

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

36 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

New cable suitable for Siemens SINAMICS S210

Dynamic information

Bend radius	e-chain® linear flexible	minimum 10 x d
	fixed	minimum 8 x d
Temperature	e-chain® linear flexible	+5°C up to +70°C
	fixed	-5°C up to +70°C (following DIN EN 60811-504)
v max.	unsupported	10m/s
a max.	gliding	2m/s
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)

Example image

EPLAN download, configurators ► www.igus.eu/CF220ULH

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



EU2023

EU2023



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	≥ 400m
Oil resistance	1	2	3	4	highest			
Torsion	1	2	3	4	±360°			

Class 4.2.2.1

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



igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year



igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year



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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