

SEA VANS
Integrated Bridge System

TOKIMEC INC.

MARINE RADAR BR-3440



TOKIMEC

Discover the performance of the BR-3440. An advanced new multi-functional radar. The BR-3440 is a futuristic marine radar system designed with the needs of next-generation bridge systems in mind.

The built-in ARPA which conforms to IMO standards offers extensive support for the gathering of navigation area information, for assessing of the information, accurately reading conditions and for making navigational decisions.

Radar system without ARPA can also be selected. The BR-3440 is the key to providing safe navigation and reducing manning in ship operation.

Features

● Clear high-grade screen

- The latest signal processing technology is used to moderately reduce the sea, rain and snow clutter, and provide operators with accurate image.
- The high-resolution display provides easier-to-view images in both short and long ranges.

● Ergonomic panel layout

- To increase user-friendliness the basic operations are designed to be controlled from the switches and control knobs on the operation panel.
- Track ball-based, interactive menus are provided to call up the various functions to speed up and simplify operation.

● Extensive ARPA functions

- The newly developed dangerous area of collision (DAC) display provides easy confirmation of the safety course.
- ARPA information output function is also standard feature.

● Adaptable to integrated bridge systems

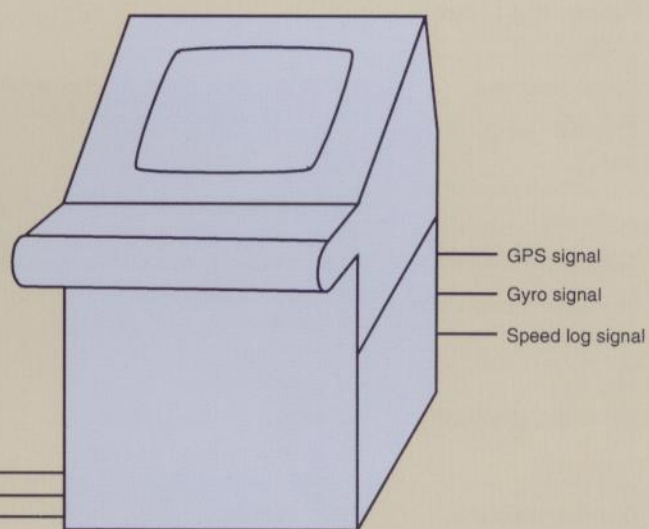
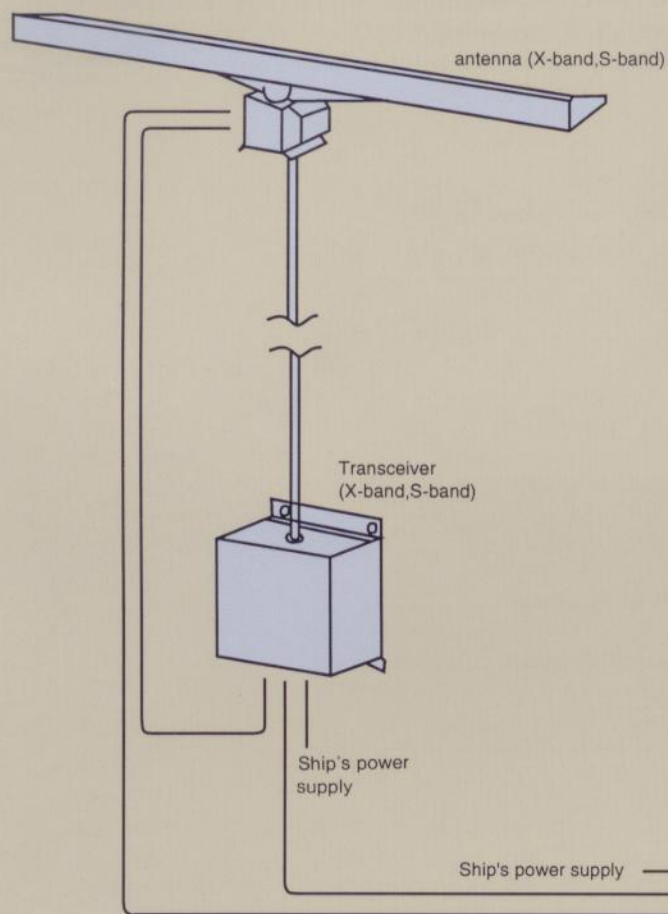
- In addition to functioning as a sensing system for a centralized ship management, an optional BR-3440 function allows operators to confirm safety course on the screen before altering course.
- The BR-3440 is equipped with all the necessary features for supporting centralized bridge monitoring for Integrated bridge systems.

