

# **Shuttle**<sup>®</sup> Level Transmitter / Controller / Indicator

2.1

*3-in-1 package that is simple to install and use.*



## General



*Shuttle*® is an advanced micro-processor based ultrasonic level meter with a newly developed intelligent and very precise measuring system utilizing the newest hardware and software technologies. *Shuttle*® provides simple and logical operation, using advanced technology resulting in a high quality product at a competitive price. *Shuttle*® is designed to measure water levels as well as other fluids and aggressive media, where the ultrasonic sensor is not in contact with the media.

## Features

- Ultrasonic measuring system with measuring ranges from 0 - 4 in. to 45 ft.
- *Learning*-function allows the *Shuttle*® Level Transmitter to learn how the tank is arranged with piping, pumps and other items that might interfere with the measurement. The system also ignores turbulence and electrical interference, so even a slow moving mixer can pass through the ultrasonic beam without any influence on the measurement.
- 2 output relays for level / system alarm or alternating pump control with duty and standby cycles.
- 4 - 20 mA output with zero and span adjustment.
- Indication of the strength of the echo signal with a bar graph.
- Very narrow ultrasonic pulse signal concentrates signal strength for minimum sensitivity to foam and sludge on the surface of the liquid.
- Easy to read LCD-display for both setup and indication. Actual level is indicated with both a bar graph and with digits in millimetres, centimetres, metres, feet and inches. The digital readout can be chosen as either relative level or absolute level.
- 10 - 30 V DC or 115 V AC supply.

## Operation

*Shuttle*® is fully automatic after initial setup. 9 function buttons behind the front panel are used to configure:

- Unit selection in either feet, inches metres, centimetres and millimetres.
- Adjustment of zero level of the measurement and selection of relative or absolute reference.
- Zero and span for the mA-output.
- Function for the two 2 output relays - off, level alarm, system alarm or pump control with alternation.
- Learning function, so the level meter recognizes how the wetwell is arranged with pumps, piping and other elements so the measurement will not be affected by false echos.



## Control functions

*Shuttle*® is equipped with 2 output relays which can be configured for level or pump control, system alarm or level alarm. The relay function can be set to either NO or

NC function with an optional delay function. The relays can be used for start and stop of pumps with alternation.



Application

Shuttle® is well suited for any ultrasonic level measurement. The level transmitter may also be used for measuring and control of levels in tanks with contaminated and/or aggressive media.

Typical applications are measurement and control in:

- stormflow tanks
- pump stations
- tanks in sewage treatment plants
- tanks in water plants
- tanks and vessels in process and food industries

Specifications

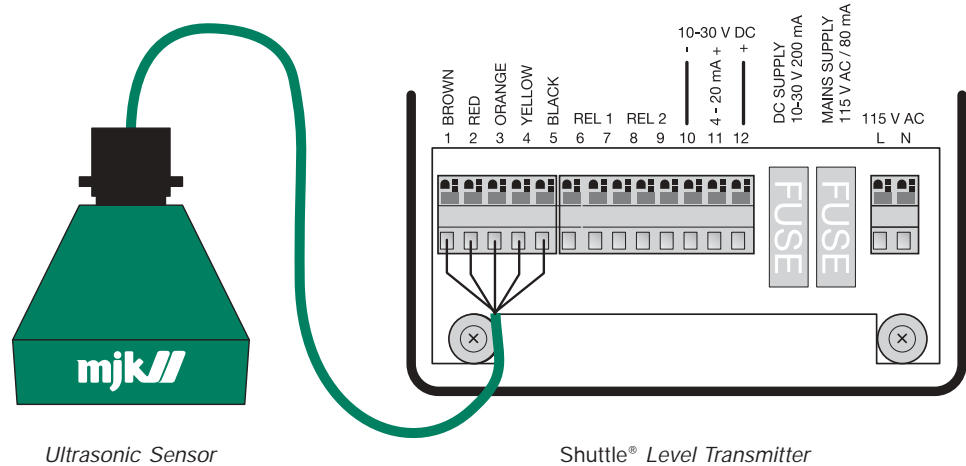
*Ultrasonic sensor*

Range:	0 - 45 ft
Frequency:	30 kHz
Spread:	3 °
Deadband:	14 "
Temperature:	- 5 to + 150 °F
Materials:	Polypropylene (green) POM (black)
Cable:	Shielded, oil resistant PVC insulation, length 39 ft. (Max. 300 ft. with MJK 690010 cable.)
Enclosure:	NEMA 6P, watertight, withstands max. 30 ft submersion.
CE-approvals:	EN 50081-1, EN 50082-1

*Shuttle® Level Transmitter*

Range:	0 - 45 ft
Span:	From 0 - 4 in. to 0 - 45 ft
Power supply:	115 V AC ± 10 % 10 - 30 V DC
Consumption:	Approx. 2 W
Temperature:	- 5 to + 150 °F
Input:	From ultrasonic sensor
Accuracy:	± 0.2 %
Outputs:	Analog: 4 - 20 mA, max. load 500 Ω. Digital: 2 x relays with programmable NO/NC function. Max. 1 A resistive load @ 50 V.
Indication:	LCD display with 4 digits and symbols.
Operation:	Function keypad behind front panel.
Enclosure:	NEMA 4X
Approvals:	CE: EN 50081-1, EN 50082-1 UL: Pending

Electrical connections



Ultrasonic Sensor

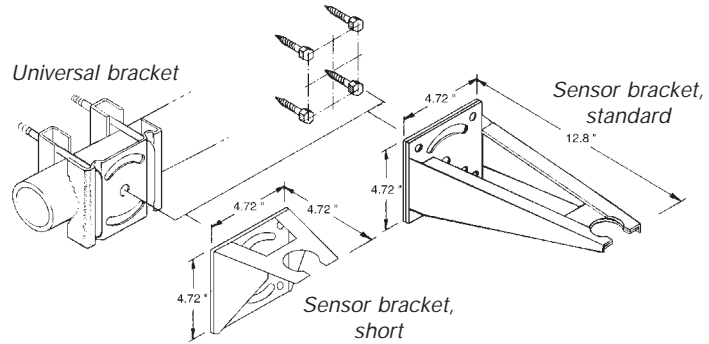
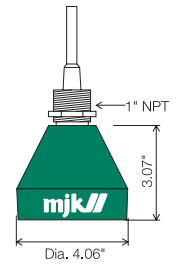
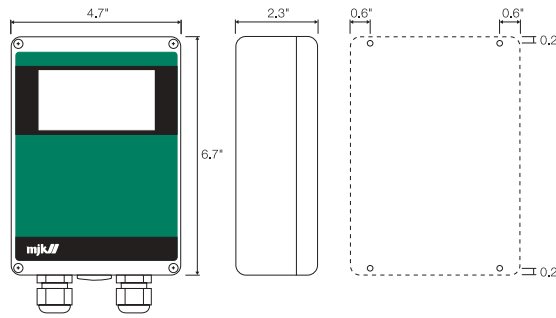
Shuttle® Level Transmitter



Dimensions

Shuttle® Level Transmitter

Ultrasonic Sensor



Order numbers

Shuttle® Level Transmitter with Ultrasonic Sensor

Order no:	Description:
201214	Shuttle® Level Transmitter complete with Ultrasonic Sensor and 39 ft of cable, power supply 10 - 30 V DC or 115 V AC

Accessories

Order no:	Description:
200205	Universal bracket
200219	Short Sensor bracket for Ultrasonic Sensor
200220	Standard Sensor bracket for Ultrasonic Sensor
200590	Connection box for Ultrasonic Sensor cable
690010	Additional cable for Ultrasonic Sensor Can be extended to 300 ft, specify length
200570	Ultrasonic Sensor, 30 kHz, with 39 ft of cable

Order numbers, special

Please use build-up code below for ordering special Shuttle® systems



Service Hotline

Toll-free:  
1-877-MJK LINK  
(1-877-655-5465)

mjkusa@mjk.com  
www.mjk.com