



Science.
Applied to Life.™

3M™ USB3 Vision Industrial Camera Cable Assemblies

1U30A Series

Standard Fixed Cable
with Std-A, Type C and
Micro-B Connectors
5 Gbps

1U30E Series

Long Distance Fixed
Cable with Std-A,
Micro-B Connectors
5 Gbps

1U30S Series

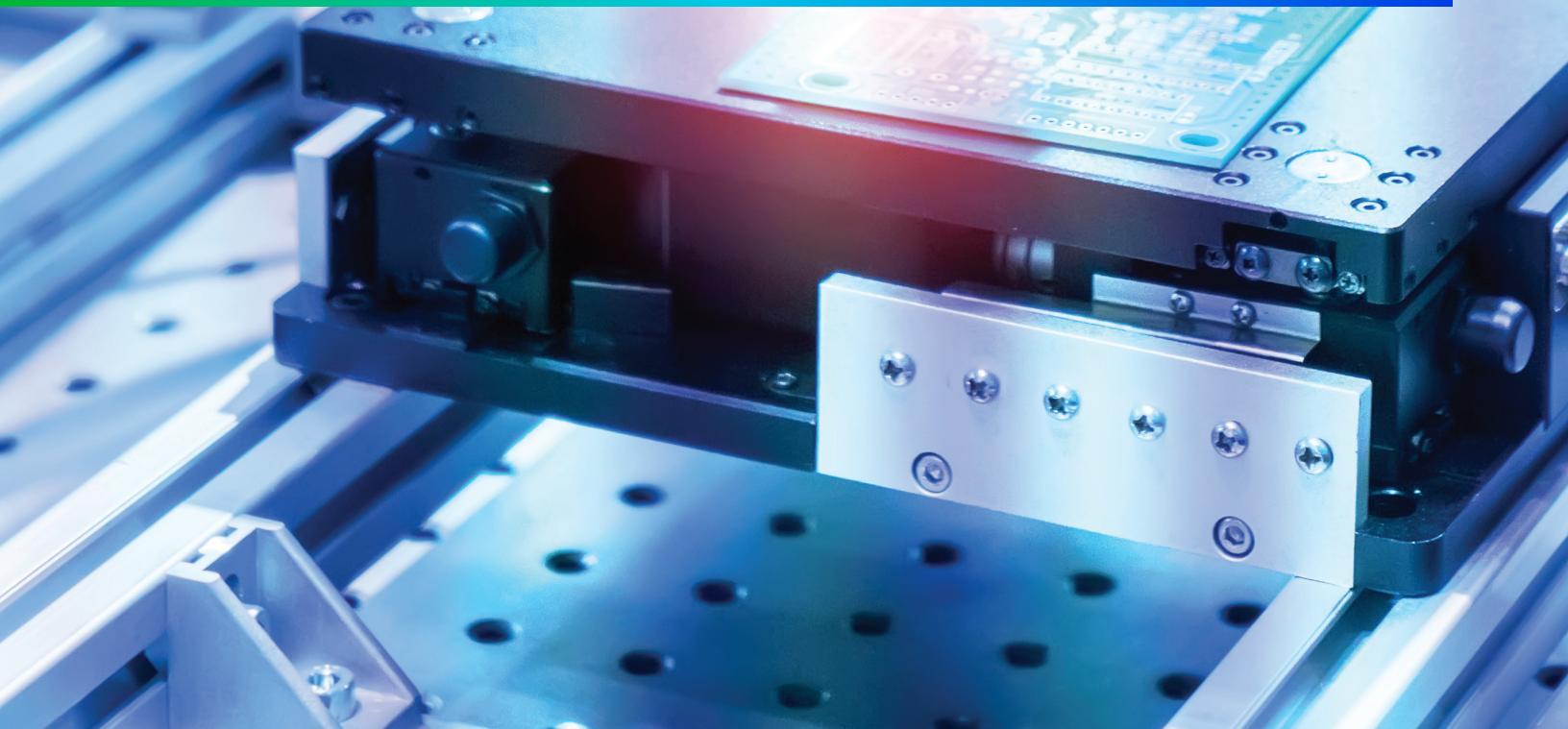
Standard Flex Cable
with Std-A, Micro-B
Connectors
5 Gbps

1U30G Series

High-Performance Flex
Cables with Std-A,
Micro-B Connectors
5 Gbps

1U30P Series

Standard Fixed Cable
with Std-A and Type C
Connectors
10 Gbps



Greater lengths for machine vision

USB3 Vision® has emerged as a leader in the next generation of machine vision standards featuring high-speed communication, with dependable device compatibility. The cables allow for fixed and dynamic multi-camera configurations and high-speed, high-resolution data transmission that can help reduce downtime while providing quality assurance. But system design using USB3 Vision has been limited by its relatively short transmission distance.

3M™ USB3 Vision Industrial Camera Cable Assemblies bring high levels of performance to the USB3 Vision® standard, including functional cable length >10 meters, dynamic bending durability of more than 100 million cycles, and transmission speeds of 5 Gbps or 10 Gbps. The result: much more flexibility to build the right configuration for your specific application.



