

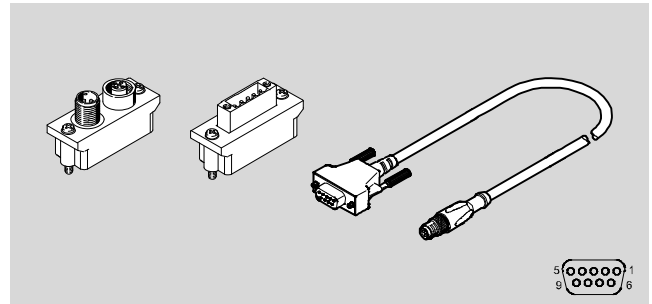
# Electrical adapters, Sub-D socket, 9-pin

Technical data

**FESTO**

## Fieldbus adapter FBA

Fieldbus adapter Sub-D, 9-pin on M12 or screw terminal, for CANopen and DeviceNet®



| General technical data           |                                                  |
|----------------------------------|--------------------------------------------------|
| Electrical connection 1          | Straight socket, Sub-D, 9-pin, field device side |
| Type of mounting                 | 2 screws 4-40 UNC                                |
| Nominal operating voltage [V DC] | 24                                               |
| Protocol                         | CANopen<br>DeviceNet®                            |

| Electrical data                       |                                                                                                                                                                            |                      |                                                        |
|---------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|--------------------------------------------------------|
| Type                                  | FBA-2-M12-5POL                                                                                                                                                             | FBA-1-SL-5POL        | FBA-CO-SUB-9-M12                                       |
| Electrical connection 2               | <ul style="list-style-type: none"> <li>Straight plug, M12x1, 5-pin, A-coded to EN 61076-2-101</li> <li>Straight socket, M12x1, 5-pin, A-coded to EN 61076-2-101</li> </ul> | Straight plug, 5-pin | Straight plug, M12x1, 5-pin, A-coded to EN 61076-2-101 |
| Cable length [m]                      | 0                                                                                                                                                                          | 0                    | 0.1                                                    |
| Cable diameter [mm]                   | –                                                                                                                                                                          | –                    | 6.3                                                    |
| Cable design [mm²]                    | –                                                                                                                                                                          | –                    | 4 x 0.34, shielded                                     |
| Nominal conductor cross section [mm²] | –                                                                                                                                                                          | –                    | 0.34                                                   |
| Acceptable current load [A]           | 4                                                                                                                                                                          | 4                    | –                                                      |
| Degree of protection to EN 60529      | IP65                                                                                                                                                                       | IP40                 | IP67 in assembled state                                |

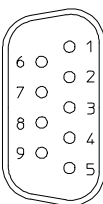
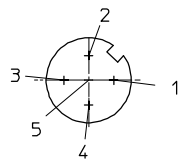
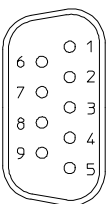
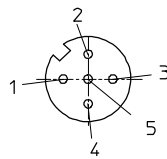
| Materials         |                    |                    |                                              |
|-------------------|--------------------|--------------------|----------------------------------------------|
| Type              | FBA-2-M12-5POL     | FBA-1-SL-5POL      | FBA-CO-SUB-9-M12                             |
| Housing           | PA                 | PA                 | –                                            |
| Housing colour    | Black              | Black              | –                                            |
| Cable sheath      | –                  | –                  | TPE-U (PUR)                                  |
| Pin contacts      | Gold-plated bronze | Gold-plated bronze | –                                            |
| Note on materials | RoHS compliant     | RoHS compliant     | Contains paint-wetting impairment substances |

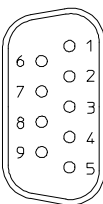
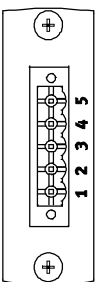
| Operating and environmental conditions |                |               |                  |
|----------------------------------------|----------------|---------------|------------------|
| Type                                   | FBA-2-M12-5POL | FBA-1-SL-5POL | FBA-CO-SUB-9-M12 |
| Ambient temperature [°C]               | –5 ... +50     | –5 ... +50    | –5 ... +50       |
| Storage temperature [°C]               | –20 ... +70    | –20 ... +70   | –                |

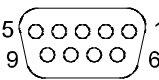
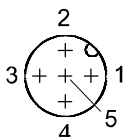
# Electrical adapters, Sub-D socket, 9-pin

Technical data

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| Pin allocation – Sub-D/opposite side                                              |         |     |                                                                                   |                                                                                   |         |     |                                                                                     |
|-----------------------------------------------------------------------------------|---------|-----|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|---------|-----|-------------------------------------------------------------------------------------|
| FBA-2-M12-5POL                                                                    |         |     |                                                                                   |                                                                                   |         |     |                                                                                     |
| Sub-D connection                                                                  | Pin     | Pin | Plug                                                                              | Sub-D connection                                                                  | Pin     | Pin | Socket                                                                              |
|  | 1       | –   |  |  | 1       | –   |  |
|                                                                                   | 2       | 5   |                                                                                   |                                                                                   | 2       | 5   |                                                                                     |
|                                                                                   | 3       | 3   |                                                                                   |                                                                                   | 3       | 3   |                                                                                     |
|                                                                                   | 4       | –   |                                                                                   |                                                                                   | 4       | –   |                                                                                     |
|                                                                                   | 5       | 1   |                                                                                   |                                                                                   | 5       | 1   |                                                                                     |
|                                                                                   | 6       | –   |                                                                                   |                                                                                   | 6       | –   |                                                                                     |
|                                                                                   | 7       | 4   |                                                                                   |                                                                                   | 7       | 4   |                                                                                     |
|                                                                                   | 8       | –   |                                                                                   |                                                                                   | 8       | –   |                                                                                     |
|                                                                                   | 9       | 2   |                                                                                   |                                                                                   | 9       | 2   |                                                                                     |
|                                                                                   | Housing | 1   |                                                                                   |                                                                                   | Housing | 1   |                                                                                     |

| FBA-1-SL-5POL                                                                      |         |     |                                                                                    |  |  |  |  |
|------------------------------------------------------------------------------------|---------|-----|------------------------------------------------------------------------------------|--|--|--|--|
| Sub-D connection                                                                   | Pin     | Pin | Plug                                                                               |  |  |  |  |
|  | 1       | –   |  |  |  |  |  |
|                                                                                    | 2       | 2   |                                                                                    |  |  |  |  |
|                                                                                    | 3       | 1   |                                                                                    |  |  |  |  |
|                                                                                    | 4       | –   |                                                                                    |  |  |  |  |
|                                                                                    | 5       | 3   |                                                                                    |  |  |  |  |
|                                                                                    | 6       | –   |                                                                                    |  |  |  |  |
|                                                                                    | 7       | 4   |                                                                                    |  |  |  |  |
|                                                                                    | 8       | –   |                                                                                    |  |  |  |  |
|                                                                                    | 9       | 5   |                                                                                    |  |  |  |  |
|                                                                                    | Housing | 3   |                                                                                    |  |  |  |  |

| FBA-CO-SUB-9-M12                                                                    |         |     |                                                                                     |  |  |  |  |
|-------------------------------------------------------------------------------------|---------|-----|-------------------------------------------------------------------------------------|--|--|--|--|
| Sub-D connection                                                                    | Pin     | Pin | Plug                                                                                |  |  |  |  |
|  | 1       | –   |  |  |  |  |  |
|                                                                                     | 2       | 5   |                                                                                     |  |  |  |  |
|                                                                                     | 3       | 3   |                                                                                     |  |  |  |  |
|                                                                                     | 4       | –   |                                                                                     |  |  |  |  |
|                                                                                     | 5       | 1   |                                                                                     |  |  |  |  |
|                                                                                     | 6       | 3   |                                                                                     |  |  |  |  |
|                                                                                     | 7       | 4   |                                                                                     |  |  |  |  |
|                                                                                     | 8       | –   |                                                                                     |  |  |  |  |
|                                                                                     | 9       | 2   |                                                                                     |  |  |  |  |
|                                                                                     | Housing | 1   |                                                                                     |  |  |  |  |

# Electrical adapters, Sub-D socket, 9-pin

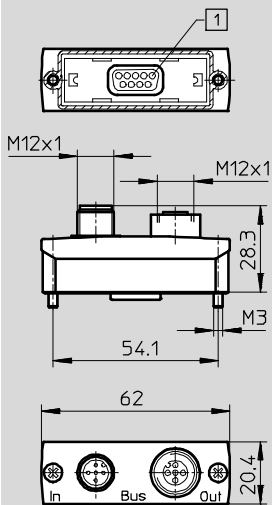
Technical data

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## Dimensions

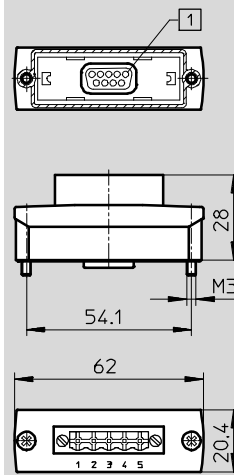
Download CAD data → [www.festo.com](http://www.festo.com)

### FBA-2-M12-5POL



1 Sub-D socket, 9-pin

### FBA-1-SL-...

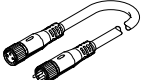


1 Sub-D socket, 9-pin

## Ordering data

|                                                                                     | Electrical connection 1       | Electrical connection 2                                          | Weight [g] | Part No. | Type             |
|-------------------------------------------------------------------------------------|-------------------------------|------------------------------------------------------------------|------------|----------|------------------|
|  | Straight socket, Sub-D, 9-pin | • Straight plug, M12x1, 5-pin<br>• Straight socket, M12x1, 5-pin | 28         | 525632   | FBA-2-M12-5POL   |
|  |                               | Straight plug, 5-pin                                             | 26         | 525634   | FBA-1-SL-5POL    |
|  |                               | Straight plug, M12x1, 5-pin                                      | –          | 540324   | FBA-CO-SUB-9-M12 |

## Ordering data – Accessories

|                                                                                     | Electrical connection                                                             | Weight [g] | Part No. | Type            |
|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------|----------|-----------------|
|  | Modular system for all types of connecting cable 0.1 ... 30 m<br>→ Internet: nebu | –          | –        | NEBU-...        |
| For FBA-2-M12-5POL                                                                  |                                                                                   |            |          |                 |
|  | Socket M12x1, 5-pin, straight                                                     | 33         | 18324    | FBSD-GD-9-5POL  |
|  | Plug M12x1, 5-pin, straight                                                       | 23.5       | 175380   | FBS-M12-5GS-PG9 |
| For FBA-1-SL-5POL                                                                   |                                                                                   |            |          |                 |
|  | • Angled socket, 5-pin;<br>• Screw terminal, 5-pin<br>• Degree of protection IP20 | 20         | 525635   | FBSD-KL-2x5POL  |

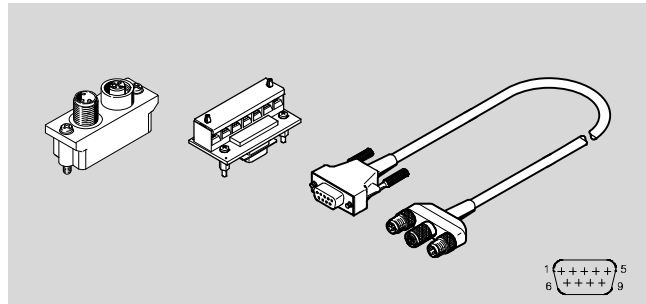
# Electrical adapters, Sub-D plug, 9-pin

Technical data

**FESTO**

## Fieldbus adapter FBA

Fieldbus adapter Sub-D, 9-pin on  
M12 or screw terminal, for PROFIBUS  
and CC-LINK®



| General technical data           |                                                |
|----------------------------------|------------------------------------------------|
| Electrical connection 1          | Straight plug, Sub-D, 9-pin, field device side |
| Type of mounting                 | 2 screws 4-40 UNC                              |
| Nominal operating voltage [V DC] | 24                                             |
| Protocol                         | PROFIBUS<br>CC-LINK®                           |

