FURUNO

VDR
Voyage **D**ata **R**ecorder

S-VDR
Simplified **V**oyage **D**ata **R**ecorder

Models:
VR-7000/7000S

Records all crucial data to help identify the cause of marine accidents, as well as contribute to the prevention of future accidents

A Voyage Data Recorder (VDR) and Simplified Voyage Data Recorder (S-VDR) are similar to the black boxes carried on aircraft. The VDR/SVDR aids investigators in securing evidence by reviewing procedures and instructions in the moments before an accident. The VDR/SVDR collects data from all interfaced sensors on board the vessel, storing it in an external Data Recording Unit (DRU). The system comes with two tamperproof DRU units, one fixed and one float-free. They are designed to withstand the extreme impact, pressure, shock and heat, which may happen during an incident. When the DRU is retrieved, the stored data can be replayed by authorities to investigate the cause of the accident.

VDR
Voyage **D**ata **R**ecorder

S-VDR
Simplified **V**oyage **D**ata **R**ecorder

▶ Complies with the IMO performance standards for VDR and S-VDR
- Data storing for 48 hours both in fixed and float-free recording medium
- Data storing for 30 days/720 hours in SSD in the Data Collecting Unit
- No.1, 2 Radar and main ECDIS display images can be stored
  * Up to 5 display images from FURUNO Radar FAR-3000/FCR-2xx9 series or FURUNO ECDIS FMD-3200/3300 can be stored simultaneously through Ethernet without optional SSD.
  * Radar and ECDIS images can be recorded at 15-second intervals.

▶ Easy to integrate with IBS Network
  * Radar and ECDIS that utilizes LAN interface based on IEC 61162-450 can be connected through Ethernet.

▶ Video LAN converter can convert the Radar signal (DVI or RGB) into Ethernet
  * Necessary when FURUNO Radar FAR-15x8/FAR- 2xx7, ECDIS FEA-2107/2807 or the products of third-party manufacturers are connected to VR-7000/7000S.

▶ Optional sensor adapter gathers all the serial/analog/digital sensor data and collectively feeds it to DCU
  Multiple sensor adapters can be interfaced depending upon the number of sensors to be interfaced.

