

# Cellocator Accessories

One-Stop Shop for your Telematics Solutions

## The Cellocator Difference

Cellocator offers a wide variety of product accessories to enable an end-to-end implementation of our products to best meet your dynamic needs. We understand that you require much more than just a tracking device – you need a full solution that covers various vertical markets, such as Fleet Management, Cold Chain, Driver Identification, Fuel Management, and so on.

The accessories listed in this brochure complement our products to provide you with the full, complete solution you need, while also ensuring a flexible, reliable and easy-to-install deployment.

There really is no need to search for suitable complementing parts elsewhere – think of us as your one-stop-shop for all your telematics solutions.



## Application Enablers

Cellocator's application enablers provide connectivity to expand your solution with external applications, which enable you to a wider range of solutions.

### BT Extender

**Products: Cello-IQ, Cello-CANiQ**

BT Extender serves as a Bluetooth dual mode converter to RS232, supporting the wireless communication channels between the Cello-IQ device and other devices with BT/BLE capabilities:



- BT Classic – supports the Serial Port Profile (SPP), enabling the usage of any device supporting BT SPP, such as smartphones and Electronic Logging Devices (ELDs).
- BLE Mode – supports the communication channel between the Cello family and Cellocator's MultiSense devices, which include a range of internal embedded sensors that create a Wireless Sensor Network (WSN) and sense temperature, relative humidity (MultiSense TH), light, freefall, impact, movement, orientation change, door status, and more.



### CAN Contactless Adapter

**Products: Cello-CANiQ**

The CAN Contactless Adapter provides a non-intrusive, non-galvanic interface with the vehicle CAN Bus.

- Supports all CAN Bus (50Kbits/s – 1Mbits/s) rates.
- Complies with the Cello-CANiQ CAN High and CAN Low interfaces and with Cellocator harnesses.



### DFD (Driver Feedback Display)

**Products: Cello-IQ 40/50, Cello-CANiQ**

The DFD is a real-time driver feedback display providing continuous real-time coaching via visual and/or audible (human speech in various languages) feedback to the drivers, indicating the risk level of their driving to increase safety and ensure ECO driving.



Harsh Acceleration



Hard Braking



Sharp Cornering



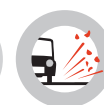
Over Speeding



Wrong Gear Handling



Excessive Idling



Off Road Warning

### Cellocator Handsfree

**Products: Cello-IQ, Cello-CANiQ**

The Cellocator Handsfree Kit provides the hardware components that enable the voice capabilities and features of the Cello family units.



- Allows voice communication between the drivers and the control center.
- Supports silent monitoring (eavesdropping), allowing the control center operators to listen in to the driver's cabin, while the speaker is muted.
- A service button can be used by the driver to initiate, answer and disconnect calls to a pre-defined number, in addition to controlling the volume of the call.
- Superb voice and volume quality thanks to optimal matching of the Handsfree module and the Cello unit voice circuits.
- Built-in noise suppression provides vehicle noise immunity.

### Cellocator MDT (Mobile Data Terminal)

**Products: Cello-IQ, Cello-CANiQ**

The Cellocator MDT provides a mobile messaging application, typically used for communicating with the central office or dispatch center.



- Features a robust and ergonomic design including a quick-access knob for easy operation while driving.
- 5.5" Monochrome LCD display with adjustable LED backlight.
- Enables initiating free text and canned messages in addition to viewing, deleting and responding to incoming messages.
- Supports several languages (English, German, Turkish and Hebrew).
- Integrated via Garmin protocol with the Cello RS232 interface.

## CFE - Cellocator Communication & Functionality Expander

**Products: Cello-IQ, Cello-CANiQ**

Cellocator CFE is an extension device that can be connected to the RS232 serial port of the Cello unit in order to increase the number of available inputs, outputs and serial communication ports.



- Supports additional three serial ports, six inputs and six outputs.
- Each serial port can be configured to support one of the legacy serial protocols.
- Each input supports digital, analog and frequency counter interface.
- Supports OTA programming and firmware upgrades via serial port.

## Driver Identification

All driver identification accessories are used in conjunction with the driver ID feature of the Cellocator units that enable immobilization and driver-recognition applications for both security and fleet services.

We support a variety of driver identification accessories, all based on 1-wire (Dallas) interfaces, ranging from more simple solutions such as Dallas Keys and readers, through to keypads and proximity card readers.

### 1-wire Proximity Reader

**Products: CR300, Cello-IQ, Cello-CANiQ**

With a thin and compact enclosure, the 1-wire Proximity Reader serves as an external wireless front-end for the Cellocator unit, providing a wireless driver ID solution with support for proximity cards or tags.



