

Control cable | PVC | chainflex® CF130US

36 5,000,000
Cycles guaranteed

8 x d
Bend radius E-Chain®

30 ft
Travel distance E-Chain®

- For low duty flexing applications
- PVC outer jacket
- Oil-resistant
- Flame retardant
- UL Tray cable for exposed run (TC-ER)

Dynamic Information

	Bend radius	E-Chain® linear	min. 8 x d
		flexible	min. 7.5 x d
		fixed	min. 5 x d
	Temperature	E-Chain® linear	+41 °F to +176 °F (+5 °C to +80 °C)
		flexible	+23 °F to +176 °F (-5 °C to +80 °C)
		fixed	-4 °F to +194 °F (-20 °C to +90 °C)
	v max.	unsupported	9.84 ft/s (3 m/s)
		gliding	6.56 ft/s (2 m/s)
	a max.		65.6 ft/s² (20 m/s²)
	Travel distance		Unsupported distances and low duty gliding applications up to 30ft (9m)
	Torsion		±90° with 3.281 ft (1m) cable length

Cable structure

	Conductors	Finely stranded bundled bare copper wires. Designed in accordance with ASTM B174-95.
	Conductor insulation	Mechanically high-quality, PVC/Nylon.
	Conductor construction	Conductors concentrically layered with short pitch.
	Color code	Black with white numbers, one green-yellow.
	Outer jacket	Oil-resistant UV-resistant PVC, low-adhesion blend, adapted to the requirements of the Energy Chain®. Color: Gray (similar to RAL 7001)

Electrical Information

	Nominal voltage	600 V
	Test voltage	3300 V

Class 3.1.4.2

Properties and approvals

	UV resistance	Medium.
	Oil resistance	Oil resistant (according to DIN EN 60811-2-1, DIN EN 50363-4-1, Class 4
	Flame resistance	MTW: UL VW-1 and CSA FT4 TC-ER: UL 1685 and CSA FT4
	Silicone-free	Free from silicone which can affect paint adhesion (following PV3.10.7 – status 1992)
	NFPA 79	Complies to Electrical Standard for Industrial Machinery NFPA 79 Section 12.9
	UL/CSA	For installation in accordance with all applicable sections of the National Electric Code. Type TC-ER-HL Tray cable ER = Exposed Run HL = Hazardous Locations Per NEC Articles 501, 502, 503 & 505 permitted for use in Class I and II Divisions 1 and 2 , Zones 1 and 2 locations Direct Burial Oil Resistant I Type WTTC: Wind Turbine Tray Cable Type MTW: For installation in Accordance with all applicable sections of the National Electric Code. UL AWM 2587 90°C 600V cUL: Canadian Tray Cable CIC-TC FT4 CSA AWM I/II A/B 90°C 600V FT4 CE: In accordance with European Council Directive 73/23/EEC 2002/95/EC; Please reference the Design Section for more Information.
	Lead-free	
	CE	Following 2014/35/EU.
	Info	In general these cables will offer continuous-flex performance in specific “Tray Cable” and “Machine Tool Wire” NEC compliant installations. The CF130US line is designed for use in 600V control and power applications. The oil-resistant jacket also passes the stringent 70,000 BTU UL and CSA Vertical Flame Tests. Not recommended for long travel / gliding applications.

Guaranteed lifetime according to guarantee conditions (Page 22-23)

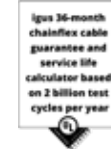
Cycles*	1 million	3 million	5 million
Temperature, from/to [°F]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
+23/+59	10	12	13
+59/+140	8	10	12
+140/+176	10	12	13

* Higher number of cycles? Online lifetime calculation ► www.chainflex.com/chainflexlife

Typical application areas

- For low duty flexing applications
- Suitable for indoor/outdoor applications
- Especially for unsupported travel distances and low-duty gliding applications up to 30 ft (9m)
- UL Tray cable for exposed run (TC-ER)
- Wood/stone processing, packaging industry, supply systems, handling, adjusting equipment, machine tools

Basic requirements	low	1	2	3	4	5	6	7	highest
Travel distance	unsupported	1	2	3	4	5	6	1,312 ft +	
Oil resistance	none	1	2	3	4	highest			
Torsion	none	1	2	3	4	±360°			



Control cable | PVC | chainflex® CF130US



Example image

Part No.	AWG	Number of Conductors and rated cross section	Outer diameter max.		Copper index		Weight	
			[mm²]	[in.]	[mm]	[lbs/mft]	[kg/km]	[lbs/mft]
CF130US-05-02	20	2 x 0.5	0.26	6.7	6.7	10	22.2	33
CF130US-05-03	20	3 G 0.5	0.28	7.1	10.1	15	34.9	52
CF130US-05-04	20	4 G 0.5	0.31	7.9	12.8	19	49.1	73
CF130US-05-05	20	5 G 0.5	0.33	8.4	16.1	24	56.4	84
CF130US-05-07	20	7 G 0.5	0.38	9.7	22.2	33	72.6	108
CF130US-05-12	20	12 G 0.5	0.47	11.9	38.3	57	115.6	172
CF130US-05-18	20	18 G 0.5	0.55	14.0	57.8	86	161.9	241
CF130US-05-25	20	25 G 0.5	0.65	16.6	80.0	119	215.7	321
CF130US-07-04	18	4 G 0.75	0.33	8.3	20.2	30	59.1	88
CF130US-07-05	18	5 G 0.75	0.35	8.9	25.5	38	68.5	102
CF130US-07-07	18	7 G 0.75	0.40	10.2	35.6	53	88.7	132
CF130US-07-12	18	12 G 0.75	0.50	12.7	60.5	90	143.1	213
CF130US-07-18	18	18 G 0.75	0.58	14.7	91.4	136	202.9	302
CF130US-07-25	18	25 G 0.75	0.69	17.5	126.3	188	270.8	403
CF130US-15-03	16	3 G 1.5	0.33	8.4	24.2	36	59.8	89
CF130US-15-04	16	4 G 1.5	0.35	9.0	32.3	48	76.6	114
CF130US-15-05	16	5 G 1.5	0.39	9.8	40.3	60	88.7	132
CF130US-15-07	16	7 G 1.5	0.44	11.3	56.4	84	129.0	192
CF130US-15-10	16	10 G 1.5	0.56	14.2	80.6	120	184.1	274
CF130US-15-12	16	12 G 1.5	0.56	14.2	96.1	143	196.2	292
CF130US-15-18	16	18 G 1.5	0.65	16.4	144.5	215	282.9	421
CF130US-15-22	16	22 G 1.5	0.71	18.0	176.7	263	339.3	505
CF130US-15-25	16	25 G 1.5	0.76	19.4	200.2	298	389.7	580
CF130US-15-33	16	33 G 1.5	0.85	21.6	264.8	394	556.4	828
CF130US-25-04	14	4 G 2.5	0.39	9.8	51.7	77	101.5	151
CF130US-25-07	14	7 G 2.5	0.51	13.0	90.7	135	170.7	254
CF130US-25-10	14	10 G 2.5	0.63	16.0	127.7	190	223.8	333
CF130US-25-12	14	12 G 2.5	0.61	15.6	155.9	232	269.5	401
CF130US-40-04	12	4 G 4.0	0.49	12.4	79.3	118	149.2	222
CF130US-60-04	10	4 G 6.0	0.56	14.2	129.7	193	219.7	327
CF130US-60-05	10	5 G 6.0	0.61	15.5	162.6	242	261.4	389

Note: The given outer diameters are maximum values.
G = with green-yellow earth core x = without earth core

Configurators ▶ www.igus.com/CF130US

Class 3.1.4.2

Basic requirements	low	1	2	3	4	5	6	7	highest
	Travel distance	unsupported	1	2	3	4	5	6	1,312 ft +
	Oil resistance	none	1	2	3	4	highest		
	Torsion	none	1	2	3	4	±360°		

- Order example: **CF130US-05-02** – To your desired length
CF130US chainflex® series **-05** Code nominal cross section **-02** Code Number of conductors
- Online order ▶ www.chainflex.com/CF130US
- Delivery time 24h or today.
Delivery time means time until shipping of goods.



