



ELEVATE Prototype P5 Telematic VCU Microcontroller Instructions

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ELEVATE Prototype P5 Telematic VCU Microcontroller



Product Information

The Telematic unit Prototype P5 is a device that functions as a telematic unit with an integrated general-purpose VCU microcontroller. It is designed to interface with a vehicle through an 18-pin connector. The device offers various features and specifications to enhance its functionality and performance.

Features

- Wide range supply voltage (6-60V)
- Inbuilt Cellular and GNSS (Global Navigation Satellite System) antenna
- Inbuilt backup battery
- x6 GPIOs (General Purpose Input/Output)
- x2 CAN (Controller Area Network) interfaces
- 512Mb flash memory
- Accelerometer
- Temperature sensor
- Tamper detection for lid and connector removal
- LED status indication
- Water-protected housing and connectors
- Extra general-purpose VCU for business applications
- Sleep modes (Low and high-frequency mode, Deep sleep)
- Programmable through connector or OTA (Over-the-Air)

Specifications

- Supply voltage: 6V-60V
- Backup battery: Included
- Temperature range: [RADIO SPEC WHEN AVAILABLE]
- GPIO(1-5) pins: 3V3 digital input/output, (12V input tolerant)
- AIN (Analog Input): 0-100V

- IM_OUT (Immobilizer Output)
- GNSS antenna: PCB mounted ceramic high-gain antenna
- Cellular antenna: Internal PCB GSM High Gain
- LED indications: Fault, Nano-SIM, Memory
- Memory: 512Mb flash memory for VCU, 64Mb flash memory for OTA
- 2xCAN: ISO-11898-5, 1Mb/s
- LTE CAT-M1 Cellular bands: 850 / 900 / 1800 / 1900 MHz
- GNSS: GPS, GLONASS, BEIDOU

Dimensions

CHANGE TO LATEST DESIGN

Connector Pinout

1. VDC
2. CAN_H
3. CAN_L
4. CAN_H
5. CAN_L
6. IM_OUT
7. GPIO_5
8. GPIO_1
9. TAMPER_CONN
10. NRF_SWDIO
11. NRF_SWCLK
12. VCU_SWDIO
13. VCU_SWCLK
14. GPIO_2
15. GPIO_3
16. GPIO_4
17. AIN_100V
18. GND (Ground pin)

Product Usage Instructions

1. Ensure the supply voltage provided to the Telematic unit Prototype P5 is within the range of 6V-60V.
2. Connect the device to the vehicle using the 18-pin connector, following the pinout provided in the user manual.
3. If required, insert a Nano-SIM into the designated slot for cellular communication.
4. For additional functionality, utilize the GPIO pins (1-5) according to your requirements. These pins support both digital input and output, with 3.3V voltage levels (12V input tolerant).
5. If analog input is needed, connect the desired sensor or device to the AIN pin, ensuring that the voltage does not exceed 100V.
6. Make use of the IM_OUT pin for immobilizer output, if applicable.

7. Ensure that the Telematic unit Prototype P5 is properly installed in a water-protected housing, considering its connectors as well.
8. If programming is required, connect a programmer tool to the designated data and clock pins (NRF or VCU) as specified in the pinout.
9. Refer to the LED indications for monitoring device status. The fault LED indicates any detected faults or errors.
10. If available, program the device through the connector or utilize Over-the-Air (OTA) programming methods.

Note: For specific information on temperature range and other radio-related specifications, refer to the provided radio specifications when available.

FCC Warning: This device complies with part 15 of the FCC rules. It must not cause harmful interference and should accept any interference received that may cause undesired operation.

Radiation Exposure Statement: To adhere to FCC radiation exposure limits, maintain a minimum distance of 20cm between the Telematic unit Prototype P5 and your body during installation and operation.

Description

- The device serves as a telematic unit with an integrated general purpose VCU microcontroller.
- Interfacing with the vehicle through a 18 pin connector.

