

# WATERLOG®

YSI incorporated



## MODEL H-3611-i/3613-i™

Family of SDI-12 Radar Water Level Sensors

The WaterLOG® Radar series is a family of SDI-12 water level sensors. Typical applications include non-contact measurement of river, lake and reservoir water level. The Radar is easy to use. Interfaces with any data recorder/logger that is SDI-12 compliant. The sensors measure Stage in units of Feet, Meters or other engineering units.

### KEY FEATURES

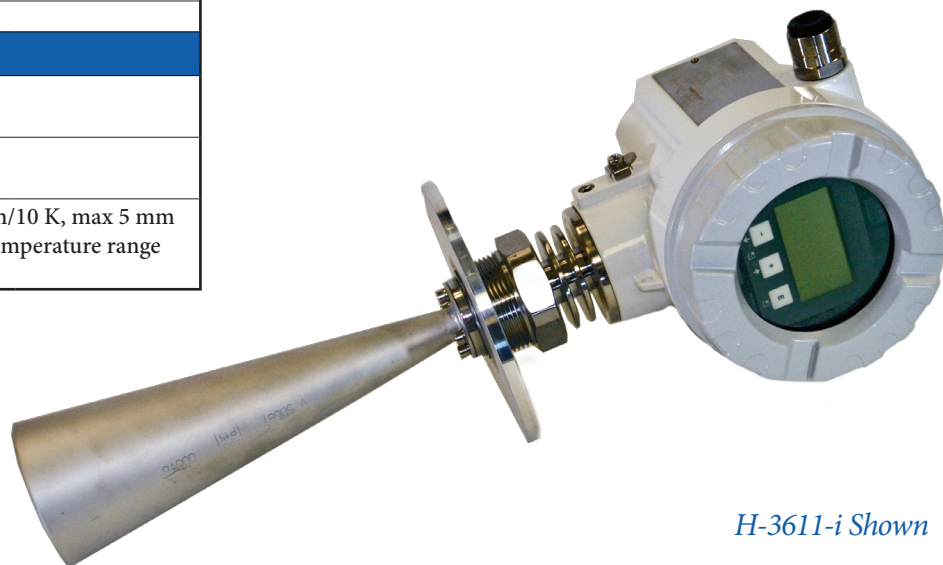
- Out of the box measurement range = 131 feet (40 meters)
- $\pm 3.0$ mm accuracy
- Non-contact level measurement eliminates the need for stilling wells and other infrastructure
- $-40^{\circ}\text{C}$  to  $+60^{\circ}\text{C}$  operation
- NEMA 4x enclosure is suitable for outdoor installations
- Stainless steel horn
- Frequency range - approx 26 Ghz
- Built-in LCD display for monitor and setup
- Low current operation (8.0 mA typical standby)
- Continuous operation, no warmup or "lock on"
- Simple to install, use, and maintain
- Mounting enclosures, radio communication links and other accessories are available



*H-3613-i Shown*

PERFORMANCE			
Measurement	Standard Range	0.75 ft to 131 ft (0.3 m to 40 m)	
	Accuracy	±0.01ft (±3 mm)	
	(including linearity, repeatability and hysteresis)		
Radar Unit	Frequency	~26 GHz	
	Electromagnetic Compatibility	Emission to EN 61326 Electrical Equipment Class B	
	Pulse Energy	1mW max (1µW average)	
	Beam angle	10° (3-in dia horn, standard) 8° (4-in dia horn, extended) 10° Fixed horn for H-3613	
	Measuring Distance	Beam Radius (3 in Horn)	Beam Radius (4 in Horn)
	10 ft (3.0 m)	0.87 ft (0.27m)	0.69 ft (0.21m)
	20 ft (6.1 m)	1.75 ft (0.53m)	1.4 ft (0.427m)
	30 ft (9.1 m)	2.62 ft (0.80 m)	2.1 ft (0.64m)
	40 ft (12.2 m)	3.50 ft (1.07 m)	2.8 ft (0.85m)
	50 ft (15.2 m)	4.37 ft (1.33 m)	3.5 ft (1.06m)
	75 ft (22.9 m)	6.56ft (2.00 m)	5.24 ft (1.6m)
	100 ft (30.5 m)	8.75 ft (2.67 m)	6.99 ft (2.13m)
	131 ft (40 m)	11.46 ft (3.49 m)	9.16 ft (2.8m)
INTERFACE			
SDI-12 Output	Baud Rate	1200	
	Protocol	SDI-12, V1.2 7-bit even parity, 1 stop bit	
	Output Voltage Levels	Minimum high level: 3.5 volts Maximum low level: 0.8 volts	
Response Time	SDI-12 measurement sequence	800mS (typ)	
		5 sec (max)	
Power Requirements	Voltage Input	10 to 16 Volts DC	
	Surge Protection	Built in, 1.5 KVA	
	Supply Current	Sleep mode 8 mA typ	
		Active (communicating) 15mA 20mA for startup	
ENVIRONMNET			
	Operating Temperature	-40° C to + 60° C	
	Storage Temperature	-40° C to + 80° C	
	Temperature Sensitivity	average T <sub>K</sub> : 2 mm/10 K, max 5 mm over the entire temperature range -40° C to +80° C	

MECHANICAL		
	Rating	NEMA 4x
	Housing	Aluminum, coated IP65
	Horn size	3-inch, L = 8.3", d = 3" (L=211mm, d=75mm) standard
		4-inch, L = 11", d = 4" (L=282mm, d=95mm) optional
		H-3613 - L = 5.5" d = 4.5" (L=140mm, d=114mm)
		Horn Material
	Internal Display	LCD with back light
Connections	+12V & SDI-12	Internal 3-position connector. 6-ft (1.8 m) polyurethane pigtail is provided.
	Cables	6-ft (1.8 m) cable with RS-232 connector for ToFTool® connection.
	Size	H-3611-i
H-3613-i		13" x 6" x 6" (33 x 15 x 15 cm)
Weight	H-3611-i	8 lbs (3.6 kg)
	H-3613-i	7 lbs (3.18 kg)
WARRANTY		
	The WaterLOG® H-3611 & H-3613 series radars are warranted against defects in materials and workmanship for one year from date of shipment.	
NOTES		
	Specifications subject to change without prior notice due to ongoing commitment to product testing and improvement. LR January 15, 2011. D18 0311.	



*H-3611-i Shown*