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# 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 high levels of performance to the USB3 Vision® standard, including functional cable length >10 meters 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:

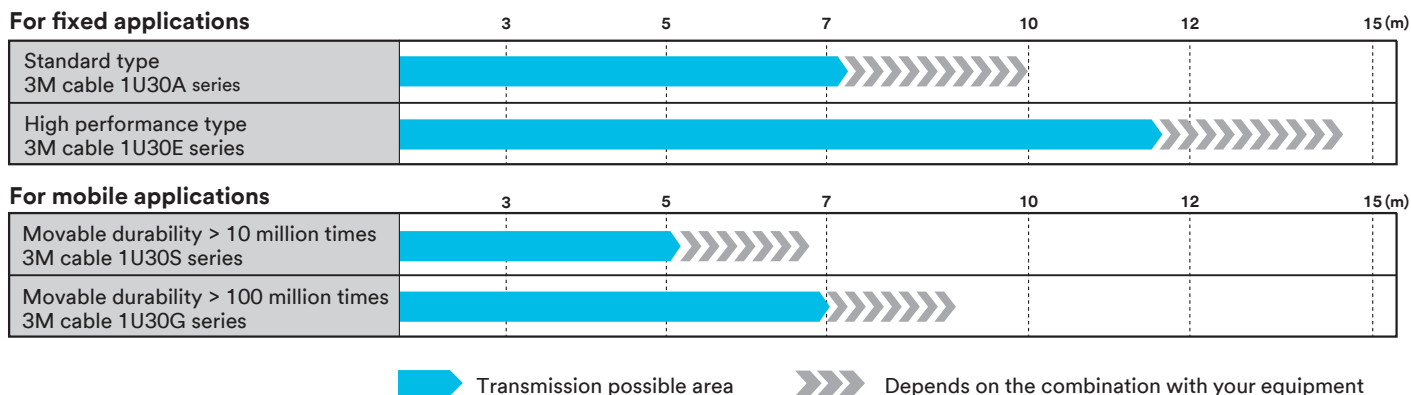
#### Longer transmission distance.

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

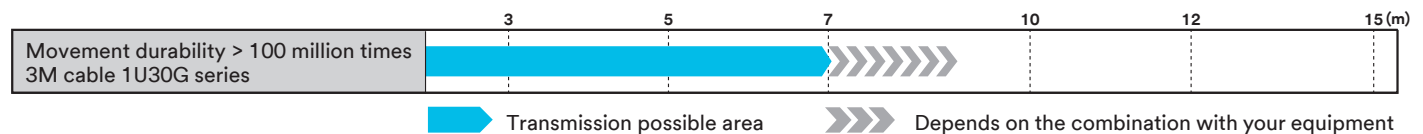


High-performance movable cable with a connection distance of over 7m and a dynamic durability of over 100 million cycles.

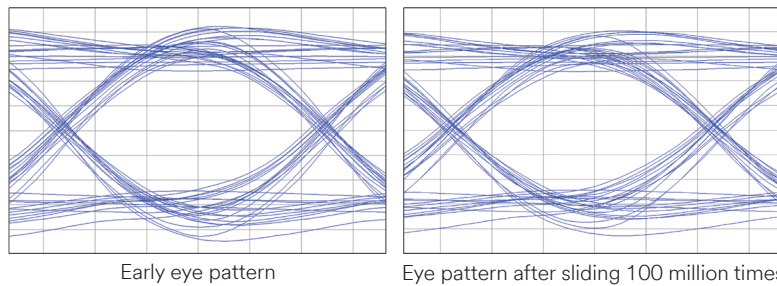
- Achieves both transmission performance and high bending durability
- Strong transmission performance exceeding 7m<sup>1</sup>
- Ultra-high bending durability maintains transmission performance after 100 million sliding bends<sup>2</sup>
- Locking screws are available on USB3 A and Micro-B connector ends
- Supports USB3.0 standard
- Connector design is compatible with USB3 Vision



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



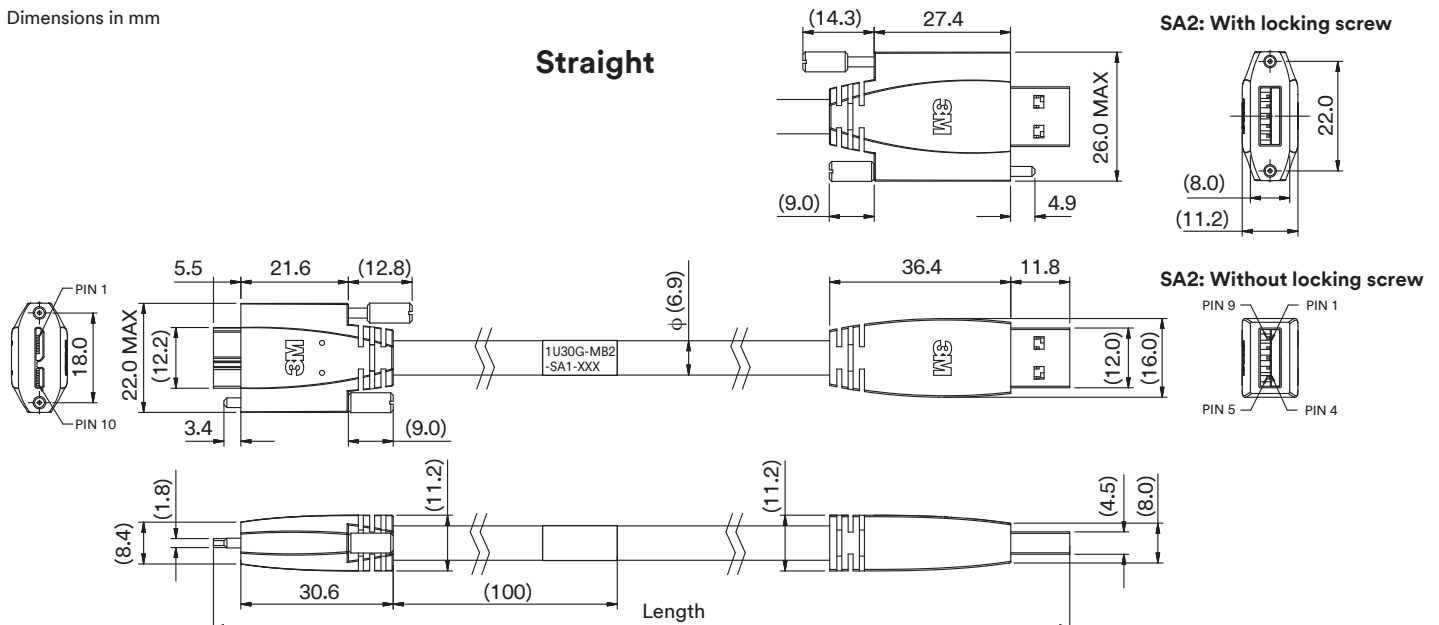
<sup>1</sup> Tested under 3M lab test conditions. Transmission distance may vary depending on the connected device. Please check with your device before use.



<sup>2</sup> 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

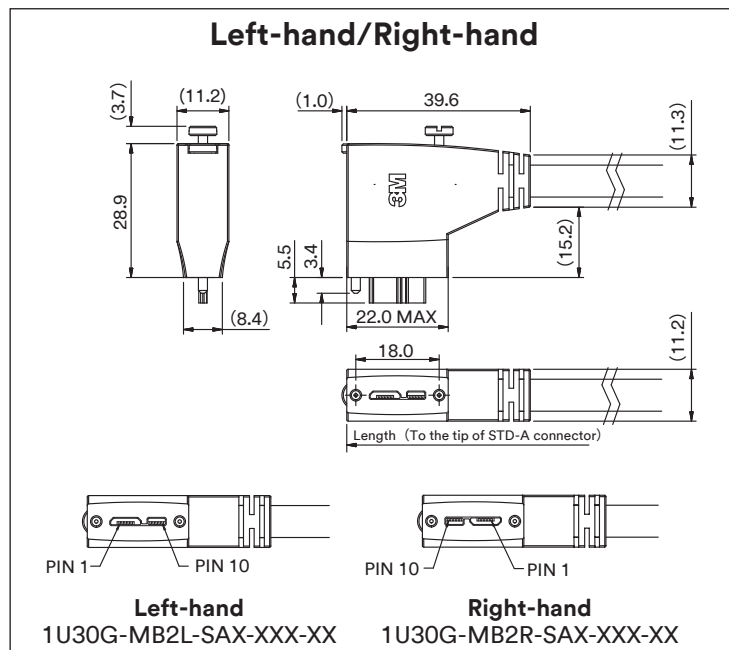
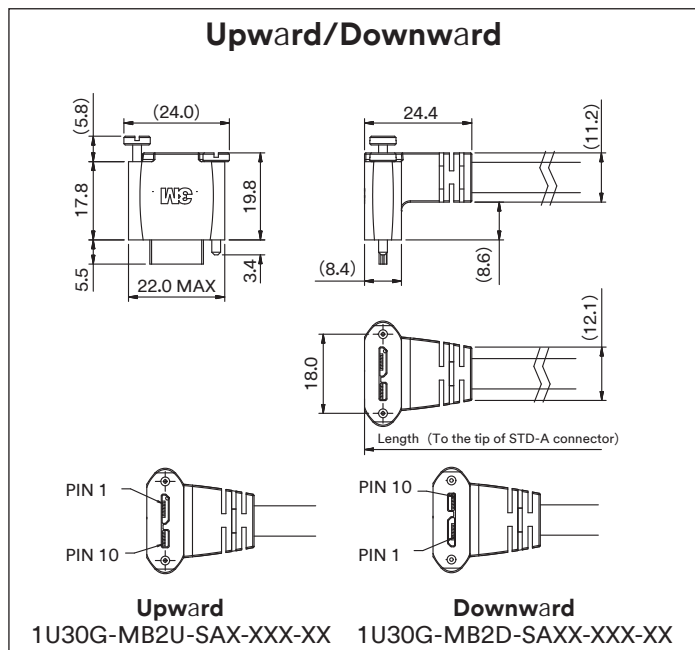
Dimensions in mm



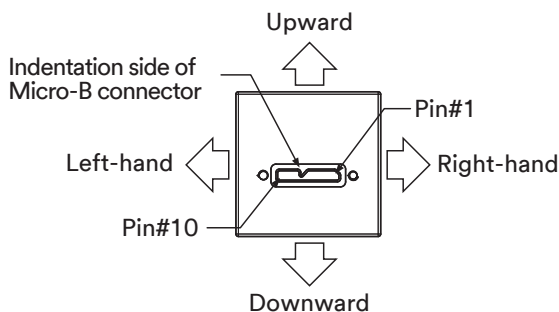
# 3M™ USB3 Vision Industrial Camera Cable Assemblies

## 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

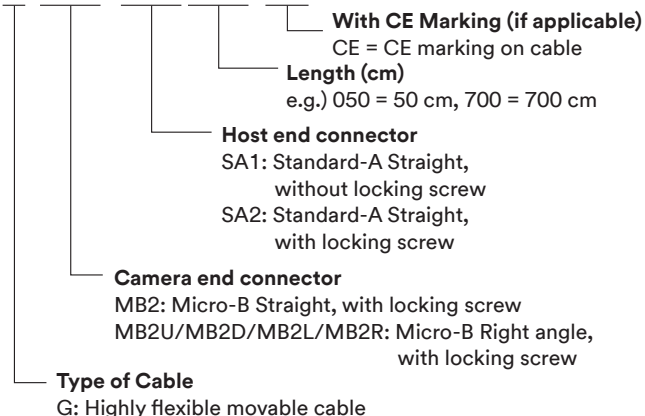
## Choosing the right angled connector

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

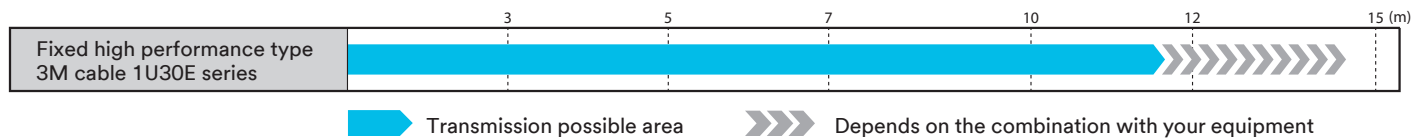


Excellent for long-distance connections, this cable assembly delivers transmission up to and beyond 10 meters when used with a metal high-transmission cable.

- Transmission distance over 10 m with high transmission cable designed for long distance connections<sup>1</sup>
- Can achieve long distance connection of up to 14 m depending on combination of equipment<sup>1</sup>
- 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



