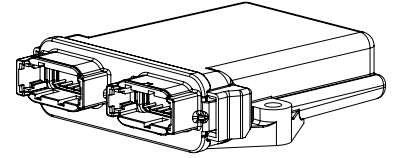


- Digital mobile electronics CL-451
- Robust construction with plug-in connection for mobile applications
- Protection class IP 67
- Multi-functional pin assignment, up to 17 I/Os
- CAN connection
- Freely programmable


**DESCRIPTION**

Microcontroller based control with multifunctional inputs/outputs of the PME devices family (Programmable Mobile Electronics). Delivered in a robust and compact plastic housing, it is designed for the hard use in working devices and is perfectly suitable for various open loop and closed loop control tasks.

**FUNCTION**

The control can be used and programmed as a stand alone unit, or as part of a distributed, decentralised system architecture. The variably usable inputs and outputs enable reading and controlling sensors and actuators of all kinds. The free programmability enables maximum flexibility for the adaptation to any desired machine function.

**APPLICATION**

This mobile electronics is used mainly in the mobile field because of the compact construction, protection class IP67 as well as the extensive operating temperature range and the selected plug connection. Customer-specific requirements can be easily implemented.

**CONTENT**

GENERAL SPECIFICATIONS	1
ELECTRICAL SPECIFICATIONS	1
DIMENSIONS, ASSEMBLY	2
ACCESSORIES	2
CONNECTOR WIRING DIAGRAM /	3
PIN ASSIGNMENT	

**TYPE CODE**

CL-451-100-10-WAG-00	Master I/O Module
CL-451-100-20-WAG-00	Client I/O Module

**GENERAL SPECIFICATIONS**

Execution	Plastic molded housing
Dimensions	119 x 36 x 133 mm (see Dimensions)
Mounting	Mounting flange, screwed on
Weight	250 g
Device receptacle	Deutsch DTM04-12PC/D pin header
Mating connectors	Deutsch DTM06-12SC / DTM06-12SD

Working temperature -40...+70°C

**Note** Mating connector not part of the delivery

**ELECTRICAL SPECIFICATIONS**

Protection Class	IP 67
Supply Voltage	8...32 VDC
No-load current	43 mA at 13.8 V, 27mA at 28 V

**Analogue Inputs**

number of inputs	3
Input range	0...5.5 V
- Input resistance	58.7 kOhm typ.
- Resolution	12 bit

**Digital Inputs**

number of inputs	up to 9
Switching threshold	positive >3.5V, negative <1.0V

**STB Switch to battery input**

Input resistance 2.6 kOhm

**STG Switch To Ground input**

Pull-up resistor 560 Ohm to internal 5V

**FREQ Frequency Input**

Pull-up resistor	3.92 kOhm to internal 5V
Resolution	< 5 Hz
Frequency Range	max. 10 kHz (open drain, sinking sensor)

**Digital Outputs**

Number of outputs	up to 8
Protection	Short to GND Short to Battery Overcurrent
Accuracy	+/- 50mA at 2A

**DOUT Digital Outputs**

maximum current	3.0 A (individual) 2.0 A (grouped)
PWM Pulse With Modulation Outputs	
maximum current	3.0 A (individual) 1.5 A (grouped)

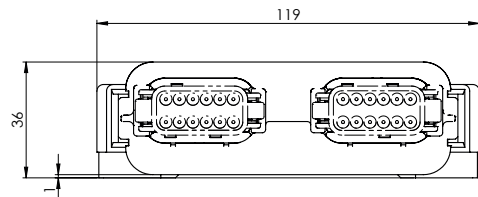
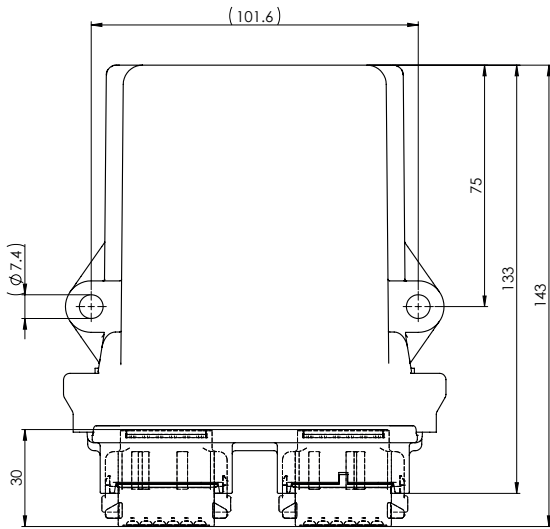
**ECC Estimated Current feedback**

CAN 40 kbit/s to 250 kbit/s

**Software**

Apart from the programming tools, a software for diagnostics and error eliminating for the commissioning of the system is available.