| Electrical data                       |                                                                                                                                                                            |                       |                                                                                                                                                                                                                                            |
|---------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Type                                  | FBA-2-M12-5POL-RK                                                                                                                                                          | FBA-1-KL-5POL         | FBA-PB-SUB-9-3XM12                                                                                                                                                                                                                         |
| Electrical connection 2               | <ul style="list-style-type: none"> <li>Straight plug, M12x1, 5-pin, B-coded to EN 61076-2-101</li> <li>Straight socket, M12x1, 5-pin, B-coded to EN 61076-2-101</li> </ul> | Screw terminal, 5-pin | <ul style="list-style-type: none"> <li>Straight plug, M12x1, 5-pin, B-coded to EN 61076-2-101</li> <li>Straight socket, M12x1, 5-pin, B-coded to EN 61076-2-101</li> <li>Straight plug, M12x1, 5-pin, A-coded to EN 61076-2-101</li> </ul> |
| Cable length [m]                      | 0                                                                                                                                                                          | 0                     | 0.11                                                                                                                                                                                                                                       |
| Cable diameter [mm]                   | –                                                                                                                                                                          | –                     | 6                                                                                                                                                                                                                                          |
| Cable design [mm²]                    | –                                                                                                                                                                          | –                     | 7 x 0.14, shielded                                                                                                                                                                                                                         |
| Nominal conductor cross section [mm²] | –                                                                                                                                                                          | –                     | 0.14                                                                                                                                                                                                                                       |
| Degree of protection to EN 60529      | IP65                                                                                                                                                                       | –                     | IP67 in assembled state                                                                                                                                                                                                                    |

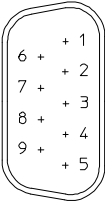
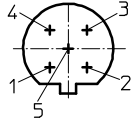
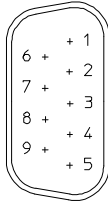
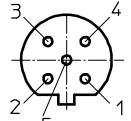
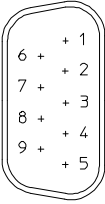
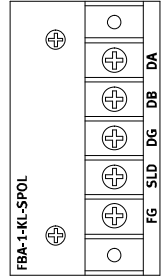
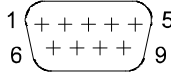
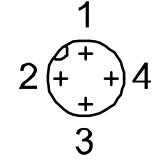
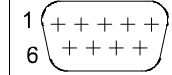
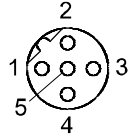
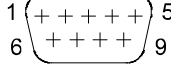
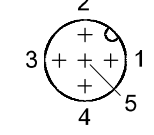
| Materials         |                   |                |                                              |
|-------------------|-------------------|----------------|----------------------------------------------|
| Type              | FBA-2-M12-5POL-RK | FBA-1-KL-5POL  | FBA-PB-SUB-9-3XM12                           |
| Cable sheath      | –                 | –              | TPE-U (PUR)                                  |
| Seals             | NBR               | –              | –                                            |
| Note on materials | –                 | RoHS compliant | Contains paint-wetting impairment substances |

| Operating and environmental conditions |                    |               |                    |
|----------------------------------------|--------------------|---------------|--------------------|
| Type                                   | FBA-2-M12-5POL-RK  | FBA-1-KL-5POL | FBA-PB-SUB-9-3XM12 |
| Ambient temperature [°C]               | 0 ... +50          | –5 ... +50    | –5 ... +50         |
| Storage temperature [°C]               | –20 ... +70        | –20 ... +70   | –                  |
| Relative humidity [%]                  | 95, non-condensing | –             | –                  |