▶ "Live Player V5" allows monitoring and playback of collected data on a PC

▶ Extracted data can be saved onto a USB flash memory

▶ Global customer support and services with FURUNO worldwide service network

▌Simplified Voyage Data Recorder VR-7000S

- Complies with the IMO performance standards for S-VDR, MSC 163(78)
- Applied to S-VDR carriage requirement for existing cargo ships over 3,000GT
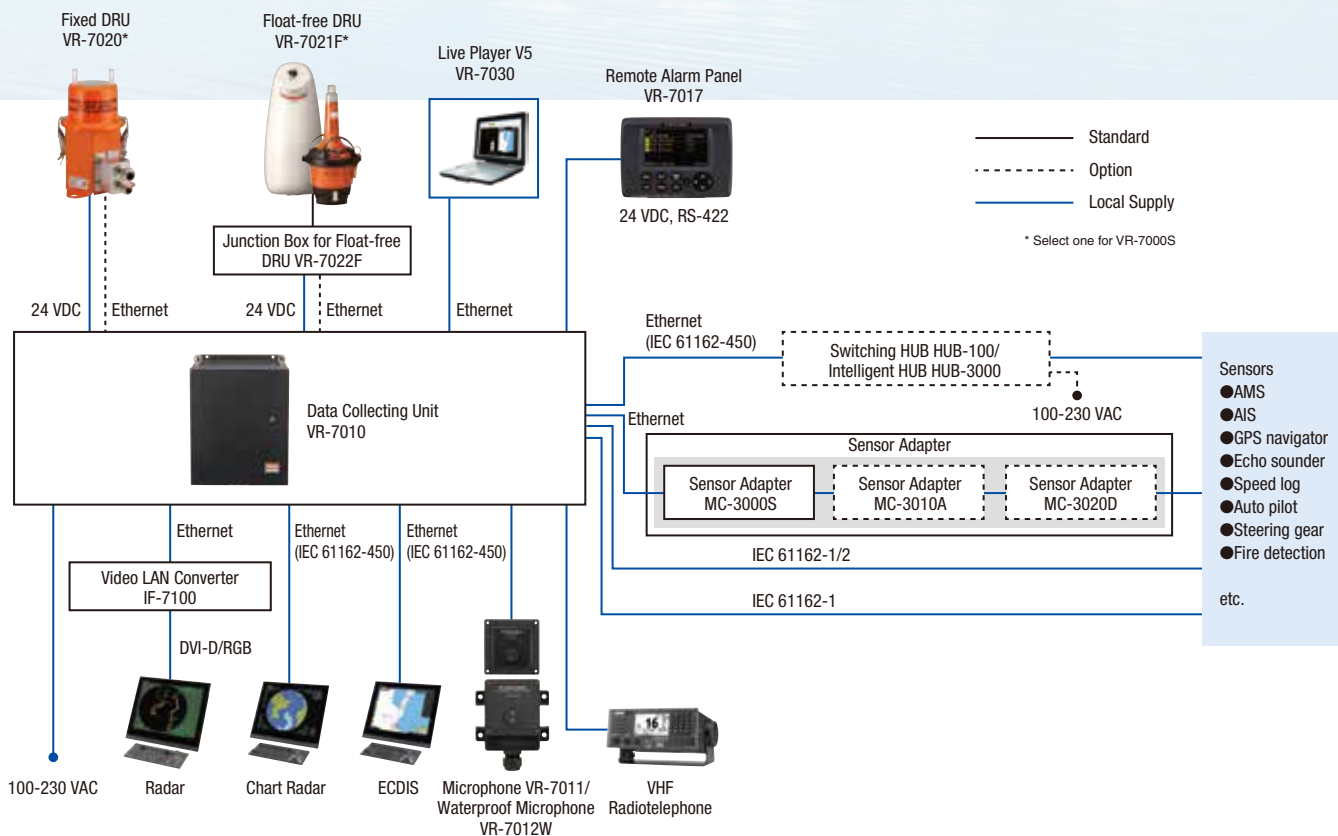- Selectable DRU: fixed DRU or float-free DRU
- Save function
  If marine incidents occur, record the data, which are recorded to the capsule, to the safe storage area for a long term recording by this function.

Easy to input the sensor data and review stored data

The onboard sensors can be integrated and interfaced to the VR-7000/7000S thanks to Video LAN converter and sensor adapters.
Also, the collected data can be replayed with the PC software or extracted onto a USB flash memory for later analysis.

Fixed DRU
VR-7020*

Float-free DRU
VR-7021F*

Live Player V5
VR-7030

Remote Alarm Panel
VR-7017

24 VDC, RS-422

Junction Box for Float-free
DRU VR-7022F

—————— Standard
- - - - - - - - Option
—————— Local Supply

* Select one for VR-7000S

24 VDC | Ethernet   24 VDC | Ethernet   Ethernet

Ethernet
(IEC 61162-450)

Switching HUB HUB-100/
Intelligent HUB HUB-3000

100-230 VAC

Sensors
● AMS
● AIS
● GPS navigator
● Echo sounder
● Speed log
● Auto pilot
● Steering gear
● Fire detection

etc.

Data Collecting Unit
VR-7010

Ethernet

Sensor Adapter

Sensor Adapter
MC-3000S

Sensor Adapter
MC-3010A

Sensor Adapter
MC-3020D

IEC 61162-1/2

IEC 61162-1

Ethernet

Video LAN Converter
IF-7100

Ethernet
(IEC 61162-450)

Ethernet
(IEC 61162-450)

DVI-D/RGB

100-230 VAC   Radar   Chart Radar   ECDIS   Microphone VR-7011/
Waterproof Microphone
VR-7012W   VHF
Radiotelephone

Live Player V5

This software extracts and displays the data recorded in the Data Recording Unit, in real time, on the networked PC screen. Also, the data can be replayed for a more thorough data analysis at a later date.
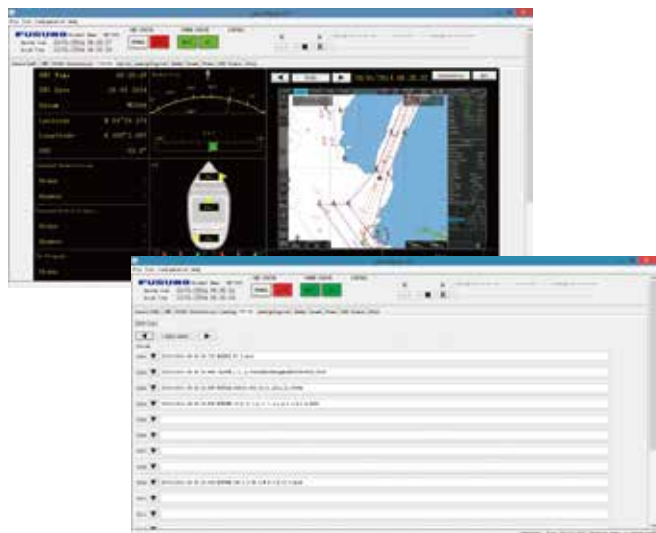
Remote Alarm Panel

