

## M12 male 90° / M12 female 0° A-cod.

PUR AWG24+22 shielded vt UL/CSA+drag ch. 2.2m

DeviceNet, CANopen Male 90° – female straight M12 – M12, 5-pole shielded

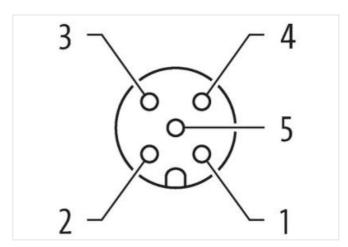
Plastic housings with good resistance against chemicals and oils.

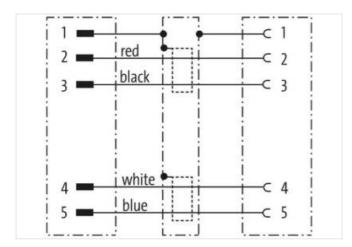
The resistance to aggressive media should be individually tested for your application. Further details on request. Further cable lengths on request.

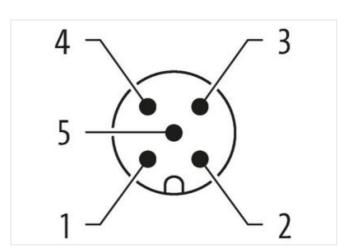
## **Link to Product**

## Illustration



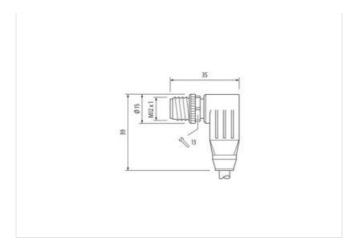


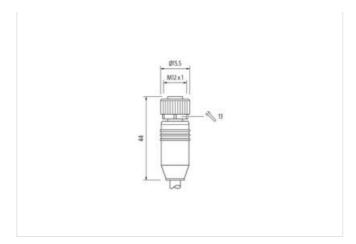






stay connected





Product may differ from Image















CANopen

Cable length	2,2 m
Side 1	
Tightening torque	0,6 Nm
Mounting method	inserted, screwed
Family construction form	M12
Thread	M12 x 1
Coding	A
Material	PUR
Width across flats	SW13
Degree of protection (EN IEC 60529)	IP65, IP66K, IP67
Side 2	
Tightening torque	0,6 Nm
Mounting method	inserted, screwed
Family construction form	M12
Thread	M12 x 1
Coding	A
Material	PUR
Width across flats	SW13
Commercial data	
ECLASS-6.0	27061801
ECLASS-7.0	27061801
ECLASS-8.0	27061801
ECLASS-9.0	27061801
ECLASS-10.1	27060307
ECLASS-11.1	27060307
ECLASS-12.0	27060307
ETIM-5.0	EC001855
customs tariff number	85444290

The information in this Product-PDF has been compiled with the utmost care. Liability for the correctness completeness and topicality of the information is restricted to gross negligence. Version: 2024-06-23



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GTIN	4065909053331
Packaging unit	1
Electrical data   Supply	
Operating voltage AC max.	60 V
Operating voltage DC max.	60 V
Operating voltage AC (UL-listed)	30 V
Operating voltage DC (UL-listed)	30 V
Current operating per contact max.	4 A
Installation   Connection	
Mounting set	M12 x 1
Device protection   Electrical	
Additional condition protection degree	inserted, screwed
Pollution Degree	3
Rated surge voltage	1,5 kV
Material group (IEC 60664-1)	1
Mechanical data	
Contour for corrugated hose	without
Mechanical data   Material data	
Coating locking	Nickeled
Coating of fitting	nickel plated
Locking material	Zinc die-casting
Material screw connection	Zinc die casting Zinc die-casting
Mechanical data   Mounting data	
Mounting method	inserted, screwed, Shaking protection
-	
Environmental characteristics   Climatic	
Operating temperature min.	-25 °C
Operating temperature max.	85 °C
Additional condition temperature range	depending on cable quality
Important installation notes	
Note on strain relief	Protect the connectors by suitable measures from mechanical loads, e.g. by the usage of cable ties.
Note on bending radius	<b>Attention:</b> Observe the permissible bending radii when laying cables, as the IP protection class can be endangered by excessive bending forces.
Installation   Cable	
wire arrangement	(white, blue), (black, red)
Cable identification	803
Jacket Color	violet
Type of Certificate	cURus
Amount stranding	1
Stranding	2 wires twisted
Amount stranding (type 2)	1
Stranding (type 2)	2 Stranded joints twisted
Cable shielding (type)	copper braid, tinned
Cable shielding (coverage)	65 %
Banding	Foil
Drain wire (cross-section)	22 AWG
wire arrangement	(white, blue), (black, red)
Cable weigth	63,12 g/m
Material jacket	PUR
Shore hardness jacket	90 ± 5 Shore A
Freedom from ingredients (jacket)	lead-free, cadmium-free, CFC-free, halogen-free, silicone-free



