

# SAC-8P-M12MR/ 0,5-542/M12FR BK - Sensor/actuator cable



1406099

<https://www.phoenixcontact.com/us/products/1406099>

Please be informed that the data shown in this PDF document is generated from our online catalog. Please find the complete data in the user documentation. Our general terms of use for downloads are valid.



Sensor/actuator cable, 8-position, PVC, yellow, Plug angled M12, coding: A, on Socket angled M12, coding: A, cable length: 0.5 m

## Commercial data

|                                      |               |
|--------------------------------------|---------------|
| Item number                          | 1406099       |
| Packing unit                         | 1 pc          |
| Minimum order quantity               | 1 pc          |
| Sales key                            | BF13          |
| Product key                          | AF1ICD        |
| GTIN                                 | 4046356799508 |
| Weight per piece (including packing) | 43.5 g        |
| Weight per piece (excluding packing) | 22.22 g       |
| Customs tariff number                | 85444290      |
| Country of origin                    | US            |

# SAC-8P-M12MR/ 0,5-542/M12FR BK - Sensor/actuator cable



1406099

<https://www.phoenixcontact.com/us/products/1406099>

## Technical data

### Product properties

|                      |                       |
|----------------------|-----------------------|
| Product type         | Sensor/actuator cable |
| Application          | Standard, U.S. cables |
| Number of positions  | 8                     |
| No. of cable outlets | 1                     |
| Shielded             | no                    |
| Coding               | A                     |

### Insulation characteristics

|                      |    |
|----------------------|----|
| Overvoltage category | II |
| Degree of pollution  | 3  |

### Material specifications

|  |   |
|--|---|
| Flammability rating according to UL 94 | HB  |
| Seal material                          | NBR   |
| Material of grip body                  | TPU, hardly inflammable, self-extinguishing |
| Contact material                       | CuZn  |
| Contact surface material               | Ni/Au                                       |
| Contact carrier material               | TPU GF                                      |
| Material for screw connection          | Zinc die-cast, nickel-plated                |
| Outer sheath, material                 | PVC   |

### Electrical properties

|                       |                            |
|-----------------------|----------------------------|
| Insulation resistance | $\geq 100 \text{ M}\Omega$ |
| Nominal voltage $U_N$ | 30 V AC                    |
|                       | 30 V DC                    |
| Nominal current $I_N$ | 2 A                        |

### Mechanical properties

#### Mechanical data

|                             |            |
|-----------------------------|------------|
| Insertion/withdrawal cycles | $\geq 100$ |
|-----------------------------|------------|

### Signaling

|                        |    |
|------------------------|----|
| Status display         | no |
| Status display present | no |

### Connection data

#### Conductor connection

|                   |                        |
|-------------------|------------------------|
| Tightening torque | 0.4 Nm (M12 connector) |
|-------------------|------------------------|

### Connector

# SAC-8P-M12MR/ 0,5-542/M12FR BK - Sensor/actuator cable



1406099

<https://www.phoenixcontact.com/us/products/1406099>

## Connection 1

|                     |                 |
|---------------------|-----------------|
| Type                | Plug angled M12 |
| Number of positions | 8               |
| Coding type         | A               |

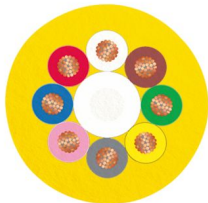
## Connection 2

|                     |                   |
|---------------------|-------------------|
| Type                | Socket angled M12 |
| Number of positions | 8                 |
| Coding type         | A                 |

## Cable/line

|              |       |
|--------------|-------|
| Cable length | 0.5 m |
|--------------|-------|

## PVC yellow 105 °C [542]

|   |   |
|---|---|
| Dimensional drawing                           |  |
| Cable weight                                  | 44 kg/km  |
| UL AWM Style                                  | 2517 (105 °C / 300 V)   |
| Number of positions                           | 8   |
| Shielded                                      | no  |
| Cable type                                    | PVC yellow 105 °C [542]   |
| Conductor structure signal line               | 7x 0.20 mm  |
| AWG signal line                               | 24  |
| Wire diameter incl. insulation                | 1.12 mm ±0.03 mm  |
| External cable diameter                       | 5.70 mm ±0.2 mm   |
| Outer sheath, material                        | PVC   |
| External sheath, color                        | yellow  |
| Conductor material                            | Tin-plated Cu litz wires  |
| Material, filler                              | PP  |
| Material wire insulation                      | PVC   |
| Single wire, color                            | white, brown, green, yellow, gray, pink, blue, red                                  |
| Overall twist                                 | 8 wires around filler to the core   |
| Max. conductor resistance                     | max. 79.7 Ω/km (20 °C)  |
| Insulation resistance                         | ≥ (550 M Ohms/m @ 500V)   |
| Nominal voltage, cable                        | 300 V   |
| Minimum bending radius, flexible installation | 8 x D   |
| Smallest bending radius, movable installation | 46 mm   |
| Flame resistance                              | FT1, VW-1   |

