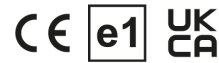
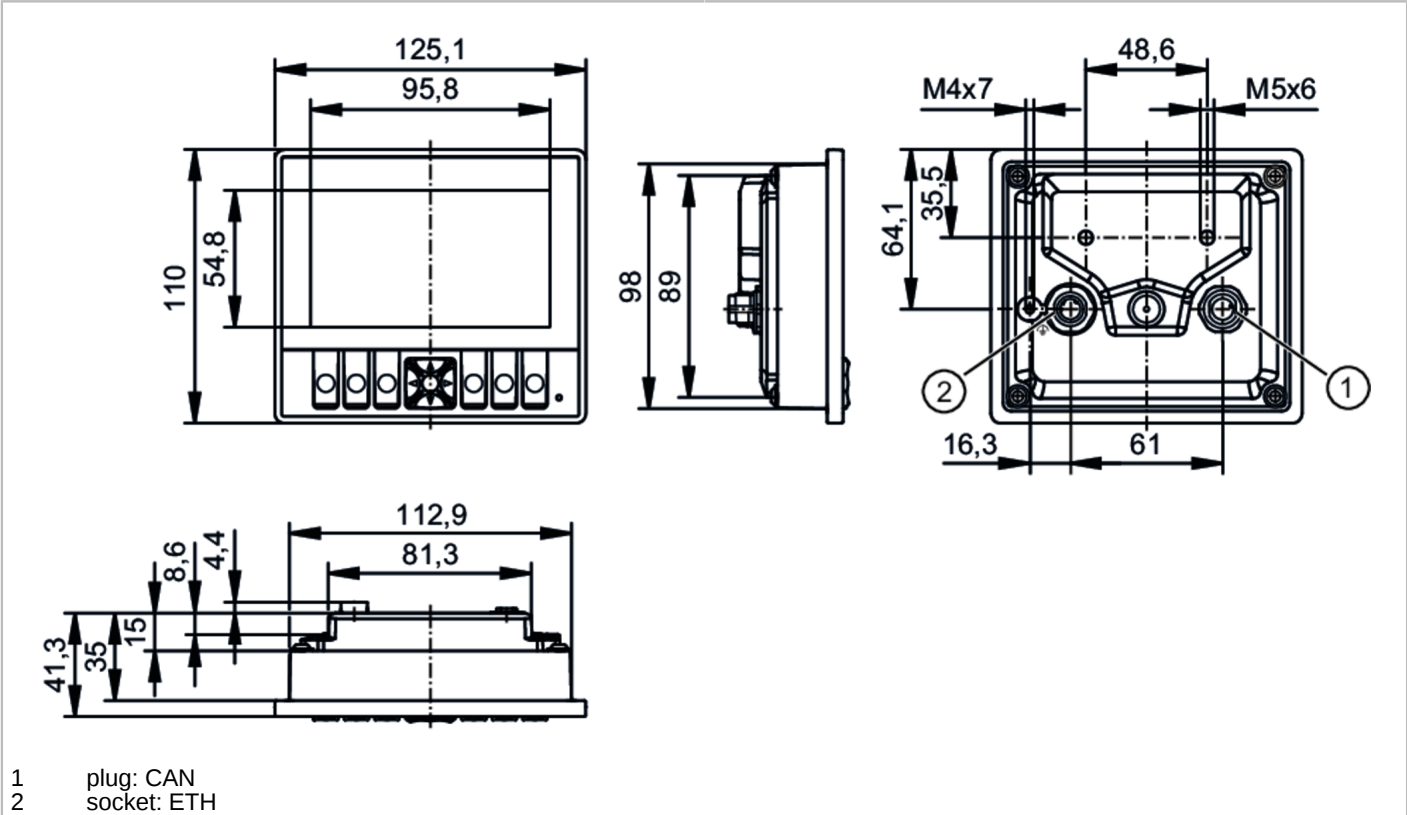


CR1140



Programmable graphic display for controlling mobile machines

ecomatDisplay/4.3"/STD./E



| Application                   |                                                                                                   |                           |
|-------------------------------|---------------------------------------------------------------------------------------------------|---------------------------|
| Application                   | for mobile applications; Для використання у промисловості; для використання у вологому середовищі |                           |
| 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; (неконфігурований сервісний вхід)                                                              |                           |
| 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                                                                                                 |                           |



## Programmable graphic display for controlling mobile machines

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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                                           |
|                             |                                                | Температура материнської плати не повинна перевищувати 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                                |
|                             |                                                | одночасно дозволений лише один хімічний засіб                 |
| 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                                    | 30 g 6 ms / 24000 shocks                                      |
| 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<br>EN 60068-2-6 Sinus | random, mounting place car body<br>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 [ANN]           | 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 антиблікове та загартоване; 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 вільно програмований                |
| Operating elements              | 6                                               | freely programmable backlit function keys               |
|                                 | 1                                               | навігаційна клавіша з центральною кнопкою підтвердження |
| 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/m²]              | 1000; (adjustable: 0...100 %; In steps of: 1 %) |                                                         |
| Contrast ratio                  | 800:1                                           |                                                         |

### Апаратне забезпечення

|                         |                              |  |
|-------------------------|------------------------------|--|
| Processor               | ARM Dual Core 64 Bit 1,4 GHz |  |
| RAM                     | 1 GByte RAM                  |  |
| Mass storage            | 4 GByte Flash                |  |
| Енергонезалежна пам'ять | 8 kByte                      |  |

### Data memories

|                 |                            |
|-----------------|----------------------------|
| Real-time clock | yes; UTC, battery buffered |
|-----------------|----------------------------|

### Remarks

|               |        |
|---------------|--------|
| Pack quantity | 1 pcs. |
|---------------|--------|

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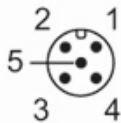


## Programmable graphic display for controlling mobile machines

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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 |