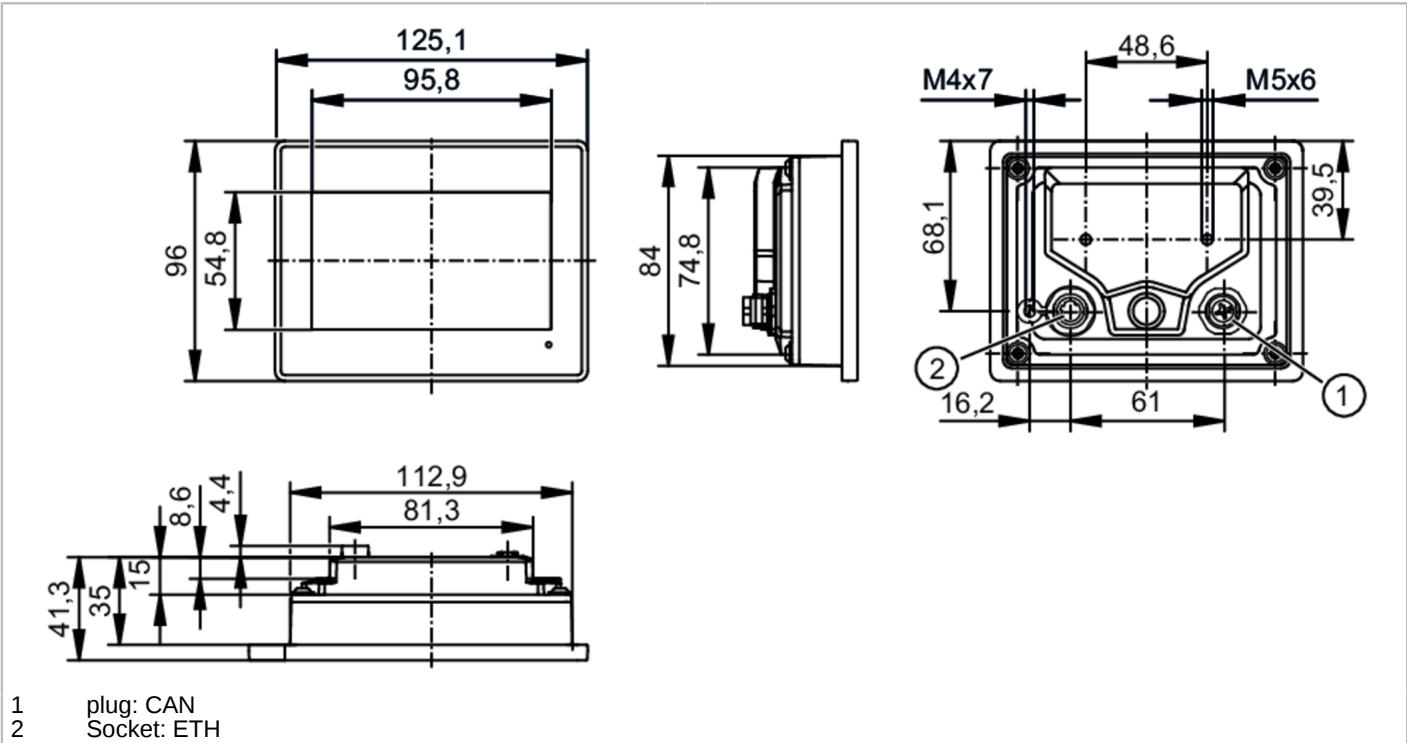


CR1144



Programmable Human Machine Interface

ecomatDisplay/4.3"/BASIC/E



Product characteristics

Communication interface	CAN; Ethernet
Display type	Color display

Application

Application	for mobile applications; For use in industrial environments; for use in wet environments
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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
Overvoltage category		II

Inputs / outputs

Number of inputs and outputs	Number of digital inputs: 1
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Inputs

Number of digital inputs	1; (non-configurable service input)
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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



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Number of Ethernet interfaces		1	
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	
Degree of soiling		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 interference:	100 V/m
		DIN EN IEC 61000-6-2	noise immunity
		DIN EN IEC 61000-6-4	noise emission
		DIN EN IEC 13766-1	earth-moving and construction machines
		ISO 10605 ESD	
		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	30 g 6 ms / 24000 shocks
Fast temperature changes		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 sine	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	test method 3 / motor vehicle
MTTF [years]	109	
Railway applications	DIN EN 50155 Pkt 13.3	
	EN 50121-3-2	
	EN 55016	

Mechanical data

Weight [g]	454	
Type of mounting	panel/surf.; installation in panels or panel cutouts	
Dimensions [mm]	96 x 125.1 x 41.3	
Material	housing: diecast aluminium powder-coated; Display: glass anti-reflective and hardened; rear of the housing: plastics; diaphragm: Gore-Tex	
Information on service life	Display LED lifetime:	> 50000 h

Displays / operating elements

Display	Status LED	1 LED, multi-color freely programmable
Display resolution	800 x 480	
Display type	Color display	
Display size	4.3"	
Aspect ratio	16:10	
Display background illumination	LED	
Color depth	24 Bit	
Brightness [cd/m²]	1000; (adjustable: 0...100 %; In steps of: 1 %)	
Contrast ratio	800:1	

Hardware

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

Data memory

Real-time clock	yes; UTC, battery buffered	
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Remarks

Pack quantity	1 pcs.	
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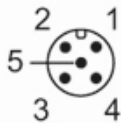


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Electrical connection - CAN

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 |