

# Connecting cable NEBA-M12G5-U-1-N-M12G5

Part number: 8078275

FESTO



 General operating condition

## Data sheet

| Feature                                               | Value                                                                                                                                                                                                                                                                                                    |
|-------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Conforms to standard                                  | EN 61076-2-101<br>EN 61984                                                                                                                                                                                                                                                                               |
| Certification                                         | c UL us - Listed (OL)                                                                                                                                                                                                                                                                                    |
| Intended use                                          | The connecting cable connects field devices (sensors, actuators) with controllers.                                                                                                                                                                                                                       |
| Explosion prevention and protection                   | Zone 2 (ATEX)<br>Zone 22 (ATEX)                                                                                                                                                                                                                                                                          |
| Certificate issuing authority                         | UL E253748                                                                                                                                                                                                                                                                                               |
| Cable designation                                     | Without label holder                                                                                                                                                                                                                                                                                     |
| Contact durability                                    | 100                                                                                                                                                                                                                                                                                                      |
| Product weight                                        | 47 g                                                                                                                                                                                                                                                                                                     |
| Application note                                      | 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 VDC are permitted to be used for supplying electrically actuated valves from Festo. |
| Electrical connection 1, function                     | Field device end                                                                                                                                                                                                                                                                                         |
| Electrical connection 1, design                       | Round                                                                                                                                                                                                                                                                                                    |
| Electrical connection 1, connection type              | Socket                                                                                                                                                                                                                                                                                                   |
| Electrical connection 1, cable outlet                 | Straight                                                                                                                                                                                                                                                                                                 |
| Electrical connection 1, connection technology        | M12x1 A-coded as per EN 61076-2-101                                                                                                                                                                                                                                                                      |
| Electrical connection 1, number of pins/wires         | 5                                                                                                                                                                                                                                                                                                        |
| Electrical connection 1, occupied pins/wires          | 5                                                                                                                                                                                                                                                                                                        |
| Electrical connection 1, type of mounting             | Screw-type lock with hexagon AF13 and vertical knurling rotatable                                                                                                                                                                                                                                        |
| Electrical connection 1, type of mounting             | Compatible with rotatable/non-rotatable screw lock                                                                                                                                                                                                                                                       |
| Electrical connection for input 1, connection pattern | 00991870                                                                                                                                                                                                                                                                                                 |
| Electrical connection 1, terminal allocation          | Pin 1 = BN<br>Pin 2 = WH<br>Pin 3 = BU<br>Pin 4 = BK<br>Pin 5 = GY                                                                                                                                                                                                                                       |
| Electrical connection 1, display                      | without                                                                                                                                                                                                                                                                                                  |
| Electrical connection 2, function                     | Control side                                                                                                                                                                                                                                                                                             |
| Electrical connection 2, design                       | Round                                                                                                                                                                                                                                                                                                    |
| Electrical connection 2, connection type              | Plug                                                                                                                                                                                                                                                                                                     |
| Electrical connection 2, cable outlet                 | Straight                                                                                                                                                                                                                                                                                                 |
| Electrical connection 2, connection technology        | M12x1 A-coded as per EN 61076-2-101                                                                                                                                                                                                                                                                      |
| Electrical connection 2, number of pins/wires         | 5                                                                                                                                                                                                                                                                                                        |

