10.4 Multi-Color LCD RADAR

Model 1835/1935/1945

**SPECIFICATIONS OF MODEL 1835/1935/1945**

**ANTENNA RADIATOR**

- **Type**
  - MODEL 1835: Printed array
  - MODEL 1935/1945: Slotted waveguide array

- **Length and Rotation Speed**
  - MODEL 1835: Radome 60 cm (RSB-0071) 24 RPM
  - MODEL 1935: Open 100 cm (XN10A) 24 or 48 RPM
  - MODEL 1945: Open 120 cm (XN12A) 24 or 48 RPM

- **Wind Load (for MODEL 1935/1945)**
  - 24 RPM: 100 km relative wind
  - 48 RPM: 70 km relative wind

- **Beamwidth**
  - ANT9210: Hor. 4°, Vert. 20°
  - XN10A: Hor. 2.4°, Vert. 22°
  - XN12A: Hor. 1.3°, Vert. 22°

**RF TRANSCIEVER**

- **Frequency**
  - 9410 ± 30 MHz (X-band)

- **Output Power**
  - MODEL 1835: 4 kW
  - MODEL 1935: 6 kW

**DISPLAY**

- **Screen Size**
  - 10.4" color LCD

- **Pixel Number**
  - 640 (H) x 480 (V), VGA

- **Effective Diameter**
  - 158 mm

- **Display Modes**
  - Head-up, Course-up*, North-up*, True view*, True motion**
  - Heading and position data required

- **Range Units**
  - Range: 1/16, 1/8, 1/4, 1/2, 3/4, 1, 1.5, 1.8, 2, 3, 3.2, 4, 6, 8, 12, 16, 24, 32, 38, 48, 64**
  - Rings: 1/2, 1/16, 1/8, 1/4, 1/2, 0.8, 1, 2, 2.4, 3, 4, 6, 8, 12, 16**
  - For MODEL 1935/1945
  - For MODEL 1945

- **Range Scales and Range Ring Intervals (nm)**
  - Minimum Range: 25 m
  - Range Discrimination: 25 m

- **Echo Trails**
  - Type: True or relative trails
  - Trail Length: 15, 30 sec., 1, 3, 6, 15, 30 min., or continuous Trail
  - Trail Width: 5.4 km

- **Target Tracking (Required optional board ARP-11)**
  - Acquisition: Auto, Manual
  - Number of targets: 10 targets max

**AIS Functions** (Data input from AIS is required)

- **Symbol:** Sleeping, Activated, Dangerous, Selected, Lost targets
- Number of targets: 100 targets max

**INTERFACE**

- **Input**
  - AD-10 or IEC 61162 NMEA0183 Ver. 1.5/2.0/3.0
- **Output**
  - IEC 61162 NMEA0183 Ver. 1.5/2.0/3.0

**ENVIRONMENT**

- **Temperature**
  - Antenna Unit: -25°C to +55°C (-13°F to +131°F)
  - Display Unit: -15°C to +55°C (5°F to +131°F)

- **Waterproofing**
  - Antenna Unit: IEC60529 IP26
  - Display Unit: IEC60529 IP55

**POWER SUPPLY**

- MODEL 1835: 12-24 VDC: 4.1-2.0 A
- MODEL 1935: 12-24 VDC: 6.8-3.3 A for 24 rpm
  - 8.2-3.8 A for 48 rpm
- MODEL 1945: 12-24 VDC: 7.3-3.5 A for 24 rpm
  - 8.8-4.1 A for 48 rpm

**EQUIPMENT LIST**

- **Standard**
  - 1. Display Unit 1 unit
  - 2. Antenna Unit (Specify when ordering) 1 unit
  - 3. Antenna Cable
    - MODEL 1835: 10, 15, 20 or 30 m 1 pc
    - MODEL 1935/1945: 10, 15, 20 or 30 m 1 pc
  - 4. Power Cable 5 m 1 pc
  - 5. Installation materials and spare parts 1 set

- **Option**
  - 1. Auto Plotter ARP-11
  - 2. Rectifier
    - MODEL 1835: PR-62
    - MODEL 1935/1945: RJ-9423
  - 3. External Alarm Buzzer
    - OP03-21
  - 4. Interface Cable
    - MJ-B24LPFO010 10, 20, or 30 m
    - MJ-A7SPF0007-050C 5 m
    - MJ-A6SPF0007-100C 10 m
    - MJ-A10SPFW0001+R 0.2 m
  - 5. Antenna Bracket (for MODEL 1835)
    - OP03-92

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**SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE**
Bringing a New Level of Quality, Operability, and Reliability into Marine Radar.

Furuno’s new Radar series, 1835/1935/1945, is a high contrast 10.4” color LCD radar designed for a wide range of vessels including pleasure craft, fishing boats and work boats.

These new Radars offer crystal clear target presentation with automatic Gain, Sea and Rain controls to deliver a noise-free Radar presentation. It features superb detection of even small targets both at short and long ranges. It also incorporates new display modes (ex. True View Mode, Full Screen Mode) which will assist with safe navigation. The 1835/1935/1945 series allows you to see far away objects before they are visible and allows you to see in the dark, fog or during periods of obstructed visibility in any weather condition.

These Radars can be inter-connected with other navigation equipment, chart plotters and sounders, through Furuno’s programmable NMEA 0183 interface, which affords operators the ability to expand their boat’s system as needed.

- Easy-to-install 10.4” portrait color LCD (350 cd) display
- Bonded LCD provides clear view in all weather conditions
- Stable AIS/Target Tracking with zoom display function
- Full Screen Mode lets operators observe a wider range around the vessel
- Enhanced auto tuning/gain/anti-clutter controls
- Echoes in yellow, green, orange or multiple colors
AIS / Target Tracking (TT) Display

Up to 100 AIS and 10 TT targets can be tracked and overlaid on the Radar screen to assist the operator in tracking vessel movements. Since AIS works by a VHF transceiver system, a variety of navigational information such as vessel name, speed, ROT, draft, and the destination of the selected targets can be included in real time. Unlike TT targets, AIS targets are visible even if they are located behind large ships or islands.

*Optional supply required

Anti-Clutter Controls

Adding to the enhanced auto clutter controls, dedicated rotary knobs are provided for the suppression of unwanted echoes from sea clutter, rain and other forms of precipitation. Anti-clutter settings can be adjusted manually to remove sea and rain clutter from the Radar screen to gain a clearer view of Radar targets.

Short Range Target Discrimination

With its advanced signal processing technology, the 1835/1935/1945 series demonstrates substantial increases in target detection, particularly in close range. As shown in the pictures on the right, the Radar clearly displays thin piers from a very short distance.

Full Screen Mode

With Full Screen Mode, the entire screen is filled with an echo image. Full-screen echo presentation capability allows the operator to observe a wider overview of the surrounding area.

Target Zoom

A target can be shown in a zoom display while its detailed movements are tracked by AIS or TT. The conventional zoom function is also available by which the operator sets the zoom function on the target manually.

Off Center Mode

With a push of the “OFF CENTER” button, own ship position is shifted to a pre-registered point on the screen. This allows the operator to focus on a specific area ahead of or around the vessel without losing track of the position.

Clearance between markings of the bearing scale is changed according to the proximity between own ship and the bearing circle, as shown in the images on the left-hand side. It helps to grasp the bearing to the target echo without using EBL.

There is also an option to clear the navigation data on the Radar display. Individual navigation data can be easily toggled ON or OFF in the dedicated menu.