Features

- Wide range supply voltage (6-60V)
- Inbuilt Cellular and GNSS antenna.
- Inbuilt backup battery
- x6 GPIOs
- x2 CAN interface
- 512Mb flash memory
- Accelerometer
- Temperature sensor
- Tamper detection for lid and connector removal
- LED status indication
- Water protected housing and connectors
- Extra general purpose VCU for business applications
- Sleep modes (Low and high frequency mode, Deep sleep)
- Programmable through connector or OTA

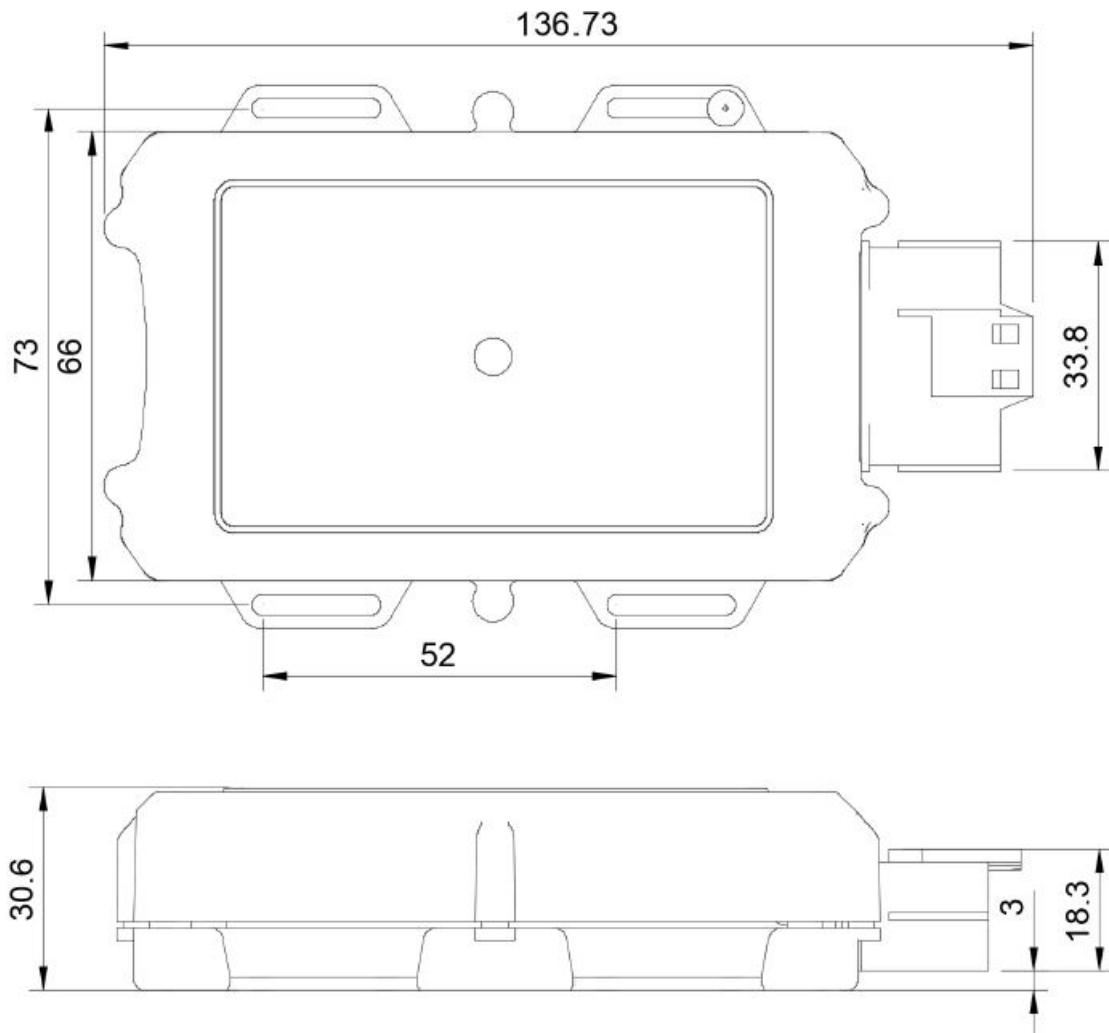
Specifications

- **Supply voltage:** 8-60V VDC
- **Backup battery:** Lipo 1800mAh (6.66Wh)
- **Temperature range:** -40°C to +85

