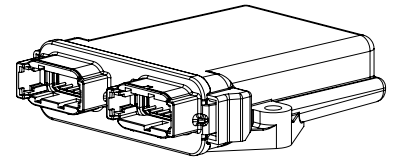


- Digital mobile electronics CL-451
- Robust construction with plug-in connection for mobile applications
- Protection class IP68
- Multi-functional pin assignment, up to 17 I/Os
- CAN connection
- Freely programmable


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

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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 DTM04-12PA/B pin header
Mating connectors	Deutsch DTM06-12SA / DTM06-12SB

Working temperature	-40...+70°C
MTBF	79 years (Telcordia SR-332)

Note Mating connector not part of the delivery

ELECTRICAL SPECIFICATIONS

Protection Class	IP68
Supply Voltage	8...32 VDC
No-load current	152 mA at 8 V, 259 mA at 32 V

Analogue Inputs

Number of inputs	up to 5
Input voltage range	0...5.5 V
Input resistance	58.7 kOhm typ.
Resolution	12 bit

Digital Inputs

number of inputs	up to 17
Switching threshold	positive >3.5 V, negative <1.0 V

STB Switch to battery input	
Input resistance	2.6 kOhm
STG Switch To Ground input	
Pull-up resistor	560 Ohm to internal 5 V
FREQ Frequency Input	
Pull-up resistor	4.7 kOhm to internal 5 V
Resolution	< 5 Hz
Frequency Range	max. 10 kHz (open drain, sinking sensor)

Digital Outputs

Number of outputs	up to 16
Protection	Short to GND Short to Battery Overcurrent
Pull-up / down	560 Ohm / 2.6 kOhm for diagnostics

DOUT Digital Outputs

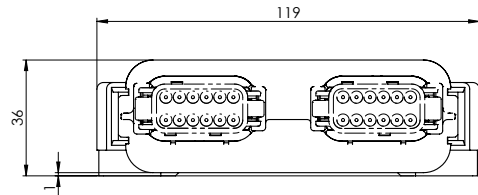
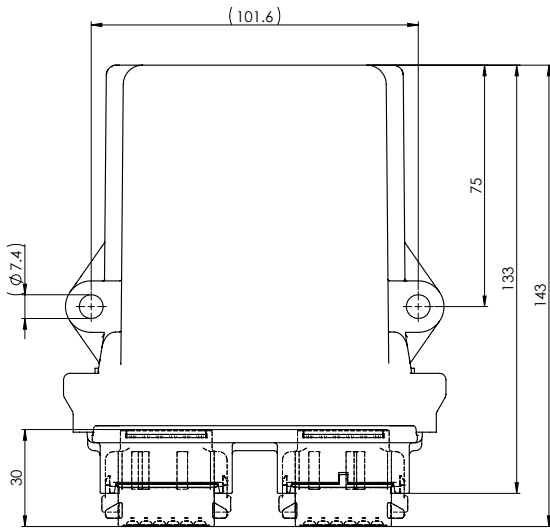
maximum current	3.0 A (individual) 2.0 A (grouped)
PWM Pulse Width Modulation Output	
maximum current	3.0 A (individual) 1.5 A (grouped)
ECC Estimated Current Feedback, 0.2-3.7 A / 10 Bit Accuracy ECC	+/- 50mA at 2A

CAN	40 kbit/s to 500 kbit/s
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Software

