FURUNO

High Power S-Band Fishing Radar

Model **FAR-2268DS** 60 kW

Reliable **S-Band** Fishing & Bird Radar

S-Band Antenna（SN36AF）

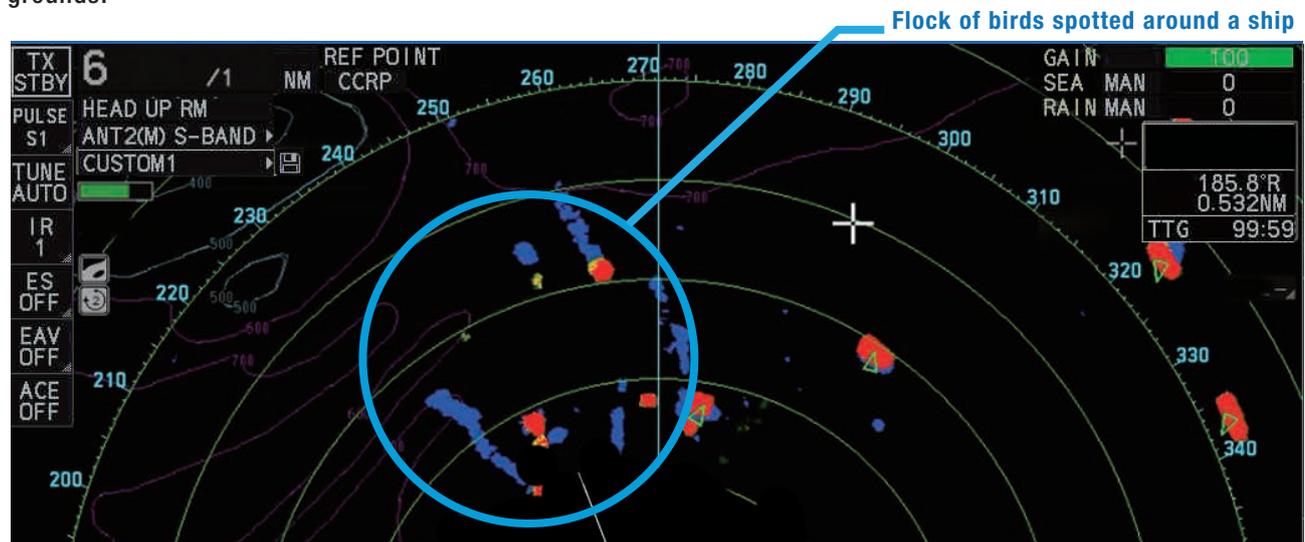Monitor（MU-190HD）

TARGET ANALYZER

Target Tracking

AIS

More details at
www.furuno.com

Gain in Searching POWER with S-band antennas

The benefit of S-band antennas lie not only in their signal strength of 60 kW, but also in their capability to detect objects other than ships without being disturbed by weather or sea swell. With the FAR-2268DS, the user will be able to find birds and therefore determine the location of promising fishing grounds.

Flock of birds spotted around a ship

- **LONG RANGE**
- **STRONG and reliable in bad weather conditions**
- **S like SEARCH**
- **SPOT Birds**

Function keys support up to 32 customizable features & settings

Each key can be assigned a single function or multiple functions. When [multiple functions] is selected, up to eight functions can be assigned to one key, which can be utilized by pressing the function key and then the numeric keypad. It is possible to assign up to 32 functions.

