

LS-202 Ultrasonic Level Transmitter

The Pyxis LS series general purpose ultrasonic Sensor is an innovative ultrasonic liquid level sensor that replaces float, conductance and pressure sensors that fail due to contact with dirty, sticky and scaling liquids in small, medium and large capacity tanks. These liquid level sensors can be used in either open or enclosed tanks. The sensor provides continuous level measurement up to 78 inches (6.6 ft. or 2m) with a 4-20 mA signal output, RS485 and Bluetooth digital output, and can be configured via Pyxis free uPyxis® APP. The sensor can be powered by 4 AA alkaline batteries or a 24VDC external power. This battery powered, and Bluetooth digital output enabled level sensor is perfectly suitable for the applications where wires are difficult to layout saving end users substantial monetary benefits during installation. A 1.3” push button OLED interface allows for device configuration and instant access to process data. This noncontact liquid level sensor is well suited for corrosive liquids, and can be used for cooling tower, boiler day tank, other chemical feed applications. LS-202EX is the Class 1 Div 2 Certified version of this platform.



Typical Applications







The Pyxis LS Ultrasonic level sensor is ideal for use as water level sensors, water & process chemical tank level sensors, liquid level transmitters, or other applications requiring accurate and continuous liquid level control or liquid level measurement.





Features

- Dual embedded transmitters in sensor body for selection – 4-20mA or RS-485 supporting MODBUS
- Bluetooth® Version 4.1 for measurement result output and configuration (100+ft Line of Site)
- A 1.3” OLED and 4 push-buttons for measurement result display and configuration
- Two power supplies: 4 AA alkaline batteries or 24VDC external power, and smart switch capability
- Battery life up to 9 months using our ultra-low power design and smart power management
- Easy and quick configuration via uPyxis® APP on mobile phones or PC
- Can be paired with Pyxis BTA-100 or BTA-400 Bluetooth gateway to output 4-20mA
- PVDF transducer and 6P polycarbonate enclosure for corrosive liquids
- Automatic temperature compensation for accurate measurement despite condensation

Specifications

Items	Specification	
Device	LS-202	LS-202EX
P/N	54002	54008
Range	4 – 78 inches (0.1-2 M)	
Accuracy	±0.15% of range	
Resolution	0.2 inch (0.5mm)	
Dead band	4 inches (10mm)	
Configuration	uPyxis® APP in mobile phone	
Power supply	4x AA batteries / 24VDC, 1W Max	
Signal output	Bluetooth® Version 4.1 4-20mA, RS-485 MODBUS	
Enclosure Rating	IP65	
Process mount	1" NPT	
Storage temperature	-4 - 158°F (-20 °C - 70° C)	
Operational temperature	14 - 140°F (-10° C - 60° C)	
Enclosure material	Polycarbonate	
Transducer material	PVDF	
Dimension	6.8inch (172mm) long, 3.1inch (80mm) diameter	
Weight	550g (1.3 lbs)	
Regulation	CE	CE Class I&II / Div 2 Cass III / Div 1 & 2
*With Pyxis' continuous improvement policy, this specification is subject to change without notice.		

Pyxis		PYXIS LS SERIES PRODUCT LINE - SELECT*A*GUIDE					Pyxis
Functional Capability	LS-200	LS-202	LS-202EX	LSP-100	LSP-200	LSP-300	
Part #	54011	54002	54008	54005	54009	54010	
Ultrasonic Level Sensor (0-86" Capable)	X						
Ultrasonic Level Sensor w/Local Display (0-78" Capable)		X	X				
Pressure Based Level Sensor w/Local Display (0-32 Feet Capable)				X	X	X	
Bluetooth Configuration via uPyxis APP	X	X	X	X	X	X	
Bluetooth 6-Months Data Download via uPyxis APP		X	X	X	X	X	
4-AA Battery Powered Capable		X	X	X	X	X	
4-20mA/RS485 24V Powered Capable	X	X	X	X	X	X	
Class I & II Div 2 Certified / Class III Div 1 & 2 - Hazardous Environment			X				
316L Stainless Steel Pressure Transducer				X			
PVC Pressure Transducer					X		
PVDF Pressure Transducer						X	
Four Channel Receiver / Display - Bluetooth IN / 4-20mA-RS485 OUT							
<p>*NOTE* - LS-200 is 24VDC Power Supply only LS-202 / LSP Series Can Use AA Battery or 24VDC Power Supply LS-202 & LSP Series Sensors offer Bluetooth Connectivity for Configuration & Data Download via uPyxis APP LS-200 offers Bluetooth Connectivity for Configuration Only via uPyxis APP All LS / LSP Series Sensors offer 4-20mA & RS-485 Modbus Output</p>							

