

# Data sheet

## chainflex® CF280.UL.H



- Hybrid servo cable (Class 4.2.3.1) ● For medium duty applications ● PUR outer jacket
- Shielded
  - Oil resistant and coolant-resistant
  - Flame retardant
  - PVC and halogen-free
  - Notch-resistant
  - Hydrolysis and microbe-resistant



Sick (Hiperface DSL)	SEW	Siemens (SINAMICS S210)
CF280.UL.H100.07.04.D- CF280.UL.H102.60.04.D	CF280.UL.H200.15.07.D- CF280.UL.H206.60.04.D	CF280.UL.H300.03.04.D- CF280.UL.H301.07.04.D
Bosch Rexroth (IndraDrive)	B&R	ELAU/Schneider Electric (isH Servo)
CF280.UL.H400.25.05.D	CF280.UL.H501.15.04.D- CF280.UL.H502.40.04.D	CF280.UL.H601.25.05



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



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## chainflex® CF280.UL.H



Hybrid servo cable (Class 4.2.3.1) ● For medium duty applications ● PUR outer jacket  
 ● Shielded ● Oil resistant and coolant-resistant ● Flame retardant ● PVC and halogen-free  
 ● Notch-resistant ● Hydrolysis and microbe-resistant

### Cable structure



	<b>Conductor</b>	Stranded conductor in 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 and control pair elements wound with a short pitch length around a high tensile strength centre element.
	<b>Core identification</b>	According to Servo-Hybrid specification. Latest data sheet: <a href="http://www.chainflex.eu/CF220ULH">www.chainflex.eu/CF220ULH</a>
	<b>Element shield</b>	Bending-resistant braiding made of tinned copper wires.
	<b>Intermediate layer</b>	Foil taping over the outer layer.
	<b>Overall shield</b>	Bending-resistant braiding made of tinned copper wires. Coverage approx. 55 % linear, approx. 80 % optical
	<b>Outer jacket</b>	Low-adhesion, halogen-free, highly abrasion resistant PUR mixture, adapted to suit the requirements in e-chains® (following DIN EN 50363-10-2). <b>Colour:</b> Pastel orange (similar to RAL 2003) <b>Printing:</b> black

„00000 m\*\* igus chainflex CF280.UL.-.-.-.D① ---②③ E310776

cRUus AWM Style ④ VW-1 AWM I/II A/B 80°C ⑤ FT1 EAC/CTP

CE DESINA RoHS-II conform [www.igus.de](http://www.igus.de) +++ chainflex cable works +++

\* **Length printing:** Not calibrated. Only intended as an orientation aid.  
 ① / ② Cable identification according to Part No. (see technical table).  
 ③ Printing of nominal voltage (see general electrical values).  
 ④ / ⑤ Printing of the UL Style / Voltage (see related chapter).  
 Bsp.: ... chainflex ... CF280.UL.H200.15.07.D ... (7x1.5+(2x0.75)C)C ... 600/1000V ...



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



Example image

# Data sheet






## chainflex® CF280.UL.H



Hybrid servo cable (Class 4.2.3.1) ● For medium duty applications ● PUR outer jacket  
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 ● Notch-resistant ● Hydrolysis and microbe-resistant



### Dynamic information

	<b>Bend radius</b>	e-chain® linear flexible fixed	minimum 10 x d minimum 8 x d minimum 5 x d
	<b>Temperature</b>	e-chain® linear flexible fixed	-25 °C up to +80 °C -40 °C up to +80 °C (following DIN EN 60811-504) -50 °C up to +80 °C (following DIN EN 50305)
	<b>v max.</b>	unsupported gliding	10 m/s 2 m/s
	<b>a max.</b>		50 m/s <sup>2</sup>
	<b>Travel distance</b>		Unsupported travels and up to 10 m for gliding applications, Class 2

These values are based on specific applications or tests. They do not represent the limit of what is technically feasible.

### Guaranteed service life according to guarantee conditions

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

Minimum guaranteed service life of the cable under the specified conditions.  
 The installation of the cable is recommended within the middle temperature range.



