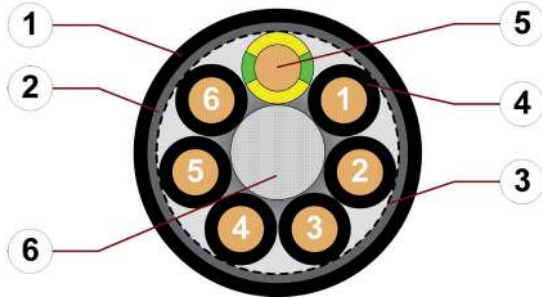


Data sheet

chainflex® CF891









Control cable (Class 3.1.3.1) • For flexing applications • iguPUR outer jacket • Oil-resistant
 • Shielded • Flame retardant



1. Outer jacket: Pressure extruded iguPUR 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 iguPUR mixture, adapted to suit the requirements in e-chains®. Colour: Jet black (similar to RAL 9005) Printing: white

„00000 m*** igus chainflex M CF891.--.--① ---② 300/500V E310776
 cRUus AWM Style 20940 VW-1 AWM I/II A/B 80°C 600V FT1 EAC CE UKCA
 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 CF891.10.04 (4G1.0)C 300 V/500 V ...



Example image

Data sheet






chainflex® CF891



Control cable (Class 3.1.3.1) ● For flexing applications ● iguPUR outer jacket ● Oil-resistant ● Shielded ● Flame retardant



Dynamic information

	Bend radius	e-chain® linear flexible fixed	minimum 12.5 x d minimum 10 x d minimum 7 x d
	Temperature	e-chain® linear flexible fixed	-20 °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)
	v max.	unsupported	3 m/s
	a max.		20 m/s ²
	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.

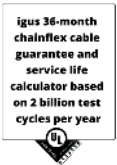
Guaranteed service life according to guarantee conditions

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]
-20/-10	15	16	17
-10/+70	12.5	13.5	14.5
+70/+80	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 600 V (following UL)
	Testing voltage	2000 V (following DIN EN 50395)














Data sheet

chainflex® CF891



Control cable (Class 3.1.3.1) ● For flexing applications ● iguPUR outer jacket ● Oil-resistant ● Shielded ● Flame retardant

Properties and approvals

-  **UV resistance** Medium
-  **Oil resistance** Oil-resistant (following DIN EN 50363-10-2), Class 3
-  **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** Details see table UL/CSA AWM
-  **EAC** Certificate No. RU C-DE.ME77.B.00300/19
-  **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
-  **UKCA** In accordance with the valid regulations of the United Kingdom (as at 08/2021)



Properties and approvals

UL/CSA AWM Details

Conductor nominal cross section [mm ²]	Number of cores	UL style core insulation	UL style outer jacket	UL Voltage Rating [V]	UL Temperature Rating [°C]
0.5	2-25	11323	20940	600	80
0.75	2-25	11323	20940	600	80
1	2-25	11323	20940	600	80
1.5	2-25	11323	20940	600	80
2.5	4-25	11323	20940	600	80



Data sheet

chainflex® CF891



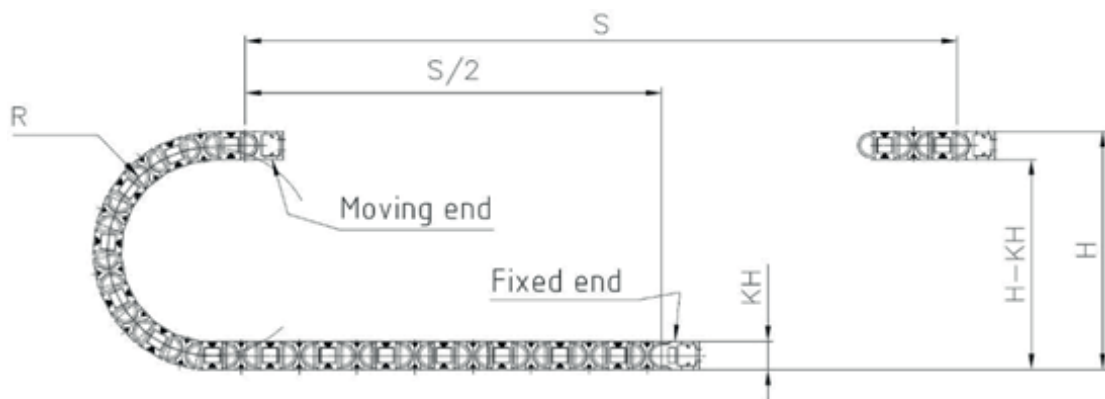
Control cable (Class 3.1.3.1) ● For flexing applications ● iguPUR outer jacket ● Oil-resistant ● Shielded ● Flame retardant