Pyxis		PYXIS LEVEL SENSOR ACCESSORIES		Pyxis
Accessory Name / Description	Part #	Photo		
10' LS/LSP Series Waterproof Cable - 7Pin Adapter w/Flying Leads	50774			
MA-L25 25' Waterproof Extension Cable (4-20mA/RS485)	50775			
MA-L50 50' Waterproof Extension Cable (4-20mA/RS485)	50776			
MA-L100 100' Waterproof Extension Cable (4-20mA/RS485)	50777			
LS-202 - Ultimate Lithium AA Battery (4 each)	57000			
LSP-Series Li/SOCI2 Battery Kit (4 each)	50731			
LSP-Series Wall Mounting Bracket	50770			



Certificate of Compliance

Certificate: 70209046 **Master Contract:** 274348
Project: 70209046 **Date Issued:** 2019-07-23
Issued to: Pyxis Lab, Inc.
 1729 Majestic Dr Suite 5
 Lafayette, Colorado 80026
 UNITED STATES
Attention: Wu HaiNi

The products listed below are eligible to bear the CSA Mark shown with adjacent indicators 'C' and 'US' for Canada and US (indicating that products have been manufactured to the requirements of both Canadian and US Standards) or with adjacent indicator 'US' for US only or without either indicator for Canada only



Issued by: Morton Ma
 Morton Ma

PRODUCTS

Class No 2258-02 PROCESS CONTROL EQUIPMENT-For Hazardous Locations
 Class No 2258-82 PROCESS CONTROL EQUIPMENT-For Hazardous Locations - Certified to US Standards

Class I, Division 2, Groups A, B, C and D T6
Class II, Division 2, Groups F and G T80°C

LS-202Ex series Ultrasonic level transmitter with rated voltage 24Vdc or 4pcs 1.5V AA cell with alkaline., rated 1.2W. Temp. Code is T6/T80°C, $-15^{\circ}\text{C} \leq T_{\text{amb}} \leq 50^{\circ}\text{C}$, The measuring medium is less than 50°C , and degrees of protection is IP64.

APPLICABLE REQUIREMENTS

CSA C22.2 No. 213-17

Nonincendive electrical equipment for use in Class I and II, Division 2 and Class III, Division 1 and 2 hazardous (classified) locations.



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Nonincendive Electrical Equipment for Use in Class I and II, Division 2 and Class III, Divisions 1 and 2 Hazardous (Classified) Locations

Conditions of Acceptability:

1. The measuring medium is less than 50°C.
2. Final acceptance of this equipment when installed is subject to the jurisdiction of the local inspection authority.
3. Can not to charge for battery in production.
4. The specification of cell or battery shall 1.5V, 4pcs AA with alkaline series.
5. Sockets and plugs cannot be connected or disconnected when energized in flammable atmosphere.
6. The LS-202Ex series Ultrasonic level transmitter is Pollution Degree 2 which shall be utilized or operated in an altitude up to 2000m.

MARKINGS

The manufacturer is required to apply the following markings:

- Products shall be marked with the markings specified by the particular product standard.
- Products certified for Canada shall have all Caution and Warning markings in both English and French.

Additional bilingual markings not covered by the product standard(s) may be required by the Authorities Having Jurisdiction. It is the responsibility of the manufacturer to provide and apply these additional markings, where applicable, in accordance with the requirements of those authorities.

The products listed are eligible to bear the CSA Mark shown with adjacent indicators 'C' and 'US' for Canada and US (indicating that products have been manufactured to the requirements of both Canadian and U.S. Standards) or with adjacent indicator 'US' for US only or without either indicator for Canada only.

- Company name or trade mark or CSA master contract number (274348)
- Model number: As specified in the PRODUCTS section, above.
- Date code or Serial number: As specified in the PRODUCTS section, above.
- Hazardous Locations Designation: As specified in the PRODUCTS section, above.
- Temperature code rating: T6/T80°C
- Ambient temperature range: -15°C - +50°C
- Complete electrical rating: As specified in the PRODUCTS section, above.
- Warning:
 - WARNING – EXPLOSION HAZARD. DO NOT CONNECT OR DISCONNECT WHEN ENERGIZED.
 - AVERTISSEMENT – RISQUE D'EXPLOSION. NE PAS BRANCHER NI DÉBRANCHER SOUS TENSION.
 - WARNING – EXPLOSION HAZARD – BATTERIES MUST ONLY BE CHANGED IN AN AREA FREE OF IGNITIBLE CONCENTRATIONS.
 - AVERTISSEMENT – RISQUE D'EXPLOSION – LES BATTERIES NE DOIVENT ÊTRE REMPLACÉES QUE DANS UN EMPLACEMENT EXEMPT DE CONCENTRATIONS INFLAMMABLES.