

WISR

Installation manual
No. IM0973670 A 02

Art. No: 0300100

02/2019
English



Art. No. 0300100

WISR, Art. No. 0300100



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 undertaken by Orlaco.
- The equipment must be assembled as shown in this manual.
- If there have been alterations or changes to this equipment that have not been specifically approved by Orlaco, use of this equipment is not permitted.
- Warning! RF radiation. This device is using Radio Frequency (RF) signals to establish a wireless video link. Keep a minimum separation distance of 0.2m between the WISR and the human body to comply with the regulation regarding human exposure to RF radiation.

Preface



Only connect this product to a SELV (Separated or Safety Extra-Low Voltage) or a double insulated power source. Ensure that a fuse 2A T has been installed in the power line of the WISR

Before you start using this equipment, please read this manual carefully and follow all instructions. This installation manual describes the functions 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.

All data subject to change without notice. All dimensions are for commercial purpose only. The Orlaco products comply with the latest CE, ADR, EMC and mirror-directive regulations, where applicable. All products are manufactured in accordance with the ISO 9001 quality management system, IATF 16949 quality automotive, ISO 14001 environmental management systems, where applicable.



Available documentation

<https://www.orlaco.com/downloads>

User manual: UM0972260 WISR

Data sheet:

DS0963570-0300100 WISR

DS0961110-0186000 Camera EMOS Ethernet

Package

- WISR router

- Power cable 2m

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1. Introduction

The WISR system provides a Wi-Fi® connection within a view system. The WISR router is both a receiver and a transmitter. This document describes WISR system installation.

List of abbreviations

IP(-address)	Internet Protocol (Address). Unique address inside a network.
MAC (-address)	Media Access Control Address. Worldwide unique address for Ethernet devices.
ROI	Region Of Interest. Used to specify resolution or crops of the video image.
WISR	Wireless Sender Receiver.



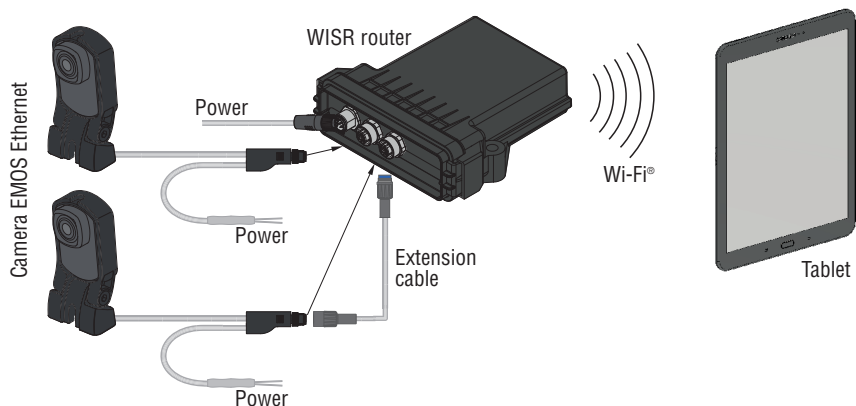
IMPORTANT

**Avoid mounting the WISR with connectors faced up.
Preferably mounting the WISR with connectors facing down.**

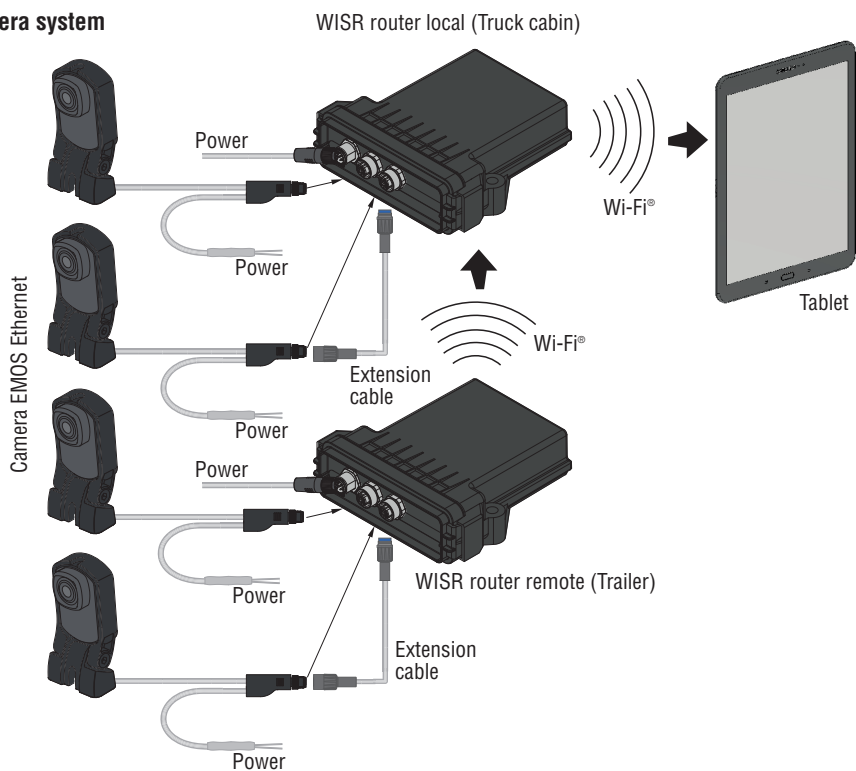


Application possibilities of the WISR system, figure. 1.

