Attain Highly Accurate & Stable Speed Measurement

### Highly Accurate Measurements
When a vessel moves through the water, acoustic noise is created and is known as a boundary layer. This noise layer can cause errors with acoustic devices. By measuring speed through water (STW) farther away from the keel, the DS-85 penetrates through this noise and boundary layer resulting in a more stable and accurate speed measurement compared to an electromagnetic speed log.

### Better Stability
With the new transducer and newly designed process algorithm, the impact of foam is reduced, enabling highly accurate and stable ship speed information.

### Improved Interference Immunity
- Development of a transducer equipped with the latest technology
  1. Usage of a high frequency with a strong foam resistance
  2. Achievement of an optimal ultrasonic width and angle
- Significant improvement of the signal processing capability

### Easy-to-Read Display
Easy-to-read display screen even from a distance, thanks to large characters and clear, bright tones

### Compact Gate Valve (Option)
The new compact and lightweight ball-type gate valve is 30% lighter than the traditional valve. When replacing the previous model (DS-80), the same tank or valve can be used, reducing the cost of a retrofit.

Comparison between the DS-80 valve (40kg) and the DS-85 valve (27kg)

Complies with the latest IMO, IEC Standards:
- IMO A.694(17)  IEC61023 Ed.3.0
- IMO A.824(19)  IEC61162-1 Ed.5.0
- IMO MSC.36(63)  IEC61162-2 Ed.1.0
- IMO MSC.97(73)  IEC61162-450 Ed.2.0
- IMO MSC.191(79)  IEC62288 Ed.2.0
- IMO MSC.302(87)  IEC60945 Ed.4.0
- IEC62923-1/2 Ed.1.0

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Specifications

<table>
<thead>
<tr>
<th>Product Name</th>
<th>Doppler Speed Log</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Transceiver Beams</td>
<td>2 Beams</td>
</tr>
<tr>
<td>Transmission Frequency</td>
<td>2 MHz</td>
</tr>
<tr>
<td>Measurement Speed Range</td>
<td>-40.0 to +40.0 km/h (Longitudinal Direction)</td>
</tr>
<tr>
<td>Distance Measurement Range</td>
<td>0.00 to 99999.999 NM</td>
</tr>
<tr>
<td>Ship Speed Measured Water Depth</td>
<td>3m or deeper below Ship Bottom</td>
</tr>
<tr>
<td>Output Ship Speed</td>
<td>1-axis to Water Speed</td>
</tr>
<tr>
<td>Ship Speed Measurement Accuracy</td>
<td>±1% or ±0.1 kn (larger of the two)</td>
</tr>
<tr>
<td>Distance Measurement Accuracy</td>
<td>±1% or ±0.1 NM (larger of the two)</td>
</tr>
<tr>
<td>Power Supply</td>
<td>100-115 VAC 0.6 A / 200-220 VAC 0.4 A</td>
</tr>
<tr>
<td>Display Unit</td>
<td>LCD 4.3 inch Color LCD WXGA</td>
</tr>
<tr>
<td>Minimum Brightness</td>
<td>under 0.1cd/m²</td>
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<tr>
<td>Maximum Brightness</td>
<td>over 600cd/m²</td>
</tr>
<tr>
<td>Brightness Adjustment</td>
<td>18 Levels</td>
</tr>
<tr>
<td>Display Mode</td>
<td>Ship Speed and Distance Screen, Ship Speed Screen, Distance Screen, Analog Meter Screen</td>
</tr>
<tr>
<td>Display Language</td>
<td>English, Japanese</td>
</tr>
<tr>
<td>Interface</td>
<td>No. of Ports</td>
</tr>
<tr>
<td>Serial Input</td>
<td>2 Ports</td>
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<tr>
<td>(IEC 61162-1/4), (IEC 61162-1/1)</td>
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<tr>
<td>Serial Output</td>
<td>8 Ports</td>
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<tr>
<td>(IEC 61162-1/4), (IEC 61162-1/1)</td>
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<tr>
<td>Ethernet</td>
<td>1 Port (IEC 61162-4/50)</td>
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<tr>
<td>External KP Input</td>
<td>1 Port</td>
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<tr>
<td>Sub Display</td>
<td>2 Ports</td>
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<tr>
<td>Dimmer</td>
<td>1 Port</td>
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<tr>
<td>POWER FAIL Output</td>
<td>1 Port</td>
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<tr>
<td>SUBTOTAL Output (Option)</td>
<td>1 Port</td>
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<tr>
<td>Analog Output (Option)</td>
<td>4 Ports</td>
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<tr>
<td>Log/Pulse Output (Option)</td>
<td>1 Port</td>
</tr>
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</table>

Environment

<table>
<thead>
<tr>
<th>Temperature Range</th>
<th>Display Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transducer Unit</td>
<td>-15°C to +55°C</td>
</tr>
<tr>
<td>Transducer Unit</td>
<td>-5°C to +35°C</td>
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<tr>
<td>Relative Humidity</td>
<td>Display Unit</td>
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<tr>
<td>Transducer Unit</td>
<td>93 % (+40°C)</td>
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<tr>
<td>Protection Rating</td>
<td>Display Unit</td>
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<tr>
<td>Transducer Unit</td>
<td>IP22</td>
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<tr>
<td>Distribution Unit</td>
<td>IP22</td>
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<td>Transducer Unit</td>
<td>IP44</td>
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<td>Transducer</td>
<td>IPX8</td>
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<tr>
<td>Vibration</td>
<td>IEC 60945 Ed 4.0</td>
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</tbody>
</table>

Dimensions

**Display Unit DS-8500**

- **Hangar** 0.7 kg 1.5 lb
- **Gate Valve DS-786**冲 40 kg 88.2 lb
- **Ball Type Gate Valve DS-854** 27 kg 59.5 lb
- **Flushmount (Option)** 0.6 kg 1.3 lb

**Equipment**

**Standard**

- **Display Unit** DS-8500
- **Distribution Unit** DS-8510
- **Transceiver Unit** DS-8520
- **Transducer** DS-8530
- **Installation Material, Accessories, Spares**
- **Options**

**Options**

- **Sub Display** DS-8500
- **RD-50**
- **RD-20**
- **Cable Assembly** OPD9-146
- **Cable Protection Kit** OPD9-147
- **Installation Material**

**Interconnection Diagram**

- **Standard Configuration Option**
- **Arrangement**

- **Remote Control Unit** RCL-501
- **Junction Box** CI-630
- **Ship Bottom Tank Pressure Type** DS-781
- **Ship Bottom Tank Bunkered Type** DS-784
- **Ball Type Gate Valve** DS-854
- **Gate Valve** DS-786
- **LIF Board Kit** OPD6-3
- **Front Fastening Panel** OPD4-35

**Specifications**

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