



THOR

DC MOTOR CONTROLLER



- Rugged motor controller for up to 500W dual DC motor drive and vehicle management systems.
- two proportional power channels for traction and steering control.
- Microcontroller with watchdog, to ensure the failsafe operation
- Designed for machines and equipment equipped with a CAN BUS network.



TECHNICAL DATA

MASTER CODE	THR.485
POWER SUPPLY	20-30 VDC
INPUTS	No. 2 HIGH FREQUENCY DIGITAL INPUTS (HIGH SIDE) No. 4 ANALOGUE INPUTS (4-20mA / 0-5 VDC / 0-30 VDC software selectable) No. 3 ANALOGUE INPUTS (0-30 VDC)*
OUTPUTS	No. 4 DIGITAL HIGH SIDE OUTPUT (MAX 2 A) –SELF PROTECTED DRIVER No. 2 H-BRIDGE (MAX 4 A)
POWER OUTPUTS	No. 2 POWER OUTPUTS for tractionmotorcontroller <ul style="list-style-type: none"> • NOMINAL POWER PER CHANNEL: 500W MAX CURRENT PER • CHANNEL: 50 A • MAX FREQUENCY: 20 KHz MOTOR CONTROL: Indirect magnetic field orientated vector control with sensor
POWER SUPPLY OUTPUT	VSENS: =V ALIM (MAX 1,10 A with PTC)
NETWORK FEATURES	CAN BUS PORT 2.0B COMPLIANT -(11, 29 BIT) -ISO 11898 -UP TO 1MBIT/S PROTOCOLS: CAN OPEN (CiADS401 DEVICE PROFILE FOR GENERIC I/O MODULE, WITH DS306 EDS FILE) TERMINATOR LINE: integrated (software selectable)
CONNECTIONS	SYSTEM CONNECTOR: 23 PIN AMPSEAL CONNECTOR POWER CONNECTORS: THREAD M6X1 -LENGTH MAX: 16 mm
SIGNALATION	No. 3 device status leds(green, yellow, red)
CASE	ABS -UL94-V0 PLATE: ALLUMINIUM PWR CONNECTORS: ZINCKED STEEL
WORKING TEMPERATURE	-20 +60°C -STORAGE: -40 +85°C





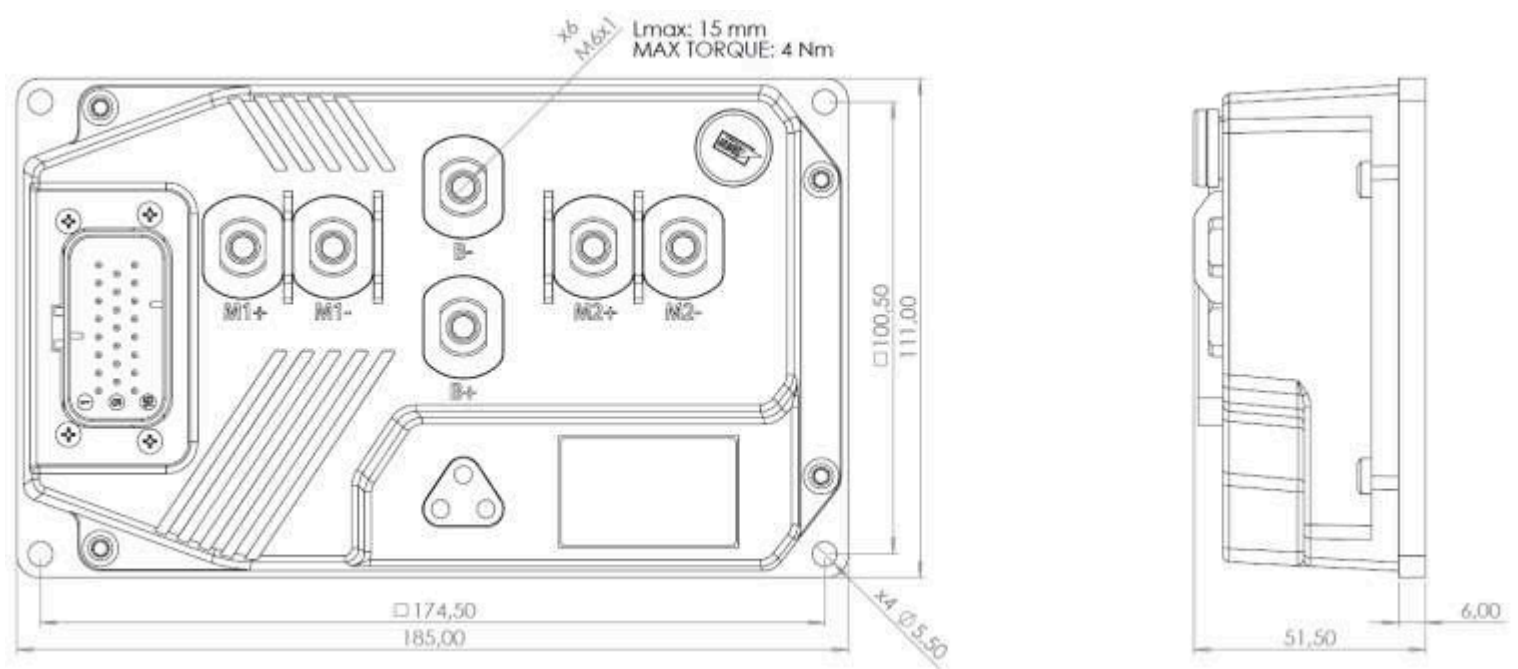
THOR

DC MOTOR CONTROLLER

ELECTRONIC FEATURES

SLAVE USAGE	EDS FILE
PROGRAMMING	FIRMWARE UPLOAD BY CANBUSWITH ALOADER SOFTWARE TOOL
CYBER SECURITY	Secure Update and secure boot ready compliant with CRA
CPU	CPU 1: MAIN CONTROLLER CPU 2: CPU1 WATCHDOG AND POWER MANAGEMENT

