# The Correct Cable for Every Application

Choosing the right cable is crucial in terms of the service life you can expect from a sensor-actuator cable. This is why it pays to familiarize yourself with our extensive range of cables. It will save you time as well as money!



# PVC – for straightforward applications

## **Application areas:**

For use in areas subject to moderate mechanical strain, e.g., packaging machines, assembly and production lines.

- Affordable cable quality
- Effective resistance to chemicals
- Suitable for the food industry

## Features:

- Easily strippable
- Excellent flame retardance
- Suitable for flexible installation to some extent

−5 °C ... 70 °C

Limited resistance to oil and lubricant 

## **Temperature range**

Permanently installed -25 °C ... 70 °C

-25 °C ... 105 °C for indicated cable types

Non-fixed

Minimum bend radius 10 x D

## **Cable types**

Cable type	Structure	Diameter	Use
PVC, gray	3/4/5 x 0.34 mm <sup>2</sup> (19 x 0.15 mm)	D = 4.8 mm	M12
	3/4 x 0.25 mm <sup>2</sup> (14 x 0.15 mm)	D = 4.3 mm	M8
PVC, blue (NAMUR)	2/4 x 0.34 mm <sup>2</sup> (19 x 0.15 mm)	D = 4.8 mm	M8/M12
PVC, black	2+1/3+1/4+1 x 0.5 mm <sup>2</sup> (16 x 0.2 mm)	D = 5.1 mm/5.7 mm/6.6 mm	Valve connectors
PVC-U, black	3/4 x 0.34 mm <sup>2</sup> (19 x 0.15 mm)	D = 4.3 mm	M8/M12
PVC-U, yellow	3/4 x 0.34 mm <sup>2</sup> (19 x 0.15 mm)	D = 4.3 mm	M8/M12
PVC-U, yellow, 105 °C 🔊	3/4/5 x 0.34 mm <sup>2</sup> (42 x 0.1 mm)	D = 5.2 mm/5.5 mm/5.9 mm	1/2″





## **PUR – for complex applications**

## **Application areas:**

Suitable for long-term flexible use in the most challenging of environments such as with machine tools, rotary tables and swivel tables. Shielded versions available to meet additional EMC requirements.

- Halogen-free
- Capable of withstanding a high level of mechanical stress
- Effective resistance to chemicals
- Effective resistance to oil
- UL cable types are extremely flame-retardant

## Features:

- Free from silicone and substances that inhibit lacquer adhesion
- Resistant to microbes and hydrolysis
- UV-resistant

## **Temperature range**

Permanently installed −40 °C ... 80 °C Non-fixed -20 °C ... 80 °C Minimum bend radius 10 x D

#### Additional data for UL-approved cable types (unshielded):

Min. no. of bend cycles	5 million
Distance	5 m
Acceleration	5 m/s <sup>2</sup>
Speed	3.33 m/s
Torsion	$\pm 180^{\circ}$ /m tested at 20 °C 25 °C

## **Cable types**

Cable type	Structure	Diameter	Use
PUR, gray	3/4/5 x 0.34 mm <sup>2</sup> (19 x 0.15 mm)	D = 4.8 mm	M12
	3/4 x 0.25 mm <sup>2</sup> (14 x 0.15 mm)	D = 4.3 mm	M8
PUR, blue (NAMUR)	2/4 x 0.34 mm <sup>2</sup> (19 x 0.15 mm)	D = 4.8 mm	M8/M12
PUR-U, black	8 x 0.25 mm <sup>2</sup> (14 x 0.15 mm)	D = 6.0 mm	M12
	2+1/4+1 x 0.5 mm <sup>2</sup> (28 x 0.15 mm)	D = 4.8 mm/5.5 mm	Valve connectors
	3/4 x 0.34 mm <sup>2</sup> (42 x 0.1 mm)	D = 4.3 mm	M8/M12
PUR-U/ABG, black, shielded	8 x 0.25 mm <sup>2</sup> (14 x 0.15 mm)	D = 6.0 mm	M12
PUR-ABG, gray, shielded	4/5 x 0.34 mm <sup>2</sup> (19 x 0.15 mm)	D = 4.8 mm	M8/M12
PUR-U, yellow	4 x 0.34 mm <sup>2</sup> (42 x 0.1 mm)	D = 4.3 mm	M8/M12
PUR-U/0.75, black	5 x 0.75 mm <sup>2</sup> (42 x 0.15 mm)	D = 6.0mm	M12

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# Irradiated PUR – for extreme applications

#### Application areas:

This cable boasts properties that are better than those of conventional PUR cables, making this highly-flexible control cable also suitable for use in robot applications and particularly with welding robots.

- Welding bead resistant
- Resistant to high temperatures
- Capable of withstanding mechanical stress
- Robot-compatible
- Halogen-free
- Excellent flame retardance

## Features:

- Effective resistance to oil
- Effective resistance to chemicals
- UV-resistant
- Free from silicone and substances that inhibit lacquer adhesion
- Resistant to microbes and hydrolysis

## **Temperature range**

Permanently installed	−50 °C 105 °C	
	−50 °C 80 °C	for UL cable types
Non-fixed	−40 °C 105 °C	
	−40 °C 80 °C	for UL cable types
Minimum bend radius	10 x D	

Min. no. of bend cycles 5 millionDistance10 mAcceleration10 m/s²Speed3 m/sTorsionTorsion ±360°/m tested at 20 °C ... 25 °C

## **Cable types**

Cable type	Structure	Diameter	Use
PUR H/S, orange	4 x 0.34 mm² (19 x 0.15 mm)	D = 4.8 mm	M8/M12
PUR H/S, yellow	3/4/5 x 0.75 mm² (42 x 0.15 mm)	D = 5.8 mm	1/2″

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# POC welding bead resistant – for the most challenging scenarios

## **Application areas:**

This special cable comes into its own for applications in the welding sector that cannot be solved with irradiated PUR cables.

- Welding bead resistant
- Resistant to high temperatures
- Capable of withstanding mechanical stress
- Robot-compatible
- Excellent flame retardance

#### Features:

- Effective resistance to oil
- Effective resistance to chemicals
- UV-resistant
- Free from silicone and substances that inhibit lacquer adhesion
- Resistant to microbes and hydrolysis

## **Temperature range**

Permanently installed	–40 °C 150 °C
Non-fixed	–15 °C 150 °C
Minimum bend radius	10 x D
Torsion	$\pm360^\circ/m$ tested at 20 $^\circ C$ 25 $^\circ C$

#### **Cable types**

Cable type	Structure	Diameter	Use
POC, orange	4 x 0.34 mm <sup>2</sup> (19 x 0.15 mm)	D = 4.8 mm	M8/M12

