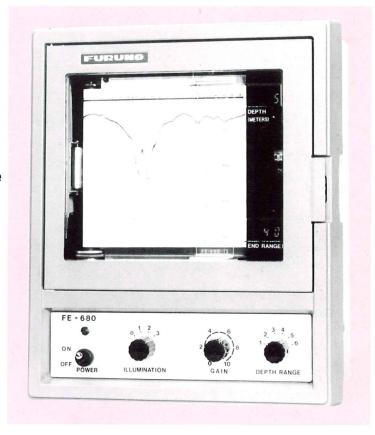
FURUNO 6" NAVIGATIONAL ECHO SOUNDER

Model FE-680

FEATURES

- Compact 6" navigational echo sounder with digital processing techniques for high accuracy and clear-cut echogram
- Digital display of the range in use and direct water depth
- Illuminated chart window for nighttime operation
- Can be connected with remote digital depth indicator ED-202 or Echowatch EW-100
- Meets IMO Resolution A.224 (VII) and proposed ISO standard



DESCRIPTION

The FE-680 is designed using advanced digital techniques and provides clear-cut echogram on a 150 mm wide paper. The FE-680 is provided with 6 ranges; 20, 40, 80, 200, 400 and 800 meters. The selected range scale and water depth are digitally indicated by LED displays.

Digital control and IC memory ensures high-resolution in ultra - shallow to deep depths not feasible with conventional analogue type echo sounder. The memory circuit stores the received echoes converted into digital signals and writes them on the chart paper through a slow-moving stylus without losing the correct timing of the received echoes. Thus the echogram is extra clear with high speed sounding.

The built-in transmitter generates a full 300W power to the 50 kHz transducer. Pulselength and extra high pulse repetition rates are automatically switched in accordance with the range selected.

The FE-680 comes complete with a compact recorder unit, 50 kHz transducer and 20 mm thick transducer tank.

Some of optional devices to enhance the capability of the FE-680 are: Digital Depth Indicator ED-202 which remotely indicates the water depth and gives visual and audible alarms for preset depth; and Echowatch EW-100 which also gives visual and audible alarms for targets falling into an alert "window" selected by the operator.



SPECIFICATIONS OF FE-680

- **1. Frequency** 50kHz
- 2. Range Scales, Pulse Repetition Rates and Pulselengths

No.	Range(m)	PRR(ppm)	PL(ms)
1	0- 20	354	0.5
2	0- 40	354	0.5
3	0- 80	177	0.5
4	0-200	88	1.0
5	0-400	44	2.0
6	0-800	22	2.0

3. Accuracy of Measurement

40m range scale:

 ± 1 m or 5% of the indicated depth, whichever is the greater 400 m range scale:

 $\pm 5\,\mathrm{m}$ or 5% of the indicated depth, whichever is the greater

4. Recording Paper

 $150 \text{ mm} \times 20 \text{ m}$, dry electrosensitive

5. Paper Advance Rates

Ranges 1 to 4: 8 or 4 mm/min.
Range 5: 4 or 2 mm/min.
Range 6: 2 or 1 mm/min.
(Fast or slow paper advance selected inside the cabinet)

- 6. Output Power 300W
- 7. Transducer

Type Beamwidth 50B-6B 28°

8. Power Requirements

110/220VAC, 50-60 Hz, 50VA (Optional inverter required for DC mains)

9. Ambient Temperature

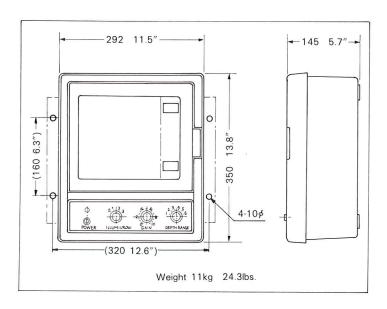
 -15° C to $+55^{\circ}$ C

10. Standard Supplies

- 1) Recorder Unit
- 2) Transducer 50B-6B (50 kHz)
- 3) Transducer Tank TTF-5600 (20 mm thick)
- 4) Installation Materials
- 5) Standard Spare Parts and Accessories

11. Optional Supplies

- 1) Transducer Tank TTF-5600 (15 or 25 mm thick)
- 2) Junction Box JIS F8821-1
- 3) Matching Box (type MB-502 required when total cable length exceeds 100 m)
- 4) Transducer Switch Box EX-8
- 5) Digital Depth Indicator ED-202



SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE