



Science.
Applied to Life.™

3M™ USB3 Vision Industrial Camera Cable Assemblies

1U30A Series | 1U30S Series | 1U30G Series | 1U30E Series



Greater lengths for machine vision

USB3 Vision® has emerged as a leader in the next generation of machine vision standards, 5 Gbps high-speed communication and excellent compatibility. It allows for fixed and dynamic multi-camera configurations and high-speed, high-resolution data that can help reduce downtime and waste 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 new levels of performance to the USB3 Vision standard, including the highest functional cable length of any known USB3 connector solution and dynamic bending durability of more than 100 million cycles. The result: much more flexibility to build the right configuration for your specific application.



Key features:

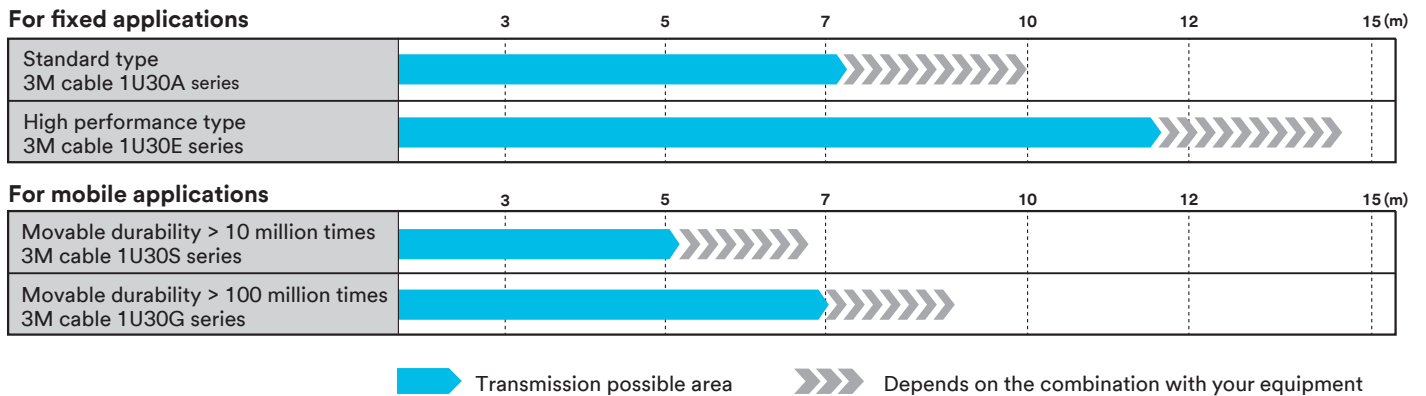
Longer transmission distance.

The 3M™ USB3 Vision Industrial Camera Cable Assembly 1U30A and 1U30G Series deliver transmission up to and beyond 7 meters, and the 3M cable 1U30E series can achieve transmission distance of more than 10 meters using a metal cable.

Dynamic bending durability.

The 3M™ USB3 Vision Industrial Camera Cable Assembly 1U30S Series and 1U30G Series are movable 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



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

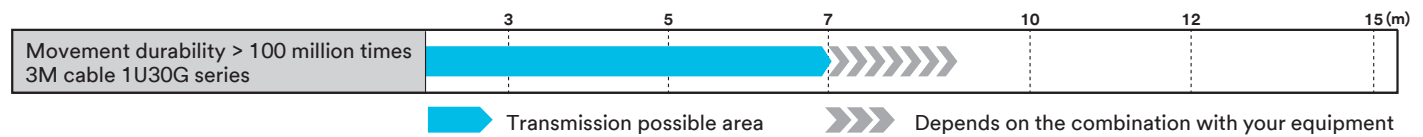


High-performance movable cable with a connection distance of over 7m and a dynamic durability of over 100 million cycles.

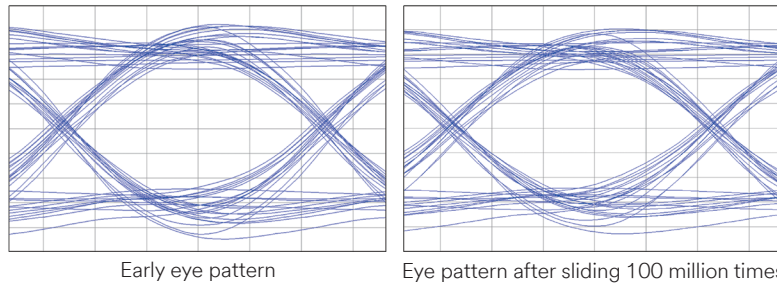
- Achieves both transmission performance and high bending durability
- Strong transmission performance exceeding 7m¹
- Ultra-high bending durability maintains transmission performance after 100 million sliding bends²
- Locking screws are available on USB3 A and Micro-B connector ends
- Supports USB3.0 standard
- Connector design is compatible with USB3 Vision



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



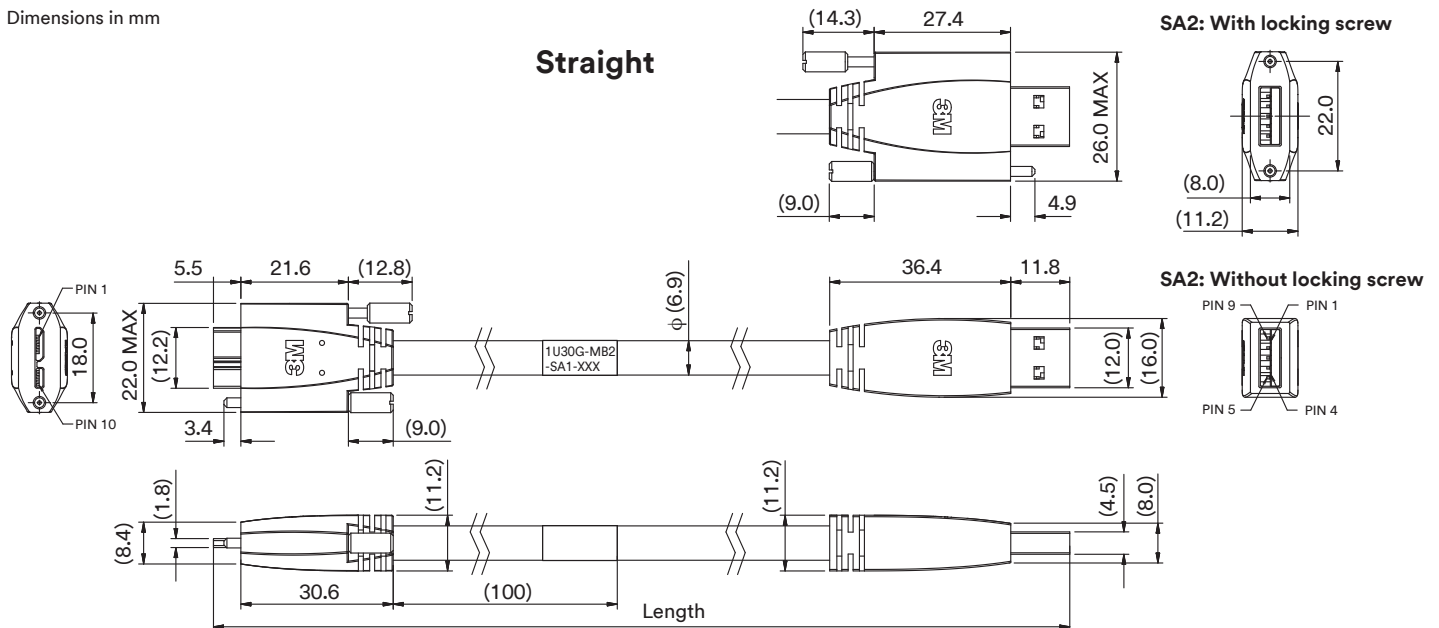
¹ Tested under 3M lab test conditions. Transmission distance may vary depending on the connected device. Please check with your device before use.



