 6 A, 550 VA (pulse-pause, pulse-frequency)
Relay 2	Activating circulation pump
Languages	
	German, English
Certificates and approval	
CE-Symbol	The product meets the requirements of the harmonized European standards and complies with the legal requirements of the EC directives.
EMC	EN 61000 6-1 (3) EN 61000 6-2 (4) EN 61326-1

Design configuration

Material	ABS
Dimensions	Panel mounted housing: 138 x 138 x 83 mm (max. wall thickness: 5 mm); wall mounted housing: 144 x 144 x 156 mm
Weight	0.55 kg (wall mounted: 0.75 kg)
Electrical connection	cable inlet: 2 x M16, 2 x M12; optional 2 x M12 und 1 x M25 plug-in terminal: rigid / flexible 0.2 – 2.5 / 0.2 – 2.5 mm² measurement: rigid / flexible 0.2-1 / 0.2 – 1.5 mm²

2.2.5 Mechanical drawing



2.2.6 Order information

Type	Art. number	Description
	142190K	Neon® EC IL (inductive conductivity) (1 digital input and alarm relay)
Power supply		
	type	85.. 265 V AC
	19514100K	24 V DC
Interfaces		
	19514100K	Modbus RTU
Controller		
	19514200K	PID with 2 control relays
	19514201K	Volume based dosing with 2 relays * * only in combination with 2nd digital input (Art. 19514202K)
Inputs		
	19514202K	Second digital input
Outputs		
	19514203K	First mA output
	19514204K	Second mA output
Special functions		
	19514205K	Datalogging
Housing		
	19514000K	Panel mounted (Front IP 54)
	19514001K	Wall mounted (IP 65)

NOTE

Choose the components you need and that's how your „assembly version" is designed. We will have to technically inspect and approve a free combination of individual key features.

3 Sensors

3.1 Zirkon® Conductivity CON

3.1.1 Description

Zirkon® CON is a 2-electrode conductivity sensor for electrolytic conductivity with integrated temperature sensor Pt100.

Benefits

- Easy installation by 12 mm sensor design
- Integrated temperature sensor
- 5 m fixed cable

3.1.2 Applications

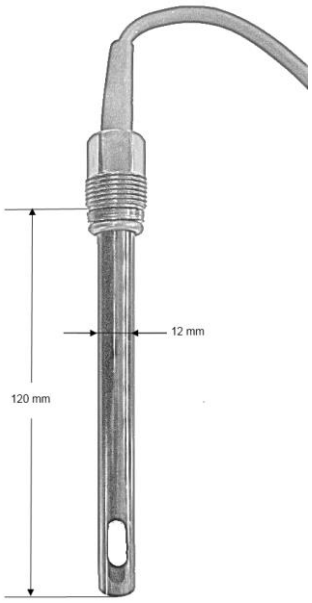
Drinking water

Process water

3.1.3 Technical data

Measuring range	
Conductivity (conductive)	0.00.. 20.00 mS / cm (cell constant: C = 1,0)
Process conditions	
Max. pressure	< 2 bar at 25°C (< 29 psi at 77 °F)
Temperature	0°.. +80 °C (32.. 176 °F)
Mechanical construction	
Shaft material	Epoxy
Standard shaft length	120 mm
Electrode material	graphite
Process connection	PG 13.5
Electrical connection	5 m fixed cable
Temperature sensor	Pt 100

3.1.4 Mechanical drawing



3.1.5 Order information

Article number	Type / configuration	Describtion
26120004K	261400800	Zirkon® Conductivity CON

3.2 Zirkon® Conductivity LE44 Pt

3.2.1 Description

Zirkon® Conductivity LE44 Pt is a 2-electrode conductivity sensor for electrolytic conductivity with integrated temperature sensor Pt100.

