







# 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.

- 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
  - $\bullet \text{No.1, 2}$  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- 22x8, 23x8, ECDIS FMD-3100, 3200/3300 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. In adition, remote replay and remote extraction via satellite connection available.
- 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

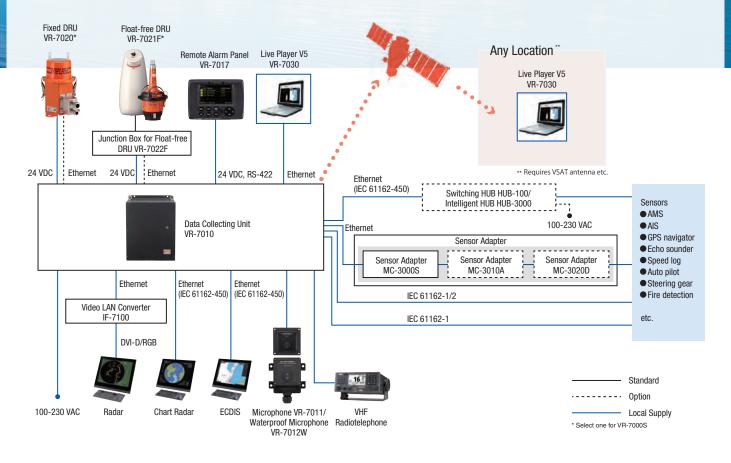
## •Selectable DRU: fixed DRU or float-free DRU

### 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.

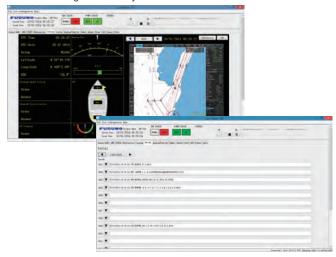
## Easy to input the sensor data and review stored data

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.



## Live Player V5

This software extracts and displays the data recorded in the Data Recording Unit, in real time, on the networked PC screen. In addition, The data can be extracted and displayed remotely on the PC screen anywhere via satellite connection. 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.



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

《Alert List》

## **SPECIFICATIONS**

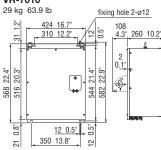
Product Name		VOYAGE DATA RECORDER / SIMPLIFIED VOYAGE DATA RECORD		
Data	Recording Pe		720 hours	
Collecting	Interface	Ethernet (IEC 61162-450)	13 ports (1 port for PC)	
Unit		Serial (IEC 61162-1/2) Input	2 ports (when interfaced with the MC-3000S	
(DCU)			4 additional ports can be added)	
		Serial (IEC 61162-1) Input	6 ports (when interfaced with the MC-3000S	
			4 additional ports can be added)	
		Digital Input	Option (when interfaced with the MC-3020D	
			8 ports can be added)	
		Analog Input	Option (when interfaced with the MC-3010A	
			3 ports can be added)	
		Bridge audio	8 ports	
		VHF audio	2 ports	
		Remote Alarm Panel	1 ports	
		24 VDC for Fixed DRU	1 ports	
		24 VDC for Float-free DRU	1 ports	
		24 VDC for Sensor Adapter	1 ports	
		CAM (AMS)	1 ports	
		(Serial IEC 61162-1 Input/Output)	i pons	
		CAM (AMS)	Input: 2 ports	
		(Contact)	Output: 3 ports	
		USB	1 port (for USB flash memory to extract the data only	
Fixed Data Recording		Memory	32 GB	
Unit (Fixed DRU)*		Recording Period	48 hours	
Float-free Data Recording		Memory	64 GB	
Unit (Float-free DRU)*		Recording Period	48 hours	
Remote Al	arm Panel	Display	4.3" color LCD	
Video LAN	Converter	Interface	DVI-D/RGB: 2 ports	
			Ethernet: 1 port	
Sensor Adapter (Serial)		MC-3000S	IEC 61162-1/2: 4 ports	
			IEC 61162-1: 4 ports	
Sensor Adapter (Analog)		MC-3010A (option)	Analog Input: 3 ports	
Sensor Adapter (Digital)		MC-3020D (option)	Digital Input: 8 ports	
Intelligent Hub		HUB-3000	Ethernet: 8 ports	
Switching Hub		HUB-100	Ethernet: 8 ports	
* Select one for	or VR-7000S			
* Select one to	or VR-7000S			

#### **POWER SUPPLY**

DCU	100-230 VAC: 1.6-0.7 A, 1 phase, 50-60 Hz		
Sensor Adapter	24 VDC: 1.4 A max (11 units), ed from DCU		
Video I AN Converter	24 VDC: 0.3 A		

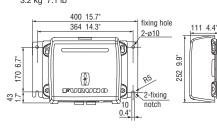
#### **Data Collecting Unit**





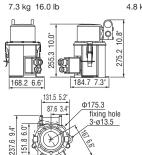
## **Video LAN Converter**

IF-7100 3.2 kg 7.1 lb



### **Fixed Data Recording Unit**

VR-7020





32

117 4.6" 32 1.3"

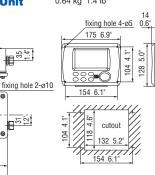
143 5.6"

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## **Remote Alarm Panel**

VR-7017 0.64 kg 1.4 lb



## **ENVIRONMENT**

Ambient	DCU	-15°C to +55°C	
Temperature	Fixed DRU	-25°C to +55°C	
	Float-free DRU	-20°C to +55°C	
	Waterproof Microphone	-25°C to +55°C	
	Others	-15°C to +55°C	
Relative Humidity		93 % at +40°C	
Degree of	DCU	IP20	
Protection	Fixed DRU	IP56 equivalent	
	Float-free DRU	IP67 equivalent	
	Microphone	IP22	
	Waterproof Microphone	IP56	
	Remote Alarm Panel	IP22 (front panel), IP20 (chassis)	
	Video LAN Converter	IP22	
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
<ol><li>Fixed Data Recording Unit (Fixed DRU)*</li></ol>	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		

MC-3000S/3010A/3020D

IF-7100

VR-7011

VR-7012W

HUB-3000

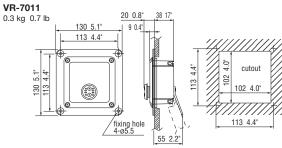
HUB-100

#### Option

- 1. Sensor Adapter (Serial\*1/Analog/Digital)
- 2. Video LAN Converter\*2
- 3. Microphone
- 4. Waterproof Microphone
- 5. Intelligent HUB
- 6. Switching HUB
- 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

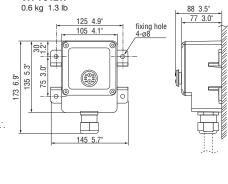
#### Microphone

2.3



### Waterproof Microphone

**VR-7012W** 



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⊁ £

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215.5 8.5

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