

Data Sheet

# PLUS+1<sup>®</sup> Connect CS500 IoT Gateway



The PLUS+1<sup>®</sup> Connect CS500 IoT Gateway offers machine owners and operators CAN bus data logging, asset tracking, and mobile machine management.

The CS500 provides high quality, plug and perform ease of installation, and cost effective solutions to fit the remote monitoring needs of today's mobile machines.

## Product Highlights

The CS500 includes LTE Cat 1 cellular communications, GNSS positioning, 2 CAN bus ports, 2 multifunction inputs, 2 multifunction inputs/outputs, power management ports, and sensor power. The CS500 is configurable from the PLUS+1<sup>®</sup> Connect portal.

## Remote machine monitoring

From the PLUS+1<sup>®</sup> Connect portal, the CS500 can be remotely configured to monitor the machine state, performance, and position. Both position and machine data are periodically transmitted and stored to the PLUS+1<sup>®</sup> Connect portal. The CS500 allows remote upload and download of machine parameters, as well as remote downloads of application software to a machine's PLUS+1<sup>®</sup> controllers and displays. The PLUS+1<sup>®</sup> GUIDE and PLUS+1<sup>®</sup> Service Tool can be used to configure, as well as program, the CS500 via remote or a local CAN bus connection.

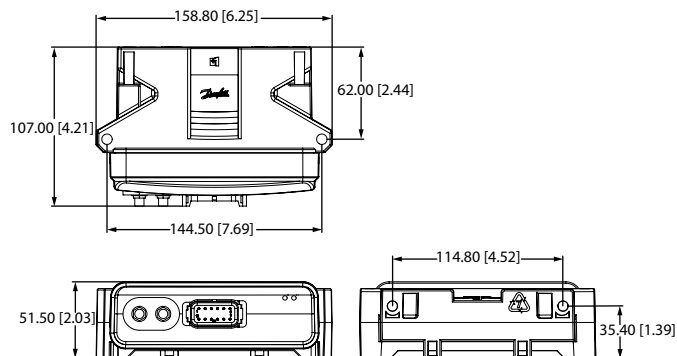
## Features

- Easy to install enclosure
- Plug and perform solution
- 4G LTE Cat 1 with 3G cellular
- Remote PLUS+1<sup>®</sup> GUIDE and PLUS+1<sup>®</sup> Service Tool connectivity
- PLUS+1<sup>®</sup> Connect portal to configure logging of machine and position data
- Firmware-over-the-air (FOTA) update
- Factory-installed SIM Card
- 2 CAN buses 2.0A/B
- IP67 Ingress Protection rating
- 4 multifunction inputs
- Power management driven by CL15 including low-power mode with cyclic configurable wake-up
- Flexible mounting options
- GNSS position tracking
- Factory-installed security certificate



Comprehensive technical literature is online at [www.danfoss.com](http://www.danfoss.com)

CS500 dimensions in mm [in]



**! Caution**

PCB damage may occur. All device power supply + pins must be connected to battery +.

**! Caution**

Use care when wiring mating connector. Pinouts listed are for device pins.

Use care when wiring mating connector. Pinouts are for device pins.

Electrical

<b>Supply voltage</b>	9 to 36 V <sub>DC</sub>
<b>Memory</b>	256 MB Min
<b>EMI/RFI rating</b>	100 V/M
<b>Current consumption</b>	Typical: 100 mA Low-power mode: 5 mA Max

Power Supply / CAN Bus / I/O Connector 1

Pin	Designation	Description
1	Ground	Power supply
2	9 to 36 VDC	Power supply
3	CAN 1 High	CAN bus 1
4	CAN 1 Low	CAN bus 1
5	DIGIN1/CL15	Multifunction Input / Ignition
6	DIGIN2	DIN / Sensor Power
7	CAN 2 High	CAN bus 2
8	CAN 2 Low	CAN bus 2
9	MFIO1	Multifunction Input / Output
10	MFIO2	Multifunction Input / Output
11	MFIN1	Multifunction Input
12	MFIN2	Multifunction Input

Mechanical

<b>Dimensions</b>	107 x 158.8 x 51.5 mm 4.2 x 6.25 x 2 in
<b>Housing</b>	Tamper resistant
<b>Color</b>	Black
<b>Operating temperature</b>	-40 to 75°C [-40 to 167°F]
<b>Storage temperature</b>	-40 to 85°C [-40 to 185°F]
<b>IP rating</b>	IP67 with connector mated
<b>Weight</b>	350 grams
<b>Status LED</b>	2 red / green

Interface / protocols / certifications

<b>CAN Bus Network</b>	2 (ISO 11898-2 High Speed, 2.0A/B), up to 1Mbps
<b>Multi-Function Input</b>	2 (DIN/AIN/ResIN/FreqIN /CrntIN/CL15/DOUT)
<b>Radio Module</b>	Global 4G LTE, 3G UMTS/HSPA+, and 2G GSM/GPRS/EDGE
<b>Available country certifications</b>	USA EU CAN, see CS500 country certification list
<b>GNSS Constellations</b>	GPS, GLONASS, BeiDou, Galileo
<b>Antennas</b>	Cellular (External), GNSS (External)
<b>SIM Card</b>	Factory Installed
<b>Certifications</b>	FCC, CE, E-Mark, PTCRB
<b>Vibrations</b>	IEC 60068-2-64
<b>Shock</b>	IEC 60068-2-27 test Ea



Ordering information

Product	Part numbers
CS500 IoT Gateway	11247192
Antenna	11247194
CS500 IoT Gateway and Antenna Kit	11247193
DEUTSCH mating connector bag assembly	10102025 (16 to 20 AWG) 10100944 (20 to 24 AWG)