Key features:

Longer transmission distance.

The 3M™ USB3 Industrial Camera Cable Assemblies 1U30E Series can achieve transmission distances up to 11 meters and transmission speeds of 5 Gbps using passive copper cable. The 3M™ USB3 Industrial Camera Cable Assemblies 1U30P Series can achieve transmission distances up to 5 meters at a speed of 10 Gbps.

Use the table below as a guideline for transmission distances for each series of cable assembly.

Dynamic bending durability.

The 3M™ USB3 Vision Industrial Camera Cable Assembly 1U30S Series and 1U30G Series are high-flex cables excellent for repetitive-motion applications. The 3M cable 1U30S series is tested for bending durability at 10 million cycles, and the 3M cable 1U30G series tests at 100 million cycles.

Connectable distance of 3M USB3 Vision compatible cable assembly

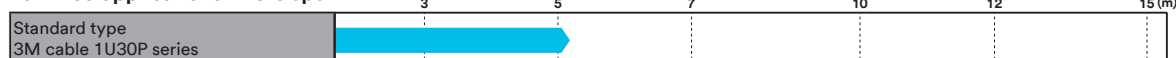
For fixed applications - 5 Gbps



For repetitive high-flex applications - 5 Gbps



For fixed applications - 10 Gbps



Transmittable length
 Results may vary depending on equipment. Verify before use.

Transmission distance is shown based on 3M evaluation using USB3.2 Gen 1 cameras. Results may vary depending on the connected device. Verify capability before use.

3M™ USB3 Vision Industrial Camera Cable Assembly 1U30G Series

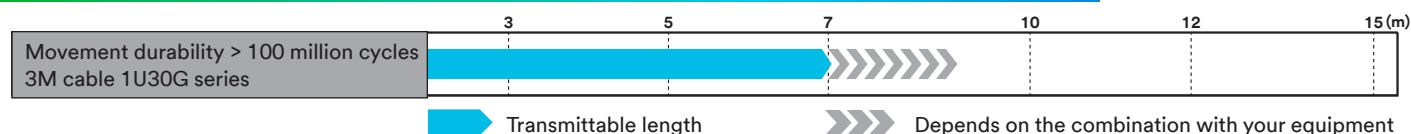
High-performance flexible cable assembly with a connection distance up to 7m and a dynamic durability of over 100 million cycles.

- 3M's premium high flex cycle cable assembly - reliable 5Gbps transmission at >100M flex cycles¹
- Reliable 5Gbps transmission up to 7m¹
- 1U30G is ideal for applications requiring longer length and ultra-high flex cycles
- Connector design is compatible with A3 Vision standard and USB3.2 Gen 1 5Gbps, Standard A and Micro-B
- 6.9mm outside diameter cable enables easy routing
- Locking screws available on host and camera end for a secure connection
- Micro-B right angle connector options help save up to 50mm of clearance
- Available in lengths 0.5m to 8m, in 0.5m or 1m increments
- Contact a 3M representative for custom length requirements
- RoHS2 and CE Compliant

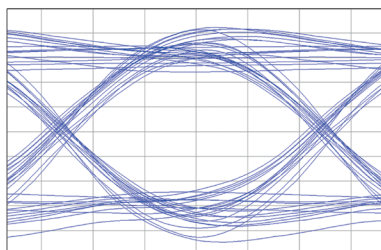


¹ Tested in 3M laboratory using USB3.2 Gen 1 cameras. Drag chain bending radius 50mm

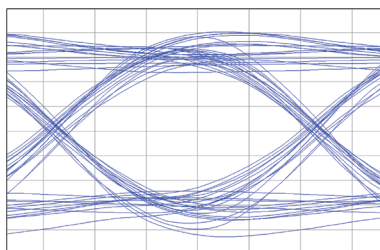
Transmission distance of 3M cable 1U30G series for mobile applications



¹ Tested under 3M lab test conditions. Transmission distance may vary depending on the connected device. Please check your device before use.



