EchoSmart.
Interface Level Analyser.
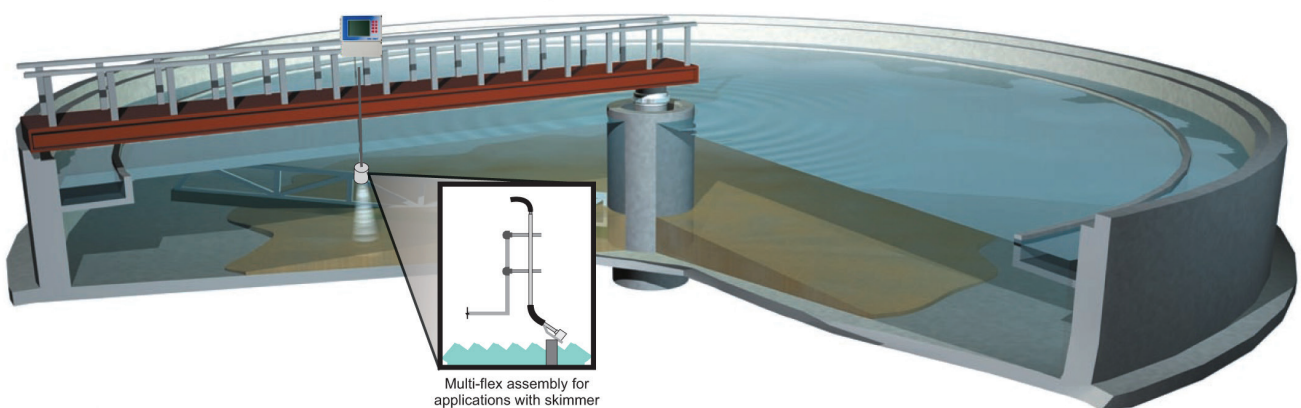
Echo Smart™

EchoSmart™

Smart

EchoSmart Sensors generate and process the ultrasonic signal for continuous, real-time measurement and maximum flexibility.

Our sensors employ interface-detection algorithms developed exclusively by Entech Design with proven performance across the US and around the world.

Friendly

Easy to set-up, easy to operate, and easy to secure consistent, reliable, trouble-free measurements - that's user-friendly, that's EchoSmart!

- Large display with intuitive screens for quick entry of parameters
- Soft Key operation with Help Prompts for all settings
- Automatic initialisation for easy start-up
- Adaptive algorithms in each sensor for uninterrupted operation
- Track well-settled blankets
- Can also be configured to track dispersed solids (fluff or rag layer)
- Monitor blanket levels 24/7/365
- Suitable for round or rectangular clarifiers

Multi-flex assembly for applications with skimmer

Sensor Types

Standard Sensor
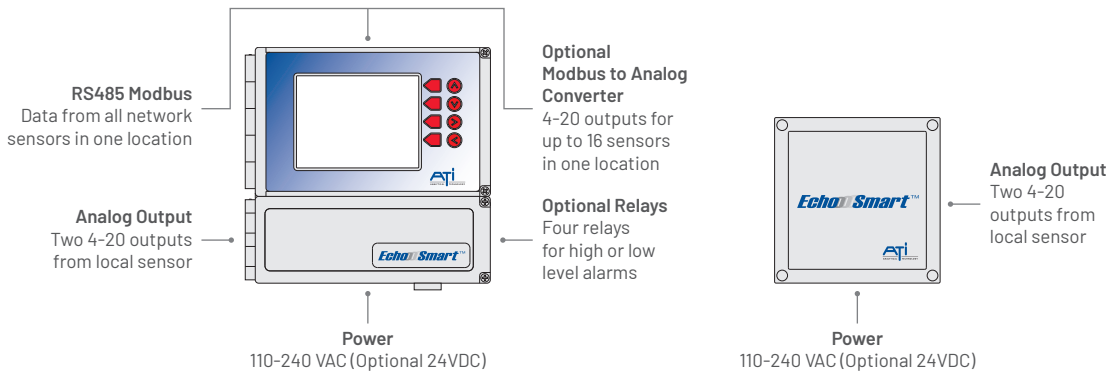Typical for applications with surface skimmers. Multi-flex assembly required.

Wiper Sensor
Self-cleaning face for applications without surface skimmers.

Level & Turbidity
Self-cleaning face with sludge level and turbidity in one sensor.

