Neon® pR
(pH / ORP measurement)

KUNTZE

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. Neon's® water measurement 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.

Applications

Process Water   Disinfection   Drinking Water   Food & Beverage   Cooling Water

Waste Water Treatment   Pool & Spa

Technical data

Measuring parameter

pH-value	-2.00.. +16.00 pH
ORP	-1500.. +1500 mV

Input characteristics

Temperature measuring range	-30.0 .. +140.0 °C
Temperature coefficient	Non-linear
Digital input	1 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 NO contact, max. 250 V, 6 A, 550 VA (invertable)	
Output signal	Option: 2 x 0/4 .. 20 mA (scaleable, galvanically isolated)	
	Load	500 Ohm
	Registration range	Scaleable within the measuring range
Voltage output	+/- 6 VDC for impedance converter	
Storage media	Accessory: SD card up to 1 GB - Industry standard	
Serial interface	Option: RS 485 - modbus RTU	
	Baud rate	19200 bps
	Data format	8 bit

Power supply

Line voltage	85.. 265 V AC, +6/-10%, 50.. 60Hz option: 24 V DC
Power consumption	10 VA

Neon® pR

Ambient conditions

Temperature	Storage	-20.. +65°C
	Operation	-5.. +50°C
Humidity	max. 90% rH at 40°C (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) servo motor control
Relay	2 relays, each with a potential-free NO contact, max. 250V, 6 A, 550 VA
Start delay	0.. 200 sec until controller active
Controller stop	Digital input

Proportion to volume

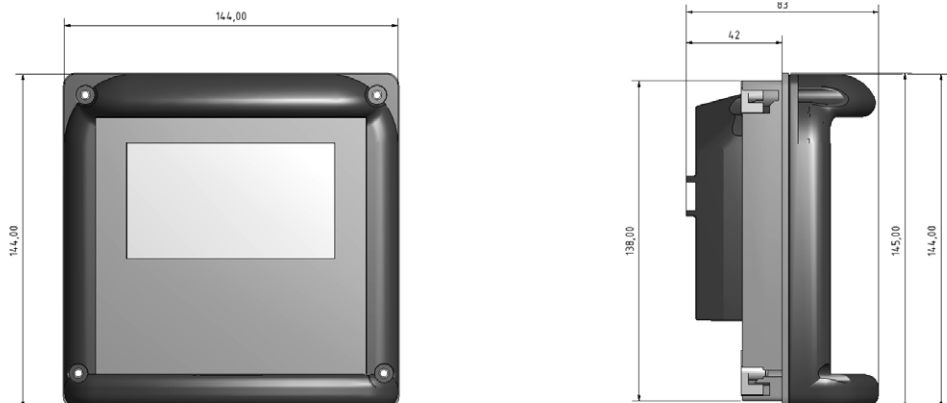|		
Control mode	Option: volume based by flow measurement	
Flow measurement	Impulse measurement NPN (by digital input 2)	
Flow measurement	Engine speed	0.030.. 9.999 l/Imp
Relay 1	Potential-free NO contact, max. 250V, 6 A, 550 VA output of control variable as pulse frequency or pulse pause.	
Relay 2	Activating circulation pump	

Certificates and approvals

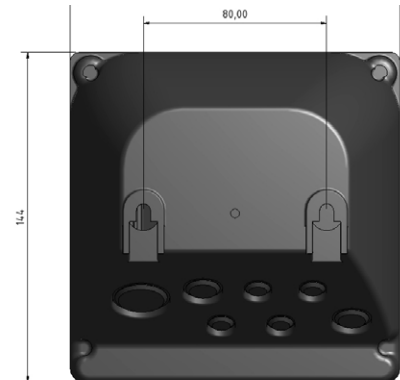|	
CE-Symbol	The product meets the requirements of the harmonized European standards and complies with the legal requirements of the EC directives.
EMV/EMC	EN 61000 6-1 (3) EN 61000 6-2 (4) EN 61326-1

Design configuration

Material	ABS	
Dimensions	Panel mounted housing:	138 x 138 x 83 mm
	Wall mounted housing:	144 x 144 x156 mm
	Panel mounted housing:	138 x 138 x 42 mm
Mounting dimension		
Weight	0.6 kg (wall mounted housing: 1 kg)	
Connection	Cable inlet: 2x M16, 2x M12 + optional: 2x M12 and 1x M25 plug-in terminal: rigid /flexible 0.2-2.5 mm² / 0.2-2.5 mm² measurement rigid /flexible 0.2-1 mm² / 0.2-1.5 mm	