2 camera system



4 camera system



2. Configuration

To create a Wi-Fi® connection, there must always be a WISR router in the system. In a 2 camera system, one WISR router is connected with the tablet. For the 4 camera system a second WISR router set communicates with the other WISR router within a work zone. Figure 1 shows two systems using one or two WISRs.

To connect two cameras with the WISR, an extension cable must be used; This cable must be ordered separately, check with Orloco.

Cable Uni Ethernet

1m; Art. No. 0321000	9m; Art. No. 0321060
2m; Art. No. 0321010	11m; Art. No. 0321070
3m; Art. No. 0321020	16m; Art. No. 0321080
5m; Art. No. 0321030	21m; Art. No. 0321090
7,5m; Art. No. 0321040	40m; Art. No. 0321100
8m; Art. No. 0321050	

Optionally, a holder for the tablet is available. See figure 2. Tablet holder 8.5" to 11.125". Article No. 2015880.

See Data sheet: DS0963137.

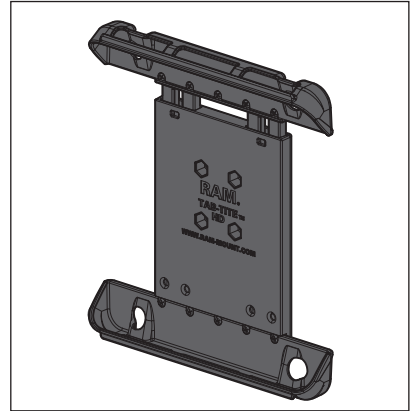


Figure 2



IMPORTANT

The best reception of the signal on the tablet can be obtained by placing the tablet and the WISR so that there is as little as possible metal between them.



IMPORTANT:

Tablet charging adapter is not included

3. Operation

The WISR works together with the Android app 'Photon-View'. WISR firmware can be updated via Wi-Fi® with the tablet (Android Photon View app) with a Wi-Fi® connection. (Check with Orloco to receive the software).

The Wi-Fi® antenna has an omnidirectional orientation. Typically the system will cover 20m. The maximum range is 30m, measured under optimal conditions in the open field. Local interference metal objects and weather conditions can cause the maximum range to decrease.

4. Assembly / Installation

4.1 Options

The WISR system can be mounted in various ways. Depending on the use, there are various mounting options for the WISR system.



IMPORTANT

Avoid mounting the WISR with connectors faced up. Preferably mounting the WISR with connectors facing down.

4.2 Connections

Connecting the WISR system is easy. Connect the tablet to the WISR router and the Cameras using the PhotonView app. The detailed user instructions are listed in the User Manual UM0972260.

Connect the camera video cables to the 4p connections on the WISR router and the power cable with the 8p connector on the WISR router for the supply voltage.

4.3 The photonView app

The detailed user instructions are listed in the User Manual UM0972260.

5. Dimensions

See figure 3.

6. Technical specifications

General

Description: Wireless Send Receive (WISR).

Software: The WISR works together with the Android app 'PhotonView'.

Weight: 0,30kg.

Video encoding system: RTP/AVB, MJPEG, H.264.

Operating temperature: -40°C to +85°C.

Radio

Firmware: The WISR firmware can be updated via Wi-Fi® with the tablet (Android Photon View app).

Antenna type: Internal antenna with MIMO technics.

Antenna orientation: Omnidirectional.

Frequency range: Ch. 36 ~ 48 (5170-5250 MHz) and Ch. 149 ~ 165 (5735-5835 MHz). Depending on national requirements.

Max. Transmitting power: 1-30 dBm E.I.R.P. Depending on national requirements.

Maximum range: 30m open field. Local interference, metal object and weather conditions will shorten the maximum distance.

Electrical

Rated voltage range: 9-32V/DC.

Rated power: 5W max.

Switch Inputs: 4 Camera selection inputs plus Handbrake and Tacho inputs 0-30V, 0-8V (low) / 8-30V (high).

Power cable: 2m m8F M12 (Art. No. 1001878).

