

Basler Accessories



Technical Specification

CABLE USB 3.0, EXTENSION, A FEMALE/A MALE, HYBRID

Order Numbers

2000036231

2000036232

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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

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

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

www.baslerweb.com

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1 Introduction

The USB 3.0 hybrid cable combines copper conductors and optical fibers within a single cable. The resulting advantage of this cable type is to use the benefits of optical fiber as transmission medium and to supply power to a device at the same time via the copper conductors.

Package Contents

- USB 3.0 hybrid cable
- Auxiliary USB power cable

Features

- Supplies power to camera (max. 900mA/5V).
- Host-side connector has a second port for connecting an auxiliary power cable.



Basler recommends that you supply auxiliary power to the connected camera by means of the auxiliary USB power cable.

- Suitable for recommended host cards available from Basler.

Additional Information

- In order to connect the USB 3.0 hybrid cable to the camera, an additional connecting cable (1 m/3 m recommended, 5 m max.) is required (see [Fig. 2](#)).
- A direct connection to a PC main board USB 3.0 socket and to a 4-port USB 3.0 card may not be possible due to the size of the host-side connector. In this case, use a suitable short connection cable (1 m max. recommended) (see [Fig. 2](#)).

Suitable connecting cables are available from Basler.

2 Technical Data

Order Number	Description	Applicable Cameras
2000036231	Data cable USB 3.0, Type A female to type A male, hybrid cable, 10 m Socket for auxiliary power supply	ace USB 3.0, dart, pulse
2000036232	Data cable USB 3.0, Type A female to type A male, hybrid cable, 20 m Socket for auxiliary power supply	ace USB 3.0, dart, pulse

Table 1: Cable Types

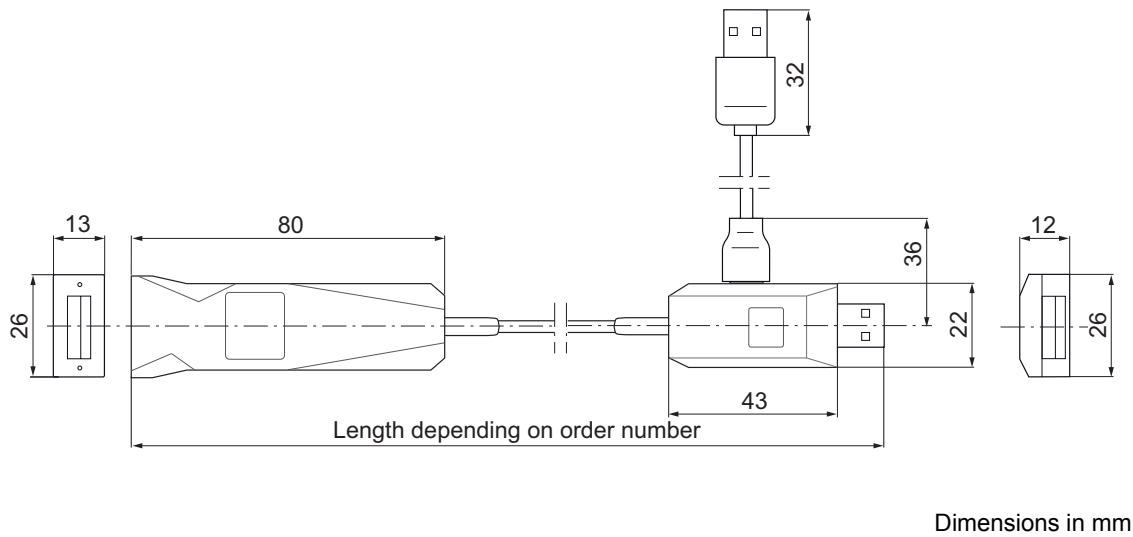


Fig. 1: Cable Overview

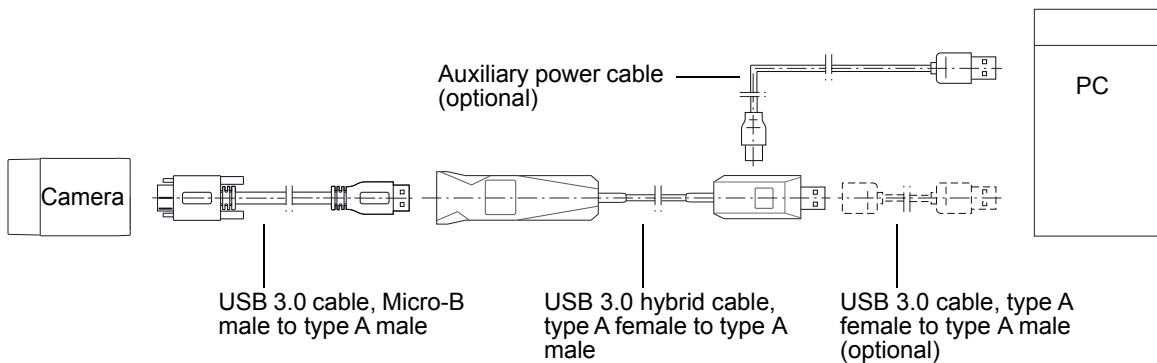


Fig. 2: Cable Connections Overview

Transfer Rates

	2000036231	2000036232
USB 3.0	5 Gbps (max. data rate 380 MB/s)	

Table 2: Transfer Rates

Physical Specifications

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Camera-Side Connector	Standard A female with drill holes for locking screws (connecting cable required)	
Host-Side Connector	Standard A male (connecting cable may be required)	
Cable Diameter	4 mm	
Minimum Bending Radius	20 mm, fixed installation 50 mm, drag chain applications	
Minimum Number of Bending Cycles	2 million at a velocity of 12 m/min	
Suitable for Drag Chain Applications	Yes (tested up to 2 million cycles with a bending radius of 50 mm at a velocity of 12 m/min)	
Suitable for Robotics Applications	No	

Table 3: Physical Specifications

Environmental Specifications

	2000036231	2000036232
Operating Temperature	0 °C - 55 °C	

Table 4: Environmental Specifications

General Information

	2000036231	2000036232
RoHS Compliance	Yes	
CE Conformity	Yes	
UL Conformity	Yes	
Warranty	1 year	

Table 5: General Information

NOTICE**Excessive force can damage the cable.**

The following actions can damage the optical fibers of the cable, which would result in a breakdown in the USB 3.0 data transmission:

- putting heavy loads on the cable
- mechanical shocks or strong vibration
- external influences like scratching or hitting
- bending with less than the minimum bending radius

Handle the cable with care and keep bending to a minimum, e.g. during installation.

NOTICE**Metal connectors can cause damage.**

The metal connectors have a certain weight. If they get loose or fall off, the optical fibers of the cable or other components within the installation can get damaged.

Secure the connectors appropriately.



The cable is intended for use with the cameras specified in [Table 1](#) only.



During operation, the connectors can get warm.

Read the camera 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.

Revision History

Doc. ID Number	Date	Changes
DG00159501000	14 Dec 2015	Initial release of this document.
DG00159502000	11 Aug 2016	Specifications and drawings have been updated due to cable and connector re-design. Main changes: <ul style="list-style-type: none">■ drag chain suitability■ host-side connector without locking screws