Example image

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### Properties and approvals



	<b>UV resistance</b>	Medium
	<b>Oil resistance</b>	Oil-resistant (following DIN EN 50363-10-2), Class 3
	<b>Offshore</b>	MUD-resistant following NEK 606 - status 2009
	<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>Halogen-free</b>	Following DIN EN 60754
	<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 table UL/CSA AWM for details
	<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>Lead-free</b>	Following 2011/65/EC (RoHS-II/RoHS-III)
	<b>Cleanroom</b>	According to ISO Class 1. The outer jacket material of this series complies with CF77. UL.05.12.D - tested by IPA according to standard DIN EN ISO 14644-1
	<b>DESINA</b>	According to VDW, DESINA standardisation
	<b>CE</b>	Following 2014/35/EU
	<b>UKCA</b>	



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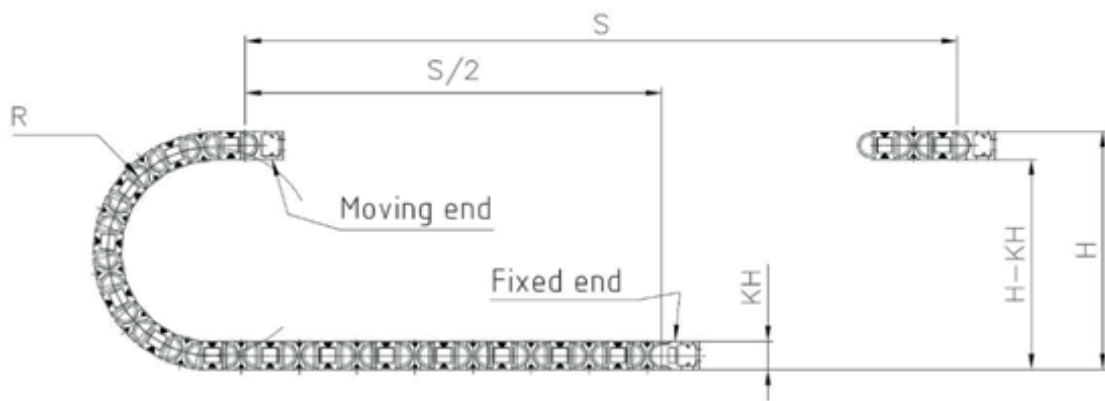
### Properties and approvals

#### UL/CSA AWM Details

Part No.	UL style core insulation	UL style outer jacket	UL Voltage Rating [V]	UL Temperature Rating [°C]
CF280.UL.H1xx	10867 11117 (AWG22)	21223	1000	80
CF280.UL.H2xx	10989	21223	1000	80
CF280.UL.H3xx	10867	20233	1000	80
CF280.UL.H4xx	10867 (0.35 mm <sup>2</sup> ) 11117 (Bus element) 10989 (0.35 mm <sup>2</sup> )	21223	1000	80
CF280.UL.H5xx	10867 (0.14/0.25/0.75/1.0 mm <sup>2</sup> ) 10989 (1.5/4.0 mm <sup>2</sup> )	21223	1000	80
CF280.UL.H6xx	10867 (AWG24/0.25 mm <sup>2</sup> ) 10989 (2.5 mm <sup>2</sup> )	21223	1000	80

### Typical lab test setup for this cable series

- Test bend radius R approx. 125 - 175 mm  
 Test travel S approx. 1 - 15 m  
 Test duration minimum 2 - 4 million double strokes  
 Test speed approx. 0.5 - 2 m / s  
 Test acceleration approx. 0.5 - 1.5 m / s<sup>2</sup>



### Typical application areas

- For medium duty applications, Class 4
- Unsupported travel distances and up to 10 m for gliding applications, Class 2
- Almost unlimited resistance to oil, Class 3
- No torsion, Class 1
- Indoor and outdoor applications without direct solar radiation
- Machining units/machine tools, low temperature applications

Example image

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### Technical tables:

#### Mechanical information

Part No.	Number of cores and conductor nominal cross section [mm <sup>2</sup> ]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
<b>Sick (Hiperface DSL)</b>				
CF280.UL.H100.07.04.D	(4G0.75+(2x0.34)C)+(2xAWG22)C)C	12.0	110	200
CF280.UL.H101.10.04.D	(4G1.0+(2x0.75)C)+(2xAWG22)C)C	12.0	133	205
CF280.UL.H101.15.04.D	(4G1.5+(2x0.75)C)+(2xAWG22)C)C	13.0	156	215
CF280.UL.H102.25.04.D	(4G2.5+(2x1.0)C)+(2xAWG22)C)C	14.5	203	324
CF280.UL.H102.40.04.D	(4G4.0+(2x1.0)C)+(2xAWG22)C)C	16.5	281	431
CF280.UL.H102.60.04.D	(4G6.0+(2x1.0)C)+(2xAWG22)C)C	17.5	364	499
<b>SEW</b>				
CF280.UL.H200.15.07.D <sup>15)</sup>	(7x1.5+(2x0.75)C)C	16.0	202	354
CF280.UL.H200.25.07.D <sup>15)</sup>	(7x2.5+(2x0.75)C)C	20.0	289	521
CF280.UL.H201.15.04.D <sup>15)</sup>	4G1.5+(2x0.75)C+(3x0.75)C	14.0	139	272
CF280.UL.H201.25.04.D <sup>15)</sup>	4G2.5+(2x0.75)C+(3x0.75)C	14.5	183	318
CF280.UL.H203.15.04.D	(4G1.5+(3x1.0)C)C	12.0	158	253
CF280.UL.H203.25.04.D	(4G2.5+(3x1.0)C)C	13.5	197	277
CF280.UL.H204.15.04.D	(4G1.5+(2x0.75)C)+(3x1.0)C)C	15.0	200	340
CF280.UL.H206.40.04.D	(4G4.0+(2x0.75)C)+(3x1.5)C)C	17.5	339	482
CF280.UL.H206.60.04.D	(4G6.0+(2x0.75)C)+(3x1.5)C)C	19.0	431	648
CF280.UL.H207.15.04.D	(4G1.5+2x(2x1.0)C)+HF50-0.9/2.95)C	15.5	191	303
CF280.UL.H207.25.04.D	(4G2.5+2x(2x1.0)C)+HF50-0.9/2.95)C	16.5	232	351
<b>SINAMICS S210</b>				
CF280.UL.H300.03.04.D	(4G0.34+(2x0.34)C)+(4xAWG26)C)C	10.0	74	139
CF280.UL.H301.07.04.D	(4G0.75+(2x0.5)C)+(4xAWG26)C)C	11.0	100	169
CF280.UL.H304.15.04.D	(4G1.5+(2x1.5)C)+(4xAWG26)C)C	13.0	170	240
CF280.UL.H304.25.04.D	(4G2.5+(2x1.5)C)+(4xAWG26)C)C	14.5	215	289
<b>IndraDrive</b>				
CF280.UL.H400.25.05.D	(5x2.5+(5x0.35)+(4xAWG22)C)C	17.0	240	389
<b>Heidenhain</b>				
CF280.UL.H501.15.04.D	(4G1.5+(2x0.75)C)+(2x2x0.14+2x0.25)C)C	15.0	181	281
CF280.UL.H502.40.04.D	(4G4.0+(2x1.0)C)+(2x2x0.14+2x0.25)C)C	16.5	295	407
<b>isH Servo</b>				
CF280.UL.H601.25.05 <sup>13)</sup>	5G2.5+(4xAWG24)C+(2x0.25)C	14.5	158	289

<sup>13)</sup> Colour outer jacket: Yellow-green (RAL 6018)

<sup>15)</sup> Colour outer jacket: Jet black (RAL 9005)

**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



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Example image

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### Technical tables:

#### Electrical information

Conductor nominal cross section	Maximum conductor resistance at 20 °C (following DIN EN 50289-1-2) [Ω/km]	Max. current rating at 30 °C [A]
0,14	138	2,5
0,15 (AWG26)	131	2,5
0,25	81	5
0,34 (AWG22)	59	7
0,35	56	7
0,5	41	11
0,75	26	14
1,0	19,5	17
1,5	13,3	21
2,5	8	30
4,0	4,95	41
6,0	3,3	53

The final maximum current rating depends among other things on the ambient conditions, the type of the installation and the number of loaded cores.



Example image

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### Capacity

Part No.	Control cores		Power cores	
	Core/Core Capacity [approx. pF / m]	Core/Shield Capacity [approx. pF / m]	Core/Core Capacity [approx. pF / m]	Core/Shield Capacity [approx. pF / m]
<b>Sick (Hiperface DSL)</b>				
CF280.UL.H100.07.04.D	60	105	75	130
CF280.UL.H101.10.04.D	95	155	100	175
CF280.UL.H101.15.04.D	80	140	100	175
CF280.UL.H102.25.04.D	105	185	120	210
CF280.UL.H102.40.04.D	125	220	115	205
CF280.UL.H102.60.04.D	120	210	120	210
<b>SEW</b>				
CF280.UL.H200.15.07.D	80	140	100	175
CF280.UL.H200.25.07.D	110	195	105	185
CF280.UL.H201.15.04.D	80	140	100	175
CF280.UL.H201.25.04.D	105	185	100	175
CF280.UL.H203.15.04.D	80	140	100	175
CF280.UL.H203.25.04.D	105	185	100	175
CF280.UL.H204.15.04.D	80	140	100	175
CF280.UL.H206.40.04.D	125	220	105	185
CF280.UL.H206.60.04.D	120	210	120	210
CF280.UL.H207.15.04.D	90	160	105	175
CF280.UL.H207.25.04.D	95	170	105	175
<b>Siemens (SINAMICS S210)</b>				
CF280.UL.H300.03.04.D	60	105	85	155
CF280.UL.H301.07.04.D	70	130	85	155
CF280.UL.H304.15.04.D	90	170	140	250
CF280.UL.H304.25.04.D	95	185	140	250
<b>Bosch Rexroth (IndraDrive)</b>				
CF280.UL.H400.25.05.D	110	195	55	85
<b>B&amp;R</b>				
CF280.UL.H501.15.04.D	85	150	105	185
CF280.UL.H502.40.04.D	120	210	95	180
<b>ELAU/Schneider Electric (isH Servo)</b>				
CF280.UL.H601.25.05	110	195	75	140



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Example image

igus® chainflex® CF280.UL.H



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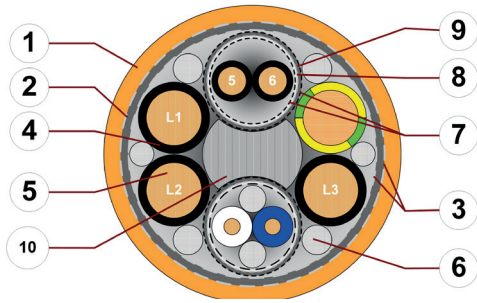
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 ● Notch-resistant ● Hydrolysis and microbe-resistant

### Sick (Hiperface DSL)

CF280.UL.H100.07.04.D-CF280.UL.H102.60.04.D



1. Outer jacket: Pressure extruded PUR mixture
2. Overall shield: Extremely bending-stable braid made of tinned copper wires
3. Banding: Plastic fleece
4. Core insulation: Mechanically high-quality, especially low-capacitance XLPE mixture
5. Conductor: Especially bending-resistant version consisting of bare copper wires
6. Filling: Plastic yarns
7. Element banding: Plastic foil
8. Shield foil: Aluminium-coated polyester foil
9. Element shield: Bending-resistant braiding made of tinned copper wires
10. Strain relief: Tensile stress-resistant centre element

#### Example image

For detailed overview please see design table

### Electrical information

Bus element	Hiperface DSL
Characteristic wave impedance (following DIN EN 50289-1-11)	110 ± 10 Ω (10 MHz)
Operating capacity	45 pF/m

**Nominal voltage** 600/1000 V (following DIN VDE 0298-3)  
1000 V (following UL)

**Testing voltage** 4000 V (following DIN EN 50395)

### Details UL approval

**UL/CSA**  
 Cores 0.34/AWG22: Style 11117 (1000 V, 80 °C)  
 Cores 0.75/1.0/1.5/2.5/4.0/6.0: Style 10867 (1000 V, 80 °C)  
 Cable: Style 21223 (1000 V, 80 °C)

### Design table

Part No.	Core group	Colour code	Core design
CF280.UL.H100.07.04.D	4G0.75	3 black cores with white printing: <b>1. Core:</b> U/L1/C/L+ <b>2. Core:</b> V/L2 <b>3. Core:</b> W/L3/D/L- followed by one green-yellow core	
	(2x0.34)C	2 black cores with white numbers 5 & 6	
	(2xAWG22)C)C	one core each in white and blue	



Example image

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### Sick (Hiperface DSL)

CF280.UL.H100.07.04.D-CF280.UL.H102.60.04.D

### Design table

(continued)

Part No.	Core group	Colour code	Core design
CF280.UL.H101.10.04.D	4G1.0	3 black cores with white printing: <b>1. Core:</b> U/L1/C/L+ <b>2. Core:</b> V/L2 <b>3. Core:</b> W/L3/D/L- followed by one green-yellow core	
	(2x0.75)C	2 black cores with white numbers 5 & 6	
	(2xAWG22)C)C	one core each in white and blue	
CF280.UL.H101.15.04.D	4G1.5	3 black cores with white printing: <b>1. Core:</b> U/L1/C/L+ <b>2. Core:</b> V/L2 <b>3. Core:</b> W/L3/D/L- followed by one green-yellow core	
	(2x0.75)C	2 black cores with white numbers 5 & 6	
	(2xAWG22)C)C	one core each in white and blue	
CF280.UL.H102.25.04.D	4G2.5	3 black cores with white printing: <b>1. Core:</b> U/L1/C/L+ <b>2. Core:</b> V/L2 <b>3. Core:</b> W/L3/D/L- followed by one green-yellow core	
	(2x1.0)C	2 black cores with white numbers 5 & 6	
	(2xAWG22)C)C	one core each in white and blue	
CF280.UL.H102.40.04.D	4G4.0	3 black cores with white printing: <b>1. Core:</b> U/L1/C/L+ <b>2. Core:</b> V/L2 <b>3. Core:</b> W/L3/D/L- followed by one green-yellow core	
	(2x1.0)C	2 black cores with white numbers 5 & 6	
	(2xAWG22)C	one core each in white and blue	
CF280.UL.H102.60.04.D	4G6.0	3 black cores with white printing: <b>1. Core:</b> U/L1/C/L+ <b>2. Core:</b> V/L2 <b>3. Core:</b> W/L3/D/L- followed by one green-yellow core	
	(2x1.0)C	2 black cores with white numbers 5 & 6	
	(2xAWG22)C	one core each in white and blue	



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Example image

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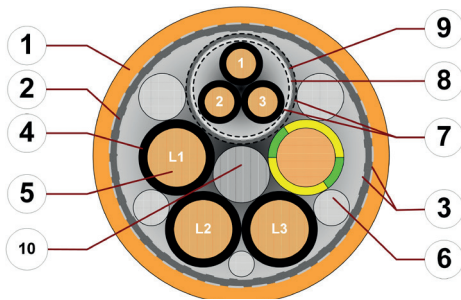
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### SEW

CF280.UL.H200.15.07.D-CF280.UL.H207.25.04.D





1. Outer jacket: Pressure extruded PUR mixture
2. Overall shield: Extremely bending-stable braid made of tinned copper wires
3. Banding: Plastic fleece
4. Core insulation: Mechanically high-quality, especially low-capacitance XLPE mixture
5. Conductor: Especially bending-resistant version consisting of bare copper wires
6. Filling: Plastic yarns
7. Element banding: Plastic foil
8. Shield foil: Aluminium-coated polyester foil
9. Element shield: Bending-resistant braiding made of tinned copper wires
10. Strain relief: Tensile stress-resistant centre element

#### Example image

For detailed overview please see design table

### Electrical information

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

### Details UL approval

	UL/CSA	Cores 0.75/1.0/1.5/2.5/4.0/6.0: Style 10989 (1000 V, 80 °C) Cable: Style 21223 (1000 V, 80 °C)
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### SEW

CF280.UL.H200.15.07.D-CF280.UL.H207.25.04.D

### Design table

Part No.	Core group	Colour code	Core design
CF280.UL.H200.15.07.D (SEW Kabeltyp A/1,5)	4G1.5	3 black cores with white printing: <b>1. Core:</b> U/L1/C/L+ <b>2. Core:</b> V/L2 <b>3. Core:</b> W/L3/D/L- followed by one green-yellow core	
	3x1.5	one core each in blue, white and red	
	(2x0.75)C	2 black cores with white numbers 1 & 2	
CF280.UL.H200.25.07.D (SEW Kabeltyp A/2,5)	4G2.5	3 black cores with white printing: <b>1. Core:</b> U/L1/C/L+ <b>2. Core:</b> V/L2 <b>3. Core:</b> W/L3/D/L- followed by one green-yellow core	
	3x2.5	one core each in blue, white and red	
	(2x0.75)C	2 black cores with white numbers 1 & 2	
CF280.UL.H201.15.04.D (SEW Kabeltyp B/1,5)	4G1.5	3 black cores with white printing: <b>1. Core:</b> U/L1/C/L+ <b>2. Core:</b> V/L2 <b>3. Core:</b> W/L3/D/L- followed by one green-yellow core	
	(2x0.75)C	one core each in white (0V) and red (24V)	
	(3x0.75)C	one core each in white (0V), orange (RS+) and green (RS-)	
CF280.UL.H201.25.04.D (SEW Kabeltyp B/2,5)	4G2.5	3 black cores with white printing: <b>1. Core:</b> U/L1/C/L+ <b>2. Core:</b> V/L2 <b>3. Core:</b> W/L3/D/L- followed by one green-yellow core	
	(2x0.75)C	one core each in white (0V) and red (24V)	
	(3x0.75)C	one core each in white (0V), orange (RS+) and green (RS-)	
CF280.UL.H203.15.04.D (SEW Kabeltyp E/1,5)	4G1.5	3 black cores with white printing: <b>1. Core:</b> U/L1/C/L+ <b>2. Core:</b> V/L2 <b>3. Core:</b> W/L3/D/L- followed by one green-yellow core	
	(3x1.0)C)C	3 black cores with white numbers 1 - 3	
CF280.UL.H203.25.04.D (SEW Kabeltyp E/2,5)	4G2.5	3 black cores with white printing: <b>1. Core:</b> U/L1/C/L+ <b>2. Core:</b> V/L2 <b>3. Core:</b> W/L3/D/L- followed by one green-yellow core	
	(3x1.0)C)C	3 black cores with white numbers 1 - 3	



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



# Data sheet

## chainflex® CF280.UL.H



- Hybrid servo cable (Class 4.2.3.1) ● For medium duty applications ● PUR outer jacket  
 ● Shielded ● Oil resistant and coolant-resistant ● Flame retardant ● PVC and halogen-free  
 ● Notch-resistant ● Hydrolysis and microbe-resistant



### SEW

CF280.UL.H200.15.07.D-CF280.UL.H207.25.04.D

### Design table

(continued)

