

# Basler Accessories



## Technical Specification

### **POWER-I/O-PLC+ CABLE, HRS 12P/OPEN, 10M**

#### **Order Numbers**

**2000034085**

Document Number: DG001399

Version: 01 Language: 000 (English)

Release Date: 22 September 2015

## **Contacting Basler Support Worldwide**

### **Europe, Middle East, Africa**

Basler AG  
An der Strusbek 60–62  
22926 Ahrensburg  
Germany

Tel. +49 4102 463 515  
Fax +49 4102 463 599

[support.europe@baslerweb.com](mailto:support.europe@baslerweb.com)

### **The Americas**

Basler, Inc.  
855 Springdale Drive, Suite 203  
Exton, PA 19341  
USA

Tel. +1 610 280 0171  
Fax +1 610 280 7608

[support.usa@baslerweb.com](mailto:support.usa@baslerweb.com)

### **Asia-Pacific**

Basler Asia Pte. Ltd.  
35 Marsiling Industrial Estate Road 3  
#05–06  
Singapore 739257

Tel. +65 6367 1355  
Fax +65 6367 1255

[support.asia@baslerweb.com](mailto:support.asia@baslerweb.com)

[www.baslerweb.com](http://www.baslerweb.com)

**All material in this publication is subject to change without notice and is copyright  
Basler AG.**

# 1 Introduction

The Power-I/O-PLC+ cables with Hirose 12-pin connector and open end feature an integrated PLC+ electronic board.

The key feature of this board is that it is able to adjust input voltage levels coming from PLC devices (up to 24 V) to the TTL voltage levels required by the camera (0 to 5 V). [Table 1](#) contrasts these different voltage levels.

In addition, the PLC+ electronic board protects the power supply of the camera as well as the input and output lines of the camera against the following:

- Reverse polarity
- Turn-on voltage spikes
- Positive or negative overvoltage spikes

The cables also offer protection of the signal transmission as well as the power supply against EMI and ESD. This is achieved by means of twisted pair cables in which each pair of wires carries just one signal: one wire carries the signal itself and the other is the signal's own return conductor.

Camera I/O Signal Voltage	PLC+ Cable Input Voltage	Significance
Max. +24 VDC	Max. +24 VDC + 10 %	Operating voltage limit.
+0 to +1.4 VDC	+0 to +8.4 VDC	Voltage indicates a logical 0.
> +1.4 to +2.2 VDC	> +8.4 to +10.4 VDC	Logical state is undefined.
> +2.2 VDC	> +10.4 VDC	Voltage indicates a logical 1.

Table 1: Voltage Requirements

# 2 Technical Data

Order Number	Description	Applicable Cameras
2000034085	Power-I/O Cable for PLC with HRS 12-pin connector and open end, 10 m	aviator GigE, aviator CL (I/O only), pilot GigE, scout GigE, scout FW (I/O only)