Benefits

- Temperature sensor integrated
- Little dirt-prone and easy to clean
- Two versions: 4-pole angular plug (Hirschmann) with 3/4" male thread or 10 m cable with 1/2" male thread

3.2.2 Applications

Drinking water **Process water** **Cooling water**

3.2.3 Technical data

Measuring range

Measuring range	0.000.. 2.000 µS / cm (c= 0.05 /cm)
	0.00.. 20.00 µS / cm (c= 0.05 /cm)
	0.0.. 200.0 µS / cm (c= 0.05 /cm)
	0.00.. 2.000 mS / cm (c= 0.20 /cm)
	0.00.. 20.00 mS / cm (c= 1.00 /cm)

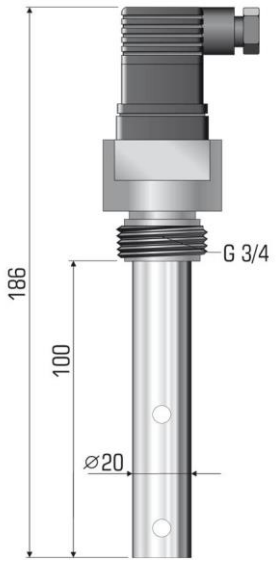
Process conditions

Max. pressure	16 bar bei 25 °C (232 psi at 77 °F)
Temperature	0°.. +135 °C (plug connection) / 32.. 275 °F 0°.. +90 °C (cable connection) / 32.. 194 °F

Mechanical construction

Shaft material	plug version: PVDF, cable version: PP
Electrode material	Stainless steel 1.4571
Process connection	plug version: ¾“ male thread, cable version: ½“ male tread
Electrical conenction	4-pole angular plug (Hirschmann), 10m connected cable
Temperature sensor	Pt 100

3.2.4 Mechanical drawing



3.2.5 Order information

Article number	Type / configuration	Describtion
26125252K	Zirkon® Conductivity LE44 Pt, c=0,05	Conductivity sensor (0.. 2; 0.. 20; 0.. 200 µS/cm)
26125253K	Zirkon® Conductivity LE44 Pt, c=0,20	Conductivity sensor (0.. 2 mS/cm)
26125254K	Zirkon® Conductivity LE44 Pt, c=1,00	Conductivity sensor (0.. 20 mS/cm)
26125257K	Zirkon® Conductivity LE44 Pt 4SCR, c=0,05	Conductivity sensor (0.. 2; 0.. 20; 0.. 200 µS/cm) with 10 m fixed cable
26125255K	Zirkon® Conductivity LE44 Pt 4SCR, c=0,20	Conductivity sensor (0.. 2 mS/cm) with 10 m fixed cable
26125256K	Zirkon® Conductivity LE44 Pt 4SCR, c=1,00	Conductivity sensor (0.. 2 mS/cm) with 10 m fixed cable

3.3 Zirkon® Conductivity IL 15

3.3.1 Description

Zirkon® Conductivity IL 15 is a sensor for measuring the toroidal conductivity measurement with integrated temperature sensor NTC.

Benefits

- Corrosion resistant
- Dirt resistant
- Small and robust construction

3.3.2 Applications

Process water

Cooling water

Waste water treatment

3.3.3 Technical data

Measuring range

Conductivity (inductive)	0.000.. 2.000 mS/cm
	0.00.. 20.00 mS/cm
	0.0.. 200.0 mS/cm
	0.. 2000 mS/cm

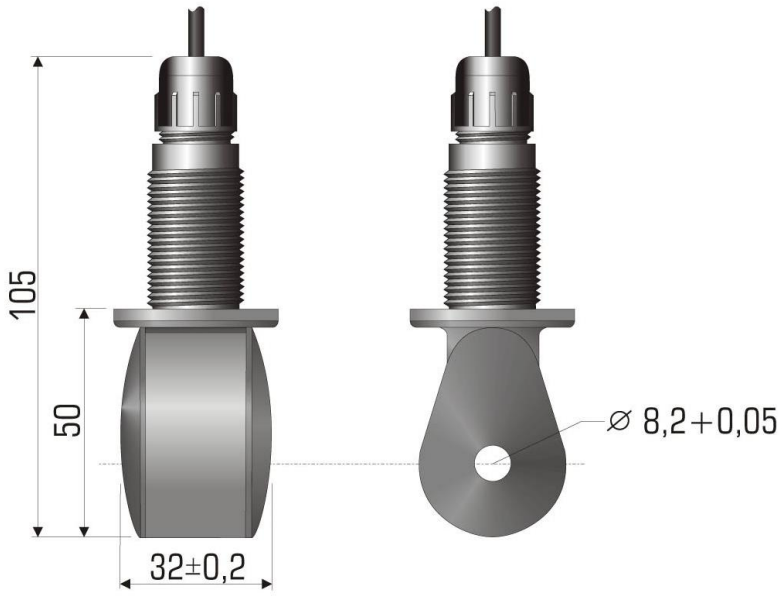
Process conditions

Max. pressure	10 bar at 20 °C (145 psi at 68 °F)
Temperature	< 90 °C (< 194 °F)

Mechanical construction

Shaft material	PP
Process connection	G ½“ male thread
Temperature sensor	NTC

3.3.4 Mechanical drawing



3.3.5 Order information

Article number	Type	Description
26164025K	Zirkon® Conductivity IL 15	Inductive conductivity sensor, 6 m fixed cable

4 Accessories

4.1 Assembly GD 25 V (G) (PP)

4.1.1 Description

Flow assembly for installation of one conductive sensor Zirkon® Conductivity LE44 Pt in pipes with adhesive coupling or pipe coupling DN 25 with 1" female thread. Available in PVC and PP.

4.1.2 Technical data

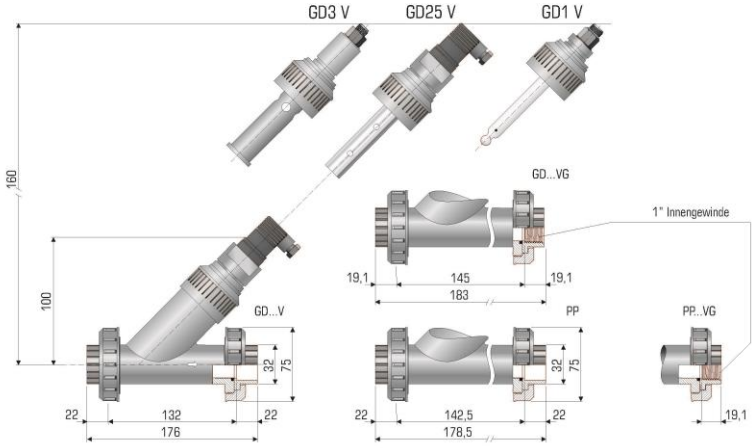
Process conditions

Max. pressure	PVC: 16 bar (at 20°C) / 232 psi (at 68 °F) PP: 10 bar (at 68°F) / 145 psi (at 68 °F)
Temperature	PVC: max. 40°C (104 °F), PP: max. 90°C (194 °F)

Mechanical Construction

Material	PVC, PP
Installation	GD 25 V: adhesive coupling GD 25 VG (PP): pipe coupling DN 25 with 1" female threat

4.1.3 Mechanical drawing



4.1.4 Order information

Article number	Type	Description
36604230K	GD 25 V	Adhesive coupling (DN 25), PVC
36604231K	GD 25 VG	Pipe coupling (DN 25) with 1" internal thread, PVC
36604235K	GD 25 VG PP	Pipe coupling (DN 25) with 1" internal thread, PP

4.2 Assembly GD 3 V (G) (PP)

4.2.1 Description

Flow assembly for installation of one sensor Zirkon® DIS with adhesive coupling or pipe couplinmg DN 25 with 1" female threat. Available in PVC or PP.

