

Hach sc200™ Universal Controller with Ultrasonic Flow Sensor

NEW!

FLOW

Product Overview

The sc200 Universal Controller with Ultrasonic Sensor is designed to give highly accurate flow and depth measurements for your open channel flow monitoring applications.

From the easy-to-read display to reliable data management with SD card data transfer, the flow system provides an economical choice for flow monitoring.

The flow system can be used for a variety of applications including NPDES permitting requirements and the monitoring of storm water, inlet flow, final effluent and activated sludge. It replaces the Hach GLI53 analog controller with advanced features for easier operator use.

The sc200 controller platform can be configured to operate either 2 Digital Sensor Inputs, or 1 or 2 Analog Sensor Inputs, or a combination of Digital and Analog Sensor Inputs. Customers may choose communication options from a variety of offerings ranging from MODBUS RTU to Profibus DPV1.



New sc200 Controller when combined with the Ultrasonic Flow Sensor offers accuracy and time-saving features for your open channel flow monitoring applications.

DW

WW

PW

IW

Features and Benefits

Maximum Versatility

- Standardized controller eliminates the need for a variety of dedicated controllers
- Multi-channel controller operates either 1 or 2 sensors reducing inventory holding costs and providing an inexpensive option to add a second sensor at a later time
- True dual sensor controller provides 4-20 mA outputs to transmit primary and secondary measurement values
- Controller may be panel, surface or pole mounted (hardware included)

Display

- Large display with scrolling menus for easy set up
- Transreflective display stays readable even in sunlight

Data Management

- SD Card simplifies data download and transfer
- Update firmware via SD card or special RS232 cable

Ultra Sonic Flow Sensor

- Select primary gauging structure from the library of flumes and weirs for flow sensor set up or enter a flow curve for non-standard structure
- Non-contact flow sensor requires no routine maintenance
- Pulse echo technology

Sensor Inputs

- Analog sensor modules may be added in the field
- Digital sensor ports are factory installed
- Controller will scan and detect new sensors added
- Works with GLI and Hach digital sensors

Analog Inputs

- Enables non-sc analyzer monitoring
- Accepts mA signals from other analyzers for local display
- Consolidates analog mA signals to a digital output

4-20 mA Outputs

- Total of six (6) 4-20 mA outputs (2 std/4 optional) enables up to 3 mA outputs per sensor input

Digital Communication

- MODBUS 232/485 and Profibus DP V1.0

Ease of Use and Confidence in Results

- New display and guided calibration procedures reduce operator error
- Password protection to prevent tampering and unwanted programming changes
- Visual warning system provides critical alerts

DW = drinking water WW = wastewater municipal PW = pure water / power
IW = industrial water E = environmental C = collections FB = food and beverage



Be Right™

Specifications*

sc200 General Specifications

Display

Graphic dot matrix LCD with LED backlighting
Transreflective

Display Size

48 x 68 mm (1.89 x 2.67 in.)

Display Resolution

240 x 160 pixels

Height x Width x Depth

144 x 144 x 181 mm (5.7 x 5.7 x 7.1 in.)

Weight

1.70 kg (3.75 lb)

Power Requirements

100 – 240 Vac $\pm 10\%$, 50/60 Hz; 24 Vdc -15% + 20%

Operating Temperature

-20 to 60°C (-4 to 140°F), 0 to 95% RH non-condensing

Storage Temperature

-20 to 70°C (-4 to 158°F), 0 to 95% RH non-condensing

Analog Output Signal

Two 0/4 to 20 mA isolated current outputs, max 500 Ω

Operational Mode

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

Functional Mode

Linear, Logarithmic, Bi-linear, PID

Optional 4 additional 4/20 mA isolated current outputs,
max 500 Ω @ 18-24 Vdc (customer-supplied power source)

Security Levels

Two password protected levels

Enclosure Materials

Polycarbonate, Aluminum (powder coated), Stainless Steel

Mounting Configurations

Wall, pole and panel mounting

Enclosure Rating

NEMA 4X / IP 66

Conduit Openings

1/2" NPT Conduit

Relays

Four electromechanical SPDT (Form C) contacts, 1200W,
5 A, 250 Vac

Operational Mode

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

Functional Mode

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

Digital Communication

MODBUS RS232/RS485, Profibus DPV1 optional

Memory Backup

Flash memory

Electrical Certifications

EMC: CE compliant for conducted and radiated emissions
CISPR 11 (Class A limits), EMC Immunity EN 61326-1
(Industrial limits)

Safety: General Purpose UL/CSA 61010-1 with cETLus
safety mark

Data Logging

Secure Digital Card (Maximum recommended capacity 8 GB)
or special RS232 cable connector for data logging and
performing software updates.

UltraSonic Flow Sensor

Flow Rate

0-9999, 0-999.9, 0-99.99 with selectable flow rate units
and multiplier

Volume

0-9,999,999 with selectable volume units

Depth Measurement Range/Resolution

0.25 m (10 in.) to 6 m (20 ft.) ± 1 mm (0.04 in.)

Air Temperature

-40 to to 90°C (-40 to 194°F) ± 0.1 °C (0.18°F)

Input Filter

999 sec

Totalizers

8-digit resettable LCD software totalizer

Totalized Flow

Gal., ft.³, acre-ft., lit., m³, in.³

Totalizer may be set to auto or manual mode.
(Menu option to reset is available in manual mode only.)

Accuracy

$\pm 0.5\%$ of span

Repeatability

$\pm 0.1\%$ of span

Sensor Cable (integral) Lengths

10 m (33 ft.), 20 m (66 ft.), 50 m (164 ft.), or 100 m (328 ft.)

Calibration Methods

Cal Depth 1 point; Cal Depth 2 point

Operating Frequency

75kHz

Construction

NEMA 6P (IP68) polybutylene terephthalate (PBT) body with
integral temperature sensor

Weight

~0.5 kg (1.1 lb)

Select from the Following Gauge Types:

V Notch Weir
Rectangle Weir
Rectangle Flume
Round Bot Flume
Cipolletti Weir
Neyrpic Flume
Parshall Flume
P Bowlus Flume
Khafagi Flume
L Lagco Flume
H Type Flume
Trapezoidal Flume
User Defined

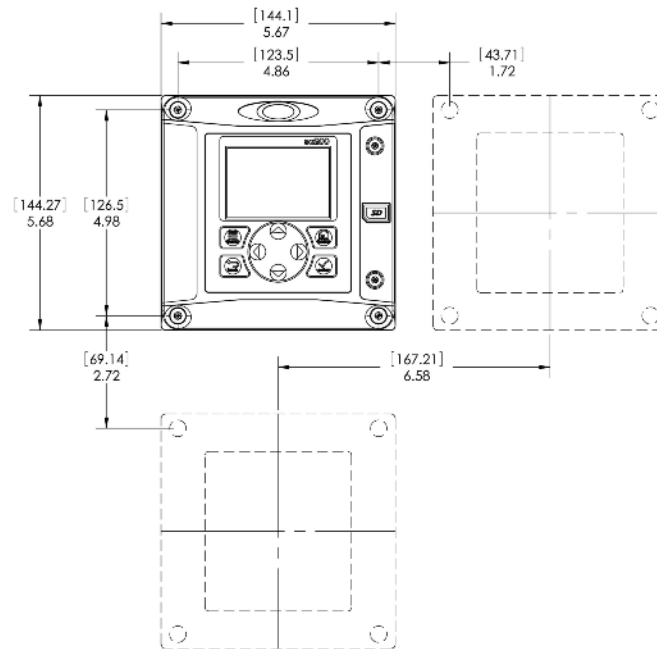
Engineering Specifications

- The controller shall be a microprocessor based instrument.
- The enclosure shall be 1/2 DIN format, NEMA4X rated for wall, pole and panel mounting.
 - The controller shall offer both 100–240 Vac 50/60 Hz and 24 Vdc power options.
 - The controller shall offer two analog 0/4-20 mA output signals with independent PID control functions and optional four additional 4-20 mA outputs.
 - The controller shall accept the Sensor Module for the Ultra Sonic Flow sensor.
 - The controller shall have single channel and dual channel options.
 - The controller shall have options for MODBUS RS232, MODBUS RS485 and Profibus DPV1 communication.
 - The display contrast shall be adjustable.
 - The Menu shall be available in at least 19 different languages.
 - The controller shall have 2 Data logs, 128 kb each. The logged data shall be downloadable on a SD card in XML format.
 - The flow meter shall be Hach Company sc200 Flow Controller with Ultrasonic Sensor.

