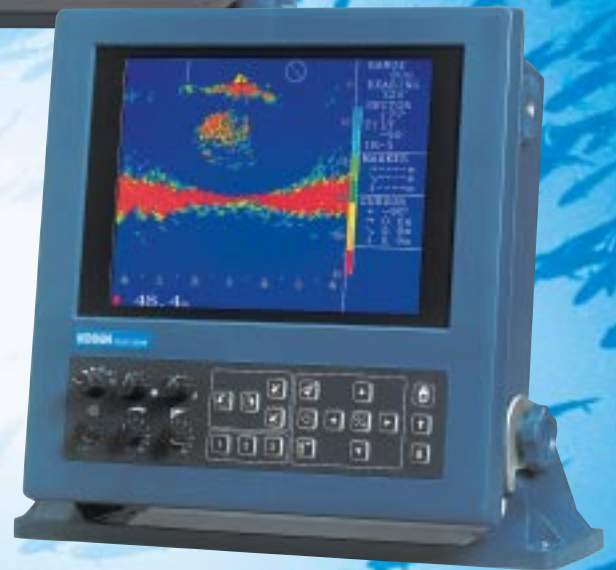


KODEN

10.4-inch/15-inch Color LCD
Sonar

ESR-160/180



ESR-160



ESR-180

Flat screen, High speed scan and Target lock!

FEATURES

Flat screen

The ESR-160/180's flat screen allows for flexible installation on the boat. Especially the ESR-160, its light weight and compact body fits for mounting on the tight console.

High speed scanning

The fastest echo-refreshing rate in this class, allowing the user to find schools of fish quickly and minimizes the chance of missing targets.

Target lock

Once the target is locked on, the ESR-160/180 controls the transducer's beam angle in azimuth and elevation to keep the school of fish displayed on the screen.

Echo sounder display

A conventional echo sounder display can be shown the sonar display. This feature is effective in finding a school of fish and its density near the seabed.

Bottom scanning

Bottom scanning up to sector angle of 95 degrees is possible, most suited for focusing on the largest school of fish as well as bottom profiling.

Variable depth marker and cross cursor

Accurate distance to a target can be read off using the variable depth marker. Using the cross cursor, the distance and bearing to the target can be measured accurately.

Color palette

Echo displays are shown in 8 colors, selected from standard 4 color patterns plus color palette containing 4096 shades of colors. These color features provide the user the freedom in choosing the presentation colors for fish species, fishing type, etc.

Image off-centering

The entire sonar image can be offset in 4 ways, up, down, left or right, for a larger viewing range.

Remote control unit

The remote control unit is available on request. It's a useful feature for a small fishing vessel where a skipper doubles as a deckhand. Available controls on this unit are; depth range selection, scanning azimuth, elevation/depression angle adjustment, target lock ON/OFF and image off-centering.

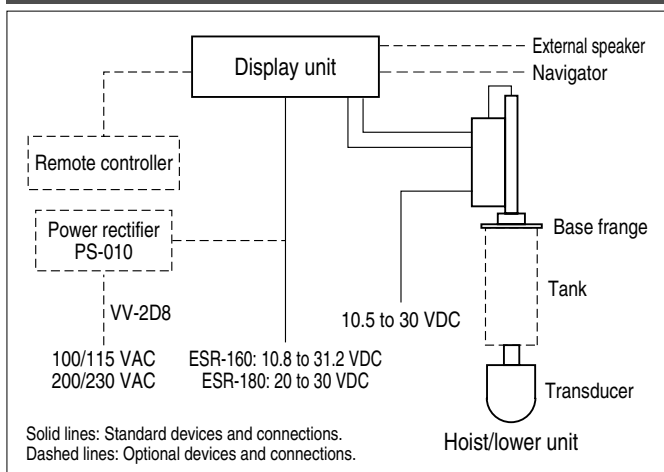
Built-in standard water temperature sensor

Using this feature, the water surface temperature display is always available.

Other standard functions

Boat speed, compass reading, own ship's position, pulse length selection, color rejection, etc.

