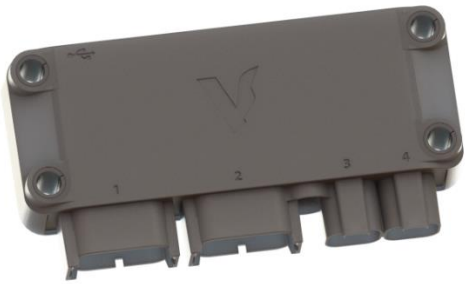
IOModul



The Vemcon IO modules are compact and stackable modules for decentralized control systems.

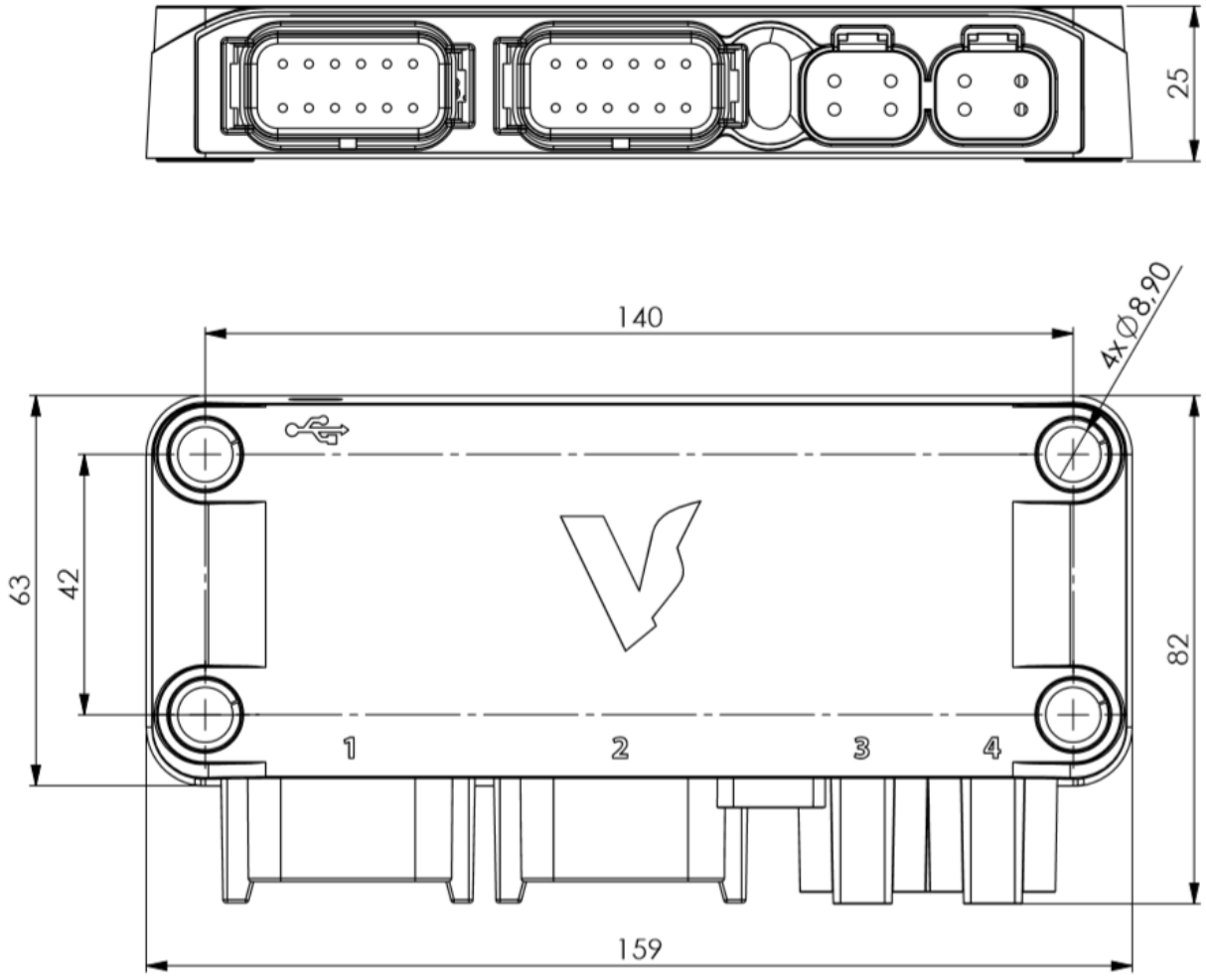
At a glance

- Compact, robust and very durable
- Is suitable for functionally safe applications according to DIN EN ISO 13849 CAT. 3 PLc PLd
- Optionally with 6-axis IMU
- Up to 20 inputs
- Up to 8 current controlled outputs (3A)
- Up to 4 0-5 V voltage outputs

Technical data - electric		**Low side switches**	
Technical data - electric		Pulldown	24 kOhm
Supply voltage range	9...35 V	On state resistance	< 100 mOhm
Effective integrated data processor	2 x 32 bit 48 MHz ARM Cortex-M0	Overtemperature protection	Yes
Input voltage range	0 - 6.6 V, partial 35 V	**Input resistance**	
CAN Bus	Up to 1 MBit/s	Analog	10 / 22 kOhm
Quadrature encoder input	Up to 100 kHz	Quadrature	10 kOhm
Reverse polarity protection	Yes	**Analog Out**	
Short circuit protection	Yes	Voltage Range	0-5 V
Total current per module (sustained)	13 A	Output resistance	30 Ohm
Self current consumption (typical)	70 mA at 12 V	**Technical data - mechanical**	
Input delay	5 ms	Protection class	IP67
Accuracy current regulation	2 %	Temperature range	-35 °C - + 80 °C
Current measurement range	3.3 A	Dimensions	159x82x25 mm
Current control update rate	5 kHz	Connections	2x DTM04-12 2x DT04-4
High side switches		Material	PC + ABS FR3010
Pullup	22 kOhm		
Pulldown	24 kOhm		
On state resistance	< 100 mOhm		
Overtemperature protection	Yes		

Version	In-/Outputs	Part number
Input Module	20 Inputs	100632
Output Module	8 Outputs[1], 4 Inputs	100880
Analog Output Module	4 Outputs[1], 4 Analog-Outputs[2], 8 Inputs	100812

Dimensions

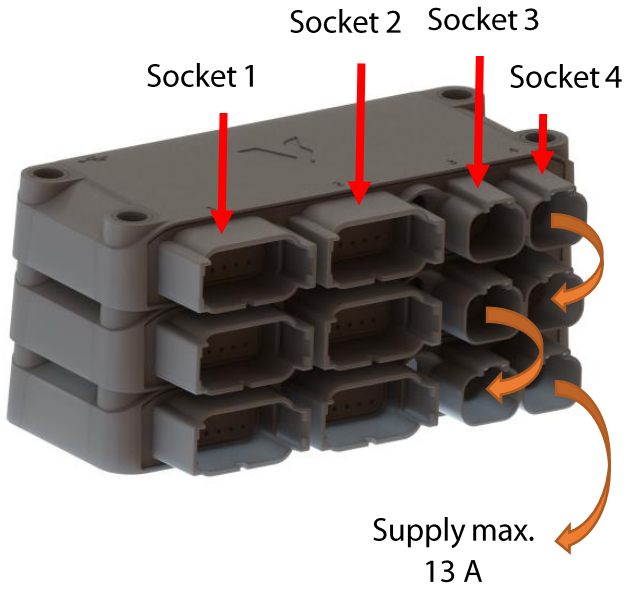


Screw connection: 4 x M8

Max. Tightening torque: 25 Nm

[1] Output: Current regulated up to 3 A
[2] Analog output: 0 - 5 V output

Stacking and combination with other IO modules

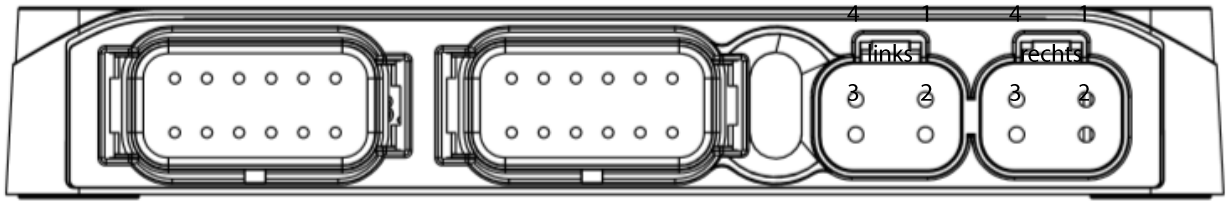


Connecting I/O modules via the DT04-4P bridge (Art.nr. 80589) (supply and CAN)

Advantages:

