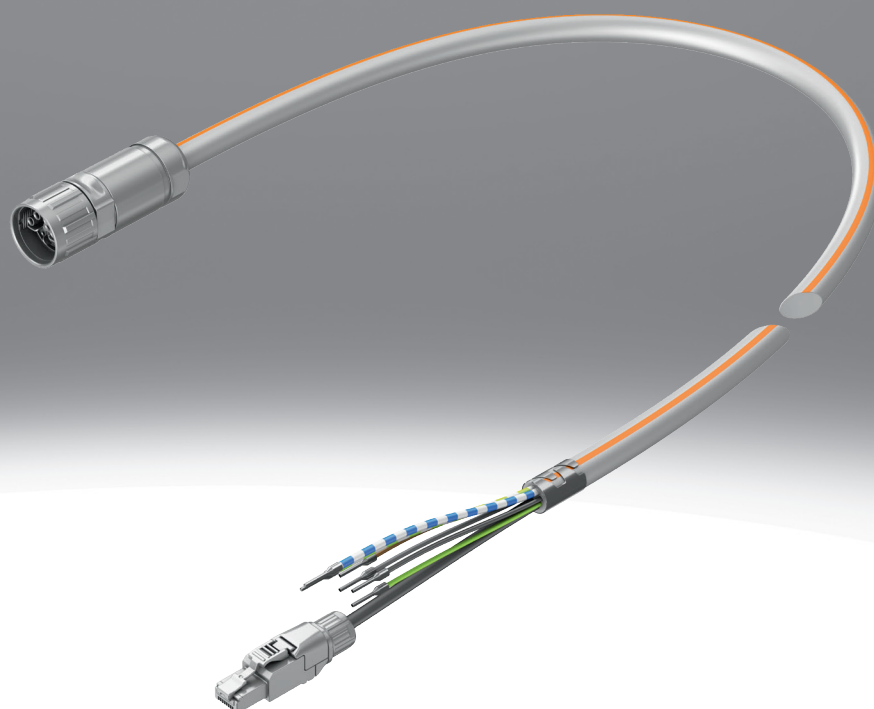


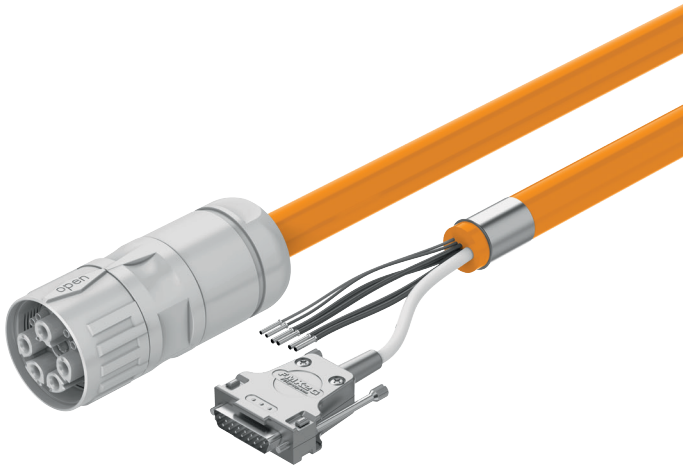
## Connecting cable NEBM

**FESTO**



### Characteristics

#### At a glance



The connecting cables NEBM are optimally adapted for servo motors, stepper motors, motor controllers and servo drives from Festo.

The following properties are typical of the cables:

Electrical connection

- Depending on the motor, degree of protection of up to IP67 is achieved on the motor side
- Can be used in a broad temperature range
- Length
- Cable characteristic

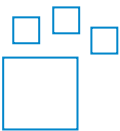
The cable characteristic indicates the resistance of the connecting cable to mechanical stress.

There are several qualities:

They are suitable for energy chains

- Suitable for energy chains
- Suitable for robot applications

#### Ordering data - modular system



Configurable product

This product and all its product options can be ordered online via the configurator.

## Type code

| 001  | Series           |  |
|------|------------------|--|
| NEBM | Connecting cable |  |

| 002  | Connection technology left, field device side           |  |
|------|---------------------------------------------------------|--|
| F1   | Socket design F1                                        |  |
| H6   | Socket connection pattern H6, coded for motor           |  |
| H7   | Socket connection pattern H7, coded for motor brake     |  |
| H17  | M17 stainless steel connection for hygiene applications |  |
| L5   | Plug pattern L5                                         |  |
| L10  | Connection pattern L10                                  |  |
| L15  | Plug pattern L15                                        |  |
| M12  | Socket M12x1 A-coded, EN 61076-2-101                    |  |
| M17  | M17                                                     |  |
| M23  | M23                                                     |  |
| M40  | M40                                                     |  |
| RE   | Socket connection pattern RE                            |  |
| S1   | Sub-D socket                                            |  |
| SF1  | Plug type F1                                            |  |
| SM12 | Plug M12x1 A-coded                                      |  |
| T1   | ITT M3                                                  |  |
| T12  | Socket M12x1 T-coded, EN 61076-2-111                    |  |

| 003 | Cable outlet left |  |
|-----|-------------------|--|
| G   | Straight          |  |
| W   | Angled            |  |

| 004 | Number of pins/wires on the left |  |
|-----|----------------------------------|--|
| 2   | 2                                |  |
| 4   | 4                                |  |
| 6   | 6                                |  |
| 8   | 8                                |  |
| 9   | 9                                |  |
| 12  | 12                               |  |
| 14  | 14                               |  |
| 15  | 15                               |  |
| 24  | 24                               |  |
| 31  | 31                               |  |

| 005 | Cable characteristic            |  |
|-----|---------------------------------|--|
| E   | Suitable for energy chains      |  |
| F   | Food-safe to standard           |  |
| R   | Suitable for robot applications |  |
| X   | For dynamic applications        |  |

| 006 | Cable design   |  |
|-----|----------------|--|
|     | Standard       |  |
| C   | Foil cable     |  |
| H   | Hybrid cable   |  |
| S   | With shielding |  |

| 007  | Cable length |  |
|------|--------------|--|
|      | ...m         |  |
| 0.2  | 0.2 m        |  |
| 0.5  | 0.5 m        |  |
| 1    | 1 m          |  |
| 1.5  | 1.5 m        |  |
| 2.23 | 2.23 m       |  |
| 2.5  | 2.5 m        |  |
| 2.6  | 2.6 m        |  |
| 3    | 3 m          |  |
| 5    | 5 m          |  |
| 7    | 7 m          |  |
| 7.5  | 7.5 m        |  |
| 10   | 10 m         |  |
| 15   | 15 m         |  |
| 20   | 20 m         |  |
| 25   | 25 m         |  |

| 008 | Wire cross section [mm²] |  |
|-----|--------------------------|--|
|     | Standard                 |  |
| Q5  | 0.34                     |  |
| Q15 | 0.35                     |  |
| Q6  | 0.5                      |  |
| Q14 | 0.51                     |  |
| F1  | 0.1 x 0.65               |  |
| Q7  | 0.75                     |  |
| Q13 | 0.79                     |  |
| Q9  | 1.5                      |  |
| Q10 | 2.5                      |  |
| Q11 | 4                        |  |
| Q12 | 6                        |  |

| 009 | Cable identification |  |
|-----|----------------------|--|
|     | With label holder    |  |
| N   | Without label holder |  |

| 010  | Connection technology right, controller side |  |
|------|----------------------------------------------|--|
| DF1  | Socket design F1                             |  |
| L5   | Plug pattern L5                              |  |
| L10  | Plug pattern L10                             |  |
| LE   | Open end                                     |  |
| M12  | Plug M12x1 A-coded, EN 61076-2-101           |  |
| M17  | M17                                          |  |
| M23  | M23                                          |  |
| M40  | M40                                          |  |
| R3LE | RJ45 and open end                            |  |
| RE   | Socket connection pattern RE                 |  |
| S1   | Sub-D                                        |  |
| S1LE | Plug Sub-D and open end                      |  |

| 011 | Cable outlet right |  |
|-----|--------------------|--|
|     | None               |  |
| G   | Straight           |  |
| W   | Angled             |  |

Type code

|     |                                   |  |
|-----|-----------------------------------|--|
| 012 | Number of pins/wires on the right |  |
| 2   | 2                                 |  |
| 4   | 4                                 |  |
| 6   | 6                                 |  |
| 8   | 8                                 |  |
| 9   | 9                                 |  |
| 12  | 12                                |  |
| 14  | 14                                |  |
| 15  | 15                                |  |
| 21  | 21                                |  |
| 24  | 24                                |  |

|     |                                   |  |
|-----|-----------------------------------|--|
| 012 | Number of pins/wires on the right |  |
| 28  | 28                                |  |
| 31  | 31                                |  |
| 013 | Additional connector function     |  |
|     | None                              |  |
| H   | For wall mounting                 |  |
| 014 | Pin allocation                    |  |
|     | Standard                          |  |
| V3  | Variant 3                         |  |

# Datasheet

## General technical data – Connection pattern M12x1, A-coded

|                                                      |                                  |   |                     |
|------------------------------------------------------|----------------------------------|---|---------------------|
| Electrical connection 1, number of connections/cores | 4                                | 8 | 12                  |
| Conforms to standard                                 | DIN 47100; EN 61984              | – | DIN 47100; EN 61984 |
| Cable designation                                    | Without inscription label holder |   |                     |

## Technical data – Electrical connection 1, connection pattern M12x1, A-coded

|                                                      |                                  |
|------------------------------------------------------|----------------------------------|
| Electrical connection 1, connector system            | M12x1, A-coded to EN 61076-2-101 |
| Electrical connection 1, function                    | Field device side                |
| Electrical connection 1, connection type             | Socket, Plug                     |
| Electrical connection 1, cable outlet                | Straight, Angled                 |
| Electrical connection 1, design                      | Round                            |
| Electrical connection 1, number of connections/cores | 4 ... 12                         |
| Electrical connection 1, used connections/cores      | 4 ... 11                         |
| Electrical connection 1, type of mounting            | Screw-type lock, size 14 mm      |

## Technical data – Electrical connection 2, connection pattern M12x1, A-coded

|                                                      |                                                   |
|------------------------------------------------------|---------------------------------------------------|
| Electrical connection 2, function                    | Control side                                      |
| Electrical connection 2, connection type             | Cable, Plug                                       |
| Electrical connection 2, cable outlet                | Straight                                          |
| Electrical connection 2, design                      | Square, Round                                     |
| Electrical connection 2, connector system            | M12x1, A-coded to EN 61076-2-101, Sub-D, Open end |
| Wire ends                                            | Wire ferrule                                      |
| Electrical connection 2, number of connections/cores | 4 ... 15                                          |
| Electrical connection 2, used connections/cores      | 4 ... 11                                          |
| Electrical connection 2, type of mounting            | Screw-type lock with hex A/F18                    |

## Technical data – Electrical, connection pattern M12x1, A-coded

|                                                      |                                  |            |       |             |            |      |
|------------------------------------------------------|----------------------------------|------------|-------|-------------|------------|------|
| Electrical connection 2, connector system            | M12x1, A-coded to EN 61076-2-101 |            | Sub-D |             | Open end   |      |
| Electrical connection 1, number of connections/cores | 4                                | 12         | 8     | 12          | 4          | 8    |
| Nominal operating voltage DC                         | –                                | 24 V       | –     | 24 V        | –          | 24 V |
| Operational voltage range DC                         | 0 ... 250 V                      | 0 ... 30 V | –     | 0 ... 250 V | 0 ... 72 V | –    |
| Nominal operating voltage AC                         | –                                | 24 V       | –     | 24 V        | –          | 24 V |
| Operational voltage range AC                         | 0 ... 250 V                      | 0 ... 30 V | –     | 0 ... 250 V | 0 ... 30 V | –    |
| Current rating at 40° C                              | 4 A                              | 1 A        | –     | 1 A         | 4 A        | –    |
| Pollution degree                                     | 3                                | –          | –     | 3           | –          | –    |

## Datasheet

## Technical data – Cable, connection pattern M12x1, A-coded

|                                                      |                                  |                           |                                                                                              |                                 |                          |                            |                              |
|------------------------------------------------------|----------------------------------|---------------------------|----------------------------------------------------------------------------------------------|---------------------------------|--------------------------|----------------------------|------------------------------|
| Electrical connection 2, connector system            | M12x1, A-coded to EN 61076-2-101 |                           | Sub-D                                                                                        |                                 | Open end                 |                            |                              |
| Electrical connection 2, number of connections/cores | 4                                | 12                        | 9                                                                                            | 15                              | 4                        | 6                          | 8                            |
| Electrical connection 1, number of connections/cores | 4                                | 12                        | 8                                                                                            | 12                              | 4                        | 8                          |                              |
| Cable diameter                                       | 5.9 mm                           | 7 mm                      | 6.5 ... 8.2 mm                                                                               | 7 mm                            | 5.9 mm                   | 6.2 mm                     | 6.8 mm                       |
| Cable characteristic                                 | Suitable for robot applications  |                           | Suitable for energy chains                                                                   | Suitable for robot applications |                          | Suitable for energy chains |                              |
| Bending radius, moving cable                         | ≥60 mm                           | ≥70 mm                    | ≥49 mm                                                                                       | ≥70 mm                          | ≥60 mm                   | ≥62 mm                     | ≥68 mm                       |
| Cable structure                                      | 4 x 0.34 mm <sup>2</sup>         | 12 x 0.14 mm <sup>2</sup> | 3 x (2 x 0.14 mm <sup>2</sup> ) + 2 x (0.5 mm <sup>2</sup> )<br>4 x 2 x 0.14 mm <sup>2</sup> | 12 x 0.14 mm <sup>2</sup>       | 4 x 0.34 mm <sup>2</sup> | 6 x 0.34 mm <sup>2</sup>   | 4 x 2 x 0.14 mm <sup>2</sup> |
| Nominal cross section conductor                      | 0.34 mm <sup>2</sup>             | 0.14 mm <sup>2</sup>      | 0.14 ... 0.5 mm <sup>2</sup>                                                                 | 0.14 mm <sup>2</sup>            | 0.34 mm <sup>2</sup>     |                            | 0.14 mm <sup>2</sup>         |

