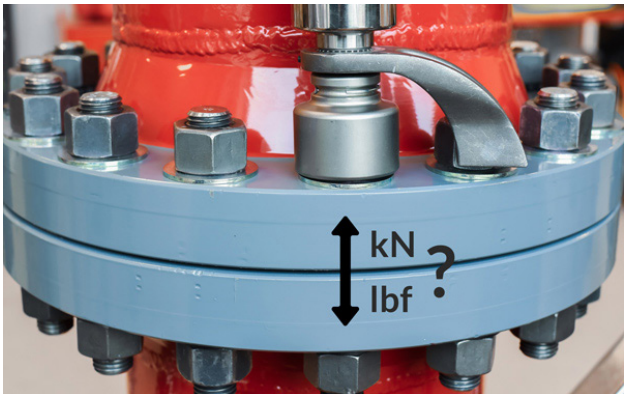
BOLTSAFE
LOAD SENSORS

BoltSafe load sensors are available in two different models: one designed for continuous monitoring and the other for periodic monitoring. Load sensors designed for periodic monitoring are particularly suitable for applications where a cable cannot be permanently connected to the sensor. Both models are compatible with all readers, allowing for easy expansion of the system by utilizing both continuous and periodic monitoring models.

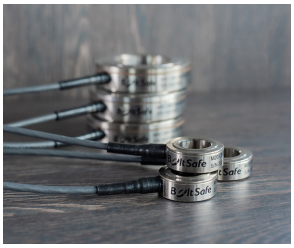
CONTINUOUS AND PERIODIC MONITORING

BoltSafe load sensors measure the final clamping force applied to a bolt. They are suitable for various industrial applications, and due to their washer-like design, they generally fit easily into different installations. The product development has focused on ease of use and measurement accuracy. With load sensors, uncertainties and assumptions can be eliminated. BoltSafe load sensors are designed to be placed on the opposite side of the tightened bolt, preferably under the nut.



Item*	Bolt size	Outside Ø mm	Thickness mm	Clamping Load Class 10.9 (kN)	Steps (kN)	Weight g
BKS-M20-CMS	M20	37,0	14	166	2	73
BKS-M22-CMS	M22	40,0	14	208	2	85
BKS-M24-CMS	M24	44,0	14	239	2	104
BKS-M27-CMS	M27	50,0	14	315	3	137
BKS-M30-CMS	M30	64,3	17	385	5	214
BKS-M33-CMS	M33	68,4	17	480	5	218
BKS-M36-CMS	M36	72,8	17	560	5	295
BKS-M39-CMS	M39	78,0	17	670	5	300
BKS-M42-CMS	M42	83,0	20	772	5	445
BKS-M45-CMS	M45	87,6	20	905	10	506
BKS-M48-CMS	M48	92,0	20	1 018	10	591
BKS-M52-CMS	M52	97,2	20	1 221	10	669
BKS-M56-CMS	M56	102,0	20	1 408	15	798
BKS-M60-CMS	M60	108,0	23	1 647	20	1 083
BKS-M64-CMS	M64	114,0	23	1 794	20	1 196
BKS-M64-HV-CMS	M64HV	120,0	23	2 100	20	1 310
BKS-M72-CMS	M72	124,0	23	2 250	20	1 360
BKS-M72-HV-CMS	M72(HV)	124,0	23	2 500	20	1 370

*) Available for periodic monitoring as CMS-NC models



CMS

CMS-NC

SM-300

The SM-300 is a handheld reader that allows you to read and store data from load sensors. With the reader, tightening can be monitored during fastening and checked afterward. Thanks to the backlit display, values are easier to read even in dimly lit environments. The force applied to the load sensor can be read in kN or lbf, and the reader can store up to 43,000 values. The reader records the sensor, load and sensor temperature.

NETWORK WITH PDI

For reading via the Network with PDI, one or up to 32 CM-1000 units can be used, allowing data to be continuously visualized. Each CM-1000 unit can connect up to eight load sensors, so a total of 256 load sensors can be visualized simultaneously. The CM-1000 unit has built-in short-circuit protection to minimize malfunctions, preventing the entire network from shutting down in case of a short circuit.

NETWORK WITH PDI-NT

For reading via the Network with PDI-NT, CM-1000 units are used, and up to 32 CM-1000 units can be connected to a single reader. The PDI-NT reader does not require a computer for data monitoring, as it has a built-in display for data visualization. The reader can also be set to send an alarm if the bolt connection exceeds or falls below preset limits.

RS-232 AND ANALOG CONVERTER

The RS-232 and Analog Converter can be connected directly to a data collection system, computer, or digital network. Values can be monitored either in kilonewtons (kN) or as a percentage, with the maximum value set to 100% of the analog output (5Vdc, 10Vdc, or 20mA), and the scale can be adjusted according to the specific application. The RS-232 and Analog Converter can be connected to one load sensor at a time.

IOT-NODE

The IoT node reader can be connected to a load sensor and send data to The Things Stack, KPN LoRa network, or any private LoRaWAN network. The IoT node can be used in hard-to-reach locations, as it can be set to send data only a few times per hour. The IoT node's battery life is up to 10 years. Also available in a Bluetooth version.