

ORLACO

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 factory in Barneveld, we have a production department, warehouse, design department, service department and showroom.

Vision is our mission®, and 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 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



Cable reel spring driven 12mtr Cable reel spring driven 12mtr with heater

Installation Manual
Manual IM0973410 A 02

3/2009
English

Article no. 0710240/0710280



Art. no. 0710240 Cable reel spring driven 12mtr



Art. no. 0710280 Cable reel spring driven 12mtr with heater



www.orlaco.com

Installation Manual

Cable reel spring driven 12mtr Cable reel spring driven 12mtr with heater



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.
- Repairs or adjustments to the equipment may only be undertaken by Orloco.
- 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 Orloco, use of this equipment is not permitted.

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 Orloco Products BV Service department.

The camera and monitor systems from Orloco comply with the latest CE, ADR, EMC and mirror-directive regulations. All products are manufactured in accordance with the ISO 9001 quality management, IATF16949 quality automotive and ISO 14001 environmental management.



Contents

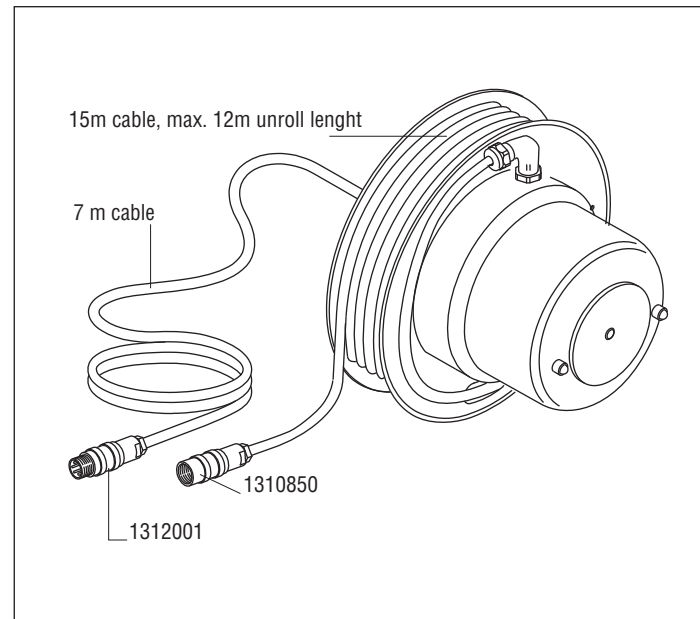
1. General	2
2. Setup	2
3. Assembly	3
4. Commissioning	4
5. Checks and maintenance	4
6. Faults and causes	5
7. Electrical connections	6
8. Disposal	6
9. General terms and conditions	6
10. Version details	6

Available documentation:

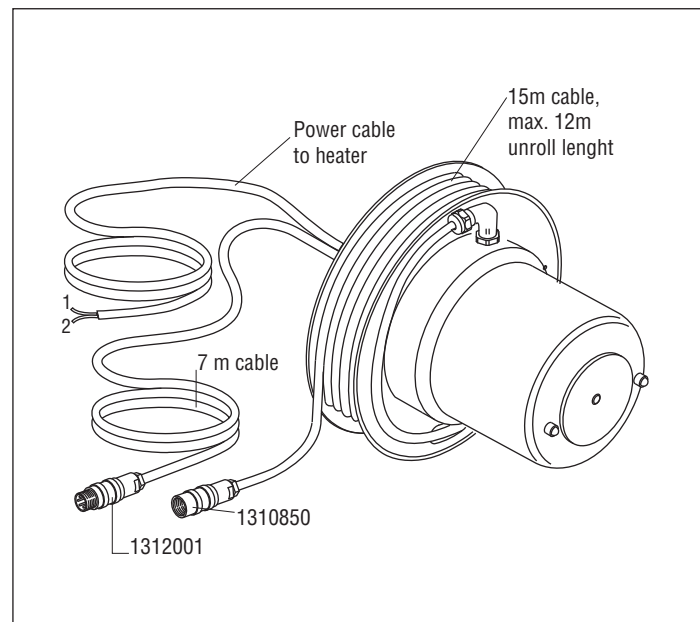
Data sheet

DS0963450-0710240 Cable reel spring driven 12mtr

DS0963451-0710280 Cable reel spring driven 12mtr with heater



Article number 0710240 without heater.