● Extensive Options

- Plotter : records and display own ship's track, possible to display with radar images.
- Chart interface : superimposes electronic reference chart (ERC) when accompanied by plotter.
- Pilot control unit : allows setting of auto pilot courses on operation panel, enables automatic course-holding.
- Adaptive interface : connects other radar systems for use as ARPA-equipped remote display unit.
- NAV line : offers display editing and recording of navigation lines on the screen.
- Radar interswitch : switching unit to be used when two radar systems are installed.
- Performance monitor: available in active and passive models, used to check the performance of radar system both transmitting and receiving sides.

A term of "SEAVANS" means generic name of TOKIMEC's Integrated Bridge System.

Configurational outline



Model

BR-3440 MA-X 5 9

3440: effective diameter of 340 mm

MA: monochrome with ARPA
M: monochrome without ARPA
CA: color with ARPA

7: 7-foot antenna (X-band)
9: 9-foot antenna (X-band)
14: 14-foot antenna (S-band)

2: 25 kW (X-band)
5: 50 kW (X-band)
3: 30 kW (S-band)
6: 60 kW (S-band)

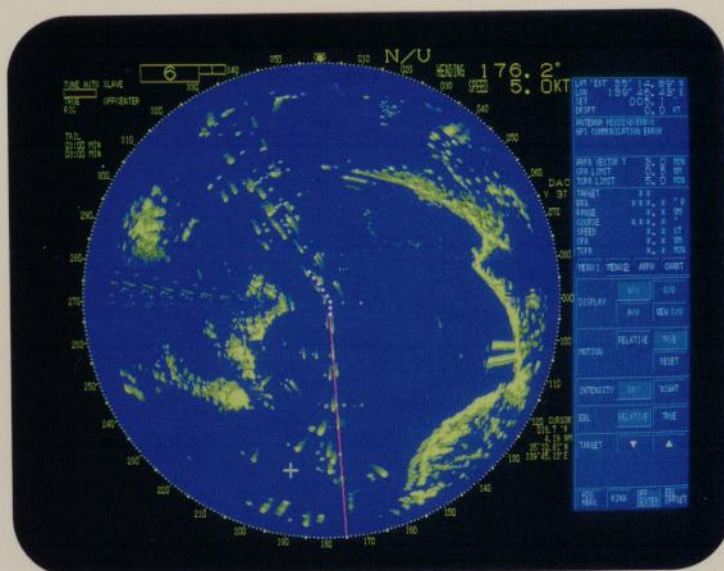
X: X-band
S: S-band

Specification

[illegible]

Model Function		X-band				S-band	
		BR-3440CA -X57	BR-3440CA -X59	BR-3440CA -X27	BR-3440CA -X29	BR-3440CA -S614	BR-3440CA -S314
		BR-3440MA -X57	BR-3440MA -X59	BR-3440MA -X27	BR-3440MA -X29	BR-3440MA -S614	BR-3440MA -S314
		BR-3440M -X57	BR-3440M -X59	BR-3440M -X27	BR-3440M -X29	BR-3440M -S614	BR-3440M -S314
Antenna							
Beam width							
horizontal (degree)		1.0	0.8	1.0	0.8	1.8	1.8
vertical (degree)		21	21	21	21	25	25
Sidelobe level		within $\pm 10^{\circ}$ of main beam -27 dB or less out of $\pm 10^{\circ}$ of main beam -30 dB or less					
Rotations		$0.367s^{-1}$ ($22min^{-1}$)					
Transmitter							
Frequency		9375 MHz ± 30 MHz		9410 MHz ± 30 MHz		3050 MHz ± 25 MHz	
Output peak		50 kW		25 kW		60 kW	30 kW
Repetition frequency and pulse width		Range scale (nm)		Repetition frequency (Hz)		Pulse width (μs)	
		0.125 \sim 0.5		3200		0.06	
		0.75 \sim 1.5		3200		0.15	
		3		1600		0.3	
		6 \sim 12		1600		0.5	
		24 \sim 96		800		1.0	
Receiver							
RF and IF amplification		microwave integrated circuit (MIC) and logarithmic amplifier					
Intermediate frequency		60 MHz					
Intermediate frequency and band width		24 MHz (at pulse width 0.06 or 0.08 μs) 10 MHz (at pulse width 0.15 or 0.3 μs) 5 MHz (at pulse width 0.5 or 1.0 μs)					
Noise figure		better than 6dB, over all					
Tuning method		automatic frequency control (AFC) and manual with bar graph					
Power supply							
Power supply and power Consumption		transceiver unit (w/antenna) AC 100/110/115 V or 220 V 3 ϕ 50/60 Hz display section (image processor) AC 100/110/115 V or 220 V 1 ϕ 50/60 Hz 1.5 kVA (X-band no wind) or 1.8 kVA (S-band no wind)					
Power supply variation		± 10 % of rated input					
Certification standards		Minister of Posts and Telecommunications, class 1 radar (with radar plotting function)					
ARPA							
Target		acquisition: up to 20 targets, automatic with guard ring or manual Tracking: 0.1 \sim 36 nm (range scale 3 \sim 96 nm) 0.1 \sim 24 nm (range scale 0.125 \sim 1.5 nm) ARPA data: target identify mark 1,2,3 \cdots 20 vector (1 \sim 60 min. true or relative), DAC, history tail (5 points at 1 \sim 6 minutes interval, true and relative) numerical display of range, true bearing, true course, true speed, CPA and TCPA					
Alarm		visual and audible THREAT, LOST target, sense of failure					
Trial manoeuvre		simulation function, how the relation to the target varies when own ship will be changed (informed with T mark)					