Mechanical drawing

Neon® panel mounted

Neon® wall mounted

Interface diagram

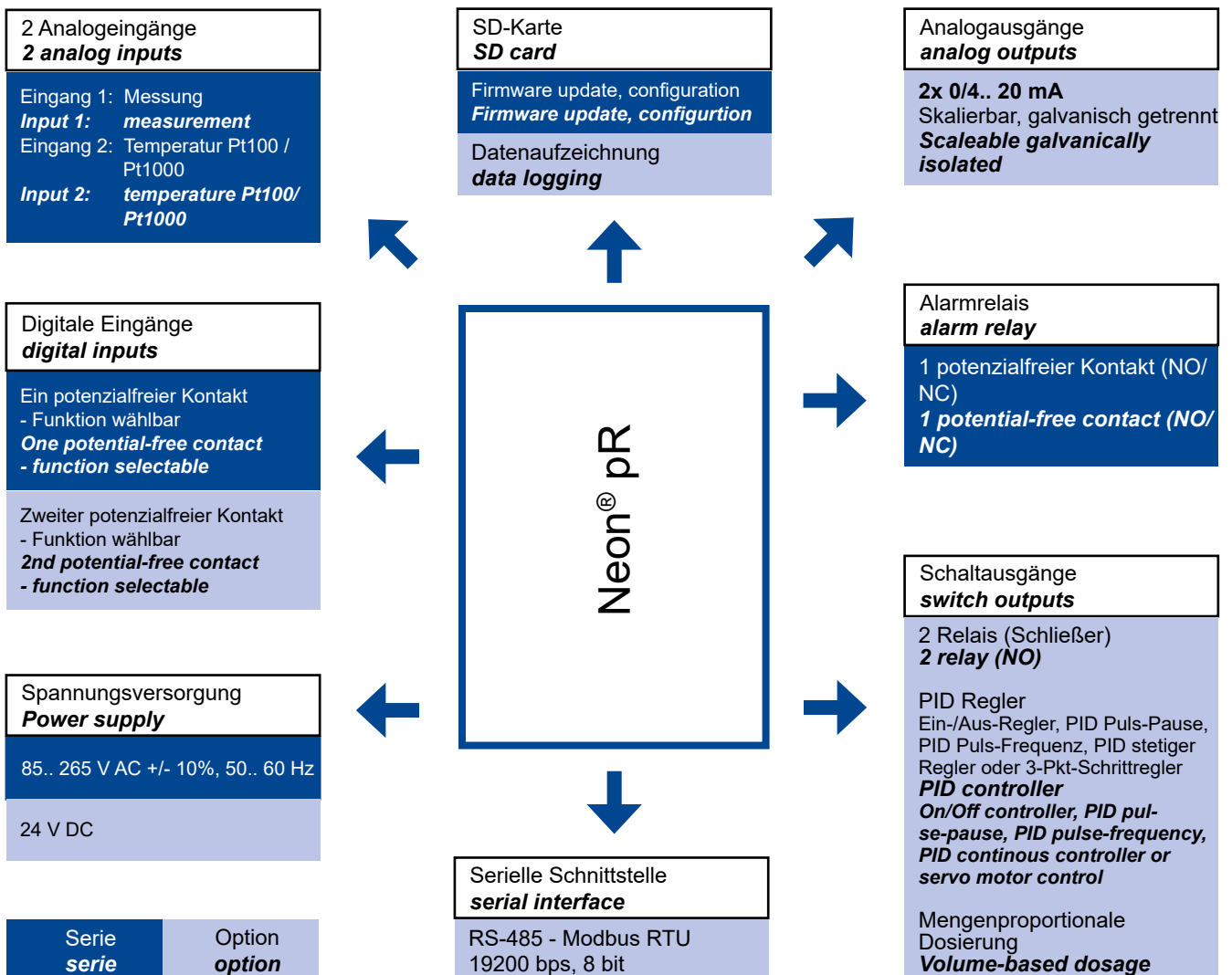| 2 Analogeingänge **2 analog inputs**	SD-Karte **SD card**	Analogausgänge **analog outputs**
Eingang 1: Messung **Input 1: measurement** Eingang 2: Temperatur Pt100 / Pt1000 **Input 2: temperature Pt100/ Pt1000**	Firmware update, configuration **Firmware update, configurtion** Datenaufzeichnung **data logging**	**2x 0/4.. 20 mA** Skalierbar, galvanisch getrennt **Scaleable galvanically isolated**