At-a-glance recognition of VDR status with minimal operation.

《Normal Status》

《System health checking》
(serial/analog/digital signals)

《Alert List》
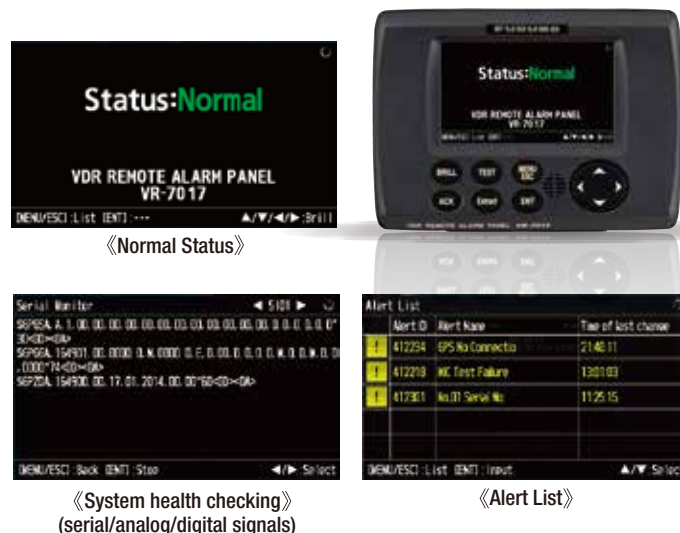
SPECIFICATIONS

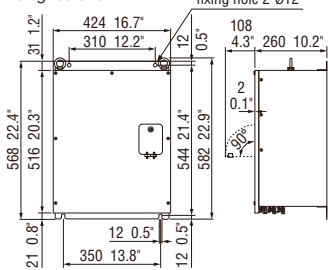| Product Name		VOYAGE DATA RECORDER / SIMPLIFIED VOYAGE DATA RECORDER
Data Collecting Unit (DCU)	Recording Period	720 hours
	Interface — Ethernet (IEC 61162-450)	13 ch (1 ch for PC)
	Serial (IEC 61162-1/2) Input	2 ch (when interfaced with the MC-3000S, 4 additional channels can be added)
	Serial (IEC 61162-1) Input	6 ch (when interfaced with the MC-3000S, 4 additional channels can be added)
	Digital Input	Option (when interfaced with the MC-3020D, 8 channels can be added)
	Analog Input	Option (when interfaced with the MC-3010A, 3 channels can be added)
	Bridge audio	8 ch
	VHF audio	2 ch
	Remote Alarm Panel	1 ch
	24 VDC for Fixed DRU	1 ch
	24 VDC for Float-free DRU	1 ch
	24 VDC for Sensor Adapter	1 ch
	AMS (Serial IEC 61162-1 Input/Output)	1 ch
	AMS (Contact)	Input: 2 ch
		Output: 3 ch
	USB	1 ch (for USB flash memory to extract the data only)
Fixed Data Recording Unit (Fixed DRU)*	Memory	32 GB
	Recording Period	48 hours
Float-free Data Recording Unit (Float-free DRU)*	Memory	64 GB
	Recording Period	48 hours
Remote Alarm Panel	Display	4.3" color LCD
Video LAN Converter	Interface	DVI-D/RGB: 2 ch
		Ethernet: 1 ch
Sensor Adapter (Serial)	Interface	IEC 61162-1/2: 4 ch
		IEC 61162-1: 4 ch
		Ethernet: 1 ch
Sensor Adapter (Analog)	Interface	Analog Input: 3 ch
Sensor Adapter (Digital)	Interface	Digital Input: 8 ch
Intelligent Hub	Interface	Ethernet: 8 ch
Switching Hub	Interface	Ethernet: 8 ch