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

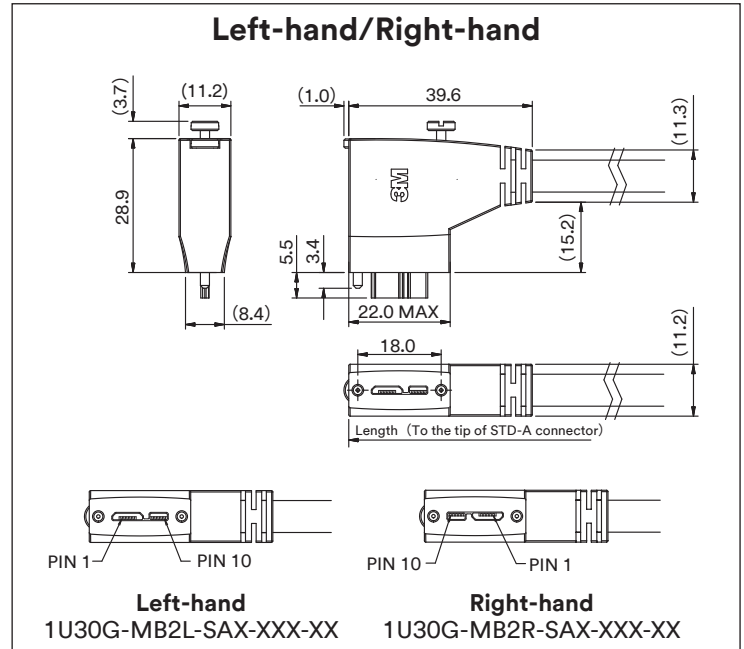
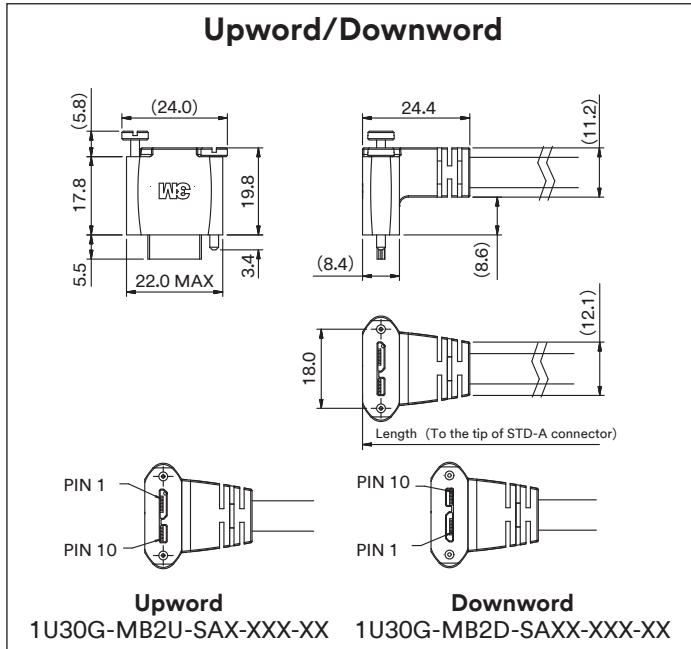
Dimensions in mm



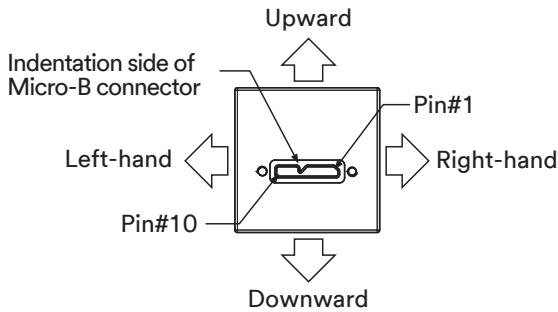
3M™ USB3 Vision Industrial Camera Cable Assemblies

