



SC1000 Multi-parameter Universal Controller

The only controller needed for all of your water quality measurements.

The Hach SC1000 Multi-parameter Universal Controller is a state-of-the-art modular transmitter system. The SC1000 consists of a Display Module and at least one Probe Module. Probe Modules for the SC1000 can be networked together to accommodate up to 32 digital sensors or analyzers. The SC1000 Display Module is intuitive, with an easy to use interface and large color touch-screen display that can be used for any number of parameters. One Display Module controls one or more Probe Modules connected by a digital network. The Display Module is fully portable, and can be disconnected and moved anywhere within the network. The Hach SC1000 Display Module is available with GSM/GPRS and Modbus TCP/IP capability.

Prognosis is a predictive diagnostic system that allows you to be proactive in your maintenance, by alerting you to upcoming instrument issues. Know with confidence whether changes in your measurements are due to changes in your instrument or your water.

More Confidence in Your Instrument's Performance

Available exclusively on Hach instruments, Prognosis predictive diagnostics uses innovative diagnostic software to read multiple inputs from your instrument and alert you to the instrument's overall performance and upcoming maintenance. An easy-to-read dashboard provides instant indication of measurement reliability and service requirements. Process control has never been easier.

Plug and Play Operation

There's no complicated wiring or set up procedures with the SC1000 controller. Plug any Hach digital sensor into a Probe Module and it's ready for use. No special ordering or software configuration is needed.

Communication Options to Fit Any Application Need

The Hach SC1000 controller features state-of-the art Modbus TCP/IP communications protocol for seamless integration into a network of devices that support TCP/IP sockets. Use a standard Ethernet cable or connect wirelessly using GSM/GPRS to communicate with your SCADA, PLC or other network. Available with analog 4-20mA, Modbus 485, Profibus DP, or HART digital communication options.

Expandable and Upgradable

The SC1000 controller can adapt to your needs. Add or change probes without having to change the controller. Plus, with a single Display Module, additional Probe Modules and associated sensors can be added or removed depending on operational needs. Fully upgradable software ensures that this system will not be obsolete. Hach service plans are available.

Learn More



Technical Data*

Operating Temperature Range	-20 - 55 °C (-4 - 131 °F) / 0 - 95% relative humidity, non-condensing
Storage Conditions	-20 - 70 °C (-4 - 158 °F), 0 - 95% relative humidity, non-condensing
Power Requirements (Voltage)	100 - 240 VAC, 24 VDC
Power Requirements (Hz)	50/60 Hz
Display	¼ inch VGA graphical backlit TFT color Glas/Glas-Touch screen, high resistance 320 x 240 pixels
Display Viewing Area	11.4 x 8.6 cm (4.5 x 3.4 in)
Alarm	Low alarm point, low alarm point deadband, high alarm point, high alarm point deadband, off delay, and on delay
Relays	Up to four SPDT, user-configurable contacts rated 100 to 230 VAC, 5 Amp resistive maximum per probe module. Additional relays are available with additional probe modules.
Inputs	Up to 12 analog 0-20 mA, maximum impedance 500 Ohms per probe module. Additional inputs are available with additional probe modules.
Outputs	Up to 12 analog 0/4-20 mA, maximum impedance 500 Ohms per probe module. Additional analog outputs with additional probe modules. Optional digital communications via Modbus (RS485) and Profibus DP/V1.
Analog Output Functional Mode	PID, high/low phasing, setpoint, deadband, overfeed timer, off delay, on delay
Communication	Modbus (RS485): Advanced communications/networking with PLC or SCADA system directly from analyzer Profibus DP/V1 (certified) GSM/GPRS Quad-band cellular module (FCC and IC approved, EU and US only) Ethernet service port, RJ45, 10 MB/s
Mounting Configurations	Surface, panel, and pipe (horizontal and vertical) with optional sun shield
Enclosure Rating	IP65
Material Enclosures	ABS (display module) and metal (probe module) enclosure with corrosion resistant finish
Dimensions (H x W x D)	250 x 315 x 150 mm (12.4 x 10.1 x 6 in.)
Certifications	North American Certifications: cTUVus to UL 61010A-1 and CSA C22.2 No. 1010.1 FCC ID QIPMC56 / IC ID 267W-MC56 European Certifications: CE per 73/23/EEC and 89/336/EEC TUV-GS to EN 61010-1 EN 61326 Amd's 1 & 2
Weight	Approximately 6.5 kg (14.33 lb), depending on configuration

