

Hybrid servo cable | PUR | chainflex® CF280.UL.H

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

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	According to Servo Hybrid specifications. Latest datasheet: www.igus.eu/CF220ULH
	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)

Electrical information

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

Example image

igus® chainflex® CF280.UL.H

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	highest			
Torsion	none	1	2	3	±180°				

Class 4.2.3.1

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
	NFFPA	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



igus® chainflex® CF280.UL.H



Example image

Part No.	Number of cores and conductor nominal cross section mm ²	Outer diameter (d) max. mm	Copper index kg/km	Weight kg/km	Part No.	Hybrid technology	Manufacturer
CF280.UL.H100.07.04.D	(4G0.75+(2x0.34)C +(2xAWG22)C)C	12.0	117	207	CF280.UL.H100.07.04.D	Sick (Hiperface DSL)	please see selection table on page 249
CF280.UL.H101.10.04.D	(4G1.0+(2x0.75)C +(2xAWG22)C)C	12.5	139	233	CF280.UL.H101.10.04.D	Sick (Hiperface DSL)	please see selection table on page 249
CF280.UL.H101.15.04.D	(4G1.5+(2x0.75)C +(2xAWG22)C)C	13.5	159	278	CF280.UL.H101.15.04.D	Sick (Hiperface DSL)	please see selection table on page 249
CF280.UL.H102.25.04.D	(4G2.5+(2x1.0)C +(2xAWG22)C)C	15.0	217	338	CF280.UL.H102.25.04.D	Sick (Hiperface DSL)	please see selection table on page 249
CF280.UL.H102.60.04.D	(4G6.0+(2x1.0)C +(2xAWG22)C)C	18.0	394	589	CF280.UL.H102.60.04.D	Sick (Hiperface DSL)	please see selection table on page 249
CF280.UL.H200.15.07.D	(7x1.5+(2x0.75)C)C	16.5	216	368	CF280.UL.H200.15.07.D	SEW Cable type A/1,5	SEW
CF280.UL.H200.25.07.D	(7x2.5+(2x0.75)C)C	20.0	308	540	CF280.UL.H200.25.07.D	SEW Cable type A/2,5	SEW
CF280.UL.H201.15.04.D	4G1.5+(2x0.75)C +(3x0.75)C	14.0	148	281	CF280.UL.H201.15.04.D	SEW Cable type B/1,5	SEW
CF280.UL.H201.25.04.D	4G2.5+(2x0.75)C +(3x0.75)C	15.0	195	330	CF280.UL.H201.25.04.D	SEW Cable type B/2,5	SEW
CF280.UL.H203.15.04.D	(4G1.5+(3x1.0)C)C	12.0	169	264	CF280.UL.H203.15.04.D	SEW Cable type E/1,5	SEW
CF280.UL.H203.25.04.D	(4G2.5+(3x1.0)C)C	14.0	206	323	CF280.UL.H203.25.04.D	SEW Cable type E/2,5	SEW
CF280.UL.H204.15.04.D	(4G1.5+(2x0.75)C +(3x1.0)C)C	15.0	214	354	CF280.UL.H204.15.04.D	SEW Cable type D/1,5	SEW
CF280.UL.H206.60.04.D	(4G6.0+(2x0.75)C +(3x1.5)C)C	19.5	460	677	CF280.UL.H206.60.04.D	SEW Cable type D/6,0	SEW
CF280.UL.H400.25.05.D	(5x2.5+(5x0.35) +(4x0.35)C)C	17.0	257	406	CF280.UL.H400.25.05.D	IndraDrive	Bosch Rexroth
CF280.UL.H501.15.04.D	(4G1.5+(2x0.75)C +(2x2x0.14+2x0.25)C)C	15.0	193	293	CF280.UL.H501.15.04.D	Heidenhain	B&R
CF280.UL.H502.40.04.D	(4G4.0+(2x1.0)C +(2x2x0.14+2x0.25)C)C	17.0	315	427	CF280.UL.H502.40.04.D	Heidenhain	B&R
CF280.UL.H601.25.05 ⁶⁾	5G2.5+(4xAWG24)C +(2x0.25)C	14.5	169	300	CF280.UL.H601.25.05 ⁶⁾	isH Servo	ELAU/Schneider Electric

⁶⁾ Colour outer jacket: Yellow-green (similar to RAL 6018)
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