* Select one for VR-7000S

POWER SUPPLY

DCU	100-230 VAC: 1.6-0.7 A, 1 phase, 50-60 Hz
Video LAN Converter	24 VDC: 0.7 A

ENVIRONMENT

Ambient Temperature	DCU	-15˚C to +55˚C
	Fixed DRU	-25˚C to +55˚C
	Float-free DRU	-20˚C to +55˚C
	Microphone	-15˚C to +55˚C
	Waterproof Microphone	-25˚C to +55˚C
	Remote Alarm Panel	-15˚C to +55˚C
	Video LAN Converter	-15˚C to +55˚C
Relative Humidity		95 % at 40˚C
Degree of Protection	DCU	IP20
	Fixed DRU	IP56 equivalent
	Float-free DRU	IP67 equivalent
	Microphone	IP22
	Waterproof Microphone	IP56
	Remote Alarm Panel	IP22 (front panel), IP20 (back)
	Video LAN Converter	IP22 (bulkhead mount), IP20 (tabletop mount)
Vibration		IEC 60945 Ed. 4

EQUIPMENT LIST

Standard

1. Data Collecting Unit (DCU)	VR-7010	1 unit
2. Remote Alarm Panel	VR-7017	1 unit
3. Fixed Data Recording Unit (Fixed DRU)*	VR-7020	1 unit
4. Float-free Data Recording Unit (Float-free DRU)*	VR-7021F	1 unit
5. Junction Box for Float-free DRU	VR-7022F	1 unit
6. Video LAN Converter	IF-7100	0~2 units
7. Microphone	VR-7011	} 1~8 units
8. Waterproof Microphone	VR-7012W	
9. Sensor Adapter (Serial)	MC-3000S	0~2 units

* Select one for VR-7000S

Option

1. Sensor Adapter (Serial*¹/Analog/Digital)	MC-3000S/3010A/3020D
2. Video LAN Converter*²	IF-7100
3. Microphone	VR-7011
4. Waterproof Microphone	VR-7012W
5. Intelligent HUB	HUB-3000
6. Switching HUB	HUB-100
7. SSD for DCU	
8. DVI cable	

*1 Up to 8 units (including 1 unit of the standard configuration) can be connected
*2 Up to 2 units (including 1 unit of the standard configuration) can be connected

Data Collecting Unit

VR-7010
29 kg 63.9 lb

Video LAN Converter

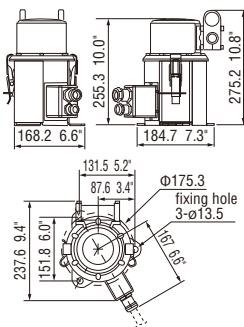**IF-7100**
3.2 kg 7.1 lb

Microphone
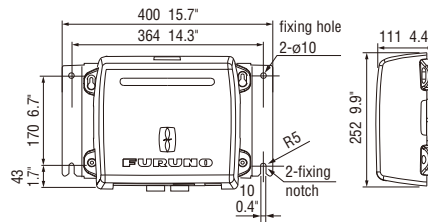
VR-7011
0.3 kg 0.7 lb

Fixed Data Recording Unit

VR-7020
7.3 kg 16.0 lb

Float-free Data Recording Unit

VR-7021F
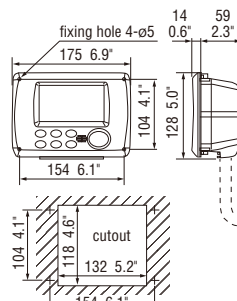4.8 kg 10.6 lb
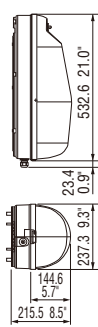
Junction Box for Float-free Data Recording Unit

VR-7022F
1.5 kg 3.3 lb
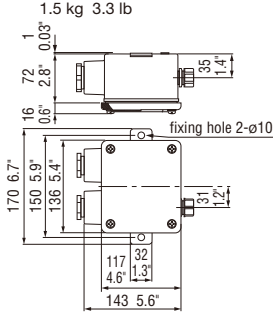
Remote Alarm Panel

VR-7017
0.64 kg 1.4 lb

Waterproof Microphone

VR-7012W
0.6 kg 1.3 lb

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SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE