

Control cable | PVC | chainflex® CF150.UL

36

10 million

Double strokes guaranteed

7.5 x d

Bend radius, e-chain®

50m

Travel distance

- For medium duty applications
- PVC outer jacket
- Oil-resistant
- Flame-retardant
- TC-ER (Power and Control Tray Cable)

|               |                     |
|---------------|---------------------|
| UL            | CSA:                |
| TC-ER UL 1277 | C(UL) CIG/TC        |
| MTW UL 1063   |                     |
| WTTTC UL 2277 | Specifications:     |
| DP-1 UL 1690  | OIL RES I / SUN RES |
| AWM 2587      | 75°C wet ≥2.5mm²    |
|               | 90°C dry            |
|               | DIR BUR ≥2.5mm²     |

Dynamic information

|  |                 |                 |                                                                     |
|--|-----------------|-----------------|---------------------------------------------------------------------|
|  | Bend radius     | e-chain® linear | minimum 7.5 x d                                                     |
|  |                 | flexible        | minimum 6 x d                                                       |
|  |                 | fixed           | minimum 4 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     | 3m/s                                                                |
|  | a max.          | gliding         | 2m/s                                                                |
|  | Travel distance |                 | Unsupported travels and up to 50m for gliding applications, Class 4 |
|  | Torsion         |                 | Torsion ±90°, with 1m cable length, Class 2                         |

Cable structure

|  |                     |                                                                                                                                                                                                                                                                                                     |
|--|---------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | Conductor           | Finely stranded conductor consisting of bare copper wires (following DIN EN 60228).                                                                                                                                                                                                                 |
|  | Core insulation     | Mechanically high-quality PVC/PA mixture.                                                                                                                                                                                                                                                           |
|  | Core structure      | <b>Number of cores &lt; 12:</b> Cores wound in a layer with short pitch length.<br><b>Number of cores ≥ 12:</b> Cores wound in bundles which are then wound around a high tensile strength centre element, all with optimised short pitch lengths and directions. Especially low-torsion structure. |
|  | Core identification | Black cores with white numbers, one green-yellow core.                                                                                                                                                                                                                                              |
|  | Outer jacket        | Low-adhesion, oil-resistant PVC mixture, adapted to suit the requirements in e-chains® (following DIN EN 50363-4-1)<br>Colour: jet black (similar to RAL 9005)                                                                                                                                      |
|  | CFRIP®              | Strip cables faster: a tear strip is moulded into the outer jacket<br>Video ► <a href="http://www.igus.eu/CFRIP">www.igus.eu/CFRIP</a>                                                                                                                                                              |

Electrical information

|  |                 |                                                                                    |
|--|-----------------|------------------------------------------------------------------------------------|
|  | Nominal voltage | 300/500V (following DIN VDE 0298-3)<br>600V TC-ER, 1000V WTTTC, 600V MTW, 600V AWM |
|  | Testing voltage | 2,000V (following DIN EN 50395)                                                    |

EPLAN download, configurators ► [www.igus.eu/CF150UL](http://www.igus.eu/CF150UL)

36-month guarantee ... more than 1,350 cable types from stock ... no cutting charges



EU2023

Class 4.4.2.2

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°   |   |        |         |

Properties and approvals

|  |                 |                                                                                                                                                                                      |
|--|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | UV resistance   | Medium                                                                                                                                                                               |
|  | Oil resistance  | Oil resistant (according to DIN EN 50363-4-1), UL Oil Res I, Class 2                                                                                                                 |
|  | Flame-retardant | According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame, FT4                                                                                                      |
|  | 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 listed       | TC-ER UL 1277, WTTTC UL 2277, MTW UL W63                                                                                                                                             |
|  | UL/CSA AWM      | See data sheet for details ► <a href="http://www.igus.eu/CF150UL">www.igus.eu/CF150UL</a>                                                                                            |
|  | NEC             | In accordance with Article 501 Part II 501.10(B) Class I Division 2 and Article 502 Part II 502.10(B), TC-ER cables may be used in Class I and Class II, Division 2 hazardous areas. |
|  | NFPA            | Following NFPA 79-2018, chapter 12.9                                                                                                                                                 |
|  | REACH           | In accordance with regulation (EC) No. 1907/2006 (REACH)                                                                                                                             |
|  | Lead-free       | Following 2011/65/EC (RoHS-II)                                                                                                                                                       |
|  | CE              | Following 2014/35/EU                                                                                                                                                                 |
|  | UKCA            | In accordance with the valid regulations of the United Kingdom (as at 08/2021)                                                                                                       |