Part No.	Core group	Colour code	Core design
CF280.UL.H204.15.04.D (SEW Kabeltyp D/1,5)	4G1.5	3 black cores with white printing: <b>1. Core:</b> U/L1/C/L+ <b>2. Core:</b> V/L2 <b>3. Core:</b> W/L3/D/L- followed by one green-yellow core	
	(2x0.75)C	2 black cores with white numbers 4 & 5	
	(3x1.0)C)C	3 black cores with white numbers 1 - 3	
CF280.UL.H206.40.04.D (SEW Kabeltyp D/4,0)	4G4.0	3 black cores with white printing: <b>1. Core:</b> U/L1/C/L+ <b>2. Core:</b> V/L2 <b>3. Core:</b> W/L3/D/L- followed by one green-yellow core	
	(2x0.75)C	2 black cores with white numbers 4 & 5	
	(3x1.5)C	3 black cores with white numbers 1 - 3	
CF280.UL.H206.60.04.D (SEW Kabeltyp D/6,0)	4G6.0	3 black cores with white printing: <b>1. Core:</b> U/L1/C/L+ <b>2. Core:</b> V/L2 <b>3. Core:</b> W/L3/D/L- followed by one green-yellow core	
	(2x0.75)C	2 black cores with white numbers 4 & 5	
	(3x1.5)C)C	3 black cores with white numbers 1 - 3	
CF280.UL.H207.15.04.D (SEW MOVILINK DDI)	4G1.5	3 black cores with white printing: <b>1. Core:</b> U/L1/C/L+ <b>2. Core:</b> V/L2 <b>3. Core:</b> W/L3/D/L- followed by one green-yellow core	
	2x(2x1.0)C	yellow/orange, pink/violet	
	HF50-0.9/2.95	Coaxial element in violet	
CF280.UL.H207.25.04.D (SEW MOVILINK DDI)	4G2.5	3 black cores with white printing: <b>1. Core:</b> U/L1/C/L+ <b>2. Core:</b> V/L2 <b>3. Core:</b> W/L3/D/L- followed by one green-yellow core	
	2x(2x1.0)C	yellow/orange, pink/violet	
	HF50-0.9/2.95	Coaxial element in violet	



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



Example image

# Data sheet

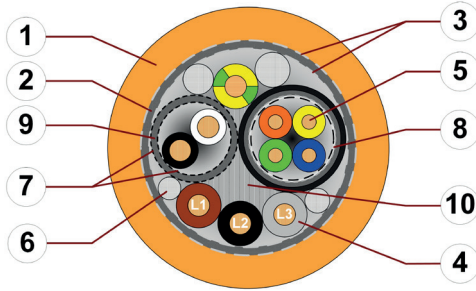
## chainflex® CF280.UL.H



Hybrid servo cable (Class 4.2.3.1) ● For medium duty applications ● PUR outer jacket  
 ● Shielded ● Oil resistant and coolant-resistant ● Flame retardant ● PVC and halogen-free  
 ● Notch-resistant ● Hydrolysis and microbe-resistant

### Siemens (SINAMICS S210)

CF280.UL.H300.03.04.D-CF280.UL.H304.25.04.D



1. Outer jacket: Pressure extruded PUR mixture
2. Overall shield: Extremely bending-stable braid made of tinned copper wires
3. Banding: Plastic fleece
4. Core insulation: Mechanically high-quality, especially low-capacitance XLPE mixture
5. Conductor: Especially bending-resistant version consisting of bare copper wires
6. Filling: Plastic yarns
7. Element banding: Plastic foil
8. Shield foil: Aluminium-coated polyester foil
9. Element shield: Bending-resistant braiding made of tinned copper wires
10. Strain relief: Tensile stress-resistant centre element

#### Example image

For detailed overview please see design table

### Electrical information

Bus element	SINAMICS S210
Characteristic wave impedance (following DIN EN 50289-1-11)	100 ± 15 Ω (1-10 MHz)
Operating capacity	50 pF/m

Nominal voltage	300/500 V (following DIN VDE 0298-3) 300 V (following UL)
Testing voltage	2000 V (following DIN EN 50395)

### Details UL approval

UL/CSA	Cores 0.34/AWG26/0,5/0,75: Style 10867 (300 V, 80°C) Cable: Style 20223 (300 V, 80 °C)
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### Design table

Part No.	Core group	Colour code	Core design
CF280.UL.H300.03.04.D	4G0.34	one core each in grey, black and brown: <b>1. Core:</b> U/L1/C/L+ <b>2. Core:</b> V/L2 <b>3. Core:</b> W/L3/D/L- followed by one green-yellow core	
	(2x0.34)C	one core each in black and white	
	(4xAWG26)C	one core each in yellow, blue, green and orange	
CF280.UL.H301.07.04.D	4G0.75	one core each in grey, black and brown: <b>1. Core:</b> U/L1/C/L+ <b>2. Core:</b> V/L2 <b>3. Core:</b> W/L3/D/L- followed by one green-yellow core	
	(2x0.5)C	one core each in black and white	
	(4xAWG26)C	one core each in yellow, blue, green and orange	