## Materials – Connection pattern M12x1, A-coded

|                                                      |                                  |    |       |                             |            |   |   |
|------------------------------------------------------|----------------------------------|----|-------|-----------------------------|------------|---|---|
| Materials – Connection pattern M12x1, A-coded        |                                  |    |       |                             |            |   |   |
| Electrical connection 2, connector system            | M12x1, A-coded to EN 61076-2-101 |    | Sub-D |                             | Open end   |   |   |
| Electrical connection 1, number of connections/cores | 4                                | 12 | 8     | 12                          | 4          | 8 |   |
| Material housing                                     | TPE-U(PUR)                       |    | –     |                             | TPE-U(PUR) |   | – |
| Material union nut                                   | –                                |    |       | Nickel-plated die-cast zinc | –          |   |   |
| Material seals                                       | NBR                              |    | –     |                             | NBR        |   | – |
| Material cable sheath                                | TPE-U(PUR)                       |    |       |                             |            |   |   |
| Cable sheath colour                                  | Black                            |    | Grey  | Black                       | Grey       |   |   |
| Material insulating sheath                           | TPE-E                            |    | –     | TPE-E                       | –          |   |   |
| Note on materials                                    | RoHS compliant                   |    |       |                             |            |   |   |
| LABS (PWIS) conformity                               | VDMA24364-B2-L                   |    |       |                             |            |   |   |

## Operating and environmental conditions – connection pattern M12x1, A-coded

|                                                       |                                      |    |                                                 |                                                 |                  |              |
|-------------------------------------------------------|--------------------------------------|----|-------------------------------------------------|-------------------------------------------------|------------------|--------------|
| Electrical connection 2, connector system             | M12x1, A-coded to EN 61076-2-101     |    | Sub-D                                           |                                                 | Open end         |              |
| Electrical connection 1, number of connections/cores  | 4                                    | 12 | 8                                               | 12                                              | 4                | 8            |
| Ambient temperature                                   | -25 ... 80°C                         |    | -50 ... 80°C                                    | -25 ... 80°C                                    |                  | -40 ... 80°C |
| Ambient temperature with moving cable                 | 0 ... 40°C                           |    | -40 ... 75°C                                    | 0 ... 40°C                                      |                  | -5 ... 80°C  |
| Corrosion resistance class CRC <sup>1)</sup>          | 2 - Moderate corrosion stress        |    | 0 - No corrosion stress                         | 2 - Moderate corrosion stress                   |                  | –            |
| CE mark (see declaration of conformity) <sup>2)</sup> | In accordance with EU RoHS Directive |    |                                                 |                                                 |                  |              |
| UKCA marking (see declaration of conformity)          | To UK RoHS instructions              |    |                                                 |                                                 |                  |              |
| Degree of protection                                  | IP67                                 |    | IP65                                            | IP67                                            |                  | IP65         |
| Note on degree of protection                          | In mounted state                     |    | IP30 for Sub-D plug connector, In mounted state | IP50 for Sub-D plug connector, In mounted state | In mounted state |              |

1) More information [www.festo.com/x/topic/crc](http://www.festo.com/x/topic/crc)

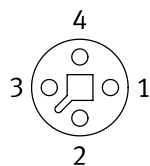
2) More information [www.festo.com/catalogue/... Support/Downloads](http://www.festo.com/catalogue/... Support/Downloads).

## General technical data – Plug pattern M12x1, T-coded

|                   |                               |
|-------------------|-------------------------------|
| Line function     | Power line                    |
| Based on standard | EN 61076-2-111                |
| Cable designation | With inscription label holder |

## Datasheet

## Technical data – Electrical connection 1 – Plug pattern M12x1, T-coded



For HEPP electric grippers.

|                                                      |                                            |
|------------------------------------------------------|--------------------------------------------|
| Electrical connection 1, connector system            | M12x1, T-coded according to EN 61076-2-111 |
| Electrical connection 1, function                    | Field device side                          |
| Electrical connection 1, connection type             | Socket                                     |
| Electrical connection 1, cable outlet                | Straight, Angled                           |
| Electrical connection 1, design                      | Round                                      |
| Electrical connection 1, number of connections/cores | 4                                          |
| Electrical connection 1, used connections/cores      | 4                                          |
| Electrical connection 1, type of mounting            | Screw-type lock                            |
| Electrical connection 1, tightening torque           | 0.4                                        |

## Technical data – Electrical connection 2 – Plug pattern M12x1, T-coded

|                                                      |              |
|------------------------------------------------------|--------------|
| Electrical connection 2, function                    | Control side |
| Electrical connection 2, connection type             | Cable        |
| Electrical connection 2, connector system            | Open end     |
| Wire ends                                            | Stripped     |
| Electrical connection 2, number of connections/cores | 4            |
| Electrical connection 2, used connections/cores      | 4            |

## Technical data – Electrical – Port pattern M12x1, T-coded

|                              |            |
|------------------------------|------------|
| Operational voltage range DC | 0 ... 60 V |
| Immunity to surge            | 1.5 kV     |
| Current rating at 40° C      | 5 A        |
| Pollution degree             | 3          |
| Shielding                    | No         |

## Technical data – cable – plug pattern M12x1, T-coded

|                                 |                                 |
|---------------------------------|---------------------------------|
| Cable diameter                  | 7.5 mm                          |
| Cable diameter tolerance        | ±0.2 mm                         |
| Cable characteristic            | Suitable for robot applications |
| Bending radius, fixed cable     | ≥30 mm                          |
| Bending radius, moving cable    | ≥75 mm                          |
| Test conditions cable           | Test conditions on request      |
| Cable structure                 | 4 x 0.75 mm <sup>2</sup>        |
| Nominal cross section conductor | 0.75 mm <sup>2</sup>            |
| Conductor nominal cross section | AWG19                           |

## Datasheet

## Materials – Plug pattern M12x1, T-coded

|                             |                            |
|-----------------------------|----------------------------|
| Material housing            | TPE-U(PUR)                 |
| Housing colour              | Black                      |
| Cable sheath colour         | Black                      |
| Material insulating sheath  | PVC                        |
| Material screw-type lock    | High-alloy stainless steel |
| Material seals              | HNBR                       |
| Material electrical contact | Gold-plated brass          |
| Note on materials           | RoHS compliant             |
| LABS (PWIS) conformity      | VDMA24364 zone III         |

## Operating and environmental conditions – plug pattern M12x1, T-coded

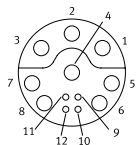
|                                                            |                                      |
|------------------------------------------------------------|--------------------------------------|
| Ambient temperature                                        | -40 ... 80°C                         |
| Ambient temperature with moving cable                      | -20 ... 80°C                         |
| Corrosion resistance class CRC <sup>1)</sup>               | 0 - No corrosion stress              |
| CE mark (see declaration of conformity) <sup>2)</sup>      | In accordance with EU RoHS Directive |
| UKCA marking (see declaration of conformity) <sup>3)</sup> | To UK RoHS instructions              |
| Degree of protection                                       | IP67                                 |
| Note on degree of protection                               | In mounted state                     |

1) More information: [www.festo.com/x/topic/crc](http://www.festo.com/x/topic/crc)

2) More information [www.festo.com/catalogue/pun-h](http://www.festo.com/catalogue/pun-h) → Support/Downloads.

3) More information [www.festo.com/catalogue/pun-h](http://www.festo.com/catalogue/pun-h) → Support/Downloads.

## General technical data – plug pattern M17



Connection cable for stepper motors from the EMMT-ST-42/57/87 and EMMB-ST-42/57/87 product families.

|                   |                                  |
|-------------------|----------------------------------|
| Based on standard | EN 61984                         |
| Cable designation | Without inscription label holder |

## Technical data – Electrical connection 1, plug pattern M17

|                                                      |                   |
|------------------------------------------------------|-------------------|
| Electrical connection 1, connector system            | M17x0.75          |
| Electrical connection 1, function                    | Field device side |
| Electrical connection 1, connection type             | Hybrid socket     |
| Electrical connection 1, cable outlet                | Straight          |
| Electrical connection 1, design                      | Round             |
| Electrical connection 1, number of connections/cores | 12                |
| Electrical connection 1, used connections/cores      | 12                |
| Electrical connection 1, type of mounting            | Screw-type lock   |



## Datasheet

### Technical data – Electrical connection 2, plug pattern M17

|                                                      |              |
|------------------------------------------------------|--------------|
| Electrical connection 2, function                    | Control side |
| Electrical connection 2, connection type             | Cable        |
| Electrical connection 2, cable outlet                | Straight     |
| Electrical connection 2, connector system            | Open end     |
| Wire ends                                            | Wire ferrule |
| Electrical connection 2, number of connections/cores | 12           |
| Electrical connection 2, used connections/cores      | 12           |
| Electrical connection 2, type of mounting            | Plugged in   |

### Technical data – Electrical, plug pattern M17

|                              |                       |
|------------------------------|-----------------------|
| Operational voltage range DC | 0 ... 48 V            |
| Immunity to surge            | 1.5 kV                |
| Overvoltage category         | I                     |
| Current rating at 40° C      | 7.6 A; 11.7 A; 17.8 A |
| Pollution degree             | 3                     |
| Shielding                    | Yes                   |

### Technical data – Cable, plug pattern M17

|                                 |                                                                              |                                                                               |                                                                              |
|---------------------------------|------------------------------------------------------------------------------|-------------------------------------------------------------------------------|------------------------------------------------------------------------------|
| Current rating at 40° C         | 7.6 A                                                                        | 11.7 A                                                                        | 17.8 A                                                                       |
| Cable diameter                  | 10.5 mm                                                                      |                                                                               | 10.8 mm                                                                      |
| Cable diameter tolerance        | ± 0.3 mm                                                                     |                                                                               |                                                                              |
| Cable characteristic            | Suitable for energy chains                                                   |                                                                               |                                                                              |
| Bending radius, fixed cable     | 42 mm                                                                        |                                                                               | 43.2 mm                                                                      |
| Bending radius, moving cable    | 78.75 mm                                                                     |                                                                               | 81 mm                                                                        |
| Test conditions cable           | Test conditions on request                                                   |                                                                               |                                                                              |
| Cable structure                 | 4 x 0.5 mm <sup>2</sup> + 2 x 0.5 mm <sup>2</sup> + 6 x 0.15 mm <sup>2</sup> | 4 x 0.75 mm <sup>2</sup> + 2 x 0.5 mm <sup>2</sup> + 6 x 0.15 mm <sup>2</sup> | 4 x 1.5 mm <sup>2</sup> + 2 x 0.5 mm <sup>2</sup> + 6 x 0.15 mm <sup>2</sup> |
| Nominal cross section conductor | 0.15 mm <sup>2</sup> ; 0.5 mm <sup>2</sup>                                   | 0.15 mm <sup>2</sup> ; 0.5 mm <sup>2</sup> ; 0.75 mm <sup>2</sup>             | 0.15 mm <sup>2</sup> ; 0.5 mm <sup>2</sup> ; 1.5 mm <sup>2</sup>             |

### Materials – Plug pattern M17

|                            |                                 |
|----------------------------|---------------------------------|
| Material cable sheath      | TPE-U(PUR)                      |
| Cable sheath colour        | Grey                            |
| Material insulating sheath | PP                              |
| Note on materials          | RoHS compliant; Free of halogen |
| LABS (PWIS) conformity     | VDMA24364 zone III              |

### Operating and environmental conditions – Plug pattern M17

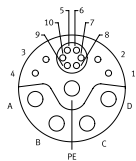
|                                                       |                                      |
|-------------------------------------------------------|--------------------------------------|
| Ambient temperature                                   | -40 ... 90°C                         |
| Ambient temperature with moving cable                 | -25 ... 80°C                         |
| Corrosion resistance class CRC <sup>1)</sup>          | 1 - Low corrosion stress             |
| CE mark (see declaration of conformity) <sup>2)</sup> | In accordance with EU RoHS Directive |
| UKCA marking (see declaration of conformity)          | To UK RoHS instructions              |
| Degree of protection                                  | IP67                                 |
| Note on degree of protection                          | In mounted state                     |

1) More information: [www.festo.com/x/topic/crc](http://www.festo.com/x/topic/crc)

2) More information [www.festo.com/catalogue/...](http://www.festo.com/catalogue/...) Support/Downloads.

## Datasheet

## General technical data – plug pattern M23



Connecting cable for EMMT motors.

|                   |                                  |
|-------------------|----------------------------------|
| Based on standard | EN 61984                         |
| Cable designation | Without inscription label holder |

## Technical data – Electrical connection 1, plug pattern M23

|                                                      |                               |
|------------------------------------------------------|-------------------------------|
| Electrical connection 1, connector system            | M23x1                         |
| Electrical connection 1, function                    | Field device side             |
| Electrical connection 1, connection type             | Hybrid socket                 |
| Electrical connection 1, cable outlet                | Straight                      |
| Electrical connection 1, design                      | Round                         |
| Electrical connection 1, number of connections/cores | 15                            |
| Electrical connection 1, used connections/cores      | 12                            |
| Electrical connection 1, type of mounting            | Snap-locking, Screw-type lock |

## Technical data – Electrical connection 2, plug pattern M23

|                                                      |                   |                    |
|------------------------------------------------------|-------------------|--------------------|
| Electrical connection 2, connector system            | RJ45 and open end | Sub-D and open end |
| Electrical connection 2, function                    | Control side      |                    |
| Electrical connection 2, connection type             | Plugs and cables  | Cable              |
| Electrical connection 2, cable outlet                | Straight          |                    |
| Wire ends                                            | Wire ferrule      |                    |
| Electrical connection 2, number of connections/cores | 14                | 21                 |
| Electrical connection 2, used connections/cores      | 12                |                    |
| Electrical connection 2, type of mounting            | –                 | Plugged in         |

## Technical data – Electrical, plug pattern M23

|                                           |                   |                    |
|-------------------------------------------|-------------------|--------------------|
| Electrical connection 2, connector system | RJ45 and open end | Sub-D and open end |
| Operational voltage range DC              | 0 ... 850 V       |                    |
| Operational voltage range AC              | 0 ... 630 V       |                    |
| Immunity to surge                         | 6 kV              |                    |
| Current rating at 40° C                   | 11.7 ... 23.7 A   | 11.7 ... 17.8 A    |
| Overvoltage category                      | –                 | III                |
| Pollution degree                          | 1; 3              | 3                  |
| Shielding                                 | Yes               |                    |

## Datasheet

## Technical data – Cable, plug pattern M23

|                                 |                                                                                                                             |                                                                                                                            |                                                                                                                           |
|---------------------------------|-----------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|
| Current rating at 40° C         | 11.7 A                                                                                                                      | 17.8 A                                                                                                                     | 23.7 A                                                                                                                    |
| Cable diameter                  | 12 mm                                                                                                                       | 12.8 mm                                                                                                                    | 13.9 mm                                                                                                                   |
| Cable diameter tolerance        | ± 0.3 mm                                                                                                                    |                                                                                                                            |                                                                                                                           |
| Cable characteristic            | Suitable for energy chains                                                                                                  |                                                                                                                            |                                                                                                                           |
| Bending radius, fixed cable     | 48 mm                                                                                                                       | 51.2 mm                                                                                                                    | ≥55.6 mm                                                                                                                  |
| Bending radius, moving cable    | 90 mm                                                                                                                       | 96 mm                                                                                                                      | ≥97.3 mm                                                                                                                  |
| Test conditions cable           | Test conditions on request                                                                                                  |                                                                                                                            |                                                                                                                           |
| Cable structure                 | 4 x 0.75 mm <sup>2</sup> + 1 x (2 x 0.75 mm <sup>2</sup> ) + 1 x (2 x 0.24 mm <sup>2</sup> + 2 x 2 x 0.15 mm <sup>2</sup> ) | 4 x 1.5 mm <sup>2</sup> + 1 x (2 x 0.75 mm <sup>2</sup> ) + 1 x (2 x 0.24 mm <sup>2</sup> + 2 x 2 x 0.15 mm <sup>2</sup> ) | 4 x 2.5 mm <sup>2</sup> + 1 x (2 x 1.0 mm <sup>2</sup> ) + 1 x (2 x 0.24 mm <sup>2</sup> + 2 x 2 x 0.15 mm <sup>2</sup> ) |
| Nominal cross section conductor | 0.15 ... 0.75 mm <sup>2</sup>                                                                                               | 0.15 ... 1.5 mm <sup>2</sup>                                                                                               | 0.15 ... 2.5 mm <sup>2</sup>                                                                                              |

## Materials – Plug pattern M23

|                            |                                 |
|----------------------------|---------------------------------|
| Material cable sheath      | TPE-U(PUR)                      |
| Cable sheath colour        | Grey                            |
| Material insulating sheath | PP                              |
| Note on materials          | RoHS compliant; Free of halogen |
| LABS (PWIS) conformity     | VDMA24364-B2-L                  |

## Operating and environmental conditions – connection pattern M23

|                                                                 |                                                                       |      |      |                    |      |
|-----------------------------------------------------------------|-----------------------------------------------------------------------|------|------|--------------------|------|
| Operating and environmental conditions - connection pattern M25 |                                                                       |      |      |                    |      |
| Electrical connection 2, connector system                       | RJ45 and open end                                                     |      |      | Sub-D and open end |      |
| Current rating at 40° C                                         | 11.7                                                                  | 17.8 | 23.7 | 11.7               | 17.8 |
| Ambient temperature                                             | -40 ... 90°C                                                          |      |      |                    |      |
| Ambient temperature with moving cable                           | -25 ... 80°C                                                          |      |      |                    |      |
| Corrosion resistance class CRC <sup>1)</sup>                    | 1 - Low corrosion stress                                              |      |      |                    |      |
| CE mark (see declaration of conformity) <sup>2)</sup>           | To EU Low Voltage Directive<br>In accordance with EU RoHS Directive   |      |      |                    |      |
| UKCA marking (see declaration of conformity)                    | To UK RoHS instructions<br>To UK regulations for electrical equipment |      |      |                    |      |
| Degree of protection                                            | IP67                                                                  |      |      | IP20; IP67         |      |
| Note on degree of protection                                    | In mounted state                                                      |      |      |                    |      |

1) More information visit [www.festo.com/x/topic/crc](http://www.festo.com/x/topic/crc)

2) More information [www.festo.com/catalogue/... Support/Downloads](http://www.festo.com/catalogue/... Support/Downloads).

## General technical data – Plug pattern M40

|                   |                                  |
|-------------------|----------------------------------|
| Based on standard | EN 61984                         |
| Cable designation | Without inscription label holder |

## Technical data – Electrical connection 1, plug pattern M40

|                                                      |                   |
|------------------------------------------------------|-------------------|
| Electrical connection 1, connector system            | M40x1             |
| Electrical connection 1, function                    | Field device side |
| Electrical connection 1, connection type             | Hybrid socket     |
| Electrical connection 1, cable outlet                | Straight          |
| Electrical connection 1, design                      | Round             |
| Electrical connection 1, number of connections/cores | 15                |
| Electrical connection 1, used connections/cores      | 12                |
| Electrical connection 1, type of mounting            | Snap-locking      |

## Datasheet

## Technical data – Electrical connection 2, plug pattern M40

|                                                      |                   |
|------------------------------------------------------|-------------------|
| Electrical connection 2, function                    | Control side      |
| Electrical connection 2, connection type             | Plugs and cables  |
| Electrical connection 2, cable outlet                | Straight          |
| Electrical connection 2, connector system            | RJ45 and open end |
| Wire ends                                            | Wire ferrule      |
| Electrical connection 2, number of connections/cores | 14                |
| Electrical connection 2, used connections/cores      | 12                |

## Technical data – Electrical, plug pattern M40

|                              |                                                                                                                         |                                                                                                                         |
|------------------------------|-------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|
| Cable structure              | 4 x 4 mm <sup>2</sup> + 1 x (2 x 1.5 mm <sup>2</sup> ) + 1 x (2 x 0.24 mm <sup>2</sup> + 2 x 2 x 0.15 mm <sup>2</sup> ) | 4 x 6 mm <sup>2</sup> + 1 x (2 x 1.5 mm <sup>2</sup> ) + 1 x (2 x 0.24 mm <sup>2</sup> + 2 x 2 x 0.15 mm <sup>2</sup> ) |
| Operational voltage range DC | 0 ... 850 V                                                                                                             |                                                                                                                         |
| Operational voltage range AC | 0 ... 630 V                                                                                                             |                                                                                                                         |
| Immunity to surge            | 6 kV                                                                                                                    |                                                                                                                         |
| Current rating at 40° C      | 31.9 A                                                                                                                  | 40 A                                                                                                                    |
| Pollution degree             | 3                                                                                                                       |                                                                                                                         |

## Technical data – Cable, plug pattern M40

|                              |                                                                                                                         |                                                                                                                         |
|------------------------------|-------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|
| Cable structure              | 4 x 4 mm <sup>2</sup> + 1 x (2 x 1.5 mm <sup>2</sup> ) + 1 x (2 x 0.24 mm <sup>2</sup> + 2 x 2 x 0.15 mm <sup>2</sup> ) | 4 x 6 mm <sup>2</sup> + 1 x (2 x 1.5 mm <sup>2</sup> ) + 1 x (2 x 0.24 mm <sup>2</sup> + 2 x 2 x 0.15 mm <sup>2</sup> ) |
| Cable diameter               | 16.4 mm                                                                                                                 | 18.7 mm                                                                                                                 |
| Cable diameter tolerance     | ± 0.3 mm                                                                                                                |                                                                                                                         |
| Cable characteristic         | Suitable for energy chains                                                                                              |                                                                                                                         |
| Bending radius, fixed cable  | 65.6 mm                                                                                                                 | 74.8 mm                                                                                                                 |
| Bending radius, moving cable | 123 mm                                                                                                                  | 140.25 mm                                                                                                               |
| Test conditions cable        | Test conditions on request                                                                                              |                                                                                                                         |

## Materials – Plug pattern M40

|                            |                                                                                                                         |                                                                                                                         |
|----------------------------|-------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|
| Cable structure            | 4 x 4 mm <sup>2</sup> + 1 x (2 x 1.5 mm <sup>2</sup> ) + 1 x (2 x 0.24 mm <sup>2</sup> + 2 x 2 x 0.15 mm <sup>2</sup> ) | 4 x 6 mm <sup>2</sup> + 1 x (2 x 1.5 mm <sup>2</sup> ) + 1 x (2 x 0.24 mm <sup>2</sup> + 2 x 2 x 0.15 mm <sup>2</sup> ) |
| Material cable sheath      | TPE-U(PUR)                                                                                                              | PUR                                                                                                                     |
| Cable sheath colour        | Grey                                                                                                                    |                                                                                                                         |
| Material insulating sheath | PP                                                                                                                      |                                                                                                                         |
| Note on materials          | RoHS compliant; Free of halogen                                                                                         |                                                                                                                         |
| LABS (PWIS) conformity     | VDMA24364-B2-L                                                                                                          |                                                                                                                         |

## Operating and environmental conditions – Plug pattern M40

|                                                       |                                                                                                                         |                                                                                                                         |
|-------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|
| Cable structure                                       | 4 x 4 mm <sup>2</sup> + 1 x (2 x 1.5 mm <sup>2</sup> ) + 1 x (2 x 0.24 mm <sup>2</sup> + 2 x 2 x 0.15 mm <sup>2</sup> ) | 4 x 6 mm <sup>2</sup> + 1 x (2 x 1.5 mm <sup>2</sup> ) + 1 x (2 x 0.24 mm <sup>2</sup> + 2 x 2 x 0.15 mm <sup>2</sup> ) |
| Ambient temperature                                   | -40 ... 90°C                                                                                                            |                                                                                                                         |
| Ambient temperature with moving cable                 | -25 ... 80°C                                                                                                            |                                                                                                                         |
| Corrosion resistance class CRC <sup>1)</sup>          | 1 - Low corrosion stress                                                                                                |                                                                                                                         |
| CE mark (see declaration of conformity) <sup>2)</sup> | To EU Low Voltage Directive<br>In accordance with EU RoHS Directive                                                     | To EU Low Voltage Directive                                                                                             |
| UKCA marking (see declaration of conformity)          | To UK RoHS instructions<br>To UK regulations for electrical equipment                                                   |                                                                                                                         |
| Degree of protection                                  | IP67                                                                                                                    |                                                                                                                         |
| Note on degree of protection                          | Dependent on the connection block                                                                                       |                                                                                                                         |

1) More information [www.festo.com/x/topic/crc](http://www.festo.com/x/topic/crc)2) More information [www.festo.com/catalogue/... Support/Downloads](http://www.festo.com/catalogue/... Support/Downloads).

## General technical data – Plug pattern L5

|                   |                                  |
|-------------------|----------------------------------|
| Based on standard | EN 61984                         |
| Cable designation | Without inscription label holder |

## Datasheet

### Technical data – Electrical connection 1, plug pattern L5

|                                                      |                       |
|------------------------------------------------------|-----------------------|
| Electrical connection 1, connector system            | Connection pattern L5 |
| Electrical connection 1, function                    | Field device side     |
| Electrical connection 1, connection type             | Hybrid socket         |
| Electrical connection 1, cable outlet                | Straight              |
| Electrical connection 1, design                      | Square                |
| Electrical connection 1, number of connections/cores | 14                    |
| Electrical connection 1, used connections/cores      | 13                    |
| Electrical connection 1, type of mounting            | Snap-locking          |

### Technical data – Electrical connection 2, plug pattern L5

|                                                      |              |
|------------------------------------------------------|--------------|
| Electrical connection 2, function                    | Control side |
| Electrical connection 2, connection type             | Cable        |
| Electrical connection 2, cable outlet                | Straight     |
| Electrical connection 2, connector system            | Open end     |
| Wire ends                                            | Wire ferrule |
| Electrical connection 2, number of connections/cores | 12           |
| Electrical connection 2, used connections/cores      | 12           |
| Electrical connection 2, type of mounting            | Plugged in   |

### Technical data – Electrical, plug pattern L5

|                              |            |
|------------------------------|------------|
| Operational voltage range DC | 0 ... 48 V |
| Immunity to surge            | 1.5 kV     |
| Overvoltage category         | I          |
| Current rating at 40° C      | 7.6 A      |
| Pollution degree             | 3          |
| Shielding                    | Yes        |

### Technical data – Cable, plug pattern L5

|                                 |                                                                              |
|---------------------------------|------------------------------------------------------------------------------|
| Cable diameter                  | 10.5 mm                                                                      |
| Cable diameter tolerance        | ± 0.3 mm                                                                     |
| Cable characteristic            | Suitable for energy chains                                                   |
| Bending radius, fixed cable     | 42 mm                                                                        |
| Bending radius, moving cable    | 78.75 mm                                                                     |
| Test conditions cable           | Test conditions on request                                                   |
| Cable structure                 | 4 x 0.5 mm <sup>2</sup> + 2 x 0.5 mm <sup>2</sup> + 6 x 0.15 mm <sup>2</sup> |
| Nominal cross section conductor | 0.15 mm <sup>2</sup> ; 0.5 mm <sup>2</sup>                                   |

### Materials – Plug pattern L5

|                            |                                 |
|----------------------------|---------------------------------|
| Material cable sheath      | TPE-U(PUR)                      |
| Cable sheath colour        | Grey                            |
| Material insulating sheath | PP                              |
| Note on materials          | RoHS compliant; Free of halogen |
| LABS (PWIS) conformity     | VDMA24364 zone III              |

## Datasheet

## Operating and ambient conditions – Plug pattern L5

|                                                       |                                      |
|-------------------------------------------------------|--------------------------------------|
| Ambient temperature                                   | -40 ... 90°C                         |
| Ambient temperature with moving cable                 | -25 ... 80°C                         |
| Corrosion resistance class CRC <sup>1)</sup>          | 1 - Low corrosion stress             |
| CE mark (see declaration of conformity) <sup>2)</sup> | In accordance with EU RoHS Directive |
| UKCA marking (see declaration of conformity)          | To UK RoHS instructions              |
| Degree of protection                                  | IP20                                 |
| Note on degree of protection                          | In mounted state                     |

1) More information: [www.festo.com/x/topic/crc](http://www.festo.com/x/topic/crc)

2) More information [www.festo.com/catalogue/... Support/Downloads](http://www.festo.com/catalogue/... Support/Downloads).