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

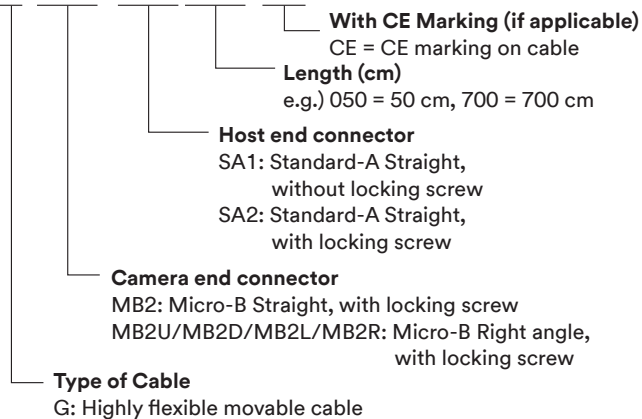
Choosing the right angled connector

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



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

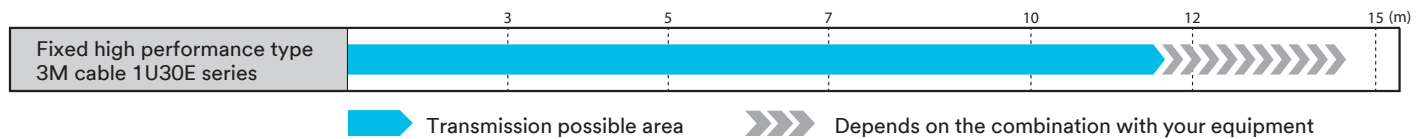


Excellent for long-distance connections, this cable assembly delivers transmission up to and beyond 10 meters when used with a metal high-transmission cable.

- Transmission distance over 10 m with high transmission cable designed for long distance connections¹
- Can achieve long distance connection of up to 14 m depending on combination of equipment¹
- Low-resistance power supply wires reduce the power voltage drop.
- Cable outer diameter \varnothing 7.7 mm
- Locking screws are available on USB3 A and Micro-B connector ends
- Supports USB3.0 standard (Gbps)
- Connector design is compatible with USB3 Vision



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.