Article number 0710280 with heater.

Installation Manual

7. Soldering of connectors

- | | |
|-----------------|----------------|
| 1 = Coax core | (Video signal) |
| 2 = Coax screen | (Video GND) |
| 3 = Red | (12V/DC) |
| 4 = Black | (0V) |
| Shielding | (GND) |

Power cable to heater

- | | |
|-----------|----------|
| 1 = Blue | (24V/DC) |
| 2 = Brown | (0V) |

8. Disposal

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

9. General terms and conditions

Orloco 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 Orloco 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 Orloco. This also applies to the associated drawings and figures.

Orloco 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 Orloco Products BV service department.

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

10. Version details

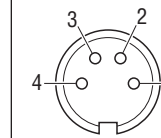
Version R1-0. First issue, March 2009

Version R1-1. Product name and manual number changed, January 2014

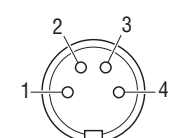
Version A 01. Adjustment blocks deleted, February 2018

Version A 02. Art. No. connectors changed, February 2021

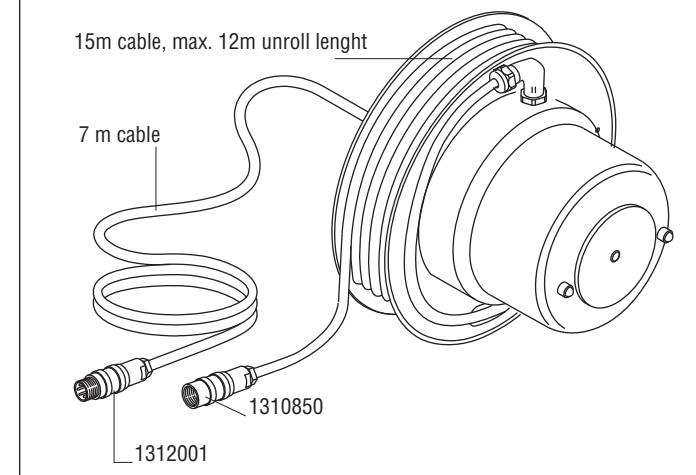
Solder side Female 1310850



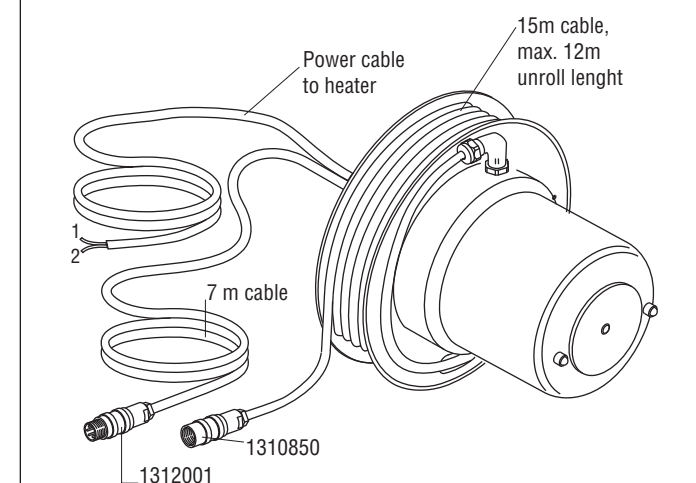
Solder side Male 1312001



Article number 0710240 without heater.



Article number 0710280 with heater.





Caution
Under no circumstances should cleaning sprays or contact sprays be used!

Check the contact brushes for wear and replace if necessary. Clean off any settled dust or abrasion from the slip-ring element. Check the ring surface and polish if necessary. Check all wires are firmly connected and look for insulation damage.

Cable

Check for twists → untwist
Check for insulation damage → replace if necessary

Replacing the drive springs

See separate information (available from the manufacturer)

Additional steps to prevent accidents

The compact design of the drum means there are no fast-rotating parts (such as chains, coupling etc.). Safety measures, such as the potentially required cover of a rotating storage drum, must be implemented by the customer and the corresponding mounting conditions must be adjusted (pertaining to the machinery guidelines for the whole facility).

