

# Servo cable | PVC | chainflex® CF21.UL

**36** 10 million Double strokes guaranteed **7.5 x d** Bend radius, e-chain® **100m** Travel distance, e-chain®

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

### Dynamic information

<b>Bend radius</b>	<b>e-chain® linear flexible</b>	minimum 7.5 x d minimum 6 x d
	<b>fixed</b>	minimum 4 x d
<b>Temperature</b>	<b>e-chain® linear flexible</b>	+5°C up to +70°C -5°C up to +70°C (following DIN EN 60811-504)
	<b>fixed</b>	-15°C up to +70°C (following DIN EN 50305)
<b>v max.</b>	<b>unsupported</b>	10m/s
	<b>gliding</b>	5m/s
<b>a max.</b>		80m/s <sup>2</sup>
<b>Travel distance</b>		Unsupported travels and up to 100m for gliding applications, Class 5

### Cable structure

<b>Conductor</b>	Stranded conductor in especially bending-resistant version consisting of bare copper wires (following DIN EN 60228).
<b>Core insulation</b>	Mechanically high-quality, especially low-capacitance XLPE mixture.
<b>Core structure</b>	Power cores with control pair elements wound with elements for high tensile stresses.
<b>Core identification</b>	<b>Power cores:</b> Black cores with white numbers, one green-yellow core. 1. Core: U / L1 / C / L+ 2. Core: V / L2 3. Core: W / L3 / D / L- <b>1 control pair:</b> Black cores with white numbers. 1. Control core: 4 2. Control core: 5 <b>2 control pairs:</b> Black cores with white numbers. 1. Control core: 5 2. Control core: 6 3. Control core: 7 4. Control core: 8
<b>Element shield</b>	Extremely bending-resistant braiding made of tinned copper wires.
<b>Inner jacket</b>	PVC mixture adapted to suit the requirements in e-chains®.
<b>Overall shield</b>	Extremely bending-resistant braiding made of tinned copper wires. Coverage linear approx. 70%, optical approx. 90%
<b>Outer jacket</b>	Low-adhesion, oil-resistant PVC mixture, adapted to suit the requirements in e-chains® (following DIN EN 50363-4-1). Colour: Moss green (similar to RAL 6005)
<b>CFRIP®</b>	Strip cables faster: a tear strip is moulded into the inner jacket Video ► <a href="http://www.igus.eu/CFRIP">www.igus.eu/CFRIP</a>

EPLAN download, configurators ► [www.igus.eu/CF21UL](http://www.igus.eu/CF21UL)

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

## Class 5.5.2.1

### Electrical information

<b>Nominal voltage</b>	600/1,000V (following DIN VDE 0298-3) 1,000V (following UL)
<b>Testing voltage</b>	4,000V (following DIN EN 50395)

### Properties and approvals

<b>UV resistance</b>	Medium
<b>Oil resistance</b>	Oil-resistant (following DIN EN 50363-4-1), Class 2
<b>Flame-retardant</b>	According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
<b>Silicone-free</b>	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
<b>UL verified</b>	Certificate No. B129699: "igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
<b>UL/CSA AWM</b>	See data sheet for details ► <a href="http://www.igus.eu/CF21UL">www.igus.eu/CF21UL</a>
<b>NFPA</b>	Following NFPA 79-2018, chapter 12.9
<b>EAC</b>	Certificate No. RU C-DE.ME77.B.00863/20
<b>REACH</b>	In accordance with regulation (EC) No. 1907/2006 (REACH)
<b>RoHS</b>	Following 2011/65/EC (RoHS-II/RoHS-III)
<b>Cleanroom</b>	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
<b>CE</b>	Following 2014/35/EU
<b>UKCA</b>	In accordance with the valid regulations of the United Kingdom (as at 08/2021)

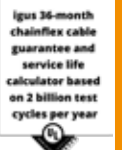
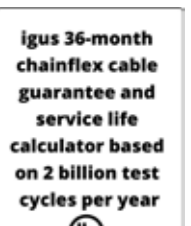
### Guaranteed service life (details see page 28-29)

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	10	11	12
+15/+60	7.5	8.5	9.5
+60/+70	10	11	12

\* Higher number of double strokes? Service life calculation online ► [www.igus.eu/chainflexlife](http://www.igus.eu/chainflexlife)

### Typical application areas

- For heavy-duty applications, Class 5
- Unsupported travels and up to 100m for gliding applications, Class 5
- Light oil influence, Class 2
- No torsion, Class 1
- Preferably indoor applications, but also outdoor ones at temperatures > 5 °C
- Storage and retrieval units, machining units/packages machines, quick handling, indoor cranes