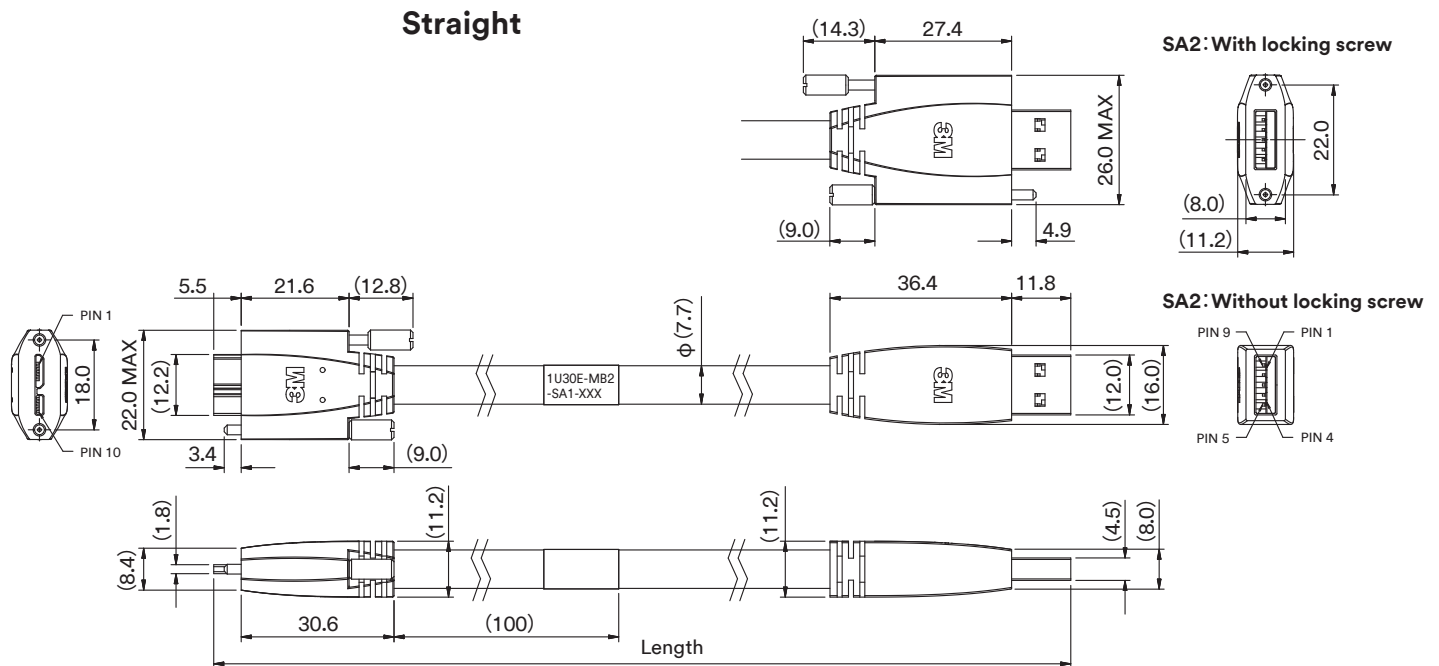
14m

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 Camera Cable Assembly 1U30E Series product dimensions

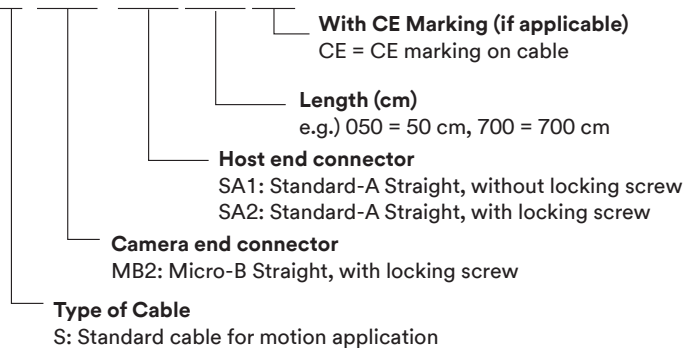
Dimensions in mm



Ordering information

Part Number

1U30E-MBX-SAX-XXX-XX



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



The 3M cable 1U30A series delivers transmission up to and beyond 7 meters – the highest functional cable length of any other known cable connection solution.

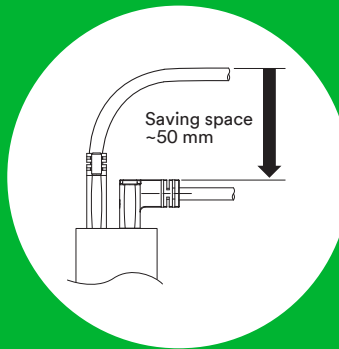
- Strong transmission up to at least 7m¹
- Excellent for non-repetitive motion applications
- Flexible 6.2 mm outside diameter cable makes for easy routing
- Locking screws are available on USB3 A and Micro-B connector ends
- USB3.0 and USB3 Vision® compatible
- RoHS2 and CE compliant



¹ Tested under 3M lab test conditions. Functionality >7m depends on camera/host combination