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



Example image

igus® chainflex® CF280.UL.H

# Data sheet

## chainflex® CF280.UL.H



- Hybrid servo cable (Class 4.2.3.1) ● For medium duty applications ● PUR outer jacket
- Shielded ● Oil resistant and coolant-resistant ● Flame retardant ● PVC and halogen-free
- Notch-resistant ● Hydrolysis and microbe-resistant



### Siemens (SINAMICS S210)

CF280.UL.H300.03.04.D-CF280.UL.H304.25.04.D

### Konstruktionstabelle

(Fortsetzung)

Part No.	Core group	Colour code	Core design
CF280.UL.H304.15.04.D	4G1.5	one core each in grey, black and brown: <b>1. Core:</b> U/L1/C/L+ <b>2. Core:</b> V/L2 <b>3. Core:</b> W/L3/D/L- followed by one green-yellow core	
	(2x1.5)C	one core each in black and white	
	(4xAWG26)C	one core each in yellow, blue, green and orange	
CF280.UL.H304.25.04.D	4G2.5	one core each in grey, black and brown: <b>1. Core:</b> U/L1/C/L+ <b>2. Core:</b> V/L2 <b>3. Core:</b> W/L3/D/L- followed by one green-yellow core	
	(2x1.5)C	one core each in black and white	
	(4xAWG26)C	one core each in yellow, blue, green and orange	



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Example image

igus® chainflex® CF280.UL.H

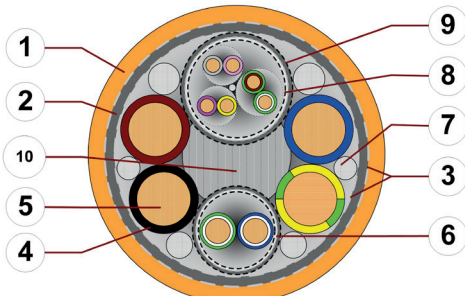
# Data sheet

## chainflex® CF280.UL.H



Hybrid servo cable (Class 4.2.3.1) ● For medium duty applications ● PUR outer jacket  
 ● Shielded ● Oil resistant and coolant-resistant ● Flame retardant ● PVC and halogen-free  
 ● Notch-resistant ● Hydrolysis and microbe-resistant

### Bosch Rexroth (IndraDrive) CF280.UL.H400.25.05.D



1. Outer jacket: Pressure extruded PUR mixture
2. Overall shield: Extremely bending-stable braid made of tinned copper wires
3. Banding: Plastic fleece
4. Core insulation: Mechanically high-quality, especially low-capacitance XLPE mixture
5. Conductor: Especially bending-resistant version consisting of bare copper wires
6. Filling: Plastic yarns
7. Element banding: Plastic foil
8. Shield foil: Aluminium-coated polyester foil
9. Element shield: Bending-resistant braiding made of tinned copper wires
10. Strain relief: Tensile stress-resistant centre element

**Example image**  
For detailed overview please see design table

### Electrical information

Bus element	IndraDrive
Characteristic wave impedance (following DIN EN 50289-1-11)	100 ± 15 Ω (1-100 MHz)
Operating capacity	50 pF/m

**Nominal voltage** 600/1000 V (following DIN VDE 0298-3)  
1000 V (following UL)

**Testing voltage** 4000 V (following DIN EN 50395)

### Details UL approval

**UL/CSA**  
**Cores 0.35:** Style 10867 (1000 V, 80 °C)  
**Cores AWG22:** Style 11117 (1000 V, 80 °C)  
**Cores 2.5:** Style 10989 (1000 V, 80 °C)  
**Cable:** Style 21223 (1000 V, 80 °C)

### Design table

Part No.	Core group	Colour code	Core design
CF280.UL.H400.25.05.D	5x2.5	one core each in red, black, white, green, followed by one green-yellow core	
	5x0.35	one core each in turquoise, brown, black, green and violet	
	(4xAWG22)C	one core each in white, orange, blue and yellow	