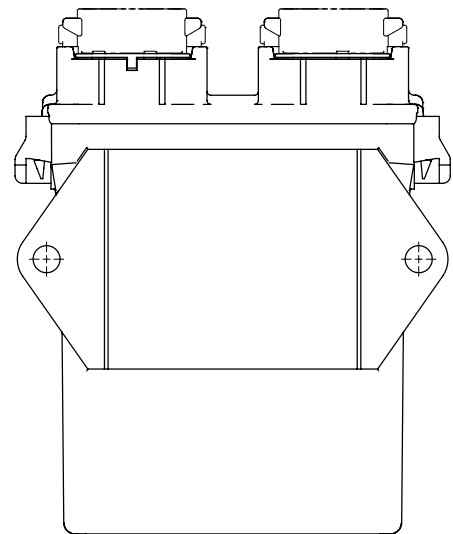
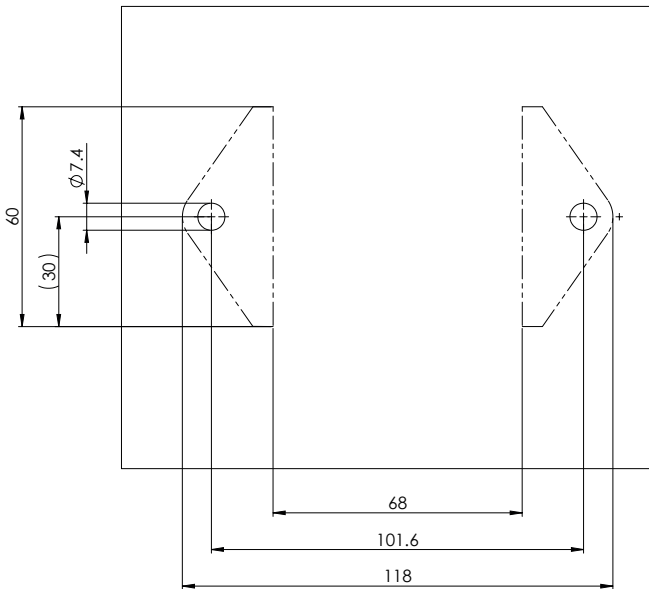
**DIMENSIONS**



**ASSEMBLY**

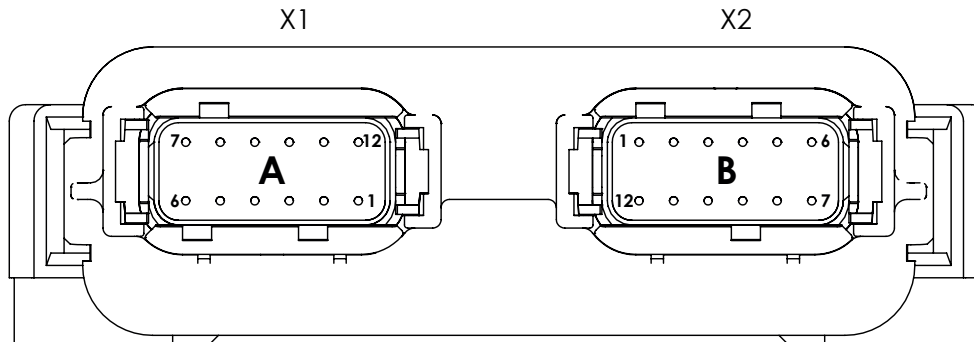
Mounting surface

View from below



**ACCESSORIES**

Mating connector 1	Deutsch DTM06-12SC
Mating connector 2	Deutsch DTM06-12SD
Wedge lock	Deutsch WM-12S (2 pce)
Crimp socket	AWG 20, 0.5 mm <sup>2</sup> , Deutsch 0462-201-20141 (max. 24 pcs)
or crimp socket AWG 16-18	Deutsch 0462-005-20141 (max. 24 pcs)
Sealing plugs	Deutsch 0413-204-2005 (max. 24 pcs)

**CONNECTOR WIRING DIAGRAM / PIN ASSIGNMENT**

**X1, gray, 12-pole, Connector A-coded**

Pin	Function
1	Input #1 STB / STG Output #1 DOUT(+) / PWM(+) / ECC
2	Input #2 STB / STG / Output #2 DOUT(+) / PWM(+) / ECC
3	Input #3 STB/STG / VTD / Output #3 DOUT(+) / PWM(+) / ECC
4	Input #4 STB / STG / VTD / Output #4 DOUT(+) / PWM(+) / ECC
5	Input #5 STB / STG / Output #5 DOUT(+) / PWM(+) / ECC
6	Input #6 STB /STG / Output #6 DOUT(+) / PWM(+) / ECC
7	Input #7 STB / STG / Output #7 DOUT(+) / PWM(+) / ECC
8	Input #8 STB / STG / Output #8 DOUT(+) / PWM(+) / ECC
9	CAN1-L
10	CAN1-H
11	BAT(-) Module
12	Unswitched BAT(+) Module and Outputs 1-8

**X2, black, 12-pole, Connector B-coded**

Pin	Function
1	Input #9 STB / STG / Output #9 DOUT(+) / PWM(+) / ECC
2	Input #10 STB / STG / Output #10 DOUT(+) / PWM(+) / ECC
3	Input #11 STB / STG / VTD / FREQ / Output #11 DOUT(+) / PWM(+) / ECC
4	Input #12 STB / STG / VTD / Output #12 DOUT(+) / PWM(+) / ECC
5	Input #13 STB / STG / Output #13 DOUT(+) / PWM(+) / ECC
6	Input #14 STB / STG / Output #14 DOUT(+) / PWM(+) / ECC
7	Input #15 STB / STG / Output #15 DOUT(+) / PWM(+) / ECC
8	Input #16 STB / STG / Output #16 DOUT(+) / PWM(+) / ECC
9	Input #17 STB / VTD
10	Switched BAT(+) Input #18 Battery Voltage
11	BAT(-) Module
12	BAT(+) Outputs 9-16

**NOTE**

I/O 5-8 and 13-16 have to be assigned to the same input/output type. Either as Outputs, as STB respectively as STG input. The maximum current is 10A per 8 outputs per connector.

DOUT = digital output  
 ECC = estimated constant current  
 PWM = pulse with modulation  
 AIN = analog input  
 STB = switch to battery (input)  
 STG = switch to ground (input)  
 FREQ = frequency input  
 VTD = voltage to digital (input)