

DOPLER SPEED LOG

Model DS-50

- ▶ Complies with IMO Resolution MSC.36 (63), MSC.96 (72), A.694 (17), A.824 (19), IEC 61023 and other national regulations
- ▶ Displays ship's fore-aft and port-starboard speeds along with distance run and keel clearance
- ▶ Highly precise and stable measurement by using advanced three-beam transmission technology
- ▶ Compact display unit for ease of installation
- ▶ Auto mode for continuous readout of ship's speed
- ▶ A variety of analog/digital speed indicators are optionally available for monitoring at a remote location
- ▶ Signal outputs of analog/digital speed data and distance run for external equipment



The FURUNO DS-50 is a Doppler Speed Log designed to meet the IMO Resolution, IEC specifications and other national regulations. Its three-beam transmission reduces the effect of pitch and roll for high accuracy and enables the measurement of port-stbd speed as well as fore-aft speed. Keel clearance information is provided to assist with shallow water navigation.

The DS-50 measures and displays the ship's over-the-ground or through-the-water speed based on the Doppler effect. Speed data can be output to

external equipment such as ARPAs, INS and IBS. There are three operation modes: Ground-tracking, Water-tracking and Auto. The Auto mode continuously displays ship's speed, switching between Ground-tracking and Water-tracking automatically.

The DS-50 consists of a display unit, processor and transducer. The compact design of the display unit allows flexible installation on the bridge. For monitoring at remote locations, analog and digital indicators are optionally available.

SPECIFICATIONS OF DS-50

DISPLAY UNIT

Two-digit LED for display of port-stbd speed
 Three-digit LED for display of fore-aft speed
 Seven-digit LED for display of distance run/keel clearance

ULTRASONIC FREQUENCY

440 kHz

NUMBER OF BEAMS

3 beams for dual axis speed indication

MEASURING RANGE AND ACCURACY

Ship's speed

Fore-Aft: -10.0 to 40.0 knots
 Port-Stbd: -9.9 to 9.9 knots

Measurable depth of ship's speed

Ground tracking: 1 to 200 m below hull bottom
 Water tracking: 2 to 25 m below hull bottom
 Total distance run: 0 to 99999.99 nm

Accuracy

Ship's speed: $\pm 1\%$ or ± 0.1 kt, whichever is greater
 Distance run: $\pm 1\%$ or ± 0.1 nm, whichever is greater
 Keel clearance: $\pm 1\%$ or ± 0.1 m, whichever is greater
 (At 1,500 m/s sound velocity)

INPUT/OUTPUT SIGNALS

Input 2 ports for external keying pulse

Output

Ship's speed 3 ports* (Digital)
 1 port (Analog)
 Distance signal 1 port* (400 pulses/nm)
 6 ports with contact closure signal at 200 pulses/nm
 Alarm signal 1 port*
 Keying pulse 1 port

Input/Output 2 ports for IEC61162 data

* For those needing more ports, Distribution box DS-370 is optionally available

ENVIRONMENT (IEC 60945 test method)

Temperature: -15°C to +55°C

POWER SUPPLY

115/230 VAC

EQUIPMENT LIST (Specify type of processor unit when ordering)

Standard for installation with DS-510 (Transceiver unit built in)

1. Main display unit DS-500
2. Processor unit DS-510 (Transceiver built in)
3. Transducer DS-530 with 20 m cable
4. Transducer tank DS-531
5. Installation materials and spare parts

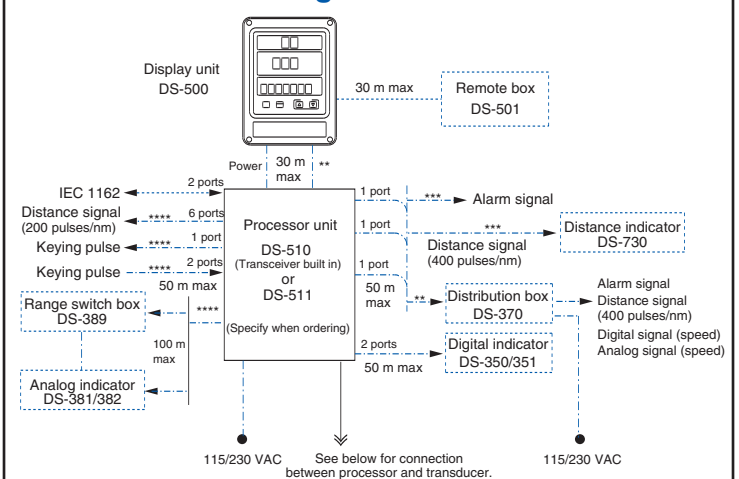
Standard for installation with DS-511 (Transceiver unit separated)