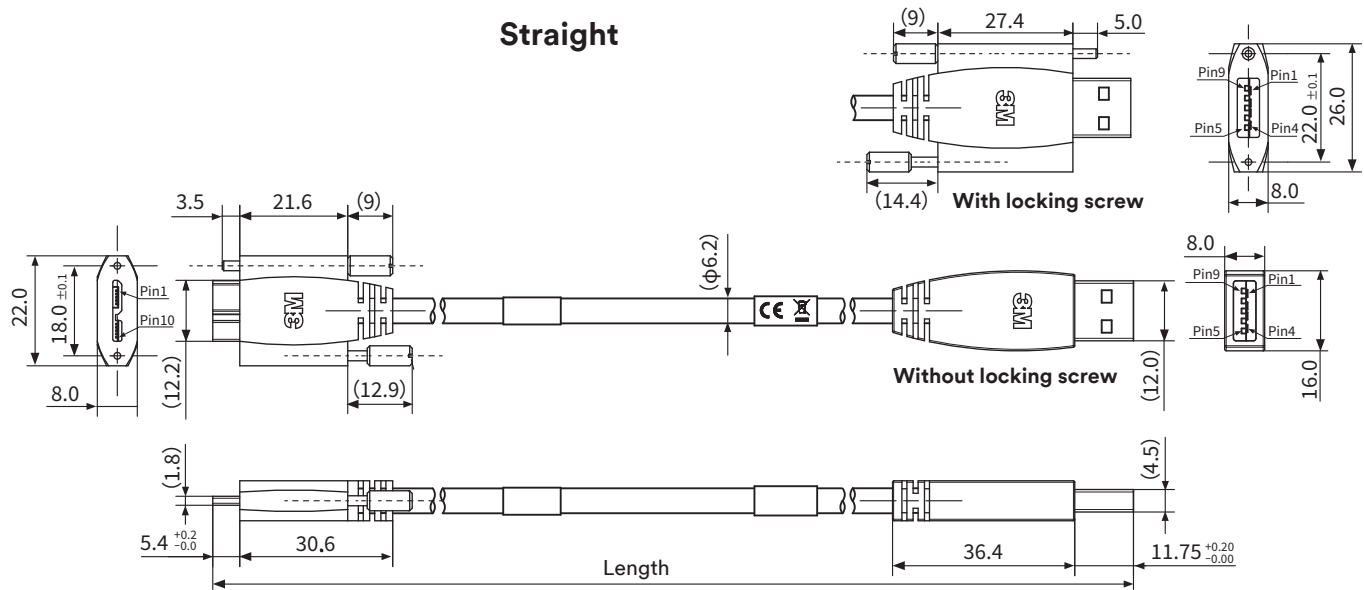
Micro-B connectors are available in a range of configurations for reliable connections even in tight or complex spaces.



3M 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

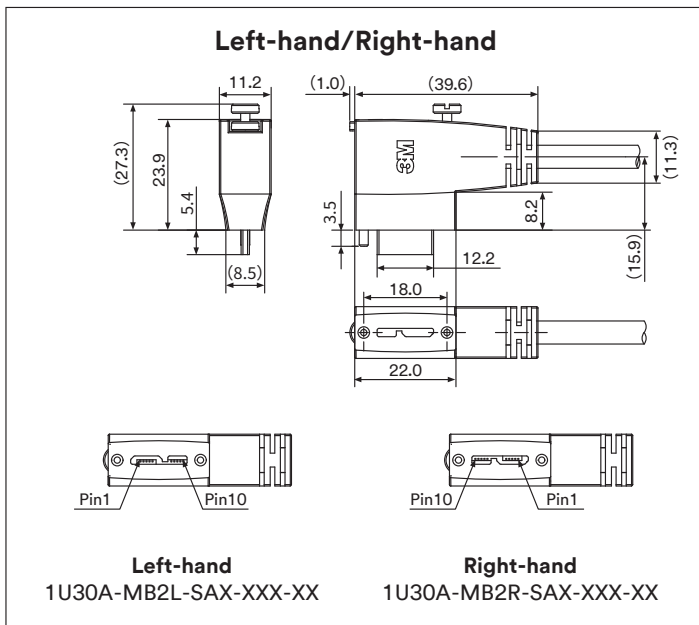
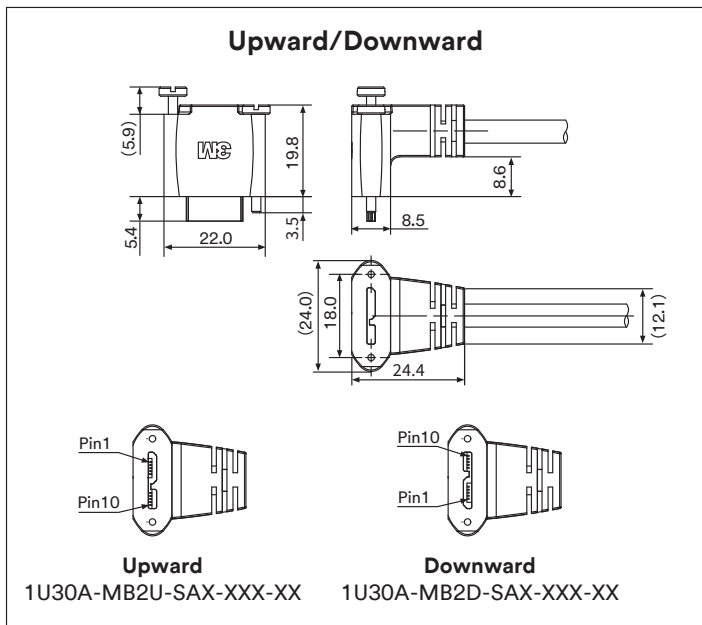
Dimensions in mm