- Supports Mifare® Classic, Mifare® DESFire, Mifare® Ultralight, Calypso, iClass and NFC cards.
- Supports 1-WIRE interface (DS1990 emulation).
- Includes a built-in dual color LED indicator and buzzer.

### Cellocator Keypad

**Products: CR300, Cello-IQ, Cello-CANiQ**

The keypad is used for driver authentication and vehicle immobilizer. The driver enters their driver ID using the keyboard, which transmits the ID to the Dallas input of the Cellocator unit.



### Dallas Kit (Reader & Keys)

**Products: CR300, Cello-IQ, Cello-CANiQ**

Dallas Keys are coded keys used for driver identification and immobilizations, which are read via the Dallas reader, and which are connected to the 1-wire interface of the Cellocator unit. Additional keys enable multiple drivers.



### Dallas Reader with LED & Push Button

**Products: CR300, Cello-IQ, Cello-CANiQ**

This device contains a Dallas reader, a push button and a LED and provides driver identification and driver status reports on special events, such as business or private use of a vehicle.



The Dallas reader is used for the Driver ID report, the push button is used for special event reports, and the LED is used as a status indicator controlled by the Cellocator unit.

### Trailer ID

**Products: CR300, Cello-IQ, Cello-CANiQ**

The Trailer ID is a compact device for monitoring a trailer's location and connectivity.

Fleet managers can easily monitor which trailer is connected to which vehicle within the fleet, or whether a trailer is even connected.



# Sensors

## Temperature Sensors

Cellocator temperature sensors provide a temperature monitoring solution in fleet management applications, such as refrigerated containers for the cold chain industry and other temperature sensitive assets. Complies with EN12830 standards.

### 1-Wire Temperature Sensor

**Products: CR300, Cello-IQ, Cello-CANiQ**

The 1-wire Temperature Sensor can be connected to the 1-wire port of the Cellocator unit to provide a low-cost, easy to install solution for the cold chain transportation market.



- Based on DS18B20 chip technology which has a unique 64-bit serial code.
- Weather-proof, including rapid thermal response to changing conditions.
- Enables multiple sensors to be connected to the same 1-wire bus (up to four sensors can be connected to the Cello 1-wire interface).
- Operating temperature range: -55°C to +125°C with  $\pm 0.5^\circ\text{C}$  accuracy from -10°C to +85°C.
- EN 12830 recording device compliant.

### Analog Temperature Sensor

**Products: CR300, Cello-IQ, Cello-CANiQ, CelloTrack Power Variants**

The Analog Temperature Sensor is available in 5m and 20m lengths and connects to the analog input of the Cellocator unit.



- Temperature range: -40°C to +75°C.
- Maximum error range of  $\pm 2^\circ\text{C}$  (when integrated with a Cellocator unit).
- No calibration is required.
- Supports 12/24V power supply and has built-in protection against reverse polarity feed and electrical disturbances in the vehicle environment.

## CTR (Cellocator Temperature Recorder)

**Products: CR300 (must have RS232 to TTL adapter), Cello-IQ, Cello-CANiQ**

The Cellocator Temperature/Humidity Recorder (CTR / CTHR) provides monitoring, logging, exporting and printing capabilities, in addition to providing alarms in real time.



- Up to 4 input channels of temperature, humidity and events (switches).
- Records, saves and prints up to 16,200 readings.
- Sends the recorded data via its RS232 interface to the Cellocator unit which is then forwarded to the control center application, allowing online monitoring of the sensors.
- Ensures that information is saved even when cellular communication is lost for long periods.
- Sounds an alarm whenever the measured value goes above or below a defined range, or whenever the Event (switch) changes its position.
- EN12830 compliant.

## Fuel Sensors

Cellocator fuel sensors are designed to enable fuel consumption management by allowing online monitoring of fuel consumption.

The monitoring of dynamic data - including the level, the volume, time and location of refueling and draining - helps reduce fuel usage and prevent fuel theft.

### Fuel Level Sensor

**Products: CR300, Cello-IQ, Cello-CANiQ, CelloTrack Power Variants**

The Fuel Level Sensor measures the fuel level in the vehicle tank, and supports:



- All vehicles that utilize a resistive floating buoy and vehicles with or without a voltage regulator.
- Simple and remote calibration for full and empty tanks.
- Filtering algorithm to prevent measurement errors due to a buoy's momentary movement. The Fuel Level Sensor helps reduce the 'jumps' created by fuel movement in the tank.