## General technical data – Plug pattern L10

|                   |                                  |
|-------------------|----------------------------------|
| Based on standard | EN 61984                         |
| Cable designation | Without inscription label holder |

## Technical data – Electrical connection 1, plug pattern L10

|                                                      |                        |
|------------------------------------------------------|------------------------|
| Electrical connection 1, connector system            | Connection pattern L10 |
| Electrical connection 1, function                    | Field device side      |
| Electrical connection 1, connection type             | Hybrid socket          |
| Electrical connection 1, cable outlet                | Straight               |
| Electrical connection 1, design                      | Square                 |
| Electrical connection 1, number of connections/cores | 14                     |
| Electrical connection 1, used connections/cores      | 13                     |
| Electrical connection 1, type of mounting            | Snap-locking           |

## Technical data – Electrical, plug pattern L10

|                              |               |
|------------------------------|---------------|
| Operational voltage range DC | 0 ... 48 V    |
| Immunity to surge            | 1.5 kV        |
| Overvoltage category         | I             |
| Current rating at 40° C      | 7.6 A; 11.7 A |
| Pollution degree             | 3             |
| Shielding                    | Yes           |

## Technical data – Electrical connection 2, plug pattern L10

|                                                      |              |
|------------------------------------------------------|--------------|
| Electrical connection 2, function                    | Control side |
| Electrical connection 2, connection type             | Cable        |
| Electrical connection 2, cable outlet                | Straight     |
| Electrical connection 2, connector system            | Open end     |
| Wire ends                                            | Wire ferrule |
| Electrical connection 2, number of connections/cores | 12           |
| Electrical connection 2, used connections/cores      | 12           |
| Electrical connection 2, type of mounting            | Plugged in   |

## Datasheet

### Technical data – Cable, plug pattern L10

|                                 |                                                                              |                                                                               |
|---------------------------------|------------------------------------------------------------------------------|-------------------------------------------------------------------------------|
| Current rating at 40° C         | 7.6                                                                          | 11.7                                                                          |
| Cable diameter                  | 10.5 mm                                                                      |                                                                               |
| Cable diameter tolerance        | ± 0.3 mm                                                                     |                                                                               |
| Cable characteristic            | Suitable for energy chains                                                   |                                                                               |
| Bending radius, fixed cable     | 42 mm                                                                        |                                                                               |
| Bending radius, moving cable    | 78.75 mm                                                                     |                                                                               |
| Test conditions cable           | Test conditions on request                                                   |                                                                               |
| Cable structure                 | 4 x 0.5 mm <sup>2</sup> + 2 x 0.5 mm <sup>2</sup> + 6 x 0.15 mm <sup>2</sup> | 4 x 0.75 mm <sup>2</sup> + 2 x 0.5 mm <sup>2</sup> + 6 x 0.15 mm <sup>2</sup> |
| Nominal cross section conductor | 0.15 mm <sup>2</sup> ; 0.5 mm <sup>2</sup>                                   | 0.15 mm <sup>2</sup> ; 0.5 mm <sup>2</sup> ; 0.75 mm <sup>2</sup>             |

### Materials – Plug pattern L10

|                            |                                 |
|----------------------------|---------------------------------|
| Material cable sheath      | TPE-U(PUR)                      |
| Cable sheath colour        | Grey                            |
| Material insulating sheath | PP                              |
| Note on materials          | RoHS compliant; Free of halogen |
| LABS (PWIS) conformity     | VDMA24364 zone III              |

### Operating and ambient conditions – Plug pattern L10

|                                                       |                                      |
|-------------------------------------------------------|--------------------------------------|
| Ambient temperature                                   | -40 ... 90°C                         |
| Ambient temperature with moving cable                 | -25 ... 80°C                         |
| Corrosion resistance class CRC <sup>1)</sup>          | 1 - Low corrosion stress             |
| CE mark (see declaration of conformity) <sup>2)</sup> | In accordance with EU RoHS Directive |
| UKCA marking (see declaration of conformity)          | To UK RoHS instructions              |
| Degree of protection                                  | IP20                                 |
| Note on degree of protection                          | In mounted state                     |

1) More information: [www.festo.com/x/topic/crc](http://www.festo.com/x/topic/crc)

2) More information [www.festo.com/catalogue/... Support/Downloads](http://www.festo.com/catalogue/... Support/Downloads).

### General technical data – Plug pattern L15

|                   |                                  |
|-------------------|----------------------------------|
| Cable designation | Without inscription label holder |
|-------------------|----------------------------------|

### Technical data – Electrical connection 1, plug pattern L15

|                                                      |                        |
|------------------------------------------------------|------------------------|
| Electrical connection 1, connector system            | Connection pattern L15 |
| Electrical connection 1, function                    | Field device side      |
| Electrical connection 1, connection type             | 4x socket              |
| Electrical connection 1, cable outlet                | Straight               |
| Electrical connection 1, number of connections/cores | 24                     |
| Electrical connection 1, used connections/cores      | 24                     |

## Datasheet

## Technical data – Electrical connection 2, plug pattern L15

|                                                      |              |
|------------------------------------------------------|--------------|
| Electrical connection 2, function                    | Control side |
| Electrical connection 2, connection type             | 4x cable     |
| Electrical connection 2, connector system            | Open end     |
| Wire ends                                            | Wire ferrule |
| Electrical connection 2, number of connections/cores | 24           |
| Electrical connection 2, used connections/cores      | 24           |

## Technical data – Electrical, plug pattern L15

|                              |      |
|------------------------------|------|
| Nominal operating voltage DC | 24 V |
| Shielding                    | Yes  |

## Technical data – Cable, plug pattern L15

|                                 |                                                             |
|---------------------------------|-------------------------------------------------------------|
| Cable diameter                  | 3.3 ... 4.6 mm                                              |
| Cable characteristic            | Suitable for energy chains                                  |
| Bending radius, fixed cable     | 23.1 mm                                                     |
| Bending radius, moving cable    | 33 mm                                                       |
| Cable structure                 | 2 x 4 x 0.25 mm <sup>2</sup> + 2 x 8 x 0.08 mm <sup>2</sup> |
| Nominal cross section conductor | 0.08 ... 0.25 mm <sup>2</sup>                               |

## Materials – Plug pattern L15

|                        |                    |
|------------------------|--------------------|
| Material cable sheath  | PUR                |
| Note on materials      | RoHS compliant     |
| LABS (PWIS) conformity | VDMA24364 zone III |

## Operating and ambient conditions – Plug pattern L15

|                                                       |                                      |
|-------------------------------------------------------|--------------------------------------|
| Ambient temperature                                   | -30 ... 70°C                         |
| Ambient temperature with moving cable                 | -5 ... 70°C                          |
| Storage temperature                                   | -30 ... 70°C                         |
| Relative air humidity                                 | 0 - 100%                             |
| Nominal altitude of use                               | <= 2000 m NHN                        |
| CE mark (see declaration of conformity) <sup>2)</sup> | In accordance with EU RoHS Directive |
| UKCA marking (see declaration of conformity)          | To UK instructions for EMC           |
| KC mark                                               | KC-EMV                               |

2) More information [www.festo.com/catalogue/...](http://www.festo.com/catalogue/...) Support/Downloads.

## General technical data – Sub-D socket

|                   |                                  |
|-------------------|----------------------------------|
| Cable designation | Without inscription label holder |
|-------------------|----------------------------------|



## Datasheet

### Technical data – Electrical connection 1, Sub-D socket

|                                                      |                   |
|------------------------------------------------------|-------------------|
| Electrical connection 1, connector system            | Sub-D             |
| Electrical connection 1, number of connections/cores | 9 ... 15          |
| Electrical connection 1, function                    | Field device side |
| Electrical connection 1, connection type             | Socket            |
| Electrical connection 1, cable outlet                | Straight, Angled  |
| Electrical connection 1, design                      | Square            |
| Electrical connection 1, used connections/cores      | 6 ... 10          |

### Technical data – Electrical connection 2, Sub-D socket

|                                                      |              |
|------------------------------------------------------|--------------|
| Electrical connection 2, function                    | Control side |
| Electrical connection 2, connection type             | Cable        |
| Electrical connection 2, connector system            | Open end     |
| Wire ends                                            | Wire ferrule |
| Electrical connection 2, number of connections/cores | 6            |
| Electrical connection 2, used connections/cores      | 6            |

### Technical data – Electrical, Sub-D socket

|                              |            |
|------------------------------|------------|
| Nominal operating voltage DC | 24 V       |
| Operational voltage range DC | 0 ... 72 V |

### Technical data – Cable, Sub-D socket

|                                                      |                            |                          |
|------------------------------------------------------|----------------------------|--------------------------|
| Electrical connection 1, number of connections/cores | 9                          | 15                       |
| Cable diameter                                       | 6.2 mm                     | 8 mm                     |
| Cable characteristic                                 | Suitable for energy chains |                          |
| Bending radius, moving cable                         | ≥62 mm                     | ≥80 mm                   |
| Cable structure                                      | 6 x 0.34 mm <sup>2</sup>   | 6 x 0.75 mm <sup>2</sup> |
| Nominal cross section conductor                      | 0.34 mm <sup>2</sup>       | 0.75 mm <sup>2</sup>     |

### Materials – Sub-D socket

|                                                      |                |    |
|------------------------------------------------------|----------------|----|
| Electrical connection 1, number of connections/cores | 9              | 15 |
| Material cable sheath                                | TPE-U(PUR)     |    |
| Cable sheath colour                                  | Grey           |    |
| Material insulating sheath                           | –              | PP |
| Note on materials                                    | RoHS compliant |    |
| LABS (PWIS) conformity                               | VDMA24364-B2-L |    |

## Datasheet

## Environmental and operating conditions – Sub-D socket

|                                                       |                                      |        |                         |        |
|-------------------------------------------------------|--------------------------------------|--------|-------------------------|--------|
| Electrical connection 1, number of connections/cores  | 9                                    |        | 15                      |        |
| Electrical connection 1, cable outlet                 | Straight                             | Angled | Straight                | Angled |
| Ambient temperature                                   | -40 ... 80°C                         |        |                         |        |
| Ambient temperature with moving cable                 | -5 ... 80°C                          |        |                         |        |
| Corrosion resistance class CRC <sup>1)</sup>          | 0 - No corrosion stress              | –      | 0 - No corrosion stress |        |
| CE mark (see declaration of conformity) <sup>2)</sup> | In accordance with EU RoHS Directive |        |                         |        |
| Degree of protection                                  | IP65                                 |        |                         |        |
| Note on degree of protection                          | In mounted state                     |        |                         |        |

1) More information visit [www.festo.com/x/topic/crc](http://www.festo.com/x/topic/crc)

2) More information [www.festo.com/catalogue/... Support/Downloads](http://www.festo.com/catalogue/... Support/Downloads).

## General technical data – Plug pattern ITT M3

|                   |                                  |
|-------------------|----------------------------------|
| Cable designation | Without inscription label holder |
|-------------------|----------------------------------|

## Technical data – Electrical connection 1, plug pattern ITT M3

|                                                      |                   |
|------------------------------------------------------|-------------------|
| Electrical connection 1, connector system            | ITT M3            |
| Electrical connection 1, function                    | Field device side |
| Electrical connection 1, connection type             | Socket            |
| Electrical connection 1, cable outlet                | Straight          |
| Electrical connection 1, design                      | Square            |
| Electrical connection 1, number of connections/cores | 12                |
| Electrical connection 1, used connections/cores      | 8                 |

## Technical data – Electrical connection 2, plug pattern ITT M3

|                                                      |              |
|------------------------------------------------------|--------------|
| Electrical connection 2, function                    | Control side |
| Electrical connection 2, connection type             | Plug         |
| Electrical connection 2, cable outlet                | Straight     |
| Electrical connection 2, design                      | Square       |
| Electrical connection 2, connector system            | Sub-D        |
| Electrical connection 2, number of connections/cores | 15           |
| Electrical connection 2, used connections/cores      | 8            |

## Technical data – Electrical, plug pattern ITT M3

|                              |            |
|------------------------------|------------|
| Nominal operating voltage DC | 24 V       |
| Nominal operating voltage AC | 24 V       |
| Operational voltage range DC | 0 ... 30 V |
| Operational voltage range AC | 0 ... 30 V |

## Datasheet

### Technical data – Cable, plug pattern ITT M3

|                                 |                                                         |
|---------------------------------|---------------------------------------------------------|
| Cable diameter                  | 5.8 mm                                                  |
| Cable characteristic            | Suitable for energy chains                              |
| Bending radius, moving cable    | ≥48 mm                                                  |
| Cable structure                 | 1 x 4 x 0.15 mm <sup>2</sup> + 4 x 0.34 mm <sup>2</sup> |
| Nominal cross section conductor | 0.15 ... 0.34 mm <sup>2</sup>                           |

### Materials – Plug pattern ITT M3

|                        |                |
|------------------------|----------------|
| Note on materials      | RoHS compliant |
| LABS (PWIS) conformity | VDMA24364-B2-L |

### Operating and environmental conditions – Plug pattern ITT M3

|                                                       |                                                 |
|-------------------------------------------------------|-------------------------------------------------|
| Ambient temperature                                   | -40 ... 80°C                                    |
| Ambient temperature with moving cable                 | -10 ... 80°C                                    |
| CE mark (see declaration of conformity) <sup>2)</sup> | In accordance with EU RoHS Directive            |
| Degree of protection                                  | IP65                                            |
| Note on degree of protection                          | IP30 for Sub-D plug connector, In mounted state |

2) More information [www.festo.com/catalogue/...](http://www.festo.com/catalogue/...) Support/Downloads.

