Krypton® ONE | COMPACT

General description

The KRYPTON® ONE | COMPACT is a fully integrated measurement and control system within the NEON® ONE platform, designed for accurate water quality monitoring in various applications. It supports up to six sensors, including desinfectant, biocides, total chlorine, sulfite concentration, pH, ORP, conductivity, and flow and temperature (FT) monitoring. Pre-mounted on a compact panel, the system is delivered pre-configured and ready for measurement, minimizing installation time and ensuring a plug-and-play experience. The integrated NEON® ONE | COMPACT unit features an I/O board with three expansion slots, allowing flexible configuration with analog and digital output modules for seamless integration into external control systems.

Key advantages

- Complete, ready-to-use system for water quality monitoring
- Supports up to six sensors, including parameter control
- Integrated I/O board with modular expansion slots
- Pre-mounted and pre-configured, reducing setup time
- Seamless integration with SCADA/PLC via mA outputs or Modbus TCP

Typical applications

Desinfection | Food & Beverage | Industrial Water | Pool & Spa

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Technical data

Measurement specifications

Temperature	0 .. +50°C (32°F.. +122°F)
pH	0..14 pH
Free chlorine & bromine	0.. 20,00 mg/L
Chlorine dioxide	0.. 20,00 mg/L
Biocides & total chlorine	0.. 20,00 mg/L
Ozone	0..10,00 mg/L
Sulfite	0..20,00 mg/L
Redox-potential (ORP)	−1500..+1500 mV
Conductivity	0..2000 µS

Measurement input characteristics

Flow input	> 30 L/h (8gph)
Pressure inlet	Min. 0,2 bar (2,9 psi) / max. 6 bar (87 psi)
pH range	• Free chlorine: 6..8 pH • Free bromine: 6..9 pH • Chlorine dioxide: 5..9 pH • Ozone: 5..9 pH • Biocides and total chlorine: 6..10 pH
Temperature compensation	0.. 8,0 %/K (for disinfectant measurement)
pH compensation	Non-linear

Process condition

Storage temperature	• System: -20°C ..+65°C (-4°F ..+149°F) • Sensors:
Ambient temperature	0 .. +50°C (32°F.. +122°F)
Minimum conductivity	>50 µS/cm
Humidity	Max. 90% rH at 40°C (non-condensing)
Protection rating	IP65

Performance specifications

Linearity	>99%
Responce time t90	• Free chlorine/bromine: 22s • Biocides and total chlorine: 36s • Chlorine dioxide: 22s • Ozone: 28s • Sulfite: 37s
Limit of detection	• Free chlorine and bromine: 0,01 mg/L • Total chlorine and biocides: 0,01 mg/L • Chlorine dioxide: 0,02 mg/L • Ozone: 0,03 mg/L • Sulfite: 0,15 mg/L
Limit of quantification	• Free chlorine and bromine: 0,05 mg/L • Total chlorine and biocides: 0,05 mg/L • Chlorine dioxide: 0,05 mg/L • Ozone: 0,1 mg/L • Sulfite: 0,5 mg/L
Accuracy	• Free chlorine and bromine: ±2% of the reading or ±0.1 ppm, whichever is higher • Chlorine dioxide: ±2% of the reading or ±0.1 ppm, whichever is higher • Ozone: ±2% of the reading or ±0.1 ppm, whichever is higher • Biocides and total chlorine: 2% of the reading or ±0.1 ppm, whichever is higher • Sulfite: ±1,0 mg/L • Conductivity: ±2% of the reading

System specifications

Line voltage	• 100 .. 240 VAC/DC, 50..60Hz • 24 V DC
Power consumption	< 60W
Indirect power supply	24 V DC
Communication interface	Modbus TCP
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
Language	English

Controller options

Control parameter	Every measurement parameter except temperature can be controlled.
Control responce	• On / off controller (adjustable hysteresis) • P / PI / PID controller (pulse-pause, pulse-frequency or continous output)

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Input & Output specifications

Digital input	• Optional module with 8 inputs • Input type: Open Collector (passive) • Galvanic isolation: Yes, against other modules • Max. voltage difference: 12 V • Trigger high: > 3,3 V • Trigger low: <2V • Max. pulse frequency: 50 Hz
Digital output	• Optional module with 8 outputs • Output type: Open Collector (passive) • Galvanic isolation: Yes, against other modules • Max. voltage: 24 V • Max. collector current: 30 mA • Max. pulse frequency: 50 Hz
Analog input	• Optional module with 2 or 4 inputs • Input type: Current, active • Input range: 0-24 mA • Galvanic isolation: Yes, against other modules and also individual isolation for 2 inputs • Max. resistance: 500 Ohm
Analog output	• Optional module with 2 or 4 outputs • Output type: Current, active • Output range: 0-24 mA • Galvanic isolation: Yes, against other modules and also individual isolation for 2 inputs • Max. resistance: 500 Ohm
Alarm relay	• 1 alarm relay on the I/O board module • Output type: Single Pole Double Throw • Switching: mechanical • Max. voltage: 250 V AC/DC • Max. current: 3 A