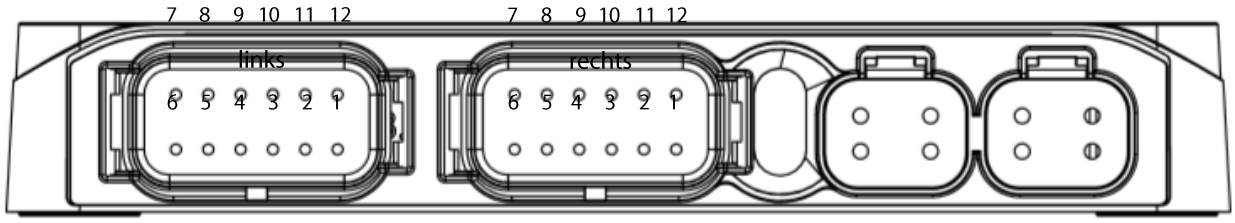
- Linking of IO modules to extend input and output capabilities
- Combination of different variants of the IOModule possible

PIN-assignment DT04-4P (socket 3+4)



PIN	Function	PIN	Function
1	Vbat	3	CAN Low
2	CAN High	4	GND

PIN-assignment DTM04-12P (socket 1+2)



Input module DTM04-12PA (socket 1+2 with coding=grey)

PIN left	Function	PIN right	Function
1	5 V Out max. 200 mA	1	5 V Out max. 200 mA
2	Analog IN6.1 /Quad. 3 A	2	Analog IN1.1 /Quad. 1 A
3	Analog IN 7.1	3	Analog IN 2.1
4	Analog IN 8.1	4	Analog IN 3.1
5	Analog IN 9.1	5	Analog IN 4.1
6	Analog IN 10.1	6	Analog IN 5.1
7	Analog IN 10.2	7	Analog IN 5.2
8	Analog IN 9.2	8	Analog IN 4.2
9	Analog IN 8.2/Quad. 4A	9	Analog IN 3.2/Quad. 2A
10	Analog IN 7.2/Quad. 4B	10	Analog IN 2.2/Quad. 2B
11	Analog IN 6.2 /Quad. 3B	11	Analog IN 1.2 /Quad. 1B
12	GND	12	GND

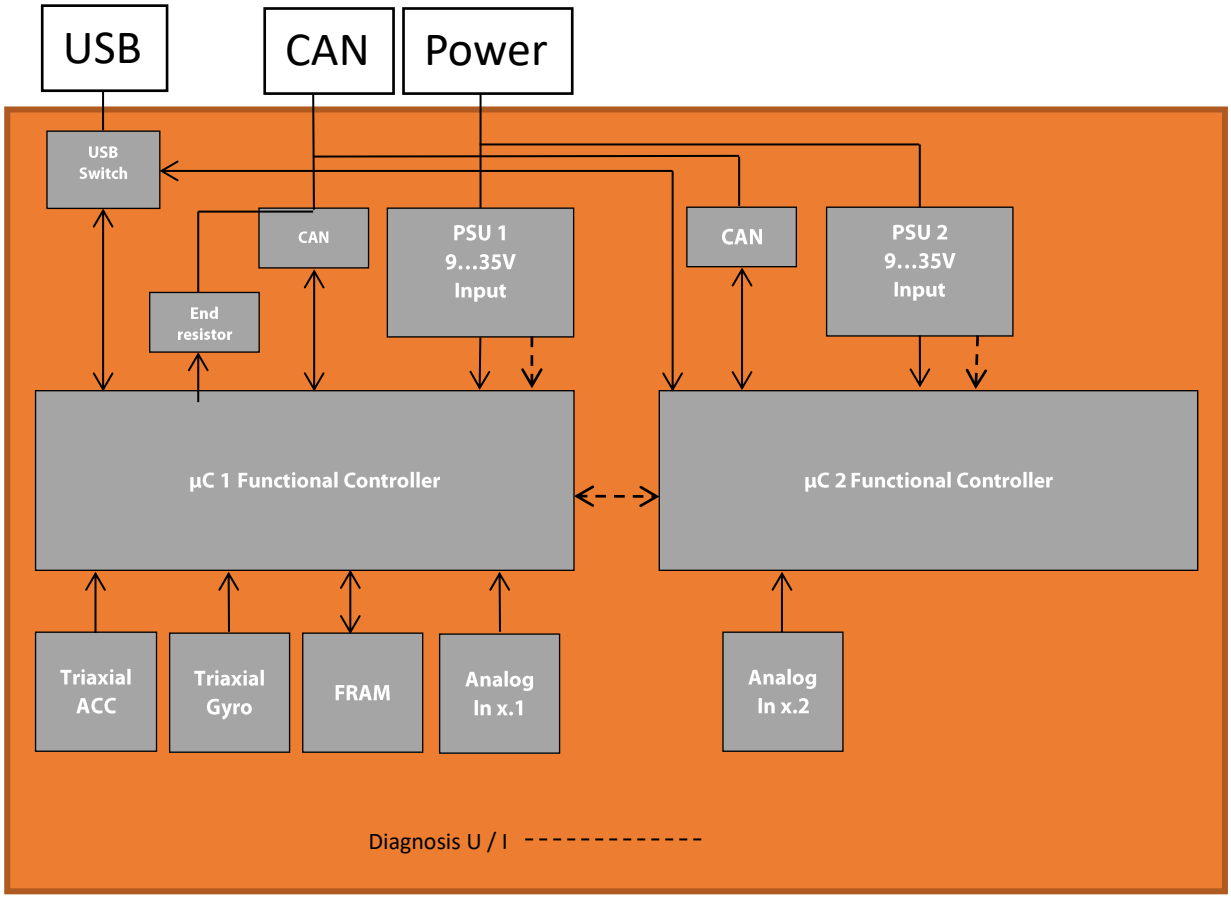
PIN-assignment output module DTM04-12PB (Socket 1+2 with coding=black)

