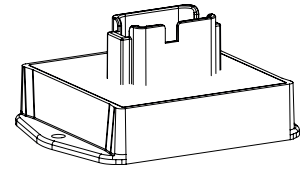


- Digital mobile electronics CL-449
- Robust construction with plug-in connection for mobile applications
- Protection class IP68
- Multi-functional pin assignment, up to 8 I/Os
- CAN connection
- Freely programmable


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 easily be implemented.

CONTENT

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TYPE CODE

CL-449-100-11-WAG-00	Master I/O Module
CL-449-100-21-WAG-00	Client I/O Module
CL-449-101-11-WAG-00	Master I/O Module with 5V sensor supply
CL-449-101-21-WAG-00	Client I/O Module with 5V sensor supply
CL-449-103-11-WAG-00	Master I/O Module with 4 current analog inputs
CL-449-103-21-WAG-00	Client I/O Module with 4 current analog inputs

GENERAL SPECIFICATIONS

Execution	Plastic molded housing
Dimensions	103 x 79 x 45 mm (see Dimensions)
Mounting	Mounting flange, screwed on
Weight	210 g
Device receptacle	Deutsch DTF15-12PA pin header
Mating connector	Deutsch DT06-12SA

Working temperature	-40...+70°C
MTBF	139 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	23mA at 13.8 V, 13mA at 28 V

Analogue Inputs

Number of inputs	up to 4
Input voltage range	0...5.5 V
Input resistance	57 kOhm
Input range current	0...22.1mA
Input resistance	201.3 Ohm
Resolution	12 bit

Digital Inputs

number of inputs	up to 8
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STB switch to battery input	
Input resistance	1.4 kOhm
Switching threshold	positive >6.5V, negative <3.5V
STG Switch To Ground input	
Pull-up resistor	560 Ohm to internal 5V
Switching threshold	positive >3.25V, negative <1.75V
FREQ Frequency Input	
Switching threshold	positive >3.5V, negative <1.0V
Pull-up resistor	4.7kOhm to internal 5V
Resolution	< 5 Hz
Frequency Range	max. 10 kHz (open drain, sinking sensor)

Digital Outputs

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

DOUT Digital Outputs

maximum current	3.0 A (individual) 2.5 A (grouped)
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PWM Pulse Width Modulation Outputs

maximum current	3.0 A (individual) 2.0 A (grouped)
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ECC Estimated Current feedback, 0.2–4.1 A / 12 bit Accuracy ECC	+/- 50mA at 2 A
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Sensor output

Supply	(only with CL-449-101) 5 V +/- 5 %, 250 mA
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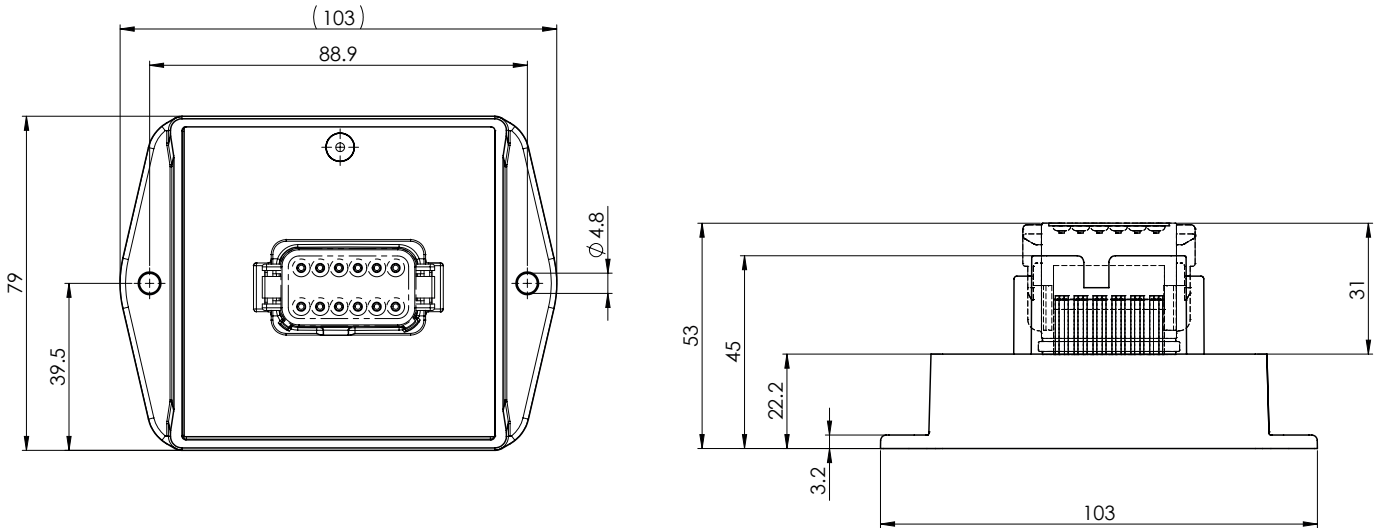
CAN

