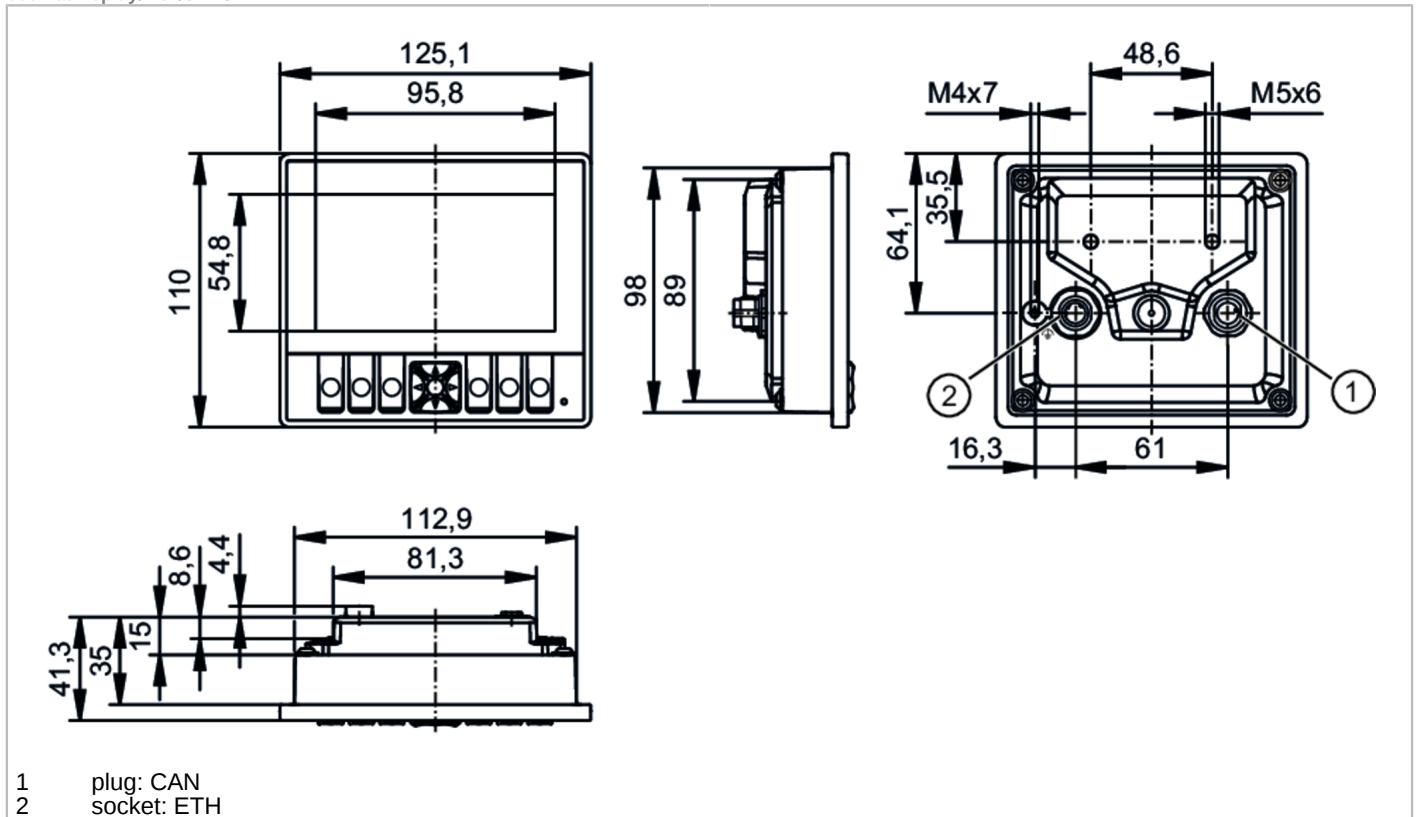


# CR1140



## Programmable graphic display for controlling mobile machines

ecomatDisplay/4.3"/STD./E



Application	
Application	for mobile applications; For use in industrial environments; for use in wet environments
Electrical data	
Operating voltage [V]	8...32 DC; (to SELV/PELV)
Nominal voltage DC [V]	12 / 24
Current consumption [mA]	< 210; (24 V DC)
Power consumption [W]	5
Inputs / outputs	
Number of inputs and outputs	Number of digital inputs: 1
Inputs	
Number of digital inputs	1; (non-configurable service input)
Software / programming	
Parameter setting options	CODESYS 3.5; Qt
PLC function to IEC 61131-3	yes
Operating system	Embedded Linux
Interfaces	
Communication interface	CAN; Ethernet
Number of CAN interfaces	1
Number of Ethernet interfaces	1



