

# **BoltSafe**

Load Measuring Systems



## **Product sheet | Network with PDI**

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### **How does the Network with PDI work?**

Our network with PDI readout method consists of a PDI (Power Data Interface) box and a CM-1000 box or a network of these boxes. Using these boxes, the bolt load can be continuously visualized. The PDI is a connection box that connects the BoltSafe network to a PC or laptop that has BS-2000 software installed.

The CM-1000 Network box is designed to connect up to eight individual BoltSafe CMS bolt load cells to a network. A network can consist of several CM-1000 boxes. The unit is designed to provide excellent shielding against rough environments and EMC noise (noise from ElectroMagnetic Compatibility).





### **How is the Network with PDI used?**

Up to eight BoltSafe CMS bolt load sensors can be connected to one CM-1000 box. As many as 32 different CM-1000 boxes can be connected in a network to one PDI box in combination with a PC. The continuous bolt load data is analyzed by special software called "BS-2000 Network Monitoring Server". The PDI is very easy to install. The network and power cable are plug-and-play. This box must be connected directly to the PC or laptop with a standard USB cable.

The CM-1000 Network box processes the bolt load data locally, where it converts the sensor values, stores the user-set tag names and alarm values. Decentralizing the data processing in this way speeds up the network data polling considerably. Even in a very large network of boxes and sensors, the BoltSafe load sensor can be updated every one to three seconds.

When the CM-1000 is connected with the PDI and a PC with BS-2000 software, the software automatically assigns node numbers to each unit connected to the system. There is no need for any extra settings or coding during installation. The Network box has short circuit protection for each of the load cells. This prevents a situation in which the malfunction of one cable or cell takes down the whole network. The CM-1000 box comes with connectors to connect the BoltSafe CMS load cells with connector plugs.



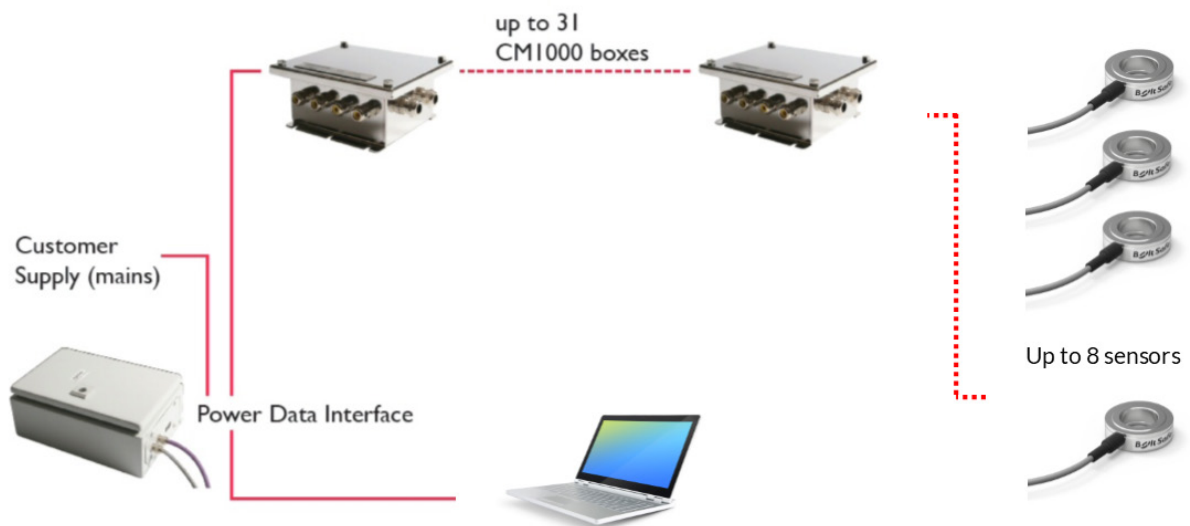
### **Possible variations of Network with PDI**

It is possible to use only one network box and PDI, link this to a maximum of eight bolt load sensors and a PC. It is also possible to connect multiple CM-1000 boxes to one PDI (up to 32 boxes) so that a maximum of 256 load cells can be read at once. Most of the time, the network boxes and PDI are installed in a permanent location. If you want to be able to frequently change the location of the network with PDI, we recommend using a portable system in a protective case. This is one of our optional features and is very useful if you want to use the system for temporary measurement and then change the location of the system to temporarily measure somewhere else. These cases are also available for rent. Another optional feature for the network with PDI is a 4G module. This module makes it possible to read out the data from the network remotely with any PC that is connected to the internet.



**Technical data CM-1000 box**

Connection capacity	8 BoltSafe CMS sensors
Temperature range	-25°C to +80°C
Sealing	IP66
Dimensions box	150x150x88 mm
Dimensions incl. connectors	162x174x88 mm
Material	Stainless steel 1.4301 (AISI 304)
Weight	1,65 kg
Sensor cable inlets (8)	M12 female connectors 5 pole
Network cable inlets (2)	M12 female connectors 5 pole
CE-approval	Tested to comply with: Emission EN 50081-1, EN 55022B Immunity, EN 61000-6-2, EN 61000-4-2, EN 61000-4-3, EN 61000-4-4, EN 61000-4-5, EN 61000-4-6, ENV 50204



**Technical data PDI**

Entry voltage	100V-230V AC / 24 V DC
Maximum number of BoltSafe's	256
Height	300 mm
Width	200 mm
Depth	130 mm
Weight	2,25 kg