Control cable | PVC | chainflex® CF140US

36 5,000,000
Cycles guaranteed

10 x d
Bend radius E-Chain®

30 ft
Travel distance E-Chain®

- For low duty flexing applications
- PVC outer jacket
- Shielded
- Oil-resistant
- Flame retardant
- UL Tray cable for exposed run (TC-ER)

Dynamic Information

	Bend radius	E-Chain® linear	min. 10 x d
		flexible	min. 8 x d
		fixed	min. 7.5 x d
	Temperature	E-Chain® linear	+41 °F to +176 °F (+5 °C to +80 °C)
		flexible	+23 °F to +176 °F (-5 °C to +80 °C)
		fixed	-4 °F to +194 °F (-20 °C to +90 °C)
	v max.	unsupported	9.84 ft/s (3 m/s)
		gliding	6.56 ft/s (2 m/s)
	a max.		65.6 ft/s² (20 m/s²)
	Travel distance		Unsupported distances and low duty gliding applications up to 30ft (9m)

Cable structure

	Conductors	Finely stranded bundled bare copper wires. Designed in accordance with ASTM B174-95.
	Conductor insulation	Mechanically high-quality, PVC/Nylon.
	Conductor construction	Conductors concentrically layered with short pitch.
	Color code	Black with white numbers, one green-yellow. **
	Inner jacket	Low-adhesion PVC.
	Overall shield	Tinned copper braid. 65 % optical coverage
	Outer jacket	Oil-resistant UV-resistant PVC, low-adhesion blend, adapted to the requirements of the Energy Chain®. Color: Gray (similar to RAL 7001)

Electrical Information

	Nominal voltage	600 V
	Test voltage	3300 V

Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6	1,312 ft +	
none	1	2	3	4	highest			
none	1	2	3	4	±360°			

Class 3.1.4.2

Properties and approvals

	UV resistance	Medium.
	Oil resistance	Oil resistant (according to DIN EN 60811-2-1, DIN EN 50363-4-1, Class 4
	Flame resistance	CSA AWM: FT4
	Silicone-free	Free from silicone which can affect paint adhesion (following PV3.10.7 – status 1992)
	NFPA 79	Complies to Electrical Standard for Industrial Machinery NFPA 79 Section 12.9
	UL/CSA	For installation in accordance with all applicable sections of the National Electric Code. Type TC-ER-HL Tray cable ER = Exposed Run HL = Hazardous Locations Per NEC Articles 501, 502, 503 & 505 permitted for use in Class I and II Divisions 1 and 2 , Zones 1 and 2 locations Direct Burial Oil Resistant I Type WTTC: Wind Turbine Tray Cable Type MTW: For installation in Accordance with all applicable sections of the National Electric Code. UL AWM 2587 90°C 600V cUL: Canadian Tray Cable CIC-TC FT4 CSA AWM I/II A/B 90°C 600V FT4 CE: In accordance with European Council Directive 73/23/EEC 2002/95/EC; Please reference the Design Section for more Information.
	Lead-free	
	CE	Following 2014/35/EU.
	Info	In general these cables will offer continuous-flex performance in specific “Tray Cable” and “Machine Tool Wire” NEC compliant installations. The CF140US line is designed for use in 600V control and power applications. The oil-resistant jacket also passes the stringent 70,000 BTU UL and CSA Vertical Flame Tests. Not recommended for long travel / gliding applications.

Guaranteed lifetime according to guarantee conditions (Page 22-23)

Cycles*	1 million	3 million	5 million
Temperature, from/to [°F]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
+23/+59	12	13	15
+59/+140	10	12	13
+140/+176	12	13	15

* Higher number of cycles? Online lifetime calculation ► www.chainflex.com/chainflexlife

Typical application areas

- For low duty flexing applications
- Suitable for indoor/outdoor applications
- Especially for unsupported travel distances and low-duty gliding applications up to 30 ft (9m)
- UL Tray cable for exposed run (TC-ER)
- Wood/stone processing, packaging industry, supply systems, handling, adjusting equipment, machine tools

Guarantee
igus chainflex
36
up to 36 months guarantee

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

CFRIP

UL

CF140US

NFPA

CUDA

UL

EAC

CF

CE

RoHS

Clean Room

UL

CE

Control cable | PVC | chainflex® CF140US



Example image

Part No.	AWG	Number of Conductors and rated cross section	Outer diameter max.		Copper index		Weight	
			[mm²]	[in.]	[mm]	[lbs/mft]	[kg/km]	[lbs/mft]
CF140US-05-02	20	2 x 0.5		0.35	8.8	14.8	22	55.1
CF140US-05-03	20	3 G 0.5		0.36	9.1	20.8	31	66.5
CF140US-05-04	20	4 G 0.5		0.39	9.9	24.9	37	74.6
CF140US-05-05	20	5 G 0.5		0.41	10.4	28.2	42	87.4
CF140US-05-07	20	7 G 0.5		0.46	11.7	37.6	56	108.2
CF140US-05-12	20	12 G 0.5		0.55	14.0	61.1	91	165.3
CF140US-05-18	20	18 G 0.5		0.63	16.1	84.0	125	219.1
CF140US-05-25	20	25 G 0.5		0.78	19.7	115.6	172	291.0
CF140US-07-04	18	4 G 0.75		0.40	10.2	32.3	48	88.7
CF140US-07-05	18	5 G 0.75		0.43	10.8	28.9	43	101.5
CF140US-07-07	18	7 G 0.75		0.48	12.2	51.1	76	127.0
CF140US-07-12	18	12 G 0.75		0.57	14.6	86.0	128	196.9
CF140US-07-18	18	18 G 0.75		0.66	16.8	123.0	183	267.4
CF140US-07-25	18	25 G 0.75		0.78	19.7	161.3	240	283.6
CF140US-15-03	16	3 G 1.5		0.41	10.3	37.0	55	92.7
CF140US-15-04	16	4 G 1.5		0.43	10.9	46.4	69	108.9
CF140US-15-05	16	5 G 1.5		0.46	11.7	63.2	94	125.0
CF140US-15-07	16	7 G 1.5		0.52	13.3	79.3	118	154.6
CF140US-15-12	16	12 G 1.5		0.64	16.3	118.9	177	250.0
CF140US-15-18	16	18 G 1.5		0.72	18.4	169.3	252	334.6
CF140US-15-22	16	22 G 1.5		0.76	19.2	203.6	303	385.7
CF140US-15-25	16	25 G 1.5		0.85	21.6	241.2	359	454.9
CF140US-15-33	16	33 G 1.5		0.93	23.5	307.1	457	578.6
CF140US-25-04	14	4 G 2.5		0.46	11.8	67.2	100	137.1
CF140US-25-07	14	7 G 2.5		0.59	14.9	110.9	165	217.7
CF140US-25-12	14	12 G 2.5		0.69	17.5	180.1	268	326.6
CF140US-25-18	14	18 G 2.5		0.79	20.0	200.2	298	350.4
CF140US-40-04	12	4 G 4.0		0.57	14.5	99.5	148	195.5
CF140US-60-04	10	4 G 6.0		0.64	16.3	155.2	231	270.1
CF140US-60-05	10	5 G 6.0		0.69	17.5	186.8	278	318.5

Note: The given outer diameters are maximum values.
G = with green-yellow earth core x = without earth core

Configurators ▶ www.igus.com/CF140US

Class 3.1.4.2

Basic requirements
Travel distance
Oil resistance
Torsion

low	1	2	3	4	5	6	7	highest
unsupported	1	2	3	4	5	6		1,312 ft +
none	1	2	3	4				highest
none	1	2	3	4				±360°

- Order example: **CF140US-05-02** – To your desired length
CF140US chainflex® series -05 Code nominal cross section -02 Code Number of conductors
- Online order ▶ www.chainflex.com/CF140US
- Delivery time 24h or today.
Delivery time means time until shipping of goods.

