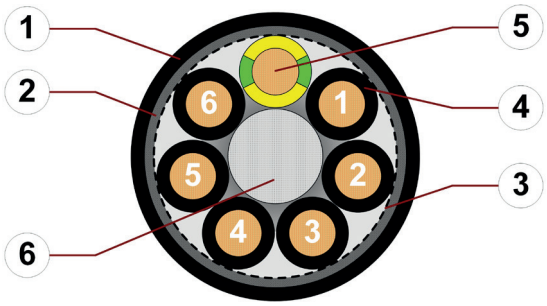
Data sheet
chainflex® CF881

Control cable (Class 3.1.1.1) ● For flexing applications ● PVC outer jacket ● Shielded ● Flame retardant

Example image



1. Outer jacket: Pressure extruded PVC mixture
2. Overall shield: Braiding made of tinned copper wires
3. Banding: Plastic foil
4. Core insulation: Mechanically high-quality TPE mixture
5. Conductor: Stranded conductor consisting of bare copper wires
6. Filling: Plastic yarns

Example image
For detailed overview please see design table

Cable structure

Conductor	Conductor consisting of bare copper wires (according to DIN EN 60228).
Core insulation	Mechanically high-quality TPE mixture.
Core structure	Cores wound with an optimised pitch length.
Core identification	Black cores with white numbers, one green-yellow core.
Overall shield	Braiding made of tinned copper wires. Coverage approx. 60 % optical
Outer jacket	Low-adhesion PVC mixture, adapted to suit the requirements in e-chains®. Colour: Jet black (similar to RAL 9005) Printing: white

„00000 m“ igus chainflex M CF881.--.--① ---② 300/500V E310776**

cЯUus AWM Style 2464 VW-1 AWM I/II A/B 80°C 300V FT1 EAC/CTP

conform RoHS-II conform 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).
Example: ... chainflex ... **CF881.15.04** ... **(4G1.5)C** ... **300 V/500 V** ...

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Dynamic information

Bend radius	**e-chain® linear**	minimum 12.5 x d
	flexible	minimum 10 x d
	fixed	minimum 7 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**	3 m/s
a max.		20 m/s²
Travel distance		Unsupported travel distances up to 10 m, Class 1

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	1 million	3 million	5 million
Temperature, from/to [°C]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
+5/+15	15	16	17
+15/+60	12.5	13.5	14.5
+60/+70	15	16	17

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

Electrical information

Nominal voltage	300/500 V 300 V (following UL)
Testing voltage	2000 V (following DIN EN 50395)

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Example image

Properties and approvals

Flame retardant	According to IEC 60332-1-2, FT1, VW-1
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 table UL/CSA AWM for details
NFPA	Following NFPA 79-2018, chapter 12.9
EAC	Certificate No. RU C-DE.ME77.B.00300/19 (TR ZU)
REACH	In accordance with regulation (EC) No. 1907/2006 (REACH)
Lead-free	Following 2011/65/EC (RoHS-II/RoHS-III)
CE	Following 2014/35/EU

Properties and approvals

UL/CSA AWM Details

Conductor nominal cross section [mm²]	Number of cores	UL style core insultation	UL style outer jacket	UL Voltage Rating [V]	UL Temperature Rating [°C]
0.5	3-25	10493	2464	300	80
0.75	2-25	10493	2464	300	80
1	2-25	10493	2464	300	80
1.5	2-25	10493	2464	300	80
2.5	4-12	10493	2464	300	80

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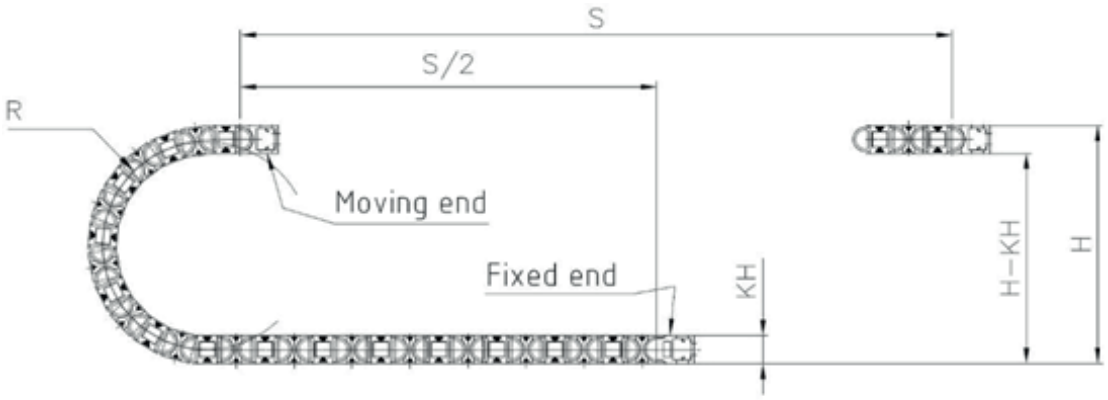
Example image

