

Servo cable | PUR | Chainflex® CF270-UL-D

36 10,000,000
Cycles guaranteed

10 x d
Bend radius E-Chain®

32.8 ft
Travel distance E-Chain®

- For medium mechanical load requirements
- PUR outer jacket
- Shielded
- Oil resistant and coolant-resistant
- Notch-resistant
- Flame retardant
- Hydrolysis and microbe-resistant
- PVC and halogen-free
- Variable Frequency Drives

Dynamic Information



Bend radius

E-Chain® linear min. 10 x d
flexible min. 8 x d
fixed min. 5 x d



Temperature

E-Chain® linear -13 °F to +176 °F (-25 °C to +80 °C)
flexible -40 °F to +176 °F (-40 °C to +80 °C)
fixed -58 °F to +176 °F (-50 °C to +80 °C)



v max.

unsupported 32.81 ft/s (10 m/s)
gliding 6.56 ft/s (2 m/s)



a max.

164.1 ft/s² (50 m/s²)



Travel distance

Unsupported travel distances and for gliding applications up to 32.8 ft (10 m), Class 2

Cable structure



Conductors

Conductor consisting of bare copper wires (according to DIN EN 60228).



Conductor insulation

Mechanically high-quality, especially low-capacitance TPE mixture.



Conductor construction

Power cores and control pair elements wound with a short pitch length around a high tensile strength centre element.



Color code

Power conductors: Black with white numbers, one conductor green-yellow. .

1. U / L1 / C / L+
2. V / L2
3. W / L3 / D / L-

1 Control pair: Black with white numbers.

Control Pair Printed 4 and 5

2 Control pairs: Black with white numbers.

Control Pair 1: Printed 5 and 6

Control Pair 2: Printed 7 and 8

1 Control triad: Black with white numbers.

Triad Printed: 1, 2 and 3

Star-Quad: yellow, black, red, white



Signal Pair shield

Aluminium/Polyester tape and tinned copper braid.



Overall cable

Barrier tape.



Overall shield

Bending-resistant tinned copper braid.

80 % optical coverage



Outer jacket

Low-adhesion, highly abrasion-resistant mixture on the basis of PUR, adapted to suit the requirements in E-Chains® (following DIN EN 50363-10-2).

Color: Orange (similar to RAL 2003)

Example image

igus® chainflex® CF270,UL-D

Class 4.2.3.1
















Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	≥ 1312 ft	
none	1	2	3	4	highest			
none	1	2	3	±180°				

Electrical Information

 Nominal voltage	1000 V
 Test 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 resistance	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	Multi conductor: Style 10989 and 21223, 1000 V, 80 °C Single conductor: Style 10492 and 10973, 1000 V, 80 °C
 NFPA 79	Complies to NFPA 79-2018 chapter 12.9.
 EAC	Certificate No. RU C-DE.ME77.B.02324 (TR ZU)
 CTP	Certificate No. C-DE.PB49.B.00420 (Fire protection)
 CEI	Following CEI 20-35
 Lead-free	Following 2011/65/EC (RoHS-II)
 Clean room	According to ISO Class 1. The outer jacket material of this series complies with CF27.07.05.02.01.D - tested by IPA according to standard DIN EN ISO 14644-1
 DESINA	According to VDW, DESINA standardization.
 CE	Following 2014/35/EU

Guaranteed service life (details see page 22-23)

Cycles*	5 million	7.5 million	10 million
Temperature, from/to [°F]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-13/+5	12.5	13.5	14.5
+5/+158	10	11	12
+158/+176	12.5	13.5	14.5

* Higher number of cycles? Online lifetime calculation ► www.chainflex.com/chainflexlife

Typical application areas

- For medium mechanical load requirements, Class 4
- Unsupported travel distances and for gliding applications up to 33 ft (10 m), Class 2
- Almost unlimited resistance to oil, Class 3
- Indoor and outdoor applications without direct solar radiation
- Machining units/machine tools, low temperature applications



