

U1 WITH SATELLITE UNIT

... a cluster of precision, power and flexibility

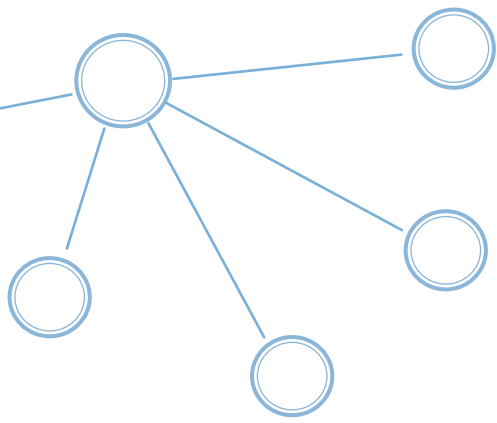
THOREB's U1 computer is a cluster that works as a central computer for your vehicle. With its large data processing capacity, it collects all data sent by the devices connected to it and provides them to a Backoffice system for further analysis. It includes Ethernet, USB, CAN and DVI as widely accepted standard interfaces.

To make THOREB's U1 computer as flexible as possible for future expansion, the concept with the satellite unit was invented. The default satellite unit provides GPS, 4G, RS485 and IBIS communication. It is possible to connect more satellites and even to make custom satellites for specific requirements.

THOREB offers an innovative system for remote maintenance of the U1 and other Thoreb equipment such as our Video Surveillance System, Passenger Counter and Passenger Information System. This ensures a high quality of service can be provided.

Since Daimler, IVECO, MAN and other manufacturers have entrusted Thoreb with full access to CAN data it allows for important diagnostics and prognosis data to be gathered for the vehicle fleet. Thoreb's U1 can listen to FMS, ELSY, OBD and other protocols. The U1 can send this detailed diagnostic information to the Backoffice system. THOREB's telematics solution provides detailed and high-quality data, which can be used as a powerful tool for efficient operations.

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Advantages of the U1 cluster computer and the powers of the THOREB Backoffice system includes:

- o Filling the data collection gap of driver habits
- o Analysis of passenger travelling habits
- o Allows predictive analytics from big data
- o THOREB's cluster architecture ensures scalability and performance
- o THOREB's PIA system automatically discovers statistically interesting relationships within the data

The THOREB system can help minimize the time vehicles need to be out of service due to maintenance operations by providing service workshops and OEMs with the following:

- o Early warnings of sensors behaving erratically
- o Early warnings of worn parts
- o Failure monitoring of parts and sub-systems
- o Relating driving patterns to part performance
- o Detailed MTBF analysis of parts and sub-systems

With its cluster design and flexible connectivity, THOREB's U1 computer is the solution for the future. The U1 is your own cluster for many years to come and will be your tool to take real-time command over the entire fleet.

Performance

Supply voltage - directly connected to the bus battery	9-36 V
power consumption	~ 0.45 A @ 24V standby mode
Power consumption for a long-term parked bus	<1 mA
Operating temperature	-20 to +75 °C
Weight	2.1 kg

Interfaces

- o 1x Ethernet 10/100/1000Mbit via M12-8
- o 4x USB
- o 1x RS-232 for debug
- o 2x Line out
- o 4x Wakeup (two high side and two low side)
- o 5x CAN
- o 1x ODO
- o 2x Power outputs, max 20A
- o 2x High Side out, max 1.8A
- o 2x Misc. input, one low- and one high-side
- o 3x Low Side outputs, max 0.7A

Casing

- o Dimensions: 302x180.4x64.3 mm
- o Black aluminium
- o Coated PCBs

