

## FULL-CIRCLE MULTI-BEAM COLOR SCANNING SONAR

### Model **CSH-5L**

- 360 degree transmission for instant detection of fish schools all around the vessel
- High power transmitter for long range fish detection and determining changing seabed conditions
- Audio search to relieve the skipper from continuous watch on screen
- Automatic tilt scanning to observe depth, range and bearing of a targeted fish school
- Compact hull unit to facilitate easy installation

The FURUNO CSH-5L is a cost-effective full-circle, multi-beam scanning sonar. It rapidly detects and displays individual fish, fish schools and changing underwater conditions. Fish distribution and seabed conditions in 360 degrees around your vessel are shown in 16 colors on a XGA LCD display.

The CSH-5L is provided in a BlackBox configuration for a space saving and flexible installation. There are three basic operating modes; normal sonar scan, sonar scan plus echo sounder and audio sector search. Audio search frees the skipper from a continuous watch on the screen and often helps him detect fish schools earlier than visual observation. A resultant A-scope echogram shows strengths of the echoes within the audio sector. Automatic tilt scanning and target lock are standard features, making CSH-5L suitable for both midwater trawlers and purse the seiners.



For short and long range operation, 16 range scales are available for use from 50 to 1600 meters. There are 4 user defined function keys, F1 thru F4, provided for rapid setup and operation of the CSH-5L.

The CSH-5L displays own ship's position, speed, course, heading and water temperature when connected with appropriate sensors such as GPS, satellite compass and an echo sounder. The data is conveniently shown on the right side of the display.

The CSH-5L Color Scanning Sonar consists of a compact hull unit, transceiver unit and processor unit. The display unit can be selected from a locally supplied XGA color monitor or the optional FURUNO MU-151C color LCD. For a remote station a second display may be simply plugged into the processor unit.

# SPECIFICATIONS OF CSH-5L

# FURUNO

<b>Display</b>	15" color LCD FURUNO MU-151C, or PC monitor, 1024 x 768 pixels (XGA)
<b>Menu Language</b>	English, Spanish, French, Italian, Danish, Norwegian, Swedish, Hankul
<b>Echo Presentation Colors</b>	16 colors representing echo strengths
<b>Operating Modes</b>	Normal sonar scan, Combination of normal and echo sounder, Combination of normal and audio search
<b>Sonar Frequency</b>	55 or 68 kHz
<b>Range Scales</b>	50, 85, 100, 150, 200, 250, 300, 350, 400, 450, 500, 600, 800, 1000, 1200, 1600 m
<b>Echo Sounder Range</b>	20, 40, 80, 120, 160, 240, 320 m
<b>Pulselength (depending on range scales)</b>	0.5 to 20 ms
<b>Ship Speed</b>	18 kt max (raise/lower operation up to 16 kt)
<b>Tilt</b>	Manual control: 0° to 55° in 1° steps Automatic tilt scan: 4° to 26°
<b>Audio Search</b>	Sector: 20°, 40°, 80°, 120° Audio Output: 2 W, Frequency, 800 Hz
<b>Power Supply</b>	115/230 VAC, 50-60 Hz, 0.4 kVA (Raise 1 kVA) 24 VDC with optional DC-AC inverter

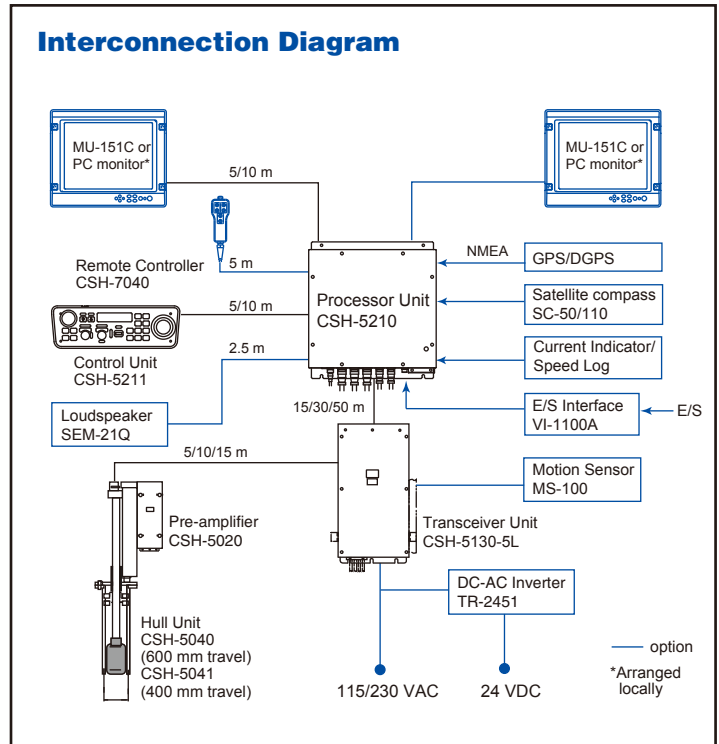
- Option**
1. DC-AC Inverter TR-2451
  2. Interface Unit VI-1100A
  3. Remote Controller CSH-7040
  4. Loudspeaker SEM-21Q
  5. Motion Sensor MS-100