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Mariest view insulation   PE	Tolerance outer diameter (sheath)	±5%
Amount wires         2           Outer diameter insulation         2, 1 mm           Curred ridimenter insulation         ± 5 %           Shore hardness wire insulation         6 ± 5 Shore D           Incrediffication of training wire insulation         19           Incrediffication (wire)         19           Internet of single wires         24 AWG           Oranductor crosssection (wire)         22 AWG           Drain wire (cross-eaction)         22 AWG           Material conductor wire         Data           Electrical function wire         Data           Material conductor (rosta)         1,5 mm           Tolerance user diameter wire insulation (Data)         1,5 mm           Tolerance user diameter wire insulation (Pata)         1,5 mm           Amount wires (Data)         19           Damoter of single wires (Data)         19           Damoter of single wires (Data)         19           Damoter of single wires (Data)         22 AWG           Cornect tool single wires (Data)         22 AWG           Data (Data (Pat		
Outer dismeter insulation         2,1 mm           Outer dismeter (intranse core insulation)         2.5 %           Since hardness wire insulation         64.5 Shore D           Ingredient freeness wire insulation         64.5 Shore D           Amount stands (were)         19           Dameter of single wires         24 AWG           Conductor crosssection (wire)         24 AWG           Dameter of single wires         24 AWG           Material conductor wire         copper standed wire, timed           Electrical function wire         Data           Material wire insulation (Data)         PE           Outer disameter wire insulation (Data)         1,5 mm           Tolerance outer dismeter wire insulation (Data)         1,5 mm           Ingredient treeness wire insulation (Data)         1,5 mm           Tolerance outer dismeter wire (Data)         22 AWG           Conductor crosssection wire (Data)         19           Dameter of single wires (Data)         22 AWG           Conductor crosssection wire (Data)         24 AWG           Current load capaci		·-
Outer diameter loterance or insulation         4.5 % Store D           Ingredient frenesses wire insulation         6.4 ± Store D           Ingredient frenesses wire insulation         19           Dameter of single wires         24 AWG           Conductor crossasection (wire)         24 AWG           Dameter of single wires         0 AWG           Conductor vires on Conductor vires         0 Data           Malerial conductor vires         0 Data           Malerial vires insulation (Data)         1.5 mm           Tolerance outer diameter vive insulation (Data)         2.7 mm           Ingredient frienness wire insulation (Data)         1.5 mm           Tolerance outer diameter vive insulation (Data)         2.2 WWG           Amount vives (Data)         2.2 WWG           Conductor crossascienton vive (Data)         2.2 WWG           Material conductor vive (Data)         2.2 WWG           Material conductor vive (Data)         6.4 A           Electrical function vive (data)         6.4 A		
Shore hardness wire insulation Ingredient feeness wire insulation (bata) Ingredient feeness wire insulation		·
Ingredient freeness wire insulation   lead free, CFC free, halogen-free		
Amount strands (wire)   19     Diameter of single wire   24 AWG     Drain wire (cross-section (wire)   24 AWG     Drain wire (cross-section)   22 AWG     Drain wire insulation (Data)   Data     Drain wire insulation (Data)   1,5 mm     Tolerance outer diameter wire (Data)   2,2 AWG     Conductor cross-section wire (Data)   2,2 AWG     Conductor cross-section wire (Data)   2,2 AWG     Conductor wire (Data)   2,2 AWG     Current load capacity (standard)   1,5 A G     Current load capacity (standard)   1,		
Dameter of single wires         24 AWG           Conductor prossection (wire)         24 AWG           Drain wire (cross-section)         22 AWG           Material conductor wire         copper stranded wire, tinned           Edestrical function wire         Data           Material wire insulation (Data)         PE           Outer diameter wire insulation (Data)         1,5 mm           Tolerance outer diameter wire insulation (Data)         1,5 mm           Tolerance outer diameter wire insulation (Data)         1,5 mm           Tolerance outer diameter wire insulation (Data)         1,5 mm           Ingerdient treeness wire insulation (Data)         1,5 mm           Tolerance outer diameter wire insulation (Data)         19           Diameter of single wires (Data)         2           Conductor crossection wire (Data)         19           Diameter of single wires (Data)         22 AWG           Material conductor wire (Data)         copper stranded wire, tinned           Electrical function wire (Data)         copper stranded wire, tinned           Electrical function wire (Data)         DN VDE 0298 4           Current load capacity min. Wire (Data)         6 A           Electrical function wire (Data)         A S A           Current load capacity min. Wire (Data)         A S A <td></td> <td></td>		
