SPECIFICATIONS

<table>
<thead>
<tr>
<th>Model</th>
<th>Range in metres</th>
<th>Blanking Distance</th>
<th>Operating Frequency</th>
<th>Housing diameter</th>
<th>Housing Height</th>
</tr>
</thead>
<tbody>
<tr>
<td>dBmach3</td>
<td>2.5m</td>
<td>0m</td>
<td>125kHz</td>
<td>180 (sunshield)</td>
<td>205</td>
</tr>
<tr>
<td>dB3</td>
<td>3m</td>
<td>0.125m</td>
<td>125kHz</td>
<td>78</td>
<td>115</td>
</tr>
<tr>
<td>dB6</td>
<td>6m</td>
<td>0.3m</td>
<td>75kHz</td>
<td>86</td>
<td>106</td>
</tr>
<tr>
<td>dB10</td>
<td>10m</td>
<td>0.3m</td>
<td>50kHz</td>
<td>86</td>
<td>106</td>
</tr>
<tr>
<td>dB15</td>
<td>15m</td>
<td>0.5m</td>
<td>40kHz</td>
<td>86</td>
<td>122</td>
</tr>
<tr>
<td>dB25</td>
<td>25m</td>
<td>0.6m</td>
<td>30kHz</td>
<td>105</td>
<td>142</td>
</tr>
<tr>
<td>dB40</td>
<td>40m</td>
<td>1.2m</td>
<td>20kHz</td>
<td>205</td>
<td>223</td>
</tr>
</tbody>
</table>

Process Connection: 1” BSP or NPT
Operating Temperature: -40 to +90°C (dB3/dBmach3 -30 to +90°C)
In hazardous area -40 to +75°C (dB3/dBmach3 -30 to +75°C)
Ingress Protection: IP68
CE Approval: Meets BS EN 61326-1 for emissions and immunity when used in conjunction with the PULSARultra or Blackbox range of products

EC DECLARATION OF CONFORMITY
Pulsar Process Measurement Ltd. Declares under our sole responsibility that the product(s) listed below conform with the relevant provisions of the ATEX directive 94/9/EC & EMC directive 2004/108/EC.
Product(s): dB3, dBmach3, dB6, dB10, dB15, dB25 & dB40
Notified Body: Sira Certification Service (0518)
Rake Lane
Chester
CH4 9JN
Conformity has been demonstrated with reference to the following documentation:
EC type examination certificate Sira 02ATEX2103X (EEx ia) and 02ATEX5104X (EEx m) dated 4th July 02
Quality Assurance Notification Sira 02ATEXM230 dated 11th December 02
Compliance with the Essential Health & Safety Requirements has been assessed by reference to the following relevant standards:
EN 60079
EN 61326-1

S. Lycett  Date  1st July 2010
Steve Lycett – Engineering Manager

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Wire the transducer into the relevant PULSARultra instrument as shown in figure 6. Terminal numbers will depend on the unit.

NOTE: All extension cables must use 2 or 3 core screened cables not exceeding 100nF between conductor to screen and 40 ohms/conductor.

The installation is now complete; refer to the PULSARultra user manual for instructions on how set up the PULSARultra instrument.

dB Flange Dimensions

All dimensions in mm
The dB transducer range has been specified and designed to meet the demanding requirements of today’s process level measurement applications for liquids and solids.

The dB transducers incorporate the latest in ultrasonic design technology to provide a transducer suitable for the majority of short range liquid and solids level applications. Several unique and innovative features are included in the dB transducers, including the unique low energy interface between the transducer and the PULSAR ultra range of level and flow measurement instrumentation. This low power interface has enabled the transducers to achieve Intrinsic Safety (EEEx ia) approval. The transducer interface is also frequency independent allowing transducers to be interchanged without “re-tuning” the drive electronics. There are several patents applied for covering these designs. The dB unit is based on a PZT ceramic transducer element. The nominal beam angle is 10° @ -3 dB (depending on unit). When coupled with the DATEM® signal processing used in the PULSAR ultra range of level and flow measurement instrumentation, they provide unmatched performance in industrial process level measurement. All dB transducers are fitted with integral temperature compensation.

INSTALLATION

The dB transducer should be installed directly above the liquid or solid level with the transducer axis perpendicular to the surface to be measured. The transducer can be installed using the 1” BSP thread on the top of the transducer or with the supplied 1” BSP to M20 thread adapter. See figure 1 for examples.

In some applications it may not be possible to install the transducer using either a flange or the 1” BSP thread, in these circumstances it may be possible to suspend the transducer from its cable. In these installations it is recommended that the transducer be secured using a small chain fitted to one of the chain holes on the top of the transducer, see figure 3.

When installing the transducer avoid aiming the transducer directly at fixed obstructions as they may mask the required return echo from the liquid or solid level being monitored, see figure 4.

Once the transducer is installed in position the cable can be routed back to the PULSAR ultra instrumentation and wired up. If the integral cable is too short an extension cable and junction box may be used, see figure 5. The cable can be extended up to 500 m.

Hazardous Area Installation

All dB transducers are ATEX certified for use in hazardous areas. There are two different versions:

One certified to EEEx ia IIC T6 (Sira 02ATEX2103X) for use in zone 0, 1 & 2 applications (safety barrier required), and another certified to EEEx m II T6 (Sira 02ATEX5104X) suitable for use in zones 1 & 2 (no barriers required). The ‘X’ in the certification No.’s indicates the following special conditions apply:

EEEx ia version – Due to the plastic housing it is possible an electrostatic discharge may be generated, therefore when used for applications that specifically require group II category 1, do not install in conditions that are conducive to the build up of electrostatic charge. Additionally, clean only with a damp cloth.

EEEx m version – This version must be supplied from apparatus that provides protection from prospective short circuit currents up to 4000A. The Ultra and Blackbox units provide these fuses.