CONNECTIONS



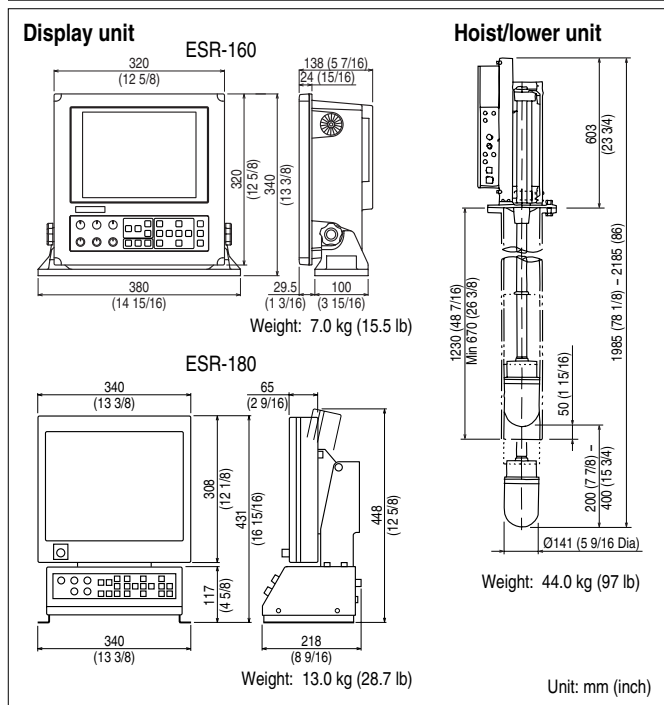
SPECIFICATIONS

	ESR-160	ESR-180
Display	10.4-inch TFT color LCD	15-inch TFT color LCD
Presentation color	Image 8 colors (Selected in 4096 colors on color palette)	
Display mode	Sonar, Off-center, Bottom scan, Echo sounder	
Off-centering	Fore, Back, Right, Left (50% of radius)	
Targetlock	Automatic train, automatic train with tilt control	
Distance unit	Meter, fathom, l.fathom, feet	
Scanning ranges (m)	20, 30, 40, 50, 60, 70, 80, 90, 100, 120, 140, 160, 180, 200, 240, 280, 320, 360, 400, 500, 600, 700, 800, 1000, 1200, 1600 (Select 8 from these)	
(fathom, l.fathom)	12, 20, 30, 40, 50, 60, 80, 100, 120, 160, 200, 240, 280, 320, 360, 400, 500, 600, 700, 800, 1000, 1200, 1600 (Select 8 from these)	
(feet)	80, 100, 120, 160, 200, 240, 280, 320, 360, 400, 500, 600, 700, 800, 900, 1000, 1200, 1600, 2400, 3200, 4000, 5000, 6000 (Select 8 from these)	
Scanning sector angle	Sonar mode	5° step angle: 5°, 25°, 45°, 85°, 125°, 165°, 205°, 360° 10° step angle: 10°, 30°, 50°, 90°, 130°, 170°, 210°, 360°
	Bottom scan mode	3° step angle: 3°, 27°, 45°, 63°, 93°, 117°, 147°, 177° 5° step angle: 5°, 25°, 45°, 65°, 95°, 115°, 145°, 175°
Audio monitor	800 Hz, 6 W/4 Ω	
Input data format	NMEA 0183 (Option)	
Other functions	TVG (4 types), pulse selection (3 types), color rejection, power reduction (4 levels), compass display, interference rejection, bow compensation	
Output frequency	180 kHz or 80 kHz	
Tilt angle	+5° to -90° (1° step)	
Output power	1.5 kW	
Hoist stroke	200 to 400 mm	
Power supply	Display unit	10.8 to 31.2 VDC (30 W at 24 VDC) 20 to 30 VDC (38 W at 24 VDC)
	Hoist/lower unit	10.5 to 30 VDC (110 W at 24 VDC)

EQUIPMENT LIST

Standard equipments	Display unit	1
	Hoist/lower unit	1 set
	DC power cable, connecting cable	1 set
	Installation materials, spare parts, operation manual	1 set
Options	Remote controller, PVC tank unit, FRP tank unit, External speaker, Power rectifier unit, NMEA output cable, NMEA input cable	

DIMENSIONS AND WEIGHT



• Design and specifications are subject to change without notice.

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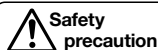
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Safety precaution

To ensure proper and safe use of the equipment, please carefully read and follow the instructions in the Operation Manual.

For details, please contact: