

Hybrid servo cable | PVC | chainflex® CF220.UL.H



10 million
Double strokes guaranteed



10 x d
Bend radius, e-chain®



10m
Travel distance, e-chain®

- For medium duty applications
- PVC outer jacket
- Shielded
- Oil-resistant
- Flame-retardant

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	+5°C up to +70°C
		flexible	-5°C up to +70°C (following DIN EN 60811-504)
		fixed	-15°C up to +70°C (following DIN EN 50305)
	v max.	unsupported	10m/s
		gliding	2m/s
	a max.		50m/s²
	Travel distance		Unsupported travels and up to 10m for gliding applications, Class 2

Cable structure

	Conductor	Stranded conductor in bending-resistant version consisting of bare copper wires (following DIN EN 60228).
	Core insulation	Mechanically high-quality, especially low-capacitance XLPE 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 specification. Current data sheet ► www.chainflex.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 linear approx. 55%, optical approx. 80%
	Outer jacket	Low-adhesion, oil-resistant PVC mixture, adapted to suit the requirements in e-chains® (following DIN EN 50363-4-1). Colour: Pastel orange (similar to RAL 2003) Variants ► Product range table

Electrical information

	Nominal voltage	600/1,000V (following DIN VDE 0298-3) 1,000V (following UL) Variants ► Product range table
	Testing voltage	4,000V (following DIN EN 50395)

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36-month guarantee ... more than 1,350 cable types from stock ... no cutting charges



EU2023

Class 4.2.2.1

Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	7	≥ 400m
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

Properties and approvals

	UV resistance	Medium
	Oil resistance	Oil-resistant (following DIN EN 50363-4-1), Class 2
	Flame-retardant	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
	Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
	UL verified	Certificate No. B129699: "igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
	UL/CSA AWM	See data sheet for details ► www.igus.eu/CF220ULH
	NFPA	Following NFPA 79-2018, chapter 12.9
	EAC	Certificate No. RU C-DE.ME77.B.00863/20
	REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
	Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
	Cleanroom	According to ISO Class 2. The outer jacket material of this series complies with CF5.10.07 - tested by IPA according to standard DIN EN ISO 14644-1 Following 2014/35/EU
	CE	
	UKCA	In accordance with the valid regulations of the United Kingdom (as at 08/2021)
	Info	As hybrid cables are always designed for specific drive systems, additional electrotechnical data may need to be considered. You will find more information in the latest data sheet for the cable series.

Guaranteed service life (details see page 28-29)

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]
+5/+15	12.5	13.5	14.5
+15/+60	10	11	12
+60/+70	12.5	13.5	14.5

* Higher number of double strokes? Service life calculation online ► www.igus.eu/chainflexlife

Typical application areas

- For medium duty applications, Class 4
- Unsupported travels and up to 10m for gliding applications, Class 2
- Light oil influence, Class 2
- No torsion, Class 1
- Preferably indoor applications, but also outdoor ones at temperatures > 5 °C
- Wood/stone processing, packaging industry, feeding, handling, adjusting devices



UL-verified chainflex® guarantee ... www.igus.eu/ul-verified

igus® chainflex® CF220.UL.H

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]
SICK (HIPERFACE DSL)				
CF220.UL.H100.07.04	(4G0.75+(2x0.34)C +(2xAWG22)C)C	12.0	110	214
CF220.UL.H101.10.04	(4G1.0+(2x0.75)C +(2xAWG22)C)C	12.0	133	202
CF220.UL.H101.15.04	(4G1.5+(2x0.75)C +(2xAWG22)C)C	13.0	156	230
CF220.UL.H102.25.04	(4G2.5+(2x1.0)C +(2xAWG22)C)C	14.5	203	348
CF220.UL.H102.40.04 ¹¹⁾	(4G4.0+(2x1.0)C +(2xAWG22)C)C	16.5	281	434
SEW cable type E/1.5				
CF220.UL.H203.15.04	(4G1.5+(3x1.0)C)C	11.5	133	219
SINAMICS S210				
CF220.UL.H300.03.04	(4Gx0.34+(2x0.34)C +(4xAWG26)C)C	10.0	78	139
CF220.UL.H301.07.04	(4Gx0.75+(2x0.5)C +(4xAWG26)C)C	11.0	100	168
New CF220.UL.H304.15.04	(4G1.5+(2x1.5)C +(4xAWG26)C)C	13.0	159	233
HEIDENHAIN				
CF220.UL.H501.15.04	(4G1.5+(2x0.75)C +(2x2x0.14+2x0.25)C)C	13.5	170	239

¹¹⁾ 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



Drilling machine for wooden plates equipped with latest hybrid cable technology with Hiperface DSL

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Class 4.2.2.1

Part No.	Hybrid technology	Hybrid manufacturer
SICK (HIPERFACE DSL)		
CF220.UL.H100.07.04	SICK (HIPERFACE DSL)	please see selection table on page 278
CF220.UL.H101.10.04	SICK (HIPERFACE DSL)	please see selection table on page 278
CF220.UL.H101.15.04	SICK (HIPERFACE DSL)	please see selection table on page 278
CF220.UL.H102.25.04	SICK (HIPERFACE DSL)	please see selection table on page 278
CF220.UL.H102.40.04 ¹¹⁾	SICK (HIPERFACE DSL)	please see selection table on page 278
SEW cable type E/1.5		
CF220.UL.H203.15.04	SEW cable type E/1.5	SEW
SINAMICS S210		
CF220.UL.H300.03.04	SINAMICS S210	Siemens
CF220.UL.H301.07.04	SINAMICS S210	Siemens
CF220.UL.H304.15.04	SINAMICS S210	Siemens
HEIDENHAIN		
CF220.UL.H501.15.04	HEIDENHAIN	B&R



Cables available in the chainflex® CASE

Simple savings on delivery, storage space and re-ordering with the chainflex® CASE - ship'n store by igus®.

More on this on page 24/25 and online: www.igus.eu/cf-case



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[E16A06002M100](#) [E11A06004M500](#)