

Description

BECSys3 water chemistry controls provide continuous monitoring and control of sanitizers and pH in a simple-to-use configuration. A large-character, backlit 2 line by 20 character LCD displays current status and alarms in a high-visibility, easy-to-read format.

The controller has an optional free chlorine sensor, which can be selected for sanitizer feed control rather than ORP. If using ORP, a derived chlorine ppm reading is also available, with a 0.2 to 16.0 scale. The BECSys3 can also be configured without a PPM scale, displaying the ORP and pH readings only. Operational settings are password-protected for system security.

An integral 100 BaseT Ethernet with data logging can be added to the BECSys3 for data-logging, remote access, and email and text message alarm notifications. Up to 31 BECSys3s without communications at the same site can share these communications and data logging features through a standard RS485 interface, reducing cost to the owner.

BECSys3s without the integral communications capability can add the optional BECSysRCM Remote Communications Module for data-logging, remote access, and email and text message alarm notifications.

Every controller comes complete with either pH and ORP sensors or pH, free chlorine and temperature sensors, flow switch, machined flow cell, and start-up and support provided by factory-trained technicians.

The BECSys3 flow cell can be pre-assembled at the factory and mounted with the controller on a back panel for convenient installation. In this configuration a lightweight PVC mounting frame is easily leveled and installed on the wall. The back panel assembly is then hung on the mounting frame through 4 teardrop holes. Tighten the four bolts, make plumbing and electrical connections and installation is complete.

Features

Control Options

- Suitable for gas chlorine, sodium and calcium hypochlorite, bromine, and ozone applications
- Dual Setpoint Booster Mode (DSBM) – Provides configurable alternate setpoint for a secondary sanitizer feed, especially useful in controlling salt-chlorine generation systems
- pH control output configurable as feed-up, feed-down, or dual control
- Feed outputs configurable as ON/OFF or Time-Based Proportional
- Configurable failsafe overfeed timers (0-240 minutes through menu)

System Security

- Two levels of security access codes – Operator and Rep

System Inputs

- BECSys pH and ORP sensors featuring inorganic electrolyte for extended sensor life
- Optional RTD temperature sensor
- Optional Free Chlorine sensor

BECSys3 Water Chemistry Controller



Certified to
NSF/ANSI Standard 50

Features (continued)

Integral Communications (Data-Logging and Remote Access)

- Standard integral RS-485 serial communications port
- Optional Integral Communications
 - integral 100 BaseT Ethernet and USB Ports, with data logging
 - 100 BaseT Ethernet provides remote access, historical data logs and email/text message alarm notification for up to 31 BECSys3's connected via RS-485 port
 - USB Port allows quick download of data logs to a USB flash drive, for later upload into BECSys for Windows.
 - BECSys for Windows™ compatible (included with Communications option)

External Data-Logging and Remote Access

- Optional BECSysRCM Remote Communications module, provides remote access, historical data logs and email/text message alarm notification for up to 32 connected BECSys3's
- BECSys for Windows™ compatible (included with BECSysRCM)

Display

- Large character 2 line x 20 character front panel backlit LCD display
- Front panel available with derived chlorine ppm level light bar (2 options)
 - 0.2 to 16.0 ppm (with field-configurable high and low ppm Indicator LEDs)
 - No ppm scale
- Display language is field programmable (English, Spanish, French)
- pH feed and chlorine/bromine feed status indicator LEDs

Flow Cell

- Round PVC flow cell with pressure gauge, sample tap, and two ball valves for cell isolation (standard)
- Feed-through (rectangular) Teflon flow cell with pressure gauge, sample tap and two ball valve for cell isolation
- Two flow switch options:
 - Reed flow switch (standard)
 - Rotary flow switch with inline check-valve

Back Panel

- The BECSys3 can be optionally ordered with the flow cell pre-assembled and mounted on a durable PVC backpanel.
- A lightweight PVC mounting frame allows for easy installation as well as a space behind the back panel to run cables and wires, making for an easy and professional-looking installation.

