

Servo cable | PUR | chainflex® CF270.UL.D

- For medium duty applications
- PUR outer jacket
- Shielded
- Oil and coolant-resistant
- Notch-resistant
- Flame retardant
- Hydrolysis and microbe-resistant
- PVC and halogen-free

Dynamic information

	Bend radius	e-chain® linear	minimum 10 x d
		flexible	minimum 8 x d
		fixed	minimum 5 x d
	Temperature	e-chain® linear	-25 °C to +80 °C
		flexible	-40 °C to +80 °C (following DIN EN 60811-504)
		fixed	-50 °C to +80 °C (following DIN EN 50305)
	v max.	unsupported	10 m/s
		gliding	2 m/s
	a max.		50 m/s ²
	Travel distance		Unsupported travel distances and up to 10 m for gliding applications, Class 2

Cable structure

	Conductor	Stranded conductor in bending-resistant design consisting of bare copper wires (following DIN EN 60228).	
	Core insulation	Mechanically high-quality, especially low-capacitance TPE mixture.	
	Core structure	Power cores and control pair elements wound with a short pitch length around a high tensile strength centre element.	
	Core identification	Power cores: Black cores with white numerals, one core green-yellow. 1. Core: U / L1 / C / L+ 2. Core: V / L2 3. Core: W / L3 / D / L- 1 Control pair: Black cores with white numerals. 1. Control core: 4 2. Control core: 5 2 Control pairs: Black cores with white numerals. 1. Control core: 5 2. Control core: 6 3. Control core: 7 4. Control core: 8 1 Control triple: Black cores with white numerals. 1. Control core: 1 2. Control core: 2 3. Control core: 3 Star quad: yellow, black, red, white	
	Element shield	Bending-resistant braiding made of tinned copper wires.	
	Intermediate layer	Foil taping over the outer layer.	
	Overall shield	Bending-resistant braiding made of tinned copper wires. Coverage approx. 55 % linear, approx. 80 % optical	
	Outer jacket	Low-adhesion, highly abrasion-resistant PUR mixture, adapted to suit the requirements in e-chains® (following DIN EN 50363-10-2). Colour: Pastel orange (similar to RAL 2003)	

Example image

Basic requirements	low	1	2	3	4	5	6	7	highest
Travel distance	unsupported	1	2	3	4	5	6	7	≥ 400 m
Oil resistance	none	1	2	3	4	5	6	7	highest
Torsion	none	1	2	3	4	5	6	7	±180°

Class 4.2.3.1

Electrical information

	Nominal voltage	600/1000 V (following DIN VDE 0298-3)
	Testing voltage	4000 V (following DIN EN 50395)

Properties and approvals

	UV resistance	Medium.
	Oil resistance	Oil-resistant (following DIN EN 50363-10-2), Class 3.
	Offshore	MUD-resistant following NEK 606 - status 2009.
	Flame retardant	According to IEC 60332-1-2, CEI 20-35, FT1, VW-1
	Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992).
	Halogen-free	Following DIN EN 60754.
	UL/CSA	Style 10989 and 21223, 1000 V, 80 °C
	NFPA	Following NFPA 79-2012 chapter 12.9.
	EAC	Certificate no. RU C-DE.ME77.B.02324 (TR ZU)
	CTP	Certificate no. C-DE.PB49.B.00420 (Fire safety)
	CEI	Following CEI 20-35.
	Lead-free	Following 2011/65/EU (RoHS-II).
	Cleanroom	According to ISO Class 1. Outer jacket material complies with CF27.07.05.02.01.D, tested by IPA according to standard 14644-1.
	DESINA	According to VDW, DESINA standardisation.
	CE	Following 2014/35/EU.

