

- Publishing/recording of Ethernet and MVB variables.
- Two versions:
 - > ORION-COMPAQ (½ 19" rack).
Closed characteristics and functionalities with high performance.
 - > ORION-MAXI (19" rack).
Open characteristics and functionalities. Recorder "à la carte" based on the customer's requirements.
- Large memory compression capacity.
- Downloading time optimization.



DESCRIPTION

The main purpose of the ORION recorder is to **record the train parameters** relating to safety that may be required for investigation should an accident occur. To this end, there is a control module which calculates the real speed based on the pulses from the train's tachogenerators.

The ORION recorder permits the **publishing and recording** of variables in the **MVB bus** and **Ethernet**. Therefore, all variables within the bus can be registered/published optimizing train wiring.

This equipment has a **modular** design and is completely **scalable**. The ORION-COMPAQ unit has **reduced physical dimensions (42HP)** with closed characteristics and functionalities but highly competitive performance considering its size.

The ORION-MAXI unit, due to a larger size (84HP), is an "à la carte" recorder according to **the needs of each project** in those scenarios where the ORION-COMPAQ is not appropriate (need for audio and video recording, higher number of interfaces, etc.).

The ORION recorder has a **protected removable memory** which is protected against fire, shock, vibrations and humidity so all information stays available in case of accident. This memory uses a **compression** algorithm which reduces the space required for data storage, whilst **facilitating data downloading**.

The **Dead Man** is also considered as a main function. This function is **redundant** for safety purposes and permits LRV braking should the driver fail to appropriately press the buttons fitted on the desk.

ORION has this functionality integrated within the rack. However, *Dead Man* functionality is completely separate from the operation of the recorder, such that the *Dead Man* board can still operate even if the recorder functionalities are out of service.

In short, the main functions to be executed shall be as follows:

- Parameter recording.
- Speedometer and mileage full adder control.
- Adjustable speed levels.
- Data downloading.
- *Dead Man* protection system.

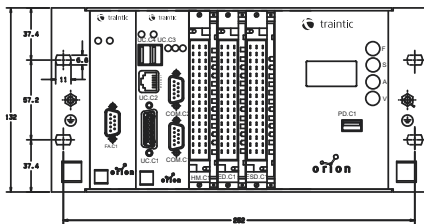
Additionally, the recorder can be ordered with a speedometer.



DIMENSIONS AND WEIGHT

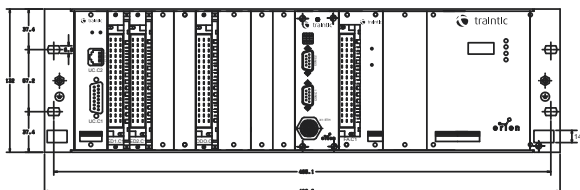
ORION COMPAQ:

- Dimensions: 1/2 19" rack 3U.
- Weight: 4-5 kg.



ORION MAXI:

- Dimensions: 19" rack 3U.
- Weight: 6-10 kg.



CHARACTERISTICS

ORION COMPAQ:

- Memory:
 - > 32 MB.
 - > Protected memory according to standard G0/OTS 203.
- Interfaces:
 - > MVB, EMD class 1.
 - > RS485.
 - > Ethernet.
- Hardware interfaces (fixed composition):
 - > Digital Inputs Board: 32 digital inputs.
 - > Digital Inputs/Outputs Board: 8 digital inputs and 6 digital outputs.
 - > Board with 2 inputs and 1 analogue output, 2 frequency inputs, 8 digital inputs and 4 digital outputs.
- *Dead Man* functionality.
- Data downloading:
 - > USB / Ethernet (USB host under development).
- Designed in accordance with: EN50121-3-2 EN50155.
- Operating temperature: T3.
- Protection: standard IP40.
- Battery voltage: 24 -110 VDC.
- Consumed Power: < 8 W.

ORION MAXI:

- Memory :
 - > Extendable to a maximum of 64MB.
 - > Protected memory according to standards G0/OTS 203 or IEEE1482.1.
- Interfaces:
 - > MVB, EMD class 1.
 - > RS485.
 - > Ethernet.
- Hardware interfaces (the following boards can be increased or reduced according to the project requirements within the existing physical limit):
 - > Digital Inputs Board: 32 digital inputs.
 - > Digital Inputs/Outputs Board: 8 digital inputs and 6 digital outputs.
 - > Board with 2 inputs and 1 analogue output, 2 frequency inputs, 8 digital inputs and 4 digital outputs.
- *Dead Man* functionality.
- Data downloading:
 - > USB / Ethernet (USB host under development).
- Designed in accordance with: EN50121-3-2, EN50155.
- Operating temperature: T3.
- Protection: standard IP40.
- Battery voltage: 24-110 VDC.
- Consumed Power: < 8 W.