6. Faults and causes

Fault (symptom)	Possible cause	Possible remedy
The image is distorted when rotating the drum	Slip rings dirty; Current collector worn	Clean/replace Fig. 2 (1/4)
The image disappears temporarily or permanent image failure	Slip rings dirty; Current collector worn	Clean/replace Fig. 2 (1/4)
Permanent image failure	Plug damaged; Cable damaged	Replace
Image disrupted when switching on other consumers	Short circuit to earth on the drum over the bodywork	Insulate the drum flange on the forklift
	Cable break in the drum	Replace cable

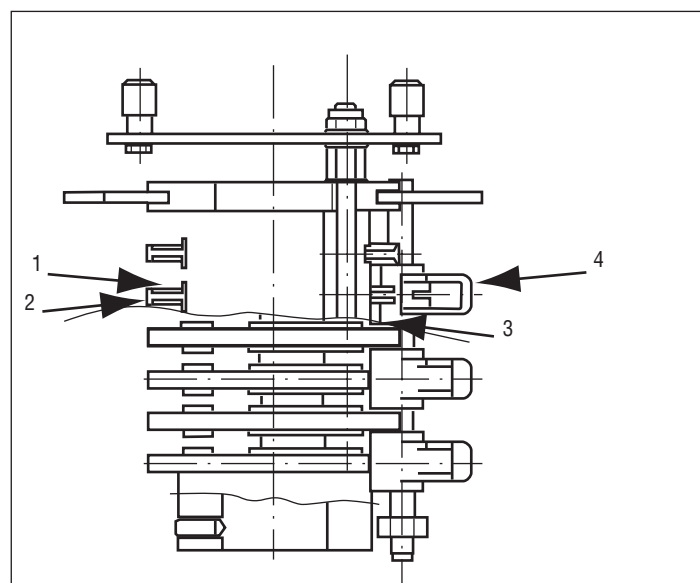


Fig. 2.

1. General

Before you put the equipment to use, you should familiarise yourself with it first.

Technical specifications

Cable reel spring driven
Use: Video signal transmission on forklifts
Reel length: 15 metres (incl. reserve)
Initial tension: 7 rotations
Winding cable: 9.0 mm
Speed: Max. 0.8 metres per second
Slip-ring element (SRE) (specifications at 25°C):
4 x mA-10 A (insulated)

The product described conforms with the provisions of the following European Directives.

89/392/EEC: Council Directive on the Approximation of the Laws of the Member States dated 14 June 1989.

91/368/EEC: Amendment to the 89/392/EEC Directive dated 20 June 1991.

93/44/EEC: Council Directive on the Amendment to the 89/392/EEC Directive dated 14 July 1993.

93/68/EEC: Directive on the Amendment to the 89/392/EEC + 73/23/EEC Directives dated 22 July 1993.

73/23/EEC: Council Directive on the Harmonisation of Laws of Member States relating to electrical equipment designed for use within certain voltage limits. Further details regarding compliance with these Directives can be found in the appendix.

Use:

Spring cable drums provide automatic winding of cables on mobile consumers. Spiral leaf springs are used to provide the drive. The signal transmission drum can be used wherever there is insufficient space for the mast cable layout.

2. Setup

The maximum unwinding length is 12 metres and must not be exceeded. The supply cable is fed through the central axis (hollow axle) and is mounted to the upper terminal board. The non-tension cable (9-mm mast cable) is fed from the winding element through the round guide (side part) outwards on the slip-ring element and inserted into the slip-ring element by means of a sealed angled screw. These contacts are soldered directly onto the current collector (rotating part).

3. Assembly

To ensure that the cable drum provides optimal service after assembly, the following assembly instructions must be observed:

The spring cable drum is mounted using one round flange (Fig. 1) and four screws. The mounting areas must not be uneven and must be clean. The winding drum must be attached horizontally and the cable must be mounted vertically at the centre of the winding area. A mounting bracket (Fig. 2. L-shape) is supplied.