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

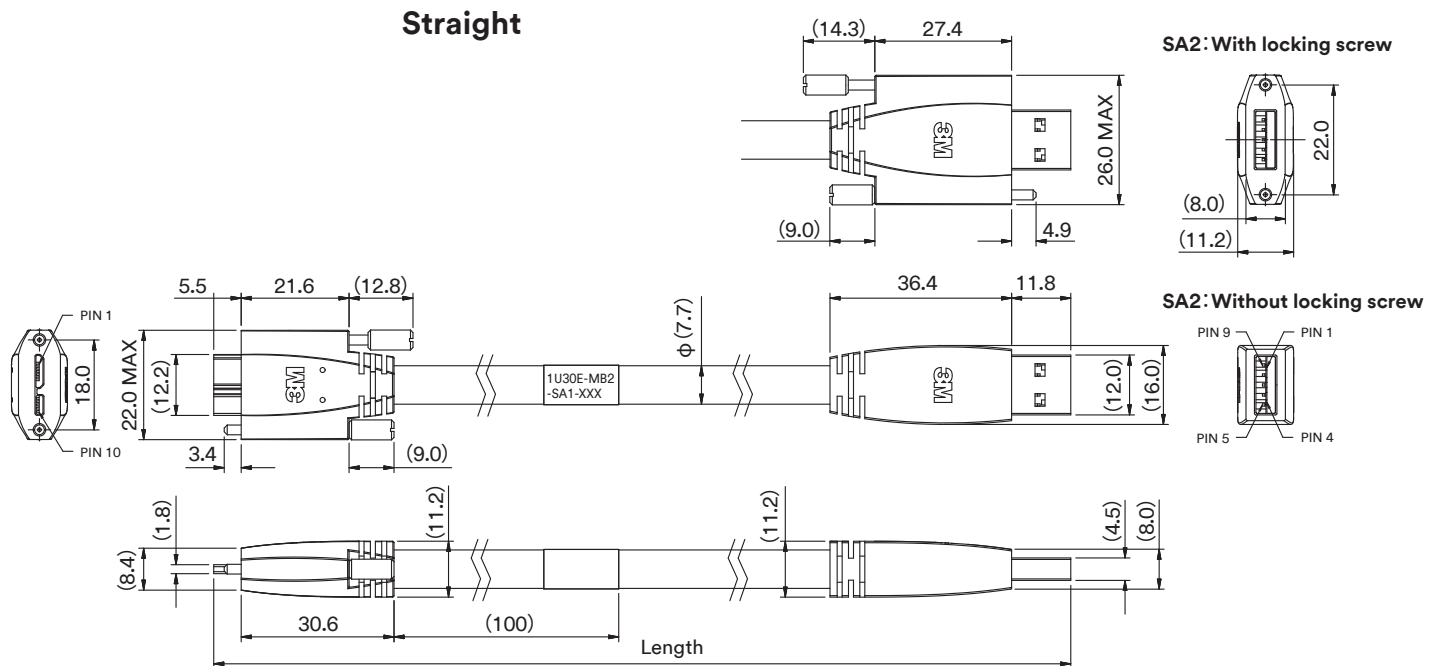
# 14m

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

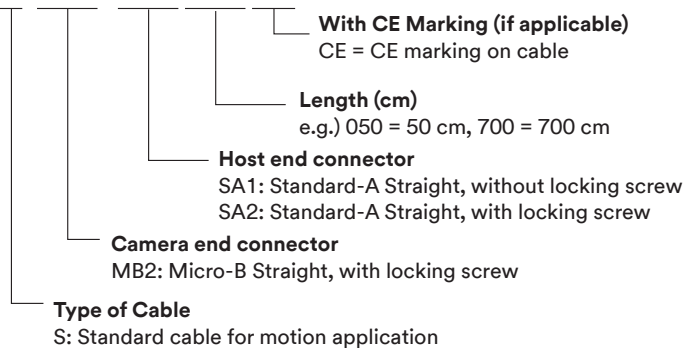
Dimensions in mm



## Ordering information

### Part Number

1U30E-MBX-SAX-XXX-XX



# 3M™ USB3 Vision Industrial Camera Cable Assemblies

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



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

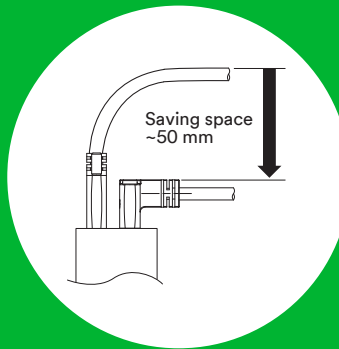
- Strong transmission up to at least 7m<sup>1</sup>
- Excellent for non-repetitive motion applications
- Flexible 6.2 mm outside diameter cable makes for easy routing
- Locking screws are available on USB3 A and Micro-B connector ends
- USB3.0 and USB3 Vision® compatible
- RoHS2 and CE compliant



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



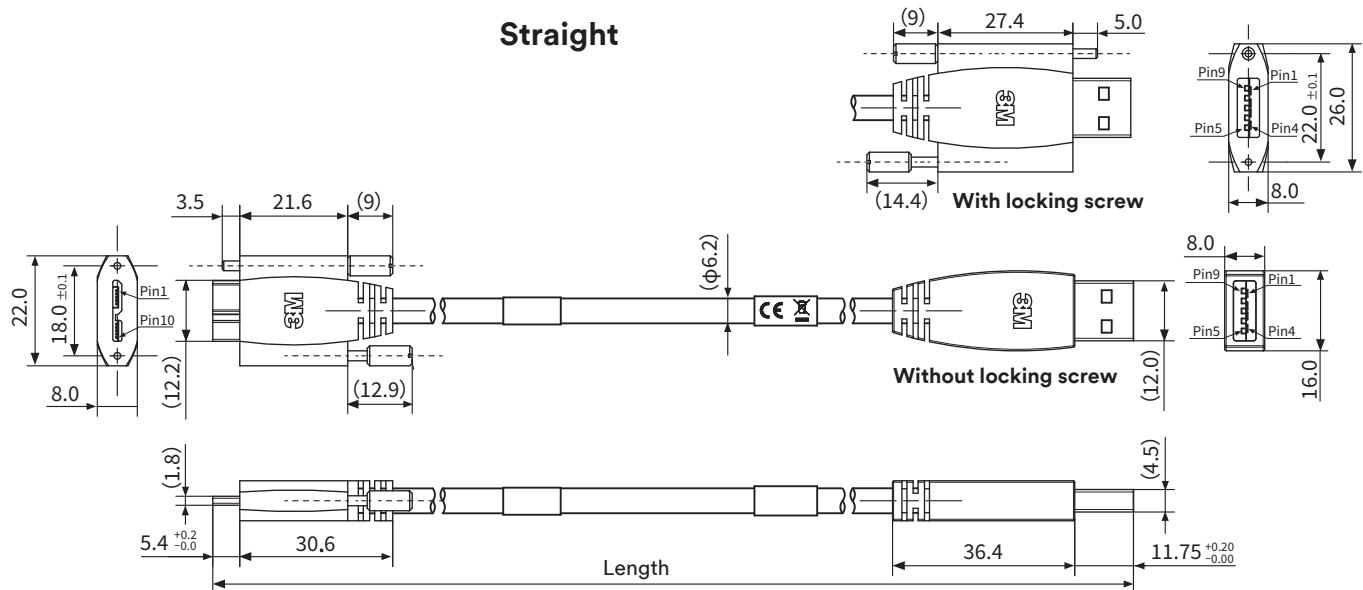
Micro-B connectors are available in a range of configurations for reliable connections even in tight or complex spaces.



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

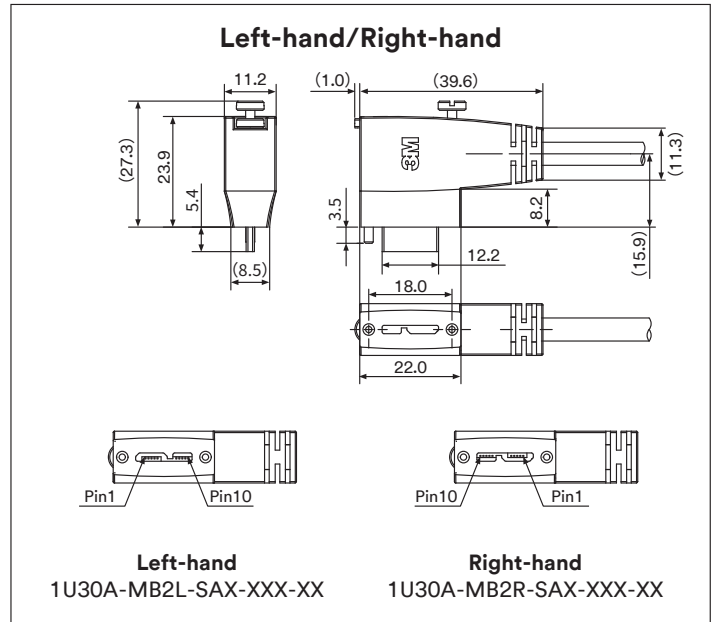
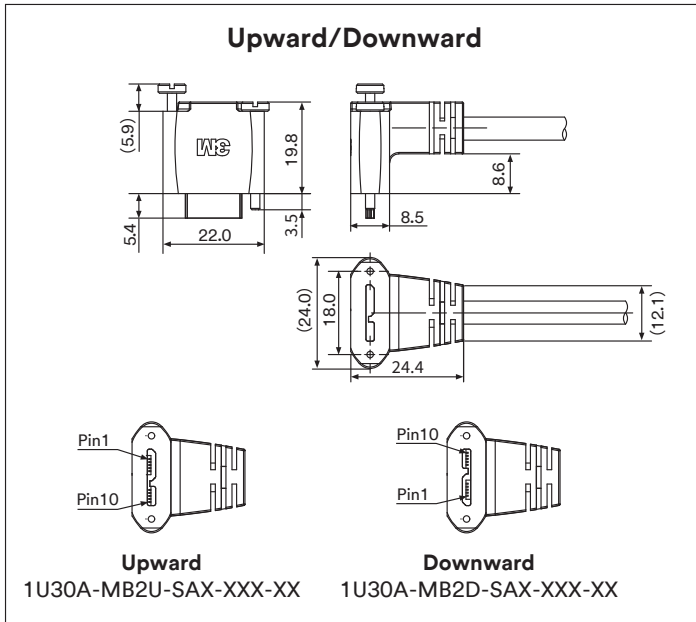
Dimensions in mm



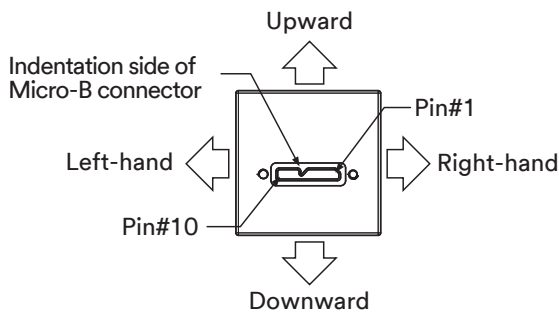
# 3M™ USB3 Vision Industrial Camera Cable Assemblies

## 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

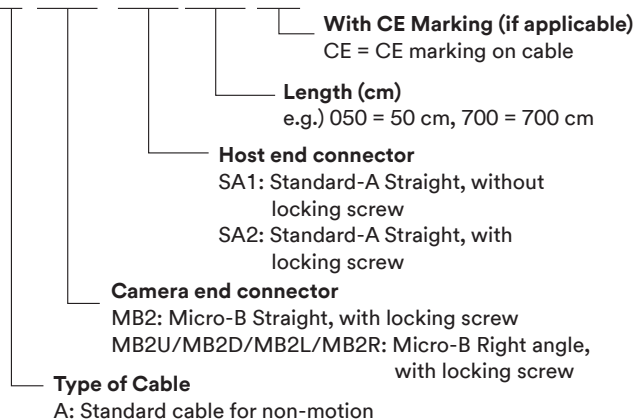
## Choosing the right angled connector

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



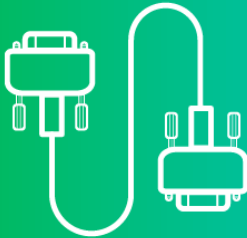
This movable cable is excellent for repetitive-motion applications. The 3M cable 1U30S series has been drag-chain tested for more than 10 million cycles for U-shaped sliding bendability, and delivers reliable data transmission up to and beyond 5 meters for greater flexibility in system design.

- Repeated bending durability >10 million cycles<sup>1</sup>
- Excellent transmission characteristics enable >5m connection<sup>2</sup>
- Locking screws are available on USB3 A and Micro-B connector ends
- USB3.0 and USB3 Vision® compatible
- RoHS2 and CE compliant



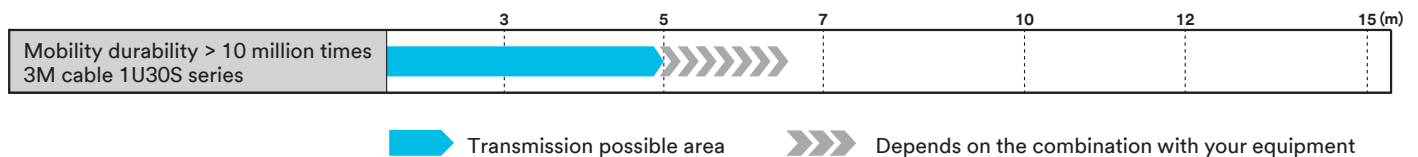
<sup>1</sup> Tested on 3M test condition; functionality >5 m depends on camera/host combination

<sup>2</sup> 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





**Safety Data Sheet:** Consult Safety Data Sheet before use.

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