SIZE (mm)



STANDARDS

ELECTROMAGNETIC (EMC)	ACCORDING TO DIRECTIVE 2014/30/EU: EN 61000-6-4 EN 61000-6-2 EN 50498
ENVIRONMENTAL TESTING Mechanical shock	IEC 60068-2-64 IEC 60068-2-27 IEC 60068-2-27 IEC 60068-2-30
PERFORMANCE LEVEL	ISO 13849-1:2015 Up to PLdwith appropriate system layout
PROTECTION	IEC 60529 (IP65)



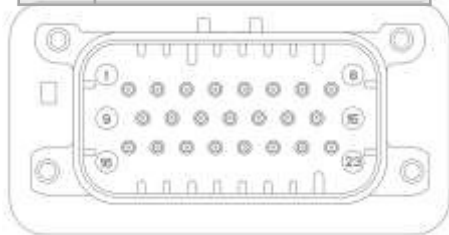
THOR

DC MOTOR CONTROLLER

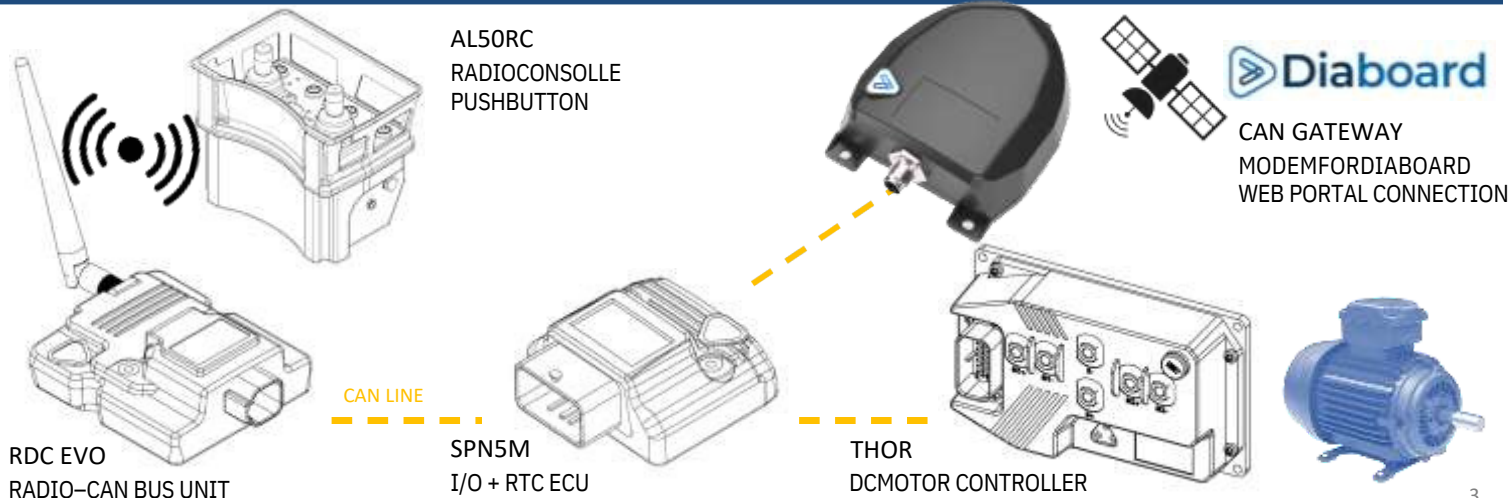
CONNECTIONS

PIN	FUNCTION
1	POWER SUPPLY
2	KEY IGNITION POWER ON
3	AN IN 4
4	AN IN 3
5	AN IN 2*
6	AN IN 1*
7	FAST DIG IN 2
8	FAST DIG IN 1
9	CAN LINE LOW
10	CAN LINE HIGH
11	AN IN 7*
12	AN IN 6
13	AN IN 5
14	H BRIDGE 1
15	H BRIDGE 1
16	V SENS
17	DIG OUT HS 1
18	DIG OUT HS 2
19	DIG OUT HS 3
20	DIG OUT HS 4
21	H BRIDGE 2
22	H BRIDGE 2
23	GND

DES.	PIN	FUNCTION
B	+	POSITIVE power output ps
	-	GND power output ps
M1	+	POSITIVE DC MOTOR power output 1
	-	GND DC MOTOR power output 1
M2	+	POSITIVE DC MOTOR power output 2
	-	GND DC MOTOR power output 2



SYSTEM INTEGRATION example





NOTE