Sensors come standard with 20 feet of cable with custom lengths of up to 400 feet possible
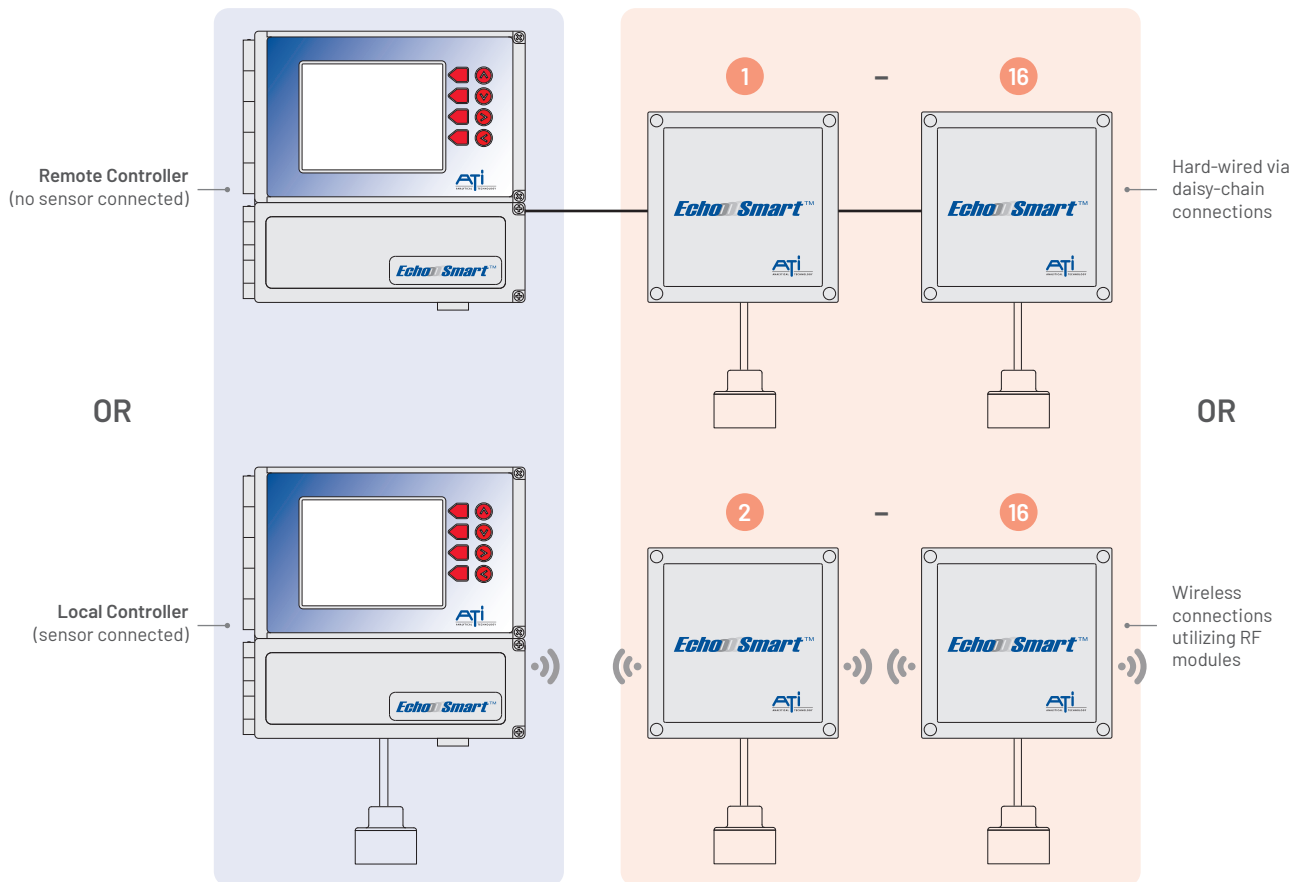
Available Outputs

RS485 Modbus
Data from all network sensors in one location

Optional Modbus to Analog Converter
4-20 outputs for up to 16 sensors in one location

Analog Output
Two 4-20 outputs from local sensor

Optional Relays
Four relays for high or low level alarms

Power
110-240 VAC (Optional 24VDC)

Analog Output
Two 4-20 outputs from local sensor

Power
110-240 VAC (Optional 24VDC)

Flexible Wired and Wireless Solutions

Adaptable configuration options for a variety of installation requirements and straight forward plant retrofit solutions.

- Available as stand-alone system
- Networks of up to sixteen sensors possible with only one Controller needed
- Easily add more sensors to an existing network
- Communication between devices can be achieved through:
  – Hard-wired connections
  – Powerful sub-1GHz RF with self-healing mesh technology*

Remote Controller
(no sensor connected)

OR

Local Controller
(sensor connected)

1 – 16

Hard-wired via daisy-chain connections

OR

2 – 16

Wireless connections utilizing RF modules

*Radio available as internally mounted plug-and-play module with external antenna or in a separate enclosure for maximum range and flexibility. Self-healing mesh technology eliminates most line of sight interference.

Specifications

EchoSmart Sensor

Measuring Principle
Underwater acoustic

Range
1.0 to 32 ft (0.305 to 10.0 m)

Sensor Measurement Resolution
0.1 Unit of measure

Accuracy
0.2 in at 10.0 ft (5 mm at 3.05 m)

Operating Temperature
34 to 125°F (1 to 52°C)

Power Requirement
15VDC Standard: 2.4W; Wiper: 3W

Configuration Backup
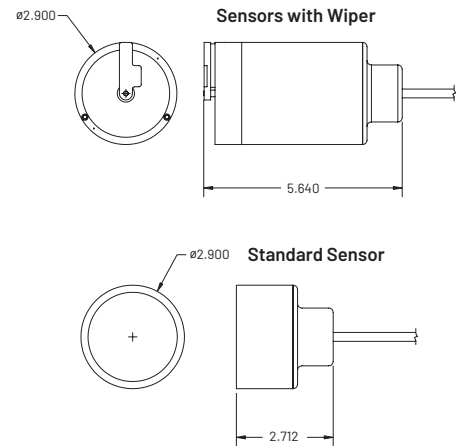Settings stored in FLASH memory

Sensor Construction
IP68, ABS and epoxy
Stainless steel and rubber (wiper only)

Turbidity (Optional)
Measurement Principle
90 degrees scattered light, pulsed LED

Range
0-50 NTU

Weight
Standard Sensor: 2.25 lb (1.02 kg)
Wiper Sensor: 2.75 lb (1.25 kg)
Wiper Sensor w/ Turbidity: 2.75 lb (1.25 kg)

Certifications
CE

ø2.900

Sensors with Wiper

5.640

ø2.900 **Standard Sensor**

2.712

All dimensions in inches

Controller

Operatonal Conditions
Operation: -40° to +140°F (-40° to +60° C)

Power Requirements
100 to 240 VAC, 50/60 Hz - 1.4A
Power 65W (fused)
Optional: 24VDC

Display
Graphical backlit monochrome screen
Resolution: 320 x 240 pixels
Viewing Area: 2.6 x 3.45 in (92 x 122 mm)

Reported Measurement Resolution
1.0 (in & cm), 0.1 (ft), 0.01 (m)

Communications
RS-485 MODBUS RTU
(2) 4-20mA Output
    (1) Level Measurement
    (1) Turbidity (Optional)

Optional 900MHz RF Module
Self-healing mesh network
Approvals:
    North America - FCC Part 15C,
Industry Canada
    Europe - CE RED

Relays (Optional)
(4) Relays: 10A @ 250 VAC; 10A @ 30VDC,
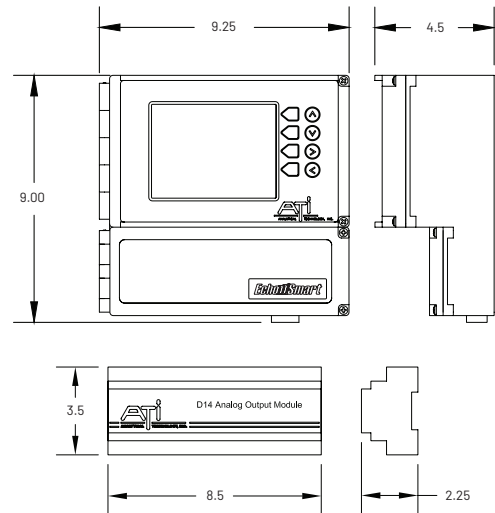Configurable for high/low measurement
alert or sensor fault

Configuration Backup
Battery backup retains settings in event of
power loss

Enclosure
NEMA 4X, IP65; Polycarbonate

Weight
Approximately 3.0 lb (1.36 kg) depending
on configuration

Certifications
CE

**Modbus to Analog Output Converter
(optional)**
18-30VDC
DIN Rail Mount
Up to 16 isolated analog outputs

9.25   4.5

9.00

D14 Analog Output Module

3.5

8.5   2.25

Power Supply Unit

Operational Conditions
-40° to +140°F (-40° to +60° C)

Power Requirements
100 to 240 VAC, 50/60 Hz - 0.5A
Power 20W (fused)
Optional: 24VDC

Communications
RS-485 MODBUS RTU
(2) 4-20mA Output
    (1) Level Measurement
    (1) Turbidity (Optional)

Optional 900MHz RF Module
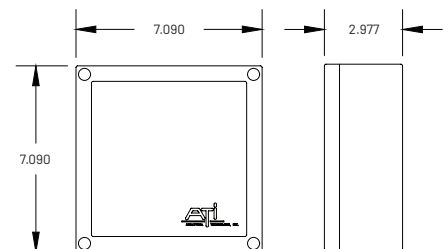Self-healing mesh network
Approvals:
    North America - FCC Part 15C,
Industry Canada
    Europe - CE Red

Mounting Configurations
Surface and pipe mounting

Enclosure
NEMA 4X, IP65; Polycarbonate

Weight
Approximately 1.5 lb (0.68 kg)

Certifications
CE

7.090   2.977

7.090

ATi is a leading provider of engineered, analytical sensor monitoring solutions
for water and gas applications and data analytics. Our pioneering and industry
leading range of Smart Network Monitors, Water Quality Monitors and Gas Detectors
provide innovative solutions for the most demanding of applications.

ATi
A Badger Meter® Brand