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CAN		
Transmission rate	10 kBit/s... 1 MBit/s	
Protocol	CANopen; SAE J1939; free protocol	
Profile	CiA DS 301 Version 4.2; CiA DS 401 Version 1.4	
Interface	CAN Interface 2.0 A/B ISO 11898	
Factory settings	Transmission rate: 250 kBit/s	
Ethernet		
Transmission standard	10Base-T; 100Base-TX	
Transmission rate	10 MBit/s; 100 MBit/s	
Protocol	TCP/IP; UDP; Modbus TCP; OPC UA; EtherNet/IP	
Note on interfaces	OPC UA PubSub	
Operating conditions		
Ambient temperature	[°C]	-30...65
Note on ambient temperature		2000 m: -30...65 °C
		3000 m: -30...61 °C
		4000 m: -30...60 °C
		5000 m: -30...58 °C
		The mainboard temperature must not exceed 80 °C. for further information please see the operating instructions
Storage temperature	[°C]	-30...85
Max. relative air humidity	[%]	90; (non condensing)
Max. height above sea level	[m]	5000
Protection		IP 65; IP 67
Pollution degree		2; (before installation and when the device is replaced)
Chemical media	ISO 16750-5	AA, BA, BD, CC, DB, DC, DD, ED
		only one chemical permitted at a time
Tests / approvals		
EMC	UN/ECE-R10 noise emission and noise immunity:	100 V/m
	DIN EN 61000-6-2	
	DIN EN 61000-6-4	
	DIN EN 13766-1	
	ISO 10605 ESD immunity ISO 11452-1	
	ISO 7637-2 pulse 1	severity level 4 / function state C (24 V)
	ISO 7637-2 pulse 2a	severity level 4 / function state A (24 V)
	ISO 7637-2 pulse 2b	severity level 4 / function state C (24 V)
	ISO 7637-2 pulse 3a	severity level 4 / function state A (24 V)
	ISO 7637-2 pulse 3b	severity level 4 / function state A (24 V)
	ISO 16750-2 pulse 4	severity level 4 / function state A (12 V)
	ISO 16750-2 pulse 4	severity level 4 / function state A (24 V)
	ISO 16750-2 pulse 5	severity level 3 / function state C (24 V)
	Continuous shock resistance	ISO 16750-3
Fast temperature change	EN 60068-2-30 damp heat: cyclical	55 ° C upper temperature limit / 6 cycles
	EN 60068-2-78 damp heat: constant	40 ° C 93 % rH / test period 21 days

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Vibration resistance	ISO 16750-3 Test VII EN 60068-2-6 Sinus	random, mounting place car body 10...500 Hz / 0.72 mm / 10 g 10 cycles/axis, sine
Salt spray test	EN 60068-2-52 Salt spray	severity level 3 / motor vehicle
MTTF [years]		105
Railway applications	DIN EN 50155 Pkt 12.2 EN 50121-3-2 EN 55016	

### Mechanical data

Weight [g]		491.55
Type of mounting	panel / surface; installation in panels or panel cutouts; (panel cutout: 114 x 99 mm)	
Dimensions [mm]	125.1 x 110 x 41.3	
Materials	housing: diecast aluminium powder-coated; Display: glass anti-reflective and hardened; rear of the housing: plastics; diaphragm: Gore-Tex	
Information on service life	pushbuttons:	750000 Betätigungen
	navigation key with pushbutton:	750000 Betätigungen
	Display-LED Lebensdauer:	> 50000 h

### Displays / operating elements

Display	status LED	1 LED, multi-colour freely programmable
Operating elements	6	freely programmable backlit function keys
	1	navigation key with central confirmation button
Display resolution	800 x 480	
Display type	colour display	
Display size	4.3"	
Aspect ratio	16:10	
Display background illumination	LED	
Colour depth	24 Bit	
Brightness [cd/m <sup>2</sup> ]	1000; (adjustable: 0...100 %; In steps of: 1 %)	
Contrast ratio	800:1	

### Hardware

Processor	ARM Dual Core 64 Bit 1,4 GHz	
RAM	1 GByte RAM	
Mass storage	4 GByte Flash	
Non-volatile memory	8 kByte	

### Data memories

Real-time clock	yes; UTC, battery buffered	
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### Remarks

Pack quantity	1 pcs.	
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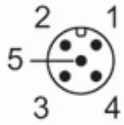


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### Electrical connection - CAN

Connector: 1 x M12; coding: A



1:	Service
2:	VBB30
3:	GND
4:	CAN_H
5:	CAN_L

### Electrical connection - ETH

Connector: 1 x M12; coding: D



1:	TxD+
2:	RxD+
3:	TxD-
4:	RxD-
SCREEN:	FE screen connected to plug