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 / s ²



Typical application areas

- For flexing applications, Class 3
- Especially for unsupported travels, Class 1
- With influence of oil, Class 3
- No torsion, Class 1
- Indoor and outdoor applications without direct solar radiation
- Machining units/machine tools, low temperature applications



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



Data sheet

chainflex® CF891



Control cable (Class 3.1.3.1) ● For flexing applications ● iguPUR outer jacket ● Oil-resistant
● Shielded ● Flame retardant

Technical tables:

Mechanical information

Part No.	Number of cores and conductor nominal cross section [mm ²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CF891.05.02	(2x0.5)C	6.0	18	37
CF891.05.03	(3G0.5)C	6.0	28	45
CF891.05.05	(5G0.5)C	7.0	41	62
CF891.05.12	(12G0.5)C	9.0	91	122
CF891.05.18	(18G0.5)C	11.0	136	174
CF891.05.25	(25G0.5)C	13.0	210	234
CF891.07.02	(2x0.75)C	6.5	30	48
CF891.07.03	(3G0.75)C	7.0	37	63
CF891.07.04	(4G0.75)C	7.5	46	68
CF891.07.05	(5G0.75)C	8.0	61	85
CF891.07.07	(7G0.75)C	9.0	83	109
CF891.07.12	(12G0.75)C	10.5	124	166
CF891.07.18	(18G0.75)C	12.0	183	232
CF891.07.25 ¹⁾	(25G0.75)C	14.5	222	299
CF891.10.02	(2x1.0)C	6.5	30	50
CF891.10.03	(3G1.0)C	7.0	46	71
CF891.10.04	(4G1.0)C	7.5	63	98
CF891.10.05	(5G1.0)C	8.0	76	105
CF891.10.07	(7G1.0)C	9.5	100	126
CF891.10.12	(12G1.0)C	11.5	167	224
CF891.10.18	(18G1.0)C	13.0	213	276
CF891.10.25 ¹⁾	(25G1.0)C	16.0	291	382
CF891.15.02	(2x1.5)C	7.5	60	69
CF891.15.03	(3G1.5)C	7.5	63	85
CF891.15.04	(4G1.5)C	8.5	90	108
CF891.15.05	(5G1.5)C	9.0	94	129
CF891.15.07	(7G1.5)C	11.0	153	177
CF891.15.12	(12G1.5)C	13.0	212	276
CF891.15.25	(25G1.5)C	18.5	425	560
CF891.25.04	(4G2.5)C	10.0	141	157
CF891.25.05	(5G2.5)C	11.0	149	192
CF891.25.07	(7G2.5)C	13.0	204	255

¹⁾ 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



Example image



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



Data sheet

chainflex® CF891



Control cable (Class 3.1.3.1) ● For flexing applications ● iguPUR outer jacket ● Oil-resistant ● Shielded ● Flame retardant



Example image

Electrical information

Conductor nominal cross section [mm ²]	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	14
1	19.5	17
1.5	13.3	21
2.5	8	30

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



Data sheet

chainflex® CF891



Control cable (Class 3.1.3.1) ● For flexing applications ● iguPUR outer jacket ● Oil-resistant ● Shielded ● Flame retardant

Design table

Part No.	Number of cores	Core design	Part No.	Number of cores	Core design
CF891.XX.02	2		CF891.XX.07	7	
CF891.XX.03	3		CF891.XX.12	12	
CF891.XX.04	4		CF891.XX.18	18	
CF891.XX.05	5		CF891.XX.25	25	



Example image