Early eye pattern

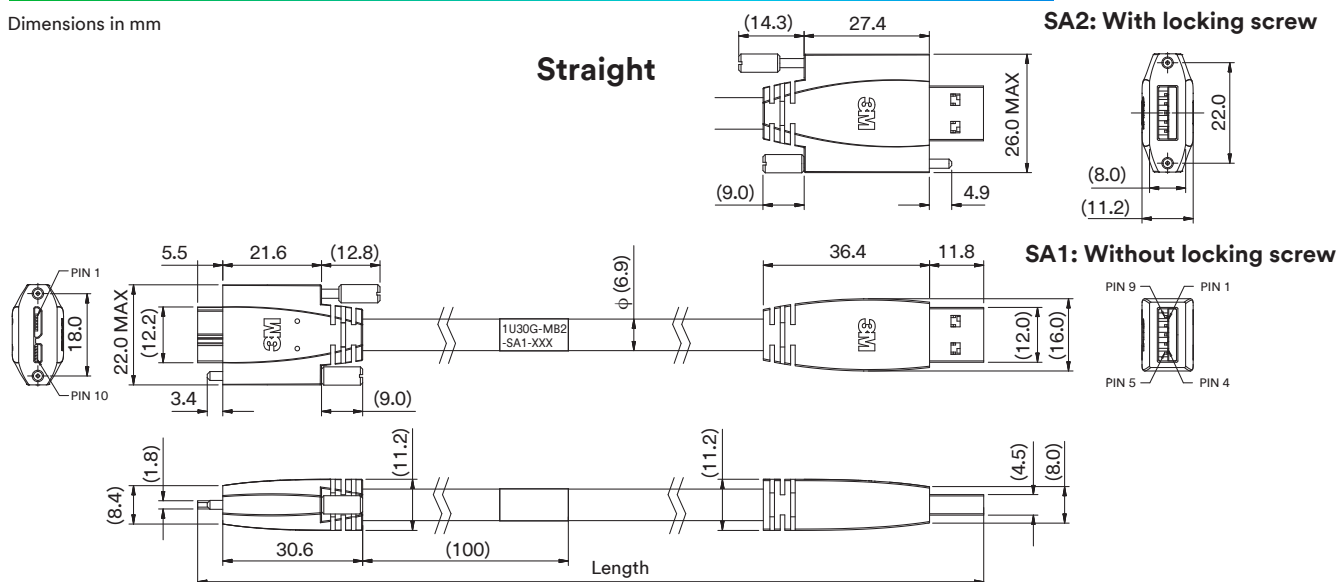


Eye pattern after sliding 100 million times

² Maintains initial transmission performance (eye pattern opening) even after bending 100 million times. (Simulated from measured S-parameters of a 5m cable sample before/after bending, assuming USB standard de-emphasis and equalizer conditions.)

3M USB3 Vision cable assembly 1U30G series product dimensions

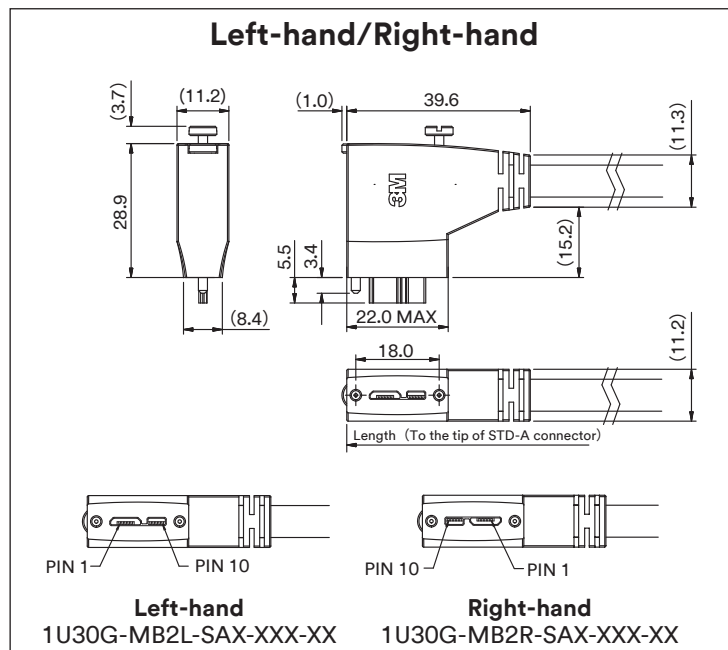
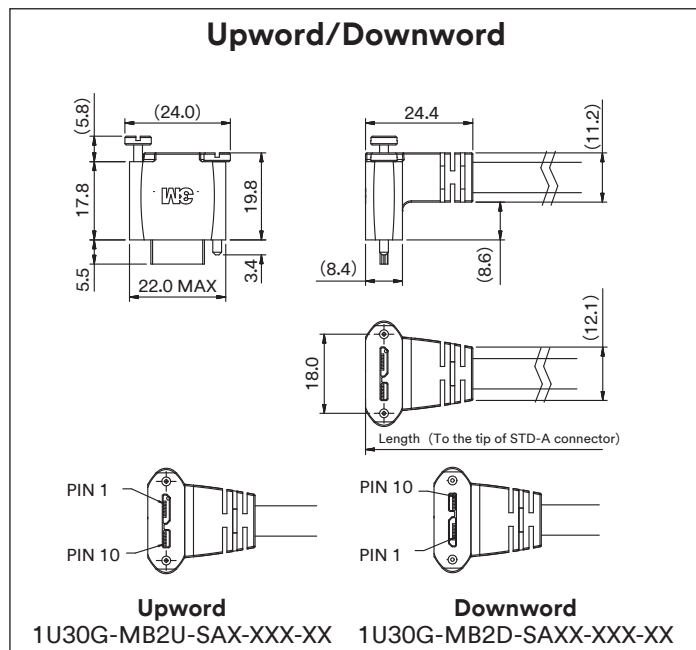
Dimensions in mm



