

# Connecting cable NEBA-M8G3-U-20-N-LE3

Part number: 8078226

FESTO



 General operating condition

## Data sheet

| Feature                                              | Value                                                                                                                                                                                                                                                                                            |
|------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Conforms to standard                                 | EN 61076-2-104<br>EN 61984                                                                                                                                                                                                                                                                       |
| Approval                                             | c UL us listed (OL)                                                                                                                                                                                                                                                                              |
| Intended use                                         | The connecting cable connects field devices (sensors, actuators) with controllers.                                                                                                                                                                                                               |
| Certificate issuing authority                        | UL E253748                                                                                                                                                                                                                                                                                       |
| Cable designation                                    | Without inscription label holder                                                                                                                                                                                                                                                                 |
| Frequency of connection                              | 100                                                                                                                                                                                                                                                                                              |
| Product weight                                       | 373 g                                                                                                                                                                                                                                                                                            |
| Instructions on use                                  | Meets the requirements of IEC 61010-1 and 61010-2-202, in particular for electrically operated valves from Festo.<br>Only energy-limited circuits with a maximum current of 4 A at a max. open circuit voltage of 30 V DC are permissible for supplying electrically actuated valves from Festo. |
| Electrical connection 1, function                    | Field device side                                                                                                                                                                                                                                                                                |
| Electrical connection 1, design                      | Round                                                                                                                                                                                                                                                                                            |
| Electrical connection 1, connection type             | Socket                                                                                                                                                                                                                                                                                           |
| Electrical connection 1, cable outlet                | Straight                                                                                                                                                                                                                                                                                         |
| Electrical connection 1, connector system            | M8x1, A-coded, to EN 61076-2-104                                                                                                                                                                                                                                                                 |
| Electrical connection 1, number of connections/cores | 3                                                                                                                                                                                                                                                                                                |
| Electrical connection 1, used connections/cores      | 3                                                                                                                                                                                                                                                                                                |
| Electrical connection 1, type of mounting            | Screw-type lock with hexagon A/F 9 mm and longitudinal knurl<br>Rotatable                                                                                                                                                                                                                        |
| Electrical connection 1, compatible type of mounting | Compatible with rotatable/non-rotatable screw-type lock                                                                                                                                                                                                                                          |
| Electrical connection 1, connection pattern          | 00991871                                                                                                                                                                                                                                                                                         |
| Electrical connection 1, terminal allocation         | Pin 1 = BN<br>Pin 3 = BU<br>Pin 4 = BK                                                                                                                                                                                                                                                           |
| Electrical connection 1, display                     | None                                                                                                                                                                                                                                                                                             |
| Electrical connection 2, function                    | Controller side                                                                                                                                                                                                                                                                                  |
| Electrical connection 2, connection type             | Cable                                                                                                                                                                                                                                                                                            |
| Electrical connection 2, connector system            | Open end                                                                                                                                                                                                                                                                                         |
| Electrical connection 2, number of connections/cores | 3                                                                                                                                                                                                                                                                                                |
| Electrical connection 2, used connections/cores      | 3                                                                                                                                                                                                                                                                                                |
| Electrical connection 2, terminal allocation         | Pin 1 = BN<br>Pin 3 = BU<br>Pin 4 = BK                                                                                                                                                                                                                                                           |
| Electrical connection 2, display                     | None                                                                                                                                                                                                                                                                                             |
| Operational voltage range DC                         | 0 V ... 60 V                                                                                                                                                                                                                                                                                     |