	40 kbit/s to 500 kbit/s
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Software

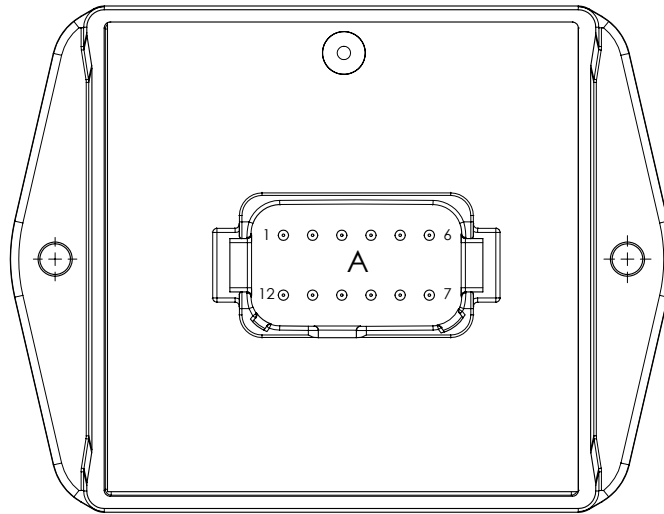
Apart from the programming tools, a software for diagnostics and error eliminating for the commissioning of the system is available.

DIMENSIONS



ACCESSORIES

Mating connector	Deutsch DT06-12SA
Wedge lock	Deutsch W12S
Crimp socket AWG 16-20, 0.5-1.5 mm ²	Deutsch 0462-201-16141 (max. 12 pcs)
or crimp socket AWG 14, max. 2mm ²	Deutsch 0462-209-16141 (max. 12 pcs)
Sealing plug	Deutsch 114017 (max. 12 pcs)
or snapping sealing plug	Deutsch 0413-217-1605
Orchestra Software Suite	Project management software
Art. no. 740.1000	Ladder-Logic and C-Code
	Display GUI Programming incl. Conductor Software
Conductor Software	Standalone diagnostics and set-up tool
Art. no. 740.1001	
NXP (Freescale) CodeWarrior	C-Code Programming tool/Compiler
3rd party tool	

CONNECTOR WIRING DIAGRAM / PIN ASSIGNMENT

X1, gray, 12-Pin, Connector A-coded

Pin	Function
1	Input #1 STB / STG / VTD (CL-449-103: 20mA) / FREQ / PWM / Encoder(1A)
2	Input #2 STB / STG / VTD (CL-449-103: 20mA) / FREQ / PWM / Encoder(1B)
3	Input #3 STB / STG / VTD (CL-449-103: 20mA) / FREQ / PWM / Encoder(2A)
4	Input #4 STB / STG / VTD (CL-449-103: 20mA) / REQ / PWM / Encoder(2B) Only CL-449-101: Sensor supply GND
5	CAN1-L
6	CAN1-H
7	Input #6 STB / Output #1 DOUT(+) / PWM(+) / ECC/(+)
8	Input #7 STB / Output #2 DOUT(+) / PWM(+) / ECC/(+)
9	Input #8 STB / Output #3 DOUT(+) / PWM(+) / ECC/(+)
10	Input #9 STB / Output #4 DOUT(+) / PWM(+) / ECC/(+)
11	BAT(-) Module
12	BAT(+) Module and Output 1-4 / Input #5 Battery Voltage VTD (0-32 VDC)

DOUT = digital output
 ECC = estimated current feedback
 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)
 20mA = 0..20mA / 4..20mA current input instead of voltage input