A menu is displayed according to the pre-registered keys, allowing the immediate use of the desired function.
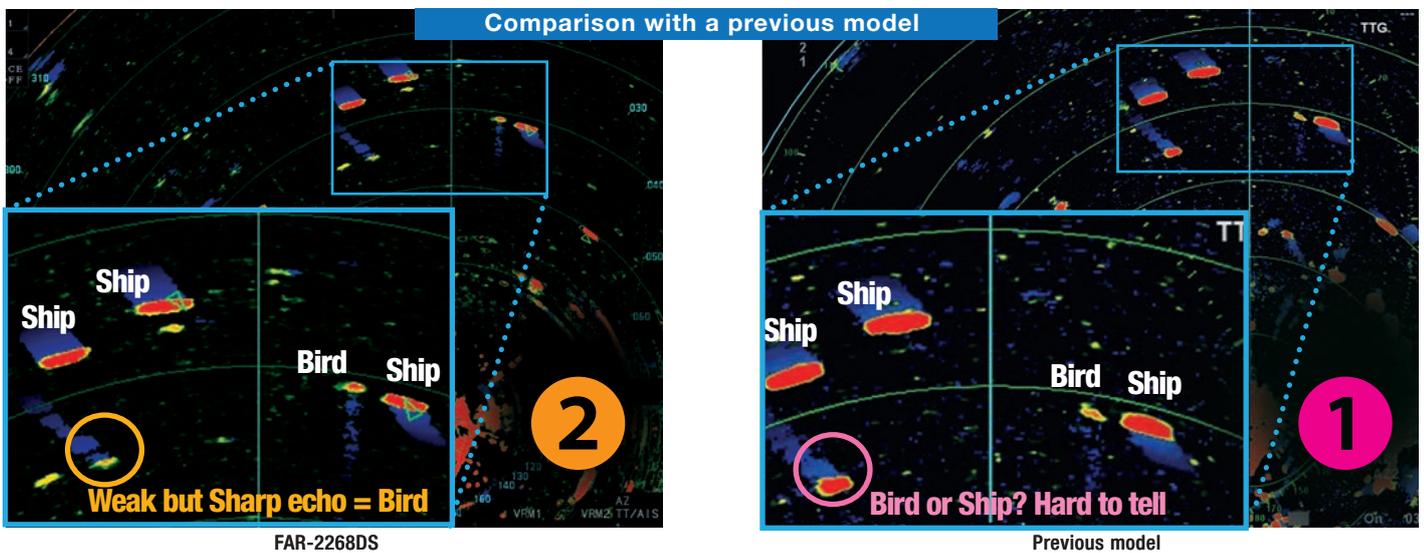
F1 KEY EXECUTION	
1	TKR COLOR SEL
2	IR
3	Echo Stretch
4	EAV
5	ACE
6	AUTO-SEA
7	AUTO-RAIN
8	
9	F1 FUNCTION KEY
0	CLOSE

Function menu set to the F1 key

High power, High resolution, Reliable in any kind of weather Perfect to find birds

Improved detection performance and accuracy at long range compared to previous models

While echoes can sometimes appear too faint or too large and be mistaken for a ship (**1**), the new FAR-2268DS really makes a difference and uses its accuracy to distinguish echoes while making the whole presentation much sharper and clearer. (**2**)

Comparison with a previous model

Ship
Ship
Bird   Ship
Weak but Sharp echo = Bird
2

FAR-2268DS

Ship
Ship
Bird   Ship
Bird or Ship? Hard to tell
1

Previous model

Easily identify fishing grounds with colored track lines

The water temperature is automatically displayed in the vessel track line, with the color changing according to water temperature. This allows the user to intuitively understand changes in water temperature and easily identify fishing grounds.


Intuitive off-center function with trackball

To off-center the display, the user can either move the cursor to the desired area or do so directly with the trackball when the cursor is hidden, which allows for intuitive use.

A total of 40 origin marks can be entered

The number of origin marks that can be entered has been increased from 20 (previous model) to a maximum of 40. By displaying a list of origin marks, the distance and direction from the registered position to the cursor can be determined at a glance.

Additionnally, users can choose between "sea fixed" (blue) and "land fixed" (green), plus, land fixed origin marks are backed up even after the power is turned off.
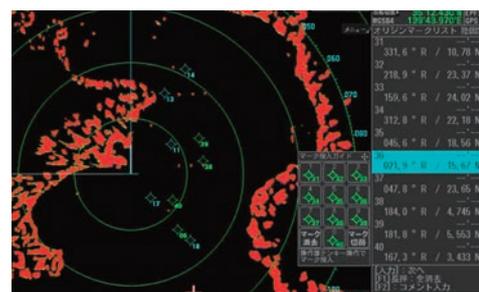
Check out about Furuno products and technology at **www.furuno.com**

Fishing gear echoes are easily visible with the addition of the Echo Average feature (EAV) and its wide dynamic range

The new wide dynamic range signal EAV function allows the display of both weak and strong echoes in a richly colored image as shown on the right.