Warranty

- 5 years electronics, 2 years sensors

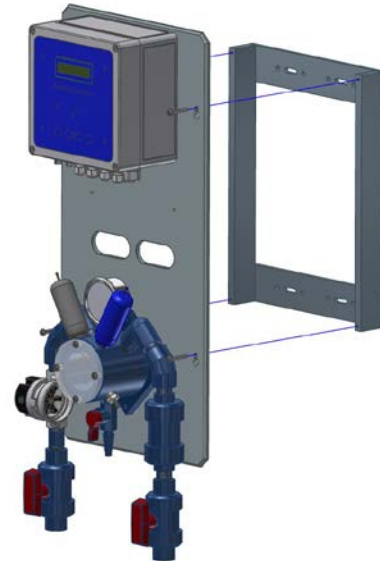
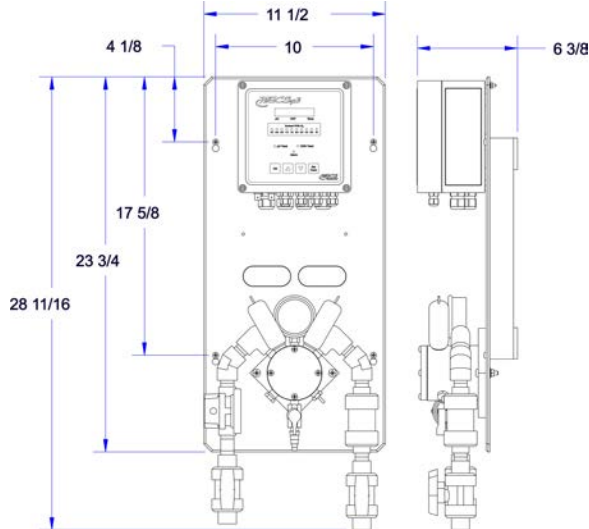
Regulatory Approvals

- NSF: NSF Certified and Listed to NSF/ANSI Standard 50
- USA: ETL Listed ANSI/UL 61010-1
- Canada: ETL Listed CAN/CSA C22.2 #61010-1
- Europe/CE: CENELEC EN 61010-1
European Community Low Voltage Directive 73/23/EEC
- Electromagnetic compatibility
 - FCC part 15 sub part B: Radio frequency devices, unintentional radiators
 - EN 61326: EMC requirements for measurement and control equipment
 - European Community EMC Directive 89/336/EEC

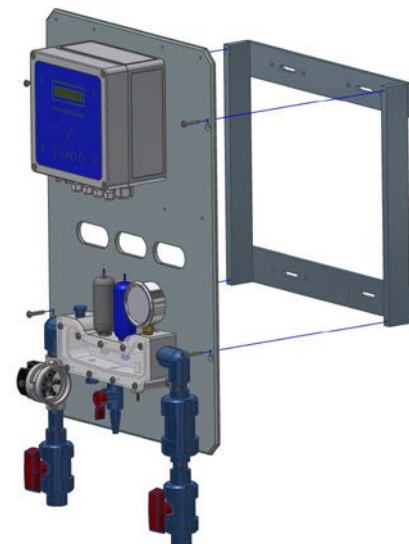
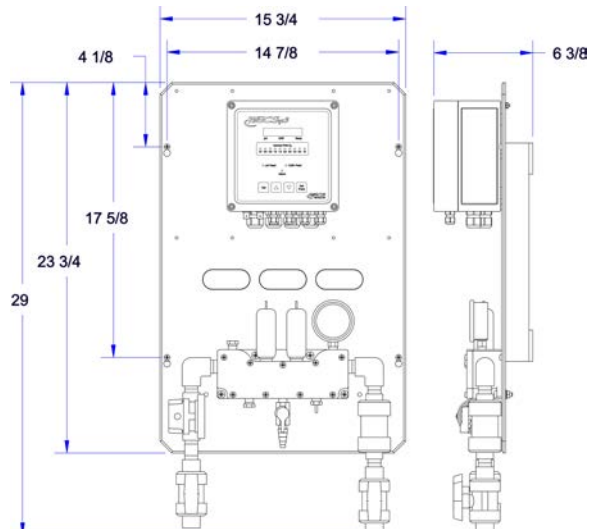
BECSys3 with Integral Communications



BECSys3 with round flow cell on back panel



BECSys3 with rectangular flow cell on back panel



BECSys3 (ORP Configuration) Ordering/Specification Guide

Part #	Description & Options
1100256-	BECSys3 Water Chemistry Controller ORP Configuration with flow cell, BECSys pH & ORP sensors, 5-year electronics/2-year sensor warranty
↓	Flow Switch Type
	E Reed Flow Switch (standard)
	O Rotary Flow Switch & check valve
↓	Overlay Selection
	N No PPM Scale
	P 0.2 - 16.0 PPM Scale
↓	Sensor Wire Length
	S Short (36 inch) Sensor Wires (standard)
	L Long (10 foot) Sensor Wires
↓	Input Voltage
	1 115 VAC input power (standard)
	2 230 VAC input power
↓	Temperature Sensor
	N No Temperature Sensor (standard)
	T Temperature Sensor
↓	ORP Sensor Tip Material
	P Platinum Band ORP Sensor (standard)
	S Solid Gold Band ORP Sensor
↓	Flow cell
	R Round (standard)
	C Rectangular
↓	Power/Pump Cords
	I Include power/pump cords (standard)
	X Remove cords (for conduit installation)
↓	Backpanel
	B Preassembled on backpanel
	X Shipped as a kit
↓	Integral Communications/Data Logging
	C Integral 100BaseT Ethernet and USB Communications with Data Logging
	X RS485 for connection to external BECSys RCM