PIN left	Function	PIN right	Function
1	5V Out max. 200 mA	1	5 V Out max. 200 mA
2	Analog IN6.1 /Quad. 3 A	2	Analog IN1.1 /Quad. 1 A
3	Out High 3.1	3	Out High 1.1
4	Out High 3.2	4	Out High 1.2
5	Out High 4.1	5	Out High 2.1
6	Out High 4.2	6	Out High 2.2
7	Out Low 4	7	Out Low 2
8	Out Low 4	8	Out Low 2
9	Out Low 3	9	Out Low 1
10	Out Low 3	10	Out Low 1
11	Analog IN 6.2 /Quad. 3B	11	Analog IN 1.2 /Quad. 1B
12	GND	12	GND

PIN-assignment Analog Output Module DTM04-12PD (Socket 1+2 with coding=brown)

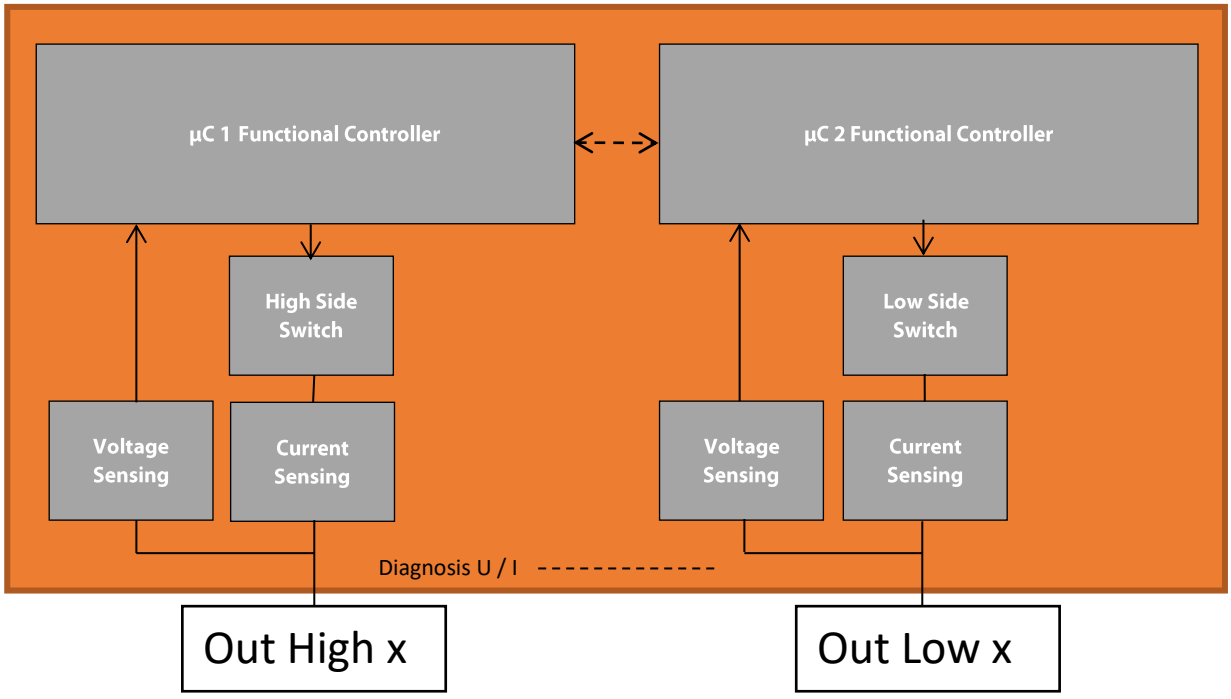
PIN left	Function	PIN right	Function
1	5V Out max. 200 mA	1	5 V Out max. 200 mA
2	Analog IN6.1 /Quad. 3 A	2	Analog IN1.1 /Quad. 1 A
3	Analog Out 3.1	3	Analog Out 1.1
4	Analog Out 3.2	4	Analog Out 1.2
5	Out High 4.1	5	Out High 2.1
6	Out High 4.2	6	Out High 2.2
7	Out Low 4	7	Out Low 2
8	Out Low 4	8	Out Low 2
9	Analog IN 8.2/Quad. 4A	9	Analog IN 3.2/Quad. 2A
10	Analog IN 7.2/Quad. 4B	10	Analog IN 2.2/Quad. 2B
11	Analog IN 6.2 /Quad. 3B	11	Analog IN 1.2 /Quad. 1B
12	GND	12	GND