Did you know?   **EAV stands for Echo Average**
It is a signal processing technology that suppresses unnecessary echoes on the screen by utilizing image correlation techniques, making it easier to distinguish echoes
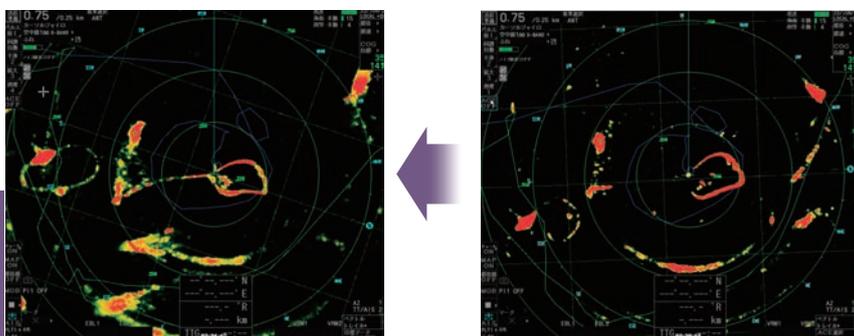
Echo Average with the wide dynamic range
The new wider dynamic range EAV removes unwanted echoes and clearly shows the shape of the net

## TT target acquisition up to a distance of 48 NM

With Target Tracking (TT), the FAR-2268DS is capable of capturing targets within a range of 48 NM, whereas the previous model was limited to a distance of 32 NM. This allows users to keep a close eye on more distant targets.

Target 40 NM away acquired

## AIS customization helps you keep an eye on other vessels

Users can register a color and a ship track color for each AIS target, so that you can identify other ships at a glance. (Maximum number of entries is 100).
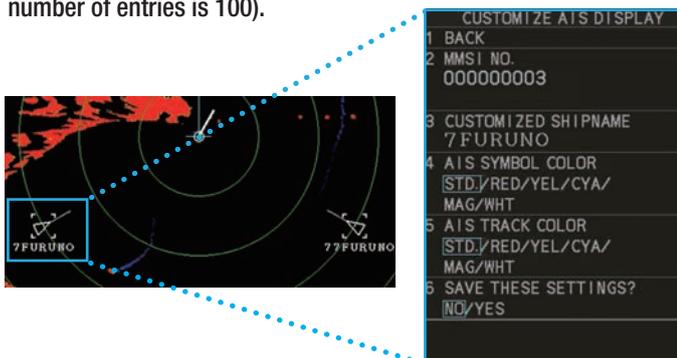
Custom AIS Settings

TT custom settings make it easier to distinguish other ships!

Users can set the name, color, shape and track color of the acquired TT target. Custom TT settings can be pre-registered (up to 10) and these can be quickly assigned to targets.
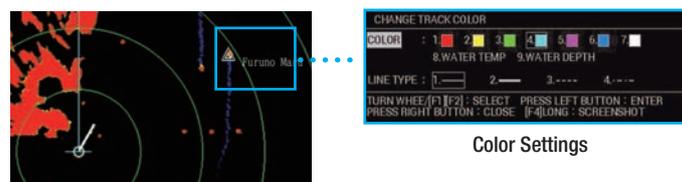
Color Settings

S-band RADAR for Fishing

Model **FAR-2268DS**

FURUNO Hi·G

Specifications

ANTENNA UNIT

Antenna Type	Slotted Array

	SN30AF	SN36AF	SN30DF
Length	320 cm	380 cm	320 cm
Horizontal beam width	2.3°	1.8°	2.3°
Vertical beam width	25°		22°
Side lobe within ±10°	-24 dB	-24 dB	-24 dB
Side lobe outside ±10°	-30 dB	-30 dB	-30 dB
Polarization	Horizontal		
Rotation	24 rpm		
Wind load	70 kn		