Conductor crossection (wire)         24 AWG           Drain wire (cross-section)         22 AWG           Material conductor wire         Data           Electrical function wire         Data           Material wire insulation (Data)         1.5 mm           Clour diameter wire insulation (Data)         1.5 mm           Tolerance outer diameter wire insulation (Data)         4.5 %           Ingredient reeness wire insulation (Data)         19           Amount wires (Data)         2           Amount strands wire (Data)         19           Dameter of single wires (Data)         22 AWG           Conductor crosssection wire (Data)         22 AWG           Conductor wire (Data)         22 AWG           Conductor wire (Data)         22 AWG           Conductor crosssection wire (Data)         22 AWG           Conductor wire (Data)         20 AWG           Course (Local Capacity wire)         0 Copper stranded wire, sinned           Electrical function wire (Data)         Power           Nominal voltage AC max         300 V           Current load capacity (standard)         10 DN VDE 0298-4           Current load capacity (standard)         10 DN VDE 0298-4           Electrical function wire (data)         Power           Characteristic imp	· · ·	
Drain wire (cross-section)         22 AWG           Material conductor wire         opper stranded wire, tinned           Electrical function wire         Data           Material wire insulation (Data)         PE           Outer diameter wire insulation (Data)         1.5 mm           Tolerance outer diameter wire insulation (Data)         1.5 mm           Tolerance outer diameter wire insulation (Data)         1.6 mm           Ingestient freeness wire insulation (Data)         1.6 mm           Armount strands wire (Data)         19           Diameter of single wires (Data)         19           Diameter of single wires (Data)         22 AWG           Conductor crosssection wire (Data)         29 poper stranded wire, tinned           Electrical function wire (Data)         20 poper stranded wire, tinned           Electrical function wire (Data)         20 poper stranded wire, tinned           Current load capacity (Standard)         10 IN IVE 0298-4           Current load capacity (Standard)         10 IN IVE 0298-4           Current load capacity (Standard)         10 IN IVE 0298-4           Electrical function wire (Data)         6 A           Electrical function wire (Data)         Power           Electrical function wire (Data)         Power           Electrical function wire (Data)         <		
Material conductor wire		
Electrical function wire         Data           Material wire insulation (Data)         PE           Outer diameter wire insulation (Data)         1.5 mm           Tolerance outer diameter wire insulation (Data)         2.5 %           Ingredient freeness wire insulation (Data)         lead-free, CFC-free, halogen-free           Amount wires (Data)         2           Amount strands wire (Data)         19           Diameter of single wires (Data)         22 AWG           Conductor crosssection wire (Data)         22 AWG           Material conductor wire (Data)         22 AWG           Material conductor wire (Data)         22 AWG           Material conductor wire (Data)         20 poper stranded wire, tinned           Electrical function wire (data)         Power           Current load capacity (strandard)         10 IN VDE 0298-4           Current load capacity min. wire         4.5 A           Current load capacity min. wire (Data)         6 A           Electrical function wire (data)         Power           Characteristic impedance         120 0 ± 10 % @ 1 MHz           Electrical resistance line constant wire         78 D/km           Electrical resistance (wire wire)         24 V/km           AC withstand votage (wire - wire)         24 V/km           Min. operat		
Material wire insulation (Data)         PE           Outor diameter wire insulation (Data)         1.5 mm           Tolerance unter diameter wire insulation (Jata)         ± 53 %           Ingredient freeness wire insulation (Data)         bead-free, CFC-free, halogen-free           Amount wires (Data)         2           Amount wires (Data)         22 AWG           Conductor crosssection wire (Data)         22 AWG           Conductor orossection wire (Data)         22 AWG           Material conductor wire (Data)         22 AWG           Electrical function wire (data)         Power           Nominal voltage AC max.         300 V           Current load capacity (standard)         to DIN VDE 0298-4           Current load capacity (standard)         To	Material conductor wire	copper stranded wire, tinned
Outer diameter wire insulation (Data)         1,5 mm           Tolerance outer diameter wire insulation (data)         ± 53 %           Ingredient Teenses wire insulation (Data)         lead-free, CFC-free, halogen-free           Amount Wires (Data)         2           Amount strands wire (Data)         19           Diameter of Ising wires (Data)         22 AWG           Conductor crosssection wire (Data)         22 AWG           Material conductor wire (Data)         copper stranded wire, tinned           Electrical function wire (data)         Power           Nominal voltage AC max.         300 V           Current load capacity firm, wire         4.5 A           Current load capacity min. Wire (Data)         6 A           Electrical function wire         Data           Electrical strancial function wire         Data           Electrical resistance inne constant wire         78 Ωkm           Electrical resistance lone constant wire         78 Ωkm           Electrical capacitiance coaling wire (Data)         40 W @ 60 s           Electrical resistance (Data)         40 W @ 60 s           Electrical resistance (Sapacitiance         40 ° C           Min. operating temperature (Kood)         80 ° C           Operating temperature max. (dynamic)         70 ° C <td< td=""><td>Electrical function wire</td><td>Data</td></td<>	Electrical function wire	Data
Tolerance outer diameter wire insulation (data)   153 %   10   10   10   10   10   10   10	Material wire insulation (Data)	PE
Ingredient freeness wire insulation (Data)   lead-free, CFC-free, halogen-free	Outer diameter wire insulation (Data)	1,5 mm
Amount wires (Data)         2           Amount strands wire (Data)         19           Diameter of single wires (Data)         22 AWG           Conductor crossection wire (Data)         22 AWG           Material conductor wire (Data)         copper stranded wire, tinned           Electrical function wire (data)         Power           Nominal voitage AC max.         300 V           Current load capacity (standard)         to DIN VDE 0298-4           Current load capacity min. Wire (Data)         6 A           Electrical function wire (data)         Power           Current load capacity min. Wire (Data)         6 A           Electrical function wire (data)         Power           Characteristic impedance         120 Ω ± 10 % @ 1 MHz           Electrical resistance ine constant wire         78 Ω/km           Electrical resistance coating wire (Data)         54 Ω/km           AC withstand voltage (wire - shield)         2 k V @ 60 s           Electrical resistance voltage (wire - shield)         2 k V @ 60 s           Min. operating temperature (static)         -40 °C           Max. operating temperature (static)         -40 °C           Max. operating temperature mix. (dynamic)         70 °C           Filame resistance         Good, application-related testing           <	Tolerance outer diameter wire insulation (data)	± 53 %
Amount strands wire (Data)         19           Diameter of single wires (Data)         22 AWG           Conductor crosssection wire (Data)         22 AWG           Material conductor wire (Data)         copper stranded wire, tinned           Electrical function wire (data)         Power           Nominal voltage AC max.         300 V           Current load capacity (standard)         10 DIN VDE 0298-4           Current load capacity (sin, wire         4,5 A           Current load capacity min, wire         4,5 A           Circent load capacity min, wire (Data)         6 A           Electrical function wire (data)         Power           Characteristic impedance         120 Ω ± 10 % @ 1 MHz           Electrical resistance conting wire (Data)         78 O/km           Electrical resistance coating wire (Data)         54 O/km           AC withstand voltage (wire - wire)         2 kV @ 60 s           Electrical particulance coating wire (Data)         2 kV @ 60 s           Min. operating temperature (fixed)         2 kV @ 60 s           Max. operating temperature (fixed)         80 °C           Operating temperature (fixed)         30 °C           Operating temperature (fixed)         00 °C           Gasoline resistance         Good, application-related testing <t< td=""><td>Ingredient freeness wire insulation (Data)</td><td>lead-free, CFC-free, halogen-free</td></t<>	Ingredient freeness wire insulation (Data)	lead-free, CFC-free, halogen-free
Diameter of single wires (Data)         22 AWG           Conductor crosssection wire (Data)         22 AWG           Material conductor wire (Data)         copper stranded wire, finned           Electrical function wire (data)         Power           Nominal voltage AC max.         300 V           Current load capacity (standard)         to DIN VDE 0298-4           Current load capacity min. wire         4,5 A           Current load capacity min. Wire (Data)         6 A           Electrical function wire (data)         Power           Characteristic impedance         120 Ω ± 10 % @ 1 MHz           Electrical resistance line constant wire         78 Ω/km           Electrical resistance coating wire (Data)         54 Ω/km           AC withstand voltage (wire - wire)         2 kV @ 60 s           Electric capacitance         400000 pF/km           AC withstand voltage (wire - shield)         2 kV @ 60 s           Min. operating temperature (static)         -40 °C           Max. operating temperature (static)         -30 °C           Operating temperature min. (dynamic)         -30 °C           Operating temperature max. (dynamic)         70 °C           Flame resistance         Good, application-related testing           Oil resistance         DIN EN 60811-404 [Good, application-related testing<	Amount wires (Data)	2
Conductor crosssection wire (Data)         22 AWG           Material conductor wire (Data)         copper stranded wire, tinned           Electrical function wire (data)         Power           Nominal voltage AC max.         300 V           Current load capacity (standard)         to DIN VDE 0298-4           Current load capacity min. wire         4.5 A           Current load capacity min. Wire (Data)         6 A           Electrical function wire (data)         Data           Electrical function wire (data)         Power           Characteristic impedance         120 Ω ± 10 % @ 1 MHz           Electrical resistance constant wire         78 Ωkm           Electrical resistance coating wire (Data)         54 Ωkm           AC withstand voltage (wire - wire)         2 kV @ 60 s           Electrical capacitance         4000 pF/km           AC withstand voltage (wire - shield)         2 kV @ 60 s           Min. operating temperature (static)         -40 °C           Max. operating temperature (static)         -40 °C           Max. operating temperature (static)         70 °C           Operating temperature min. (dynamic)         70 °C           Operating temperature min. (dynamic)         70 °C           Flame resistance         UL 1581 § 1100 FT2   IEC 60332-2-2   UL 1581 § 1090	Amount strands wire (Data)	19
Material conductor wire (Data)         copper stranded wire, tinned           Electrical function wire (data)         Power           Nominal voltage AC max.         300 V           Current load capacity (standard)         to DIN VDE 0298-4           Current load capacity min. wire         4.5 A           Current load capacity min. Wire (Data)         6 A           Electrical function wire         Data           Electrical function wire (data)         Power           Characteristic impedance         120 Ω ± 10 % @ 1 MHz           Electrical resistance line constant wire         78 Ω/km           Electrical resistance coating wire (Data)         54 Mm           AC withstand voltage (wire - wire)         2 kV @ 60 s           Electric capacitance         40000 pF/km           AC withstand voltage (wire - shield)         2 kV @ 60 s           Min. operating temperature (static)         40 °C           Max. operating temperature (fixed)         80 °C           Operating temperature min. (dynamic)         30 °C           Operating temperature max. (dynamic)         70 °C           Flame resistance         U1 1581 § 1100 FT2   IEC 60332-2-2   UL 1581 § 1090           chemical resistance         Good, application-related testing           Gasoline resistance         Good, application-related testin	Diameter of single wires (Data)	22 AWG
Electrical function wire (data)         Power           Nominal voltage AC max.         300 V           Current load capacity (standard)         to DIN VDE 0298-4           Current load capacity min. wire         4.5 A           Current load capacity min. Wire (Data)         6 A           Electrical function wire (data)         Data           Electrical function wire (data)         Power           Characteristic impedance         120 0± 10 % @ 1 MHz           Electrical resistance line constant wire         78 Ω/km           Electrical resistance coating wire (Data)         54 Ω/km           AC withstand voltage (wire - wire)         2 kV @ 60 s           Electric apacitance         40000 pFkm           AC withstand voltage (wire - shield)         2 kV @ 60 s           Min. operating temperature (static)         40 °C           Max. operating temperature (static)         40 °C           Max. operating temperature max. (dynamic)         -30 °C           Operating temperature max. (dynamic)         70 °C           Flame resistance         UL 1581 § 1100 FT2   IEC 60332-2-2   UL 1581 § 1090           chemical resistance         Good, application-related testing           Oil resistance         Good, application-related testing           Oil resistance         Good, application-related testing <td>Conductor crosssection wire (Data)</td> <td>22 AWG</td>	Conductor crosssection wire (Data)	22 AWG
Nominal voltage AC max.         300 V           Current load capacity (standard)         to DIN VDE 0298-4           Current load capacity min. Wire         4,5 A           Current load capacity min. Wire (Data)         6 A           Electrical function wire (data)         Power           Characteristic impedance         120 0± 10 % @ 1 MHz           Electrical resistance line constant wire         78 Ω/km           Electrical resistance coating wire (Data)         54 Ω/km           AC withstand voltage (wire - wire)         2 kV @ 60 s           Electric capacitance         40000 pF/km           AC withstand voltage (wire - shield)         2 kV @ 60 s           Min. operating temperature (fixed)         80 °C           Max. operating temperature (fixed)         80 °C           Operating temperature min. (dynamic)         -30 °C           Operating temperature max. (dynamic)         70 °C           Flame resistance         UL 1581 § 1100 FT2   IEC 60332-2-2   UL 1581 § 1090           chemical resistance         Good, application-related testing           Gasoline resistance         Good, application-related testing           Oil resistance         DIN EN 6811-404   Good, application-related testing           Bending radius (fixed)         6 × Outer diameter           Bending radius (fixed)	Material conductor wire (Data)	copper stranded wire, tinned
Nominal voltage AC max.         300 V           Current load capacity (standard)         to DIN VDE 0298-4           Current load capacity min. Wire         4,5 A           Current load capacity min. Wire (Data)         6 A           Electrical function wire (data)         Power           Characteristic impedance         120 0± 10 % @ 1 MHz           Electrical resistance line constant wire         78 Ω/km           Electrical resistance coating wire (Data)         54 Ω/km           AC withstand voltage (wire - wire)         2 kV @ 60 s           Electric capacitance         40000 pF/km           AC withstand voltage (wire - shield)         2 kV @ 60 s           Min. operating temperature (fixed)         80 °C           Max. operating temperature (fixed)         80 °C           Operating temperature min. (dynamic)         -30 °C           Operating temperature max. (dynamic)         70 °C           Flame resistance         UL 1581 § 1100 FT2   IEC 60332-2-2   UL 1581 § 1090           chemical resistance         Good, application-related testing           Gasoline resistance         Good, application-related testing           Oil resistance         DIN EN 6811-404   Good, application-related testing           Bending radius (fixed)         6 × Outer diameter           Bending radius (fixed)	Electrical function wire (data)	Power