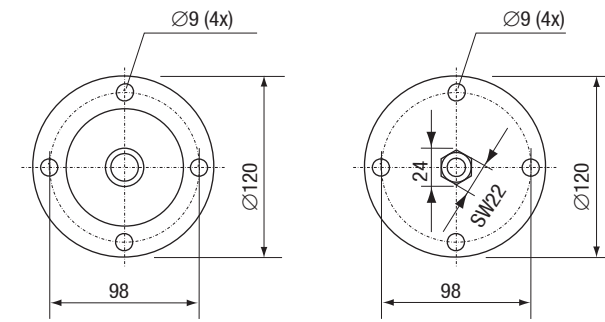


Fig. 1 Mounting flange

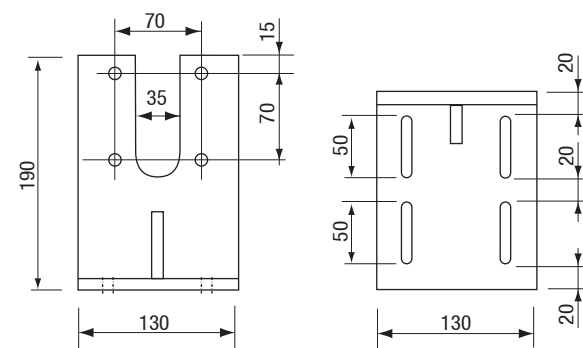
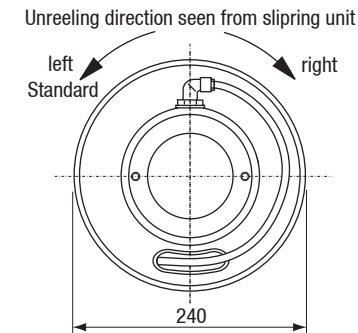


Fig. 2 L-Bracket

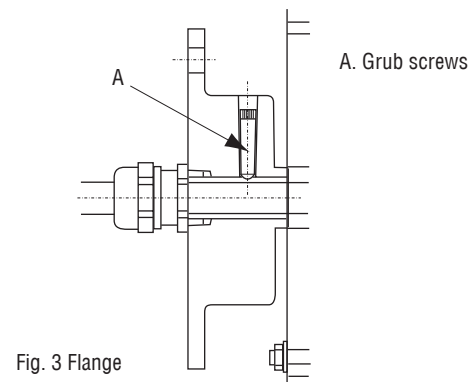


Fig. 3 Flange

Caution!
 After assembly, please always check the grub screws (A, Fig. 3) once again to ensure they are seated correctly.
 You must ensure that the countersink holes (only two on the shaft) are aligned with the grub screws.
 Do not turn the drum in the opposite direction of the arrow shown!
 Complete 5 full turns in the direction of the arrow to bring to initial tension.

These grub screws A (2 pcs) must be inserted using Loctite after assembly.
 In the factory, two grub screws (at 90° angle) are used to fasten the shaft. There are only two countersink holes on the axle, which must house both the grub screws.

When fastening the cable to the fork carriage (to the camera), the following must be observed:

- A swivelling bracket (included in delivery) must be assembled to the fork carriage (fixed part); this bracket must be able to maintain its position without the aid of the side shift, if present.
- The unwinding direction of the cable must be vertical up the centre of the drum winding element; otherwise the drum will not be able to wind out and in evenly and in a worst case scenario will damage the bearings.

Cable to the monitor

- When delivered, the cable is fixed to the drum. If, for laying purposes, the cable has to be disassembled, you must ensure that the wires on the terminal board do not protrude over the screw connection. Protruding wires can lead to short circuits. The PG gland in the centre of the flange is used to provide strain relief for the cable when it is extended.

4. Commissioning

The cable drum is already fully set up and is furnished and delivered with the relevant cables. Cables and plug connections are fitted and the drum can be put into operation after installation.

The drum must only be tensioned in the direction of the arrow shown. It must make 7 full turns to reach initial tension before the cable is fixed.

There must still be at least 2 winding laps remaining (0.7 metres) when the lift mast is in its highest position to provide strain relief on the drum.

When replacing the winding cable, you must ensure that the cable is installed without any twists!

5. Checks and maintenance

Caution!

Before carrying out any maintenance work, you must ensure that the power is switched off in the area where the drum is working and that it is not possible for the consumer to be driven. After opening the protective cover of the split-ring element with a screw tool, the live parts must be tested again as a precaution using a voltage tester. Intermittently, according to special operating conditions, we recommend that you carry out a routine inspection comprising the following:

Drum

All screws and nuts of the drum must be checked to ensure they are securely seated. Check all rubber seals and PG glands for tightness and damage, and replace if necessary.

Slip-ring element

After the first 50 hours, the slip rings should be blown out with compressed air. After that, it is sufficient to clean the slip rings every 500 hours as they are ground in.