Digitale Eingänge **digital inputs**		Alarmrelais **alarm relay**
Ein potenzialfreier Kontakt - Funktion wählbar **One potential-free contact - function selectable** Zweiter potenzialfreier Kontakt - Funktion wählbar **2nd potential-free contact - function selectable**	**Neon® pR**	1 potenzialfreier Kontakt (NO/NC) **1 potential-free contact (NO/ NC)**

Spannungsversorgung **Power supply**		Schaltausgänge **switch outputs**
85.. 265 V AC +/- 10%, 50.. 60 Hz 24 V DC		2 Relais (Schließer) **2 relay (NO)** PID Regler Ein-/Aus-Regler, PID Puls-Pause, PID Puls-Frequenz, PID stetiger Regler oder 3-Pkt-Schrittregler **PID controller** **On/Off controller, PID pulse-pause, PID pulse-frequency, PID continous controller or servo motor control** Mengenproportionale Dosierung **Volume-based dosage**

Serie **serie**	Option **option**

Serielle Schnittstelle
serial interface

RS-485 - Modbus RTU
19200 bps, 8 bit

Neon® DIS
(Disinfectant measurement)

KUNTZE

Single channel water monitoring instrument

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Applications

Process Water

Disinfection

Drinking Water

Waste Water Treatment

Pool & Spa

Technical data

Measuring range

Free Chlorine	up to 1000 µg/l, 5.00 mg/l / 10.00 mg/l / 20.00 mg/l
Chlorine Dioxid	up to 1000 µg/l, 5.00 mg/l / 10.00 mg/l / 20.00 mg/l
Ozone	up to 1000 µg/l, 5.00 mg/l / 10.00 mg/l
Hydrogen Peroxide	up to 30.0 mg/l

Input characteristic

Temperature measuring range	-30.0°.. +140.0 °C (-22.0°.. 284°F)
Temperature compensation	0.0 .. 8.0 %/K adjustable coefficient
Digital input	1 as controller stop by external contact, option: 2nd as controller stop or flow measurement for volume based dosing.
Measurement conditions	pressure depending on assembly

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 (scaleable, galvanically isolated)	
	Load	max. 500 Ohm
	Registration range	scaleable 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

Power supply
Line voltage	85.. 265 V AC, +6/-10%, 50.. 60Hz; option: 24 V DC
Power consumption	10 V

Process conditions
Temperature	Storage	-20°.. +65°C (-4°..+149°F)
	Operation	0 .. +50°C (32°.. 122°F)
Humidity	max. 90% rH at 40°C (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)
	servo motor control
Relay	2 relays, each with a potential-free N/O contact, max. 250V, 6A, 550 VA
Start delay	0.. 200 sec until controller active
Controller stop	Digital input

Proportion to volum
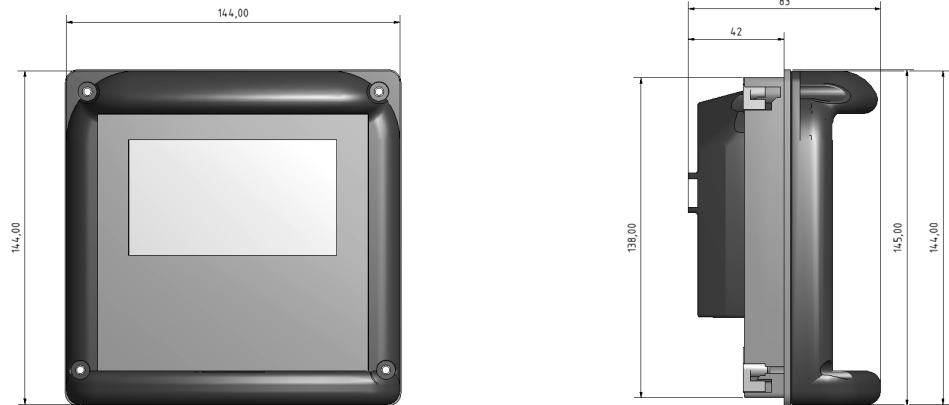|		
Control mode	Option: volumed based by flow measurement	
Flow measurement	Impuls measurement NPN (by digital input 2)	
Flow measurement	Engine speed	0.030.. 9.999 l/Imp
Relay 1	Potential-free N/O contact, max. 250V, 6 A, 550 VA	
	(pulse-pause, pulse-frequency)	
Relay 2	Activating circulation pum	