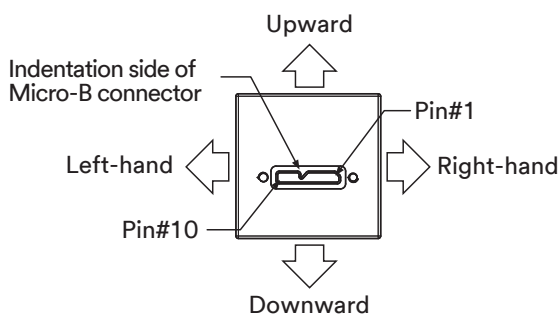
3M™ USB3 Vision Industrial Camera Cable Assemblies

3M™ USB3 Vision Industrial Camera Cable Assembly 1U30G Series product dimensions

Dimensions in mm



Angled Connector Part Number Definition



Connector side view of USB3 Vision® camera

Choosing the right angled connector

This drawing indicates the slot and notch location on a USB3 Vision® Micro-B camera port, as well as pin orientation for the connector. Use this to choose the correct Micro-B angled connector for your required cable route direction.

Ordering information

Part Number

1U30G-MBX-SAX-XXX-XX

With CE Marking (if applicable)

CE = CE marking on cable

Length (cm)

Example: 050 = 50 cm, 700 = 700 cm

Host end connector

SA1: Standard-A Straight,
without locking screw

SA2: Standard-A Straight,
with locking screw

Camera end connector

MB2: Micro-B Straight, with locking screw

MB2U/MB2D/MB2L/MB2R: Micro-B Right angle,
with locking screw

Type of Cable

G: Highly flexible movable cable

3M product name	Camera end connector Micro-B		Host end connector Standard-A	
	Connector shape	Locking screw	Connector shape	Locking screw
1U30G-MB2-SA1	Straight	Yes	Straight	No
1U30G-MB2U-SA1	Upward	Yes	Straight	No
1U30G-MB2D-SA1	Downward	Yes	Straight	No
1U30G-MB2L-SA1	Left-hand	Yes	Straight	No
1U30G-MB2R-SA1	Right-hand	Yes	Straight	No
1U30G-MB2-SA2	Straight	Yes	Straight	Yes
1U30G-MB2U-SA2	Upward	Yes	Straight	Yes
1U30G-MB2D-SA2	Downward	Yes	Straight	Yes
1U30G-MB2L-SA2	Left-hand	Yes	Straight	Yes
1U30G-MB2R-SA2	Right-hand	Yes	Straight	Yes

3M™ USB3 Vision Industrial Camera Cable Assembly 1U30E Series

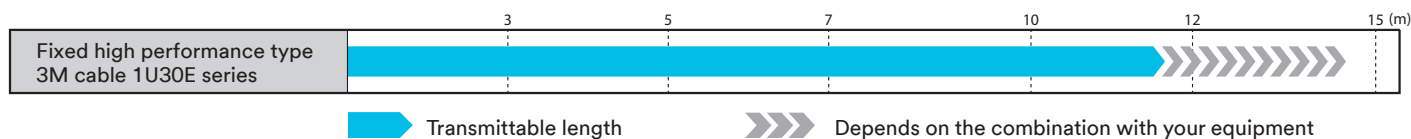
Excellent for long-distance connections, this cable assembly delivers transmission up to 10 meters with a passive copper cable.

- 3M's premium length USB cable assembly - reliable 5Gbps transmission up to 11m¹
- Longer transmission distance up to 14m may be possible depending on equipment¹
- Connector design is compatible with A3 Vision standard and USB3.2 Gen1 5Gbps, Standard A and Micro-B
- 1U30E series is an ideal option for static, non-repetitive motion applications
- 7.7mm outside diameter cable enables easy routing
- Locking screws available on host and camera end for a secure connection
- Low-resistance power supply wires reduce power voltage drop over long length
- Available in lengths 7m to 14m, in 1m increments
- Contact a 3M representative for custom length requirements
- RoHS2 and CE Compliant



¹ Tested in 3M laboratory using USB3.2 Gen 1 devices

Transmission distance of 3M cable 1U30E series for fixed applications



¹ Tested under 3M lab test conditions. Transmission distance may vary depending on the connected device. Please check with your device before use.