Servo cable | PUR | Chainflex® CF270-UL-D

igus® chainflex® CF270.UL.D

Example image

Part No.	AWG	Number of Conductors and rated cross section [mm²]	Outer diameter max.		Copper index		Weight	
			[in.]	[mm]	[lbs/mft]	[kg/km]	[lbs/mft]	[kg/km]
1 Control pair shielded								
CF270-UL-15-15-02-01-D	16	4 G 1.5	0.47	12.0	103.5	154	170.0	253
	16	1 STP 1.5						
CF270-UL-25-15-02-01-D	14	4 G 2.5	0.55	14.0	141.1	210	196.2	292
	16	1 STP 1.5						
CF270-UL-40-15-02-01-D	12	4 G 4.0	0.59	15.0	188.8	281	288.3	429
	16	1 STP 1.5						
CF270-UL-60-15-02-01-D	10	4 G 6.0	0.65	16.5	252.0	375	356.8	531
	16	1 STP 1.5						
CF270-UL-100-15-02-01-D	8	4 G 10.0	0.81	20.5	398.5	593	576.5	858
	16	1 STP 1.5						
CF270-UL-160-15-02-01-D	6	4 G 16.0	0.94	24.0	586.6	873	840.6	1251
	16	1 STP 1.5						
CF270-UL-250-15-02-01-D	4	4 G 25.0	1.12	28.5	900.4	1340	1074.5	1599
	16	1 STP 1.5						
2 Control pairs shielded								
CF270-UL-07-03-02-02-D	18	4 G 0.75	0.45	11.5	73.9	110	135.1	201
	22	2 STP 0.34						
CF270-UL-10-07-02-02-D	17	4 G 1.0	0.51	13.0	98.8	147	172.0	256
	18	2 STP 0.75						
CF270-UL-15-07-02-02-D	16	4 G 1.5	0.53	13.5	116.9	174	200.2	298
	18	2 STP 0.75						
CF270-UL-25-15-02-02-D	14	4 G 2.5	0.63	16.0	180.1	268	282.9	421
	16	2 STP 1.5						
CF270-UL-40-15-02-02-D	12	4 G 4.0	0.67	17.0	228.5	340	349.4	520
	16	2 STP 1.5						
CF270-UL-60-15-02-02-D	10	4 G 6.0	0.73	18.5	294.3	438	432.7	644
	16	2 STP 1.5						
CF270-UL-100-15-02-02-D	8	4 G 10.0	0.89	22.5	433.4	645	645.1	960
	16	2 STP 1.5						
CF270-UL-160-15-02-02-D	6	4 G 16.0	1.02	26.0	618.2	920	895.7	1333
	16	2 STP 1.5						
CF270-UL-250-15-02-02-D	4	4 G 25.0	1.12	28.5	936.1	1393	1259.3	1874
	16	2 STP 1.5						
1 Star-quad shielded								
CF270-UL-25-05-04-D ¹¹⁾	14	4 G 2.5	0.53	13.5	140.4	209	199.6	297
	20	4 x 0.5 SHLD						
CF270-UL-60-05-04-D ¹¹⁾	10	4 G 6.0	0.65	16.5	258.0	384	366.9	546
	20	4 x 0.5 SHLD						

¹¹⁾ Phase-out model

Note: The given outer diameters are maximum values.

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

Class 4.2.3.1

Basic requirements	low	2	3	4	5	6	7	highest
Travel distance	unsupported	1	2	3	4	5	6	≥ 1312 ft
Oil resistance	none	1	2	3	4	highest		
Torsion	none	1	2	3	±180°			

CF270-UL-D
PUR
10 x d



Part No.	AWG	Number of Conductors and rated cross section [mm²]	Outer diameter max.		Copper index		Weight	
			[in.]	[mm]	[lbs/mft]	[kg/km]	[lbs/mft]	[kg/km]
without control pair								
CF270-UL-07-04-D	18	4 G 0.75	0.31	8.0	32.9	49	63.2	94
CF270-UL-15-04-D	16	4 G 1.5	0.37	9.5	57.1	85	101.5	151
CF270-UL-25-04-D	14	4 G 2.5	0.45	11.5	97.4	145	155.2	231
CF270-UL-40-04-D	12	4 G 4.0	0.49	12.5	145.8	217	217.0	323
CF270-UL-60-04-D	10	4 G 6.0	0.57	14.5	212.3	316	298.4	444
CF270-UL-100-04-D	8	4 G 10.0	0.71	18.0	342.7	510	478.4	712
CF270-UL-160-04-D	6	4 G 16.0	0.87	22.0	536.2	798	717.0	1067
CF270-UL-250-04-D	4	4 G 25.0	1.00	25.5	819.8	1220	1071.8	1595
CF270-UL-350-04-D	2	4 G 35.0	1.30	33.0	1161.2	1728	1577.1	2347
Spindle cable/Single core								
CF270-UL-60-01-D	10	1 x 6.0	0.28	7.0	47.0	70	62.5	93
CF270-UL-100-01-D	8	1 x 10.0	0.33	8.5	73.9	110	94.7	141
CF270-UL-160-01-D	6	1 x 16.0	0.37	9.5	114.2	170	135.1	201
CF270-UL-250-01-D	4	1 x 25.0	0.43	11.0	175.4	261	198.9	296
CF270-UL-350-01-D	2	1 x 35.0	0.51	13.0	243.9	363	272.1	405
CF270-UL-500-01-D	1	1 x 50.0	0.59	15.0	345.4	514	381.0	567
CF270-UL-700-01-D	2/0	1 x 70.0	0.69	17.5	494.6	736	529.5	788

Note: The given outer diameters are maximum values.
G = with green-yellow earth core x = without earth core



Order example: CF270-UL-40-15-02-01-D – To your desired length
CF270-UL-D Chainflex® series -40 Code nominal cross section -15 Code nominal cross section signal pairs
-02 Identification pairs -01 Number of pairs



Online order ► www.chainflex.com/CF270-UL-D



Delivery time 24hrs or today.
Delivery time means time until goods are shipped.