

Control cable | TPE | chainflex® CF98.PLUS



100 million
Double strokes guaranteed



3 x d
Bend radius, e-chain®



100m
Travel distance, e-chain®

- For heaviest duty applications and very small radii down to 3 x d
- TPE outer jacket
- Oil and bio-oil-resistant
- PVC and halogen-free
- Low-temperature-flexible
- Hydrolysis and microbe-resistant

100 million
double strokes
in e-chains®
guaranteed!

Dynamic information



Bend radius

e-chain® linear

minimum 3 x d

flexible

minimum 3 x d

fixed

minimum 3 x d



Temperature

e-chain® linear

-35°C up to +90°C

flexible

-50°C up to +90°C (following DIN EN 60811-504)

fixed

-55°C up to +90°C (following DIN EN 50305)



v max.

unsupported

10m/s



a max.

gliding

6m/s



Travel distance

Short, very fast applications with small radii and restricted installation space, Class 5



Torsion

Torsion ±90°, with 1m cable length, Class 2

Cable structure



Conductor

Conductor consisting of a highly flexible special alloy.



Core insulation

Mechanically high-quality TPE mixture.



Core structure

Cores wound in a layer with especially short pitch length.



Core identification

Colour code in accordance with DIN 47100.

CF98.PLUS.02.03.INI: brown, blue, black

CF98.PLUS.03.04.INI: brown, blue, black, white



Outer jacket

Low-adhesion, extremely abrasion-resistant and highly flexible TPE mixture, adapted to suit the requirements in e-chains®.
Colour: Steel blue (similar to RAL 5011)

Electrical information



Nominal voltage

300/500 V (following DIN VDE 0298-3)



Testing voltage

2,000 V (following DIN EN 50395)

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 7.5.4.2

Properties and approvals



UV resistance

High



Oil resistance

Oil-resistant (following DIN EN 60811-404), bio-oil-resistant (following VDMA 24568 with Plantocut 8 S-MB tested by DEA), Class 4



Silicone-free

Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)



Halogen-free

Following DIN EN 60754



PFAS-free

Use of PFAS-free materials according to the content of the REACH directive and its rules for the production and processing of chemical substances



UL verified

Certificate No. V293650: "igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"



REACH

In accordance with regulation (EC) No. 1907/2006 (REACH)



Lead-free

Following 2011/65/EC (RoHS-II/RoHS-III)



Cleanroom

According to ISO Class 1. The outer jacket material of this series complies with CF9.15.07 - tested by IPA according to standard DIN EN ISO 14644-1



CE

Following 2014/35/EU

Guaranteed service life (details see page 28-29)

Double strokes*	5 million	40 million	100 million
Temperature, from/to [°C]	R min. [x d]	R min. [x d]	R min. [x d]
-35/-25	4	6	7
-25/+80	3	5	6
+80/+90	4	6	7

* Higher number of double strokes? Service life calculation online ► www.igus.eu/chainflexlife

Typical application areas

- For heaviest duty applications and very small radii down to 3 x d, Class 7
- Especially for short, very fast applications with small radii and restricted installation space, Class 5
- Almost unlimited resistance to oil, also with bio-oils, Class 4
- Torsion ±90°, with 1m cable length, Class 2
- Indoor and outdoor applications, UV-resistant
- Pick and place machines, automatic doors, cleanroom, very quick handling



EPLAN download, configurators ► www.igus.eu/CF98PLUS

4-years guarantee ... more than 1,350 cable types from stock ... no cutting charges



EU2024

EU2024

UL-verified chainflex® guarantee ... www.igus.eu/ul-verified



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]
CF98.PLUS.01.02	2x0.14	4.5	4	18
CF98.PLUS.01.03	3x0.14	4.5	6	20
CF98.PLUS.01.04	4x0.14	5.0	7	25
CF98.PLUS.01.08	8x0.14	6.5	15	45
CF98.PLUS.02.03.INI	3x0.25	5.0	10	29
CF98.PLUS.02.04	4x0.25	5.5	14	36
CF98.PLUS.02.08	8x0.25	7.5	29	68
CF98.PLUS.03.04.INI	4x0.34	6.0	15	38
CF98.PLUS.05.04	4x0.5	6.0	32	53

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



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



Order example: CF98.PLUS.01.02 – to your desired length (0.5m steps)
CF98.PLUS chainflex® series .01 Code nominal cross section .02 Number of cores



Order online ► www.igus.eu/CF98PLUS



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

Guarantee igus chainflex 4 YEARS
up to 4 years guarantee

igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year

Smaller and smaller installation spaces, shorter and shorter cycle times, 99% availability. These are the requirements that innovative automation specialists must meet.

To do this, igus® has been working on an unprecedented innovation for more than ten years.

The new generation of chainflex® **CF98.PLUS** (unshielded) and chainflex® **CF99.PLUS** (shielded) control cables are a consistent development of the well-known, highly successful CF98/CF99 and CF298 and CF299 control cable series.

Systematic research on process technology and insulation and conductor materials supported by a wide variety of test series in the igus® laboratory enabled igus® to develop this new generation of control cables.

The result is cable series that can be used reliably with a minimum **bend radius of just 3 x d** (3 x cable diameter).

The cross-sectional areas range from 0.14mm² to 0.5mm² in both the shielded and unshielded versions.

This makes igus® the first and only manufacturer to offer catalogue goods for use in an e-chain® with a **guaranteed service life of 100 million double strokes!**

This is with acceleration values of up to 100m/s².