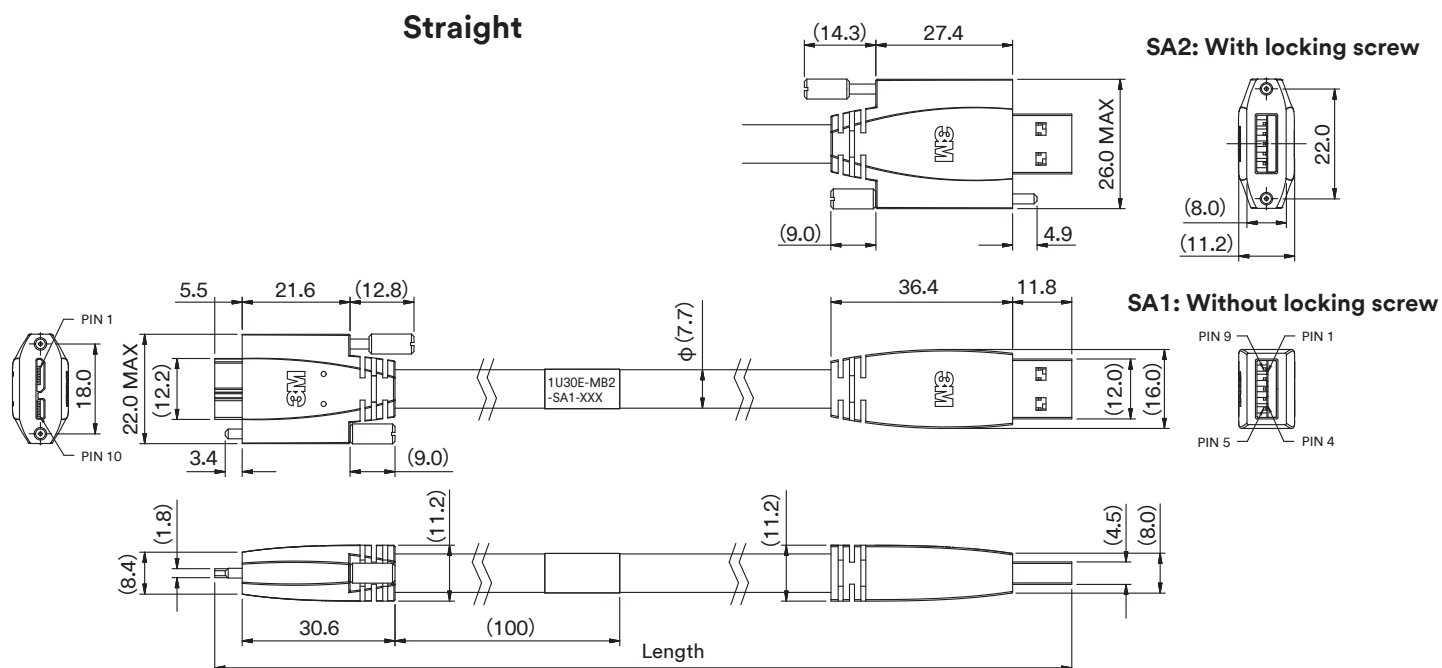
14m ➡

3M USB3 Vision cable assemblies can transmit signals far beyond standard requirements – as much as 14 meters with the right equipment.

3M™ USB3 Vision Industrial Camera Cable Assemblies

3M™ USB3 Vision Industrial Cable Assembly 1U30E Series product dimensions

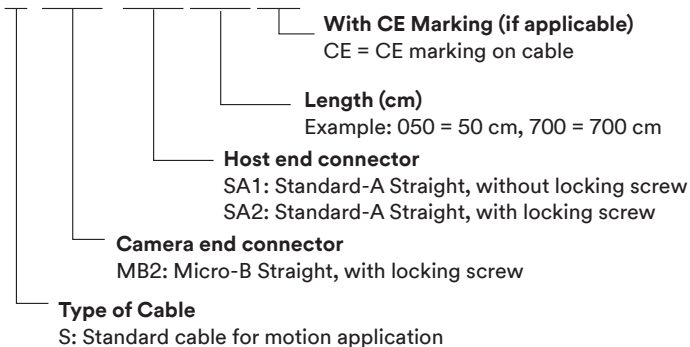
Dimensions in mm



Ordering information

Part Number

1U30E-MBX-SAX-XXX-XX



3M™ USB3 Vision Industrial Camera Cable Assemblies

3M™ USB3 Vision Industrial Camera Cable Assembly 1U30A Series

The 3M cable 1U30A series delivers transmission up to 7 meters – far beyond typical standards for USB3 Vision cable solutions.

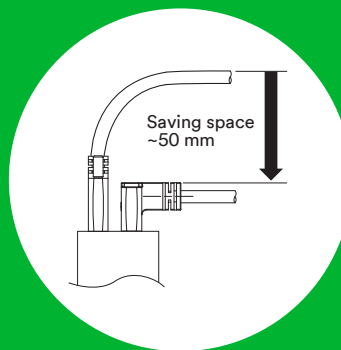
- Reliable 5Gbps transmission up to 7m¹
- Longer transmission distance may be possible depending on equipment¹
- Meets A3 Vision standard and USB3.2 Gen1 5Gbps, Standard A, Micro-B and Type C
- 1U30A series is an ideal option for static, non-repetitive motion applications
- 6.2mm outside diameter cable enables easy routing
- Locking screws available on host and camera end for a secure connection
- Type C connector also available with single screw lock option for narrow spaces
- Micro-B right angle connector options help save up to 50mm of clearance
- Available in lengths 0.5m to 10m, in 0.5 or 1m increments
- Contact a 3M representative for custom length requirements
- RoHS2 and CE Compliant

