

RS-232 and Analog converter



The RS-232 and Analog converter

With the BoltSafe RS-232 and Analog converter it is easy to connect a BoltSafe CMS sensor (Continuous Monitoring System) directly to any Data acquisition system, computer or PLC.

The RS-232 and Analog converter is available in two types of enclosures: a plastic DIN-rail enclosure for inside a control box and an aluminum enclosure that is watertight and dust-tight. The aluminum enclosure is fitted with connectors, which makes it a plug-and-play system, suitable for rough conditions.

The converter automatically scales the analog output to the attached sensor. By default, the maximum clamping load as mentioned on the sensor equals 100% of the analog output (5Vdc, 10Vdc or 20mA). If a small measuring range of the sensor is needed, the minimum and maximum clamping load of the sensor can be changed on request. That way, the preferred bandwidth of the output can be utilized.

The free Windows-based software allows users to easily readout the load that is applied to the sensor. The software can also be used to adjust the moment when the BoltSafe RS-232 and Analog converter has to switch on or off (in kN or as percentage of full scale). This makes it possible to use the converter standalone; to activate an alarm or warning light.

The RS-232 and Analog converter can also be used to switch off a remote control or even a complete pump or (electric) torque tool. The complete serial communication protocol will be provided, which also enables users to use their own software and adjust settings via their computer or PLC.

- Connect to any Data Acquisition (DAQ) systems
Computer
PLC
- Programmable relay:
switch off/ on
warning systems
and bolt tightening
systems.

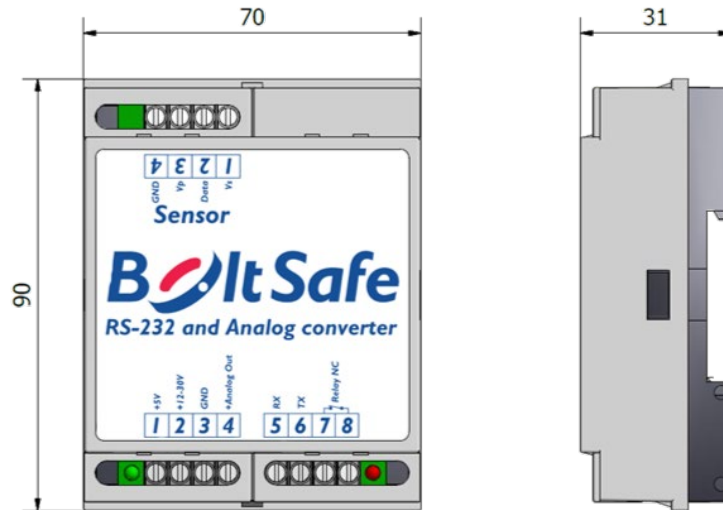
- Digital readout in
RS-232
- Analog readout
0–5 V DC
0–10 V DC
0–20 mA
4–20 mA

Especially designed
for BoltSafe CMS
sensors.

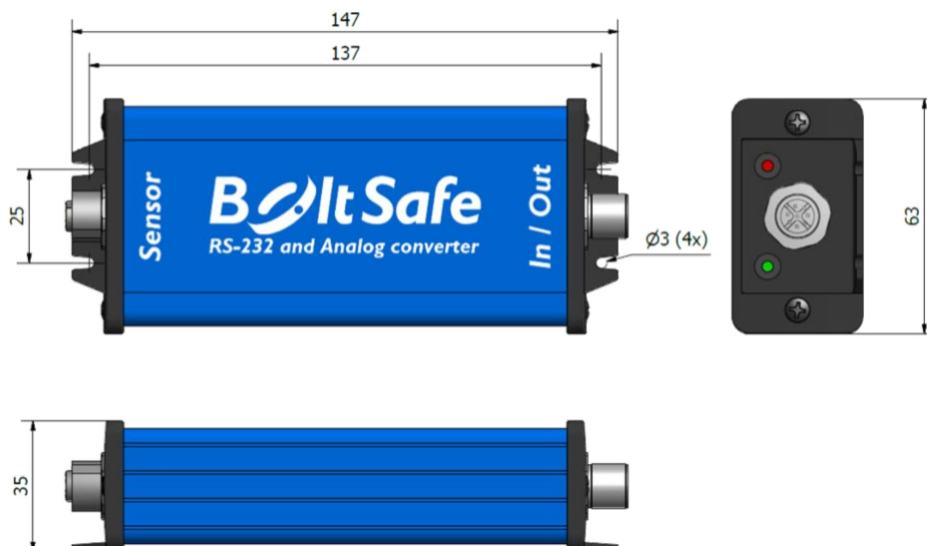


Dimensions

BoltSafe RS-232 and Analog converter in DIN-Rails enclosure (BKS-DAC-DIN)