1100256 - E P S 1 T S R X B C	Example Part Number
	BECSys3 with reed flow switch, 0.2-16.0 PPM scale overlay, short sensor wires, 115VAC input, temperature sensor, gold band ORP sensor, round flow cell, power/pump cords removed for conduit installation, preassembled on backpanel with integral communications.

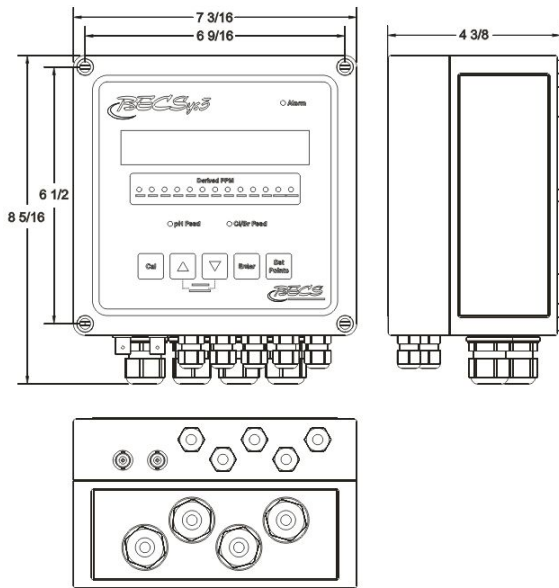
BECSys3 (PPM Configuration) Ordering/Specification Guide

Part #	Description & Options
1100267-	BECSys3 Water Chemistry Controller PPM Configuration with flow cell, BECSys pH, free chlorine and temperature sensors, 5-year electronics/2-year sensor warranty
↓	Flow Switch Type
	E Reed Flow Switch (standard)
	O Rotary Flow Switch & check valve
↓	Sensor Wire Length
	S Short (36 inch) Sensor Wires (standard)
	L Long (10 foot) Sensor Wires
↓	Input Voltage
	1 115 VAC input power (standard)
	2 230 VAC input power
↓	ORP Sensor Tip Material
	N No ORP Sensor (standard)
	P Platinum Band ORP Sensor
	S Solid Gold Band ORP Sensor
↓	Flow cell
	R Round (standard)
	C Rectangular
↓	Power/Pump Cords
	I Include power/pump cords (standard)
	X Remove cords (for conduit installation)
↓	Backpanel
	B Preassembled on backpanel
	X Shipped as a kit
↓	Integral Communications/Data Logging
	C Integral 100BaseT Ethernet and USB Communications with Data Logging
	X RS485 for connection to external BECSys RCM

1100267 - O S 1 P R X B C Example Part Number
 BECSys3 (pH, free chlorine and temperature sensors) with rotary flow switch, short sensor wires, 115VAC input, platinum band ORP sensor, round flow cell, power/pump cords removed for conduit installation, preassembled on backpanel with integral Communications.