# Electrical adapters, Sub-D plug, 9-pin

Technical data

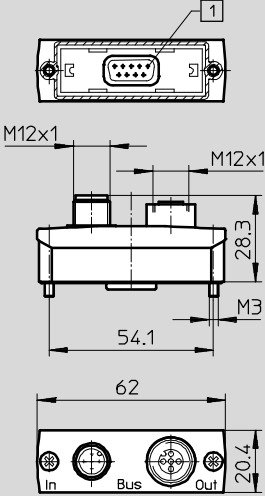
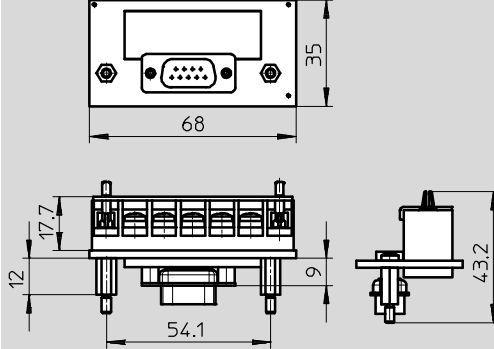
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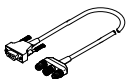
| Pin allocation – Sub-D/opposite side                                                |         |         |                                                                                     |                                                                                     |         |         |                                                                                       |
|-------------------------------------------------------------------------------------|---------|---------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------|---------|---------------------------------------------------------------------------------------|
| FBA-2-M12-5POL-RK                                                                   |         |         |                                                                                     |                                                                                     |         |         |                                                                                       |
| Sub-D connection                                                                    | Pin     | Pin     | Plug                                                                                | Sub-D connection                                                                    | Pin     | Pin     | Socket                                                                                |
|    | 1       | 5       |    |    | 1       | 5       |    |
|                                                                                     | 2       | –       |                                                                                     |                                                                                     | 2       | –       |                                                                                       |
|                                                                                     | 3       | 4       |                                                                                     |                                                                                     | 3       | 4       |                                                                                       |
|                                                                                     | 4       | –       |                                                                                     |                                                                                     | 4       | –       |                                                                                       |
|                                                                                     | 5       | –       |                                                                                     |                                                                                     | 5       | 3       |                                                                                       |
|                                                                                     | 6       | –       |                                                                                     |                                                                                     | 6       | 1       |                                                                                       |
|                                                                                     | 7       | –       |                                                                                     |                                                                                     | 7       | –       |                                                                                       |
|                                                                                     | 8       | 2       |                                                                                     |                                                                                     | 8       | 2       |                                                                                       |
|                                                                                     | 9       | –       |                                                                                     |                                                                                     | 9       | –       |                                                                                       |
|                                                                                     | Housing | Housing |                                                                                     |                                                                                     | Housing | Housing |                                                                                       |
| FBA-1-KL-5POL                                                                       |         |         |                                                                                     |                                                                                     |         |         |                                                                                       |
| Sub-D connection                                                                    | Pin     | Pin     | Plug                                                                                |                                                                                     |         |         |                                                                                       |
|   | 1       | –       |   |                                                                                     |         |         |                                                                                       |
|                                                                                     | 2       | DA      |                                                                                     |                                                                                     |         |         |                                                                                       |
|                                                                                     | 3       | DG      |                                                                                     |                                                                                     |         |         |                                                                                       |
|                                                                                     | 4       | –       |                                                                                     |                                                                                     |         |         |                                                                                       |
|                                                                                     | 5       | PG      |                                                                                     |                                                                                     |         |         |                                                                                       |
|                                                                                     | 6       | –       |                                                                                     |                                                                                     |         |         |                                                                                       |
|                                                                                     | 7       | DB      |                                                                                     |                                                                                     |         |         |                                                                                       |
|                                                                                     | 8       | –       |                                                                                     |                                                                                     |         |         |                                                                                       |
|                                                                                     | 9       | –       |                                                                                     |                                                                                     |         |         |                                                                                       |
|                                                                                     | Housing | SLD     |                                                                                     |                                                                                     |         |         |                                                                                       |
| FBA-CO-SUB-9-M12                                                                    |         |         |                                                                                     |                                                                                     |         |         |                                                                                       |
| Sub-D connection                                                                    | Pin     | Pin     | Plug                                                                                | Sub-D connection                                                                    | Pin     | Pin     | Socket                                                                                |
|  | 1       | 5       |  |  | 1       | 5       |  |
|                                                                                     | 2       | –       |                                                                                     |                                                                                     | 2       | –       |                                                                                       |
|                                                                                     | 3       | 4       |                                                                                     |                                                                                     | 3       | 4       |                                                                                       |
|                                                                                     | 4       | –       |                                                                                     |                                                                                     | 4       | –       |                                                                                       |
|                                                                                     | 5       | –       |                                                                                     |                                                                                     | 5       | 3       |                                                                                       |
|                                                                                     | 6       | –       |                                                                                     |                                                                                     | 6       | 1       |                                                                                       |
|                                                                                     | 7       | –       |                                                                                     |                                                                                     | 7       | –       |                                                                                       |
|                                                                                     | 8       | 2       |                                                                                     |                                                                                     | 8       | 2       |                                                                                       |
|                                                                                     | 9       | –       |                                                                                     |                                                                                     | 9       | –       |                                                                                       |
|                                                                                     | Housing | Housing |                                                                                     |                                                                                     | Housing | Housing |                                                                                       |
| Sub-D connection                                                                    | Pin     | Pin     | Plug                                                                                |                                                                                     |         |         |                                                                                       |
|  | 1       | 4       |  |                                                                                     |         |         |                                                                                       |
|                                                                                     | 2       | 3       |                                                                                     |                                                                                     |         |         |                                                                                       |
|                                                                                     | 3       | –       |                                                                                     |                                                                                     |         |         |                                                                                       |
|                                                                                     | 4       | –       |                                                                                     |                                                                                     |         |         |                                                                                       |
|                                                                                     | 5       | –       |                                                                                     |                                                                                     |         |         |                                                                                       |
|                                                                                     | 6       | –       |                                                                                     |                                                                                     |         |         |                                                                                       |
|                                                                                     | 7       | 1       |                                                                                     |                                                                                     |         |         |                                                                                       |
|                                                                                     | 8       | –       |                                                                                     |                                                                                     |         |         |                                                                                       |
|                                                                                     | 9       | –       |                                                                                     |                                                                                     |         |         |                                                                                       |
|                                                                                     | Housing | Housing |                                                                                     |                                                                                     |         |         |                                                                                       |