Table 2: Cable Type

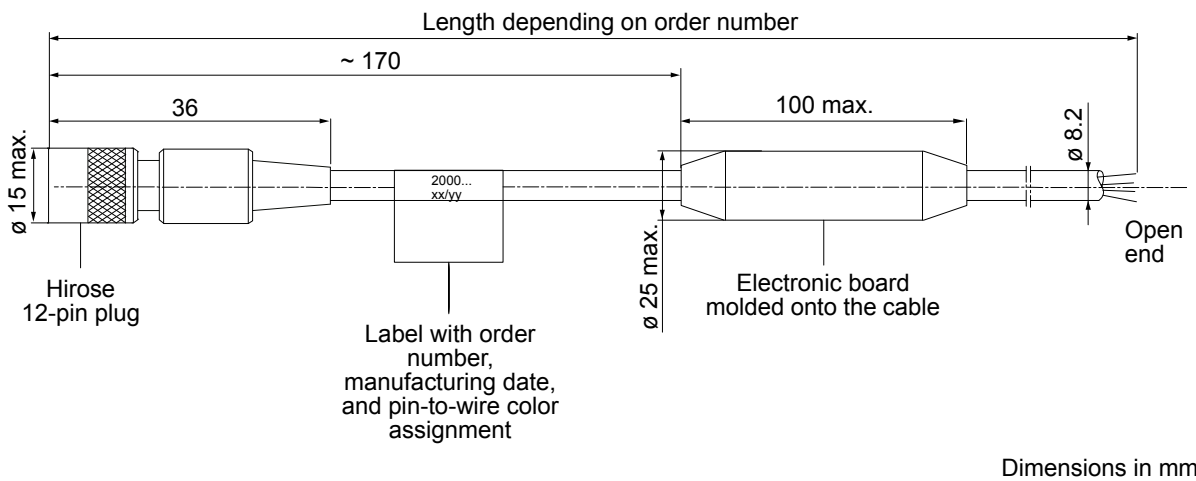


Fig. 1: Cable Overview

## Wiring Information



The shading in [Table 3](#) indicates which wires form twisted pairs inside the cable.

Pin Number	Wire Color	aviator CL	aviator GigE pilot GigE scout GigE	scout FW
1	White		Camera Ground	
2	Green		Camera Ground	
3	Pink	Opto In 1	Opto In 1	Opto In 1
(5)	Gray	Opto In 1 Ground	Opto In 1 Ground	Opto In 1 Ground
4	Red	Opto In 2	Opto In 2	Opto In 2
(5)	Blue	Opto In 2 Ground	Opto In 2 Ground	Opto In 2 Ground
6	Violet	Opto Out 1	Opto Out 1	Opto Out 1
(10)	Black	Opto Out 1 VCC	Opto Out 1 VCC	Opto Out 1 VCC
7	Red/Blue		Opto Out 2	Opto Out 2
(10)	Gray/Pink		Opto Out 2 VCC	Opto Out 2 VCC
8	Brown		Camera VCC	
9	Yellow		Camera VCC	
(10)	White/Green		Opto Out 3 VCC	Opto Out 3 VCC
11	Brown/Green		Opto Out 3	Opto Out 3
(10)	White/Yellow		Opto Out 4 VCC	Opto Out 4 VCC
12	Yellow/Brown		Opto Out 4	Opto Out 4

Table 3: Wiring Information



(x) means that the wire is connected internally to pin x.

For more details, see the respective camera user's manual.

## Physical Specifications

Camera-Side Connector	Hirose 12 pin (HR10A-10P-12S (73))
Host-Side Connector	None, open end
Cable Cross-Section	8 x 2 x 0.14 mm <sup>2</sup> (close to AWG 26)
Cable Diameter	8.2 mm
Wire Insulation	PVC
Outer Jacket	PVC
Minimum Bending Radius	49,2 mm (6 x cable diameter), fixed installation
Maximum Bending Cycles	None (fixed installation only)
Suitable for Drag Chain Applications	No
Suitable for Robotics Applications	No

Table 4: Physical Specifications

## Electrical Specifications

Nominal Operating Voltage	See camera user's manual
Maximum Operating Voltage	See camera user's manual
Wire Resistance	≤ 142 Ω/km

Table 5: Electrical Specifications

## Environmental Specifications

Operating Temperature Range	-25 °C - +80 °C (not moving)
-----------------------------	------------------------------

Table 6: Environmental Specifications

## Plug Specifications

Durability	> 1000 mating cycles
Contact Resistance	max. 10 mΩ
Contact Plating	Silver
Protection Rating	IP 40
Plug Insulation Material	Polyamide/PBT

Table 7: Plug Specifications

## General Information

RoHS Compliant	Yes
CE Conformity	Yes (RoHS compliance)
Warranty	1 year
UL Conformity	No

Table 8: General Information



The cables are intended for use with the cameras specified in [Table 2](#) only.

Read the respective user's manual including the safety warnings before connecting the cable to the camera. The user's manual also contains further information about pin assignments, power requirements as well as comprehensive information about installing and using the camera.

You can download the user's manual and related documents for your camera free of charge from the Basler website: [www.baslerweb.com](http://www.baslerweb.com).

## Revision History

Doc. ID Number	Date	Changes
DG00139901000	22 Sep 2015	Initial release of this document.