

PULSAR *ultra*

*Standard, short,
medium and long range
dB transducers*

Continued innovative design has led to the dB range of transducers being quite unlike anything seen in ultrasonic level measurement before.

Previously, there were high voltage, frequency dependent transducers, susceptible to electrical noise and requiring special, protected interconnection cables, or weak low voltage transducers designed with flammable atmosphere approval and not application performance in mind.

Pulsar engineers have re-written the rules. The proven transducer design, combining **low power**, permitting certification to intrinsic safety standards and utilising standard screened cable, is capable of the **power and range** necessary to achieve industry's demands.

The Pulsar *ultra* range of dB transducers have, as standard:

- High resolution
- Encapsulated ATEX (EEx m) for zones 1&2
- I.S. ATEX (EEx ia) for zone 0 (Option)
- Integral temperature compensation

dB3

Liquid and solid level measurement

Range: 0.12m to 3m

Nominal operating frequency: 125kHz

PZT ceramic transducer element

Radiating face: 19mm diameter

Beam angle: 10° @-3 dB (inclusive)

dB6

Liquid and solid level measurement

Range: 0.3m to 6m (0.2m deadband option available)

Nominal operating frequency: 75kHz

PZT ceramic transducer element

Radiating face: 30mm diameter

Beam angle: 10° @-3 dB (inclusive)

dB10

Liquid and solid level measurement

Range: 0.3m to 10m

Nominal operating frequency: 41kHz

PZT ceramic transducer element

Radiating face: 45mm diameter

Beam angle of 10° @-3 dB (inclusive)



- Narrow beam angles
- Short deadbands
- Robust, IP68 construction
- Patents pending

dB15

Narrow beam transducer for liquid & solid level measurement

Range: 0.4m to 15m

Nominal operating frequency: 41kHz

PZT ceramic transducer element

Radiating face: 60mm diameter

Beam angle of 6° @-3 dB (inclusive)

dB25

Narrow beam, mid-range transducer for solids and liquid level measurement

Range: 0.6m to 25m

Nominal operating frequency: 30kHz

PZT ceramic transducer element

Radiating face: 78mm diameter

Beam angle of 5° @-3 dB (inclusive)

dB40

Narrow beam, long range transducer for liquid & solid level measurement

Range: 1.2m to 40m

Nominal operating frequency: 25kHz

PZT ceramic transducer element

Radiating face: 160mm diameter

Beam angle of 5° @-3 dB (inclusive)

PULSAR

Process Measurement

dB transducers

Pulsar Process
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*Specifying information and wiring diagrams
are available on request from Pulsar*

Technical Specification: PULSAR^{Ultra} dB Transducers

Data Applicable to all transducers

Operating Temperature Range	-40°C to +90°C (Hazardous area versions +80°C max.)
Hazardous Area Approval	Standard ATEX EEx m IIC T6 or optional EEx ia IIC T6
Ingress Protection Rating	IP68 to BS EN 60068-2-17 : 1995 & BS EN 60529
Integral cable length	Standard 5, 10 or 20 metres
CE Approvals	EMC tested to BS EN 50081-1 : 1992 for emissions and BS EN50082-2 : 1995 for immunity Electrical safety tested to BS EN 61010-1 : 1993
Bump, Shock & Vibration	To BS EN 60068-2-29, BS EN 60068-2-27 & BS EN 60068-2-6

Housing Details

	Housing Material diameter	Housing diameter mm	Housing height mm	mounting Connection
dB3	Valox 357 *PBT	86	98	1" NPT or BSP
dB6	Valox 357 *PBT	86	106	1" NPT or BSP
dB10	Valox 357 *PBT	86	106	1" NPT or BSP
dB15	Valox 357 *PBT	86	120	1" NPT or BSP
dB25	Valox 357 *PBT	114	140	1" NPT or BSP
dB40	Valox 357 *PBT	205	215	1" NPT or BSP

*PBT - Polybutylene Terephthalate

Optional Flanges All have PTFE full face on process side.

Flanges	ANSI	2"	3"	4"	6"	DIN	50	80	100	150
dB3		✓	✓	✓			✓	✓	✓	
dB6			✓	✓	✓			✓	✓	✓
dB10			✓	✓	✓			✓	✓	✓
dB15			✓	✓	✓			✓	✓	✓

Options

Facings	Closed Cell Soft Foam for increased power in dry dusty environments PTFE for chemical compatibility
Submergence Shield	For continuous operation in applications at risk of submergence
Beam Aiming Kit	Recommended for easy transducer aiming in solids applications (drawing available on request)

Aiming Kit

We recommend the installation of an aiming kit when measuring solids material. This kit allows the transducer to be aimed towards the draw off point at the bottom of the silo or tank. The location of the aiming kit should be as far away from the fill point as possible to avoid falling material. It should be aimed to co-incide with the materials angle of repose, enabling a more powerful signal return to the transducer.



Our policy is one of constant development and improvement. Pulsar reserve the right to amend technical details as necessary.

Represented by