| Feature                                                          | Value                                                                                                                                                                                                                 |
|------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Note on operational voltage range DC                             | 0 - 30 V for UL applications                                                                                                                                                                                          |
| Operational voltage range AC                                     | 0 V ... 48 V                                                                                                                                                                                                          |
| Note on operational voltage range AC                             | 0 - 30 V for UL applications                                                                                                                                                                                          |
| Current rating at 40° C                                          | 4 A                                                                                                                                                                                                                   |
| Note on permissible current load at 40°C                         | Observe derating                                                                                                                                                                                                      |
| Immunity to surge                                                | 1.5 kV                                                                                                                                                                                                                |
| Cable length                                                     | 20 m                                                                                                                                                                                                                  |
| Cable characteristic                                             | Suitable for energy chains/robot applications<br>Abrasion-resistant<br>Low adhesion<br>Flame-retardant and self-extinguishing                                                                                         |
| Test conditions cable                                            | Test conditions on request<br>Torsional strength: > 300,000 cycles, ±270°/0.1 m<br>Flexural strength: >50000 cycles, bending radius 5 mm<br>Energy chain: > 5 million cycles, bending radius 28 mm                    |
| Notes on test conditions cable                                   | Tested at 23 °C                                                                                                                                                                                                       |
| Bending radius, fixed cable                                      | ≥12 mm                                                                                                                                                                                                                |
| Bending radius, moving cable                                     | ≥39 mm                                                                                                                                                                                                                |
| Cable diameter                                                   | 3.8 mm                                                                                                                                                                                                                |
| Cable structure                                                  | 3 x 0.25 mm <sup>2</sup>                                                                                                                                                                                              |
| Nominal cross section conductor                                  | 0.25 mm <sup>2</sup>                                                                                                                                                                                                  |
| Wire ends                                                        | Sheath removed<br>Cut off bluntly                                                                                                                                                                                     |
| Degree of protection                                             | IP65<br>IP68<br>IP69K                                                                                                                                                                                                 |
| Note on degree of protection                                     | In assembled state                                                                                                                                                                                                    |
| Special characteristics                                          | UV resistant<br>Hydrolysis-resistant<br>Resistant to cooling lubricants<br>Resistant to microbes<br>Oil resistant<br>Ozone-resistant                                                                                  |
| Outdoor applications                                             | Application areas with direct exposure to outdoor climatic influences<br>Class D1 based on IEC 60654-1                                                                                                                |
| Ambient temperature                                              | -40 °C ... 85 °C                                                                                                                                                                                                      |
| Note on ambient temperature                                      | -40 - 50 °C for UL applications                                                                                                                                                                                       |
| Ambient temperature with moving cable                            | -20 °C ... 85 °C                                                                                                                                                                                                      |
| Note on the ambient temperature with flexible cable installation | -20 - 50 °C for UL applications                                                                                                                                                                                       |
| Storage temperature                                              | -25 °C ... 55 °C                                                                                                                                                                                                      |
| Note on storage temperature                                      | Temporarily during transport in packaging -40 ... 85 °C                                                                                                                                                               |
| Relative air humidity                                            | Max. 93% at 40 °C                                                                                                                                                                                                     |
| Nominal altitude of use                                          | ≤ 2000 m NHN                                                                                                                                                                                                          |
| Overvoltage category                                             | II                                                                                                                                                                                                                    |
| CE mark (see declaration of conformity)                          | In accordance with EU RoHS Directive                                                                                                                                                                                  |
| UKCA marking (see declaration of conformity)                     | To UK RoHS instructions                                                                                                                                                                                               |
| LABS (PWIS) conformity                                           | VDMA24364-B2-L                                                                                                                                                                                                        |
| Suitability for the production of Li-ion batteries               | Metals with more than 1% by mass of copper, zinc or nickel are excluded from use. The exceptions are nickel in steel, chemically nickel-plated surfaces, circuit boards, cables, electrical plug connectors and coils |
| Cleanroom class                                                  | Class 4 according to ISO 14644-1                                                                                                                                                                                      |
| Note on materials                                                | CFC-free<br>RoHS-compliant<br>Cadmium-free<br>Free of halogen<br>Free of phosphoric acid ester                                                                                                                        |
| Pollution degree                                                 | 3                                                                                                                                                                                                                     |
| Note on the contamination level                                  | In mounted state                                                                                                                                                                                                      |
| Corrosion resistance class CRC                                   | 1 - Low corrosion stress                                                                                                                                                                                              |

| Feature                     | Value                        |
|-----------------------------|------------------------------|
| Material cable sheath       | TPE-U(PUR)                   |
| Cable sheath colour         | Grey                         |
| Material housing            | TPE-U(PUR)                   |
| Housing colour              | Black                        |
| Material screw-type lock    | Die-cast zinc, nickel-plated |
| Material seals              | FPM                          |
| Material electrical contact | Gold-plated copper alloy     |
| Material insulating sheath  | PP                           |