Certificates and approval
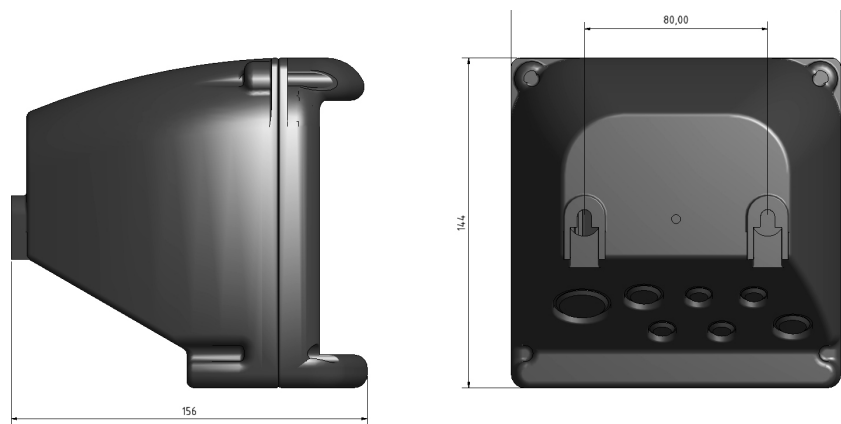|	
CE-Symbol	The product meets the requirements of the harmonized European standards
	and complies with the legal requirements of the EC directives.
EMC	EN 61000 6-1 (3) EN 61000 6-2 (4) EN 61326

Design configuration
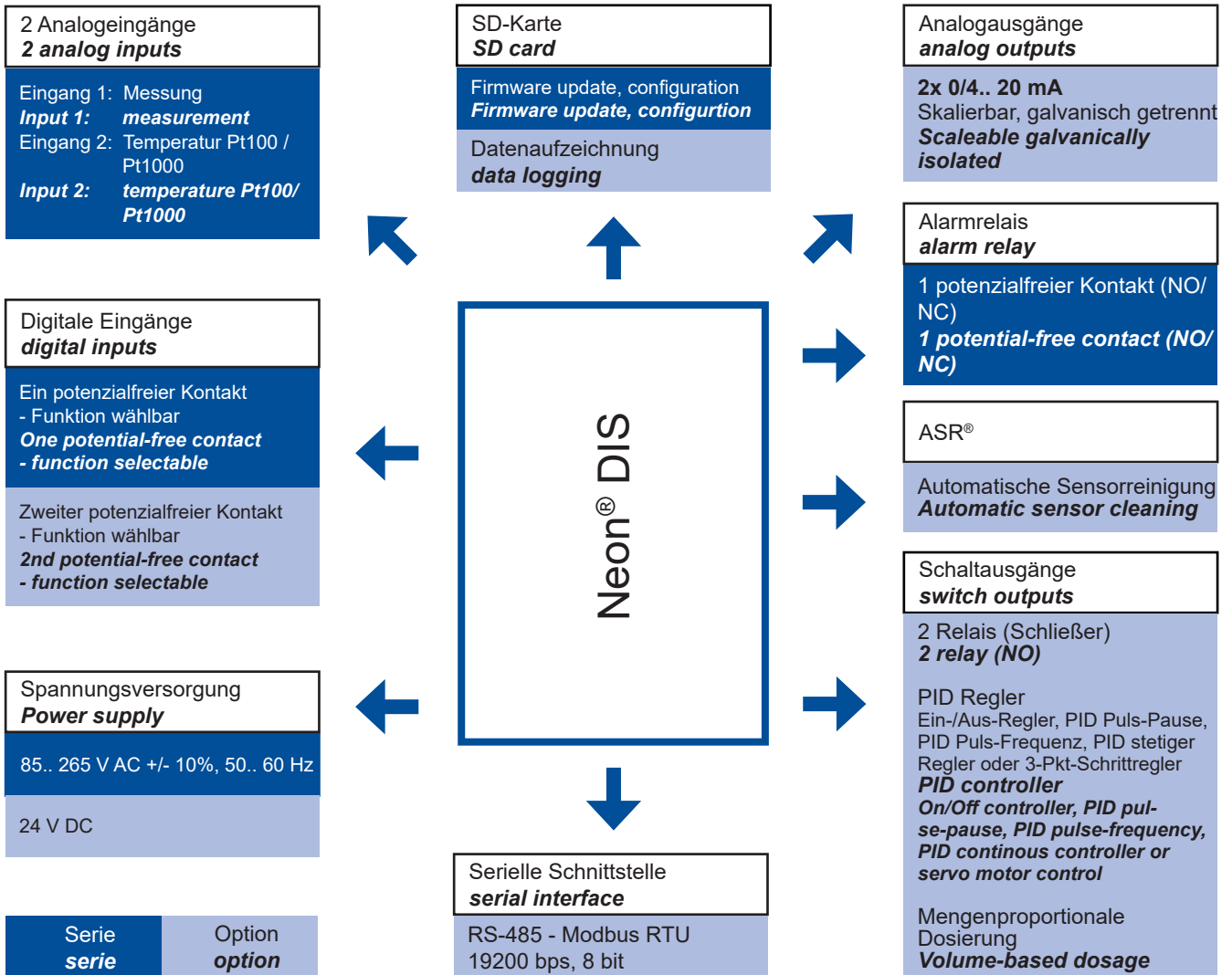|		
Material	ABS	
Dimensions	Panel mounted housing:	138 x 138 x 83 mm (max. wall thickness: 5mm)
	Wall mounted houing:	144 x 144 x 156 mm
Mounting dimension	Panel mounted housing:	138 x 138 x 42 mm
Weight	0.6 kg (wall mounted housing: 1 kg)	
Connection	Cable inlet:	2x M16, 2x M12 + optional: 2x M12 and 1xM25
	plug-in terminal:	rigid /flexible 0.2-2.5 mm² / 0.2-2.5 mm²
	measurement:	rigid /flexible 0.2-1 mm² / 0.2-1.5 mm²