¹ Tested in 3M laboratory using USB3.2 Gen 1 cameras

USB³
VISION



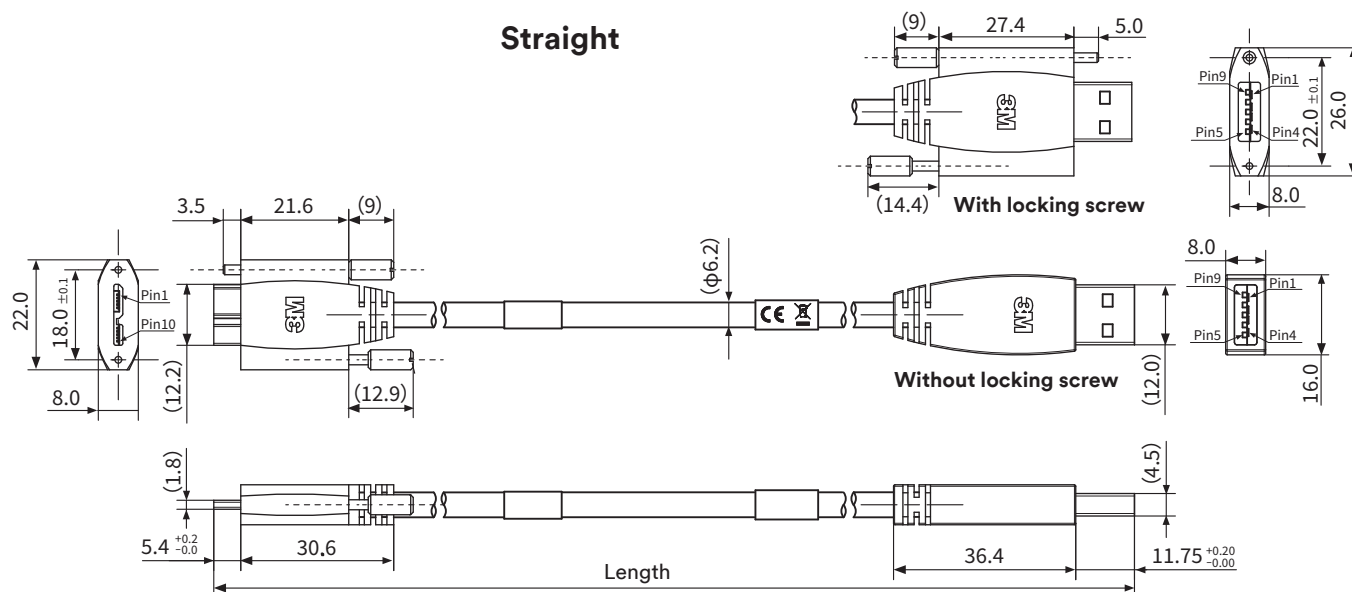
Micro-B connectors are available in a range of configurations for reliable connections even in tight or complex spaces.



3M angled connectors can save as much as 50 mm footprint per connection while reducing stress on cables.

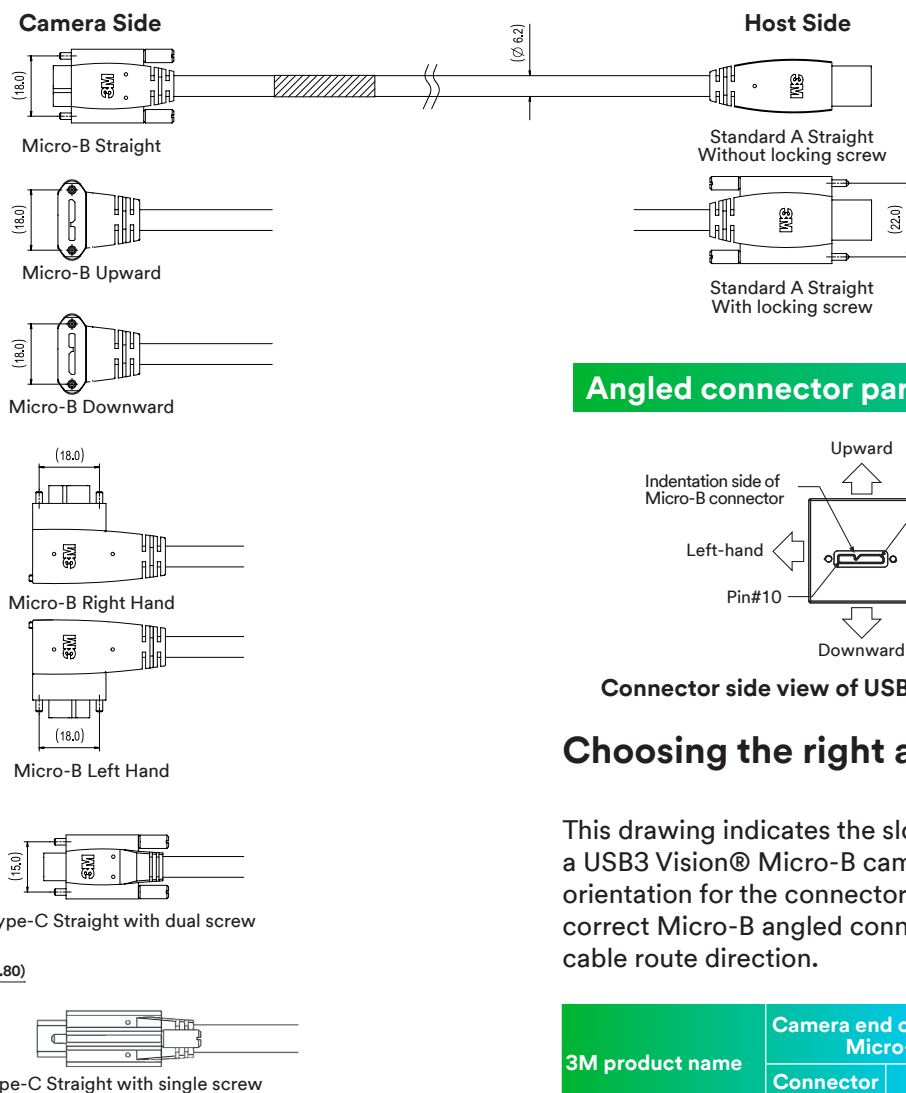
3M™ USB3 Vision cable assembly 1U30A series product dimensions

