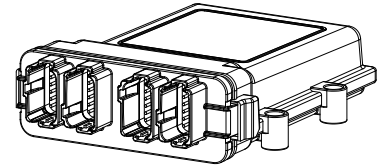


- Digital mobile electronics CL-446
- Robust construction with plug-in connection for mobile applications
- Protection class IP 67
- 16 inputs / 8 outputs, for 8 switching solenoids or 8 digital outputs
- CAN connection
- Freely programmable


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.

CONTENT

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

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 |
|------------------|----------|

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

| | |
|---------------------|----------------------------------|
| (up to 2 inputs) | |
| 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

| | |
|------------------|-----------------------|
| (up to 4 inputs) | |
| 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) |
|-----------------|---------------------------------------|

ECC Estimated Current feedback, 0.2–3.2 A / 12 bit

| | |
|--------------|-----------------|
| Accuracy ECC | +/- 50mA at 2 A |
|--------------|-----------------|

Sensor output

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

CAN

| | |
|--|-------------------------|
| | 40 kbit/s to 500 kbit/s |
|--|-------------------------|

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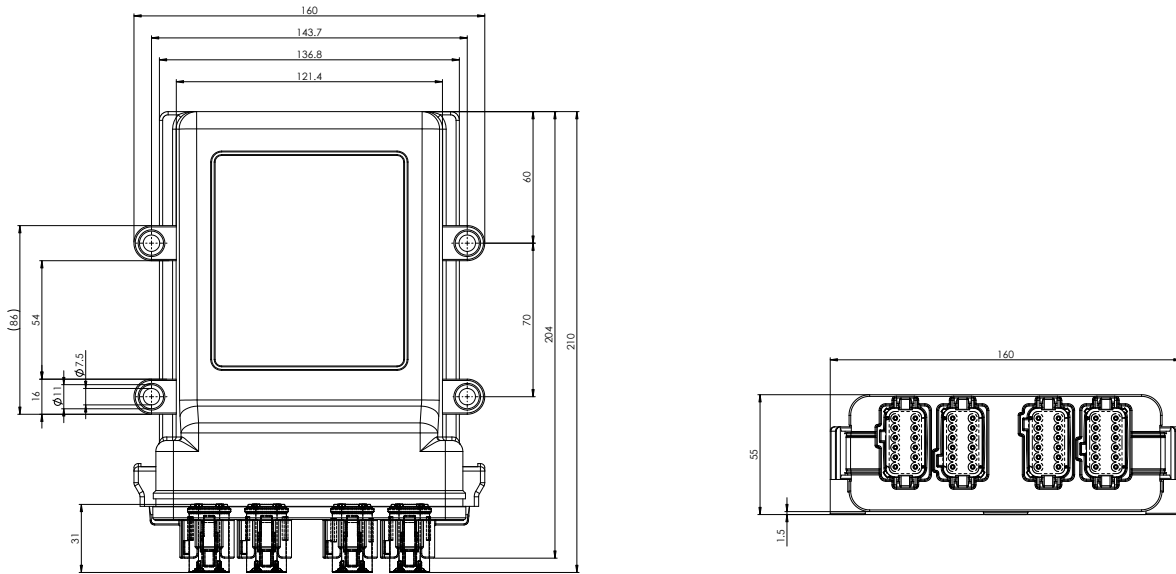
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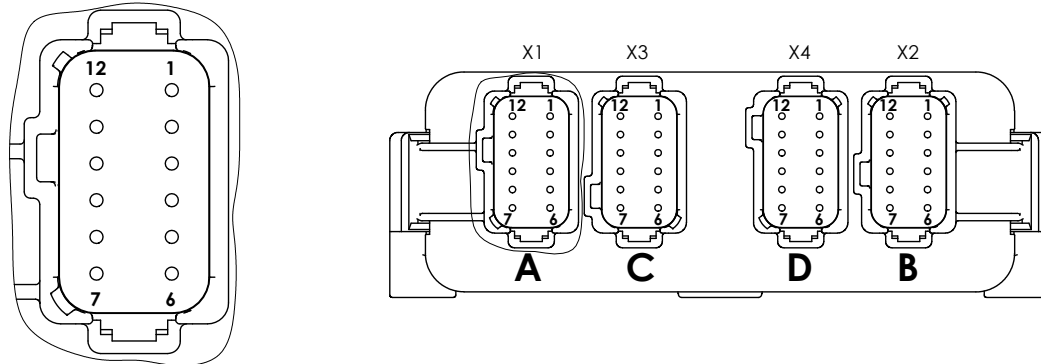
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DIMENSIONS



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 | 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, 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

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