DAC display

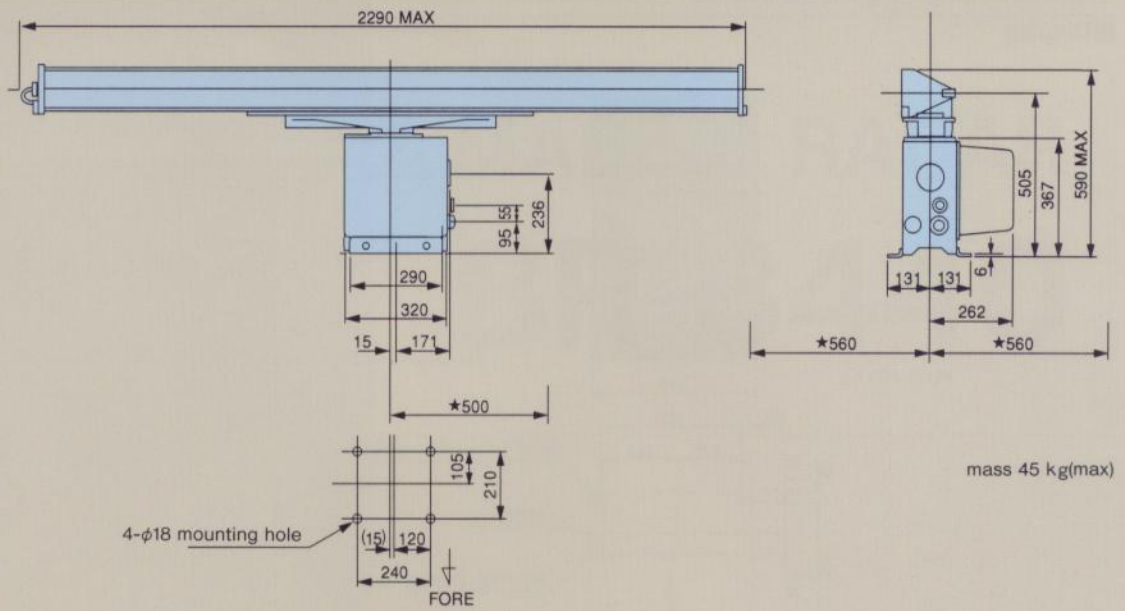


plotter (in course up mode) with chart display

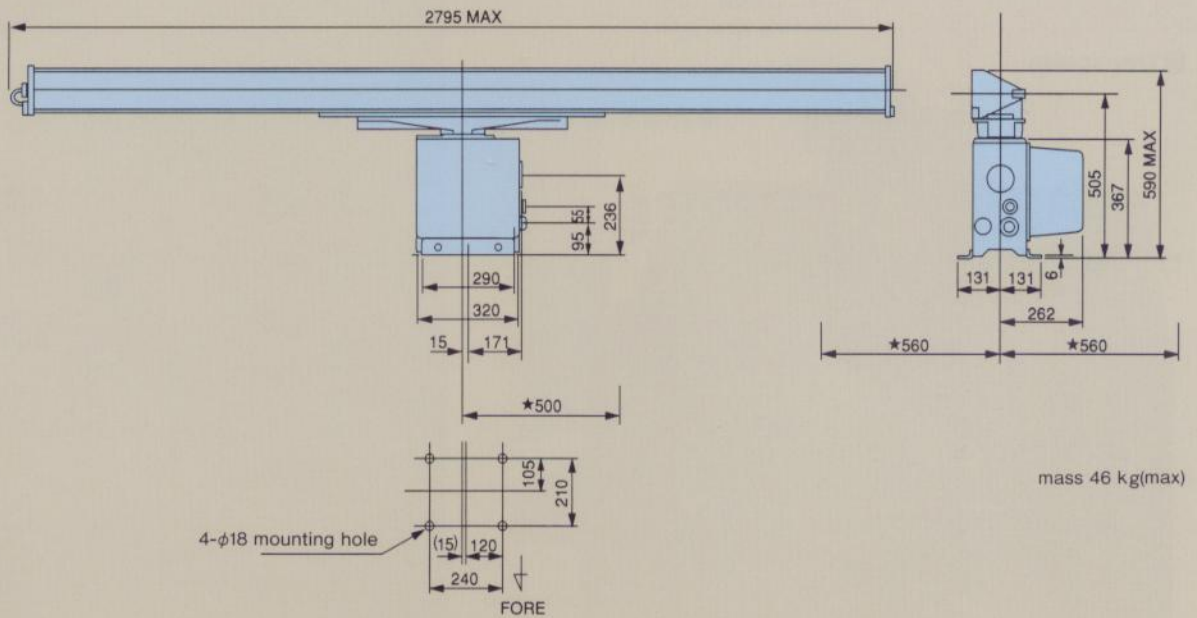
Outline drawing

■ Antenna

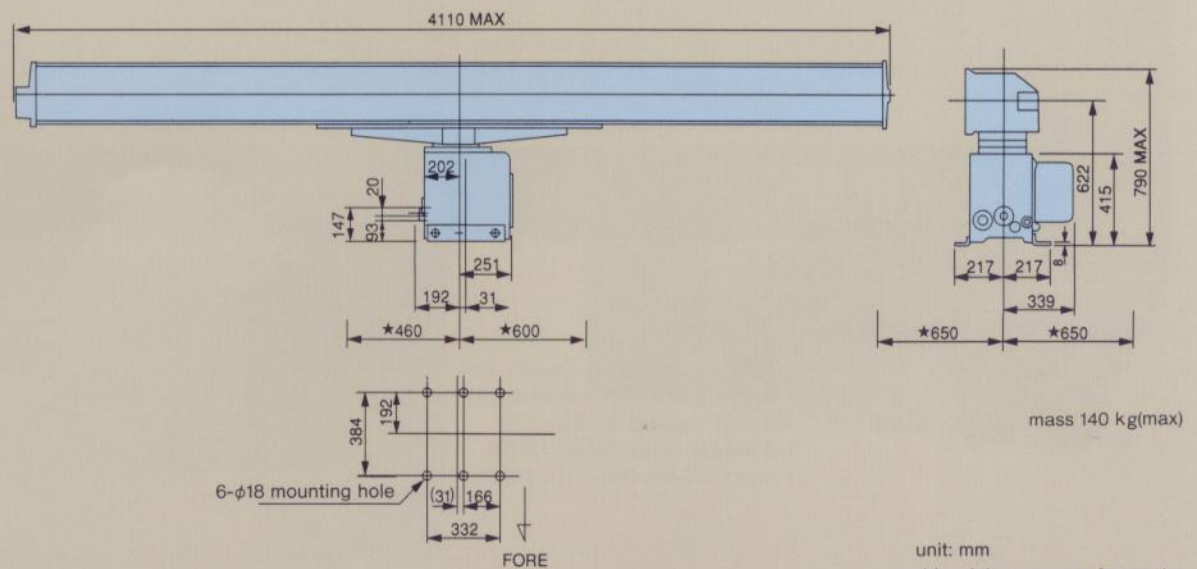
● 7-foot type