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Example image

igus® chainflex® CF280.UL.H



# Data sheet

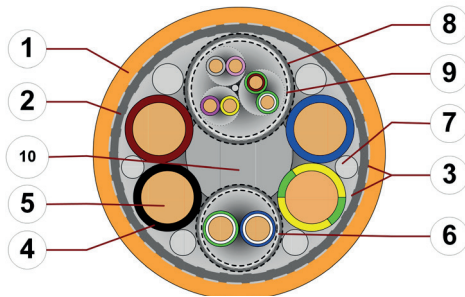
## chainflex® CF280.UL.H



Hybrid servo cable (Class 4.2.3.1) ● For medium duty applications ● PUR outer jacket  
 ● Shielded ● Oil resistant and coolant-resistant ● Flame retardant ● PVC and halogen-free  
 ● Notch-resistant ● Hydrolysis and microbe-resistant

### B&R

CF280.UL.H501.15.04.D-CF280.UL.H502.40.04.D





1. Outer jacket: Pressure extruded PUR mixture
2. Overall shield: Extremely bending-stable braid made of tinned copper wires
3. Banding: Plastic fleece
4. Core insulation: Mechanically high-quality, especially low-capacitance XLPE mixture
5. Conductor: Especially bending-resistant version consisting of bare copper wires
6. Filling: Plastic yarns
7. Element banding: Plastic foil
8. Shield foil: Aluminium-coated polyester foil
9. Element shield: Bending-resistant braiding made of tinned copper wires
10. Strain relief: Tensile stress-resistant centre element


### Example image

For detailed overview please see design table

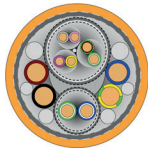
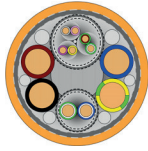
### Electrical information

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

### Details UL approval

	<b>UL/CSA</b>	<b>Cores 0.14/0.25/0.75/1.0:</b> Style 10867 (1000 V, 80 °C) <b>Cores 1.5/4.0:</b> Style 10989 (1000 V, 80 °C) <b>Cable:</b> Style 21223 (1000 V, 80 °C)
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### Design table

Part No.	Core group	Colour code	Core design
CF280.UL.H501.15.04.D	4G1.5	one core each in black, brown, blue, followed by one green-yellow core	
	(2x0.75)C	one core each in white-blue and white-green	
	2x2x0.14	2 pairs in pink/grey and yellow/violet	
	2x0.25	one core each in brown-green and white-green	
CF280.UL.H502.40.04.D	4G4.0	one core each in black, brown, blue, followed by one green-yellow core	
	(2x1.0)C	one core each in white-blue and white-green	
	2x2x0.14	2 pairs in pink/grey and yellow/violet	
	2x0.25	one core each in brown-green and white-green	



Example image

igus® chainflex® CF280.UL.H

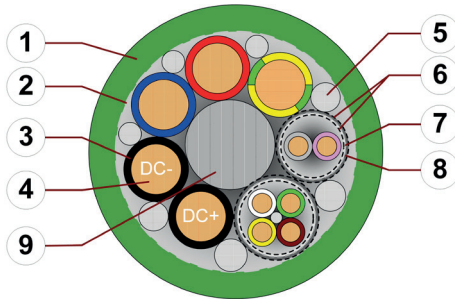
# Data sheet

## chainflex® CF280.UL.H



- Hybrid servo cable (Class 4.2.3.1) ● For medium duty applications ● PUR outer jacket  
 ● Shielded ● Oil resistant and coolant-resistant ● Flame retardant ● PVC and halogen-free  
 ● Notch-resistant ● Hydrolysis and microbe-resistant

### ELAU/Schneider Electric (isH Servo) CF280.UL.H601.25.05



1. Outer jacket: Pressure extruded PUR mixture
2. Banding: Plastic fleece
3. Core insulation: Mechanically high-quality, especially low-capacitance XLPE mixture
4. Conductor: Especially bending-resistant version consisting of bare copper wires
5. Filling: Plastic yarns
6. Element banding: Plastic foil
7. Shield foil: Aluminium-coated polyester foil
8. Element shield: Bending-resistant braiding made of tinned copper wires
9. Strain relief: Tensile stress-resistant centre element

**Example image**  
For detailed overview please see design table

### Electrical information

Bus element	isH Servo
Characteristic wave impedance (following DIN EN 50289-1-11)	100 ± 15 Ω (1-10 MHz)
Operating capacity	50 pF/m

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

### Details UL approval

UL/CSA	Cores 0.25/AWG24: Style 10867 (1000 V, 80 °C) Cores 2.5: Style 10989 (1000 V, 80 °C) Cable: Style 21223 (1000 V, 80 °C)
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### Design table

Part No.	Core group	Colour code	Core design
CF280.UL.H601.25.05	5G2.5	2 black cores with white printing: <b>1. Core: DC+</b> <b>2. Core: DC-</b> followed by one blue, red and green-yellow core	
	(4xAWG24)C	one core each in white, green, brown and yellow	
	(2x0.25)C	one core each in grey and pink	



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Example image

igus® chainflex® CF280.UL.H