VOYAGE DATA RECORDER G4[e]

Accident analysis - Accident prevention

It's not just a black box! A voyage data recorder has been mandatory since 2002. So why not make the most of it? Our development engineers turned a simple data collector and storage device into a smart data provider for third parties and a real-time monitor with off-track alarm onboard and ashore. Detection of non-conformity between the real-time position and the corridor data will alert those in charge such as the DPA. The corridor tracking tool enables you to plan safe voyages and receive notifications in critical situations.

What are the benefits for you?

- Accident prevention system
- Data providing for third parties
- Industrial standard interface
- Modular and scaleable design
- Reliability due to enhancement of G4 technology
- Annual performance tests carried out by INTERSCHALT and certified engineers

Innovation for shipping

VOYAGE DATA RECORDER G4[e]

VDR G4[e] offers value added features (on top of mandatory requirements):

- Up to one year recording time & upgradeable on demand
- Realtime Monitoring
- Corridor tracking
- Additional audio recording (i.e. ECR, telephones)

Service

- Network of shore-based service coordinators and more than 400 service engineers worldwide
- Seven INTERSCHALT locations and more than a hundred partners in more than 30 countries.
- Annual performance tests carried out by manufacturer INTERSCHALT

The 5-year support package contains:

- Warranty extension to 5 years
- 4 annual performance tests (APT) incl. travel allowance in key ports
- 5-year spare part kit (wear and tear)
- Certificates & transportation
- Repair of all breakdown defects and damages during operation time
- Handling of all damage claims for the ship owner

Corridor Tracking

INTERSCHALT has increased the functionality of the VDR from a pure accident recording tool to an accident prevention system. IS Corridor tracking enables shipowners to plan safe voyages and to be notified in critical situations. The four step process can be described as follows:

1. Ship route planning via ECDIS
2. Longitudinal and latitudinal corridor planning along the ship‘s route
3. Upload to the VDR
4. Shorebased realtime control

INTERSCHALT VDR G4[e] is opening up a wealth of new technical possibilities, as the system is built on a modular and scalable basis. VDR G4[e] fulfils the new IMO Performance Standards for VDRs. The [e] stands for the enhanced version, INTERSCHALT's next generation of its well-known VDR G4 system.

The online monitor of the VDR G4[e] provides a detailed picture of the ship's position in real time on an official electronic navigational chart. This information can be also transfered to a notebook or a smartphone, so that the captain can access an overview of the current situation at all times.

Using corridor tracking is an important step towards higher safety standards. A corridor can be defined for the whole route within the vessel is allowed to move. If the corridor is left, an automatic alarm is given and transmitted onboard and to shore.

Important information about radars, alarms, the positioning on the electronic chart, machine data from the conning display and helm data is available in real time. Using the online monitor, the captain can see at a glance whether e.g. the watertight doors are all properly closed or, in the event that they aren't, which locations need to be re-checked. The online monitor provides reliable information and is individually customized and optimized for each ship. It uses official S57/S63 ENC, shows a day and night view and an OPC/UA interface for 3rd party user can be activated.

A technical milestone is the integration of SSD (solid state disc) into the MDP unit. The device offers completely new features in the shape of the software application Maritime Data Engine, which runs in the background and can be used to retrieve all VDR data almost in real time via FTP

One of the brandnew VDR G4[e] features includes the Pic client: all radar images are directly displayed within the software. It is easy to integrate, no additional hardware is necessary. The pic client is compatible with standard norms, there is no limitation of monitor solution and signals are digitally processed. Last but not least network-enabled microphones are also part of the system.

Requirements of MSC.333(90)	VDR G4 [e]
Integrated performance test to estalish data integrity for APT or following a service	✓
Three data carriers as final recording medium (FRM) (fixed capsule, float-free capsule, long-term recording medium)	✓
Minimum recording interval 48h, long-term recording 30 days	✓
• At least one separate recording channel for bridge wings • At least two channels for bridge recordings • Definition of intelligibility for speech and environmental signals	✓
Recording of both radar units	✓
Recording of the current ECDIS with the source of chart data and version	✓
Image recording as per the IEC 61162-450 standard	✓
Recording of all binding bridge alarms via interfaces to the alarm management system	✓
Order/response recording for engines and all thrusters	✓
Recording of all AIS data	✓
Recording of heel and list to reproduce rolling movements	✓
Recording of an electronic logbook, if present	✓

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