# SAC-8P-M12MR/ 0,5-542/M12FR BK - Sensor/actuator cable



1406099

<https://www.phoenixcontact.com/us/products/1406099>

|                                 |   |
|---------------------------------|---|
| Other resistance                | UV resistant                                    |
| Ambient temperature (operation) | -30 °C ... 105 °C (cable, fixed installation)   |
|                                 | -5 °C ... 105 °C (Cable, flexible installation) |

## Environmental and real-life conditions

### Ambient conditions

|   |                                  |
|---|----------------------------------|
| Degree of protection  | IP65                             |
|   | IP67                             |
|   | IP68                             |
| Ambient temperature (operation) (male connector/female connector) | -25 °C ... 90 °C (Plug / socket) |

## Standards and regulations

|                          |                 |
|--------------------------|-----------------|
| Standard designation     | M12 connector   |
| Standards/specifications | IEC 61076-2-101 |

# SAC-8P-M12MR/ 0,5-542/M12FR BK - Sensor/actuator cable

1406099

<https://www.phoenixcontact.com/us/products/1406099>

## Drawings

Dimensional drawing



M12 x 1 male plug, angled

Dimensional drawing



M12 x 1 socket, angled

1406099

<https://www.phoenixcontact.com/us/products/1406099>

Schematic diagram



Pin assignment M12 plug, 8-pos., view plug side

Schematic diagram



Pin assignment M12 socket, 8-pos., A-coded, view female side

# SAC-8P-M12MR/ 0,5-542/M12FR BK - Sensor/actuator cable



1406099

<https://www.phoenixcontact.com/us/products/1406099>

Circuit diagram



Contact assignment of the M12 plug and the M12 socket

# SAC-8P-M12MR/ 0,5-542/M12FR BK - Sensor/actuator cable



1406099

<https://www.phoenixcontact.com/us/products/1406099>

## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1406099>

|  <b>UL Listed</b><br>Approval ID: FILE E 221474 |                       |                       |                   |                             |
|--|-----------------------|-----------------------|-------------------|-----------------------------|
|  | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
| keine  |                       |                       |                   |                             |
|  | 30 V                  | 2 A                   | -                 | -                           |

|  <b>cUL Listed</b><br>Approval ID: FILE E 221474 |                       |                       |                   |                             |
|---|-----------------------|-----------------------|-------------------|-----------------------------|
|   | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
| keine   |                       |                       |                   |                             |
|   | 30 V                  | 2 A                   | -                 | -                           |

# SAC-8P-M12MR/ 0,5-542/M12FR BK - Sensor/actuator cable



1406099

<https://www.phoenixcontact.com/us/products/1406099>

## Classifications

### ECLASS

|             |          |
|-------------|----------|
| ECLASS-13.0 | 27060311 |
| ECLASS-15.0 | 27060311 |

### ETIM

|           |          |
|-----------|----------|
| ETIM 10.0 | EC001855 |
|-----------|----------|

### UNSPSC

|             |          |
|-------------|----------|
| UNSPSC 21.0 | 26121600 |
|-------------|----------|

# SAC-8P-M12MR/ 0,5-542/M12FR BK - Sensor/actuator cable



1406099

<https://www.phoenixcontact.com/us/products/1406099>

## Environmental product compliance

### EU RoHS

|   |                    |
|---|--------------------|
| Fulfills EU RoHS substance requirements | Yes, No exemptions |
|---|--------------------|

### China RoHS

|  |  |
|--|--|
| Environment friendly use period (EFUP) | EFUP-E                                   |
|  | No hazardous substances above the limits |

### EU REACH SVHC

|                                     |                            |
|-------------------------------------|----------------------------|
| REACH candidate substance (CAS No.) | No substance above 0.1 wt% |
|-------------------------------------|----------------------------|

### EF3.1 Climate Change

|         |               |
|---------|---------------|
| CO2e kg | 0.948 kg CO2e |
|---------|---------------|

Phoenix Contact 2026 © - all rights reserved  
<https://www.phoenixcontact.com>

Phoenix Contact USA  
586 Fulling Mill Road  
Middletown, PA 17057, United States  
(+717) 944-1300  
[info@phoenixcon.com](mailto:info@phoenixcon.com)