Construction input module



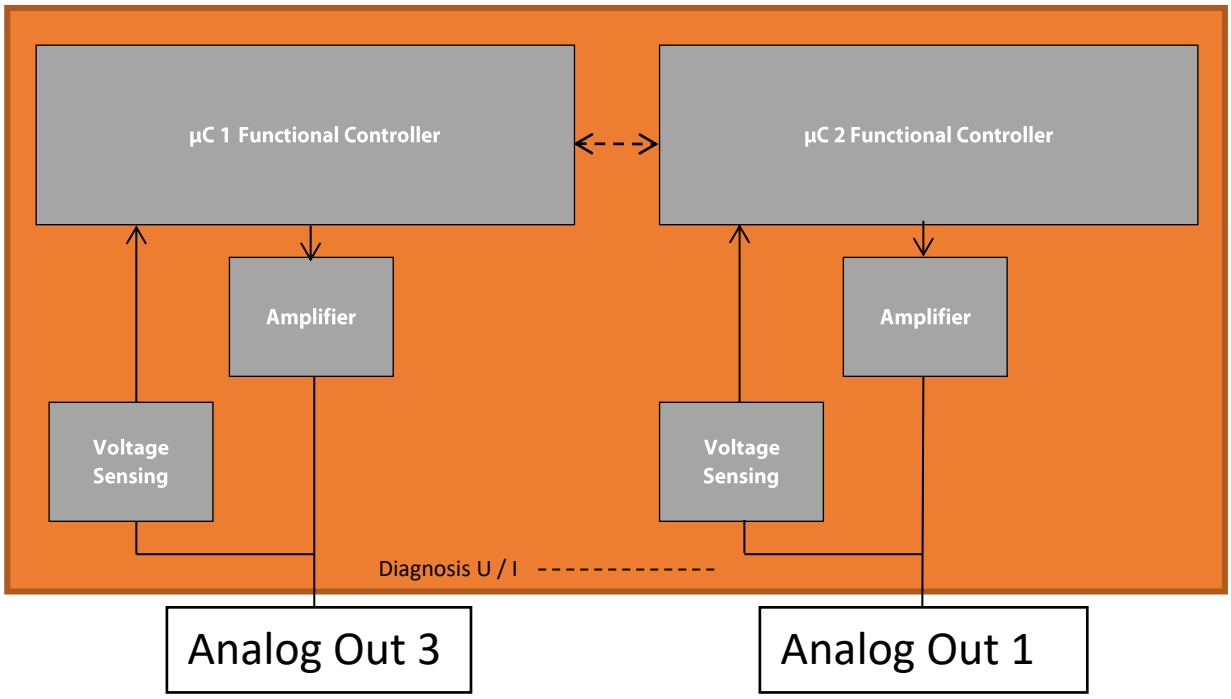
Construction output module

Like input module and additional:



Construction Analog Output Module

Like input and output module and additionally:



Option IMU

- Sensors: 3-axis gyro and 3-axis acceleration
- Accuracy: ± 1°
- Fusion algorithm available