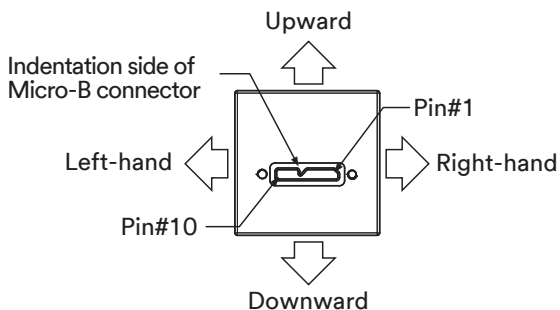
3M™ USB3 Vision Industrial Camera Cable Assemblies

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

Dimensions in mm



Angled connector part number definition



Connector side view of USB3 Vision® camera

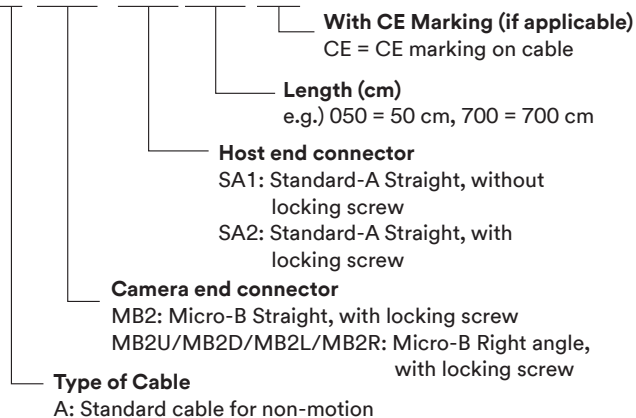
Choosing the right angled connector

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

1U30A-MBX-SAX-XXX-XX



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

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



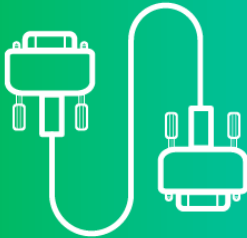
This movable cable is excellent for repetitive-motion applications. The 3M cable 1U30S series has been drag-chain tested for more than 10 million cycles for U-shaped sliding bendability, and delivers reliable data transmission up to and beyond 5 meters for greater flexibility in system design.