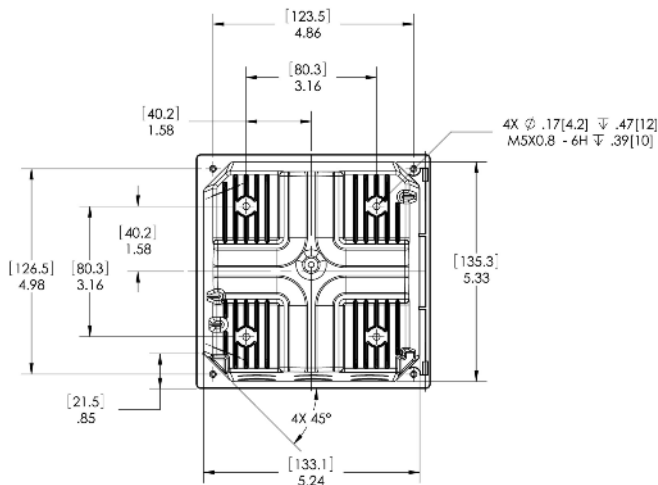
Dimensions

The sc200 controller unit can be installed on a surface, panel, or pipe (horizontally or vertically). No tools are needed to connect the controller unit to any Hach digital sensor. NOTE: Dimensions are in inches [millimeters].

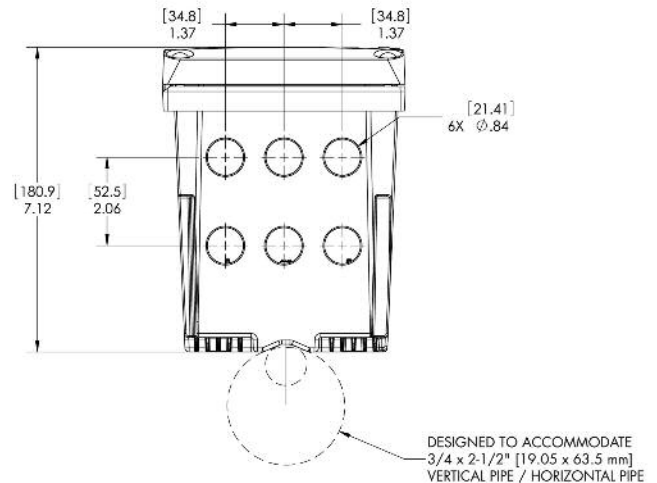
Minimum Spacing Dimensions for Group Mounting



Mounting Dimensions



Bottom View



Ordering Information

sc200 Controller and Module Smart Part Numbering System	Old U53 Sensor				
	0	0	3	0	2
LXV404.99.	X	X	X	X	X
Power					
No power cord	0				
No power cord Type-0—installed strain reliefs	1				
With EU power cord installed with cord grip	2				
With UK power cord installed with cord grip	3				
With US power cord installed with cord grip	5				
24VCD power supply with no cord or cord grips	7				
Communications Output					
Standard (two 4-20mA outputs)		0			
MODBUS 285 & 485		1			
Profibus DP		3			
HART + four 4-20mA analog outputs		5			
Four additional 4-20mA analog outputs		9			
Sensor Input 1					
pH & DO			1		
Conductivity			2		
Flow			3		
mA input			4		
Digital			5		
Sensor Input 2					
None				0	
pH & DO				1	
Conductivity				2	
Flow				3	
mA input				4	
Digital				5	
Brand					
Hach					2

Ultrasonic Flow Sensors

U53S010	Ultrasonic sensor with 10 ft. cable
U53S030	Ultrasonic sensor with 30 ft. cable
U53S100	Ultrasonic sensor with 100 ft. cable

Power Cords

9202900	sc200 power cord with strain relief, 125 Vac
9203000	sc200 power cord with strain relief, 230 Vac, European-style plug

Accessories

9220600	sc200 Weather and Sun Shield with UV Protection Screen
8809200	sc200 UV Protection Screen
1000G3088-001	Weather Protection Cover
9218200	SD card reader (USB) for connection to PC
9218100	4 GB SD card
9012700	Flow Module
9013100	Module for 4 additional analog mA out (passive)
9013200	Modbus module
YAB104	Profibus DP kit
LZX887	Data com cable
3004A0017-001	Flow sensor mounting kit

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In the interest of improving and updating its equipment, Hach Company reserves the right to alter specifications to equipment at any time.

At Hach, it's about learning from our customers and providing the right answers. It's more than ensuring the quality of water—it's about ensuring the quality of life. When it comes to the things that touch our lives...

Keep it pure.

Make it simple.

Be right.

For current price information, technical support, and ordering assistance, contact the Hach office or distributor serving your area.

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