Mechanical drawing

Neon® panel mounted

144,00
144,00
83
42
138,00
145,00
144,00

Neon® wall mounted

156
80,00
144

Interface diagram

2 Analogeingänge
2 analog inputs

Eingang 1: Messung
Input 1: **measurement**
Eingang 2: Temperatur Pt100 / Pt1000
Input 2: **temperature Pt100/ Pt1000**

Digitale Eingänge
digital inputs

Ein potenzialfreier Kontakt
- Funktion wählbar
One potential-free contact
- function selectable

Zweiter potenzialfreier Kontakt
- Funktion wählbar
2nd potential-free contact
- function selectable

Spannungsversorgung
Power supply

85.. 265 V AC +/- 10%, 50.. 60 Hz

24 V DC

Serie	Option
serie	**option**

SD-Karte
SD card

Firmware update, configuration
Firmware update, configurtion

Datenaufzeichnung
data logging

Neon® DIS

Serielle Schnittstelle
serial interface

RS-485 - Modbus RTU
19200 bps, 8 bit

Analogausgänge
analog outputs

2x 0/4.. 20 mA
Skalierbar, galvanisch getrennt
Scaleable galvanically isolated

Alarmrelais
alarm relay

1 potenzialfreier Kontakt (NO/NC)
1 potential-free contact (NO/NC)

ASR®

Automatische Sensorreinigung
Automatic sensor cleaning

Schaltausgänge
switch outputs

2 Relais (Schließer)
2 relay (NO)

PID Regler
Ein-/Aus-Regler, PID Puls-Pause, PID Puls-Frequenz, PID stetiger Regler oder 3-Pkt-Schrittregler
PID controller
On/Off controller, PID pulse-pause, PID pulse-frequency, PID continous controller or servo motor control

Mengenproportionale Dosierung
Volume-based dosage

Neon® EC
(Conductivity measurement)

KUNTZE

Single channel water monitoring instrument

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The entry level version contains inputs for measurements and temperature, one digital input and an alarm relay.
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All Kuntze products are Made in Germany.

Applications

Process Water Disinfection Drinking Water Food & Beverage Cooling Water

Waste Water Treatment Pool & Spa

Technical data

Measuring parameter

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

Input characteristic

Temperature measuring range	-30.0 .. +140.0 °C
Temperature coefficient	0.0 .. 8.0 % / K adjustable or non-linear
Digital input	1 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 NO contact, max. 250 V, 6 A, 550 VA (invertable)	
Output signal	Option: 2 x 0/4 .. 20 mA (scaleable, galvanically isolated)	
	Load	500 Ohm
	Registration range	Scaleable within the measuring range
Storage media	Accessory: SD card up to 1 GB - Industry standard	
Serial interface	Option: RS 485 Modbus RTU	
	Baud rate	19200 bps
	Data format	8 bit

Power supply
Line voltage	85.. 265 V AC, +6/-10%, 50.. 60Hz; option: 24 V DC
Power consumption	10 V

Ambient conditions
Temperature	Storage	-20 .. +65°C
	Operation	0 .. +50°C
Humidity	max. 90% rH at 40°C (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) servo motor control
Relay	2 relays, each with a potential-free N/O contact, max. 250V, 6 A, 550 VA
Start delay	0.. 200 sec until controller active
Controller stop	Digital input

Proportion to volum
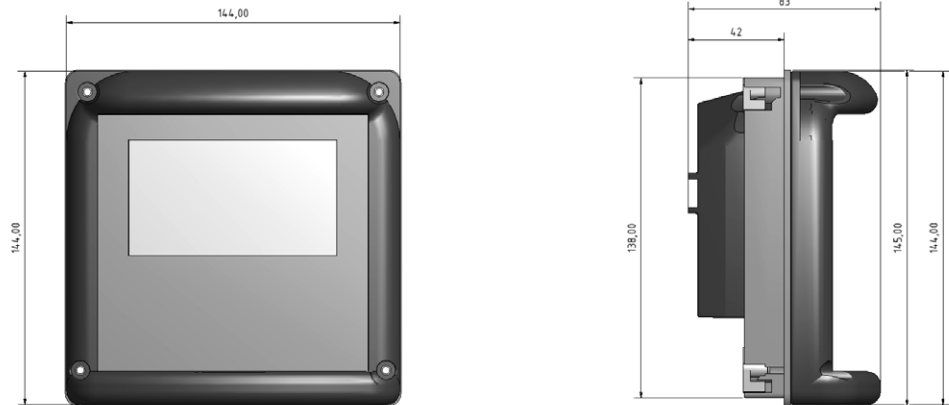|		
Control mode	Option: volumed based by flow measurement	
Flow measurement	Impuls measurement NPN (by digital input 2)	
Flow measurement	Engine speed	0.030.. 9.999 l/Imp
Relay 1	Potential-free N/O contact, max. 250V, 6 A, 550 VA output of control variable as pulse frequency or pulse pause.	
Relay 2	Activating circulation pump	

Certificates and approval
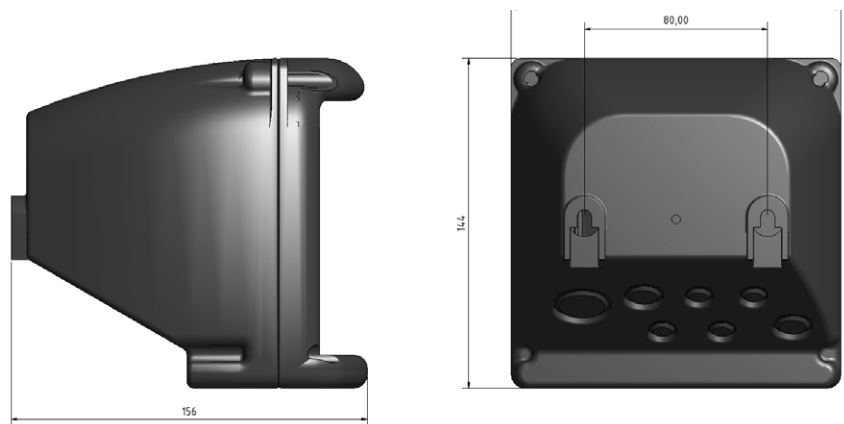|	
CE-Symbol	The product meets the requirements of the harmonized European standards and complies with the legal requirements of the EC directives.
EMV/EMC	EN 61000 6-1 (3) EN 61000 6-2 (4) EN 61326-1

Design configuration
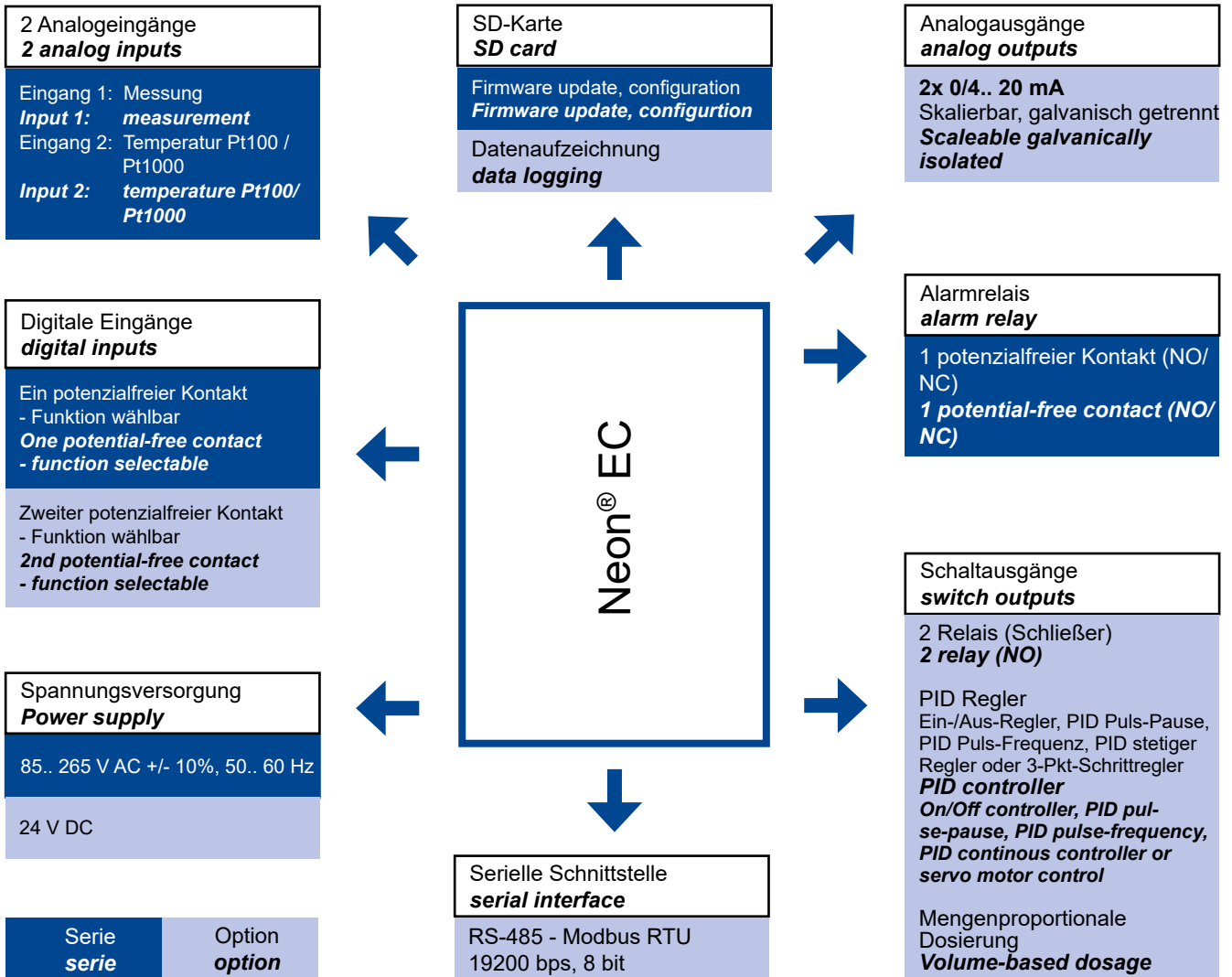|	
Material	ABS
Dimensions	Panel mounted housing: 138 x 138 x 83 mm
	Wall mounted houing: 144 x 144 x 156 mm
Mounting dimension	Panel mounted housing: 138 x 138 x 42 mm
Weight	0.6 kg (wall mounted housing: 1 kg)
Connection	Cable inlet: 2x M16, 2x M12 + optional: 2x M12 and 1x M25 plug-in terminal: rigid /flexible 0.2-2.5 mm² / 0.2-2.5 mm² measurement rigid /flexible 0.2-1 mm² / 0.2-1.5 mm

Mechanical drawing

Neon® panel mounted

Neon® wall mounted

Interface diagram

2 Analogeingänge
2 analog inputs

Eingang 1: Messung
Input 1: measurement
Eingang 2: Temperatur Pt100 / Pt1000
Input 2: temperature Pt100/ Pt1000

SD-Karte
SD card

Firmware update, configuration
Firmware update, configurtion

Datenaufzeichnung
data logging

Analogausgänge
analog outputs

2x 0/4.. 20 mA
Skalierbar, galvanisch getrennt
Scaleable galvanically isolated

Digitale Eingänge
digital inputs

Ein potenzialfreier Kontakt - Funktion wählbar
One potential-free contact - function selectable