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

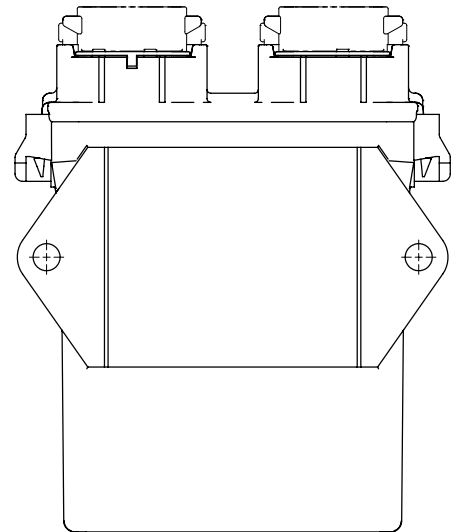
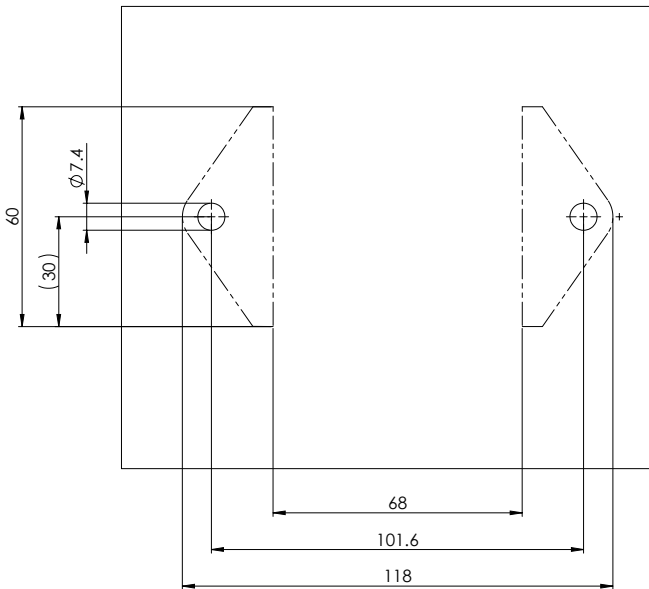
DIMENSIONS



ASSEMBLY

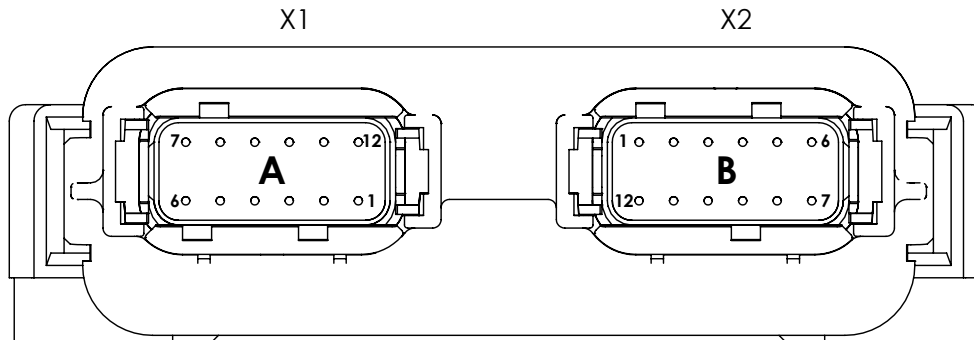
Mounting surface

View from below



ACCESSORIES

Mating connector 1	Deutsch DTM06-12SA
Mating connector 2	Deutsch DTM06-12SB
Wedge lock	Deutsch WM-12S (2 pcs)
Crimp socket AWG 20, 0.5 mm ²	Deutsch 0462-201-20141 (max. 24 pcs)
or crimp socket AWG 16-18, 0.75-1 mm ²	Deutsch 0462-005-20141 (max. 24 pcs)
Sealing plug	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	BAT(+) Input #18 Battery Voltage
11	BAT(-) Module
12	BAT(+) Outputs 9-16

NOTE

All 8 inputs and outputs, I/O 5-8 and 13-16, have to be assigned to the same input/output type. Either all as Output, 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)

Orchestra Software Suite
 Art. no. 740.1000

Project management software
 Ladder-Logic and C-Code
 Display GUI Programming incl.
 Conductor Software

Conductor Software
 Art. no. 740.1001

Standalone diagnostics and
 set-up tool

NXP (Freescale) CodeWarrior
 3rd party tool

C-Code Programming tool /
 Compiler