1. Main display unit DS-500
2. Processor unit DS-511
3. Transducer DS-530 with 20 m cable
4. Transducer tank DS-531 or Gate valve DS-532 (specify when ordering)
5. Transceiver unit DS-520
6. Installation materials and spare parts

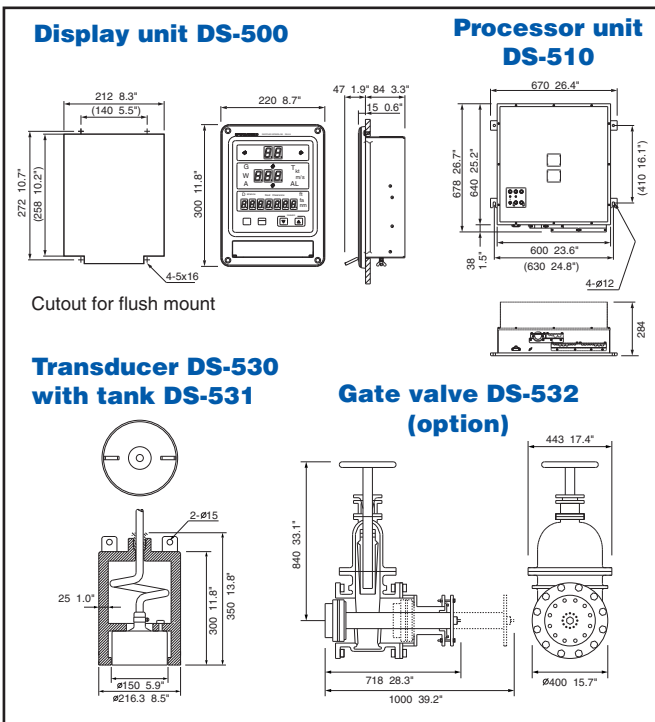
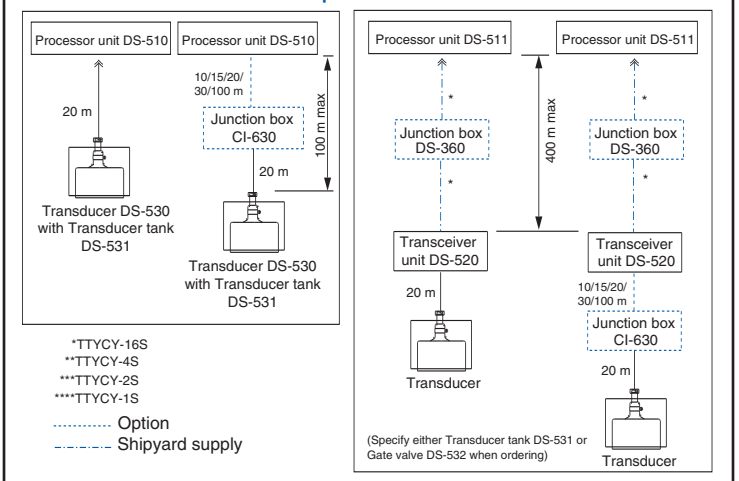
Optional (Common)

1. Analog indicator DS-381/382
2. Digital indicator DS-350 (LCD display, waterproof)/351 (LED display)
3. Distance indicator DS-730
4. Distribution box DS-370
5. Range switch box DS-389
6. Junction box DS-360
7. Junction box CI-630
8. Extension cable between DS-510-CI-630/DS-520-CI-630 66S1067 (10, 15, 20, 30 or 100 m)
9. Remote box DS-501 for Main display

Interconnection Diagram



Connection between processor and transducer



SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

02045Y Printed in Japan

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