Typical lab test setup for this cable series

Test bend radius R	approx. 75 - 225 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 / s²



Typical application areas

- For flexing applications, Class 3
- Especially for unsupported travels, Class 1
- Without influence of oil, Class 1
- No torsion, Class 1
- Preferably indoor applications
- Wood/stone processing, Packaging industry, supply systems, Handling, adjusting equipment

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Example image

Technical tables:

Mechanical information

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF881.05.03	(3G0.5)C	6.0	28	47
CF881.05.04	(4G0.5)C	6.5	35	54
CF881.05.05	(5G0.5)C	7.0	41	65
CF881.05.07	(7G0.5)C	8.0	59	75
CF881.05.12	(12G0.5)C	9.0	91	125
CF881.05.18	(18G0.5)C	11.0	136	177
CF881.05.25	(25G0.5)C	13.0	210	243
CF881.07.02	(2x0.75)C	6.5	30	50
CF881.07.03	(3G0.75)C	7.0	37	66
CF881.07.04	(4G0.75)C	7.5	46	72
CF881.07.05	(5G0.75)C	8.0	61	87
CF881.07.07	(7G0.75)C	9.0	83	112
CF881.07.12	(12G0.75)C	10.5	124	170
CF881.07.18	(18G0.75)C	12.0	183	238
CF881.07.25	(25G0.75)C	14.5	222	309
CF881.10.02	(2x1.0)C	6.5	30	52
CF881.10.03	(3G1.0)C	7.0	46	73
CF881.10.04	(4G1.0)C	7.5	63	102
CF881.10.05	(5G1.0)C	8.0	76	110
CF881.10.07	(7G1.0)C	9.5	100	130
CF881.10.12	(12G1.0)C	11.5	167	229
CF881.10.18	(18G1.0)C	13.0	213	281
CF881.10.25	(25G1.0)C	16.0	291	390
CF881.15.02	(2x1.5)C	7.5	60	71
CF881.15.03	(3G1.5)C	7.5	63	87
CF881.15.04	(4G1.5)C	8.5	90	111
CF881.15.05	(5G1.5)C	9.0	94	131
CF881.15.07	(7G1.5)C	11.0	153	183
CF881.15.12	(12G1.5)C	13.0	212	282
CF881.15.18	(18G1.5)C	15.0	399	458
CF881.15.25	(25G1.5)C	18.5	425	573
CF881.25.04	(4G2.5)C	10.0	141	163
CF881.25.05	(5G2.5)C	11.0	149	195
CF881.25.07	(7G2.5)C	13.0	204	262
CF881.25.12 [11)]	(12G2.5)C	16.0	342	428

[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

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Example image

Electrical information

Conductor nominal cross section [mm²]	Maximum conductor resistance at 20 °C (following DIN EN 50289-1-2) [Ω/km]	Max. current rating at 30 °C [A]
0.5	39	10
0.75	26	13
1	19.5	15
1.5	13.3	19
2.5	8	27

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

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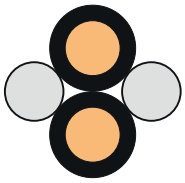
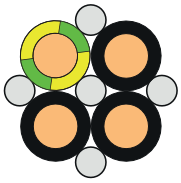
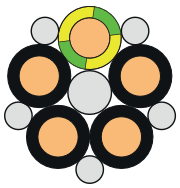
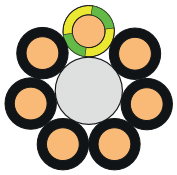
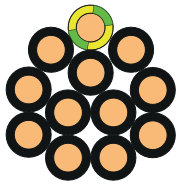
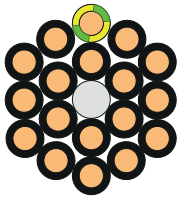
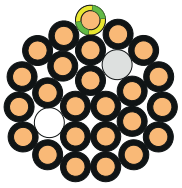
Example image

Design table

Part No.	Number of cores	Core design
CF881.XX.02	2	
CF881.XX.03	3	
CF881.XX.04	4	
CF881.XX.05	5	

Part No.	Number of cores	Core design
CF881.XX.07	7	
CF881.XX.12	12	
CF881.XX.18	18	
CF881.XX.25	25	

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