**Subject to change without notice.*

Order Information

SC1000 Display Modules

LXV402.99.00002	SC1000 Display Module
LXV402.99.10002	SC1000 Display Module with Modbus® TCP/IP Protocol

SC1000 Probe Modules

LXV400.99.1R172	SC1000 Probe Module, 4 Sensors with Conduits, 4x 4-20mA Out, 4x Relays, 110-240 VAC with Conduits
LXV400.99.1B572	SC1000 Probe Module, 4 Sensors, 4x 4-20mA Out, 4x 4-20mA In, Modbus RS485, 4x Relays, 100-240 VAC with Conduits
LXV400.99.1F572	SC1000 Probe Module, 4 Sensors, 4x 4-20mA Out, 4x 4-20mA In, Profibus DP, 4x Relays, 100-240 VAC with Conduits
LXV400.99.1R582	SC1000 Probe Module, 6 Sensors, 4x 4-20mA Out, 4x 4-20mA In, 4x Relays, 100-240 VAC with Conduits
LXV400.99.1H082	SC1000 Probe Module, 6 Sensors, Prognosys, Modbus RS485, 100-240 VAC with Conduits
LXV400.99.1G082	SC1000 Probe Module, 6 Sensors, Prognosys, 100-240 VAC with Conduits
LXV400.99.ZA022	SC1000 Probe Module, 4 Sensors, Modbus RS485, 24 VDC
LXV400.99.ZR122	SC1000 Probe Module, 4 Sensors, 4x 4-20mA Out, 4x Relays, 24 VDC
LXV400.99.10092	SC1000 Probe Module, 8 Sensors with Conduits, 110-240 VAC with Conduits
LXV400.99.10082	SC1000 Probe Module, 6 Sensors with Conduits, 110-240 VAC with Conduits

Note: Additional Probe Module configurations are available. Please contact your local Hach representative.

Network and Communication Cards

YAB021	SC1000 Internal Modbus RS485 Card
YAB020	SC1000 Internal Profibus DP Card
YAB076	SC1000 Internal Relay Card
YAB018	SC1000/SC1500 Internal 0/4-20 mA Analog Input Card
YAB019	SC1000/SC1500 Internal 0/4-20 mA Analog Output Card
LZY885.99.00002	Prognosys Communication Card for SC1000

Accessories

6169900	SC1000 Panel Mount Kit
LZX958	SC1000 Sunshield
LZX957	SC1000 Sunshield with mounting pole (1.8 m/5.9 ft)
LZY598	Modbus TCP/IP License Kit for field upgrade (Display Module serial number required when ordering)
LZX849	Digital Extension Cable, 10 m
LZY488	SC1000 Bus cable for flexible installations (order per foot)
LZY489	SC1000 Bus cable for fixed installations (order per foot)
5448800	Power Cord, 120 VAC