Dimensions in mm



3M™ USB3 Vision Industrial Camera Cable Assemblies

3M™ USB3 Vision Industrial Camera Cable Assembly 1U30A Series product dimensions



Angled connector part number definition

Connector side view of USB3 Vision® camera

Choosing the right angled connector

This drawing indicates the slot and notch location on a USB3 Vision® Micro-B camera port, as well as pin orientation for the connector. Use this to choose the correct Micro-B angled connector for your required cable route direction.

Ordering information

Part Number

1U30A-XXX-SAX-XXX-XX

With CE Marking (if applicable)
CE = CE marking on cable

Length (cm)
Example: 050 = 50 cm, 700 = 700 cm

Host end connector
SA1: Standard-A Straight, without locking screw
SA2: Standard-A Straight, with locking screw

Camera end connector
MB2: Micro-B Straight, with locking screw
MB2U/MB2D/MB2L/MB2R: Micro-B Right angle, with locking screw
TC2: Type-C Straight, with dual locking screw
TC3: Type-C Straight, with single locking screw

Type of Cable

A: Standard cable for non-motion

3M product name	Camera end connector Micro-B		Host end connector Standard-A	
	Connector shape	Locking screw	Connector shape	Locking screw
1U30A-MB2-SA1	Straight	Yes	Straight	No
1U30A-MB2U-SA1	Upward	Yes	Straight	No
1U30A-MB2D-SA1	Downward	Yes	Straight	No
1U30A-MB2L-SA1	Left-hand	Yes	Straight	No
1U30A-MB2R-SA1	Right-hand	Yes	Straight	No
1U30A-MB2-SA2	Straight	Yes	Straight	Yes
1U30A-MB2U-SA2	Upward	Yes	Straight	Yes
1U30A-MB2D-SA2	Downward	Yes	Straight	Yes
1U30A-MB2L-SA2	Left-hand	Yes	Straight	Yes
1U30A-MB2R-SA2	Right-hand	Yes	Straight	Yes

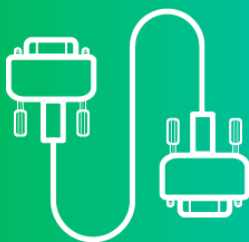
3M product name	Camera end connector Type-C		Host end connector Standard-A	
	Connector shape	Locking screw	Connector shape	Locking screw
1U30A-TC2-SA1	Straight	Dual	Straight	No
1U30A-TC2-SA2	Straight	Dual	Straight	Yes
1U30A-TC3-SA1	Straight	Single	Straight	No
1U30A-TC3-SA2	Straight	Single	Straight	Yes

3M™ USB3 Vision Industrial Camera Cable Assembly 1U30S Series

This medium-flex cable is manufactured for repetitive-motion applications. The 3M cable 1U30S series has been drag-chain tested for more than 10 million cycles for U-shaped sliding bendability, and delivers reliable data transmission up to 5 meters for greater flexibility in system design.