4.2.2 Technical data

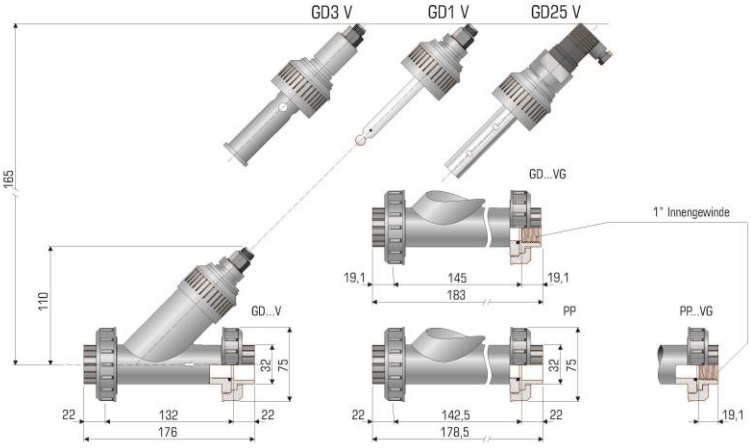
Process conditions

Max. pressure	PVC: 16 bar bei 20°C (232 psi at 68 °F) PP: 10 bar bei 20°C (145 psi at 68 °F)
Temperature	PVC: max. 40°C (max 104 °F) PP: max. 90°C (max 194 °F)

Mechanical construction

Material	PVC, PP
Installation	GD 3 V: adhesive coupling GD 3 VG (PP): pipe coupling DN 25 with 1“ female threat

4.2.3 Mechanical drawing



4.2.4 Order information

Article number	Type	Description
36604280K	GD 3 V	Adhesive coupling (DN 25), PVC
36604281K	GD 3 VG	Pipe coupling (DN 25) with 1" internal thread, PVC
36604285K	GD 3 VG PP	Pipe coupling (DN 25) with 1" internal thread, PP

4.3 Assembly GD 40 IL

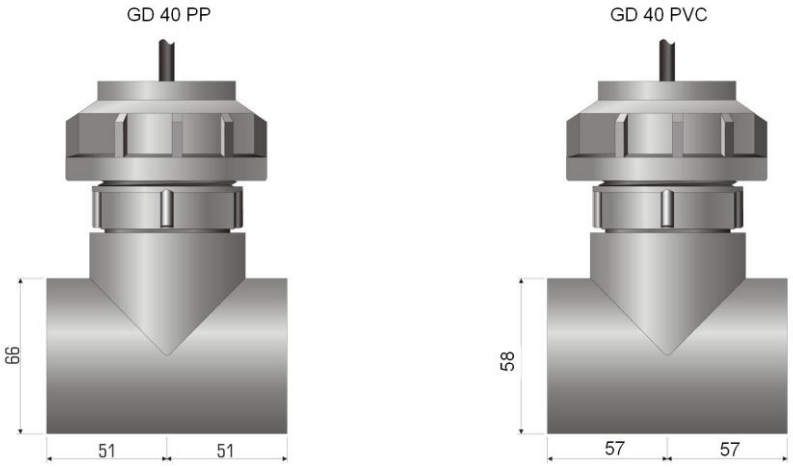
4.3.1 Description

PP or PVC Flow assembly for installation of one conductivity sensor Zirkon® Conductivity IL 15. Available in PVC and PP.

4.3.2 Technical data

Process conditions	
Max. pressure	PVC: 16 bar (bei 20°C) / 232 psi at 68 °F PP: 10 bar (bei 20°C) / 145 psi at 68 °F
Temperature	PVC: max. 40°C (104 °F), PP: max. 90°C (194 °F)
Mechanical construction	
Material	PVC, PP
Installation	PVC: adhesive coupling (d=50 mm), PP: welded sleeve d=50 mm

4.3.3 Mechanical drawing



4.3.4 Order information

Article number	Type / configuration	Description
36604025K	GD 40 IL PP	Adhesive coupling d=50 mm, PP
36604026K	GD 40 IL PVC	Welvded sleeve d=50 mm, PVC

4.4 Hand-held unit LF 6

4.4.1 Description

Precise Water Analysis in compact design

LF 6 is an all-purpose portable instrument for measurement of conductivity and temperature.