| Feature                                                      | Value                                                                                                                                                                                              |
|--------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Electrical connection 2, occupied pins/wires                 | 5                                                                                                                                                                                                  |
| Electrical connection 2, type of mounting                    | Screw-type lock with hexagon AF 13 and longitudinal knurl rotatable                                                                                                                                |
| Electrical connection 2, type of mounting                    | Compatible with rotatable/non-rotatable screw lock                                                                                                                                                 |
| Electrical connection 2, connection pattern                  | 00995383                                                                                                                                                                                           |
| Electrical connection 2, terminal allocation                 | Pin 1 = BN<br>Pin 2 = WH<br>Pin 3 = BU<br>Pin 4 = BK<br>Pin 5 = GY                                                                                                                                 |
| Electrical connection 2, display                             | without                                                                                                                                                                                            |
| DC operating voltage range                                   | 0 V ... 60 V                                                                                                                                                                                       |
| Note on operating voltage range DC                           | 0 - 30 V for UL applications<br>NEC/CEC CLASS 2                                                                                                                                                    |
| Operating voltage range AC                                   | 0 V ... 48 V                                                                                                                                                                                       |
| Note on operating voltage range AC                           | 0 - 30 V for UL applications<br>NEC/CEC CLASS 2                                                                                                                                                    |
| Current rating at 40° C                                      | 4 A                                                                                                                                                                                                |
| Note on acceptable current load at 40°C                      | Observe derating                                                                                                                                                                                   |
| Surge resistance                                             | 1.5 kV                                                                                                                                                                                             |
| Cable length                                                 | 1 m                                                                                                                                                                                                |
| Cable characteristic                                         | Suitable for energy chains/robot applications<br>abrasion-resistant<br>low adhesion<br>Flame-retardant and self-extinguishing                                                                      |
| Connector cable test conditions                              | Test conditions on request<br>Torsion resistance: > 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 |
| Note on connector cable test conditions                      | tested at 23 °C                                                                                                                                                                                    |
| Bending radius, fixed cable installation                     | ≥14 mm                                                                                                                                                                                             |
| Bending radius, flexible cable installation                  | ≥46 mm                                                                                                                                                                                             |
| Cable diameter                                               | 4.5 mm                                                                                                                                                                                             |
| Cable design                                                 | 5 x 0.25 mm <sup>2</sup>                                                                                                                                                                           |
| Nominal conductor cross section                              | 0.25 mm <sup>2</sup>                                                                                                                                                                               |
| Degree of protection                                         | IP65<br>IP68<br>IP69K                                                                                                                                                                              |
| Note on degree of protection                                 | In mounted state                                                                                                                                                                                   |
| Special features                                             | UV-resistant<br>hydrolysis resistant<br>Resistant to cooling lubricants<br>Resistant to microbes<br>Oil-resistant<br>Ozone-resistant                                                               |
| Use in exterior area                                         | Locations of use with direct outdoor climatic exposure 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 flexible cable installation         | -20 °C ... 85 °C                                                                                                                                                                                   |
| Note on ambient temperature with flexible cable installation | -20 - 50 °C for UL applications                                                                                                                                                                    |
| Storage temperature                                          | -25 °C ... 55 °C                                                                                                                                                                                   |
| Note on storage temperature                                  | short-term for transport in packaging -40 ... 85 °C                                                                                                                                                |
| Relative air humidity                                        | Max. 93% at 40 °C                                                                                                                                                                                  |
| Nominal altitude of use above sea level                      | ≤ 2000 m NHN                                                                                                                                                                                       |
| Overvoltage category                                         | II                                                                                                                                                                                                 |
| CE marking (see declaration of conformity)                   | As per EU RoHS directive                                                                                                                                                                           |
| UKCA marking (see declaration of conformity)                 | To UK RoHS instructions                                                                                                                                                                            |
| LABS (PWIS) conformity                                       | VDMA24364-B2-L                                                                                                                                                                                     |

| Feature                                            | Value                                                                                       |
|----------------------------------------------------|---------------------------------------------------------------------------------------------|
| Suitability for the production of Li-ion batteries | Suitable for battery production with reduced Cu/Zn/Ni values (F1a)                          |
| Cleanroom class                                    | Class 4 according to ISO 14644-1                                                            |
| Note on materials                                  | CFC-free<br>RoHS-compliant<br>Cadmium-free<br>Halogen-free<br>Free of phosphoric acid ester |
| Contamination level                                | 3                                                                                           |
| Note on the contamination level                    | In mounted state                                                                            |
| Corrosion resistance class (CRC)                   | 1 - Low corrosion stress                                                                    |
| Material of cable sheath                           | TPE-U(PUR)                                                                                  |
| Color cable sheath                                 | Gray                                                                                        |
| Housing material                                   | TPE-U(PUR)                                                                                  |
| Housing colour                                     | Black                                                                                       |
| Material of screw-type lock                        | Die-cast zinc, nickel-plated                                                                |
| Seals material                                     | FPM                                                                                         |
| Material of pin contacts                           | Copper alloy, gold-plated                                                                   |
| Insulating sheath material                         | PP                                                                                          |