

FURUNO

FULL-CIRCLE COLOR SCANNING SONAR *CSH-8L*

Full-circle scanning sonar detects and instantaneously displays fish schools and underwater conditions

Vivid 16-color display assists in recognition of bottom structure, and concentration and distribution of fish schools

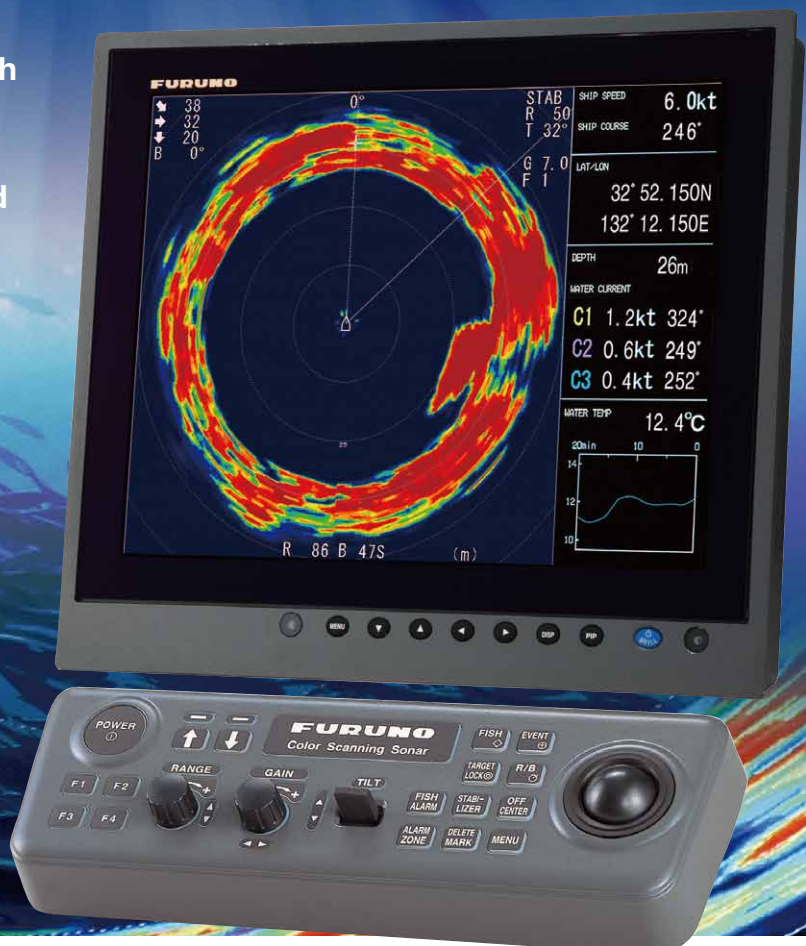
Various fishing and navigation data* keep operator abreast of fishing and navigation conditions

*appropriate sensors required

Four user-programmable function keys for quick set up according to fishing conditions or specific function

High power transmitter ensures reliable operation under any conditions

Transducer frequency : 85 kHz



Control unit with optional monitor MU-150HD

A compact, high frequency sonar with revolutionary discrimination between bottom fish and seabed

The FURUNO CSH-8L is a full-circle scanning sonar that 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.

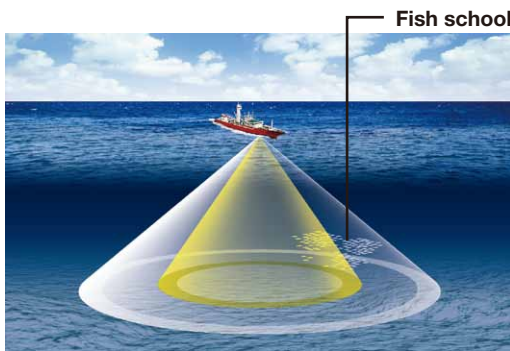
The CSH-8L is an 85 kHz high frequency sonar, which makes it ideal for searching near the vessel or in shallow water because the beam width is narrow and target definition is greatly improved. Fish and bottom echoes are clearly separated and bait fish are more easily seen. Automatic tilt scanning is a standard feature, making the CSH-8L suitable for

both midwater trawlers and purse seiners.

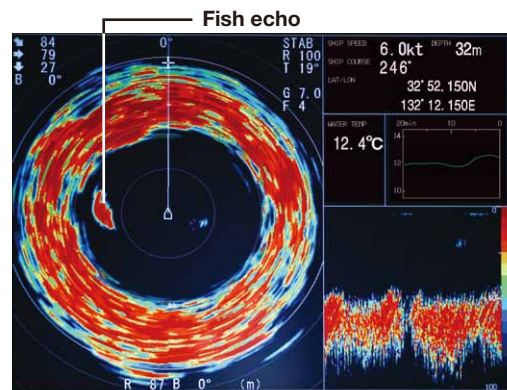
The CSH-8L is provided in a BlackBox configuration for a space saving and flexible installation. It consists of a compact hull unit, transceiver unit and processor unit. A variety of monitors are available considering the installation space and necessary size for operation. FURUNO's MU-display series monitors are specially designed to meet the requirement from marine professionals around the world. For a remote station, a second display and remote control can be simply plugged into the processor unit.

What is a Scanning Sonar?

The transducer of a scanning sonar consists of many elements to transmit the echo in all directions simultaneously without rotating the transducer. The echo is redrawn on the display instantaneously according to the latest feedback from the transducer. Thus a sonar that can scan quickly will greatly improve the fishing operation especially for searching/following the fast swimming fish.

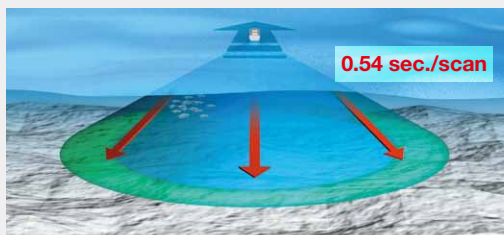


Detection image of scanning sonar



Fish echo displayed on CSH-8L

Extremely Quick Scanning Speed

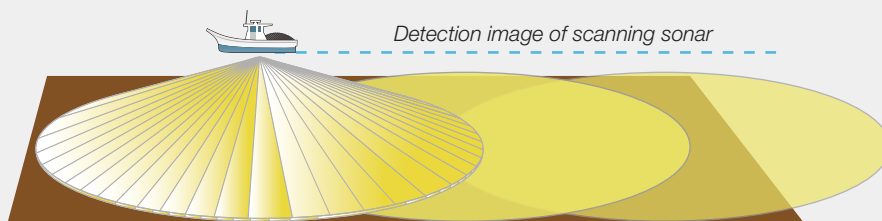


The CSH-8L completes 0.54 second/scan while the conventional PPI sonar*1 takes 32 seconds to train full circle under the same range/conditions*2. About 60 times more information are provided than PPI sonar. Fast scanning lessens the chance of missing a small change in the current situation. This is especially helpful when range and tilt require frequent adjustment while fishing, offering no frustration on redrawing time.

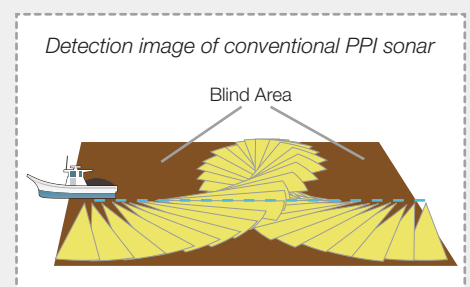
*1 CH-250 PPI sonar, training at 6° steps.

*2 Based on 400 m range in combination display mode.

No Blind Area

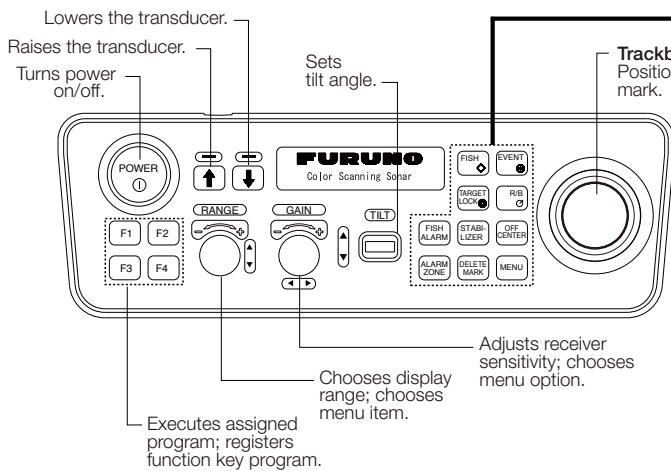


Scanning Sonar shows the actual situation 360 degrees around the vessel, and will give all the necessary information as needed. No more blind areas to consider, allowing the operator to concentrate on the tilt, range, fishing area, etc.



Easy-to-Use Controls

The control unit of CSH-8L combines ergonomics and functions in a user-friendly manner. All controls quickly respond to the operator's command and the associated reaction can be seen on the screen immediately. Four user-defined functions can be assigned to Function keys (F1 to F4), providing for rapid setup and operation.



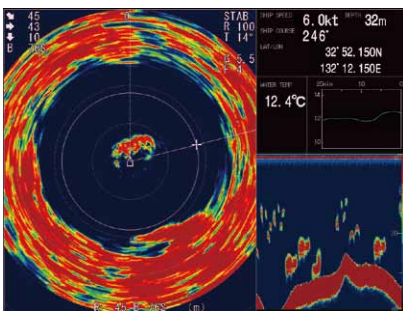
FISH:	Inscribes fish mark.
EVENT:	Inscribes event mark.
TARGET LOCK:	Tracks trackball-selected position.
R/B:	Displays range and bearing marks.
FISH ALARM:	Turns fish alarm on/off.
STABILIZER:	Compensates for affects of ship's pitching and rolling. (Requires Motion Sensor MS-100.)
OFF CENTER:	Shifts the display.
ALARM ZONE:	Sets fish alarm zone.
DELETE MARK:	Deletes selected mark.
MENU:	Opens/closes menu.

The optional remote controller provides armchair control of the tilt, range and gain.



Selectable User-Friendly Operating Modes

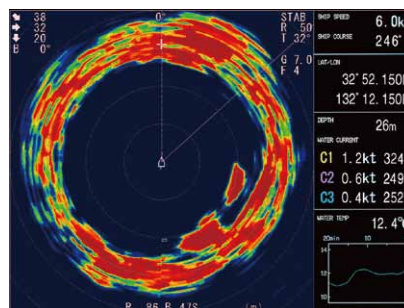
There are three basic operating modes: normal sonar display (single scan), Echo sounder combination (single scan and echo sounder) and Audio combination (single scan and audio pictures).



Sonar + echo sounder*

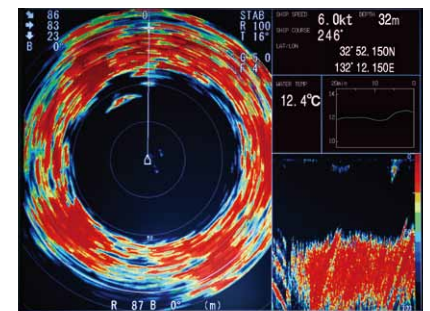
The sonar picture appears on the left and the signal fed from the echosounder at the lower right side of the screen. This mode is suitable for judging fish school concentration.

*Echo sounder/Fish finder required



Sonar Display

Navigation data can be displayed in the text window, with connection of appropriate sensors. This mode is useful for detecting and tracking fish schools.

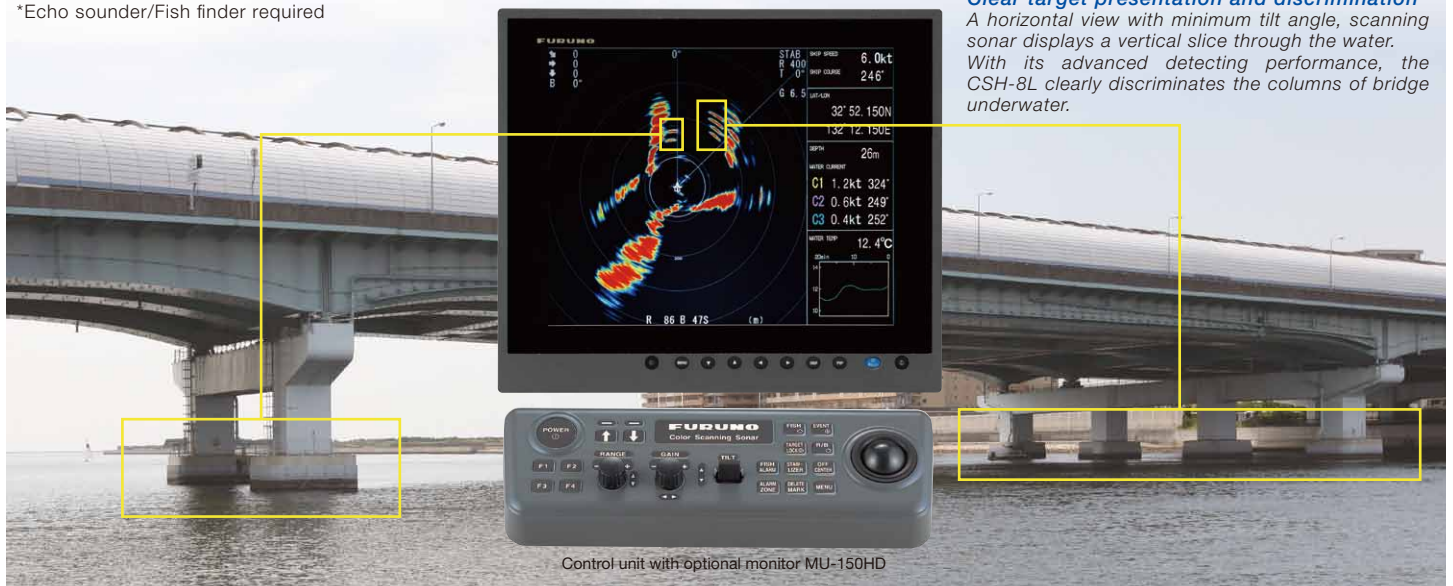


Sonar + Audio

Sonar picture appears on the left and the audio display at the lower right side of the screen. This mode is useful analyzing echoes in a desired area.

Clear target presentation and discrimination

A horizontal view with minimum tilt angle, scanning sonar displays a vertical slice through the water. With its advanced detecting performance, the CSH-8L clearly discriminates the columns of bridge underwater.



SPECIFICATIONS OF CSH-8L

PROCESSOR UNIT

Display Mode Single scan, Echo sounder combination* (single scan and echo sounder), Audio combination (single scan and audio pictures)
*Echo sounder/Fish finder required

Colors Scan/echo: 16 colors, mark: 1 color

Mark Own ship's track, Heading line, Direction/distance, Fish school, Event, Target lock

TRANSCIVER UNIT

Sonar Frequency 85 kHz

Range Scales 50, 85, 100, 150, 200, 250, 300, 350, 400, 450, 500, 600, 800, 1000, 1200, 1600 m

Pulselength 0.5 to 20 ms (depending on range scales)

Ship Speed 18 Kn max (raise/lower operation up to 16 Kn)

Tilt Manual control: 0° to 55° in 1° steps
Automatic tilt scan: 4° to 52°

Audio Search Sector: 20°, 40°, 80° and 120° selectable
Audio Output: 2 W, Frequency, 1 kHz

INTERFACE

Input Data NMEA 0183 Ver1.5/2.0/2.2
GGA, RMC, GLL, VHW, VTG, HDG, HDM, HDT, DPT, DBT, DBS, CUR, VDR, GLC, GTD, MTW, RMA

Log, E/S, KP Speed log pulse (contact signal): 200/400 pulse/NM
Sonde, E/S signal: VI-1100A applicable
External KP: Current loop, 0 to 12V

Output Data NMEA 0183 Ver1.5/2.0/2.2
TLL

Video Signal Output
Method RGB analog, separated synchronization, XGA (VESA)
Resolution 1024 x 768, 65.0 MHz clock

POWER SUPPLY

100/115/200/220/240 VAC, (Standard supply)
50-60 Hz, 0.4 kVA (Raise 1 kVA)
24 VDC (with optional DC-AC inverter)

EQUIPMENT LISTS

Standard Supply

1. Processor Unit CSH-5210
2. Control Unit CSH-5211
3. Transceiver Unit CSH-8030-8L
4. Hull Unit 400 mm or 600 mm travel
5. Installation Materials, Accessories and Spare Parts

NOTE: Display Unit is not supplied as standard.

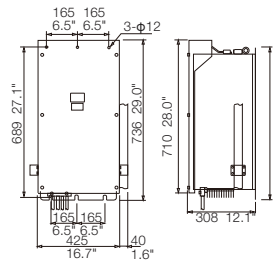
Optional Supply

1. DC-AC Inverter TR-2451
2. E/S Interface Unit VI-1100A
3. Retractable Tank OP10-5
4. Speaker SEM-21Q
5. Transducer Cable Extension Kit
6. Motion Sensor MS-100
7. Remote Controller CSH-7040

Dimensions

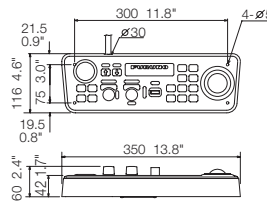
Transceiver Unit CSH-8030-8L

37 kg 81.6 lb



Control Unit CSH-5211

3.5 kg 7.7 lb

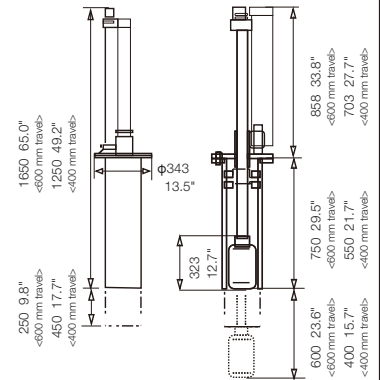


Hull Unit CSH-8040 (600 mm travel)

82 kg 180.8 lb

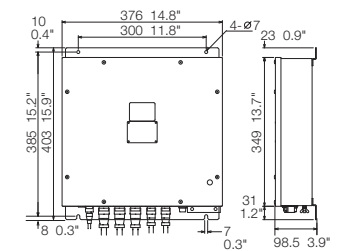
CSH-8041 (400 mm travel)

81 kg 178.6 lb



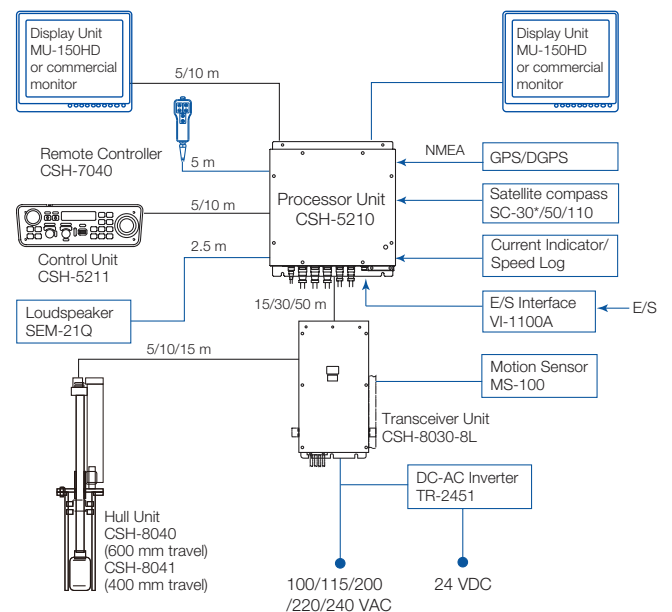
Processor Unit CSH-5210

3.4 kg 7.5 lb



Interconnection Diagram

— option or local supply
* For further info, contact our depot



SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

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