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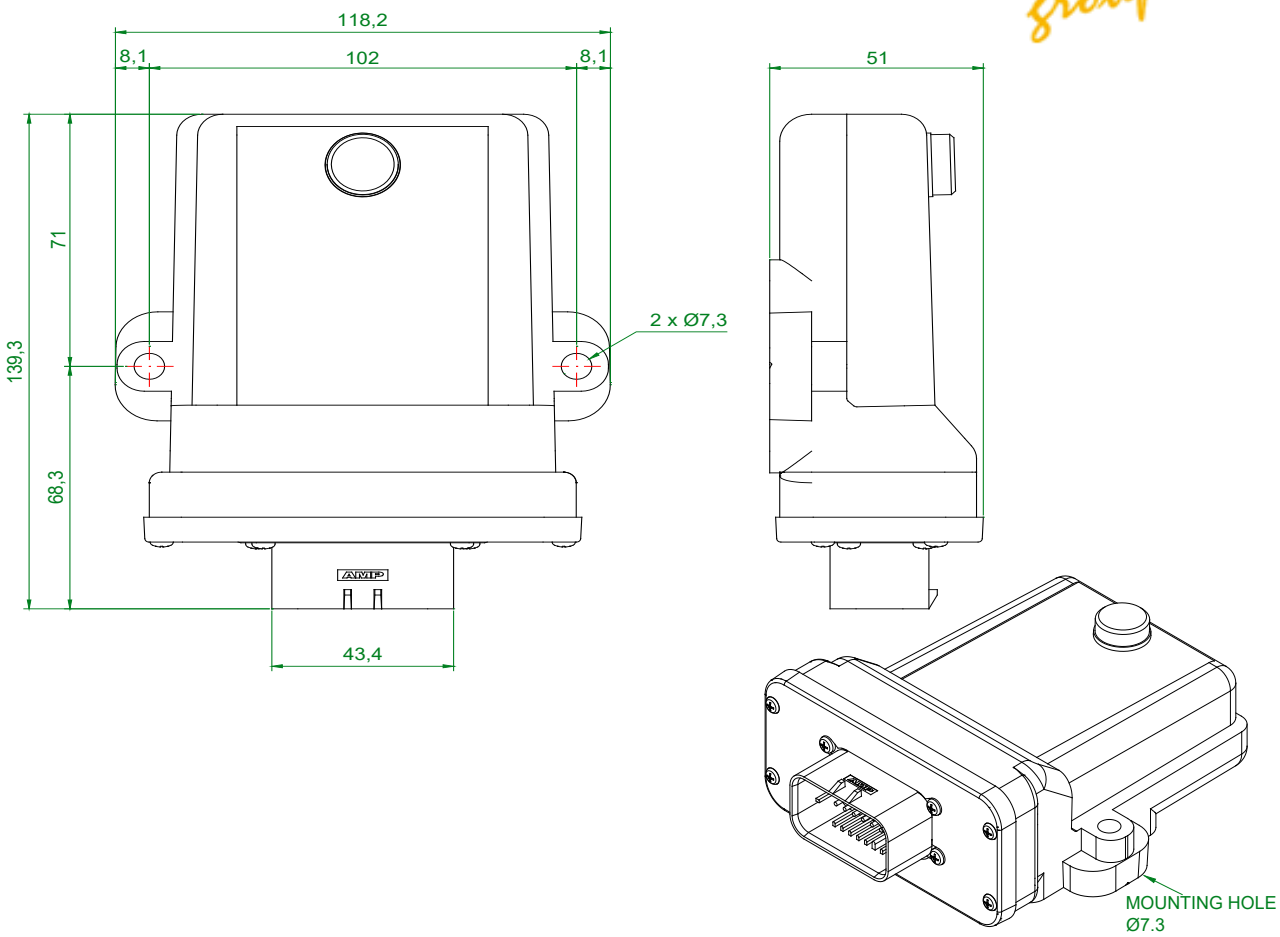
			CAN-LIVE2.SP01	*27/09/2019*	
Code ref.	Description			Rev.	Rev. Add
1088575	*CAN-LIVE 2.0 product specifications*			*0*	*00*

► CAN-LIVE 2.0 ◄



Technical Data

Control System	
Microcontroller	*ARM ™ Cortex-M4 core*
Core operating frequency	*180 MHz*
RAM memory	*256 kB + 4kB*
External memories	
RAM	*16 MB*
Serial Flash	*128 MB*
Interfaces	
CAN-BUS line	*2 CAN-bus, 2.0B high speed, (11 or 29 bit identifier), ISO 11898-2 compliant*
LIN	*1*
RS-232	*1 only TX and RX line*
Miscellaneous	
Clock / calendar	*1 real time clock, battery buffered*
Input	*6 software configurable*
Output	*4 (2 high-side and 2 low-side)*
Accelerometer	*1 digital 3 axis*
Gps	*1 Multi-GNSS engine for GPS, GLONASS, and QZSS. Embedded patch antenna*
Configuration pins	*2 configuration pins for the operating mode selection*
Wireless module	
2,4GHz ISM/SRD radio receiver	*1 2,4 GHZ radio receiver for ISM/SRD band systems for WED detection*
WiFi	*1 Wi-Fi Module with 2 modes: – 802.11b/g/n Station – 802.11b/g/n Access Point (AP) Supporting up to Four Stations*
Modem	*1 Worldwide UMTS/HSPA and GSM/GPRS/EDGE Coverage*
Connectivity	*Micro sim card Vodafone Worldwide Coverage*

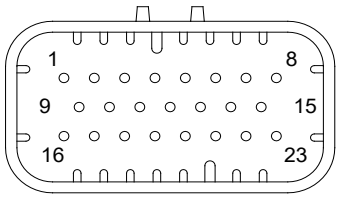
Electrical characteristics	
Operating voltage	*+12V ÷ +24V*
Operative range	*+8V ÷ +32V*
Average current consumption	*100 mA whit WDO On and no Load*
Mechanical & Environmental characteristics	
Storage temp. Range	*From -40 to 85° C (-40 to 185 °F)*
Operative temp. Range	*From -40 to 80° C (-40 to 176 °F)*
Connector	*AMP connector 23 contacts*
Case	*PA 6.6 30%FV BLACK*
Protection rating	*IP 65*
Dimension	*118x193x51*
Weight	*300gr*

Test standard and regulations

Environmental tests	
Sinusoidal vibration & shock tests	Reference standard EN 60068-2-27
Random vibration tests	Internal Reference
Climatic tests	Refernce standard EN 60068-2-1 and EN 60068-2-2
EMC tests	
Electromagnetic compatibility	Conformity with Directive 2014/53/EC Regulation 10

Connector pinout

FRONT VIEW
NUMBER PIN POSITION



Pin	Function	Description	Type
1	+VB	Positive power supply (+12V / +24V)	A
2	-VB	Negative power supply (GND)	B
3	KEY	Key input, if not used short circuit with pin 1	A
4	RS232 TX	RS-232 TX line	C
5	RS232 RX	RS-232 RX line	C
6	CAN0L	Can interface 1 (low)	D
7	CAN0H	Can interface 1 (high)	D
8	CFG1	Configuration pin 1 (see configuration note table)	M
9	CAN1L	Can interface 2 (low)	D
10	CAN1H	Can interface 2 (high)	D
11	CFG2	Configuration pin 2 (see configuration note table)	M
12	LIN	LIN interface	E
13	GND	Ground signal	B
14	INPUT 1	Configurable input 1 (digital high side / analogue 0 - 5 V / analogue 0 - 30 V)	F
15	INPUT 2	Configurable input 2 (digital high side / analogue 0 - 5 V / analogue 0 - 30 V)	F
16	INPUT 3	Configurable input 3 (digital high side / analogue 0 - 5 V / analogue 0 - 20 mA)	G
17	INPUT 4	Configurable input 4 (digital high side / analogue 0 - 5 V / analogue 0 - 20 mA)	G
18	INPUT 5	Configurable input 5 (digital high side / rpm)	H
19	INPUT 6	Configurable input 6 (digital high side / rpm)	H
20	OUTPUT 1	Digital high side output	I
21	OUTPUT 2	Digital high side output	I
22	OUTPUT 3	Digital low side output	L
23	OUTPUT 4	Digital low side output	L

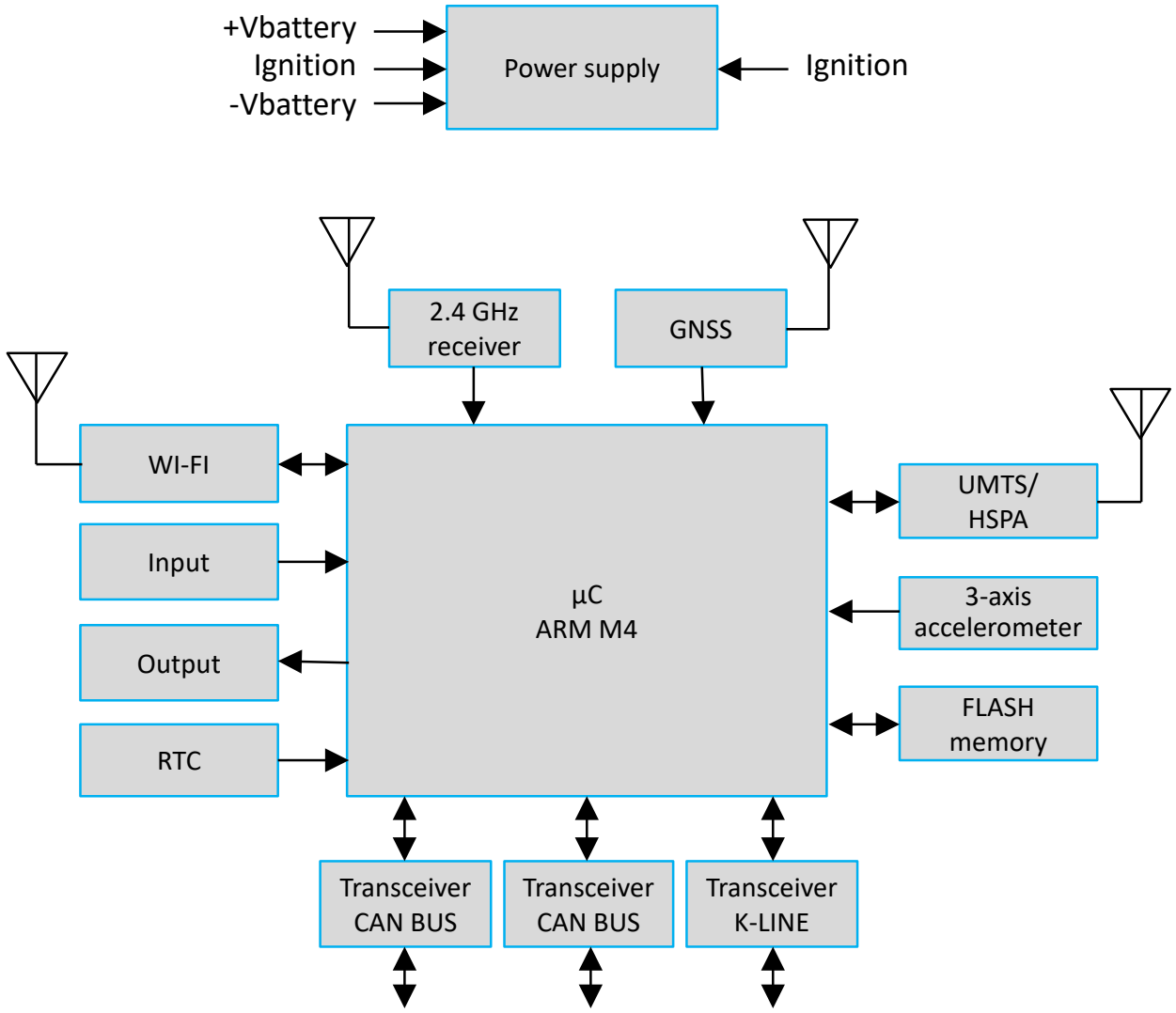
General specifications

	Value	Notes
	Power supply pins	
+VB (Pin type A)		
Absolute max. operating voltage range	+6V ÷ +35V	
Operating voltage range	+8V ÷ +32V	
-VB (Pin type B)		
Max. pin current	500mA	
	BUS interface pins	
CAN (Pin type D)		
Physical layer	--	*ISO11898 Standard Hi-Speed CAN*
Input pin protection	±40V	
Transient protection (ESD)	±6kV	*Human body model (100pF via 1,5kΩ)*
RS-232 (Pin type C)		
Physical layer		*EIA-232*
Input pin protection	± 30V	
Transient protection (ESD)	± 6kV	*ESD protection to EN61000-4-2 on RS232 pins ±8 kV: contact discharge ±15 kV: air gap discharge*
LIN (Pin type E)		
Physical layer		*Compliant and Conforms to SAEJ2602*
LIN pin voltage protection	± 40V	
Transient protection (ESD)	± 12kV	*Human body model (HBM), per AEC Q100-002*
	Input pins	
Digital / analogue inputs (Pin type F)		
	High side digital input	
Operating voltage range	0 - VB	
Switch on level	*2.7 V*	
Switch off level	*2.2 V*	
Input resistance	*13,8 KΩ*	
	Voltage input 0-30V	
Operating voltage range	0 - 30 V	
Input resistance	*20.2 V*	
Resolution	*7,32 mV - 12 bit*	
Accuracy	*1%.*	
Input resistance	*20.2 K* Ω	
	Voltage input 0-5V	
Operating voltage range	0 - 5 V	
Input resistance	*53.7 K* Ω	
Resolution	1,22 mV - 12 bit	
Accuracy	*1%.*	
Digital / analogue inputs (Pin type G)		
	High side digital input	
Operating voltage range	0 - VB	
Switch on level	*2.7 v*	
Switch off level	*2.2 V*	
Input resistance	*16 KΩ*	
	Voltage input 0-30V	
Operating voltage range	0 - 30 V	
Input resistance	*20.2 K* Ω	
Resolution	*7,32 mV - 12 bit*	
Accuracy	*1%.*	
Input resistance	*20.2 K* Ω	
	Current input 0-20mA	
Operating current range	0 - 20 mA	
Input resistance	*220* Ω	
Resolution	5,54 µA - 12 bit	
Accuracy	*1%.*	

	Value	Notes
Digital / RPM inputs (Pin type H)		
	High side digital input	
Operating voltage range	0 - VB	
Switch on level	*2.7 V*	
Switch off level	*2.2 V*	
Input resistance	*13,8 KΩ*	
	Rpm inputs	
Operating frequency range	0,5 - 10000 Hz	
Switch on level	*2.7*	
Switch off level	*2.2*	
Input resistance	*13,8 KΩ*	
Resolution	1 Hz	
Accuracy	*1%.*	
	Output pins	
Digital high side outputs with diagnostic capability (Pin type I)		
Operating voltage range	*0 - 32 V*	
Max current	*2 A*	
Output resistance	*112 m Ω*	
Digital feedback switch on level	*3.5 V*	
Digital feedback switch off level	*3.2 V*	
Digital low side outputs (Pin type L)		
Operating voltage range	*0 - 32 V*	
Max current	*0,5 A*	
Output resistance	*550 mΩ*	
	Configuration pins	
Configuration pins (Pin type M)		
Configuration notes	*Configuration pins must be kept at the required level at least 5 seconds.* *Normal mode is activated immediately.*	

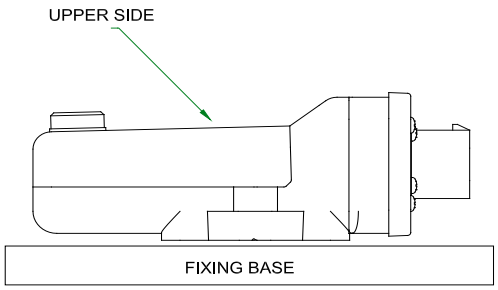
CFG1	*CFG2*	*MODES*
GND	VB	Authorisation for diagnostic operat
VB	GND	WIFI Hotspot CFG reset

Block circuit diagram



Installation notes

It is strongly recommended to install the controller with the upper side towards the sky (see the following figure).



It is recommended to install the controller far from heating sources, and locations with strong vibrations.
Please take into account the protection level IP while machine Design.
Please install the unit accordingly to fixing bolt diameters.
NEVER machine or drill controller fixing holes in order to use other fixing bolts
Particular care shall be used for installation on vehicle.
Any object close to the device causes interference and reduces even drastically communication range, expecially if metallic.
Proximity to other objects and also presence of other objects between the product and the connected devices shall be both avoided.