### General technical data – Plug pattern H6

|                   |                                  |
|-------------------|----------------------------------|
| Cable designation | Without inscription label holder |
|-------------------|----------------------------------|

### Technical data – Electrical connection 1, plug pattern H6

|                                                      |                                        |
|------------------------------------------------------|----------------------------------------|
| Electrical connection 1, connector system            | Connection pattern H6, coded for motor |
| Electrical connection 1, function                    | Field device side                      |
| Electrical connection 1, connection type             | Socket                                 |
| Electrical connection 1, cable outlet                | Straight                               |
| Electrical connection 1, design                      | Square                                 |
| Electrical connection 1, number of connections/cores | 4                                      |
| Electrical connection 1, used connections/cores      | 4                                      |

### Technical data – Electrical connection 2, plug pattern H6

|                                                      |              |
|------------------------------------------------------|--------------|
| Electrical connection 2, function                    | Control side |
| Electrical connection 2, connection type             | Cable        |
| Electrical connection 2, connector system            | Open end     |
| Wire ends                                            | Wire ferrule |
| Electrical connection 2, number of connections/cores | 4            |
| Electrical connection 2, used connections/cores      | 4            |

### Technical data – Electrical, plug pattern H6

|                              |             |
|------------------------------|-------------|
| Operational voltage range DC | 0 ... 300 V |
| Operational voltage range AC | 0 ... 300 V |
| Immunity to surge            | 2 kV        |
| Current rating at 40° C      | 9.5 A       |
| Pollution degree             | 3           |

## Datasheet

## Technical data – Cable, plug pattern H6

|                                 |                            |
|---------------------------------|----------------------------|
| Cable diameter                  | 7.3 mm                     |
| Cable characteristic            | Suitable for energy chains |
| Bending radius, fixed cable     | ≥55 mm                     |
| Bending radius, moving cable    | ≥55 mm                     |
| Test conditions cable           | Test conditions on request |
| Cable structure                 | 4 x 0.79 mm <sup>2</sup>   |
| Nominal cross section conductor | 0.79 mm <sup>2</sup>       |

## Materials – Plug pattern H6

|                            |                    |
|----------------------------|--------------------|
| Material housing           | Process automation |
| Housing colour             | White              |
| Material cable sheath      | PVC                |
| Cable sheath colour        | Black              |
| Material insulating sheath | PVC                |
| Note on materials          | RoHS compliant     |
| LABS (PWIS) conformity     | VDMA24364 zone III |

## Operating and environmental conditions – plug pattern H6

|                                                       |                                                                       |
|-------------------------------------------------------|-----------------------------------------------------------------------|
| Ambient temperature                                   | -25 ... 90°C                                                          |
| Ambient temperature with moving cable                 | -25 ... 90°C                                                          |
| Corrosion resistance class CRC <sup>1)</sup>          | 0 - No corrosion stress                                               |
| CE mark (see declaration of conformity) <sup>2)</sup> | To EU Low Voltage Directive<br>In accordance with EU RoHS Directive   |
| UKCA marking (see declaration of conformity)          | To UK RoHS instructions<br>To UK regulations for electrical equipment |
| Degree of protection                                  | IP20                                                                  |
| Note on degree of protection                          | In mounted state                                                      |

1) More information visit [www.festo.com/x/topic/crc](http://www.festo.com/x/topic/crc)

2) More information [www.festo.com/catalogue/...](http://www.festo.com/catalogue/...) Support/Downloads.

## General technical data – Plug pattern H7

|                   |                                  |
|-------------------|----------------------------------|
| Cable designation | Without inscription label holder |
|-------------------|----------------------------------|

## Technical data – Electrical connection 1, plug pattern H7

|                                                      |                                              |
|------------------------------------------------------|----------------------------------------------|
| Electrical connection 1, connector system            | Connection pattern H7, coded for motor brake |
| Electrical connection 1, function                    | Field device side                            |
| Electrical connection 1, connection type             | Socket                                       |
| Electrical connection 1, cable outlet                | Straight                                     |
| Electrical connection 1, design                      | Square                                       |
| Electrical connection 1, number of connections/cores | 2                                            |
| Electrical connection 1, used connections/cores      | 2                                            |

## Datasheet

### Technical data – Electrical connection 2, plug pattern H7

|                                                      |              |
|------------------------------------------------------|--------------|
| Electrical connection 2, function                    | Control side |
| Electrical connection 2, connection type             | Cable        |
| Electrical connection 2, connector system            | Open end     |
| Wire ends                                            | Wire ferrule |
| Electrical connection 2, number of connections/cores | 2            |
| Electrical connection 2, used connections/cores      | 2            |

### Technical data – Electrical, plug pattern H7

|                              |            |
|------------------------------|------------|
| Operational voltage range DC | 0 ... 30 V |
| Operational voltage range AC | 0 ... 30 V |
| Immunity to surge            | 2 kV       |
| Current rating at 40° C      | 5 A        |
| Pollution degree             | 3          |

### Technical data – Cable, plug pattern H7

|                                 |                            |
|---------------------------------|----------------------------|
| Cable diameter                  | 5.1 mm                     |
| Cable characteristic            | Suitable for energy chains |
| Bending radius, fixed cable     | ≥27 mm                     |
| Bending radius, moving cable    | ≥55 mm                     |
| Test conditions cable           | Test conditions on request |
| Cable structure                 | 2 x 0.51 mm <sup>2</sup>   |
| Nominal cross section conductor | 0.51 mm <sup>2</sup>       |

### Materials – Plug pattern H7

|                            |                    |
|----------------------------|--------------------|
| Material housing           | Process automation |
| Housing colour             | White              |
| Material cable sheath      | PVC                |
| Cable sheath colour        | Black              |
| Material insulating sheath | PVC                |
| Note on materials          | RoHS compliant     |
| LABS (PWIS) conformity     | VDMA24364 zone III |

### Operating and environmental conditions – Plug pattern H7

|                                                       |                                      |
|-------------------------------------------------------|--------------------------------------|
| Ambient temperature                                   | -40 ... 80°C                         |
| Ambient temperature with moving cable                 | -10 ... 80°C                         |
| Corrosion resistance class CRC <sup>1)</sup>          | 0 - No corrosion stress              |
| CE mark (see declaration of conformity) <sup>2)</sup> | In accordance with EU RoHS Directive |
| Degree of protection                                  | IP20                                 |
| Note on degree of protection                          | In mounted state                     |

1) More information: [www.festo.com/x/topic/crc](http://www.festo.com/x/topic/crc)

2) More information [www.festo.com/catalogue/... Support/Downloads](http://www.festo.com/catalogue/... Support/Downloads).

### General technical data – Connection pattern H17

|                      |                                  |
|----------------------|----------------------------------|
| Cable designation    | Without inscription label holder |
| Overvoltage category | III                              |
| Product weight       | 0.558 ... 2.23 kg                |

## Datasheet

## Technical data – Electrical connection 1, connection pattern H17

|                                                      |                   |
|------------------------------------------------------|-------------------|
| Electrical connection 1, connector system            | M21x1             |
| Electrical connection 1, function                    | Field device side |
| Electrical connection 1, connection type             | Hybrid socket     |
| Electrical connection 1, cable outlet                | Straight          |
| Electrical connection 1, design                      | Round             |
| Electrical connection 1, number of connections/cores | 12                |
| Electrical connection 1, used connections/cores      | 12                |
| Electrical connection 1, type of mounting            | Screw-type lock   |

## Technical data – Electrical connection 2, connection pattern H17

|                                                      |                   |
|------------------------------------------------------|-------------------|
| Electrical connection 1, connector system            | M21x1             |
| Electrical connection 2, function                    | Control side      |
| Electrical connection 2, connection type             | Cable             |
| Electrical connection 2, cable outlet                | Straight          |
| Electrical connection 2, connector system            | RJ45 and open end |
| Wire ends                                            | Wire ferrule      |
| Electrical connection 2, number of connections/cores | 14                |
| Electrical connection 2, used connections/cores      | 12                |
| Electrical connection 2, type of mounting            | Plugged in        |

## Technical data – Electrical, connection pattern H17

|                              |             |
|------------------------------|-------------|
| Operational voltage range DC | 0 ... 850 V |
| Operational voltage range AC | 0 ... 630 V |
| Immunity to surge            | 6 kV        |
| Current rating at 40° C      | 17.8 A      |
| Pollution degree             | 3           |
| Shielding                    | Yes         |

## Technical data – Cable, plug pattern H17

|                                 |                                                                                                                            |
|---------------------------------|----------------------------------------------------------------------------------------------------------------------------|
| Cable diameter                  | 11.5 mm                                                                                                                    |
| Cable length                    | 2.5 ... 10 m                                                                                                               |
| Cable diameter tolerance        | ± 0.3 mm                                                                                                                   |
| Cable characteristic            | Suitable for use in the food industry                                                                                      |
| Bending radius, fixed cable     | 57.5 mm                                                                                                                    |
| Test conditions cable           | Test conditions on request                                                                                                 |
| Cable structure                 | 4 x 1.5 mm <sup>2</sup> + 1 x (2 x 0.75 mm <sup>2</sup> ) + 1 x (2 x 0.24 mm <sup>2</sup> + 2 x 2 x 0.15 mm <sup>2</sup> ) |
| Nominal cross section conductor | 0.15 ... 1.5 mm <sup>2</sup>                                                                                               |

## Datasheet

### Materials – Connection pattern H17

|                            |                                 |
|----------------------------|---------------------------------|
| Material cable sheath      | TPE-E                           |
| Cable sheath colour        | Grey                            |
| Material insulating sheath | PP                              |
| Note on materials          | RoHS compliant; Free of halogen |
| LABS (PWIS) conformity     | VDMA24364-B2-L                  |

### Operating and environmental conditions – Connection pattern H17

|                                                       |                                                                     |
|-------------------------------------------------------|---------------------------------------------------------------------|
| Ambient temperature                                   | -40 ... 90°C                                                        |
| Ambient temperature with moving cable                 | -25 ... 80°C                                                        |
| Corrosion resistance class CRC <sup>1)</sup>          | 4 - Very high corrosion stress                                      |
| CE mark (see declaration of conformity) <sup>2)</sup> | To EU Low Voltage Directive<br>In accordance with EU RoHS Directive |
| Degree of protection                                  | IP20, IP69K                                                         |
| Note on degree of protection                          | In mounted state                                                    |
| UKCA marking (see declaration of conformity)          | To UK RoHS instructions, To UK regulations for electrical equipment |

1) More information [www.festo.com/x/topic/kbk](http://www.festo.com/x/topic/kbk)

2) More information [www.festo.com/catalogue/...](http://www.festo.com/catalogue/...) Support/Downloads.

### General technical data – Plug pattern F1

|                                          |                                  |           |
|------------------------------------------|----------------------------------|-----------|
| Electrical connection 1, connection type | Socket                           | Plug      |
| Conforms to standard                     | –                                | DIN 47100 |
| Frequency of connection                  | 30                               |           |
| Cable designation                        | Without inscription label holder |           |

### Technical data – Electrical connection 1, plug pattern F1

|                                                      |                       |                    |
|------------------------------------------------------|-----------------------|--------------------|
| Electrical connection 1, connection type             | Socket                | Plug               |
| Electrical connection 1, function                    | Field device side     |                    |
| Electrical connection 1, cable outlet                | Angled                | Straight<br>Angled |
| Electrical connection 1, note on cable outlet        | 90°                   |                    |
| Electrical connection 1, design                      | Square                |                    |
| Electrical connection 1, connector system            | Connection pattern F1 |                    |
| Electrical connection 1, number of connections/cores | 31                    |                    |
| Electrical connection 1, used connections/cores      | 31                    |                    |
| Electrical connection 1, type of mounting            | Snap-locking          |                    |

## Datasheet

## Technical data – Electrical connection 2, plug pattern F1

|                                                      |                       |              |
|------------------------------------------------------|-----------------------|--------------|
| Electrical connection 1, connection type             | Socket                | Plug         |
| Electrical connection 2, function                    | Control side          |              |
| Electrical connection 2, connection type             | Socket                | Cable        |
| Electrical connection 2, cable outlet                | Angled                | –            |
| Electrical connection 2, note on cable outlet        | 90°                   | –            |
| Electrical connection 2, design                      | Square                | –            |
| Electrical connection 2, connector system            | Connection pattern F1 | Open end     |
| Wire ends                                            | –                     | Wire ferrule |
| Electrical connection 2, number of connections/cores | 31                    | 14 ... 28    |
| Electrical connection 2, used connections/cores      | 31                    | 14 ... 28    |
| Electrical connection 2, type of mounting            | Snap-locking          | –            |

## Technical data – Electrical, plug pattern F1

|                              |            |
|------------------------------|------------|
| Nominal operating voltage DC | 24 V       |
| Operational voltage range DC | 0 ... 50 V |
| Immunity to surge            | 0.25 kV    |
| Current rating at 40° C      | 0.5 A      |
| Pollution degree             | 1          |

## Technical data – Cable, plug pattern F1

|                                                         |                            |                                                                                                                           |
|---------------------------------------------------------|----------------------------|---------------------------------------------------------------------------------------------------------------------------|
| Electrical connection 1, connection type                | Socket                     | Plug                                                                                                                      |
| Cable diameter                                          | –                          | 4.6 ... 9.9 mm                                                                                                            |
| Cable diameter tolerance                                | –                          | ±0.2 mm                                                                                                                   |
| Cable characteristic                                    | For dynamic applications   | Suitable for energy chains                                                                                                |
| Bending radius, fixed cable                             | 0 mm                       | ≥23.1 mm                                                                                                                  |
| Information on bending radius, fixed cable installation | Can be bent once           | –                                                                                                                         |
| Bending radius, moving cable                            | ≥25 mm                     | ≥33 mm                                                                                                                    |
| Test conditions cable                                   | Test conditions on request |                                                                                                                           |
| Cable structure                                         | 31 x 0.01 mm <sup>2</sup>  | 1 x (6 x 0.35 mm <sup>2</sup> ) + 2 x (4 x 0.15 mm <sup>2</sup> )<br>4 x 0.25 mm <sup>2</sup><br>8 x 0.08 mm <sup>2</sup> |
| Nominal cross section conductor                         | 0.0105 mm <sup>2</sup>     | 0.15 mm <sup>2</sup><br>0.35 mm <sup>2</sup>                                                                              |

## Materials – plug pattern F1

|                                          |                         |                 |
|------------------------------------------|-------------------------|-----------------|
| Electrical connection 1, connection type | Socket                  | Plug            |
| Material housing                         | Process automation      |                 |
| Housing colour                           | Black                   |                 |
| Material electrical contact              | Tin-plated copper alloy |                 |
| Material cable sheath                    | PET                     | PUR; TPE-U(PUR) |
| Cable sheath colour                      | Grey                    | Black           |
| Note on materials                        | RoHS compliant          |                 |



## Datasheet

### Operating and environmental conditions – connection pattern F1

|                                                       |                                      |              |
|-------------------------------------------------------|--------------------------------------|--------------|
| Electrical connection 1, connection type              | Socket                               | Plug         |
| Ambient temperature                                   | -20 ... 75°C                         |              |
| Ambient temperature with moving cable                 | -5 ... 70°C                          |              |
| Storage temperature                                   | -25 ... 55°C                         | -25 ... 70°C |
| Corrosion resistance class CRC <sup>1)</sup>          | 1 - Low corrosion stress             |              |
| CE mark (see declaration of conformity) <sup>2)</sup> | In accordance with EU RoHS Directive |              |
| Degree of protection                                  | IP20                                 |              |
| Note on degree of protection                          | In mounted state                     |              |

1) More information visit [www.festo.com/x/topic/crc](http://www.festo.com/x/topic/crc)

2) More information [www.festo.com/catalogue/... Support/Downloads](http://www.festo.com/catalogue/... Support/Downloads).