TRANSCEIVER

TX Frequency and modulation	3050 MHz ±30 MHz, P0N
Output power	60 kW

Range scale, Pulse Repetition Rate and Pulselength

PRR (Hz)	Range scale (NM)																
	0.125	0.25	0.5	0.75	1	1.5	2	3	4	6	8	12	16	24	32	48	96
1900	S																
1100					M1												
600									M2								
600											L						

PROCESSOR UNIT

Minimum range	37 m
Range discrimination	32 m
Bearing discrimination	2.5°(SN30AF), 2.0°(SN36AF), 2.5°(SN30DF)
Bearing accuracy	±1°

Range scale (RS) and Range ring interval (RI) in NM

RS (NM)	0.125	0.25	0.5	0.75	1	1.5	2	3	4	6	8	12	16	24	32	48	96
RI (NM)	0.025	0.05	0.1	0.25	0.25	0.25	0.5	0.5	1	1	2	2	4	4	8	8	16

Warm-up time	3 min. Approx.
Presentation mode	Head-up, STAB head-up, Course-up, North-up (RM/TM), Stern-up
Marks	Cursor, Range ring, Heading mark, North mark, Bearing mark, Target trail, VRM, EBL, Acquisition zone
Target tracking (TT)	Auto or manual acquisition: 100 targets in 24/48 NM. Auto tracking on all acquired targets, Tracking: 5/10 pts on all activated targets. Vector time: Off, 30 s, 1-60 min
AIS	Display capacity: 350 targets. Tracking: 5/10 pts on activated targets. Vector time: Off, 30 s, 1-60 min
Echo Trail (True/Relative)	Trail length: 0-30 mins (every 30 Secs) or continuous
Radar map	20,000 pts
Acquisition zone	2 zones
Interswitch function	Selectable from menu

PLOTTER FUNCTIONS

Projection	Mercator
Useable area	85° latitude or below
Range (STBY)	0.025 to 120 NM, follows the radar range scale while transmitting
Memory capacity	
Own ship's track	30,000 pts (10,000 pts indicated)
Other ship's track	TT: 100,000 pts, AIS: 10,000 pts, consort ship: 10,000 pts, GPS buoy: 10,000 pts
Mark/line	30,000 pts
Waypoint	3,500 pts
Route	200 routes (1 route 100 pts)
External memory	1 route (100 pts)
Electronic chart	Mapmedia
Own ship's tracking	7 colors

MONITOR UNIT (OPTION)

Screen type	MU-190HD	MU-190	MU-231	MU-270W
Size	19-inch color LCD	19-inch color LCD	23.1-inch color LCD	27-inch color LCD
Resolution	1280 x 1024 (SXGA)	1280 x 1024 (SXGA)	1600 x 1200 (UXGA)	1920 x 1200 (WUXGA)
Brightness	1000 cd/m²	450 cd/m²	400 cd/m²	400 cd/m²
Visible distance	1.02 m	1.02 m	1.2 m	1.02 m
Radar effective diameter	282 mm	282 mm	331 mm	349 mm