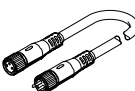
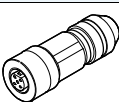
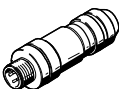
# Electrical adapters, Sub-D plug, 9-pin

Technical data

**FESTO**

| Dimensions                                                                                                    |  | Download CAD data → <a href="http://www.festo.com">www.festo.com</a>               |
|---------------------------------------------------------------------------------------------------------------|--|------------------------------------------------------------------------------------|
| FBA-2-M12-5POL-RK                                                                                             |  | FBA-1-KL-...                                                                       |
|  <p>1 Plug, Sub-D, 9-pin</p> |  |  |

| Ordering data                                                                       |                             |                                                                                                                                                                 |            |          |                    |
|-------------------------------------------------------------------------------------|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|----------|--------------------|
|                                                                                     | Electrical connection 1     | Electrical connection 2                                                                                                                                         | Weight [g] | Part No. | Type               |
|  | Straight plug, Sub-D, 9-pin | <ul style="list-style-type: none"> <li>• Straight plug, M12x1, 5-pin</li> <li>• Straight socket, M12x1, 5-pin</li> </ul>                                        | 80         | 533118   | FBA-2-M12-5POL-RK  |
|  |                             | Screw terminal, 5-pin                                                                                                                                           | 47         | 197962   | FBA-1-KL-5POL      |
|  |                             | <ul style="list-style-type: none"> <li>• Straight plug, M12x1, 5-pin</li> <li>• Straight socket, M12x1, 5-pin</li> <li>• Straight plug, M12x1, 5-pin</li> </ul> | –          | 537934   | FBA-PB-SUB-9-3XM12 |

| Ordering data – Accessories                                                         |                                                                                   |               |          |                      |
|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|---------------|----------|----------------------|
|                                                                                     | Electrical connection                                                             | Weight<br>[g] | Part No. | Type                 |
|  | Modular system for all types of connecting cable 0.1 ... 30 m<br>→ Internet: nebu | –             | –        | NEBU-...             |
| For FBA-2-M12-5POL-RK                                                               |                                                                                   |               |          |                      |
|  | Socket M12x1, 5-pin, straight                                                     | 48            | 1067905  | NECU-M-B12G5-C2-PB   |
|  | Plug M12x1, 5-pin, straight                                                       | 46            | 1066354  | NECU-M-S-B12G5-C2-PB |