- Automatic measuring-value-stability recognition
- Automatic power shut-off
- Double display for conductivity value and temperature
- Power supply by battery or mains operation
- Easy and safe handling by soft keys
- Low battery indication
- Fold away support

4.4.2 Technical data

Measuring range	5
Conductivity (conductive)	0.0.. 200.0 µS/cm 0.. 2000 µS/cm 0.00.. 20,00 mS/cm 0.0.. 200.0 mS/cm
Resistivity	0.005.. 100.00 kOhm*cm
TDS	0.0.. 1999 mg/l
Salinity	0.0.. 70.0 g/kg (PSU)
Temperature	-5.0.. +100.0 °C / 23.0.. 212.0 °F

Accuracy	
Conductivity	±0.5% v.MW ±0.3% FS bzw. ±2 µS/cm
Temperature	±0.2 K
Output characteristics	
Serial interfaces	Serial interface, (3.5mm jack) can be connected to USB or RS232 interface of a PC via electrically isolated interface adapter
Power supply	
Mains connection	10.5-12 V (power adapter not included / 1.9 mm internal pin diameter)
Power supply	9V battery type IEC 6F22
Current consumption	2 mA (Out =Off)
Process conditions	
Temperature	Operation 0.. 50°C (32.. 122 °F) Storage -25°.. 70°C (-13.. 158 °F)
Humidity	max. 95% r.F. at 40°C / 104 °F (non condensing)
Scope of supply	Conductivity measuring device, platic case, 9V battery, manual
Certificates and approval	
CE Symbol	The product meets the requirements of the harmonized European standards and complies with the legal requirements of the EC directives.
Mechanical construction	
Dimensions	142 x 71 x 25 mm

4.4.3 Order information

Article number	Type	Description
65522410K	LF 6	Complete set measuring instrument with sensor including portable case

4.5 Cable 4SCR-EC

4.5.1 Description

Connecting cable for conductive conductivity sensor Zirkon® Conductivity LE 44 Pt. Sold by meter.

4.5.2 Technical data

Process conditions

Temperature	-20.. +70°C (-4.. 158 °F)

Mechanical construction

Material	PVC

4.5.3 Order information

Article number	Type	Description
44136352K	4SCR-EC	Connection cable for conductivity sensors, 4 cores, screened, sold by meter

4.6 Cable 4-2SCR-IL-10

4.6.1 Description

Extension cable – 10 m – for the inductive inductivity sensor Zirkon® Conductivity IL 15.

4.6.2 Technical data

Process conditions

Temperature	-20.. +70°C (-4.. 158 °F)

Mechanical construction

Material	PVC

4.6.3 Order information

Article number	Type	Description
44136353K	4-2SCR-IL-10	Extension cable for sensor Zirkon® Conductivity IL 15, length 10 m

5 Cloud Connect®

Control your water quality at any time, from any place, on any device. The solution is Kuntze's Cloud Connect®.

Values

- Optimized asset utilization
- Increased productivity
- Reduced maintenance costs
- Simple usability and precise control

Data collection

Cloud Connect® captures all relevant aspects of Kuntze systems

- Measurements and system status
- Events
- Alarms
- Remote control of system settings

Data utilization

- View dashboards from the office, at home or on the road
- Centralized data consumption
- Discover measurement insights
- Make data driven decisions
- High availability and scalability

Article number	Description
600000K	Cloud Connect® Service / 12 months
695000K	Cloud Connect® gateway

6 Index