INTERFACE

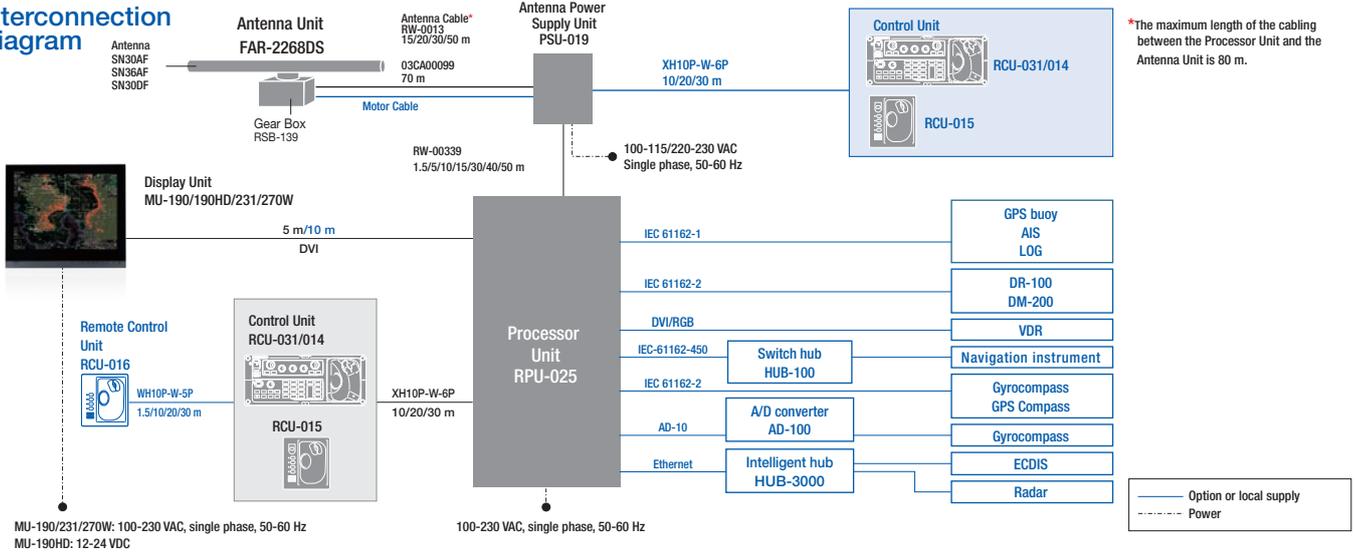| Number of port	(Processor Unit)
Serial	7 ports (IEC61162-1/2: 2 ports, IEC61162-1: 4 ports, AD-10: 1 port)
Alarm output	6 ports: contact signal, load current 250 mA (Normal close/ open: 4, System fail: 1, Power fail: 1)
DVI output	2 ports: DVI-D, DVI-I or RGB picture data (for VDR) (RGB resolution 1280x1024 (SXGA), 60.0Hz or 1440x900 (WXGA+), 59.9Hz)
LAN	2 ports: Ethernet 100Base-TX
USB	2 ports: USB flash memory and mouse/keypad
RS-232C	1 port: brilliance control
Sub display(for ECDIS)	2 ports: HD, BP, Trigger and Video signal
Data sentences (IEC61162-1/2)	
Input	ABK, ACK, ACN, ALR, BWC, BWR, CUR, DBK*, DBS*, DBT, DDC, DPT, DTM, GGA, GLL, GNS, HBT, HDG, HDM, HDT*, MTW, MWV, OSD, RAQ, RMB, RMC, ROT, RTE, THS, TLL, TTM, VBW, VDM, VDO, VDR, VHW, VSD, VTG, VWR*, VWT*, WPL, ZDA
Output	ABM, ACK, AIQ, ALC, ALF, ALR, ARC, BBM, DDC, EVE, HBT, OSD, RSD, TLB, TLL*, TTD, TTM, VSD
Ethernet interface for IEC61162-450	
Port (LAN2)	100Base-TX, IPv4, 8P8C connector
IEC61162-450 transmission group	
Input	MISC, TGTD, SATD, NAVD, TIME, PROP
Output	Arbitrary (default: TGTD)
Multicast address	239.192.0.1 to 239.192.0.16
Destination port	60001 to 60016
Re-transmittable binary image transfer	
Multicast address	239.192.0.26 to 239.192.0.30
Destination port	60026 to 60030
Other network function excepted IEC61162-450	
	SNMP, HTTP, Syslog, Furuno Management Protocol (FMP)
Input/Output port on antenna unit	
Input port	1 port: HD, BP, Trigger and Video signal
Output port	3 ports: HD, BP, Trigger and Video signal