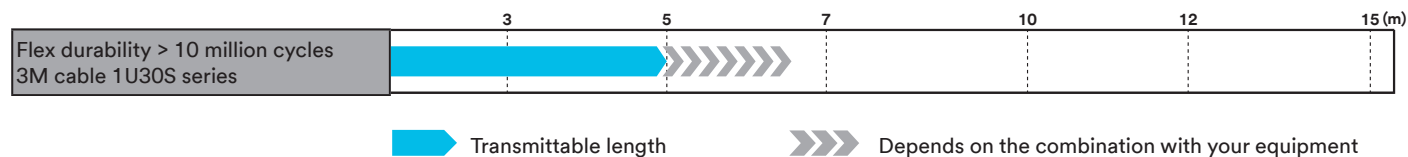
- Reliable 5Gbps transmission up to 5m¹
- Longer transmission distance may be possible depending on equipment¹
- Connector design is compatible with A3 Vision standard and USB3.2 Gen 1 5Gbps, Standard A and Micro-B
- Locking screws available on host and camera end for a secure connection
- Available in lengths 0.5m to 6m, in 0.5m or 1m increments
- Contact a 3M representative for custom length requirements
- RoHS2 and CE Compliant

¹ Tested in 3M laboratory using USB3.2 Gen 1 cameras. Drag chain bending radius 50mm



The 3M cable 1U30S series has been drag-chain tested for more than 10 million cycles for U-shaped sliding bendability.

Transmission distance of 3M cable 1U30S series for flex motion applications



3M product name	Camera end connector Micro-B		Host end connector Standard-A	
	Connector shape	Locking screw	Connector shape	Locking screw
1U30S-MB2-SA1	Straight	Yes	Straight	No
1U30S-MB2-SA2	Straight	Yes	Straight	Yes

3M™ USB3 Vision Industrial Camera Cable Assembly 1U30P Series

The 3M cable 1U30P series delivers transmission up to 5 meters at a speed of 10 Gbps – far beyond typical standards for USB3 Vision cable solutions.

- Reliable 10Gbps transmission up to 5m¹
- Longer transmission distance may be possible depending on equipment¹
- Ideal option for static, non-repetitive motion applications requiring higher transmission rate bandwidth
- 6.2mm outside diameter cable enables easy routing
- Locking screws available on host and camera end for a secure connection
- Available in lengths from 1m to 6m (1m increments)
- Contact a 3M representative for custom length requirements
- RoHS2 and CE Compliant

¹ Tested in 3M laboratory using USB3.2 Gen 1 cameras.



Transmission distance of 3M cable 1U30P series for long length 10G applications

For fixed applications - 10 Gbps



Transmission distance is shown based on 3M evaluation using USB3.2 Gen 1 cameras. Results may vary depending on the connected device. Verify capability before use.

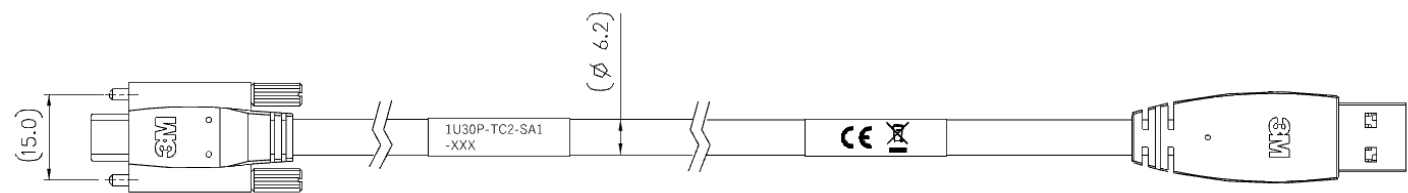
 Transmittable length

 Results may vary depending on equipment. Verify before use.

3M™ USB3 Vision Industrial Camera Cable Assemblies

3M™ USB3 Vision Industrial Camera Cable Assembly 1U30P Series product dimensions

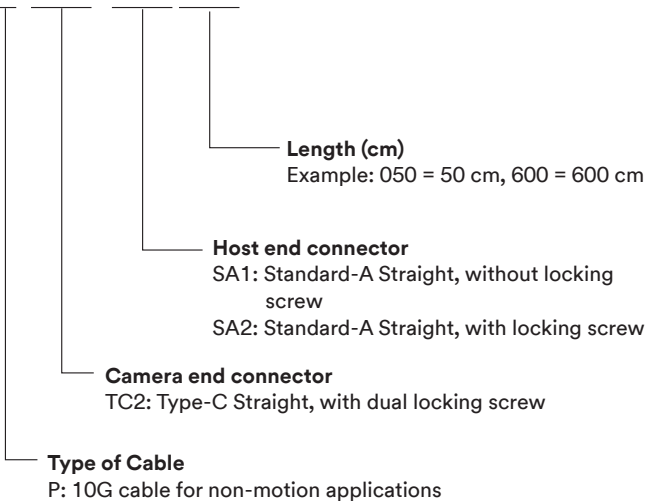
Dimensions in mm



Ordering information

Part Number

1U30P-TC2-SAX-XXX



3M product name	Camera end connector Type-C		Host end connector Standard-A	
	Connector shape	Locking screw	Connector shape	Locking screw
1U30P-TC2-SA1	Straight	Dual	Straight	No
1U30P-TC2-SA2	Straight	Dual	Straight	Yes

Safety Data Sheet: Consult Safety Data Sheet before use.

Regulatory: For regulatory information about this product, contact your 3M representative.

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