## EQUIPMENT LIST

### Standard

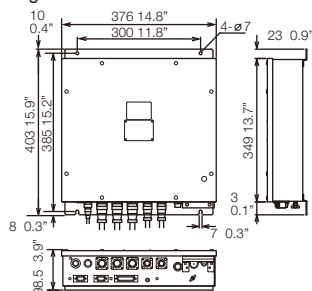
- |   |        |
|---|--------|
| 1. Processor Unit CSH-5210                | 1 unit |
| 2. Control Unit CSH-5211                  | 1 unit |
| 3. Transceiver Unit CSH-5130-5L           | 1 unit |
| 4. Pre-amplifier CSH-5020                 | 1 unit |
| 5. Hull Unit 400 mm or 600 mm travel      | 1 unit |
| 6. Installation Materials and Spare Parts | 1 set  |

\* Display Unit is not supplied as standard.



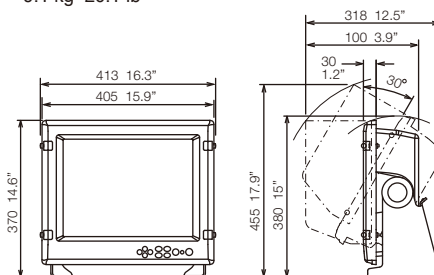
### Processor Unit CSH-5210

3.4 kg 7.5 lb



### Display Unit MU-151C (option)

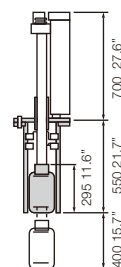
9.1 kg 20.1 lb



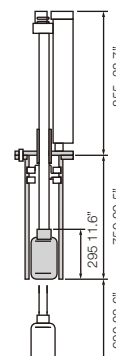
### Hull Unit CSH-5041 CSH-5040

70 kg 154 lb

75 kg 165 lb



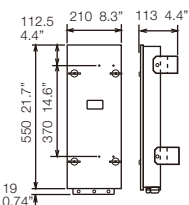
(400 mm travel)



(600 mm travel)

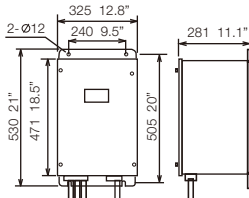
### Pre-amplifier CSH-5020

6.5 kg 14.3 lb



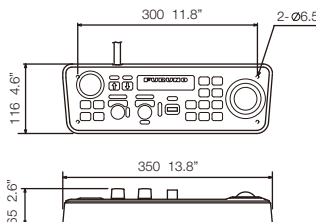
### Transceiver Unit CSH-5130

20 kg 44.1 lb



### Control Unit CSH-5211

3.5 kg 7.7 lb



All brand and product names are registered trademarks, trademarks or service marks of their respective holders. SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

#### FURUNO ELECTRIC CO., LTD.

Nishinomiya, Hyogo, Japan  
www.furuno.co.jp

#### FURUNO U.S.A. INC.

Camas, Washington, U.S.A.  
www.furunousa.com

#### FURUNO (UK) LIMITED

Havant, Hampshire, U.K.  
www.furuno.co.uk

#### FURUNO FRANCE S.A.S.

Bordeaux-Mérignac, France  
www.furuno.fr

#### FURUNO ESPAÑA S.A.

Madrid, Spain  
www.furuno.es

#### FURUNO DANMARK AS

Hvidovre, Denmark  
www.furuno.dk

#### FURUNO NORGE A/S

Ålesund, Norway  
www.furuno.no

#### FURUNO SVERIGE AB

Västra Frölunda, Sweden  
www.furuno.se

#### FURUNO FINLAND OY

Espoo, Finland  
www.furuno.fi

#### FURUNO POLSKA Z o.o.

Gdynia, Poland  
www.furuno.pl

#### FURUNO EURUS LLC

St. Petersburg, Russian Federation  
www.furuno.com.ru

#### FURUNO DEUTSCHLAND GmbH

Rellingen, Germany  
www.furuno.de

#### FURUNO HELLAS LTD.

Piraeus, Greece

#### RICO (PTE) LTD

Singapore  
www.rico.com.sg

1009PDF Printed in Japan

Catalogue No. E-394b