Specifications	
Part Numbers	
BECSys3 (with ORP sensor)	1100256, See Specification/Ordering Guide for options
BECSys3 (with PPM sensor)	1100267, See Specification/Ordering Guide for options
Firmware version	v2.06 and higher
Physical	
Enclosure Material	Glass Reinforced Polycarbonate, NEMA 4X (IP66)
Overlay Material	UV Stabilized Polyester
Flow Cell Material (round)	PVC Body, Clear Acrylic Window, Stainless Steel Hardware
Flow Cell Material (rectangular)	Teflon Body, Clear Acrylic Window, Stainless Steel Hardware
Back Panel Material	PVC
Display	2 Line, 20 Character Back-Lit Alpha/Numeric LCD; Character size: 4.84mm x 9.22mm Field-programmable for English, French or Spanish Derived PPM display scales: 0.2-16.0 ppm or No ppm display
pH and ORP Sensor Connection Type	BNC
PPM and Temperature Sensor Connection Type	Liquid Tight PG-7
RS-485 Communications Connection Type	Liquid Tight PG-7
Input Power and Relay Output Cords (115 VAC Controller)	SJTW Type Note: 230 VAC Controller is supplied without power cords
Backpanel Dimensions (with round flow cell)	Width: 11.5" Height: 28.6875" Depth: 6.375" without Communications 8.5" with Communications
Backpanel Dimensions (w rectangular flow cell)	Width: 15.75" Height: 28.6875" Depth: 6.375" without Communications 8.5" with Communications
BECSys3 Enclosure Dimensions	Width: 7.17" Height: 7.09" Depth: 4.37"
Environmental	
Storage Temperature	-30 to 60 °C
Ambient Operating Temperature	-18 to 40 °C
Ambient Humidity	95% non condensing maximum
Electrical	
Voltage	115/230 VAC, 50/60 Hz
Phase	Single
Current 115 VAC Input:	9.25 Amps Full Load (0.25 Amps – Controller) (9 Amps – Relay Outputs, 3A x 3)
230 VAC Input	9.125 Amps Full Load (0.125 Amps – Controller) (9 Amps – Relay Outputs, 3A x 3)
Performance	
pH Range / Resolution	0 to 14 pH / 0.1 pH Units
ORP Range / Resolution	-1500 to +1500 mV / 1mV
PPM Range / Resolution	0 to 20.0 ppm / 0.1ppm
Temperature (optional) Range / Resolution	32 to 150 degrees F (0 to 66 degrees C) / 1 degree (F or C)
RS-485	9600 bps at distances up to 4000 ft.
Ethernet (optional)	100 BaseT
USB Flash Drive (optional)	FAT, FAT32 formats
Relay 1 Output (pH Control)	Same as Controller Input Voltage (115 VAC or 230 VAC)
Relay 2 Output (Chlorine/Bromine/Oxidizer Control)	Jumper Selectable to: Same as Controller Input Voltage (115 VAC or 230 VAC) Or Dry Contact (Supports 24 to 280 VAC)
Relay 3 Output (User Selectable as: Sensor Wash, Dual pH Feed, Alarm, or Cl/Br Booster Feed)	Same as Controller Input Voltage (115 VAC or 230 VAC)

Related Documents		
Included in standard ORP configuration (PN 1100256)	Part Number	Data Sheet
BECSys pH Sensor	9660013	ENG-4321-DOC
BECSys ORP Sensor	9660022	ENG-4317-DOC
Round PVC flow cell assembly with clear acrylic window, and stainless steel hardware	1210147	ENG-4315-DOC
Flow Cell connecting kit includes reed flow switch, oil-filled pressure gauge, sample tap, isolation valves, and connecting PVC hardware	1210148	ENG-4315-DOC
Reed flow switch	9660006	ENG-4328-DOC
Included in standard PPM configuration (PN 1100267)	Part Number	Data Sheet
BECSys pH Sensor	9660013	ENG-4321-DOC
BECSys Free Chlorine (PPM) Sensor	1210253	ENG-4349-DOC
Temperature Sensor	9660016	ENG-4327-DOC
Round PVC flow cell assembly with clear acrylic window, and stainless steel hardware	1210147	ENG-4315-DOC
Flow Cell connecting kit includes reed flow switch, oil-filled pressure gauge, sample tap, isolation valves, and connecting PVC hardware	1210148	ENG-4315-DOC
Reed flow switch	9660006	ENG-4328-DOC
Included in both standard configurations	Part Number	Document #
Operation & Maintenance Manual	8620044	n/a
Installation & Technical Manual	8620045	n/a
Laminated Quick Reference Card:		
0.2 – 16.0 ppm scale	8620047	ENG-5032-CDR
No ppm scale	8620046	ENG-5031-CDR
Options	Part Number	Data Sheet
Temperature Sensor (standard in 1100267)	9660016	ENG-4327-DOC
Feed-through Teflon flow cell with clear acrylic window, and stainless steel hardware	1210137	ENG-4337-DOC
Rotary flow switch w/ check valve (replaces Reed flow switch)	9660007	ENG-4329-DOC
BECSys RCM Remote Communications Module	1100236	ENG-4380-DOC
Reference Information	Format(s)	Document #
BECSys3 Bid Specification	.doc, .pdf	ENG-4266-DOC
BECSys3 Sales Brochure	.pdf	SLS-4655-DOC
BECSys3 Line Drawing	.dxf	ENG-4653-CDR
BECSys Family Sales Brochure	.pdf	SLS-4336-DOC



BECSys3, shown with Derived PPM display