Basler Accessories

Technical Specification

OPTO-GP-I/O Y-CABLE 6P/OPEN

Order Number
2000034088

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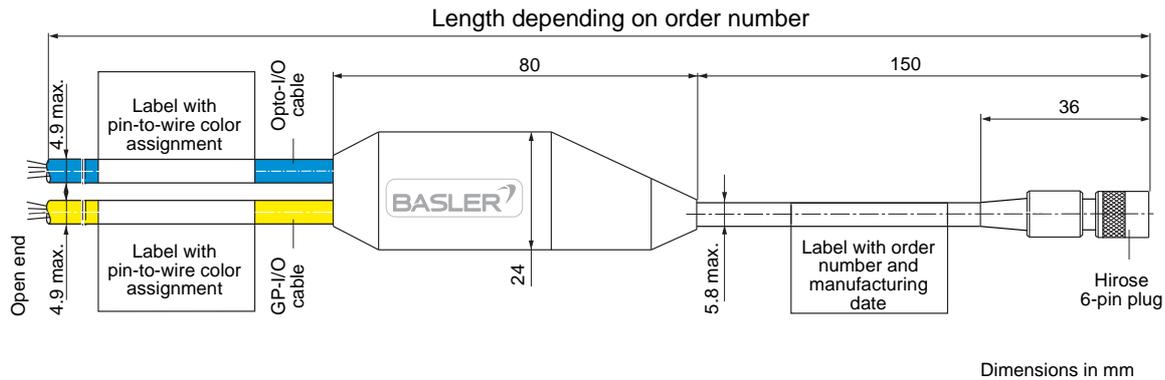| Order Number	Description	Applicable Cameras
2000034088	Opto-GP-I/O Y-cable, 6p/open, 2 x 10 m Input/Output (I/O) cable with a Hirose 6-pin connector at one end (camera side) and two open-ended cables at the other end (host side): Host side: ■ Cable with blue outer jacket; wires connect to the opto-isolated I/O pins (IN, OUT, Opto Ground) of the camera. ■ Cable with yellow outer jacket; wires connect to the direct-coupled general purpose I/O (GPIO) pins (GPIO, GPIO Ground) of the camera.	ace USB 3.0
	Opto-GP-I/O Y-cable, 6p/open, 2 x 10 m Input/Output (I/O) cable with a Hirose 6-pin connector at one end (camera side) and two open-ended cables at the other end (host side): Host side: ■ Cable with blue outer jacket; wires connect to the opto-isolated I/O pins (IN, OUT, Opto Ground) of the camera. ■ Cable with yellow outer jacket; wires connect to the power supply of the camera.	ace GigE (without GPIO)
	Opto-GP-I/O Y-cable, 6p/open, 2 x 10 m Input/Output (I/O) cable with a Hirose 6-pin connector at one end (camera side) and two open-ended cables at the other end (host side): Host side: ■ Cable with blue outer jacket; wires connect to the opto-isolated I/O pins (IN, OUT, Opto Ground) of the camera. ■ Cable with yellow outer jacket; wires connect to the direct-coupled general purpose I/O (GPIO) pin (GPIO, GPIO Ground) and power supply of the camera.	ace GigE (with GPIO)

Table 1: Cable Type

Length depending on order number

Fig. 1: Cable Overview

⚠ CAUTION
Personal Injury Hazard and Risk of Damage to Camera in Case of Short Circuits (applies to GigE cameras only)
Short circuits may cause an extreme rise in temperature of the camera's housing. This may damage the camera and may also lead to personal injuries, e.g., burns if touching the housing. In the worst case, the overheating may cause a fire.
In order to prevent that, you should take additional measures to limit the current flowing through each individual wire during a short circuit. **The maximum current allowed is 2 A.** There are two ways how to do this:
▪ Using a fuse
▪ Using a limited power supply

Wiring Information

Pin Number	Wire Color Opto-I/O End (Blue Cable)	Function USB 3.0 Cameras & GigE Cameras
1	n/a	n/a
2	Brown	Opto-isolated IN (Line 1)
3	n/a	n/a
4	Yellow	Opto-isolated OUT (Line 2)
5	White	Opto-isolated Ground
	Green	
6	n/a	n/a

Table 2: Wiring Information Opto-I/O Cable (Blue Cable)

Pin Number	Wire Color GP-I/O End (Yellow Cable)	Function	
		USB 3.0 Cameras	GigE Cameras
1	Brown	GPIO (Line 3)	Camera Power
2	n/a	n/a	n/a
3	Yellow	GPIO (Line 4)	GPIO (Line 3) (only models with GPIO)
4	n/a	n/a	n/a
5	n/a	n/a	n/a
6	White	GPIO Ground	Camera Power Ground
	Green		GPIO Ground (only models with GPIO)

Table 3: Wiring Information GP-I/O Cable (Yellow Cable)

> ℹ️ To achieve the best possible signal-to-noise ratio, both ground wires have to be connected to ground. Additionally, if you're not using one of the GPIO lines, connect the ground wire to ground as well.

Physical Specifications

Camera-side Connector	Hirose 6 pin [HR10A-7P-6S (73)]
Host-side Connectors	None, open end
Cable Cross-sections	Host-side cables, each: 2 × 2 × 0.14 mm^2 (close to AWG 26)
Cable Diameter (Camera/Host Side)	Camera side: 5.8 mm max. Host side: 4.9 mm max.
Wire Insulation	PVC
Outer Jacket	PVC
Minimum Bending Radius (Camera Side)	29.4 mm (6 x cable diameter), fixed installation
Minimum Bending Radius (Host Side)	34.3 mm (7 x cable diameter), fixed installation
Maximum Bending Cycles (Camera/Host Side)	None (fixed installation only)
Suitable for Drag Chain Applications	No
Suitable for Robotics Applications	No

Table 4: Physical Specifications

Electrical Specifications

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

Table 5: Electrical Specifications

Environmental Specifications

Operating Temperature Range	-25–80 °C, not moving

Table 6: Environmental Specifications

Plug Specifications

Durability	>1000 mating cycles
Contact Resistance	max. 10 mΩ
Contact Plating	Silver
Protection Rating	IP40
Plug Insulation Material	Polyamide/PBT

Table 7: Plug Specifications

General Information

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

Table 8: General Information

The cables are intended for use with the cameras specified in Table 1 only.

Read the camera user's manual including the precautions 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

Revision History

Doc. ID Number	Date	Changes
DG00113401000	18 Aug 2016	Initial release of this document.
DG00113402000	13 Dec 2016	Added specific information for ace GigE camera models with and without GPIO in Table 1 on page 1.
DG00113403000	29 Aug 2017	Added warning about additional short circuit protection on page 2.

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