SC Controller Quick Reference Guide

Model	SC1000	SC4500
Description	The SC1000 multi-parameter Universal Controller is a fully modular system consisting of a Display Module and one or more Probe Modules.	Microprocessor-controlled and menu-driven controller that operates the sensor
Display	¼ inch VGA graphical backlit TFT color Glas/Glas-Touch screen, high resistance 320 x 240 pixels	3.5-inch TFT colour display with capacitive touchpad
Enclosure Rating	IP65	UL50E type 4X, IEC/EN 60529-IP 66, NEMA 250 type 4X Metal enclosure with a corrosion-resistant finish
Operating Temperature Range	-20 - 55 °C (-4 - 131 °F) / 0 - 95% relative humidity, non-condensing	-20 to 60 °C (-4 to 140 °F) (8 W (AC)/9 W (DC) sensor load) -20 to 45 °C (-4 to 113 °F) (28 W (AC)/20 W (DC) sensor load) Linear derating between 45 and 60 °C (-1.33 W/°C)
Storage Conditions	-20 - 70 °C (-4 - 158 °F), 0 - 95% relative humidity, non-condensing	-20 - 70 °C (-4 - 158 °F), 0 - 95% relative humidity, non-condensing
Altitude	2000 m (6562 ft) maximum	3000 m (9842 ft) maximum
Sensors	Up to 8 Sensors	Up to 2 Sensors
Power requirements	100-240 VAC ±10%, 50/60 Hz; max. 1000 VA, Category II or 24 VDC (18-30 VDC), max. 75 W	AC controller: 100-240 VAC ±10%, 50/60 Hz; 1 A (28 W sensor load) DC controller: 24 VDC +15% -20%; 2.5 A (20 W sensor load)
Relays	Up to four SPDT, user-configurable contacts rated 100 to 230 VAC, 5 Amp resistive maximum per probe module. Additional relays are available with additional probe modules.	Two relays (SPDT); Wire gauge: 0.75 to 1.5 mm ² (18 to 16 AWG) AC controller Maximum switching voltage: 100 - 240 VAC Maximum switching current: 5 A Resistive/1 A Pilot Duty Maximum switching power: 1200 VA Resistive/360 VA Pilot Duty DC controller Maximum switching voltage: 30 VAC or 42 VDC Maximum switching current: 4 A Resistive/1 A Pilot Duty Maximum switching power: 125 W Resistive/28 W Pilot Duty
Inputs	Up to 12 analog 0-20 mA, maximum impedance 500 Ohms per probe module. Additional inputs are available with additional probe modules.	Up to two analog Input modules (0-20 mA or 4-20 mA). Each input module replaces a digital sensor input.
Outputs	Up to 12 analog 0/4-20 mA, maximum impedance 500 Ohms per probe module. Additional analog outputs with additional probe modules. Optional digital communications via Modbus (RS485) and Profibus DP/V1.	Five 0-20 mA or 4-20 mA analog outputs on each analog Output module
Communication (optional)	Modbus (RS485): Advanced communications/networking with PLC or SCADA system directly from analyzer Profibus DP/V1 (certified) GSM/GPRS Quad-band cellular module (FCC and IC approved, EU and US only) Ethernet service port, RJ45, 10 MB/s	Profibus DPV1 module Modbus TCP Profinet IO module Ethernet IP module
Compliance Certifications	North American Certifications: cTUVus to UL 61010A-1 and CSA C22.2 No. 1010.1 FCC ID QIPMC56 / IC ID 267W-MC56 European Certifications: CE per 73/23/EEC and 89/336/EEC TUV-GS to EN 61010-1 EN 61326 Amd's 1 & 2	CE. ETL certified to UL and CSA safety standards (with all sensor types), FCC, ISED, KC, RCM, EAC, UKCA, SABS, C _ϕ (Morocco)
Compatible Network Technologies	GSM modem The SC1000 display module with integrated GSM/GPRS modem transmits data SMS messages and GPRS services in GSM nets. The SC1000 is offered with different GSM frequency bands: MC55I-W 850/900/1800/1900 MHz MC55I-W features GPRS multislot class 10 and supports the GPRS coding schemes CS-1, CS-2, CS-3 and CS-4.	GSM 3G/4G (e.g. AT&T, T-Mobile, Rogers, Vodafone etc.) CDMA (e.g. Verizon)
Network Connectivity		LAN: Two Ethernet connectors (10/100 Mbps) Cellular: External 4G Wi-Fi
Mounting	Surface, panel, and pipe (horizontal and vertical) with optional sun shield	Wall, Pole, or Panel Mounting
Dimensions	250 mm x 315 mm x 150 mm (12.4 x 10.1 x 6 in.)	½ DIN - 144 x 144 x 192 mm (5.7 x 5.7 x 7.6 in.)
Weight	Approximately 6.5 kg (14.33 lb), depending on configuration	1.7 kg (3.7 lb) (controller only, w/o modules)

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