



NEW: now with up to five outputs!

Industries

- Municipal waste water
- Industrial waste water
- Drinking water
- Process water

SC 200 Digital 2 Channel Controller

One controller for 40+ sensors and 14 parameters

The digital 2-channel SC 200 Controller is compatible with our complete range of digital and analogue sensors. There are 40+ sensors to choose – from Ammonium to Turbidity as well as special parameters such as Oil in Water. The one-stop-shop controller and its family of sensors monitor processes for all applications in wastewater, drinking and process water. Standardisation on one controller reduces maintenance complexity, time and costs. Plus you only have one company to call – us.

Easy to extract data

To help you analyse and further improve your processes the SC 200 offers a new solution for simple data management. All logged measuring and diagnosis data can be easily extracted in XML format from the controller via the SD Card slot.

Easy to keep firmware up to date

A new legal regulation is only one of several reasons why instrumentation firmware must always be kept up to date. Aside from legal requirements we invest heavily to add new functionality, new parameters, new sensors etc. SC 200 makes this easy via the SD card slot.

One controller for all applications

HACH LANGE is the recognized leader for water analytic solutions. With the launch of the SC 200, more than 40 different analogue and digital plug + play sensors can now be combined. Due to its rugged and robust metal enclosure, the SC 200 is suitable for industrial applications virtually anywhere.

With the communication options PROFIBUS DP and MODBUS RS232 / RS485, the controller can be easily integrated into digital networks. The modular concept (one slot for a communication card of choice and two slots for input cards) makes the SC 200 stand out in terms of capability and flexibility.



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SC 200 Digital 2-channel Controller

Technical Data Basic Instrument

Display

Graphic dot matrix LCD with LED backlighting

Display size

68 mm x 48 mm

Display resolution

240 x 160 pixels

Dimensions

144 mm x 144 mm x 181 mm

Weight

1.70 kg

Power requirements

100 to 240 V AC 10 %, 50/60 Hz

24 VDC -15 % /+20 %

Operating temperature

-20 to 60 °C , 0 to 95 % RH non-condensing

Storage temperature

-20 to 70 °C , 0 to 95 % RH non-condensing

Analogue outputs

Two 0/4 to 20 mA isolated current outputs, max 550 Ω

Analogue outputs: Operational mode

Primary or secondary measurement, calculated value (dual channel only)

Analogue outputs: Functional mode

Linear, Logarithmic, Bi-linear, PID

Security levels

2

Material enclosures

Polycarbonate

Aluminium (powder coated)

Stainless Steel

Mounting configurations

Wall, Pole and Panel Mounting

Enclosure rating

NEMA4X / IP66

Relays

Four electromechanical SPDT (Form C) contacts, 1200 W, 5 A

Relays: Operational mode

Primary or secondary measurement, calculated value (dual channel only) or timer

Relays: Functional mode

Alarm, Timer, Feeder Control, PWM or Fm Control, System Alarm

Memory backup

Flash memory

Electrical certifications

EMC – Certified CE compliant for conducted and radiated emissions (EN 50081-2) and immunity (EN 61000-6-2); General purpose – UL through ETL

Warranty

2 years

Subject to change without notice.

SC 200 configuration variants



Variant 1: Fully digital – for max. two SC sensors, direct plug + play



Variant 2: Combined version – one digital SC sensor and one analogue sensor with suitable sensor input card