## Cellocator Fuel Probe Sensor

**Products: CR300, Cello-IQ, Cello-CANiQ**

The Cellocator Fuel Probe Sensor is used to accurately measure the fuel volume in fuel containers and vehicles' tanks.

- Includes a probe (available in various lengths for different fuel tank dimensions) which is immersed into the fuel, and a measuring head which is mounted on the fuel tank.
- The sensor is connected via an interface cable to the Cellocator unit pulse counter input.



## Cello & CR Family Protector

**Products: CR300 Cello-IQ, Cello-CANiQ**

The Cello and CR Family Protectors are silicone/ rubber covers for Cello and CR devices, designed to improve the protection of devices (Cello family from IP40 to IP66 and CR from IP40 to IP65).

- This protector provides the installer with more flexibility as the Cello unit can now be installed in vehicle cavities in addition to the passenger compartment or trunk.
- The Cello and CR Family Protectors are used in conjunction with molded harnesses in order to provide robust protection.



## Fuel Cap Protector

**Products: CR300, Cello-IQ, Cello-CANiQ, CelloTrack Power Variants**

The Fuel Cap Protector decreases the possibility of fuel theft by disabling access to the fuel tank when closed, and reporting on fuel cap openings via the unit's digital input.



## External Power Surge Suppressor

**Products: CR300, Cello-IQ, Cello-CANiQ**

The External Power Surge Suppressor provides adequate protection against exceptional electrical disturbances in the vehicle environment.

It should be applied between the vehicle's power source and the Cellocator unit.

It is recommended to use it in vehicles where extreme electrical disturbances are expected.



## Other Accessories

### Cellocator Concrete Mixer Sensor

**Products: CR-300, Cello-IQ, Cello-CANiQ**

The Concrete Mixer Sensor provides a smart solution for the construction vertical market.

Using this accessory increases concrete mixer efficiency, while ensuring high standard cement delivery and the reducing of costs by detecting fraud.

- The device enables a full monitoring solution of the concrete supply cycle and its various supply cycle stages, including: 'engine on'; arrival at the concrete plant; loading (mixing) the concrete; agitating the concrete while traveling; arrival at the construction site; unloading the concrete; washing the mixer and exiting the construction site.
- Detects mixer rotation direction and speed.
- Enables alerts when unloading concrete outside the construction site, or for timing issues and failures to comply with expected work procedures.



### External GNSS Antenna

**Products: Cello-IQ, Cello-CANiQ**

The External GNSS Antenna is an active antenna which enables the extension of the GNSS (GPS and GLONASS) antenna range from the Cello unit's installation point.

It supports GPS and GLONASS frequencies and complies with the Cello platform based products.

The antenna connects to the unit via a standard SMA connector and supports a magnetic mount as well as a patch mount.



## Container Door Sensor

**Products: CR300, Cello-IQ, Cello-CANiQ, CelloTrack Power Variants**

The Cellocator Door Sensor is a massive and rugged device used to detect the opening of doors, especially in container/trailer applications.

The Door Sensor is based on a rectangular magnet and rectangular proximity switch based on reed relay.

The Door Sensor can be used with any Cellocator device equipped with a digital input.



## Harnesses & Batteries

**Products: CR300, Cello-IQ, Cello-CANiQ**

We offer a wide range of harnesses for Cello and CR units, providing the units' interfaces connectivity in addition to power and ground connectivity.

The Cello harnesses also provide connectivity to the OBDII standard connector in the vehicle.

The harnesses are easily installed and support various applications. In addition, we offer internal backup batteries that enable continuous work for mission-critical applications when external power is disconnected.

## 3rd Party Integrations

### Garmin Integration/Garmin Protocol

**Products: Cello-IQ, Cello-CANiQ**

Garmin is an in-car satellite navigation system, enabling driver-side communication capabilities. Integrating its protocol with Cellocator's units ensures high-end navigation and enhanced communication capabilities between fleet managers and their drivers.



### MobilEye Integration

**Products: Cello-CANiQ**

Mobilityeye's collision prevention technology tracks situations that could lead to accidents in real-time and uses visual and audio warnings to alert the driver of these situations. The integration of Mobilityeye with Cellocator's devices enables the transmission of all safety events to the backend server, generating real-time alerts and sophisticated safety reports.



### Automatic Passenger Counting – iris

**Products: Cello-IQ, Cello-CANiQ**

The integration of iris sensor solutions for automatic passenger counting with Cellocator devices enables accurate passenger counting for the effective utilization of vehicles in public transit systems, along with advanced fleet management and fleet safety applications.



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# Cellocator

## Keep on Track



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