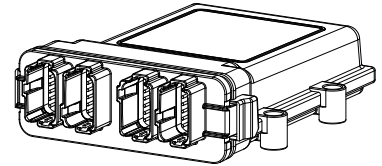


- Digital mobile electronics CL-446
- Robust construction with plug-in connection for mobile applications
- Protection class IP 67
- 16 inputs / 8 outputs, for 8 switching solenoids or 8 digital outputs
- CAN connection
- Freely programmable


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.

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TYPE CODE

CL-446-101-WAG-00	Master I/O Module
CL-446-103-WAG-00	Client I/O Module

GENERAL SPECIFICATIONS

Execution	Plastic molded housing
Dimensions	160 x 55 x 204 mm (see Dimensions)
Mounting	Mounting flange, screwed on
Weight	620 g
Device receptacle	Deutsch DT04-12PA/B/C/D pin header
Mating connector	Deutsch DT06-12SA/B/C/D

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	60 mA at 13.8 V, 47mA at 28 V

Analogue Inputs

Number of inputs	up to 16
Input voltage range	0...5.5 V / 0...11 V
- Input resistance	57 kOhm / 115 kOhm
- Resolution	12 bit

Digital Inputs

Number of inputs	up to 16
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STB Switch To Battery input

Switching threshold	positive > 7.0 V, negative < 3.0 V
Input resistance	1.47 kOhm

STG Switch To Ground input

Switching threshold	positive > 3.5 V, negative < 1.5 V
Pull-up resistor	560 Ohm to internal 5 V

FREQ Frequency Input

Switching threshold	positive > 3.5 V, negative < 1 V
Pull-up resistor	4.7 kOhm to internal 5 V
Resolution	< 5 Hz
Frequency range	max. 10 kHz

RTD Resistance to digital

Pull-up resistor	1 kOhm
Accuracy	+/- 1 % and +/- 7 Ohm

HID Harness Identification

(client addressing)

Digital Outputs

Number of outputs	up to 8 / up to 4 x 2
Protection	Short to GND Short to Battery Overcurrent
Pull-up/down	560 Ohm / 1.4 kOhm for diagnostics

DOUT Digital Outputs

maximum current	2.5 A (individual) 2.5 A (grouped)
Output #1 - #4	is one group
Output #5 - #8	is one group

PWM Pulse Width Modulation Outputs

maximum current	2.5 A (individual) 2.0 A (grouped)
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ECC Estimated Current feedback, 0.2-3.2 A / 12 bit

Accuracy ECC	+/- 50mA at 2 A
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Sensor output

Supply	5 V +/- 5 %, 500 mA
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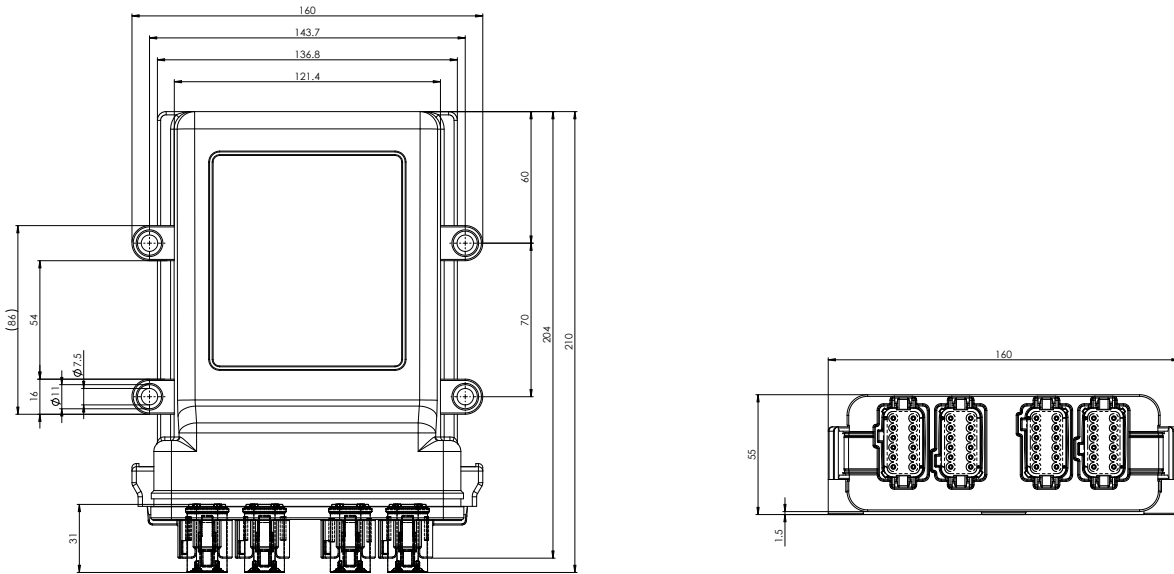
CAN