POWER SUPPLY

Power supply unit	100-115/220-230 VAC: 3.1/1.5 A, 1 phase, 50-60 Hz
Processor unit	100-230 VAC: 2.2/1.1 A, 1 phase, 50-60 Hz
Monitor unit	MU-190 — 100-230 VAC: 2.8-1.4 A, 1 phase, 50-60 Hz
	MU-190HD — 12-24 VDC / 8.4-3.9 A
	MU-231 — 100-230 VAC: 1.0-0.6 A, 1 phase, 50-60 Hz
	MU-270W — 100-230 VAC: 0.7-0.4 A, 1 phase, 50-60 Hz
Hub (Option)	100-230 VAC: 0.1 A, 1 phase, 50-60 Hz

ENVIRONMENTAL CONDITIONS

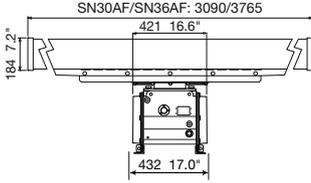| Ambient temperature	Antenna unit	-25°C to +55°C (storage: -25°C to +70°C)
	Indoor unit	-15°C to +55°C (storage: -15°C to +70°C)
Relative humidity	93% or less at +40°C	
Degree of protection	Antenna unit	IP46
	Power supply unit	IP22
	Processor unit	IP22
	Control unit	IP20 (RCU-014/015/016), IP22 (RCU-031)
	Hub	IP20 (HUB-100), IP22 (HUB-3000)
Vibration	IEC 60945 Ed.4	

S-Band RADAR for Fishing
Model *FAR-2268DS*

Interconnection Diagram

Antenna Unit FAR-2268DS
Antenna: SN30AF, SN36AF, SN30DF

Antenna Cable* RW-0013 15/20/30/50 m
03CA00099 70 m
Motor Cable
Gear Box RSB-139

Antenna Power Supply Unit PSU-019

XH10P-W-6P 10/20/30 m

Control Unit
RCU-031/014
RCU-015

*The maximum length of the cabling between the Processor Unit and the Antenna Unit is 80 m.

RW-00339 1.5/5/10/15/30/40/50 m
100-115/220-230 VAC Single phase, 50-60 Hz

Display Unit MU-190/190HD/231/270W
5 m/10 m DVI

Remote Control Unit RCU-016
WH10P-W-5P 1.5/10/20/30 m

Control Unit RCU-031/014
RCU-015
XH10P-W-6P 10/20/30 m

Processor Unit RPU-025

IEC 61162-1 — GPS buoy / AIS / LOG
IEC 61162-2 — DR-100 / DM-200
DVI/RGB — VDR
IEC-61162-450 — Switch hub HUB-100 — Navigation instrument
IEC 61162-2 — Gyrocompass / GPS Compass
AD-10 — A/D converter AD-100 — Gyrocompass
Ethernet — Intelligent hub HUB-3000 — ECDIS / Radar

MU-190/231/270W: 100-230 VAC, single phase, 50-60 Hz
MU-190HD: 12-24 VDC

100-230 VAC, single phase, 50-60 Hz

— Option or local supply
-·- Power

Antenna Unit
Antenna SN30AF 134 kg (295 lbs)
SN36AF 140 kg (308 lbs)

SN30AF/SN36AF: 3090/3765
421 16.6"
184 7.2"
286 11.3"
432 17.0"
530 20.9"
110 105 100 105 110
4.3" 4.1" 3.9" 4.1" 4.3"
137 5.4"
710 28.0"
420 16.5"
350 13.8"
432 17.0"
530 22.6"
250 9.8" 286 11.3"
8-ø15

Antenna Unit (Hi-G)
Antenna SN30DF 137 kg (302 lbs)

3090 121.6"
421 16.6"
257 10.1"
379 15"
530 20.9"
110 105 100 105 110
4.3" 4.1" 3.9" 4.1" 4.3"
137 5.4"
420 16.5"
720 28.3"
350 13.8"
432 17.0"
432 17.0"
530 22.6"
250 9.8" 286 11.3"
8-ø15