● 9-foot type



● 14-foot type

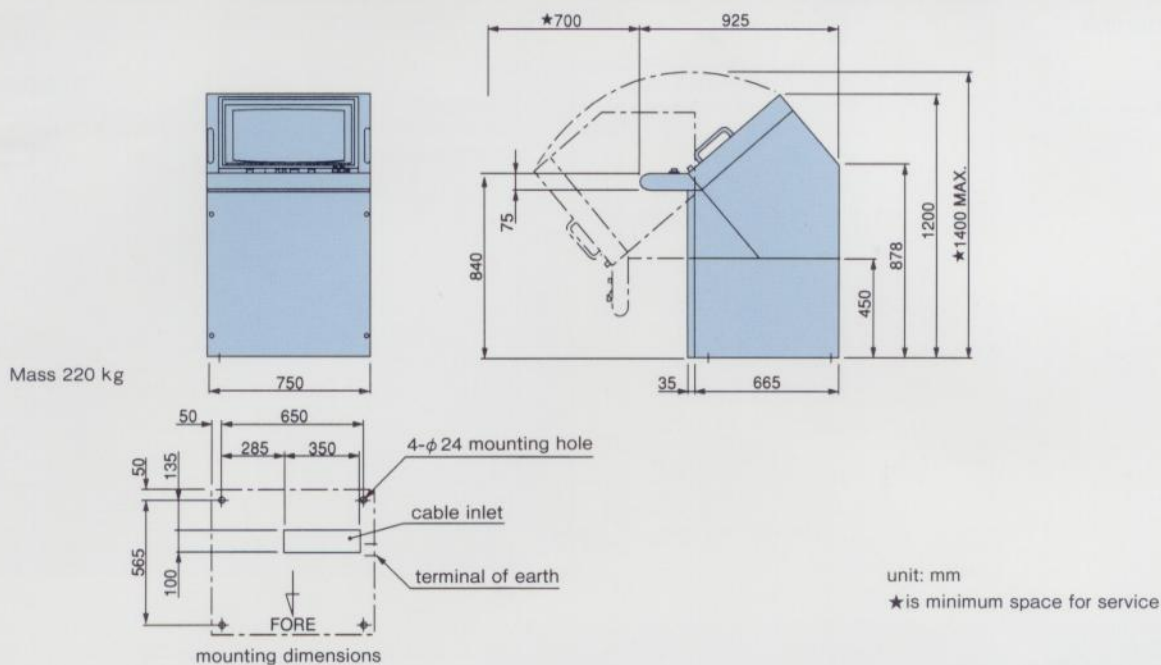


unit: mm

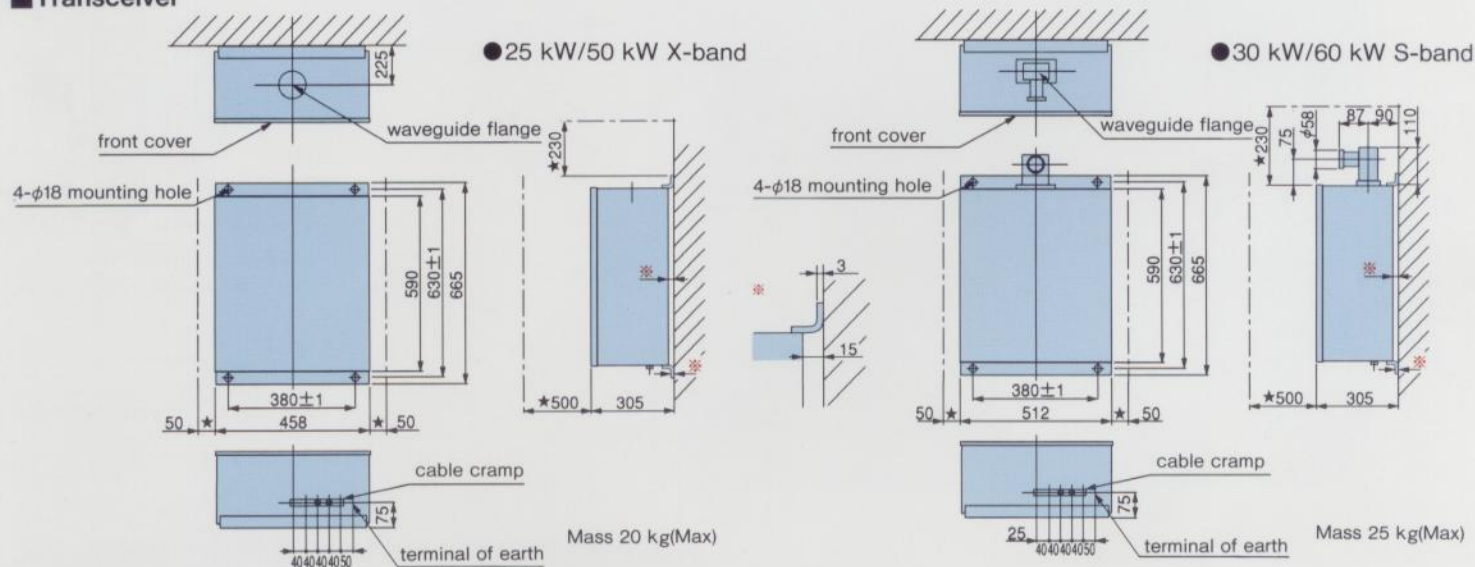
★ is minimum space for service

Outline drawing

■ Display



■ Transceiver



Before operating this equipment, you should first thoroughly read the operation manual.

Design and specifications are subject to change without prior notice, and without any obligation on the part of the manufacturer.

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