Design configuration

Material	Board: PVC STABIFLOW® ONE Assembly: PMMA NEON® ONE | CORE housing: PC NEON® ONE NODE: PBT/PMMA ZIRKON® ONE Sensor: Glass, Plastic, Gold, Platinum, Carbon NEON® ONE | NODE CABLE: PUR
Dimensions	Per each board 350 x 400 mm
Weight	Per each board approx. 1,9 kg
Connection	Cable inlet: 6 x M16, 8 x M12 Plug-in terminal: Rigid / flexible Power supply: Rigid / flexible 0.2 - 1 / 0.2 - 1.5 mm² Distribution block: Rigid / flexible 0.5 - 1.5 / 0.5 - 1.5 mm² Water hose connection: DN

Software options

NE1 ASR®	The ASR® – Automatic Sensor Cleaning System is an automated cleaning solution designed for use with up to four ZIRKON® ONE DIS sensors connected to the NEON® ONE platform. It supports up to 4 ZIRKON® ONE DIS sensors per system.
NE1 Validation	The Validation Software Function in NEON® ONE ensures reliable chlorine measurement in chlorine-free water, particularly in applications such as before reverse osmosis systems or emergency chlorination. This function enables the system to switch to chlorinated water using additional valves, verifying that the measurement is functioning correctly. It requires additional Hardware and plumbing not provided by Kuntze.
NE1 Modbus TCP	The Modbus TCP Interface enables seamless industrial communication between the NEON® ONE platform and external control systems such as PLCs, SCADA, or building automation systems. It allows real-time data exchange of sensor measurements, system status, and control parameters using the Modbus TCP protocol over Ethernet.
NE1 Toolkit	The Toolkit Software Function in NEON® ONE allows users to define custom events for process control. It provides customized control of digital inputs, digital outputs, and relays, enabling adaptability and schedule-based automation within the NEON® ONE platform.

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Mechanical drawings

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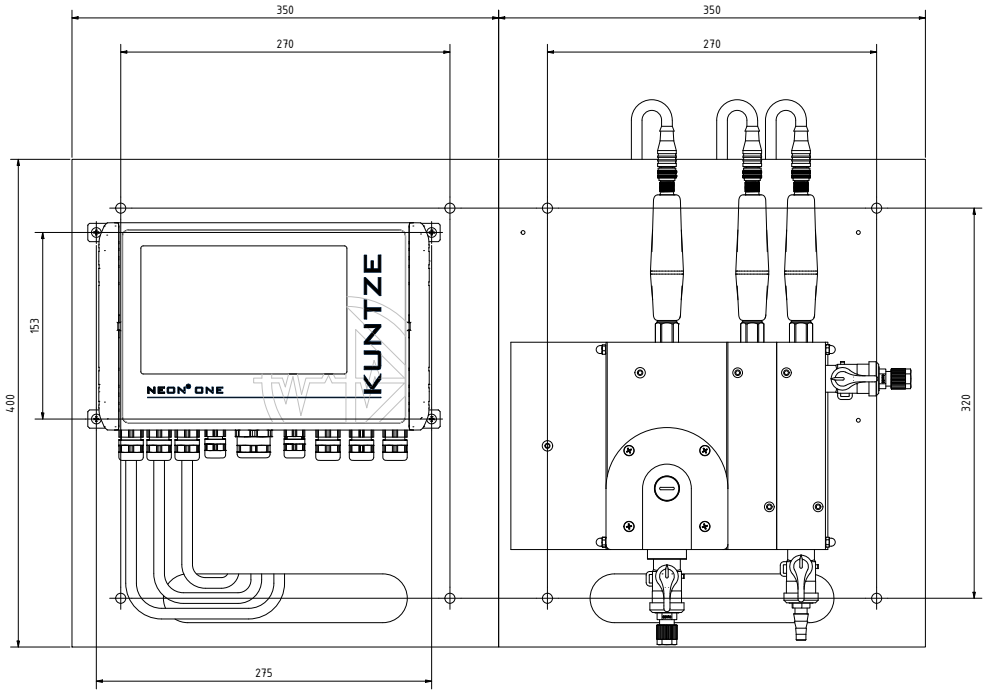

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