[RADIO SPEC WHEN AVAILABLE] [CONSUMPTION SPEC WHEN AVAILABLE]

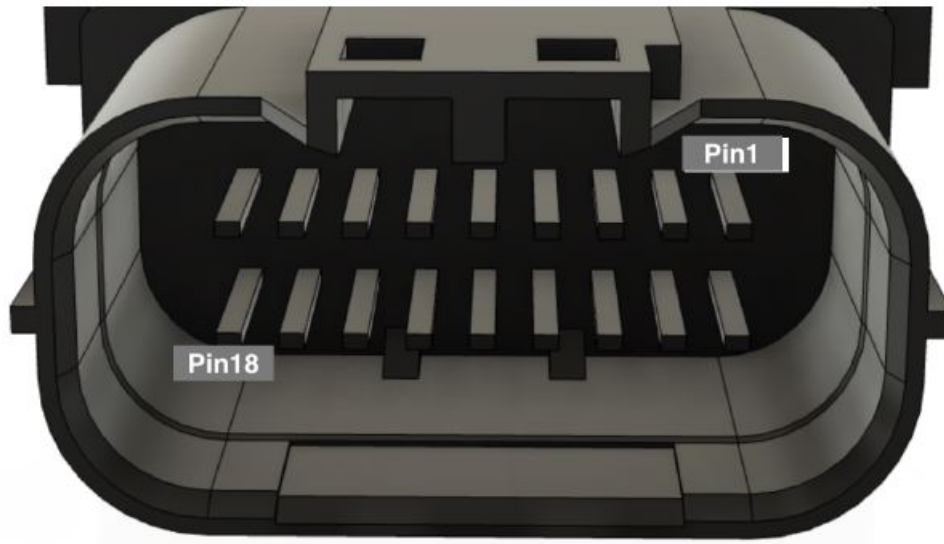
- **GPIO(1-5) pins:** 3V3 digital input / output, (12V input tolerant)
- **AIN:** Analog input 0-100V
- **IM_OUT:** Digital output 3V3
- **GNSS antenna:** PCB mounted ceramic high gain antenna.
- **Cellular antenna:** Internal PCB GSM High Gain
- **LED indications:** GNSS, CELL, FAULT
- **SIM:** Nano-SIM
- **Memory:** 512Mb flash memory for VCU
- **Memory:** 64Mb flash memory for OTA
- **2xCAN:** ISO-11898-5, 1Mb/s
- **LTE CAT-M1 Cellular bands:** 850 / 900 / 1800 / 1900 MHz
- **GNSS:** GPS, GLONASS, BEIDOU

Dimensions



CHANGE TO LATEST DESIGN

Connector pinout



1	VDC	12V (6V-60V)
2	CAN_H	250 baud
3	CAN_L	250 baud
4	CAN_H	500 baud
5	CAN_L	500 baud
6	IM_OUT	Immobilizer output
7	GPIO_5	Battery temp input
8	GPIO_1	Immobilizer output
9	TAMPER_CONN	Connector tamper detection
10	NRF_SWDIO	Programmer data pin (NRF)
11	NRF_SWCLK	Programmer clock pin (NRF)
12	VCU_SWDIO	Programmer data pin (VCU)
13	VCU_SWCLK	Programmer clock pin (VCU)
14	GPIO_2	GPIO_2
15	GPIO_3	GPIO 4
16	GPIO_4	GPIO 3
17	AIN_100V	Analog input (max 100V)
18	GND	Ground pin

FCC STATEMENT

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions:

1. this device may not cause harmful interference, and
2. this device must accept any interference received, including interference that may cause undesired operation.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules.

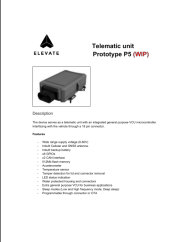
These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interferenceto radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Radiation Exposure Statement

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator and your body.

Documents / Resources

	<p>ELEATE Prototype P5 Telematic VCU Microcontroller [pdf] Instructions 2BC24-P5, 2BC24P5, Prototype P5, Prototype P5 Telematic VCU Microcontroller, Telematic VC U Microcontroller, VCU Microcontroller, Microcontroller</p>
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