

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
On NPT threaded versions, FM Approved
Class I, Div 1, Group A, B, C & D.
Class II, Div 1, Group E, F & G.
Class III.

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 at 50 kHz)

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: 50kHz

PZT ceramic transducer element

Radiating face: 45mm diameter

Beam angle of 10° @-3 dB (inclusive)



- I.S. ATEX (EEx ia) for zone 0 (Option)
- Integral temperature compensation
- Narrow beam angles
- Robust, IP68 construction
- Patented

dB15

Narrow beam transducer for liquid & solid level measurement

Range: 0.5m to 15m

Nominal operating frequency: 41kHz

PZT ceramic transducer element

Radiating face: 60mm diameter

Beam angle of 8° @-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 6° @-3 dB (inclusive)

dB40

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

Range: 1.2m to 40m

Nominal operating frequency: 20kHz

PZT ceramic transducer element

Radiating face: 160mm diameter

Beam angle of 5° @-3 dB (inclusive)

PULSAR

Process Measurement

dB transducers

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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 (FM Approved available Ex-Proof) |
| Ingress Protection Rating | IP68 to BS EN 60068-2-17 : 1995 & BS EN 60529 (Nema 4x available) |
| 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 | BSP or 1" NPT |
| dB6† | Valox 357 *PBT | 86 | 106 | BSP or 1" NPT |
| dB10† | Valox 357 *PBT | 86 | 106 | BSP or 1" NPT |
| dB15 | Valox 357 *PBT | 86 | 120 | BSP or 1" NPT |
| dB25 | Valox 357 *PBT | 114 | 140 | BSP or 1" NPT |
| dB40 | Valox 357 *PBT | 205 | 215 | BSP or 1" NPT |

†Available in optional PVDF body material

*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.



Certificate No: 950136

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

Represented by

