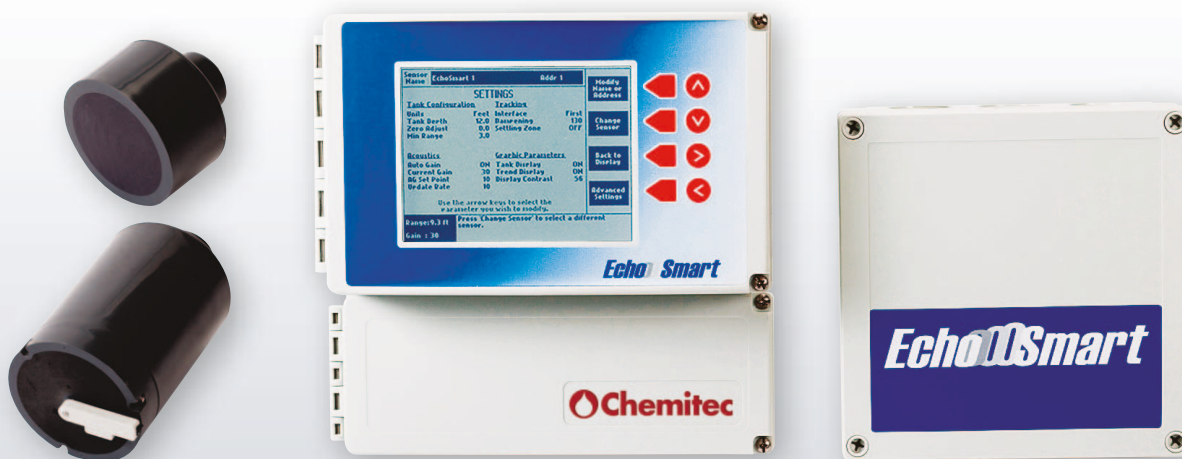


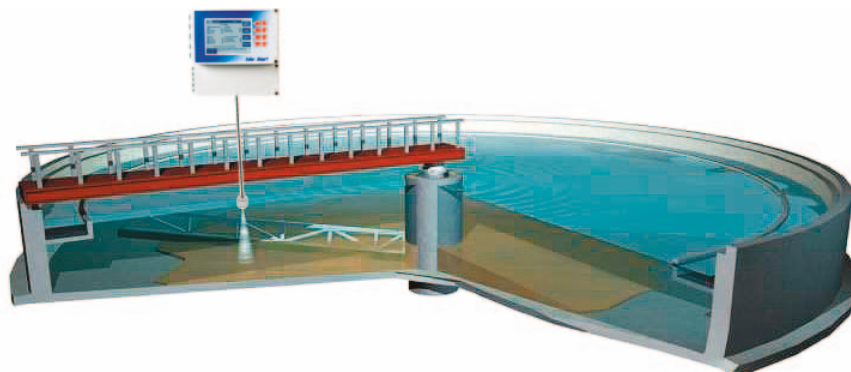
## Sludge interface level measurement Ultrasonic measuring system with submerged sensor (Sonar)



### EchoSmart™ sensors

EchoSmart sensors generate and process the ultrasound signal for real time measurement with maximum flexibility of the liquid/solid interface.

They have greater signal control and the performance of the control algorithms, specifically developed and field tested, has been confirmed in the U.S. and around the world.



### Flexibility

Options available:

- EchoSmart sensor in conjunction with the EchoSmart controller
- EchoSmart sensor in conjunction with the power supply unit (remote programming via EchoSmart Console SW)

EchoSmart Networks

- Network interconnection of up to 128 EchoSmart sensors
- Communication via RS-485 or Ethernet
- RF compatible ZigBee network integration

### Easy to use

- Large display with intuitive screens for quick entry of parameters
- Soft key operation with guide for all settings
- Initialisation and automatic calibration for quick start-up with no process interruption

### EchoSmart Network

- An EchoSmart network is composed of between 2 and 128 sensors connected together with a wired or wireless network
- RS 485 or Ethernet connections are available for wired networks.
- The ZigBee wireless system is also available and is the ideal choice, given the enormous reduction plant engineering (wiring and piping) costs.