Processor Unit
RPU-025 9.6 kg

385
370
36
340
410
350
359
186

Control Unit
RCU-031 2.2 kg

4 x M4
96 150
37
286
360
35
90

RCU-014 2.5 kg

136 180
308
398
4 x M4
39 54
92
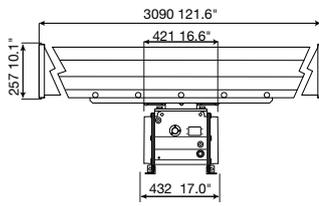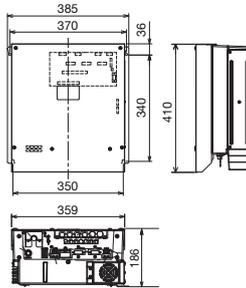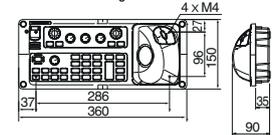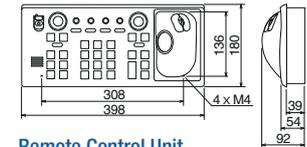
Trackball Control Unit
RCU-015 2.4 kg

110
4 x M4
136 180
160
35 50 89
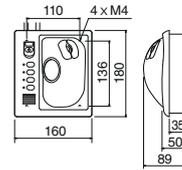
Remote Control Unit
RCU-016 2.4 kg

110
4 x M4
136 180
160
35 50 89
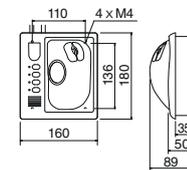
Display Unit

MU-190/MU-190HD
Flush mount type 8.8 kg

474
460
450
397
407 421
109
9
460
448
395
407
4-ø7
R9

Tabletop mount type 11.0 kg

450
397 427
432
470
217 273
100 109
563
441 433
Hanger (option)
14 160
Hood (option)
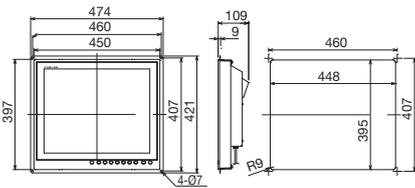
MU-231
Flush mount type 13 kg

592.4
570
484.9
313
81.8
112
12
570
554
313
471
79

Tabletop mount type 18.9 kg

590
236
112
484.7
35°
460
Hood (option)
hanger (option)
134 328
287
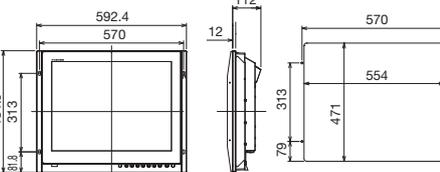
MU-270W
Flush mount type 13 kg
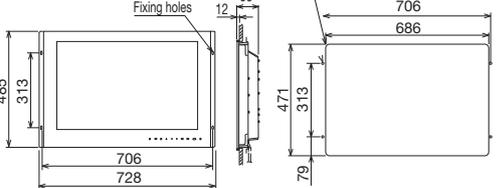
Fixing holes
12
95
706
686
485
313
706
728
471
313
79

Tabletop mount type 21 kg

726
814
236
95
485
35°
Hood (option)
135 341
287
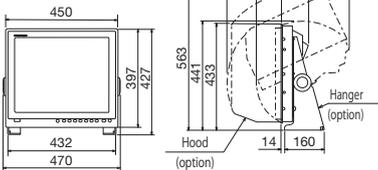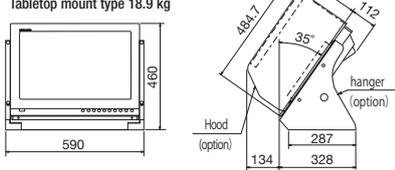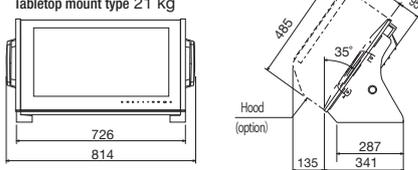
All brand and product names are registered trademarks, trademarks or service marks of their respective holders.

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE