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# dBi ИНТЕЛЛЕКТУАЛЬНЫЕ ДАТЧИКИ HART

Автономные преобразователи с протоколом HART.

**Устанавливает новые стандарты в коммуникациях и обеспечивает удобство для надежных систем измерения уровня на заводе и в полевых условиях.**

Преобразователи серии dBi HART представляют собой маломощные устройства с ведущей в мире мощностью обработки эхо-сигналов DATEM компании Pulsar Measurement для надежных и надежных измерений на расстоянии от 125 мм до 15 м (от 4,9 дюйма до 49,2 фута) в зависимости от выбранной единицы. Интеграция с системами завода и другим оборудованием проста. Серия dBi HART поддерживает GSD, EDDL и FDT / DTM, что упрощает настройку и калибровку устройств с использованием стандартных промышленных протоколов PLC / HMI.

Pulsar Measurement's software or on-site, multi-drop setup provides options to program the transducers using either a standard interface or using Pulsar Measurement's programming parameters.

## Formats to Suit Your Application

The dBi HART series are available in a range of different formats designed to be able to suit the needs of your application. Options include flanged, PTFE coated for corrosive applications, fitted with foam face for use in solids applications, submergence shield, and threaded noses for easy installation.



## THE RIGHT SENSOR FOR

- Event Duration Management
- Tank Level Monitoring
- Combined Sewer Overflows
- Volume Measurement
- Remote Level Monitoring

## Tank Shapes & Volume Measurement

The dBi HART transducers provide on-board conversion for volume with several pre-set tank shapes, plus the ability to curve-fit to non-standard tank shapes. The output from the unit can be configured to represent distance, level, space, or volume.

### Functional Qualities

dBi Transducers with HART are loop powered (3.8-22mA), IP68 for outdoor applications, temperature compensated for increased accuracy, and make use of the HART Version 7 protocol, with individually addressable transducers.

Alternatively, they can be programmed as stand-alone devices using a hand-held calibrator or PC to operate as low-power measuring devices, using HART as the mechanism for data collection.

The first boot is approximately 8 seconds, if a typical 15-minute boot interval is used, this becomes approximately 3.5 seconds. The dBi transducers with HART will convert level to volume, and includes a library of typical tank shapes or a 16-point curve fit.



dBi3 HART Threaded Nose and PVDF Face

### Programming

If you only require setup, Pulsar Measurement’s HART PC Lite software provides everything required for efficient setup. This FREE software is bundled with the dBi HART transducer or is available for download via the website.

For complete control over setup, installation, echo profile viewing, cloning, and troubleshooting, purchase Pulsar Measurement’s PC Suite, which includes HART PC along with other major Pulsar software packages. PC Suite is available as a free download for evaluation. Purchase a Pulsar Measurement ‘Dongle’ to authorize continued usage after the evaluation period.

### Echo Processing

The dBi HART Transducer series features Pulsar Measurement’s world-leading echo processing software, Digital Adaptive Tracking of Echo Movement (DATEM). DATEM software allows the system to zero in on the echo from the true target and follow it as it moves up and down the vessel, ignoring the stationary echoes from other elements in the measurement path. Stanchions, chains, and ladders, which cause many ultrasonic systems to fail, are no barrier to Pulsar Measurement equipment. This allows the dBi HART transducers to give reliable and accurate measurement in applications where other manufacturer’s equipment would not work.



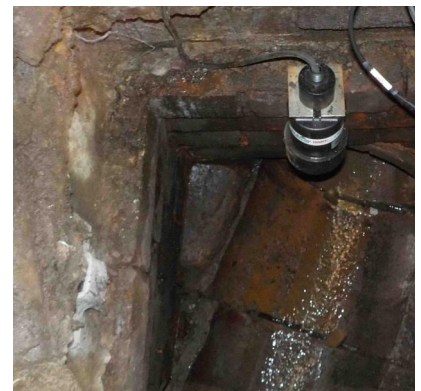
HART Communication Protocol



dBi HART on a CSO Application



3 dBi HART transducers Monitoring Sluice Levels



dBi HART in a Cluttered Well

## Technical Specifications

### PHYSICAL: TRANSDUCER SPECIFIC:

	<b>dBi3</b>	<b>dBi6</b>	<b>dBi10</b>	<b>dBi15</b>
<b>Sensor Body Dimensions:</b>	77 mm D x 134 mm H (3 in x 5.3 in)	86 mm D x 121 mm H (3.4 in x 4.8 in)	86 mm D x 121 mm H (3.4 in x 4.8 in)	86 mm D x 121 mm H (3.4 in x 4.8 in)
<b>Weight:</b>	1 kg (2.2 lb)	1.2 kg (2.7 lb)	1.3 kg (2.9 lb)	1.4 kg (3.1 lb)
<b>Measurement Range:</b>	125 mm to 3 m (4.9 in to 9.8 ft)	300 mm to 6 m (11.8 in to 19.7 ft)	300 mm to 10.1 m (11.8 in to 32.8 ft)	500 mm to 15 m (19.7 in to 49.2 ft)
<b>Frequency:</b>	125kHz	75kHz	50kHz	41kHz
<b>Beam Angle:</b>	<10°	<10°	<10°	<8°
<b>Accuracy</b>	2 mm (0.08 in)	4 mm (0.2 in)	3 mm (0.1 in) up to 6 m (19.7 ft) range 6 mm (0.2 in) over 6 m (19.7 ft) range	5 mm (0.2 in) up to 10 m (32.8 ft) 10 mm (0.4 in) over 10 m (32.8 ft) range
<b>Resolution:</b>	1 mm (0.04 in)	2 mm (0.08 in)	3 mm (0.1 in)	5 mm (0.2 in)

### PHYSICAL: ALL TRANSDUCERS

<b>Sensor Body Material:</b>	Valox 357 PBT
<b>Cable Lengths:</b>	Standard: 5 m, 10 m, 20 m, or 30 m (16.4 ft, 32.8 ft, 65.6 ft, or 98.4 ft) Optional up to 150 m (492.1 ft) maximum (increments of 10 m (32.8 ft) only)
<b>Mounting Connection:</b>	1" BSP or 1" NPT

### ENVIRONMENTAL

<b>Enclosure Protection:</b>	IP68 / NEMA 6P
<b>Max. And Min. Temperature (Electronics):</b>	-40 °C to +80 °C (-40 °F to +176 °F), options for front thread and flange mounting

### APPROVALS

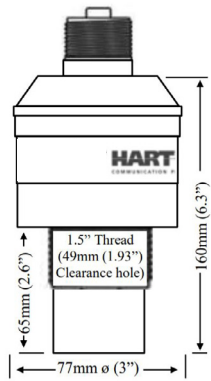
<b>CE Approval:</b>	Listed in the Certificate of Conformity within the manual
<b>ATEX Approval:</b>	Standard: Zones 1 & 2 to Ex II 2 G Ex mb IIC T4 Gb, Ex II 2 D Ex mb IIIC T130 °C Db, Tamb= -40 °C to +80 °C Optional: Zone 0 to Ex II 1 G Ex ia IIC T4 Ga, Ex II 1 D Ex ia IIIC T130 °C Da, Tamb= -40 °C to +80 °C

### PERFORMANCE

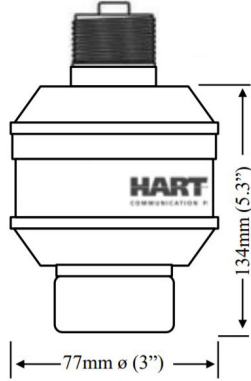
<b>Input voltage range:</b>	10-28 V DC
<b>Output:</b>	4-20mA output, resolution 1µa
<b>Current Consumption:</b>	3.8-22mA
<b>Boot Time:</b>	From power-up to stable reading: Cold boot = 8 seconds, Warm boot (within 12 hours from last start-up) = 4 seconds
<b>Communications Protocol:</b>	HART 7

## TRANSDUCER OPTIONS

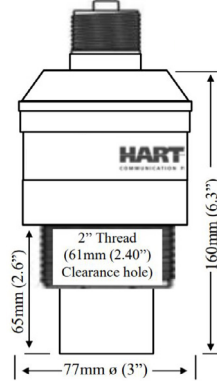
	dBi3	dBi6	dBi10	dBi15
<b>PVDF:</b>		✓	✓	
<b>Front Threaded / PVDF:</b>	✓	✓	✓	
<b>Submergence Shield:</b>	✓	✓	✓	✓
<b>Flanged DIN / ANSI:</b>		✓	✓	✓
<b>Foam Face:</b>			✓	✓
<b>Sanitary Flange</b>	✓	✓	✓	
<b>Intrinsically Safe of All the Above:</b>	✓	✓	✓	✓



dBi3 & dBi6 Front Thread



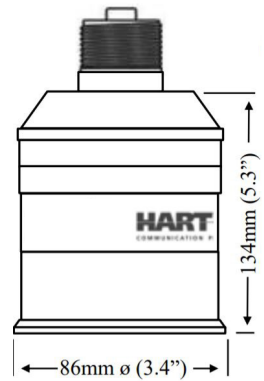
dBi3 Rear Thread



dBi10 Front Thread



dBi6 & dBi10 Rear Thread



dBi15 Rear Thread

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