- Repeated bending durability >10 million cycles¹
- Excellent transmission characteristics enable >5m connection²
- Locking screws are available on USB3 A and Micro-B connector ends
- USB3.0 and USB3 Vision® compatible
- RoHS2 and CE compliant



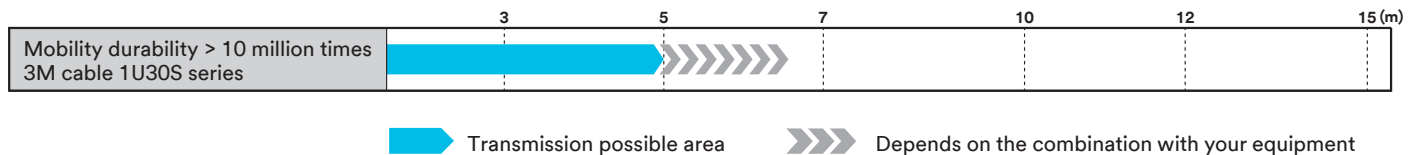
¹ Tested on 3M test condition; functionality >5 m depends on camera/host combination

² No open / no significant degradation in electrical characteristics after 10 million cycles of R50 drag-chain bending



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

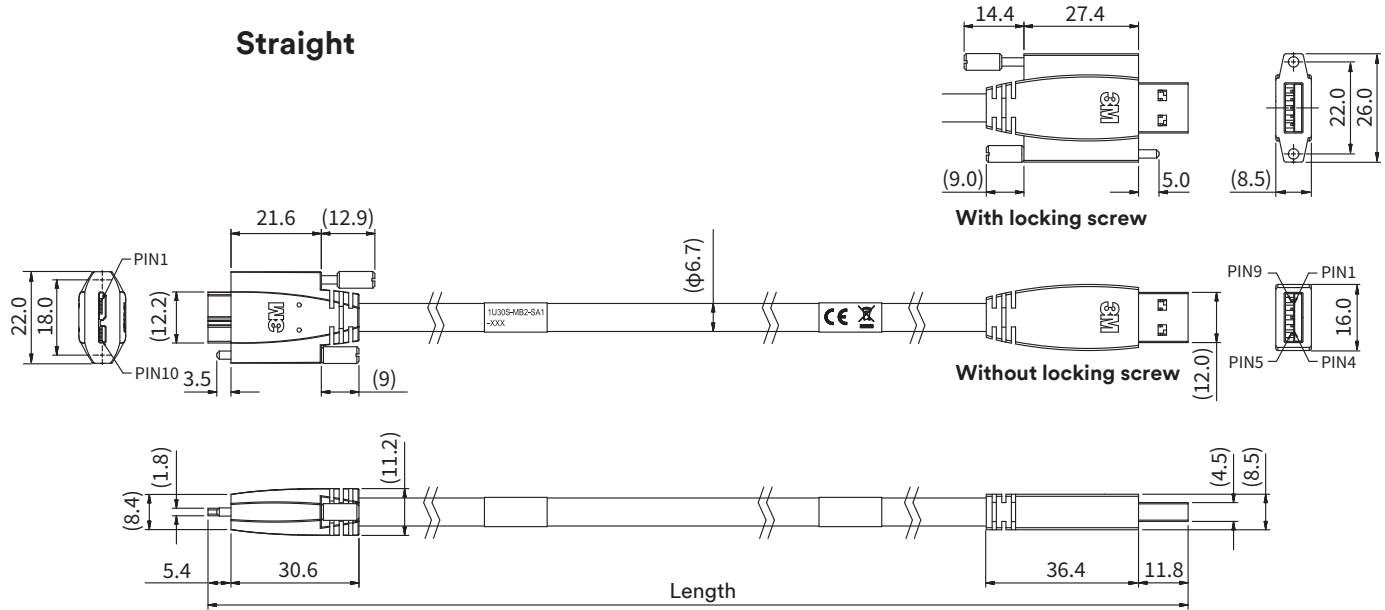
Transmission distance of 3M cable 1U30S series for mobile applications



3M™ USB3 Vision Industrial Camera Cable Assemblies

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

Dimensions in mm



Ordering information

Part Number

1U30S-MBX-SAX-XXX-XX

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

Length (cm)
e.g.) 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

Type of Cable
S: Standard cable for motion application

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

Safety Data Sheet: Consult Safety Data Sheet before use.

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

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