Current load capacity (standard)         to DIN VDE 0298-4           Current load capacity min. Wire         4,5 A           Current load capacity min. Wire (Data)         6 A           Electrical function wire (data)         Power           Characteristic impedance         120 Ω ± 10 % @ 1 MHz           Electrical resistance line constant wire         78 Ω/km           Electrical resistance coating wire (Data)         54 Ω/km           AC withstand voltage (wire - wire)         2 kV @ 60 s           Electric apacitance         40000 pF/km           AC withstand voltage (wire - shield)         2 kV @ 60 s           Min. operating temperature (static)         -40 °C           Max. operating temperature (fixed)         80 °C           Operating temperature min. (dynamic)         -30 °C           Operating temperature max. (dynamic)         70 °C           Flame resistance         UL 1581 § 1100 FT2   IEC 60332-2-2   UL 1581 § 1090           chemical resistance         Good, application-related testing           Gasoline resistance         Good, application-related testing           Oil resistance         DIN EN 60811-404   Good, application-related testing           Bending radius (fixed)         6 x Outer diameter           Bending radius (fixed)         6 x Outer diameter           Bending radius (dy	Nominal voltage AC max.	300 V
Current load capacity min. wire         4,5 A           Current load capacity min. Wire (Data)         6 A           Electrical function wire         Data           Electrical function wire (data)         Power           Characteristic impedance         120 Ω ± 10 % @ 1 MHz           Electrical resistance line constant wire         78 Ω/km           Electrical resistance coating wire (Data)         54 Ω/km           AC withstand voltage (wire - wire)         2 kV @ 60 s           Electric capacitance         40000 pF/km           AC withstand voltage (wire - shield)         2 kV @ 60 s           Blectric capacitance         40000 pF/km           AC withstand voltage (wire - shield)         2 kV @ 60 s           Min. operating temperature (static)         -40 °C           Max. operating temperature (fixed)         80 °C           Operating temperature min. (dynamic)         -30 °C           Operating temperature max. (dynamic)         70 °C           Flame resistance         UL 1581 § 1100 FT2   IEC 60332-2-2   UL 1581 § 1090           chemical resistance         Good, application-related testing           Gasoline resistance         Good, application-related testing           Oil resistance         DIN EN 60811-404   Good, application-related testing           Bending radius (installation)		to DIN VDE 0298-4
Current load capacity min. Wire (Data) 6 A  Electrical function wire Data  Electrical function wire (data) Power  Characteristic impedance 120 $\Omega$ ± 10 % $\otimes$ 1 MHz  Electrical resistance ine constant wire 78 $\Omega$ /km  Electrical resistance ocating wire (Data) 54 $\Omega$ /km  AC withstand voltage (wire - wire) 2 kV $\otimes$ 60 s  Electric capacitance 40000 pF/km  AC withstand voltage (wire - shield) 2 kV $\otimes$ 60 s  Electric capacitance 40000 pF/km  AC withstand voltage (wire - shield) 2 kV $\otimes$ 60 s  Min. operating temperature (static) -40 °C  Associated by the service of the service		
Electrical function wire         Data           Electrical function wire (data)         Power           Characteristic impedance $120 \Omega \pm 10 \% \oplus 1 \text{ MHz}$ Electrical resistance line constant wire $78 \Omega \text{/km}$ Electrical resistance coating wire (Data) $54 \Omega \text{/km}$ AC withstand voltage (wire - wire) $2 \text{ kV} \oplus 60 \text{ s}$ Electric capacitance $40000 \text{ pF/km}$ AC withstand voltage (wire - shield) $2 \text{ kV} \oplus 60 \text{ s}$ Min. operating temperature (static) $-40 ^{\circ}\text{C}$ Max. operating temperature (fixed) $80 ^{\circ}\text{C}$ Operating temperature min. (dynamic) $-30 ^{\circ}\text{C}$ Plame resistance         UL 1581 § 1100 FT2   IEC 60332-2-2   UL 1581 § 1090           chemical resistance         UL 1581 § 1100 FT2   IEC 60332-2-2   UL 1581 § 1090           chemical resistance         Good, application-related testing           Gasoline resistance         Good, application-related testing           Oil resistance         DIN EN 60811-404   Good, application-related testing           Oil resistance         DIN EN 60811-404   Good, application-related testing           Bending radius (installation)         x Outer diameter           Bending radius (fixed)         6 x Outer diameter           Be		
Electrical function wire (data) Power  Characteristic impedance $120 \Omega \pm 10 \% @ 1 \text{ MHz}$ Electrical resistance line constant wire $78 \Omega \text{/km}$ Electrical resistance coating wire (Data) $54 \Omega \text{/km}$ AC withstand voltage (wire - wire) $2 \text{ kV} @ 60 \text{ s}$ Electric capacitance $40000 \text{ pF/km}$ AC withstand voltage (wire - shield) $2 \text{ kV} @ 60 \text{ s}$ Electric capacitance $40000 \text{ pF/km}$ AC withstand voltage (wire - shield) $2 \text{ kV} @ 60 \text{ s}$ Min. operating temperature (static) $40 \text{ °C}$ Max. operating temperature (fixed) $80 \text{ °C}$ Operating temperature min. (dynamic) $30 \text{ °C}$ Operating temperature max. (dynamic) $70 \text{ °C}$ Flame resistance $UL 1581 \S 1100 \text{ FT2}   \text{ IEC } 60332 \cdot 2 \cdot 2   \text{ UL } 1581 \S 1090$ chemical resistance Good, application-related testing  Gasoline resistance Good, application-related testing  Oil resistance DIN EN $60811 \cdot 404   \text{ Good, application-related testing}$ Bending radius (installation) x Outer diameter  Bending radius (installation) $10 \times \text{Outer diameter}$ Bending radius (dynamic) $10 \times \text{Outer diameter}$ Bending radius (dynamic) $10 \times \text{Outer diameter}$ No. of bending cycles (C-track) $1 \text{ Mio.}$ Traver sing distance (C-track) $3 \text{ m/s}$ No. of torsion cycles $2 \text{ Mio.}$ Torsion stress $\pm 30 \text{ °/m}$		
Characteristic impedance $120 \Omega \pm 10 \% \oplus 1  \text{MHz}$ Electrical resistance line constant wire $78  \Omega / \text{km}$ Electrical resistance coating wire (Data) $54  \Omega / \text{km}$ AC withstand voltage (wire - wire) $2  \text{kV} \oplus 60  \text{s}$ Electric capacitance $40000  \text{pF/km}$ AC withstand voltage (wire - shield) $2  \text{kV} \oplus 60  \text{s}$ Min. operating temperature (static) $40  \text{cC}$ Max. operating temperature (fixed) $80  \text{cC}$ Operating temperature min. (dynamic) $70  \text{cC}$ Flame resistance $UL  1581  \S  1100  \text{FT2}                     $		
Electrical resistance line constant wire   78 Ω/km		
Electrical resistance coating wire (Data) 54 Ω/km  AC withstand voltage (wire - wire) 2 kV @ 60 s  Electric capacitance 40000 pF/km  AC withstand voltage (wire - shield) 2 kV @ 60 s  Min. operating temperature (static) -40 °C  Max. operating temperature (fixed) 80 °C  Operating temperature min. (dynamic) -30 °C  Operating temperature max. (dynamic) 70 °C  Flame resistance UL 1581 § 1100 FT2   IEC 60332-2-2   UL 1581 § 1090  chemical resistance Good, application-related testing  Gasoline resistance DIN EN 60811-404   Good, application-related testing  Bending radius (installation) x Outer diameter  Bending radius (fixed) 6 x Outer diameter  Bending radius (dynamic) 10 x Outer diameter  Bending radius (dynamic) 10 x Outer diameter  No. of bending cycles (C-track) 1 Mio.  Traversing distance (C-track) 3 m/s  No. of torsion cycles 2 Mio.  Torsion stress ± 30 °/m		
AC withstand voltage (wire - wire)         2 kV @ 60 s           Electric capacitance         40000 pF/km           AC withstand voltage (wire - shield)         2 kV @ 60 s           Min. operating temperature (static)         -40 °C           Max. operating temperature (fixed)         80 °C           Operating temperature min. (dynamic)         -30 °C           Operating temperature max. (dynamic)         70 °C           Flame resistance         UL 1581 § 1100 FT2   IEC 60332-2-2   UL 1581 § 1090           chemical resistance         Good, application-related testing           Gasoline resistance         Good, application-related testing           Oil resistance         DIN EN 60811-404   Good, application-related testing           Bending radius (installation)         x Outer diameter           Bending radius (fixed)         6 x Outer diameter           Bending radius (dynamic)         10 x Outer diameter           No. of bending cycles (C-track)         1 Mio.           Traversing distance (C-track)         5 m           Travel speed (C-track)         3 m/s           No. of torsion cycles         2 Mio.           Torsion stress         ± 30 °/m		
Electric capacitance 40000 pF/km  AC withstand voltage (wire - shield) 2 kV @ 60 s  Min. operating temperature (static) -40 °C  Max. operating temperature (fixed) 80 °C  Operating temperature min. (dynamic) -30 °C  Operating temperature max. (dynamic) 70 °C  Flame resistance UL 1581 § 1100 FT2   IEC 60332-2-2   UL 1581 § 1090  chemical resistance Good, application-related testing  Gasoline resistance DIN EN 60811-404   Good, application-related testing  Bending radius (installation) x Outer diameter  Bending radius (fixed) 6 x Outer diameter  Bending radius (dynamic) 10 x Outer diameter  Bending radius (dynamic) 10 x Outer diameter  No. of bending cycles (C-track) 1 Mio.  Traversing distance (C-track) 3 m/s  No. of torsion cycles 2 Mio.  Torsion stress ± 30 °/m		
AC withstand voltage (wire - shield)  Ac withstand voltage (wire - shield)  Alin. operating temperature (static)  Max. operating temperature (fixed)  Bo °C  Operating temperature min. (dynamic)  Operating temperature max. (dynamic)  Operating temperature max. (dynamic)  Operating temperature max. (dynamic)  To °C  Flame resistance  UL 1581 § 1100 FT2   IEC 60332-2-2   UL 1581 § 1090  Chemical resistance  Good, application-related testing  Gasoline resistance  DIN EN 60811-404   Good, application-related testing  Bending radius (installation)  x Outer diameter  Bending radius (fixed)  6 x Outer diameter  Bending radius (dynamic)  10 x Outer diameter  No. of bending cycles (C-track)  1 Mio.  Traversing distance (C-track)  5 m  Travel speed (C-track)  3 m/s  No. of torsion cycles  2 Mio.  Torsion stress  ± 30 °/m		
Min. operating temperature (static) -40 °C  Max. operating temperature (fixed) 80 °C  Operating temperature min. (dynamic) -30 °C  Operating temperature max. (dynamic) 70 °C  Flame resistance UL 1581 § 1100 FT2   IEC 60332-2-2   UL 1581 § 1090  chemical resistance Good, application-related testing  Gasoline resistance DIN EN 60811-404   Good, application-related testing  Oil resistance DIN EN 60811-404   Good, application-related testing  Bending radius (installation) x Outer diameter  Bending radius (fixed) 6 x Outer diameter  Bending radius (dynamic) 10 x Outer diameter  No. of bending cycles (C-track) 1 Mio.  Traversing distance (C-track) 5 m  Travel speed (C-track) 3 m/s  No. of torsion cycles 2 Mio.  Torsion stress ± 30 °/m	•	·
