

# P | Cabling

## Data sheet

**M12 Sensor/actuator cable, A-coded, 1.0 m,  
M12 jack straight - M12 jack straight,  
unshielded, 4-pole, PUR**

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P/N

142MCA22010

EAN 4251394648149

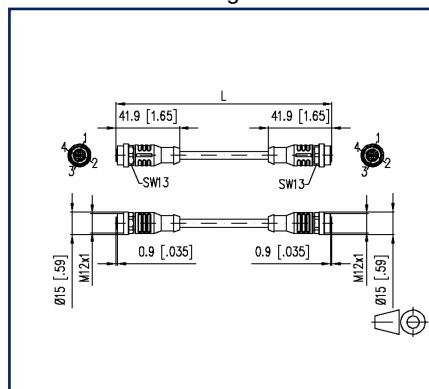
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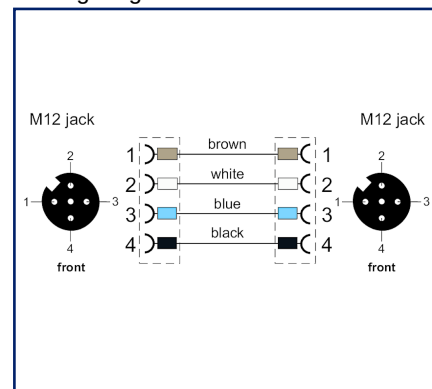
## Illustrations



Dimensional drawing



Wiring diagram



See enlarged drawings at the end of document

## Product specification

Flexible, silicone- and halogen-free control cable with high mechanical strength. The cable is resistant to chemicals, hydrolysis and microbes. The drag-chain application is possible at a bending radius of minimum 10xd. Due to its weld-field immunity, the cable is very well suited for the flexible application in robotics, machine tools and metal-cutting production. The cables meet the UL and CSA (UL10493/20549; cULus) requirements. Special features: flame retardant, seawater resistant, recyclable, LABS free, RoHs compliant, acid and alkali resistant, ozone resistant, UV resistant, hydrolysis proof, drag chain resistant, torsion resistant, welding sparks resistant, halogen free, silicone free, oil resistant

- Standard variants: 1.0 m, 2.0 m, 5.0 m, 10.0 m.
- Other cable lengths on request.

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## Technical Data

### General Data

|                                     |                                              |
|-------------------------------------|----------------------------------------------|
| Fields of application               | Industrial Ethernet                          |
| Design                              | Sensor/actuator connection line M12, A-coded |
| Shielding                           | unshielded                                   |
| Transmission technology             | Copper                                       |
| Color coding fiber/ wire(s)         | brown, white, blue, black                    |
| Color                               | black                                        |
| Dimensions                          |                                              |
| Dimension - Interface 1 (L x W x H) | 41.9 mm x 15 mm x 15 mm                      |
| Dimension - Interface 1 (L x W x H) | 1.65 in. x 0.591 in. x 0.591 in.             |
| Dimension - Interface 2 (L x W x H) | 41.9 mm x 15 mm x 15 mm                      |
| Dimension - Interface 2 (L x W x H) | 1.65 in. x 0.591 in. x 0.591 in.             |
| Cable length (m)                    | 1 m                                          |
| Cable length (ft)                   | 3.28 ft                                      |
| Labeling option                     | identification label carrier                 |

### Connections/interfaces

|                                               |                      |
|-----------------------------------------------|----------------------|
| Connector technology interface 1              | M12-jack             |
| Connector technology interface 2              | M12-jack             |
| Coding interface 1                            | A-coded              |
| Coding interface 2                            | A-coded              |
| Number of positions/contacts interface 1      | 4                    |
| Number of positions/contacts interface 2      | 4                    |
| Termination data, stranded wire (min. - max.) |                      |
| Conductor cross section, stranded wire        | AWG 22/42            |
| Conductor cross section, stranded wire        | 0.34 mm <sup>2</sup> |
| Stranded wire structure                       | 42x0.10mm            |



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### Connections/interfaces

Cable sheath diameter (min. - max.)

|                       |        |
|-----------------------|--------|
| Cable sheath diameter | 4.7 mm |
|-----------------------|--------|

|                       |           |
|-----------------------|-----------|
| Cable sheath diameter | 0.185 in. |
|-----------------------|-----------|

### Electrical characteristics

|                           |              |
|---------------------------|--------------|
| Current carrying capacity | 4 A at 40 °C |
|---------------------------|--------------|

|               |         |
|---------------|---------|
| Rated voltage | 60 V DC |
|---------------|---------|

|                       |               |
|-----------------------|---------------|
| Insulation resistance | min. 100 MOhm |
|-----------------------|---------------|

### Mechanical data

|                                |          |
|--------------------------------|----------|
| Life - Number of mating cycles | min. 100 |
|--------------------------------|----------|

|         |                                |
|---------|--------------------------------|
| Torsion | +/-360°/m, >= 2 million cycles |
|---------|--------------------------------|

|                                  |       |
|----------------------------------|-------|
| Maximum operating bending radius | 47 mm |
|----------------------------------|-------|

|                            |       |
|----------------------------|-------|
| Alternating bending radius | 47 mm |
|----------------------------|-------|

|              |                    |
|--------------|--------------------|
| acceleration | 5 m/s <sup>2</sup> |
|--------------|--------------------|

### Materials and material properties

|                      |             |
|----------------------|-------------|
| Material - Conductor | Cu (copper) |
|----------------------|-------------|

|                                 |               |
|---------------------------------|---------------|
| Material - Conductor Insulation | polypropylene |
|---------------------------------|---------------|

|                         |     |
|-------------------------|-----|
| Material - Cable jacket | PUR |
|-------------------------|-----|

|                             |          |
|-----------------------------|----------|
| Material - Body interface 1 | Plastics |
|-----------------------------|----------|

|                             |          |
|-----------------------------|----------|
| Material - Body interface 2 | Plastics |
|-----------------------------|----------|

|                                           |         |
|-------------------------------------------|---------|
| Material - Protective housing interface 1 | FPM/FKM |
|-------------------------------------------|---------|

|                                           |         |
|-------------------------------------------|---------|
| Material - Protective housing interface 2 | FPM/FKM |
|-------------------------------------------|---------|

|                                |                   |
|--------------------------------|-------------------|
| Material - Contact interface 1 | CuSn (tin bronze) |
|--------------------------------|-------------------|

|                                |                   |
|--------------------------------|-------------------|
| Material - Contact interface 2 | CuSn (tin bronze) |
|--------------------------------|-------------------|

|                                       |           |
|---------------------------------------|-----------|
| Material - Contact finish interface 1 | Au (gold) |
|---------------------------------------|-----------|

|                                       |           |
|---------------------------------------|-----------|
| Material - Contact finish interface 2 | Au (gold) |
|---------------------------------------|-----------|

|                                         |          |
|-----------------------------------------|----------|
| Material - Contact carriers interface 1 | Plastics |
|-----------------------------------------|----------|

|                                         |          |
|-----------------------------------------|----------|
| Material - Contact carriers interface 2 | Plastics |
|-----------------------------------------|----------|

|                                  |                |
|----------------------------------|----------------|
| Material - Union nut interface 1 | CuZnPb (brass) |
|----------------------------------|----------------|

|                                  |                |
|----------------------------------|----------------|
| Material - Union nut interface 2 | CuZnPb (brass) |
|----------------------------------|----------------|

|                                         |             |
|-----------------------------------------|-------------|
| Material - Union nut finish interface 1 | Ni (nickel) |
|-----------------------------------------|-------------|

|                                         |             |
|-----------------------------------------|-------------|
| Material - Union nut finish interface 2 | Ni (nickel) |
|-----------------------------------------|-------------|



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### Materials and material properties

|                          |                                                                                        |
|--------------------------|----------------------------------------------------------------------------------------|
| Flame retardancy         | yes                                                                                    |
| Halogen free             | yes                                                                                    |
| Silicone free            | no paint wetting interfering substances (LaBS) in the process chain                    |
| LaBS Note                | subsequent contamination possible due to handling and possible storage in your company |
| Oil resistance           | yes                                                                                    |
| UV-resistance            | yes                                                                                    |
| drag chain suitable      | yes                                                                                    |
| torsional                | yes                                                                                    |
| RoHS                     | compliant                                                                              |
| REACH                    | compliant                                                                              |
| REACH - substance (SVHC) | Lead / 7439-92-1                                                                       |

### Environmental conditions

|                                      |                                  |
|--------------------------------------|----------------------------------|
| Temperature (min. - max.)            |                                  |
| Temperature - Operating °C           | -50 °C - 90 °C                   |
| Temperature - Operating °F           | -58 °F - 194 °F                  |
| Temperature - Installation °C        | -30 °C - 90 °C                   |
| Temperature - Installation °F        | -22 °F - 194 °F                  |
| Temperature - drag chain °C          | -25 °C - 60 °C                   |
| Temperature - drag chain °F          | -13 °F - 140 °F                  |
| Particulate ingress interface 1      | IP6X when plugged in             |
| Liquid ingress/immersion interface 1 | IPX5, IPX7, IPX8 when plugged in |
| Particulate ingress interface 2      | IP6X when plugged in             |
| Liquid ingress/immersion interface 2 | IPX5, IPX7, IPX8 when plugged in |
| Pollution degree interface 1         | 3                                |
| Pollution degree interface 2         | 3                                |



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### Approvals

|                      |                  |
|----------------------|------------------|
| CE                   | compliant        |
| UL listed (file no.) | Approval pending |

### Standards/Regulations

|                                     |                    |
|-------------------------------------|--------------------|
| Connectors for electronic equipment |                    |
| circular connector                  | DIN EN 61076-2-101 |

### Classifications

|          |          |
|----------|----------|
| ETIM 5.0 | EC001855 |
| ETIM 6.0 | EC001855 |
| ETIM 7.0 | EC001855 |
| ETIM 8.0 | EC001855 |

### Packing details

|                   |                       |
|-------------------|-----------------------|
| Type of packaging | 1 pc(s) / plastic bag |
|-------------------|-----------------------|

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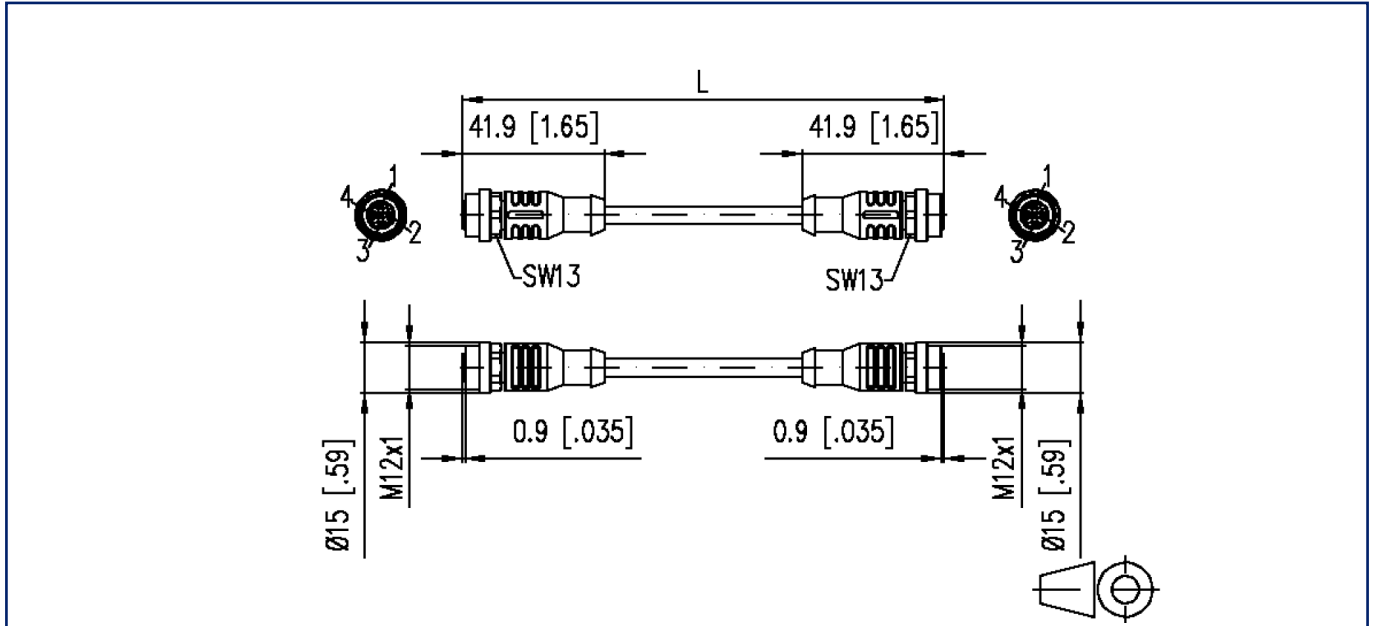
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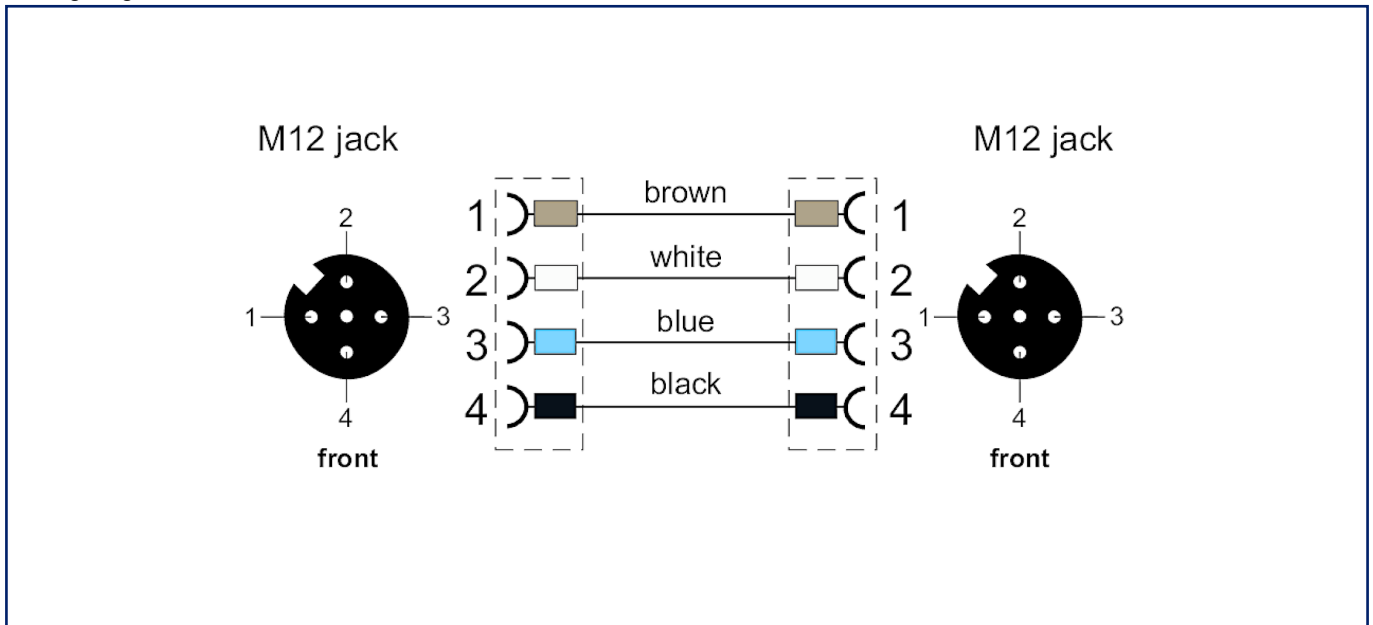
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## Illustrations

### Dimensional drawing



### Wiring diagram



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### Principle diagram