	40 kbit/s to 500 kbit/s
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Software

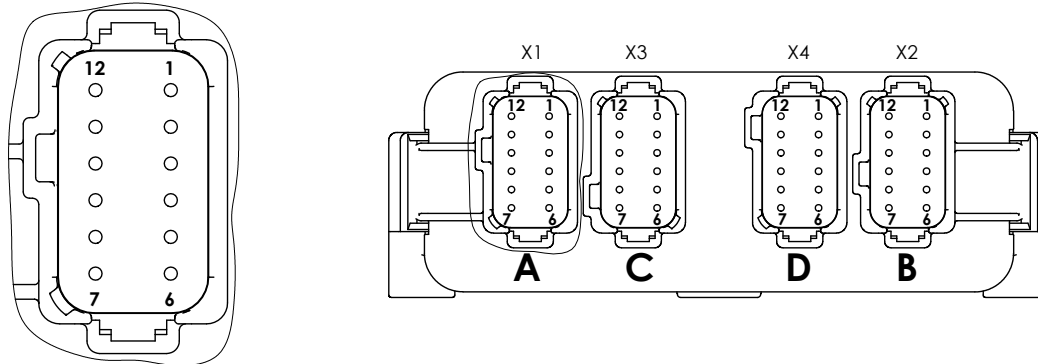
Apart from the programming tools, a software for diagnostics and error eliminating for the commissioning of the system is available.

DIMENSIONS



ACCESSORIES

Mating connector 1	Deutsch DT06-12SA
Mating connector 2	Deutsch DT06-12SB
Mating connector 3	Deutsch DT06-12SC
Mating connector 4	Deutsch DT06-12SD
Wedge lock	Deutsch W12S (4 pcs)
Crimp socket AWG 16-20, 0.5-1.5 mm ²	Deutsch 0462-201-16141 (max. 48 pcs)
or crimp socket AWG 14, max 2 mm ²	Deutsch 0462-209-16141 (max. 48 pcs)
Sealing plug	Deutsch 114017 (max. 48 pcs)
or snapping sealing plug	Deutsch 0413-217-1605
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

CONNECTOR WIRING DIAGRAM / PIN ASSIGNMENT

X1, grey, 12-pole, connector A-coded

Pin	Function
1	Input #1 STB / STG / VTD / RTD
2	Input #2 STB / STG / VTD / RTD
3	Input #3 STB / STG / VTD / RTD
4	Input #4 STB / STG / VTD / RTD
5	BAT(+) Module / Input #21 Battery Voltage
6	BAT(-) Module
7	CAN1-L
8	CAN1-H
9	Input #5 STB / STG / VTD
10	Input #6 STB / STG / VTD
11	Input #7 STB / STG / VTD / FREQ
12	Input #8 STB / STG / VTD / FREQ

X2, black, 12-pole, connector B-coded

Pin	Function
1	Input #9 STB / STG / VTD
2	Input #10 STB / STG / VTD
3	Input #11 STB / STG / VTD
4	Input #12 STB / STG / VTD
5	Input #13 STB / STG / VTD(0-11V)
6	Input #14 STB / STG / VTD(0-11V)
7	Input #15 STB / STG / VTD(0-11V)
8	Input #16 STB / STG / VTD(0-11V)
9	HID #1
10	HID #2
11	HID #3
12	HID #4

X3, green, 12-pole, connector C-coded

Pin	Function
1	BAT(+) Outputs 1-4 / Input #18 Battery Voltage
2	Output #1 DOUT+(2.5A) / PWM / ECC+(2A)
3	Output #2 DOUT+(2.5A) / PWM / ECC+(2A)
4	Output #3 DOUT+(2.5A) / PWM / ECC+(2A)
5	Output #4 DOUT+(2.5A) / PWM / ECC+(2A)
6	5VDC Sensor Supply (500mA)
7	5VDC Sensor Supply GND
8	Output #5 DOUT+(2.5A) / PWM(+) / ECC+(2A)
9	Output #6 DOUT+(2.5A) / PWM(+) / ECC+(2A)
10	Output #7 DOUT+(2.5A) / PWM(+) / ECC+(2A)
11	Output #8 DOUT+(2.5A) / PWM(+) / ECC+(2A)
12	BAT(+) Outputs 5-8 / Input #19 Battery Voltage

X4, brown, 12-pole, connector D-coded

Pin	Function
1	CAN2-L
2	CAN2-H
3	Not connected
4	Not connected
5	USB (Power)
6	USB (GND)
7	USB (DP)
8	USB (DM)
9	Not connected
10	Not connected
11	Not connected
12	Unswitched Battery(+) / Input #20 Battery Voltage

DOUT = digital output
 ECC = estimated current feedback
 PWM = pulse with modulation
 AIN = analog input
 STG = switch to ground (input)
 FREQ = frequency input
 HID = harness identification code digital inputs for addressing client modules