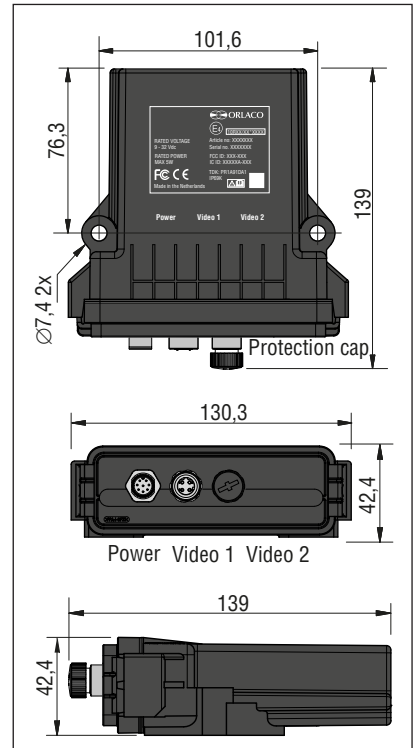


Figure 3

Mechanical

Housing: Automotive thermoplastic polymer (33% glass filled).

Ingress protection: IP67 according to IEC 60529, IP69K according to DIN 40050-9.

Certification

Quality & environment: Unit manufactured by Orlaco in the Netherlands; ISO 9001, ISO14001, IATF 16949.

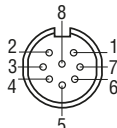
Approvals: CE, FCC. UN Regulation No. 10.

7. Electrical connections

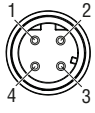
See figure 4.

Electrical connections WISR


Power socket			Video 1, 2 sockets	
Pin	Cable wire color	Function	Pin	Function
1	= Red	= Power	1	= Tx Data +
2	= White	= 0V	3	= Tx Data -
3	= Blue	= CAM 1	2	= Recv Data +
4	= Brown	= CAM 2	4	= Recv Data -
5	= White/Yellow	= CAM 3		
6	= Green	= CAM 4		
7	= Grey	= Aux 1		
8	= Yellow	= Aux 2		



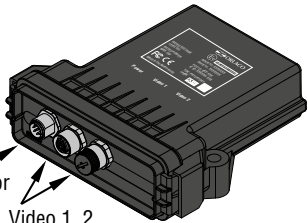
Power
Front side
Male Connector



Video 1
Front side Female
M12 Connector D-Coded



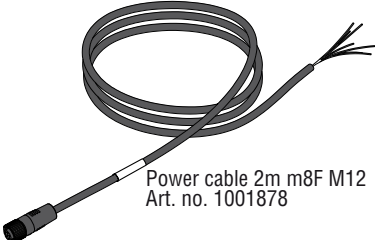
Video 2



Power Connector
8p male

Video 1, 2
Connector 4p female

Units in mm



Power cable 2m m8F M12
Art. no. 1001878

Figure 4

8. Maintenance and cleaning

Clean this product with a damp cloth. Do not use aggressive chemicals or abrasive cleaning agents.

9. FCC Statement

§15.21

Any changes or modifications not expressly approved by the party responsible for compliance could void the users authority to operate this equipment.

Either (§15.105) class B device

The equipment has been tested and found comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the manufacturer's instructions, may cause interference harmful to radio communications.

There is no guarantee, however, that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by tuning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- > Reorient or relocate the receiving antenna.*
- > Increase the separation between the equipment and receiver.*
- > Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.*
- > consult the dealer or an experienced radio or TV technician for help.*

10. IC Statement

(English) This device complies with Industry Canada license-exempt RSS standard(s).

Operation is subject to the following two conditions:

- 1) this device may not cause interference and
- 2) this device must accept any interference, including interference that may cause undesired operation of the device

(Français) Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence.

L'exploitation est autorisée aux deux conditions suivantes:

- (1) l'appareil ne doit pas produire de brouillage, et
- (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

(English) Caution: Exposure to Radio Frequency Radiation.

To comply with RSS 102 RF exposure compliance requirements, for mobile configurations, a separation distance of at least 20 cm must be maintained between the antenna of this device and all persons. This device must not be co-located or operating in conjunction with any other antenna or transmitter.

(Français) Pour se conformer aux exigences de conformité CNR 102 RF exposition, pour des configurations mobiles, une distance de séparation d'au moins 20 cm doit être maintenue entre l'antenne de cet appareil et toutes les personnes. Cet appareil ne doit pas être colocalisés ou fonctionnant en conjonction avec une autre antenne ou transmetteur.

11. Disposal

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

12. 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 installation 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.

For additional technical information please contact the Orlaco Products BV Service department.

13. Release notes

Version A 01 First issue February 2019.

Version A 02 FCC statement changed, September 2019.

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