Guaranteed service life (details see page 28-29)

| Double strokes*           | 5 million           |                     | 7.5 million         |                     | 10 million          |                     |
|---------------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
|                           | < 10m               | ≥ 10m               | < 10m               | ≥ 10m               | < 10m               | ≥ 10m               |
| Temperature, from/to [°C] | R min. [factor x d] | R min. [factor x d] | R min. [factor x d] | R min. [factor x d] | R min. [factor x d] | R min. [factor x d] |
| +5/+15                    | 10                  | 12.5                | 11                  | 13.5                | 12                  | 14.5                |
| +15/+60                   | 7.5                 | 10                  | 8.5                 | 11                  | 9.5                 | 12                  |
| +60/+70                   | 10                  | 12.5                | 11                  | 13.5                | 12                  | 14.5                |

\* Higher number of double strokes? Service life calculation online ► [www.igus.eu/chainflexlife](http://www.igus.eu/chainflexlife)

Typical application areas

- For medium duty applications, Class 4
- Unsupported travels and up to 50m for gliding applications, Class 4
- Light oil influence, Class 2
- Torsion ±90°, with 1m cable length, Class 2
- Preferably indoor applications, but also outdoor ones at temperatures > 5 °C
- Storage and retrieval units for high-bay warehouses, machining units/packaging machines, quick handling, indoor cranes, laying of cables on cable trays



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

UL-verified chainflex® guarantee ... [www.igus.eu/ul-verified](http://www.igus.eu/ul-verified)

75

Example image

Control cable | PVC | chainflex® CF150.UL

Strip cables 50% faster with CFRIP® tear strip

Class 4.4.2.2

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°   |   |        |         |

igus® chainflex® CF150.UL

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] |
|-------------------------------|-----------------------------------------------------------|------------------------------|----------------------|----------------|
| CF150.UL.10.03                | 3G1.0                                                     | 8.0                          | 30                   | 78             |
| CF150.UL.10.04                | 4G1.0                                                     | 8.5                          | 40                   | 94             |
| CF150.UL.10.05                | 5G1.0                                                     | 9.0                          | 50                   | 112            |
| CF150.UL.10.07                | 7G1.0                                                     | 10.5                         | 70                   | 155            |
| CF150.UL.10.12                | 12G1.0                                                    | 15.0                         | 119                  | 281            |
| CF150.UL.10.18                | 18G1.0                                                    | 19.0                         | 178                  | 425            |
| CF150.UL.15.03                | 3G1.5                                                     | 8.5                          | 45                   | 98             |
| CF150.UL.15.04                | 4G1.5                                                     | 9.0                          | 60                   | 122            |
| CF150.UL.15.05                | 5G1.5                                                     | 10.0                         | 75                   | 148            |
| CF150.UL.15.07 <sup>17)</sup> | 7G1.5                                                     | 12.0                         | 104                  | 205            |
| CF150.UL.15.12                | 12G1.5                                                    | 16.5                         | 178                  | 365            |
| CF150.UL.15.18                | 18G1.5                                                    | 21.0                         | 267                  | 529            |
| CF150.UL.25.03                | 3G2.5                                                     | 9.5                          | 75                   | 133            |
| CF150.UL.25.04                | 4G2.5                                                     | 10.0                         | 100                  | 164            |
| CF150.UL.25.05                | 5G2.5                                                     | 11.0                         | 124                  | 200            |
| CF150.UL.25.07 <sup>17)</sup> | 7G2.5                                                     | 12.0                         | 173                  | 268            |
| CF150.UL.25.12                | 12G2.5                                                    | 18.5                         | 297                  | 502            |
| CF150.UL.25.18                | 18G2.5                                                    | 24.5                         | 445                  | 808            |

<sup>17)</sup> When using the cables with "7G1.5mm²" and "7G2.5mm²" minimum bend radius must be 17.5xd with gliding travel distance ≥ 5m.

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



Order example: **CF150.UL.10.03** - to your desired length (0.5m steps)  
CF150.UL chainflex® series .10 Code nominal cross section .03 Number of cores



Order online ► [www.igus.eu/CF150UL](http://www.igus.eu/CF150UL)



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



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](http://www.igus.eu/cf-case)



The only MTW/TC-ER cable for e-chain® AND cable tray

UL

TC-ER UL 1277  
MTW UL 1063  
WTTC UL 2277  
DP-1 UL 1690  
AWM 2587

CSA:

C(UL) CIC/TC

Specifications:

OIL RES I / SUN RES  
75°C wet ≥2.5mm²  
90°C dry  
DIR BUR ≥2.5 mm²

\* with guaranteed service life for use in e-chains® according to the guarantee conditions



Guarantee  
igus chainflex

36

up to 36 months guarantee