### General technical data – Plug pattern RE

|                   |                                  |
|-------------------|----------------------------------|
| Cable designation | Without inscription label holder |
|-------------------|----------------------------------|

### Technical data – Electrical connection 1, plug pattern RE

|                                                      |                       |
|------------------------------------------------------|-----------------------|
| Electrical connection 1, connector system            | Connection pattern RE |
| Electrical connection 1, function                    | Field device side     |
| Electrical connection 1, connection type             | Socket                |
| Electrical connection 1, cable outlet                | Straight              |
| Electrical connection 1, design                      | Square                |
| Electrical connection 1, number of connections/cores | 6                     |
| Electrical connection 1, used connections/cores      | 6                     |

### Technical data – Electrical connection 2, plug pattern RE

|                                                      |                       |
|------------------------------------------------------|-----------------------|
| Electrical connection 2, function                    | Control side          |
| Electrical connection 2, connection type             | Plug                  |
| Electrical connection 2, cable outlet                | Straight              |
| Electrical connection 2, design                      | Square                |
| Electrical connection 2, connector system            | Connection pattern RE |
| Electrical connection 2, number of connections/cores | 6                     |
| Electrical connection 2, used connections/cores      | 6                     |

### Technical data – Electrical, plug pattern RE

|                              |            |
|------------------------------|------------|
| Operational voltage range DC | 0 ... 30 V |
| Operational voltage range AC | 0 ... 30 V |
| Immunity to surge            | 2 kV       |
| Current rating at 40° C      | 1.6 A      |
| Pollution degree             | 3          |

## Datasheet

## Technical data – Cable, plug pattern RE

|                                 |                                                      |
|---------------------------------|------------------------------------------------------|
| Cable diameter                  | 7.4 mm                                               |
| Cable characteristic            | Suitable for energy chains                           |
| Bending radius, fixed cable     | ≥55 mm                                               |
| Bending radius, moving cable    | ≥55 mm                                               |
| Test conditions cable           | Test conditions on request                           |
| Cable structure                 | 2 x 0.51 mm <sup>2</sup> + 4 x 0.205 mm <sup>2</sup> |
| Nominal cross section conductor | 0.205 mm <sup>2</sup><br>0.51 mm <sup>2</sup>        |

## Materials – Plug pattern RE

|                            |                    |
|----------------------------|--------------------|
| Material housing           | PVC                |
| Housing colour             | Grey               |
| Material cable sheath      | PVC                |
| Cable sheath colour        | Black              |
| Material insulating sheath | PVC                |
| Note on materials          | RoHS compliant     |
| LABS (PWIS) conformity     | VDMA24364 zone III |

## Operating and ambient conditions – connection pattern RE

|                                                       |                                      |
|-------------------------------------------------------|--------------------------------------|
| Ambient temperature                                   | -40 ... 80°C                         |
| Ambient temperature with moving cable                 | -10 ... 80°C                         |
| Corrosion resistance class CRC <sup>1)</sup>          | 0 - No corrosion stress              |
| CE mark (see declaration of conformity) <sup>2)</sup> | In accordance with EU RoHS Directive |
| Degree of protection                                  | IP20                                 |
| Note on degree of protection                          | In mounted state                     |

1) More information visit [www.festo.com/x/topic/crc](http://www.festo.com/x/topic/crc)

2) More information [www.festo.com/catalogue/...](http://www.festo.com/catalogue/...) Support/Downloads.

## General technical data – Modular product system

|                                           |                                                         |                   |
|-------------------------------------------|---------------------------------------------------------|-------------------|
| Electrical connection 1, connector system | Connection pattern L10; Connection pattern L5; M17x0.75 | M23x1; M40x1.5    |
| Based on standard                         | EN 61984                                                |                   |
| Electrical connection                     | 12-pin; 14-pin                                          | –                 |
| Cable designation                         | Without inscription label holder                        |                   |
| Product weight                            | 365 ... 1,880 g                                         | 0.199 ... 0.547 g |

## Technical data – Electrical connection 1, modular product system

|                                                      |                                                         |                |
|------------------------------------------------------|---------------------------------------------------------|----------------|
| Electrical connection 1, connector system            | Connection pattern L10; Connection pattern L5; M17x0.75 | M23x1; M40x1.5 |
| Electrical connection 1, function                    | Field device side                                       |                |
| Electrical connection 1, connection type             | Hybrid socket                                           |                |
| Electrical connection 1, cable outlet                | Straight                                                |                |
| Electrical connection 1, design                      | Square; Round                                           | Round          |
| Electrical connection 1, number of connections/cores | 12; 14                                                  | 15             |
| Electrical connection 1, used connections/cores      | 12; 13                                                  | 12             |
| Electrical connection 1, type of mounting            | Snap-locking; Screw-type lock                           | Snap-locking   |

## Datasheet

| Technical data – Electrical connection 2, modular product system |                                                                   |                                   |
|------------------------------------------------------------------|-------------------------------------------------------------------|-----------------------------------|
| Electrical connection 1, connector system                        | Connection pattern L10; Connection pattern L5; M17x0.75           | M23x1; M40x1.5                    |
| Electrical connection 2, function                                | Control side                                                      |                                   |
| Electrical connection 2, connection type                         | Socket; Cable                                                     | Hybrid plug; Cable                |
| Electrical connection 2, cable outlet                            | Straight                                                          |                                   |
| Electrical connection 2, connector system                        | Connection pattern L10; Connection pattern L5; M17x0.75; Open end | M23x1; M40x1.5; RJ45 and open end |
| Wire ends                                                        | Wire ferrule; Crimp pin terminal                                  |                                   |
| Electrical connection 2, number of connections/cores             | 12; 14                                                            | 14; 15                            |
| Electrical connection 2, used connections/cores                  | 12; 13                                                            | 12                                |
| Electrical connection 2, type of mounting                        | Snap-locking; Screw-type lock; Plugged in                         | Snap-locking; Plugged in          |

| Technical data – Electrical, modular product system |                                                         |                |
|-----------------------------------------------------|---------------------------------------------------------|----------------|
| Electrical connection 1, connector system           | Connection pattern L10; Connection pattern L5; M17x0.75 | M23x1; M40x1.5 |
| Operational voltage range DC                        | 0 ... 48 V                                              | 0 ... 850 V    |
| Operational voltage range AC                        | –                                                       | 0 ... 630 V    |
| Immunity to surge                                   | 1.5 kV                                                  | 6 kV           |
| Overvoltage category                                | I                                                       | III            |
| Current rating at 40° C                             | 7.6 ... 17.8 A                                          | 11.7 ... 40 A  |
| Pollution degree                                    | 3                                                       |                |
| Shielding                                           | Yes                                                     |                |

| Technical data - Cables, modular product system |                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|-------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Electrical connection 1, connector system       | Connection pattern L10; Connection pattern L5; M17x0.75                                                                                                                                                                                       | M23x1; M40x1.5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Cable diameter                                  | 10.5 ... 10.8 mm                                                                                                                                                                                                                              | 12 ... 18.7 mm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Cable diameter tolerance                        | ± 0.3 mm                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Cable characteristic                            | Suitable for energy chains                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Bending radius, fixed cable                     | 42 ... 43.2 mm                                                                                                                                                                                                                                | 48 ... 74.8 mm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Bending radius, moving cable                    | 78.75 ... 81 mm                                                                                                                                                                                                                               | 90 ... 140.25 mm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Test conditions cable                           | Test conditions on request                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Cable structure                                 | 4 x 0.5 mm <sup>2</sup> + 2 x 0.5 mm <sup>2</sup> + 6 x 0.15 mm <sup>2</sup><br>4 x 0.75 mm <sup>2</sup> + 2 x 0.5 mm <sup>2</sup> + 6 x 0.15 mm <sup>2</sup><br>4 x 1.5 mm <sup>2</sup> + 2 x 0.5 mm <sup>2</sup> + 6 x 0.15 mm <sup>2</sup> | 4 x 0.75 mm <sup>2</sup> + 1 x (2 x 0.75 mm <sup>2</sup> ) + 1 x (2 x 0.24 mm <sup>2</sup> + 2 x 2 x 0.15 mm <sup>2</sup> )<br>4 x 1.5 mm <sup>2</sup> + 1 x (2 x 0.75 mm <sup>2</sup> ) + 1 x (2 x 0.24 mm <sup>2</sup> + 2 x 2 x 0.15 mm <sup>2</sup> )<br>4 x 2.5 mm <sup>2</sup> + 1 x (2 x 1.0 mm <sup>2</sup> ) + 1 x (2 x 0.24 mm <sup>2</sup> + 2 x 2 x 0.15 mm <sup>2</sup> )<br>4 x 4 mm <sup>2</sup> + 1 x (2 x 1.5 mm <sup>2</sup> ) + 1 x (2 x 0.24 mm <sup>2</sup> + 2 x 2 x 0.15 mm <sup>2</sup> )<br>4 x 6 mm <sup>2</sup> + 1 x (2 x 1.5 mm <sup>2</sup> ) + 1 x (2 x 0.24 mm <sup>2</sup> + 2 x 2 x 0.15 mm <sup>2</sup> ) |
| Nominal cross section conductor                 | 0.15 mm <sup>2</sup> ; 0.5 mm <sup>2</sup> ; 0.75 mm <sup>2</sup> ; 1.5 mm <sup>2</sup>                                                                                                                                                       | 0.15 mm <sup>2</sup> ; 0.24 mm <sup>2</sup> ; 0.75 mm <sup>2</sup> ; 1 mm <sup>2</sup> ; 1.5 mm <sup>2</sup> ; 2.5 mm <sup>2</sup> ; 4 mm <sup>2</sup> ; 6 mm <sup>2</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

| Materials – Modular product system        |                                                         |                |
|-------------------------------------------|---------------------------------------------------------|----------------|
| Electrical connection 1, connector system | Connection pattern L10; Connection pattern L5; M17x0.75 | M23x1; M40x1.5 |
| Material cable sheath                     | TPE-U(PUR)                                              |                |
| Cable sheath colour                       | Grey                                                    |                |
| Material insulating sheath                | PP                                                      |                |
| Note on materials                         | RoHS compliant; Free of halogen                         |                |
| LABS (PWIS) conformity                    | VDMA24364 zone III                                      | VDMA24364-B2-L |

## Datasheet

**Operating and environmental conditions – Modular product system**

|                                                       |                                                         |                                                                       |
|-------------------------------------------------------|---------------------------------------------------------|-----------------------------------------------------------------------|
| Electrical connection 1, connector system             | Connection pattern L10; Connection pattern L5; M17x0.75 | M23x1; M40x1.5                                                        |
| Ambient temperature                                   | -40 ... 90°C                                            |                                                                       |
| Ambient temperature with moving cable                 | -25 ... 80°C                                            |                                                                       |
| Corrosion resistance class CRC <sup>1)</sup>          | 1 - Low corrosion stress                                |                                                                       |
| CE mark (see declaration of conformity) <sup>2)</sup> | In accordance with EU RoHS Directive                    | To EU Low Voltage Directive<br>In accordance with EU RoHS Directive   |
| UKCA marking (see declaration of conformity)          | To UK RoHS instructions                                 | To UK RoHS instructions<br>To UK regulations for electrical equipment |
| Degree of protection                                  | IP20; IP67                                              | IP00; IP20; IP67; IP69K                                               |
| Note on degree of protection                          | In mounted state                                        |                                                                       |

1) More information: [www.festo.com/x/topic/crc](http://www.festo.com/x/topic/crc)

2) More information [www.festo.com/catalogue/...](http://www.festo.com/catalogue/...) Support/Downloads.

## Ordering data

| Plug pattern M12x1, socket A-coded                   |                                       |                                           |                                                      |              |          |                               |
|------------------------------------------------------|---------------------------------------|-------------------------------------------|------------------------------------------------------|--------------|----------|-------------------------------|
| Electrical connection 1, number of connections/cores | Electrical connection 1, cable outlet | Electrical connection 2, connector system | Electrical connection 2, number of connections/cores | Cable length | Part no. | Type                          |
| 4                                                    | Straight                              | M12x1, A-coded to EN 61076-2-101          | 4                                                    | 2.23 m       | 571900   | NEBM-M12G4-RS-2.23-N-M12G4H   |
|                                                      |                                       | Open end                                  |                                                      | 15 m         | 571907   | NEBM-M12G4-RS-15-N-LE4        |
| 8                                                    | Straight                              | Sub-D                                     | 9                                                    | 1 ... 25 m   | 1599108  | NEBM-M12G8-E- -S1G9-V3        |
|                                                      |                                       |                                           |                                                      |              | 550751   | NEBM-M12G8-E- -S1G9           |
|                                                      |                                       |                                           |                                                      | 5 m          | 550748   | NEBM-M12G8-E-5-S1G9           |
|                                                      |                                       |                                           |                                                      |              | 1599105  | NEBM-M12G8-E-5-S1G9-V3        |
|                                                      |                                       |                                           |                                                      | 10 m         | 550749   | NEBM-M12G8-E-10-S1G9          |
|                                                      |                                       |                                           |                                                      |              | 1599106  | NEBM-M12G8-E-10-S1G9-V3       |
|                                                      |                                       |                                           |                                                      | 15 m         | 550750   | NEBM-M12G8-E-15-S1G9          |
|                                                      |                                       |                                           |                                                      |              | 1599107  | NEBM-M12G8-E-15-S1G9-V3       |
|                                                      |                                       |                                           |                                                      | 20 m         | 5105625  | NEBM-M12G8-E-20-S1G9          |
|                                                      |                                       |                                           |                                                      | 25 m         | 5105626  | NEBM-M12G8-E-25-S1G9          |
|                                                      |                                       | Open end                                  | 8                                                    | 1 ... 25 m   | 1451591  | NEBM-M12G8-E- -LE8            |
|                                                      |                                       |                                           |                                                      | 1.5 m        | 1451586  | NEBM-M12G8-E-1.5-LE8          |
|                                                      |                                       |                                           |                                                      | 2.5 m        | 1451587  | NEBM-M12G8-E-2.5-LE8          |
|                                                      |                                       |                                           |                                                      | 5 m          | 1451588  | NEBM-M12G8-E-5-LE8            |
|                                                      |                                       |                                           |                                                      | 7 m          | 1451589  | NEBM-M12G8-E-7-LE8            |
|                                                      |                                       |                                           |                                                      | 10 m         | 1451590  | NEBM-M12G8-E-10-LE8           |
|                                                      |                                       |                                           |                                                      | 1 ... 25 m   | 1451679  | NEBM-M12W8-E- -LE8            |
|                                                      |                                       |                                           |                                                      | 1.5 m        | 1451674  | NEBM-M12W8-E-1.5-LE8          |
|                                                      |                                       |                                           |                                                      | 2.5 m        | 1451675  | NEBM-M12W8-E-2.5-LE8          |
|                                                      |                                       |                                           |                                                      | 5 m          | 1451676  | NEBM-M12W8-E-5-LE8            |
|                                                      |                                       |                                           |                                                      | 7 m          | 1451677  | NEBM-M12W8-E-7-LE8            |
|                                                      |                                       |                                           |                                                      | 10 m         | 1451678  | NEBM-M12W8-E-10-LE8           |
| 12                                                   | Straight                              | M12x1, A-coded to EN 61076-2-101          | 12                                                   | 2.23 m       | 571902   | NEBM-M12G12-RS-2.23-N-M12G12H |
|                                                      |                                       | Sub-D                                     | 15                                                   | 15 m         | 571915   | NEBM-M12G12-RS-15-N-S1G15     |

