

## Technical data sheet

PUR feedback cables · C-track compatible · shielded

### LÜTZE SUPERFLEX® PLUS (C) PUR FEEDBACK

Encoder cables for Siemens and other systems

For highest requirements in drive technology



#### Identification

|                      |                                             |
|----------------------|---------------------------------------------|
| Type                 | SU+(C) PUR FB (2×0,5+3×(2×0,14)+4×0,14) 30V |
| Part No.             | <a href="#">111458</a>                      |
| SIEMENS designation* | 1BD41                                       |

#### Product version

|                   |    |
|-------------------|----|
| Datasheet version | 00 |
|-------------------|----|

#### Use/Application/Properties

|             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Application | <ul style="list-style-type: none"><li>• Incremental encoder cable, termination cable for tacho sensor, brake sensor, speed sensor</li><li>• Through full PUR jacket and TPE conductor insulation optimally suited for c-tracks, extremely harsh operating conditions and aggressive coolants and lubricants</li><li>• Especially for industrial environments in mechanical and system engineering</li></ul>                                                                                                                                                                                                                                                        |
| Properties  | <ul style="list-style-type: none"><li>• High protection against electromagnetic interferences (EMI)</li><li>• Braided shield optimised for continuous flexing use</li><li>• Very good alternating bending strength</li><li>• Low adhesion, abrasion-resistant, nick-resistant, tear-resistant</li><li>• Hydrolysis-resistant, microbe-resistant, and rot-resistant</li><li>• Weathering, ozone and UV resistant (normal lighting conditions)</li><li>• Industrial and salt water resistant</li><li>• Excellent coolant and lubricant resistance</li><li>• Largely resistant to oils, greases, alcohol-free benzines and kerosene</li><li>• Silicone free</li></ul> |

#### Construction

|                                    |                                  |
|------------------------------------|----------------------------------|
| Description                        | SUPERFLEX® PLUS (C) PUR FEEDBACK |
| Number of conductors/cross-section | (2×0.5+3×(2×0.14)+4×0.14)        |
| Number of conductors               | 12                               |
| Cross-section, metric              | 0.5 mm <sup>2</sup>              |

#### United Kingdom: LÜTZE Ltd.

Unit 3, Sandy Hill Park  
Sandy Way, Amington • GB-Tamworth, Staffs B77 4DU  
Tel. +44 (0)1827 31333-0  
[www.lutze.com](http://www.lutze.com) • [sales.gb@lutze.co.uk](mailto:sales.gb@lutze.co.uk)

#### Germany: Friedrich Lütze GmbH

Postfach 12 24 (PLZ 71366) • Bruckwiesenstraße 17-19 • D-71384 Weinstadt  
Tel. +49 (0)7151 6053-0  
[www.luetze.de](http://www.luetze.de) • [info@luetze.de](mailto:info@luetze.de)

31.03.2025 • Subject to technical modification

Part No. [111458](#) • Datasheet version: 00

page 1 of 4

## Technical data sheet

### PUR feedback cables · C-track compatible · shielded

---

|                 |                           |
|-----------------|---------------------------|
| Jacket material | PUR                       |
| Jacket color    | green similar to RAL 6018 |
| Outer Ø         | 8.6 mm                    |
| Outer Ø         | 0.339 inch                |
| Surface         | adhesion-free             |
| Weight          | 12.2 kg/100 m             |
| Weight          | 82 Lbs/Mft                |
| Cu-Index        | 6.1 kg/100 m              |
| Cu-Index        | 41 Lbs/Mft                |

---

#### Construction Element 1

---

|                      |                                                                                                   |
|----------------------|---------------------------------------------------------------------------------------------------|
| Element construction | 2×0.5                                                                                             |
| Conductor            | CU-wire bare                                                                                      |
| Conductor category   | IEC 60228, Class 6<br>Superfinely stranded DIN VDE 0295<br>Class 6                                |
| Conductor marking    | According to system manufacturer                                                                  |
| Conductor insulation | Polyolefin                                                                                        |
| Stranding            | Strands braided together<br>Conductors twisted without mechanical stress<br>Layer pitch optimised |