Guaranteed lifetime according to guarantee conditions (Page 22-23)

Double strokes*	5 million	7.5 million	10 million
Temperature, from/to [°C]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-25/-15	12.5	13.5	14.5
-15/+70	10	11	12
+70/+80	12.5	13.5	14.5

* Higher number of double strokes? Online lifetime calculation: www.igus.eu/chainflexlife

Typical mechanical application areas

- For medium duty applications
- Almost unlimited resistance to oil
- Indoor and outdoor applications without direct solar radiation
- Unsupported travel distances and up to 10 m for gliding applications
- Machining units/machine tools, low temperature applications



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Class 4.2.3.1

Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
Travel distance	1	2	3	4	5	6	7	≥ 400 m
Oil resistance	none	1	2	3	4	highest		
Torsion	none	1	2	3	±180°			

igus® chainflex® CF270.UL.D

Example image

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
1 Control pair shielded				
CF270.UL.15.15.02.01.D	(4G1.5+(2x1.5)C)C	12.0	164	263
CF270.UL.25.15.02.01.D	(4G2.5+(2x1.5)C)C	14.0	224	306
CF270.UL.40.15.02.01.D	(4G4.0+(2x1.5)C)C	15.0	300	448
CF270.UL.60.15.02.01.D	(4G6.0+(2x1.5)C)C	16.5	401	557
CF270.UL.100.15.02.01.D	(4G10.0+(2x1.5)C)C	20.5	640	899
CF270.UL.160.15.02.01.D	(4G16.0+(2x1.5)C)C	24.0	941	1311
CF270.UL.250.15.02.01.D	(4G25.0+(2x1.5)C)C	28.5	1445	1704
2 Control pairs shielded				
CF270.UL.07.03.02.02.D	(4G0.75+2x(2x0.34)C)C	11.5	117	208
CF270.UL.10.07.02.02.D	(4G1.0+2x(2x0.75)C)C	13.0	157	266
CF270.UL.15.07.02.02.D	(4G1.5+2x(2x0.75)C)C	13.5	185	309
CF270.UL.25.15.02.02.D	(4G2.5+2x(2x1.5)C)C	16.0	286	439
CF270.UL.40.15.02.02.D	(4G4.0+2x(2x1.5)C)C	17.0	363	543
CF270.UL.60.15.02.02.D	(4G6.0+2x(2x1.5)C)C	18.5	468	674
CF270.UL.100.15.02.02.D	(4G10.0+2x(2x1.5)C)C	22.5	696	1011
CF270.UL.160.15.02.02.D	(4G16.0+2x(2x1.5)C)C	26.0	992	1405
CF270.UL.250.15.02.02.D	(4G25.0+2x(2x1.5)C)C	28.5	1502	1983
1 Control triple shielded				
CF270.UL.15.10.03.01.D ⁹⁾	(4G1.5+(3x1.0)C)C	14.0	176	303
CF270.UL.25.10.03.01.D ¹⁰⁾	(4G2.5+(3x1.0)C)C	14.0	224	348
1 Star-quad shielded				
CF270.UL.25.05.04.D ¹¹⁾	(4G2.5+(4x0.5)C)C	13.5	209	297
CF270.UL.60.05.04.D ¹¹⁾	(4G6.0+(4x0.5)C)C	16.5	384	546

⁹⁾ Core/Core: 50 pF/m, Core/Shield: 95 pF/m¹⁰⁾ Core/Core: 70 pF/m, Core/Shield: 115 pF/m¹¹⁾ Phase-out model**Note:** The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core x = without earth core

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
without control pair				
New CF270.UL.07.04.D	(4G0.75)C	8.0	52	97
CF270.UL.15.04.D	(4G1.5)C	9.5	90	156
CF270.UL.25.04.D	(4G2.5)C	11.5	154	240
CF270.UL.40.04.D	(4G4.0)C	12.5	231	337
CF270.UL.60.04.D	(4G6.0)C	14.5	337	465
CF270.UL.100.04.D	(4G10.0)C	18.0	545	747
CF270.UL.160.04.D	(4G16.0)C	22.0	861	1130
CF270.UL.250.04.D	(4G25.0)C	25.5	1316	1691
CF270.UL.350.04.D	(4G35.0)C	33.0	1864	2483
Spindle cable/Single core				
New CF270.UL.60.01.D	(1x6.0)C	7.0	70	93
CF270.UL.100.01.D	(1x10.0)C	8.5	110	141
CF270.UL.160.01.D	(1x16.0)C	9.5	170	201
CF270.UL.250.01.D	(1x25.0)C	11.0	261	296
CF270.UL.350.01.D	(1x35.0)C	13.0	363	405
CF270.UL.500.01.D	(1x50.0)C	15.0	514	567
CF270.UL.700.01.D	(1x70.0)C	17.5	736	788

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.

G = with green-yellow earth core x = without earth core