# Servo cable | PVC | chainflex® CF21.UL


Strip cables 50% faster with CFRIP® tear strip

igus® chainflex® CF21.UL


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]
<b>1 control pair shielded</b>				
CF21.07.05.02.01.UL	(4G0.75+(2x0.5)C)C	11.0	76	159
CF21.15.15.02.01.UL	(4G1.5+(2x1.5)C)	13.0	145	256
CF21.25.15.02.01.UL	(4G2.5+(2x1.5)C)C	14.5	199	330
CF21.40.15.02.01.UL	(4G4.0+(2x1.5)C)C	16.0	256	406
CF21.60.15.02.01.UL	(4G6.0+(2x1.5)C)C	18.0	343	546
CF21.100.15.02.01.UL	(4G10+(2x1.5)C)C	21.5	536	828
<b>2 control pairs shielded</b>				
CF21.07.03.02.02.UL	(4G0.75+2x(2x0.34)C)C	12.5	103	208
CF21.10.07.02.02.UL	(4G1.0+2x(2x0.75)C)	13.5	148	269
CF21.15.07.02.02.UL	(4G1.5+2x(2x0.75)C)C	14.5	167	309
CF21.25.15.02.02.UL	(4G2.5+2x(2x1.5)C)C	17.0	254	434
CF21.40.15.02.02.UL	(4G4.0+2x(2x1.5)C)C	18.0	308	515
CF21.60.15.02.02.UL	(4G6.0+2x(2x1.5)C)C	21.0	412	695
CF21.100.15.02.02.UL	(4G10+2x(2x1.5)C)C	23.0	592	925
CF21.160.15.02.02.UL	(4G16+2x(2x1.5)C)C	26.5	878	1287

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

 **Order example: CF21.40.15.02.01.UL - to your desired length (0.5m steps)**  
CF21.UL chainflex® series .40 Code nominal cross section .15 Code nominal cross section signal pairs  
.02 Identification pairs .01 Number of pairs

 Order online ► [www.igus.eu/CF21UL](http://www.igus.eu/CF21UL)

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



### Cables available in the chainflex® CASE

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

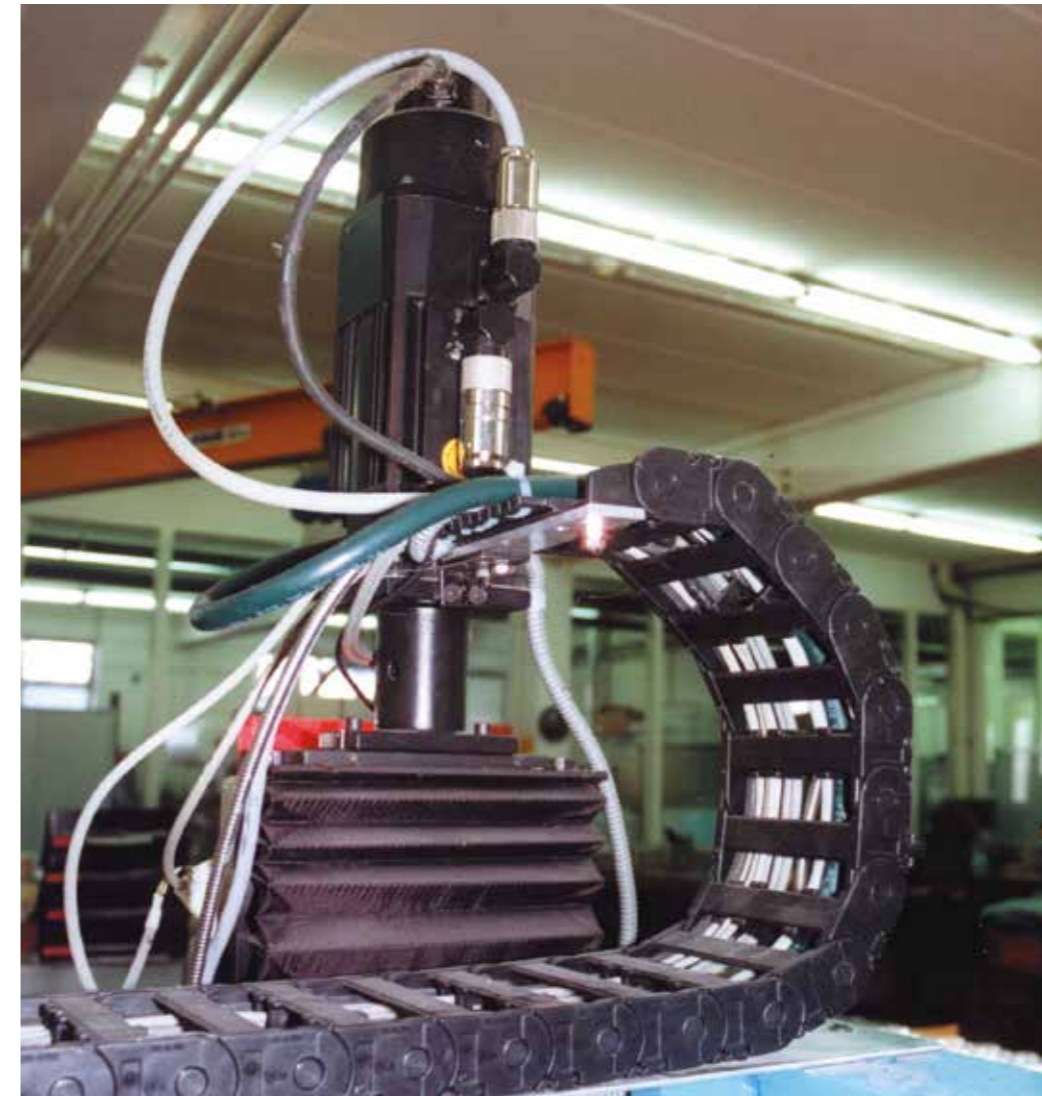
More on this on page 24/25 and online: [www.igus.eu/cf-case](http://www.igus.eu/cf-case)



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chainflex® CF21.UL: cables for energy supply systems in spinneret production. e-chain®: E2/000



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