Zweiter potenzialfreier Kontakt - Funktion wählbar
2nd potential-free contact - function selectable

Alarmrelais
alarm relay

1 potenzialfreier Kontakt (NO/ NC)
1 potential-free contact (NO/ NC)

Neon® EC

Schaltausgänge
switch outputs

2 Relais (Schließer)
2 relay (NO)

PID Regler
Ein-/Aus-Regler, PID Puls-Pause, PID Puls-Frequenz, PID stetiger Regler oder 3-Pkt-Schrittregler
PID controller
On/Off controller, PID pulse-pause, PID pulse-frequency, PID continous controller or servo motor control

Mengenproportionale Dosierung
Volume-based dosage

Spannungsversorgung
Power supply

85.. 265 V AC +/- 10%, 50.. 60 Hz

24 V DC

Serie *serie*	Option *option*

Serielle Schnittstelle
serial interface

RS-485 - Modbus RTU
19200 bps, 8 bit

Single channel water monitoring instrument

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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. Neon's® water measurement process can be controlled at any time, from any place, on any device via Kuntze's Cloud Connect® service.

Applications

Pool & Spa   TLV Monitoring   Warehouse Exhaust Air

Technical data

Measuring parameter

Chlorine Gas	0.00.. 10.00 ppm
Chlorine Dioxide Gas	0.00.. 1.00 ppm
Ozone Gas	0.00.. 1.00 ppm

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 (scaleable, galvanically isolated)	
	Load	500 Ohm
	Registration range	Scaleable within the measuring range
Storage media	Accessory: SD card up to 2 MB - Industry standard	
Serial interface	Option: RS 485 Modbus RTU	
	Baud rate	19200 bps
	Data format	8 bit

Power supply

Line voltage	85.. 265 V AC, +6/-10%, 50.. 60Hz; option: 24 V DC
Power consumption	10 V

Ambient conditions

Temperature	Storage	-20 .. +65°C
	Operation	0 .. +50°C
Humidity	max. 90% rH at 40°C (non-condensing)	
Protection class	Wall mounted	IP 65
	Panel mounted	IP 54 (front), IP 30 (housing)

Neon® GAS

Certificates and approval
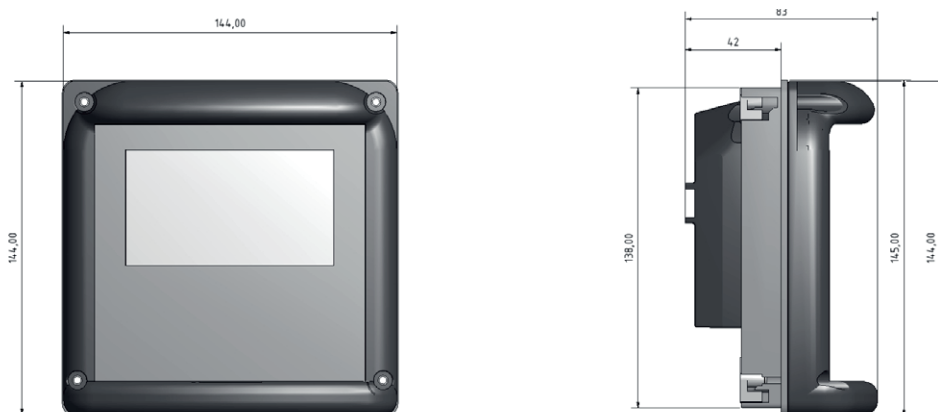
CE-Symbol   The product meets the requirements of the harmonized European standards
                          and complies with the legal requirements of the EC directives.
EMV/EMC   EN 61000 6-1 (3) EN 61000 6-2 (4) EN 61326-1

Design configuration

Material   ABS
Dimensions   Panel mounted housing: 138 x 138 x 83 mm
                          Wall mounted houing: 144 x 144 x 156 mm
Mounting dimension   Panel mounted housing: 138 x 138 x 42 mm
Weight   0.6 kg (wall mounted housing: 1 kg)
Connection   Cable inlet: 2x M16, 2x M12 + optional: 2x M12 and 1x M25 plug-in terminal:
                          rigid /flexible 0.2-2.5 mm² / 0.2-2.5 mm² measurement rigid /flexible
                          0.2-1 mm² / 0.2-1.5 mm

Mechanical drawing

Neon® panel mounted

Neon® wall mounted