| Plug pattern M12x1, plug A-coded                     |                                       |                                           |                                                      |              |          |                          |
|------------------------------------------------------|---------------------------------------|-------------------------------------------|------------------------------------------------------|--------------|----------|--------------------------|
| Electrical connection 1, number of connections/cores | Electrical connection 1, cable outlet | Electrical connection 2, connector system | Electrical connection 2, number of connections/cores | Cable length | Part no. | Type                     |
| 8                                                    | Straight                              | Open end                                  | 6                                                    | 1 ... 25 m   | 1449605  | NEBM-SM12G8-E- -Q5-LE6   |
|                                                      |                                       |                                           |                                                      | 1.5 m        | 1449600  | NEBM-SM12G8-E-1.5-Q5-LE6 |
|                                                      |                                       |                                           |                                                      | 2.5 m        | 1449601  | NEBM-SM12G8-E-2.5-Q5-LE6 |
|                                                      |                                       |                                           |                                                      | 5 m          | 1449602  | NEBM-SM12G8-E-5-Q5-LE6   |
|                                                      |                                       |                                           |                                                      | 7 m          | 1449603  | NEBM-SM12G8-E-7-Q5-LE6   |
|                                                      |                                       |                                           |                                                      | 10 m         | 1449604  | NEBM-SM12G8-E-10-Q5-LE6  |
|                                                      |                                       |                                           |                                                      | 15 m         | 5105618  | NEBM-SM12G8-E-15-Q5-LE6  |
|                                                      |                                       |                                           |                                                      | 20 m         | 5105619  | NEBM-SM12G8-E-20-Q5-LE6  |
|                                                      |                                       |                                           |                                                      | 25 m         | 5105620  | NEBM-SM12G8-E-25-Q5-LE6  |

| Plug pattern M12x1, socket T-coded                      |                                          |                                              |                                                         |              |          |                     |
|---------------------------------------------------------|------------------------------------------|----------------------------------------------|---------------------------------------------------------|--------------|----------|---------------------|
| Electrical connection<br>1, number of connections/cores | Electrical connection<br>1, cable outlet | Electrical connection<br>2, connector system | Electrical connection<br>2, number of connections/cores | Cable length | Part no. | Type                |
| 4                                                       | Straight                                 | Open end                                     | 4                                                       | 3 m          | 8140935  | NEBM-T12G4-R-3-LE4  |
|                                                         |                                          |                                              |                                                         | 5 m          | 8140936  | NEBM-T12G4-R-5-LE4  |
|                                                         |                                          |                                              |                                                         | 10 m         | 8140937  | NEBM-T12G4-R-10-LE4 |
|                                                         | Angled                                   |                                              |                                                         | 3 m          | 8140938  | NEBM-T12W4-R-3-LE4  |
|                                                         |                                          |                                              |                                                         | 5 m          | 8140939  | NEBM-T12W4-R-5-LE4  |
|                                                         |                                          |                                              |                                                         | 10 m         | 8140940  | NEBM-T12W4-R-10-LE4 |

## Ordering data

| Connection pattern M17  |                                                                               |              |          |                             |  |
|-------------------------|-------------------------------------------------------------------------------|--------------|----------|-----------------------------|--|
| Current rating at 40° C | Cable structure                                                               | Cable length | Part no. | Type                        |  |
| 7.6 A                   | 4 x 0.5 mm <sup>2</sup> + 2 x 0.5 mm <sup>2</sup> + 6 x 0.15 mm <sup>2</sup>  | 2.5 m        | 8181670  | NEBM-M17G12-EH-2.5-Q6N-LE12 |  |
|                         |                                                                               | 5 m          | 8181668  | NEBM-M17G12-EH-5-Q6N-LE12   |  |
|                         |                                                                               | 7.5 m        | 8190096  | NEBM-M17G12-EH-7.5-Q6N-LE12 |  |
|                         |                                                                               | 10 m         | 8195457  | NEBM-M17G12-EH-10-Q6N-LE12  |  |
| 11.7 A                  | 4 x 0.75 mm <sup>2</sup> + 2 x 0.5 mm <sup>2</sup> + 6 x 0.15 mm <sup>2</sup> | 2.5 m        | 8195458  | NEBM-M17G12-EH-2.5-Q7N-LE12 |  |
|                         |                                                                               | 5 m          | 8195459  | NEBM-M17G12-EH-5-Q7N-LE12   |  |
|                         |                                                                               | 7.5 m        | 8195460  | NEBM-M17G12-EH-7.5-Q7N-LE12 |  |
|                         |                                                                               | 10 m         | 8195461  | NEBM-M17G12-EH-10-Q7N-LE12  |  |
| 17.8 A                  | 4 x 1.5 mm <sup>2</sup> + 2 x 0.5 mm <sup>2</sup> + 6 x 0.15 mm <sup>2</sup>  | 2.5 m        | 8234028  | NEBM-M17G12-EH-2.5-Q9N-LE12 |  |
|                         |                                                                               | 5 m          | 8234029  | NEBM-M17G12-EH-5-Q9N-LE12   |  |
|                         |                                                                               | 7.5 m        | 8234030  | NEBM-M17G12-EH-7.5-Q9N-LE12 |  |
|                         |                                                                               | 10 m         | 8234031  | NEBM-M17G12-EH-10-Q9N-LE12  |  |

| Connection pattern M23                   |                                           |                         |               |          |                                 |
|------------------------------------------|-------------------------------------------|-------------------------|---------------|----------|---------------------------------|
| Electrical connection 1, connection type | Electrical connection 2, connector system | Current rating at 40° C | Cable length  | Part no. | Type                            |
| Hybrid socket                            | RJ45 and open end                         | 11.7 A                  | 0.5 ... 100 m | 5251373  | NEBM-M23G15-EH- -Q7N-R3LEG14    |
|                                          |                                           |                         | 2.5 m         | 5251374  | NEBM-M23G15-EH-2.5-Q7N-R3LEG14  |
|                                          |                                           |                         | 5 m           | 5251375  | NEBM-M23G15-EH-5-Q7N-R3LEG14    |
|                                          |                                           |                         | 7.5 m         | 5251376  | NEBM-M23G15-EH-7.5-Q7N-R3LEG14  |
|                                          |                                           |                         | 10 m          | 5251377  | NEBM-M23G15-EH-10-Q7N-R3LEG14   |
|                                          |                                           |                         | 15 m          | 5251378  | NEBM-M23G15-EH-15-Q7N-R3LEG14   |
|                                          |                                           |                         | 20 m          | 5251379  | NEBM-M23G15-EH-20-Q7N-R3LEG14   |
|                                          |                                           | 17.8 A                  | 0.5 ... 100 m | 5251380  | NEBM-M23G15-EH- -Q9N-R3LEG14    |
|                                          |                                           |                         | 2.5 m         | 5251381  | NEBM-M23G15-EH-2.5-Q9N-R3LEG14  |
|                                          |                                           |                         | 5 m           | 5251382  | NEBM-M23G15-EH-5-Q9N-R3LEG14    |
|                                          |                                           |                         | 7.5 m         | 5251383  | NEBM-M23G15-EH-7.5-Q9N-R3LEG14  |
|                                          |                                           |                         | 10 m          | 5251384  | NEBM-M23G15-EH-10-Q9N-R3LEG14   |
|                                          |                                           |                         | 15 m          | 5251385  | NEBM-M23G15-EH-15-Q9N-R3LEG14   |
|                                          |                                           |                         | 20 m          | 5251386  | NEBM-M23G15-EH-20-Q9N-R3LEG14   |
|                                          |                                           | 23.7 A                  | 0.5 ... 100 m | 5251387  | NEBM-M23G15-EH- -Q10N-R3LEG14   |
|                                          |                                           |                         | 2.5 m         | 5251388  | NEBM-M23G15-EH-2.5-Q10N-R3LEG14 |
|                                          |                                           |                         | 5 m           | 5251389  | NEBM-M23G15-EH-5-Q10N-R3LEG14   |
|                                          |                                           |                         | 7.5 m         | 5251390  | NEBM-M23G15-EH-7.5-Q10N-R3LEG14 |
|                                          |                                           |                         | 10 m          | 5251391  | NEBM-M23G15-EH-10-Q10N-R3LEG14  |
|                                          |                                           |                         | 15 m          | 5251392  | NEBM-M23G15-EH-15-Q10N-R3LEG14  |
|                                          |                                           |                         | 20 m          | 5251393  | NEBM-M23G15-EH-20-Q10N-R3LEG14  |
|                                          | Sub-D and open end                        | 11.7 A                  | 5 m           | 8190885  | NEBM-M23G15-EH-5-Q7N-S1LEG21    |
|                                          |                                           |                         | 7.5 m         | 8190886  | NEBM-M23G15-EH-7.5-Q7N-S1LEG21  |
|                                          |                                           |                         | 10 m          | 8190887  | NEBM-M23G15-EH-10-Q7N-S1LEG21   |
|                                          |                                           | 17.8 A                  | 5 m           | 8190888  | NEBM-M23G15-EH-5-Q9N-S1LEG21    |
|                                          |                                           |                         | 7.5 m         | 8190889  | NEBM-M23G15-EH-7.5-Q9N-S1LEG21  |
|                                          |                                           |                         | 10 m          | 8190890  | NEBM-M23G15-EH-10-Q9N-S1LEG21   |

| Connection pattern M40                   |                                           |                                                                                                                         |               |          |                                 |
|------------------------------------------|-------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|---------------|----------|---------------------------------|
| Electrical connection 1, connection type | Electrical connection 2, connector system | Cable structure                                                                                                         | Cable length  | Part no. | Type                            |
| Hybrid socket                            | RJ45 and open end                         | 4 x 4 mm <sup>2</sup> + 1 x (2 x 1.5 mm <sup>2</sup> ) + 1 x (2 x 0.24 mm <sup>2</sup> ) + 2 x 2 x 0.15 mm <sup>2</sup> | 0.5 ... 100 m | 5251394  | NEBM-M40G15-EH- -Q11N-R3LEG14   |
|                                          |                                           |                                                                                                                         | 2.5 m         | 5251395  | NEBM-M40G15-EH-2.5-Q11N-R3LEG14 |
|                                          |                                           |                                                                                                                         | 5 m           | 5251396  | NEBM-M40G15-EH-5-Q11N-R3LEG14   |
|                                          |                                           |                                                                                                                         | 7.5 m         | 5251397  | NEBM-M40G15-EH-7.5-Q11N-R3LEG14 |
|                                          |                                           |                                                                                                                         | 10 m          | 5251398  | NEBM-M40G15-EH-10-Q11N-R3LEG14  |
|                                          |                                           |                                                                                                                         | 15 m          | 5251399  | NEBM-M40G15-EH-15-Q11N-R3LEG14  |
|                                          |                                           |                                                                                                                         | 20 m          | 5251400  | NEBM-M40G15-EH-20-Q11N-R3LEG14  |
|                                          |                                           | 4 x 6 mm <sup>2</sup> + 1 x (2 x 1.5 mm <sup>2</sup> ) + 1 x (2 x 0.24 mm <sup>2</sup> ) + 2 x 2 x 0.15 mm <sup>2</sup> | 0.5 ... 100 m | 5251401  | NEBM-M40G15-EH- -Q12N-R3LEG14   |

