

Monitor 7" ELED

Installation manual
Manual No. IM0973576 A 04

02/2021
English

Article number: 0228000
0228010
0228020
0228030



Monitor 7" ELED



Safety

In order to guarantee safe operation, these safety instructions must be read before you start using this equipment.

- Do not open the enclosure. This can cause damage, short-circuiting or electrical shocks.
- Do not expose the equipment to extreme temperatures. This can cause deformation of the enclosure or damage to internal components.
- Repairs may only be made by the manufacturer.
- The equipment must be installed as shown in this manual.

Before you start using this equipment, please read this manual carefully and follow all instructions. This manual describes the installation of the equipment, outlines the connection options and explains how to put the equipment into operation. We recommend that you keep this manual in a safe place for reference purposes.

If you have any questions or issues concerning the operation of this equipment, consult the relevant section in the manual or contact the Orlaco Products BV Service department.

The camera and monitor systems from Orlaco comply with the latest CE, ADR, EMC and mirror-directive regulations. All products are manufactured in accordance with the ISO 9001 quality management, IATF 16949 quality automotive and ISO 14001 environmental management.



Contents

	page
1. Monitor variants	3
2. Monitor placement	3
3. Options	3
4. Basic system installations	4
4.1. EMC	5
5. Technical specifications	6
6. Assembly, connection and data Monitor 7"	7
7. Installation plan	11
8. Maintenance and cleaning	12
9. Disposal	12
10. General terms and conditions	12
11. Release notes	12



Art. no. 0228000; Monitor 7" ELED



Do not include the ELED 7 "monitor in a DC distribution network and only use cables shorter than 30 meters.

Available documentation:

User Manual UM0972229
User Manual UM0972122
Data sheet DS0962281
Data sheet DS0962282

1. ELED variants

ELED Art. No.	Power	CAN SRD	Video	Page
Monitor 7" ELED Ethernet				
0228000	Socket 8p M16 male	-	Socket M12 D-coded female	7
Monitor 7" ELED Ethernet SRD				
0228010	Socket 8p M16 male	Socket CAN SRD M12 A-coded female	Socket M12 D-coded female	8
Monitor 7" ELED BroadR-Reach				
0228020	Socket 8p M16 male	-	Socket M12 D-coded female	9
Monitor 7" ELED BroadR-Reach SRD				
0228030	Socket 8p M16 male	Socket CAN SRD M12 A-coded female	Socket M12 D-coded female	10

2. Monitor placement (guideline)

The correct placement of the monitor depends on the type of the vehicle. Please take note of the following guidelines when installing the monitor.

Obstruction of the field of vision

The monitor must be placed in such a way that the field of vision of surrounding traffic and the work area is obstructed as little as possible.

Obstruction of the operation

The monitor may not obstruct the basic operation within the vehicle.

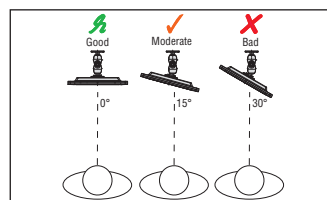
3. Options

Mounting hardware

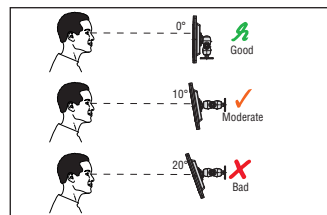
Adjustable bracket can be ordered separately (Art. No. 2015500).

Power cable

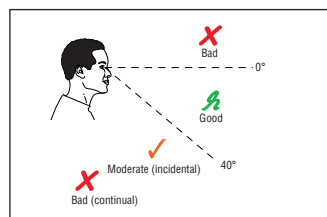
Power cable 2m m8F; is included (Art. No. 1001621).



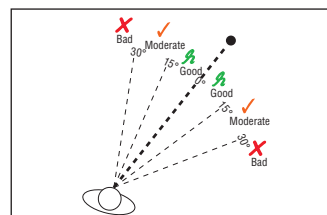
View point on the monitor



View point on the monitor



Posture



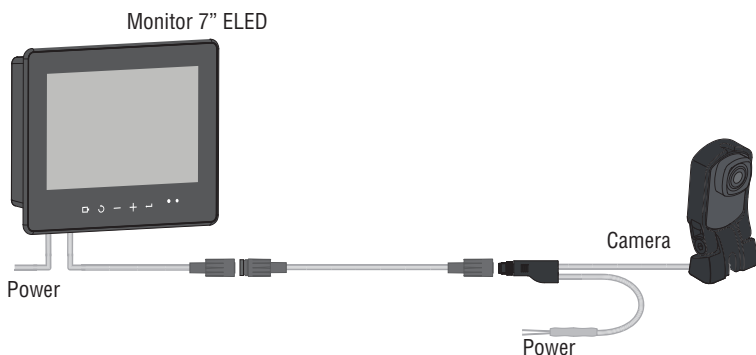
Viewing direction of the monitor

4. Basic system installations

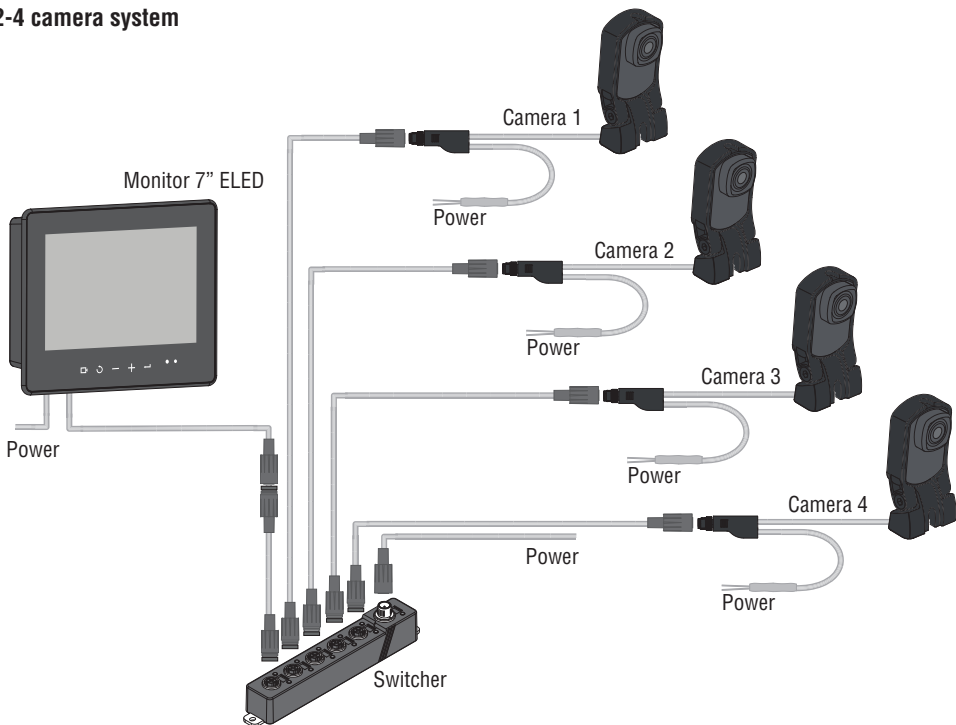
Please pay attention that you use either Fast Ethernet or BroadR-Reach components in your system configuration. You can not mix these components.

Note that Orloco does not offer a BroadR-Reach switch. Our Fast Ethernet switch is Art. Nr. 0405440.

1 camera system



2-4 camera system

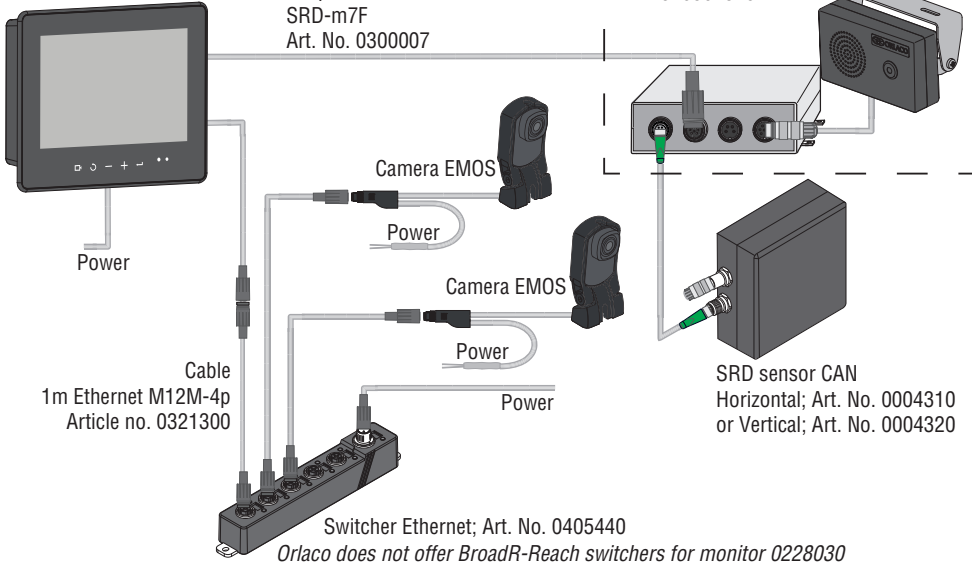


Monitor 7" ELED Ethernet SRD system with optional ext. speaker and multiple cameras

Monitor 7" ELED
Ethernet SRD
Art. No. 0228010/0228030

Adapter Cable 2m ELED-M12m to
SRD-m7F
Art. No. 0300007

Optional:
Interface Box with Ext Speaker CAN SRD
Art. No. 0504820

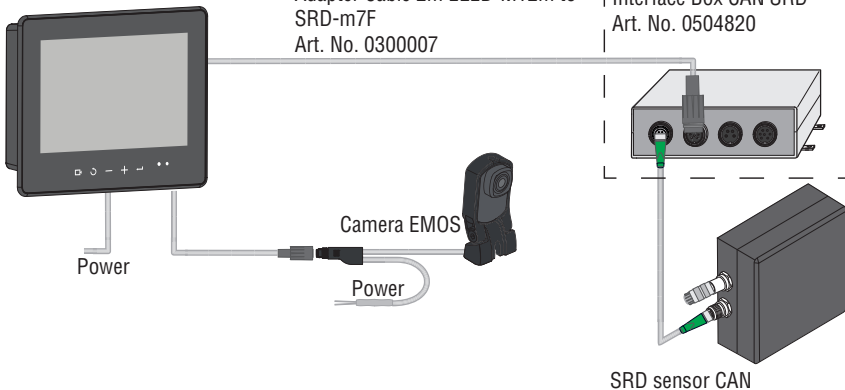


Monitor 7" ELED Ethernet SRD system with single camera and optional ext. speaker

Monitor 7" ELED
Ethernet SRD
Art. No. 0228010/0228030

Adapter Cable 2m ELED-M12m to
SRD-m7F
Art. No. 0300007

Optional:
Interface Box CAN SRD
Art. No. 0504820



4.1. Electromagnetic compatibility installation instructions (EMC).

Preferred installation

Installation especially for forklifttrucks.

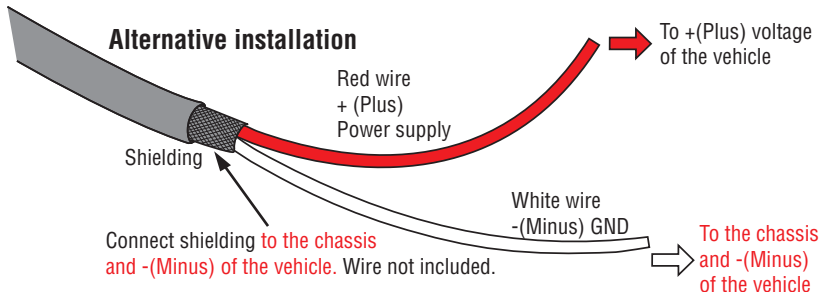
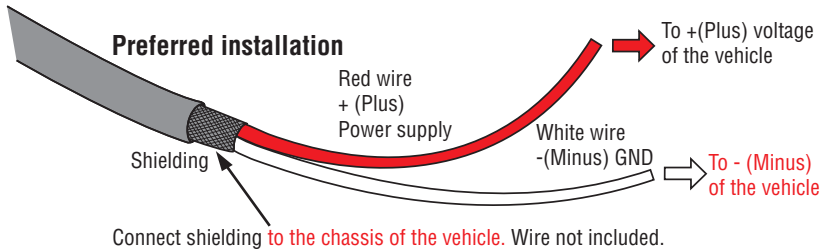
Warning! On vehicles with separated powerwiring like electrical forklifttrucks no other installation is allowed, the shielding may **NOT** in any way be connected to the battery:

Color/wire	Function	Vehicle connection:
Red wire	+(plus) power supply	+(plus) voltage of the vehicle (12..24V/Dc, 5A fuse)
White wire	-(minus) GND power supply	-(minus) of the vehicle
Shielding powercable	Eliminates EMC disturbances	Chassis of the vehicle

Alternative installation

If no separate 0V/minus is available on the vehicle and the minus of the battery is connected to the chassis of the vehicle; connection is as follows:

Color/wire	Function	Vehicle connection:
Red wire	+(plus) power supply	+(plus) voltage of the vehicle (12..24V/DC, 5A fuse)
White wire and Shielding powercable	-(minus) GND power supply and EMC	Chassis of the vehicle combined with -(minus) of the vehicle



5. Technical specifications

Article No. 0228000 Monitor 7" ELED Ethernet

Article No. 0228020 Monitor 7" ELED BroadR-Reach

	General
Type	a-Si TFT, Normally black, Transmissive, with Cover Lens.
Resolution	WXGA 1280 x 800 pixels.
Active Area	150.528 (H) x 94.08 (V) (7" diagonal).
Software menu	Full On-Screen-Display (OSD) functionality in 15 languages.
ABC mode	Improved Auto Brightness Control (ABC) including adjustable minimum and maximum levels for automatic control.
Light output	1000 Nits, sunlight readable.
Weight	918 grams.
Features	Optically bonded display with chemically strengthened cover glass protected against water, robust design and modern appearance. Integrated Capacitive keyboard in slim design. Glass cover with ARAF surface treatment.
Mounting hardware	Adjustable bracket can be ordered separately (Art No.2015500).
	Electrical
Input voltage range	12V/24Vdc
Power consumption	9,3W@24V.
Protection:	Above 33V overvoltage protection, protection deactivated below 30V. Below 7V undervoltage protection, protection deactivated above 8V. Protected against load dumps, spikes and surges, reverse polarity on all wiring.
Video input	Ethernet (100BASE-TX), BroadR-Reach (100BASE-T1). 4-wire ethernet 100BASE-TX with overall shielding. 2-wire ethernet 100BASE-T1 with overall shielding.
Connectors	Socket Power 8p M16 male, Socket Video M12 D-coded female.
	Mechanical
Enclosure	ABS-PC, Color Black..
Shock resistance	9,7Grms, 5 to 2000Hz.
Dust and water protection	IP67 according IEC 60529, IP69K according DIN 40050-9.
Operating temperature	-30°C...+70°C.
Storage temperature	-40°C...+90°C.
Temperature/Humidity test	According IEC60068-2-1/2/3/14/30/38.
	Certification
EMC Approvals	CE, Regulation 10, FCC, IC.
Environments to be used	On-road trucks, off-road trucks, maritime, railway, industrial trucks.
Compliant	RoHS and REACH.

Article No. 0228010 Monitor 7" ELED ethernet SRD

Article No. 0228030 Monitor 7" ELED BroadR-Reach SRD

General

Type	a-Si TFT, Normally black, Transmissive, with Cover Lens.
Resolution	WXGA 1280 x 800 pixels.
Active Area	150.528 (H) x 94.08 (V) (7" diagonal).
Software menu	Full On-Screen-Display (OSD) functionality in 15 languages.
ABC mode	Improved Auto Brightness Control (ABC) including adjustable minimum and maximum levels for automatic control.
Light output	1000 Nits, sunlight readable.
Weight	918 grams.
Features	Optically bonded display with chemically strengthened cover glass protected against water, robust design and modern appearance. Integrated Capacitive keyboard in slim design. Glass cover with ARAF surface treatment.
Mounting hardware	Adjustable bracket can be ordered separately (Art.No.2015500).

Electrical

Input voltage range	12V/24Vdc
Power consumption	9,3W@24V.
Power output	Only SRD sensors; nominal 2A +/-10% for powering cameras and other peripherals.
Protection:	Above 33V overvoltage protection, protection deactivated below 30V. Below 7V undervoltage protection, protection deactivated above 8V. Protected against load dumps, spikes and surges, reverse polarity on all wiring.
Video input	Ethernet (100BASE-TX), BroadR-Reach (100BASE-T1). 4-wire ethernet 100BASE-TX with overall shielding. 2-wire ethernet 100BASE-T1 with overall shielding.
Connectors	Socket Power 8p M16 male, Socket Video M12 D-coded female, Socket CAN SRD M12 A-coded female.

Mechanical

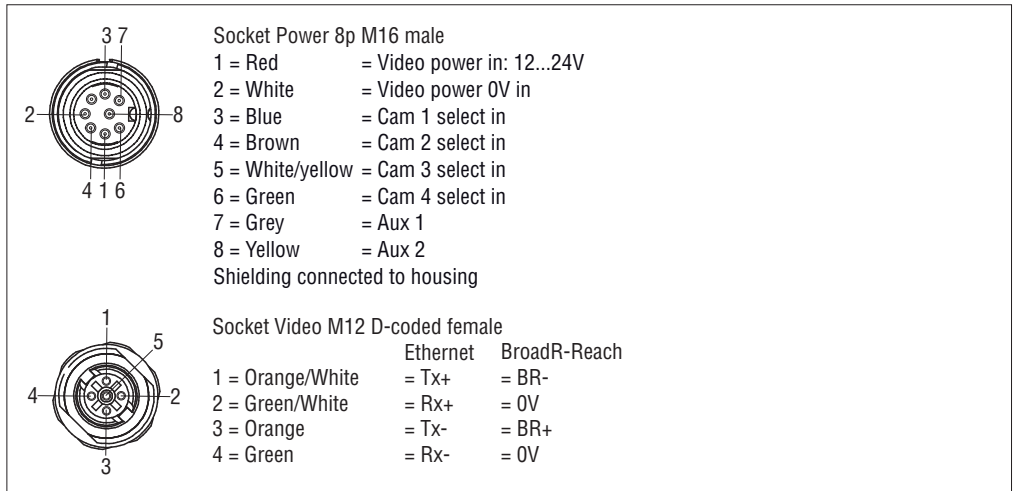
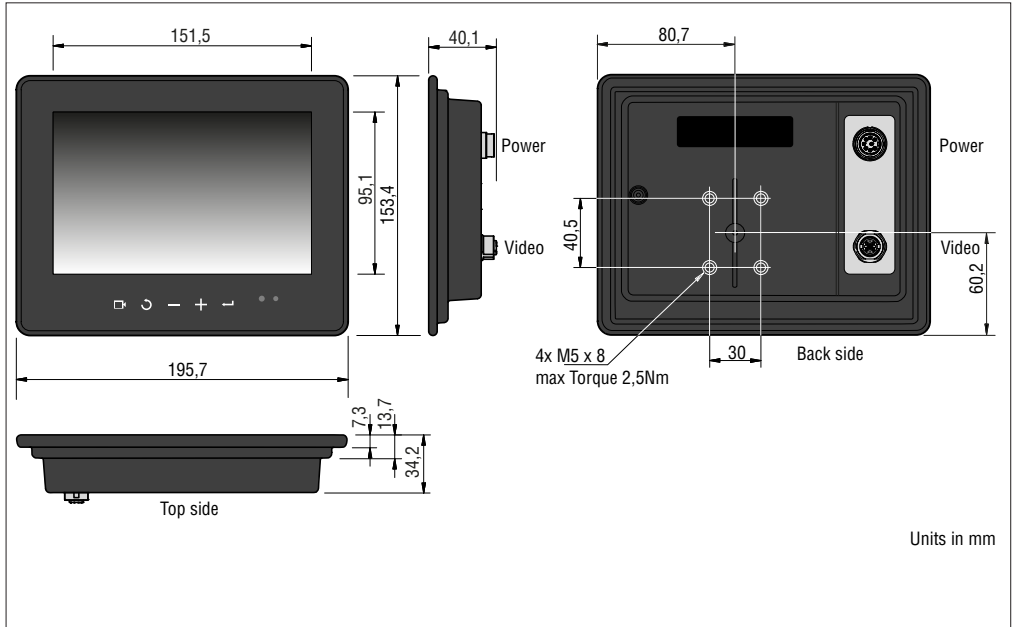
Enclosure	ABS-PC, Color Black.
Shock resistance	9,7Grms, 5 to 2000Hz..
Dust and water protection	IP67 according IEC 60529, IP69K according DIN 40050-9.
Operating temperature	-30°C...+70°C.
Storage temperature	-40°C...+90°C.
Temperature/Humidity test	According IEC60068-2-1/2/3/14/30/38.

Certification

EMC Approvals	CE, Regulation 10, FCC, IC.
Environments to be used	On-road trucks, off-road trucks, maritime, railway, industrial trucks.
Compliant	RoHS and REACH.

6. Assembly, connection and data Monitor 7" ELED

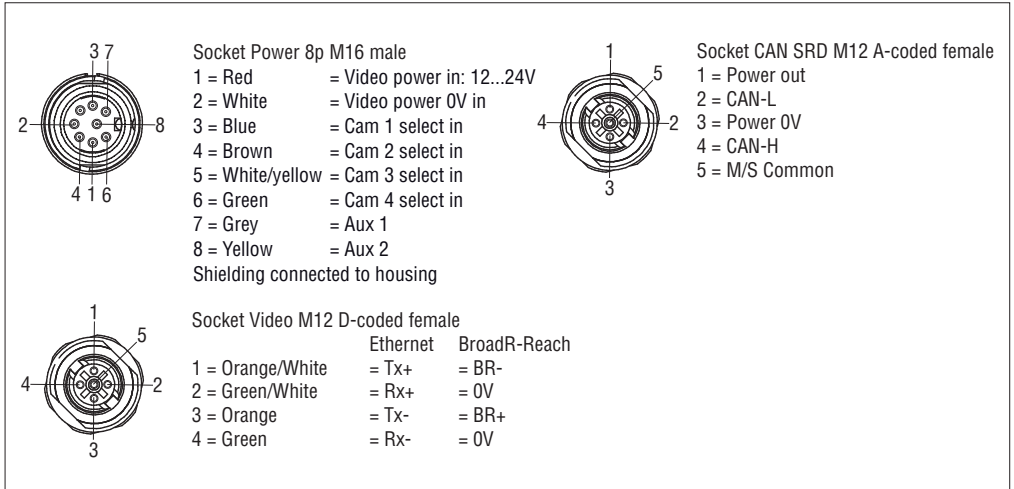
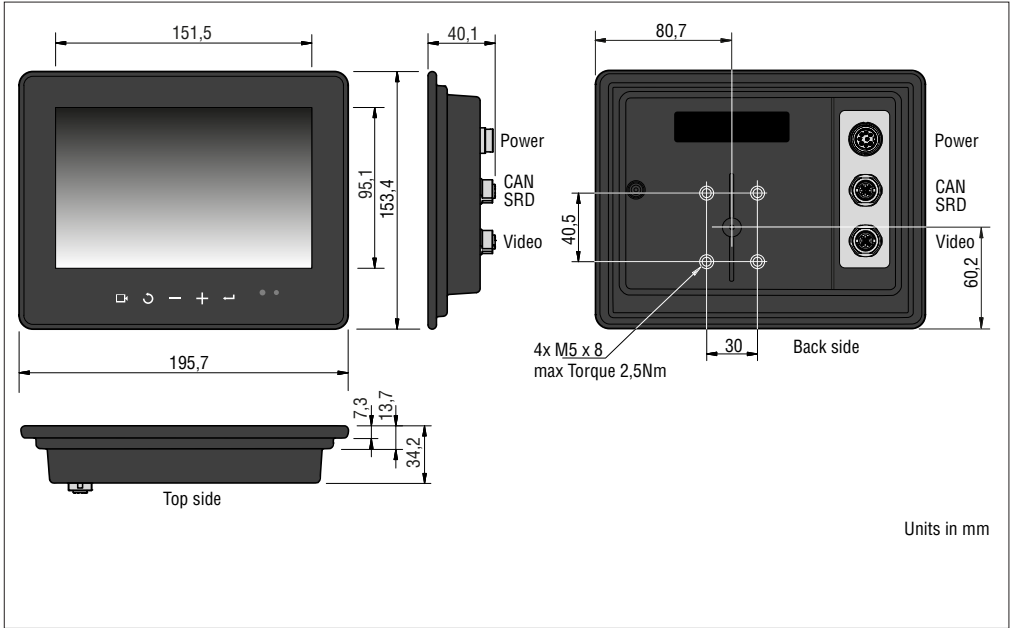
Article No. 0228000 Monitor 7" ELED Ethernet



Connect instructions: See also chapter 4. "Basic System Installations"
User instructions: Please refer to User manual No: UM0972229 for operation.