---

#### Construction Element 2

---

|                      |                                                                                                       |
|----------------------|-------------------------------------------------------------------------------------------------------|
| Element construction | 3×(2×0.14)                                                                                            |
| Conductor            | CU-wire bare                                                                                          |
| Conductor category   | IEC 60228, Class 6<br>Superfinely stranded DIN VDE 0295<br>Class 6                                    |
| Conductor marking    | According to system manufacturer                                                                      |
| Conductor insulation | TPE-E                                                                                                 |
| Stranding            | Conductors stranded in pairs<br>Conductors twisted without mechanical stress<br>Layer pitch optimised |
| Element shielding    | Spiral shield<br>optical cover approx. 90%<br>tinned copper wires                                     |

---

#### Construction Element 3

---

|                      |                                                                                                          |
|----------------------|----------------------------------------------------------------------------------------------------------|
| Element construction | 4×0.14                                                                                                   |
| Conductor            | CU-wire bare                                                                                             |
| Conductor category   | IEC 60228, Class 6<br>DIN EN 13602<br>Superfinely stranded DIN VDE 0295                                  |
| Conductor marking    | According to system manufacturer                                                                         |
| Conductor insulation | Polyolefin                                                                                               |
| Stranding            | Conductors layered construction<br>Conductors twisted without mechanical stress<br>Layer pitch optimised |

---

## Technical data sheet

PUR feedback cables · C-track compatible · shielded

### Overall construction

|                        |                                                                                                                                                |
|------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|
| Overall stranding      | Elements stranded together                                                                                                                     |
| Overall wrapping       | Non-woven material                                                                                                                             |
| Inner jacket           | Special TPE                                                                                                                                    |
| Overall shield         | Braid shield<br>Tinned copper wires<br>Optical cover approx. 85 %                                                                              |
| Jacket characteristics | Flame-retardant<br>Oil resistant<br>Grease-resistant<br>Petrol-resistant (alcohol-free)<br>Kerosene-resistant<br>Silicone free<br>Halogen free |

### Technical data

|                               |                      |
|-------------------------------|----------------------|
| Rated voltage                 | 30 V                 |
| Test voltage type             | AC 500 V             |
| Temperature range moving      | -25 °C ... +80 °C    |
| Temperature range fixed       | -40 °C ... +80 °C    |
| Minimum bending radius moving | 7.5×D                |
| Minimum bending radius fixed  | 5×D                  |
| Bending cycles                | ≥10 Mio              |
| Speed                         | ≤5 m/s               |
| Acceleration                  | ≤50 m/s <sup>2</sup> |
| Torsion                       | ± 30°/m              |

### Technical Data Element 1

|                                   |                 |
|-----------------------------------|-----------------|
| Element construction              | 2×0.5           |
| Insulation resistance at 20 °C    | ≥200 MΩ×km      |
| Operating capacitance wire-wire   | approx.68 pF/m  |
| Operating capacitance wire-shield | approx.122 pF/m |

### Technical Data Element 2

|                                   |                 |
|-----------------------------------|-----------------|
| Element construction              | 3×(2×0.14)      |
| Operating capacitance wire-wire   | approx.147 pF/m |
| Operating capacitance wire-shield | approx.270 pF/m |

### Technical Data Element 3

|                                   |                |
|-----------------------------------|----------------|
| Element construction              | 4×0.14         |
| Operating capacitance wire-wire   | approx.53 pF/m |
| Operating capacitance wire-shield | approx.96 pF/m |

## Technical data sheet

PUR feedback cables · C-track compatible · shielded

---

### Certifications/Standards

---

|                               |                                                                                         |
|-------------------------------|-----------------------------------------------------------------------------------------|
| Certifications                | cURus<br>AWM II A/B                                                                     |
| UL style                      | AWM 20236                                                                               |
| Conformity                    | CE<br>RoHS<br>REACH                                                                     |
| Burning behavior according to | IEC 60332-1<br>DIN EN 60332-1-2<br>VDE 0482 322-1-2<br>UL 1581 part 1080 VW-1<br>UL FT1 |
| Oil resistant according to    | UL 1581<br>HD 22.10                                                                     |
| Halogen free according to     | DIN EN 60754-1<br>IEC 60754-1                                                           |

---

### General

---

|      |                                                                                                                                                            |
|------|------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Note | CE These products are in conformity with the EU Low Voltage Directive 2014/35/EU<br>* SIEMENS article designations are registered trademarks of SIEMENS AG |
|------|------------------------------------------------------------------------------------------------------------------------------------------------------------|