## Ordering data

| Connection pattern L5                     |                                           |              |          |                            |
|-------------------------------------------|-------------------------------------------|--------------|----------|----------------------------|
| Electrical connection 1, connector system | Electrical connection 2, connector system | Cable length | Part no. | Type                       |
| Connection pattern L5                     | Open end                                  | 2.5 m        | 8181675  | NEBM-L5G14-EH-2.5-Q6N-LE12 |
|                                           |                                           | 5 m          | 8181664  | NEBM-L5G14-EH-5-Q6N-LE12   |
|                                           |                                           | 7.5 m        | 8181676  | NEBM-L5G14-EH-7.5-Q6N-LE12 |
|                                           |                                           | 10 m         | 8181672  | NEBM-L5G14-EH-10-Q6N-LE12  |

| Connection pattern L10  |                                                                               |              |          |                             |
|-------------------------|-------------------------------------------------------------------------------|--------------|----------|-----------------------------|
| Current rating at 40° C | Cable structure                                                               | Cable length | Part no. | Type                        |
| 7.6 A                   | 4 x 0.5 mm <sup>2</sup> + 2 x 0.5 mm <sup>2</sup> + 6 x 0.15 mm <sup>2</sup>  | 2.5 m        | 8181677  | NEBM-L10G14-EH-2.5-Q6N-LE12 |
|                         |                                                                               | 5 m          | 8181667  | NEBM-L10G14-EH-5-Q6N-LE12   |
|                         |                                                                               | 7.5 m        | 8181669  | NEBM-L10G14-EH-7.5-Q6N-LE12 |
|                         |                                                                               | 10 m         | 8181665  | NEBM-L10G14-EH-10-Q6N-LE12  |
| 11.7 A                  | 4 x 0.75 mm <sup>2</sup> + 2 x 0.5 mm <sup>2</sup> + 6 x 0.15 mm <sup>2</sup> | 2.5 m        | 8181666  | NEBM-L10G14-EH-2.5-Q7N-LE12 |
|                         |                                                                               | 5 m          | 8181671  | NEBM-L10G14-EH-5-Q7N-LE12   |
|                         |                                                                               | 7.5 m        | 8181674  | NEBM-L10G14-EH-7.5-Q7N-LE12 |
|                         |                                                                               | 10 m         | 8181673  | NEBM-L10G14-EH-10-Q7N-LE12  |

| Connection pattern L15                   |                                           |                                                      |              |          |                        |
|------------------------------------------|-------------------------------------------|------------------------------------------------------|--------------|----------|------------------------|
| Electrical connection 1, connection type | Electrical connection 2, connector system | Electrical connection 2, number of connections/cores | Cable length | Part no. | Type                   |
| 4x socket                                | Open end                                  | 24                                                   | 1 m          | 8178801  | NEBM-L15G24-ES-1-LE24  |
|                                          |                                           |                                                      | 3 m          | 8178802  | NEBM-L15G24-ES-3-LE24  |
|                                          |                                           |                                                      | 5 m          | 8178803  | NEBM-L15G24-ES-5-LE24  |
|                                          |                                           |                                                      | 10 m         | 8178804  | NEBM-L15G24-ES-10-LE24 |

| Sub-D socket                                         |                                       |                                          |                       |                         |                        |         |                         |
|------------------------------------------------------|---------------------------------------|------------------------------------------|-----------------------|-------------------------|------------------------|---------|-------------------------|
| Electrical connection 1, number of connections/cores | Electrical connection 1, cable outlet | Electrical connection 2, connection type | Cable length          | Part no.                | Type                   |         |                         |
| 9                                                    | Straight                              | Cable                                    | 1 ... 25 m            | 1450373                 | NEBM-S1G9-E- -Q5-LE6   |         |                         |
|                                                      |                                       |                                          | 1.5 m                 | 1450368                 | NEBM-S1G9-E-1.5-Q5-LE6 |         |                         |
|                                                      |                                       |                                          | 2.5 m                 | 1450369                 | NEBM-S1G9-E-2.5-Q5-LE6 |         |                         |
|                                                      |                                       |                                          | 5 m                   | 1450370                 | NEBM-S1G9-E-5-Q5-LE6   |         |                         |
|                                                      |                                       |                                          | 7 m                   | 1450371                 | NEBM-S1G9-E-7-Q5-LE6   |         |                         |
|                                                      |                                       |                                          | 10 m                  | 1450372                 | NEBM-S1G9-E-10-Q5-LE6  |         |                         |
|                                                      |                                       |                                          | 15 m                  | 5085055                 | NEBM-S1G9-E-15-Q5-LE6  |         |                         |
|                                                      |                                       |                                          | 20 m                  | 5085056                 | NEBM-S1G9-E-20-Q5-LE6  |         |                         |
|                                                      |                                       |                                          | 25 m                  | 5085057                 | NEBM-S1G9-E-25-Q5-LE6  |         |                         |
|                                                      | Angled                                |                                          | 1 ... 25 m            | 1450741                 | NEBM-S1W9-E- -Q5-LE6   |         |                         |
|                                                      |                                       |                                          | 1.5 m                 | 1450736                 | NEBM-S1W9-E-1.5-Q5-LE6 |         |                         |
|                                                      |                                       |                                          | 2.5 m                 | 1450737                 | NEBM-S1W9-E-2.5-Q5-LE6 |         |                         |
|                                                      |                                       |                                          | 5 m                   | 1450738                 | NEBM-S1W9-E-5-Q5-LE6   |         |                         |
|                                                      |                                       |                                          | 7 m                   | 1450739                 | NEBM-S1W9-E-7-Q5-LE6   |         |                         |
|                                                      |                                       |                                          | 10 m                  | 1450740                 | NEBM-S1W9-E-10-Q5-LE6  |         |                         |
|                                                      |                                       |                                          | 15                    | Straight                | 1 ... 25 m             | 1450839 | NEBM-S1G15-E- -Q7-LE6   |
|                                                      |                                       |                                          |                       |                         | 1.5 m                  | 1450834 | NEBM-S1G15-E-1.5-Q7-LE6 |
|                                                      |                                       |                                          |                       |                         | 2.5 m                  | 1450835 | NEBM-S1G15-E-2.5-Q7-LE6 |
| 5 m                                                  | 1450836                               | NEBM-S1G15-E-5-Q7-LE6                    |                       |                         |                        |         |                         |
| 7 m                                                  | 1450837                               | NEBM-S1G15-E-7-Q7-LE6                    |                       |                         |                        |         |                         |
| 10 m                                                 | 1450838                               | NEBM-S1G15-E-10-Q7-LE6                   |                       |                         |                        |         |                         |
| 15 m                                                 | 5085058                               | NEBM-S1G15-E-15-Q7-LE6                   |                       |                         |                        |         |                         |
| 20 m                                                 | 5085059                               | NEBM-S1G15-E-20-Q7-LE6                   |                       |                         |                        |         |                         |
| 25 m                                                 | 5085060                               | NEBM-S1G15-E-25-Q7-LE6                   |                       |                         |                        |         |                         |
| Angled                                               | 1 ... 25 m                            | 1450948                                  |                       | NEBM-S1W15-E- -Q7-LE6   |                        |         |                         |
|                                                      | 1.5 m                                 | 1450943                                  |                       | NEBM-S1W15-E-1.5-Q7-LE6 |                        |         |                         |
|                                                      | 2.5 m                                 | 1450944                                  |                       | NEBM-S1W15-E-2.5-Q7-LE6 |                        |         |                         |
|                                                      | 5 m                                   | 1450945                                  | NEBM-S1W15-E-5-Q7-LE6 |                         |                        |         |                         |
|                                                      | 7 m                                   | 1450946                                  | NEBM-S1W15-E-7-Q7-LE6 |                         |                        |         |                         |

## Ordering data

| Sub-D socket                                         |                                       |                                          |              |          |                        |
|------------------------------------------------------|---------------------------------------|------------------------------------------|--------------|----------|------------------------|
| Electrical connection 1, number of connections/cores | Electrical connection 1, cable outlet | Electrical connection 2, connection type | Cable length | Part no. | Type                   |
| 15                                                   | Angled                                | Cable                                    | 10 m         | 1450947  | NEBM-S1W15-E-10-Q7-LE6 |

| Connection pattern ITT M3                |                                          |                                           |                                                      |              |                                |
|------------------------------------------|------------------------------------------|-------------------------------------------|------------------------------------------------------|--------------|--------------------------------|
| Electrical connection 1, connection type | Electrical connection 2, connection type | Electrical connection 2, connector system | Electrical connection 2, number of connections/cores | Cable length | Part no. Type                  |
| Socket                                   | Plug                                     | Sub-D                                     | 15                                                   | 20 m         | 5105627 NEBM-T1G8-E-20-N-S1G15 |
|                                          |                                          |                                           |                                                      | 25 m         | 5105628 NEBM-T1G8-E-25-N-S1G15 |

| Connection pattern H6                     |                                          |                                          |                                           |              |                                  |
|-------------------------------------------|------------------------------------------|------------------------------------------|-------------------------------------------|--------------|----------------------------------|
| Electrical connection 1, connector system | Electrical connection 1, connection type | Electrical connection 2, connection type | Electrical connection 2, connector system | Cable length | Part no. Type                    |
| Connection pattern H6, coded for motor    | Socket                                   | Cable                                    | Open end                                  | 2.5 m        | 5219197 NEBM-H6G4-E-2.5-Q13N-LE4 |
|                                           |                                          |                                          |                                           | 5 m          | 5219198 NEBM-H6G4-E-5-Q13N-LE4   |
|                                           |                                          |                                          |                                           | 7.5 m        | 5219199 NEBM-H6G4-E-7.5-Q13N-LE4 |
|                                           |                                          |                                          |                                           | 10 m         | 5219200 NEBM-H6G4-E-10-Q13N-LE4  |
|                                           |                                          |                                          |                                           | 15 m         | 8097203 NEBM-H6G4-E-15-Q13N-LE4  |
|                                           |                                          |                                          |                                           | 20 m         | 8097204 NEBM-H6G4-E-20-Q13N-LE4  |
|                                           |                                          |                                          |                                           | 25 m         | 8097205 NEBM-H6G4-E-25-Q13N-LE4  |

| Connection pattern H7                        |                                          |                                          |                                           |              |                                  |
|----------------------------------------------|------------------------------------------|------------------------------------------|-------------------------------------------|--------------|----------------------------------|
| Electrical connection 1, connector system    | Electrical connection 1, connection type | Electrical connection 2, connection type | Electrical connection 2, connector system | Cable length | Part no. Type                    |
| Connection pattern H7, coded for motor brake | Socket                                   | Cable                                    | Open end                                  | 2.5 m        | 5219205 NEBM-H7G2-E-2.5-Q14N-LE2 |
|                                              |                                          |                                          |                                           | 5 m          | 5219206 NEBM-H7G2-E-5-Q14N-LE2   |
|                                              |                                          |                                          |                                           | 7.5 m        | 5219207 NEBM-H7G2-E-7.5-Q14N-LE2 |
|                                              |                                          |                                          |                                           | 10 m         | 5219208 NEBM-H7G2-E-10-Q14N-LE2  |
|                                              |                                          |                                          |                                           | 15 m         | 8097206 NEBM-H7G2-E-15-Q14N-LE2  |
|                                              |                                          |                                          |                                           | 20 m         | 8097207 NEBM-H7G2-E-20-Q14N-LE2  |
|                                              |                                          |                                          |                                           | 25 m         | 8097208 NEBM-H7G2-E-25-Q14N-LE2  |

| Connection pattern H17                    |                                          |                                           |                                          |              |                                        |
|-------------------------------------------|------------------------------------------|-------------------------------------------|------------------------------------------|--------------|----------------------------------------|
| Electrical connection 1, connector system | Electrical connection 1, connection type | Electrical connection 2, connector system | Electrical connection 2, connection type | Cable length | Part no. Type                          |
| M21x1                                     | Hybrid socket                            | RJ45 and open end                         | Cable                                    | 2.5 m        | 8226143 NEBM-H17G12-FH-2.5-Q9N-R3LEG14 |
|                                           |                                          |                                           |                                          | 5 m          | 8226144 NEBM-H17G12-FH-5-Q9N-R3LEG14   |
|                                           |                                          |                                           |                                          | 10 m         | 8226145 NEBM-H17G12-FH-10-Q9N-R3LEG14  |

| Connection pattern F1                    |                                           |                                                      |              |          |                              |
|------------------------------------------|-------------------------------------------|------------------------------------------------------|--------------|----------|------------------------------|
| Electrical connection 1, connection type | Electrical connection 2, connector system | Electrical connection 2, number of connections/cores | Cable length | Part no. | Type                         |
| Socket                                   | Connection pattern F1                     | 31                                                   | 0.2 m        | 8113317  | NEBM-F1W31-XC-0.2-F1N-DF1W31 |
|                                          |                                           |                                                      | 0.5 m        | 8079819  | NEBM-F1W31-XC-0.5-F1N-DF1W31 |
| Plug                                     | Open end                                  | 14                                                   | 2.6 m        | 5213343  | NEBM-SF1W31-EH-2.6-Q15N-LE14 |
|                                          |                                           |                                                      | 5 m          | 8113308  | NEBM-SF1W31-EH-5-Q15N-LE14   |
|                                          |                                           |                                                      | 10 m         | 8113310  | NEBM-SF1W31-EH-10-Q15N-LE14  |
|                                          |                                           |                                                      |              |          |                              |
|                                          |                                           | 24                                                   | 1 m          | 8219830  | NEBM-SF1W31-E-1-N-LE24       |
|                                          |                                           |                                                      | 3 m          | 8219831  | NEBM-SF1W31-E-3-N-LE24       |
|                                          |                                           |                                                      | 5 m          | 8219832  | NEBM-SF1W31-E-5-N-LE24       |
|                                          |                                           | 28                                                   | 2.6 m        | 5213342  | NEBM-SF1W31-EH-2.6-Q15N-LE28 |
|                                          |                                           |                                                      | 5 m          | 8113307  | NEBM-SF1W31-EH-5-Q15N-LE28   |
|                                          |                                           |                                                      | 10 m         | 8113309  | NEBM-SF1W31-EH-10-Q15N-LE28  |



## Ordering data

| Connection pattern RE                    |                                          |                                           |              |          |                           |
|------------------------------------------|------------------------------------------|-------------------------------------------|--------------|----------|---------------------------|
| Electrical connection 1, connection type | Electrical connection 2, connection type | Electrical connection 2, connector system | Cable length | Part no. | Type                      |
| Socket                                   | Plug                                     | Connection pattern RE                     | 2.5 m        | 5219213  | NEBM-REG6-E-2.5-Q14N-REG6 |
|                                          |                                          |                                           | 5 m          | 5219214  | NEBM-REG6-E-5-Q14N-REG6   |
|                                          |                                          |                                           | 7.5 m        | 5219215  | NEBM-REG6-E-7.5-Q14N-REG6 |
|                                          |                                          |                                           | 10 m         | 5219216  | NEBM-REG6-E-10-Q14N-REG6  |
|                                          |                                          |                                           | 15 m         | 8097200  | NEBM-REG6-E-15-Q14N-REG6  |
|                                          |                                          |                                           | 20 m         | 8097201  | NEBM-REG6-E-20-Q14N-REG6  |
|                                          |                                          |                                           | 25 m         | 8097202  | NEBM-REG6-E-25-Q14N-REG6  |

| Modular product system                                                            |                                                         |                                                                   |                |          |              |
|-----------------------------------------------------------------------------------|---------------------------------------------------------|-------------------------------------------------------------------|----------------|----------|--------------|
|                                                                                   | Electrical connection 1, connector system               | Electrical connection 2, connector system                         | Cable length   | Part no. | Type         |
|  | Connection pattern L10, Connection pattern L5, M17x0.75 | Connection pattern L10, Connection pattern L5, M17x0.75, Open end | 0.5 ... 20 m   | 8181663  | NEBM-LX/M17- |
|                                                                                   | M23x1, M40x1.5                                          | M23x1, M40x1.5, RJ45 and open end                                 | 0.5 ... 99.9 m | 8190874  | NEBM-M23/40  |