Characteristics

- Up to 16 EchoSmart sensors can be connected in a network with a single EchoSmart controller with optimised operation and significantly reduced costs
- ZigBee with “self-healing” mesh technology ensures reliable communication by eliminating unnecessary piping and wiring costs

# Characteristics

## Sensor

<b>Measuring principle</b>	Ultrasonic submersion
<b>Measuring range</b>	0.305 to 10.0 m (1.0 to 32 ft.)
<b>Resolution</b>	3.05 mm to 10 m (0.12 in. to 10.0 ft.)
<b>Accuracy</b>	0.305 m to 3.05 m (0.1 ft to 10.0 ft.)
<b>Operating temperature</b>	1 at 52 °C (34 at 125°F)
<b>Power supply required</b>	– 15 VDC standard: 3W – with wiper 6 W
<b>Measuring interval</b>	Adjustable
<b>Sensor assembly</b>	Fixed or flexible assembly

<b>Calibration</b>	– Factory calibrated – Adjustable speed of sound
<b>Sensor material</b>	– ABS and epoxy – Self-cleaning wiper for the sensor, silicone wiper (optional)
<b>Dimensions</b>	– Standard sensor 6.2 x 7.5 cm (2.44 x 2.95 in.) – Wiper sensor 14.6 x 7.5 cm (5.75 x 2.95 in.)
<b>Weight</b>	– Standard sensor: 1.02 kg (2.25 lb) – Sensor with wiper: 1.25 kg (2.75 lb)
<b>Certification</b>	CE

## Controller

<b>Environmental conditions</b>	-40° to +60° C (-40° to +140°F)
<b>Power supply</b>	– 100 to 240 VAC, 50/60 Hz - 1A – Power 65 W (fuse) – Optional: 24 VDC
<b>Display</b>	– Backlit monochrome graphic – Resolution: 320 x 240 pixels – Visual area: 92 x 122 mm (2.6 x 3.45 in.)
<b>Relay (optional)</b>	Four relays: 10A @ 250 VAC; 10A@ 30VDC
<b>Backup memory</b>	All settings are held indefinitely in the memory (involatile EEPROM)
<b>Assembly</b>	Wall or pole

<b>Communication</b>	– RS-485 serial port - MODBUS RTU – RS-232 – (2) 4-20 mA outputs (1) Level measurement (1) (optional) Turbidity – RF compatible ZigBee module (optional) – Approvals: FCC Part 15.247, Industry Canada
<b>Casing</b>	Polycarbonate NEMA 4X, IP65
<b>Dimensions</b>	235 x 229 x 115 mm (9.25 x 9.0 x 4.5 in.)
<b>Weight</b>	Approx. 1.36 kg (3.0 lb) in relation to the configuration
<b>Certification</b>	CE

## Power supply unit

<b>Environmental conditions</b>	-40° to +60° C (-40° to +140°F)
<b>Power supply</b>	– 100 to 240 VAC, 50/60 Hz - 1A – Power 20 W 1.34 A – Optional: 24 VDC
<b>Assembly</b>	Wall or pole
<b>Casing</b>	Polycarbonate NEMA 4X, IP65
<b>Dimensions</b>	181 x 181 x 61 mm (7.125 x 7.125 x 2.375 in.)
<b>Weight</b>	Approx. 0.68 kg (1.5 lb) in relation to the configuration

<b>Communication</b>	– RS-485 serial port - MODBUS RTU – RS-232 – (2) 4-20 mA outputs (1) Level measurement (1) (optional) Turbidity – RF compatible ZigBee module (optional) – Approvals: FCC Part 15.247, Industry Canada
<b>Certification</b>	CE