

TELTONIKA SYSTEM COMPONENTS

Hardware Specification for Keyless-Go Anti-Theft Protection & Secure Engine Cut-Off (SECO)

1. Central Telematics Controllers (4G LTE Cat 1)



Teltonika FMC130 — Advanced LTE Cat 1 Tracker with 3x DOUT & CAN Ports

Compact advanced telematics tracker with LTE Cat 1 and 2G fallback. Features 3 digital outputs (DOUT) for simultaneous control of the SECO cut-off relay as well as optical/acoustic alarms. Features dedicated Input 5 and Input 6 for seamless communication with Teltonika CAN adapters (CAN-CONTROL, LV-CAN200, ECAN02).

Cellular / GNSS	LTE Cat 1 with 2G Fallback / GPS, GLONASS, BeiDou, Galileo
Voltage Range	10 - 30 V DC (2A Max) with overvoltage protection
Backup Battery	Internal Li-Ion battery 3.7 V, 170 mAh
Inputs / Outputs	3x DOUT (Open Collector 300 mA), 3x DIN, 1x AIN, 1-Wire
CAN Adapter Ports	Dedicated Input 5 & 6 (CAN-CONTROL, LV-CAN200, ECAN02)
Certifications	E57 10R-06 1465, CE, EAC, ANATEL
Application Area	Universal anti-theft protection for sports cars & premium vehicles



Teltonika FMC125 — High-End Telematics with Dual-SIM & Serial Ports

Professional telematics tracker with dedicated industrial serial interfaces (RS232/RS485) and **Dual-SIM card slot**. Offers maximum connection reliability during frequent international travel through automatic network switching at national borders. Reliably supports the SECO scenario via DOUT 1.

Cellular / SIM	LTE Cat 1 / Dual-SIM (2x Micro-SIM) with auto-roaming switching
Serial Interfaces	1x RS232 (Port 1), 1x RS485 (Port 2), 1-Wire for sensors
Inputs / Outputs	1x DOUT (Open Collector for relay), 1x DIN, 1x AIN
Voltage / Battery	10 - 30 V DC / Li-Ion battery 170 mAh (extended standby)
Certifications	E57 10R-06 1464, CE, EAC, UKCA
Application Area	Vehicles in international operation & commercial fleets

2. CAN-Bus Sensors, Decoding & Actuation

Teltonika CAN-CONTROL — CAN-Bus Decoder & Control Module

Intelligent CAN-bus adapter for extracting over 300 vehicle-specific data points (including Ignition Status Term. 15, Engine RPM, Lock Status, Factory Alarm System). For approved vehicle models, direct wiring also enables sending active locking and hazard light commands via the vehicle electrical system.



Communication	Dedicated CAN adapter link (Pins 5/6 on FMC130) or RS232 (FMC125)
Operating Voltage	9 - 16 V DC, max. 0.2 A current consumption
CAN Channels	Up to 3 independent CAN-bus inputs (CAN 1H/L to CAN 3H/L)
Auxiliary Controls	Blinker / Hazard Light Control, Central Locking Control (C/L Control)
Homologation	E20 10R-05 4430, CE compliant for motor vehicles

Teltonika ECAN02 — Contactless CAN-Bus Reading Head (Warranty Preservation)

Contactless CAN reading head for **purely inductive data acquisition (Listen-Only)**. Clips safely onto the vehicle's twisted CAN-High/Low wire pair without insulation piercing. Ensures 100% preservation of vehicle factory warranty (ideal for leased vehicles). *Note:* As a passive inductive listener, active CAN write commands (e.g. CAN door lock) require direct CAN-CONTROL wiring, while SECO engine cut-off operates via DOUT1.



Operating Mode	Listen-Only (Purely inductive reading; zero electrical bus intrusion)
Galvanic Isolation	Fully isolated — No electrical contact with copper conductor
Mounting Type	Snap-on housing with click lock, tool-free clamping
Baud Rates	Supports 125, 250, 500, and 1000 kbps CAN systems
Homologation	E57 10R-06 1673 (Automotive E-Mark certified)

Teltonika Automotive Relay — Safety Switching Relay with Integrated Protection Diode

Official Teltonika safety relay (Type SHORI S10-1C-C1-12VDC) with factory-**integrated freewheeling diode** and pre-wired relay socket. Protects the tracker's open-collector transistor stage (DOUT) against damaging inductive spikes. Connected as **Normally Closed (NC)** via Pin 30 and 87a to keep the circuit closed if the tracker fails (failsafe principle).



Relay Model	SHORI S10-1C-C1-12VDC / SPDT (1 Changeover)
Rated Capacity	NC: 30 A / 14 V DC NO: 40 A / 14 V DC
Coil Data	12 V DC operating voltage, approx. 80 Ohm coil resistance
Protection Circuit	Integrated diode (Cathode on Pin 85 / White, Anode on Pin 86 / Yellow)
Failsafe Path	Pin 30 (Blue / COM) to Pin 87a (Red / NC - Normally Closed)
Switching Cycles	100,000 electrical switching operations under rated load

3. Extended Telematics & Mobility: ECAN02 vs. CAN-CONTROL

Architectural Rationale: ECAN02 was selected as the default solution for SECO™ because it requires **no wire stripping or insulation piercing** on the vehicle's OEM CAN bus, guaranteeing 100% vehicle factory warranty preservation. Full anti-theft protection and immobilizer capabilities remain 100% active via the independent DOUT1 relay.

Direct Wire Connection: If an installer opts to strip CAN wires and connect directly to **CAN-CONTROL**, our SaaS platform unlocks advanced bidirectional control, carsharing, and comprehensive vehicle diagnostics:

Active Control Functions (Carsharing / Mobility)	SaaS & Mobile App Integration
Central Lock Control	Remote door lock / unlock via 1-click in Driver App & Fleet Portal
Hazard & Indicator Control	Visual vehicle location and visual armed / disarmed confirmation
Comfort Closure (All-in-One)	Simultaneous roll-up of power windows, door lock, and power-folding mirrors
Trunk Release	Selective trunk unlatching for contactless delivery / courier services
Factory Alarm Management	Status synchronization and remote arming / disarming of OEM alarm
Central Lock on Ignition ON	Automatic anti-hijack drive-lock engagement upon drive-off

Vehicle Segment	Decoded CAN-Bus Telemetry Data Points
Passenger Cars & LCVs (Combustion & Hybrid)	• Fuel & Mileage: Total fuel consumption, fuel level (% / L), OEM dashboard odometer • Door & Hood Status: Front L/R, Rear L/R, Trunk lid, Engine hood status • Engine & Dynamics: Engine RPM, oil pressure/level, coolant temp, speed, pedal position, VIN • Lights & CNG: Parking lights, low/high beam, fog lights; CNG fuel level & consumption
Electric Vehicles (EV) (Battery Electric)	• Charging: Cable status (plugged/locked/unplugged), active charge state (AC/DC) • Battery & Range: High-voltage Battery State of Charge (SoC 0-100%), remaining electric range (km)

OFFICIAL TELTONIKA WIKI DOCUMENTATION & PINOUT SPECIFICATIONS:

- Teltonika FMC130 CAN Adapters: https://wiki.teltonika-gps.com/view/FMC130_CAN_adapters
- Teltonika FMC125 CAN Adapters: https://wiki.teltonika-gps.com/view/FMC125_CAN_adapters