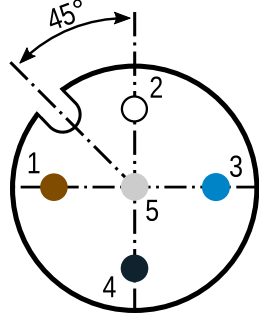
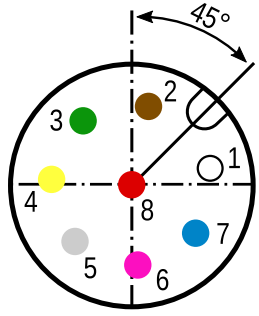


BoltSafe RS-232 and Analog converter in aluminum enclosure (BKS-DAC-ALU)



Product specifications

Applicable to all BoltSafe CMS sensors	
M20 to M72	18 kN to 3.000 kN
7/8" to 2-3/4"	22 kN to 2.000 kN
Serial Communication	
Signal	RS-232
Protocol	9600 baud, 8 bits, no parity, 1 stop bit
Analog Output	
Output levels	0-5Vdc, 0-10Vdc, 0-20mA and 4-20mA
Output resolution	12 bits (4.096 steps)
Output accuracy	± 0,25% of output span
Output update rate	50 ms
Output selection	DIP switch
System calibration	10% and 100% of output by dipswitch
Relay Output	
Serial communication and relay	5Vdc (through USB)
0-5Vdc, serial and relay	12-30Vdc
All outputs	15-30Vdc
Max. power consumption	0,75W
Short circuit resistance	5Vdc and 12-30Vdc vs. GND
Reverse polarity protection	Analog output vs. GND and 5Vdc Sensor vs. GND
Insulation voltage	500Vdc
Fuse	2 pieces of 125mA T, 5x20mm
Environmental	
Operating temperature	0°C to 55°C
Storage temperature	-40°C to 85°C
Relative humidity	95% at 40°C, non-condensing

	DIN-Rail enclosure	Aluminium enclosure		
Article number	BKS-DAC-DIN	BKS-DAC-ALU		
Dimensions (LxWxH)	90x70x31mm	147x63x35mm		
Sealing/IP-class	-	IP65		
Mounting	DIN-rail (EN50022)	Flanges with 4 x 3mm holes		
Enclosure material	Lexan / Noryl	Aluminum extrusion with Diecast Aluminum covers		
Electrical Connections				
Sensor side	Plug-in screw-clamp	M12x1, 5P, Female connector		
	1 = 5Vdc Sensor		1 = Brown	5Vdc Sensor
	2 = Data		2 = White	Data
	3 = 5Vdc Probe		3 = Blue	5Vdc Probe
	4 = GND		4 = Black	GND
			5 = Grey	NC
Outputs and supply	Plug-in screw-clamp	M12x1, 8P, Male connector		
	1 = 5Vdc		1 = White	5Vdc
	2 = 12-30Vdc		2 = Brown	12-30Vdc
	3 = GND		3 = Green	GND
	4 = Analog Output		4 = Yellow	Analog Output
	5 = RX (RS-232)		5 = Grey	RX (RS-232)
	6 = TX (RS-232)		6 = Pink	TX (RS-232)
	7 = Relay C1		7 = Blue	Relay C1
	8 = Relay C2		8 = Red	Relay C2

Accessories	Article number
M12x1, 5P, Female. PG 9 Panel mount	BKS-5PFPG9
M12x1, 8P, Male. PG9 Panel mount	BKS-8PMPG9
5 meter USB-cable loose wire (RS-232 to USB converter build in)	BKS-5USBL
5 meter USB-cable with M12x1, 8P, Female connector	BKS-5USB8PFM12
5 meter loose wire PUR Cable with M12x1, 8P, Female connector	BKS-5L8PFM12
M12x1 8P Female connector, screw contacts	BKS-8PFM12