Max. operating temperature (fixed) 80 °C  Operating temperature min. (dynamic) -30 °C  Operating temperature max. (dynamic) 70 °C  Flame resistance UL 1581 § 1100 FT2   IEC 60332-2-2   UL 1581 § 1090  chemical resistance Good, application-related testing  Gasoline resistance Good, application-related testing  Oil resistance DIN EN 60811-404   Good, application-related testing  Bending radius (installation) x Outer diameter  Bending radius (fixed) 6 x Outer diameter  Bending radius (dynamic) 10 x Outer diameter  No. of bending cycles (C-track) 1 Mio.  Traversing distance (C-track) 5 m  Travel speed (C-track) 3 m/s  No. of torsion cycles 2 Mio.  Torsion stress ± 30 °/m		
Operating temperature min. (dynamic)  Operating temperature max. (dynamic)  70 °C  Flame resistance  UL 1581 § 1100 FT2   IEC 60332-2-2   UL 1581 § 1090  chemical resistance  Good, application-related testing  Gasoline resistance  DIN EN 60811-404   Good, application-related testing  Bending radius (installation)  x Outer diameter  Bending radius (fixed)  6 x Outer diameter  Bending radius (dynamic)  10 x Outer diameter  No. of bending cycles (C-track)  1 Mio.  Traversing distance (C-track)  5 m  Travel speed (C-track)  3 m/s  No. of torsion cycles  2 Mio.  Torsion stress  ± 30 °/m		
Operating temperature max. (dynamic)       70 °C         Flame resistance       UL 1581 § 1100 FT2   IEC 60332-2-2   UL 1581 § 1090         chemical resistance       Good, application-related testing         Gasoline resistance       Good, application-related testing         Oil resistance       DIN EN 60811-404   Good, application-related testing         Bending radius (installation)       x Outer diameter         Bending radius (fixed)       6 x Outer diameter         Bending radius (dynamic)       10 x Outer diameter         No. of bending cycles (C-track)       1 Mio.         Traversing distance (C-track)       5 m         Travel speed (C-track)       3 m/s         No. of torsion cycles       2 Mio.         Torsion stress       ± 30 °/m		
Flame resistance UL 1581 § 1100 FT2   IEC 60332-2-2   UL 1581 § 1090  chemical resistance Good, application-related testing  Gasoline resistance DIN EN 60811-404   Good, application-related testing  Bending radius (installation) x Outer diameter  Bending radius (fixed) 6 x Outer diameter  Bending radius (dynamic) 10 x Outer diameter  No. of bending cycles (C-track) 1 Mio.  Traversing distance (C-track) 5 m  Travel speed (C-track) 3 m/s  No. of torsion cycles 2 Mio.  Torsion stress ± 30 °/m		
chemical resistance Good, application-related testing Gasoline resistance DIN EN 60811-404   Good, application-related testing Bending radius (installation) x Outer diameter Bending radius (fixed) 6 x Outer diameter Bending radius (dynamic) 10 x Outer diameter  No. of bending cycles (C-track) 1 Mio.  Traversing distance (C-track) 5 m  Travel speed (C-track) 3 m/s  No. of torsion cycles 2 Mio.  Torsion stress ± 30 °/m		
Gasoline resistance Good, application-related testing  Oil resistance DIN EN 60811-404   Good, application-related testing  Bending radius (installation) x Outer diameter  Bending radius (fixed) 6 x Outer diameter  Bending radius (dynamic) 10 x Outer diameter  No. of bending cycles (C-track) 1 Mio.  Traversing distance (C-track) 5 m  Travel speed (C-track) 3 m/s  No. of torsion cycles 2 Mio.  Torsion stress ± 30 °/m		
Oil resistance DIN EN 60811-404   Good, application-related testing  Bending radius (installation) x Outer diameter  Bending radius (fixed) 6 x Outer diameter  Bending radius (dynamic) 10 x Outer diameter  No. of bending cycles (C-track) 1 Mio.  Traversing distance (C-track) 5 m  Travel speed (C-track) 3 m/s  No. of torsion cycles 2 Mio.  Torsion stress ± 30 °/m		
Bending radius (installation) x Outer diameter  Bending radius (fixed) 6 x Outer diameter  Bending radius (dynamic) 10 x Outer diameter  No. of bending cycles (C-track) 1 Mio.  Traversing distance (C-track) 5 m  Travel speed (C-track) 3 m/s  No. of torsion cycles 2 Mio.  Torsion stress ± 30 °/m		
Bending radius (fixed) 6 x Outer diameter  Bending radius (dynamic) 10 x Outer diameter  No. of bending cycles (C-track) 1 Mio.  Traversing distance (C-track) 5 m  Travel speed (C-track) 3 m/s  No. of torsion cycles 2 Mio.  Torsion stress ± 30 °/m	Oil resistance	DIN EN 60811-404   Good, application-related testing
Bending radius (dynamic) 10 x Outer diameter  No. of bending cycles (C-track) 1 Mio.  Traversing distance (C-track) 5 m  Travel speed (C-track) 3 m/s  No. of torsion cycles 2 Mio.  Torsion stress ± 30 °/m		x Outer diameter
No. of bending cycles (C-track)  Traversing distance (C-track)  Travel speed (C-track)  No. of torsion cycles  Z Mio.  Torsion stress  Torsion stress	- ' '	6 x Outer diameter
Traversing distance (C-track) 5 m  Travel speed (C-track) 3 m/s  No. of torsion cycles 2 Mio.  Torsion stress ± 30 °/m	Bending radius (dynamic)	10 x Outer diameter
Travel speed (C-track)         3 m/s           No. of torsion cycles         2 Mio.           Torsion stress         ± 30 °/m	No. of bending cycles (C-track)	1 Mio.
No. of torsion cycles 2 Mio.  Torsion stress ± 30 °/m	Traversing distance (C-track)	5 m
Torsion stress ± 30 °/m	Travel speed (C-track)	3 m/s
	No. of torsion cycles	2 Mio.
Torsion speed 35 cycles/min	Torsion stress	± 30 °/m
	Torsion speed	35 cycles/min