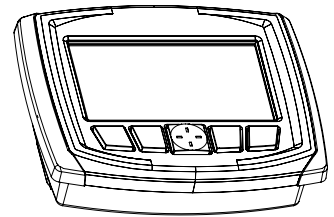


- Digital mobile electronics display CL-709
- 4,3" colour display
- Robust construction with plug-in connection for mobile applications
- Protection class IP67
- Multi-functional pin assignment, 10 I/Os
- CAN connection
- Freely programmable


DESCRIPTION

Microcontroller based control with display and operating buttons including multifunctional inputs/outputs. Delivered in a robust plastic housing, it is designed for the hard use in working devices and is perfectly suitable for the communication between the machine and the user.

FUNCTION

The control can be used and programmed as a stand alone unit, or as part of a distributed, decentralised system architecture. The functions on the display and the buttons are simply and individually generated with a programming tool. The additional inputs and outputs enable reading and controlling sensors and actuators of all kinds.

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

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

TYPE CODE

CL-709-100-10-WAG-00	Master I/O Display
CL-709-100-20-WAG-00	Client I/O Display

GENERAL SPECIFICATIONS

Execution	Plastic molded housing	Display	Diagonal 4.3"/109 mm
Dimensions	144 x 121 x 51 mm (see Dimensions)		Readable also in direct sunlight
Mounting	Front panel assembly with separate mounting bracket		TFT LCD 480 x 242 pixel
Weight	380 g		Real time clock
Device receptacle	Deutsch DT, 18-pole pin header		Low power sleep mode with wake-up function
Mating connector	Deutsch DT16-18SA-K004		

USB connector

Device receptacle	female, M8, 4-pole
Mating connector	Cable connector (male), M8, 4-pole

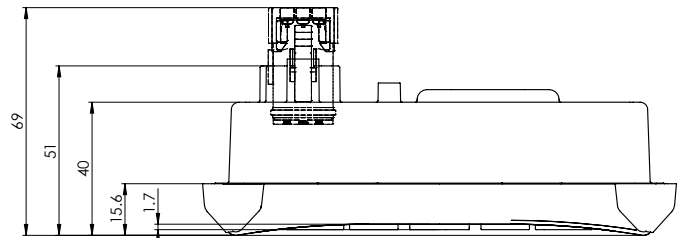
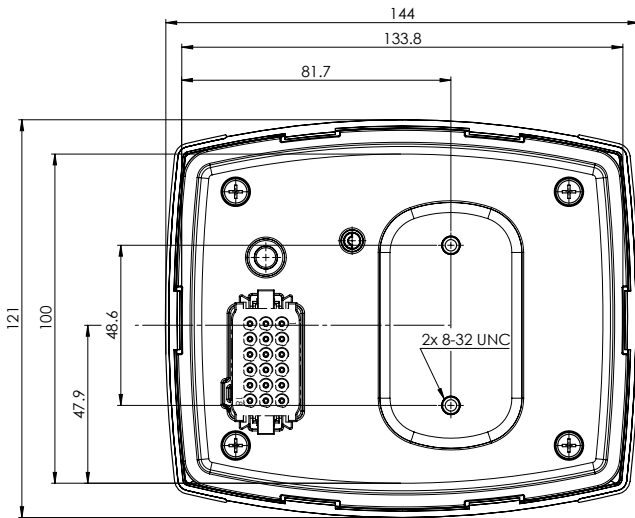
Working temperature -40...+70°C

Note The mating connector and mounting bracket are not part of the delivery

ELECTRICAL SPECIFICATIONS

Protection Class	IP 67	Digital Outputs	
Supply Voltage	8...32 VDC	Number of outputs	up to 4
No-load current	155 mA at 13.8 V, 99 mA at 28 V	Protection	Short to GND Short to Battery Overcurrent
Analogue inputs		Pull-up/down	560 Ohm / 1.4 kOhm for diagnostics
Number of inputs	up to 4	DOUT Digital Outputs	
Input voltage range	0...5.51 V	Maximum current	3.0 A (individual) 2.5 A (grouped)
Input resistance	57 kOhm	PWM Pulse Width Modulation Outputs	
Resolution	10 bit	Maximum current	3.0 A (individual) 2.0 A (grouped)
Digital inputs		ECC Estimated Current Feedback, 0.2-4.1 A / 10 bit	
Number of inputs	up to 10	Accuracy ECC	+/- 50mA at 2A
STB Switch to Battery input		Sensor output	
Input resistance	1.4 kOhm	Supply	5 V +/- 5%, 250 mA
Switching threshold	positive >6.5 V, negative <3.5 V	CAN	2x 40 kbit/s to 500 kbit/s
STG Switch To Ground input		Software	
Pull-up resistor	560 Ohm to internal 5 V	Apart from the programming tools, a software for diagnostics and error eliminating for the commissioning of the system is available.	
Switching threshold	positive >3.25 V, negative <1.75 V		
FREQ Frequency input			
Switching threshold	positive >2.6 V, negative <0.5 V		
Pull-up resistor	4.7 kOhm to internal 5 V		
Resolution	< 5 Hz		
Frequency range	max. 10 kHz (open drain, sinking sensor)		
RTD Resistance to digital			
Pull-up resistor	499 Ohm (for 0-500 Ohm range)		
Accuracy	+/- 1 % and +/- 5 Ohm		

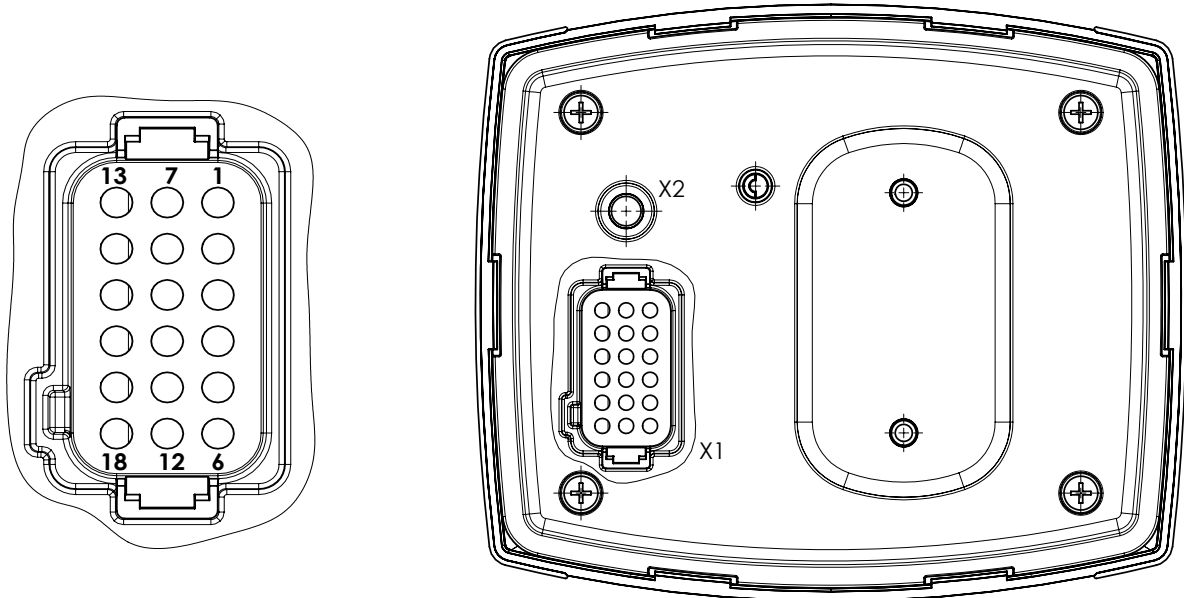
DIMENSIONS



Fixing: Threaded socket, max. depth 8.5 mm

ACCESSORIES

Mating connector	DT16-18SA-K004
Crimp socket AWG 16-20, 0.5-1.5 mm ²	Deutsch 0462-201-16141 (max. 18 pcs)
or crimp socket AWG 14, max. 2 mm ²	Deutsch 0462-209-16141 (max. 18 pcs)
Sealing plug	Deutsch 114017 (max. 18 pcs)
or snapping sealing plug	Deutsch 0413-217-1605
USB connector	
Mating connector	Cable connector (male), M8, 4-pole
Mounting bracket	
Art. no. 728.990	
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, 18-pole, connector A-coded

Pin	Function
1	Output #1 DOUT(+) / PWM(+) / ECC/(+) / Input STB / STG
2	Output #2 DOUT(+) / PWM(+) / ECC/(+) / Input STB / STG
3	Output #3 DOUT(+) / PWM(+) / ECC/(+) / Input STB / STG
4	Output #4 DOUT(+) / PWM(+) / ECC/(+) / Input STB / STG
5	BAT(-) Module
6	Steady plus +Battery Module and Outputs input #9 Battery Voltage
7	CAN1-H
8	CAN1-L
9	5VDC Sensor Supply GND
10	5VDC Sensor Supply
11	Wake-Up (STB Input) Input #6 STB / STG
12	Input #5 STB / STG
13	CAN2-L
14	CAN2-H
15	Input #4 STB / STG / VTD / RTD / FREQ / PWM / Encoder(1A)
16	Input #3 STB / STG / VTD / RTD / FREQ / PWM / Encoder(1B)
17	Input #2 STB / STG / VTD / RTD / FREQ / PWM / Encoder(2A)
18	Input #1 STB / STG / VTD / RTD / FREQ / PWM / Encoder (2B)

X2, 4-pole, connector round M8 for USB

Pin	Function
1	USB (Power)
2	USB (DP)
3	USB (DM)
4	USB (GND)

DOUT = Digital output
 ECC = Estimated current feedback
 PWM = Pulse width modulation
 STB = Switch to battery input
 STG = Switch to ground input
 FREQ = Frequency input
 VTD = Voltage to digital (analog input)
 RTD = Resistance to digital (resistor input)