Variant 3: Fully analogue – for max. two analogue sensors plus their input cards

SC 200 Digital 2-channel Controller

Sensor input cards

Product description	SC 200 Sensor input card for analogue pH / ORP sensors (9012900)	SC 200 Sensor input card for analogue contacting conductivity sensors (9013000)	SC 200 Sensor input card for analogue inductive conductivity sensors (9013000)	SC 200 Sensor input card mA IN signals (9012800)
Measuring ranges pH	-2.0 to 14.0 pH -2.00 to 14.00 pH			
Measuring range ORP	-2100 to 2100 mV			
Measuring ranges conductivity		0 to 2.000 $\mu\text{S/cm}$ 0 to 20.00 $\mu\text{S/cm}$ 0 to 200.0 $\mu\text{S/cm}$ 0 to 2000 $\mu\text{S/cm}$ 0 to 2.000 mS/cm 0 to 20.00 mS/cm 0 to 200.0 mS/cm	0 to 200.0 $\mu\text{S/cm}$ 0 to 2000 $\mu\text{S/cm}$ 0 to 2.000 mS/cm 0 to 20.00 mS/cm 0 to 200.0 mS/cm 0 to 2000 mS/cm 0 to 2.000 S/cm	
Measuring ranges resistivity		0 to 19.99 M Ωcm 0 to 999.9 k Ωcm		
Measuring ranges concentration			0 to 99.99 % 0 to 200.0 %	
Measuring ranges TDS		0 to 9999 ppm 0 to 9999 ppb	0 to 9999 ppm	
Signal range				0 to 25 mA
Repeatability	± 0.1 % of range	0 to 20 $\mu\text{S/cm}$, K=1: ± 0.02 $\mu\text{S/cm}$ 20 to 200,000 $\mu\text{S/cm}$, K=1: ± 0.1 % of reading	>500 $\mu\text{S/cm}$: ± 0.5 % of reading <500 $\mu\text{S/cm}$: ± 2.5 $\mu\text{S/cm}$	
Response times	0.5 s	0.5 s	1 s	
Temperature ranges	PT100 / PT1000 -20 to 200 °C NTC300 -20 to 110 °C Manual -25 to 400 °C	-20 to 200 °C	-20 to 200 °C	
Temperature accuracy	± 0.5 °C	± 0.5 °C	± 0.5 °C	
Temperature drifts	± 0.03 % of reading / °C	>20 $\mu\text{S/cm}$: ± 0.02 % of reading / °C	> 500 $\mu\text{S/cm}$: ± 0.02 % of reading / °C	
Temperature compensation	Automatic from -20 to 110 °C or manual	Automatic from -20 to 200 °C or manual	Automatic from -20 to 200 °C or manual	
Temperature sensors	PT100 / PT1000 / NTC300	PT100 / PT1000	PT1000	
Temperature compensation curves	Nernst, Pure Water: Ammonium, Morpholine, user defined (linear)	Linear, Ammonium, Natural Water, user defined, none	Linear, Natural Water, user defined, none. Available curves depend on the selected type of measurement (Conductivity, Concentration or TDS).	
Sensor to controller distances (maximal)	pHD sensor: 914 m pH combination electrode with pre-amplifier: 300 m pH combination electrode with pre-amplifier: 300 m	Max. length: 91 m	Full-scale value 200 to 2,000 $\mu\text{S/cm}$ max. length: 61 m Full-scale value 2,000 to 2,000,000 $\mu\text{S/cm}$ max. length: 91 m	
Concentration curves			H ₃ PO ₄ : 0-40 % HCl: 0-18 % HCl: 22-36 % NaOH: 0-16 % CaCl ₂ : 0-22 % HNO ₃ : 0-28 % HNO ₃ : 36-96 % H ₂ SO ₄ : 0-30 % H ₂ SO ₄ : 40-80 %	
Calibration methods	2-point buffer (pH only) 1-point buffer (pH only) 2-point sample (pH only) 1-point sample (pH and ORP)	Zero GLI DRY-CAL 1-point sample	Zero 1-point Cond (or Concentration or TDS)	

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SC 200 Digital 2-channel Controller

Parameters and applicable sensors

Parameters	Digital sensors
Ammonium	AMTAX sc AMTAX indoor sc AISE sc AN-ISE sc
Chlorine	9184 sc CLF10 / CLT10 sc
Chlorine dioxide	9187 sc
Conductivity	3798-S sc
Dissolved oxygen	LDO 5740 sc
Nitrate	NITRATAX clear sc NITRATAX plus sc NITRATAX eco sc NISE sc AN-ISE sc
Oil in water	FP360 sc
Organics	UVAS sc
Ozone	9185 sc
pH/ORP	pHD sc 1200-S sc
Phosphate	PHOSPHAX sc PHOSPHAX indoor sc
Sludge level	SONATAX sc
Suspended solids	TSS sc TSS HT sc TSS VARI sc TSS XL sc TSS Titan 2 sc TSS Titan 7 sc

Parameters	Digital sensors
Suspended solids/turbidity, high resolution	SOLITAX ts-line sc SOLITAX t-line sc SOLITAX hs-line sc SOLITAX inline sc SOLITAX highline sc
Turbidity, high resolution	SS7 sc
Turbidity, low resolution	ULTRATURB plus sc 1720E ULTRATURB sc
Turbidity, ultra low resolution	FT660 sc

Parameters	Analogue sensors
Conductivity	GLI 3400 series GLI 3700 series POLYMETRON 831X series
pH/ORP	pHD pH combination electrodes

SC 200 configuration

Power supply

- 0 Without power cord
- 2 EU power cord
- 3 UK power cord
- 4 Swiss power cord
- 7 24 VDC

Communications Output

- 0 2 x 0/4-20mA Outputs
- 1 MODBUS 232 & 485
- 3 PROFIBUS DP

Sensor Input 1

- 5 Digital (all SC sensors)
- 1 Analogue: pH / ORP / DO
- 2 Analogue: Conductivity
- 4 mA Input

Sensor Input 2

- 0 None
- 5 Digital (all SC sensors)
- 1 Analogue: pH / ORP / DO
- 2 Analogue: Conductivity
- 4 mA Input

Important:

„Sensor Input 1“ has to be bigger than the

„Sensor Input 2“ ID

- Example: Correct = LXV404.99.xx501,

Wrong = LXV404.99.xx051

L	X	V	4	0	4	.	9	9	.							1
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