Installation manual

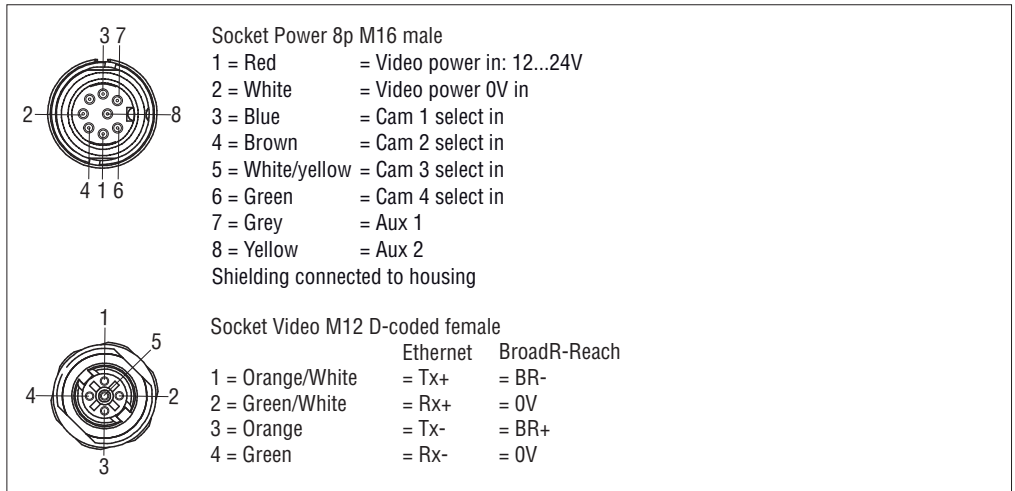
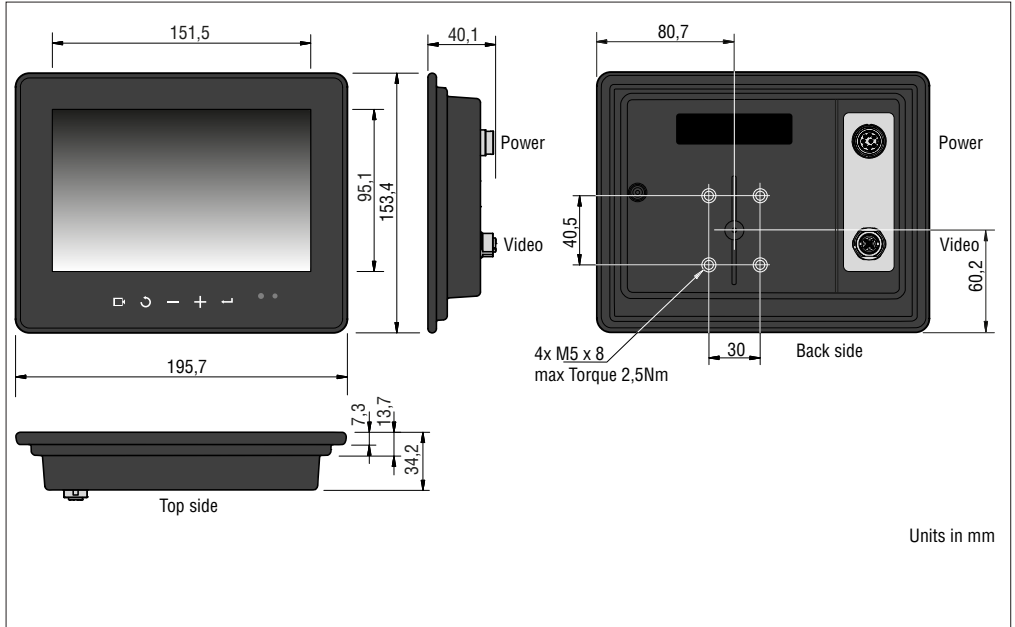
Article No. 02280110 Monitor 7" ELED ethernet SRD



Connect instructions: See also chapter 4. "Basic System Installations"
User instructions: Please refer to User manual No: UM0972122 for operation.

Installation manual

Article No. 0228020 Monitor 7" ELED BroadR-Reach

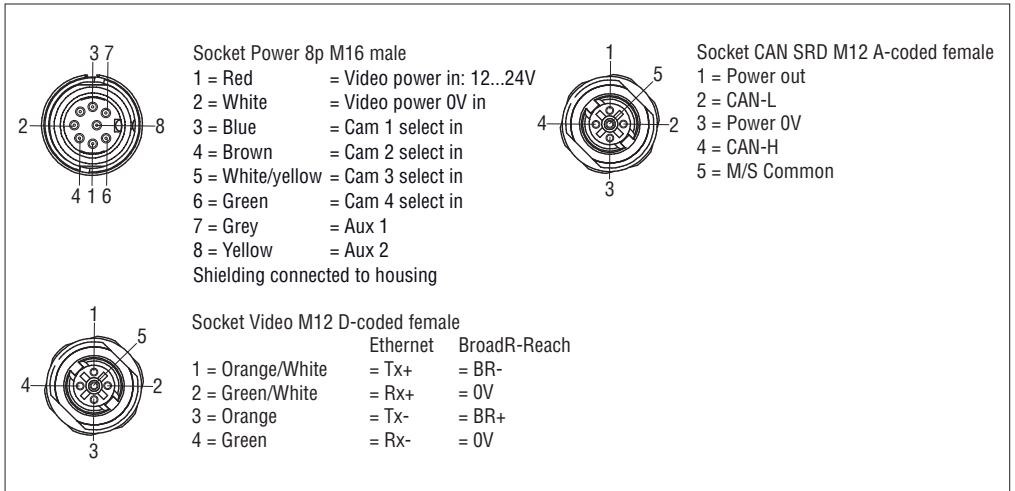
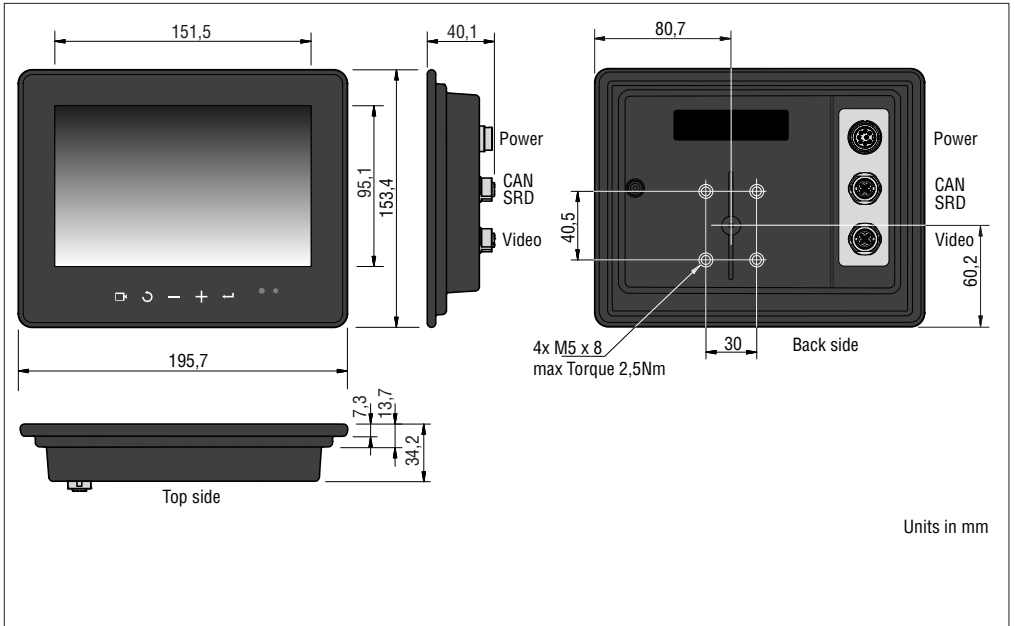


Connect instructions: See also chapter 4. "Basic System Installations"

User instructions: Please refer to User manual No: UM0972229 for operation.

Installation manual

Article No. 0228030 Monitor 7" ELED BroadR-Reach SRD



Connect instructions: See also chapter 4. "Basic System Installations"
User instructions: Please refer to User manual No: UM0972122 for operation.

7. Installation plan

MAC adres	Vehicle position	Switch wire	Mirror (yes/no)

8. Maintenance and cleaning

Take care when cleaning the glass cover of the monitor. Use a high quality and safe foam cleaner and a soft cloth. Do absolutely not use aggressive chemicals or abrasive cleaning agents.

9. Disposal

Disassembly, removal and disposal. Local regulations for dealing with waste must be followed when disposing of disassembled components or entire units.

10. General terms and conditions

Orlaco Products BV is not liable for damage resulting from inadequate servicing, incorrect usage or alterations made to the equipment without informing the manufacturer in writing.

This manual has been made available by Orlaco Products BV. All rights reserved. No part of this manual may be reproduced and/or made public in printed form, in photocopy form or on microfilm, or in any other way, without the prior written permission of Orlaco. This also applies to the associated drawings and figures.

Orlaco reserves the right to make changes to components at any time without informing customers beforehand or directly. All dimensions given are for commercial purposes.

For information regarding repairs that is not covered in this manual, please contact the Orlaco Products BV service department.

This manual has been prepared with all due care and attention. However, Orlaco Products BV cannot be held responsible for any errors in this manual or any consequences thereof.

11. Release notes

A 01. First issue, February 2021.

A 02. Multiple changes, February 2021

A 03. Text added page 4, March 2021

A 04. Article numbers updated, July 2021

Orlaco is a Manufacturing company that specializes in making cameras and monitor systems for commercial vehicles, fork-lift trucks, cranes, off shore and maritime.

Our objective is to design and produce camera systems for the professional market that improve the drivers' view and increase operating efficiency.

At our facility in Barneveld we locate our design, manufacturing, warehousing and service department.

Vision is our mission®. Orlaco therefore deploys the development, manufacture, supply and service of camera and display systems that will improve safety and efficiency of all vehicles, machinery and vessels. Our systems give the end user a view on each blind spot and will create comfort and improved working conditions. Our active approach will support market demands and innovations and will lead to enthusiastic ambassadors in the market; our customers.

For more information: www.orlaco.com

