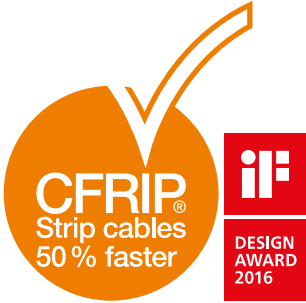


TPE Measuring system cable | CF11-D

- For very high mechanical load requirements
- TPE outer jacket
- Shielded
- Oil-resistant
- Bio-oil-resistant
- PVC-free/halogen-free
- Hydrolysis/microbe-resistant



Dynamic Information

	Bend radius	E-Chain®	min. 7.5 x d
		flexible	min. 6 x d
		fixed	min. 4 x d
	Temperature	E-Chain®	-31 °F to +194 °F (-35 °C to +90 °C)
		flexible	-58 °F to +194 °F (-50 °C to +90 °C)
		fixed	-67 °F to +194 °F (-55 °C to +90 °C)
	v max.	unsupported	32.81 ft/s (10 m/s)
		gliding	19.69 ft/s (6 m/s)
	a max.		328.1 ft/s² (100 m/s²)
	Travel distance	Unsupported travel distances and for gliding applications up to 1312 ft (400 m) and more, Class 6	

Cable structure

	Conductors	Conductor consisting of bare copper wires (according to EN 60228).
	Conductor insulation	Mechanically high-quality TPE mixture.
	Conductor construction	According to measuring system specification.
	Color code	According to measuring system specification. See Table
	Element shield	Extremely bending-resistant braiding made of tinned copper wires. 90 % optical coverage
	Inner jacket	TPE mixture adapted to suit the requirements in E-Chains®.
	Overall shield	Extremely bending-resistant tinned copper braid. 90 % optical coverage
	Outer jacket	Low-adhesion mixture on the basis of TPE, especially abrasion-resistant and highly flexible, adapted to suit the requirements in E-Chains®. Color: Green (similar to RAL 6018)
	CFRIP®	Strip cables 50% faster: The tear strip is in the outer jacket Video ▶ www.igus.com/CFRIP

Electrical Information

	Nominal voltage	50 V
	Test voltage	500 V

Configurators ▶ www.igus.com/CF11D

Requirements	low	1	2	3	4	5	6	7	highest
Travel distance	unsupported	1	2	3	4	5	6	1,312 ft +	
Oli resistance	none	1	2	3	4	highest			
Torsion	none	1	2	3	±180°				

Class 6.6.4.1

Properties and approvals

	UV resistance	Medium
	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 EN 50267-2-1
	EAC	Certified according to no. TC RU C-DE.ME77.B.01559
	Lead-free	Following 2011/65/EC (RoHS-II)
	Cleanroom	According to ISO Class 1. Outer jacket material complies with CF9-15-07, tested by IPA according to standard 14644-1
	DESINA	According to VDW, DESINA standardisation
	CE	Following 2014/35/EG

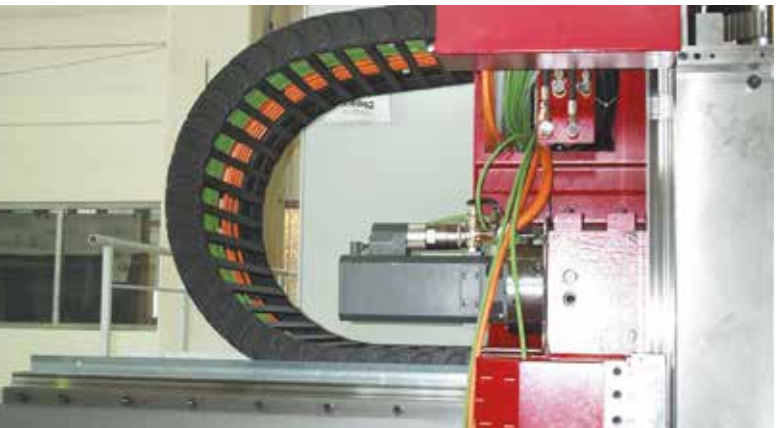
Guaranteed lifetime according to guarantee conditions (page 22-25)

Cycles*		5 million		7.5 million		10 million	
Temperature, from/to [°F]	v max. [ft/s]	a max. [ft/s²]	Travel distance [ft]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]	
-31 / -13				10	11	12	
-13 / +176	32.81	19.69	328.10	≤ 1,312	7.5	8.5	9.5
+176 / +194				10	11	12	

* Higher number of cycles possible - please ask for your individual calculation.

Typical application areas

- For very high mechanical load requirements
- Almost unlimited resistance to oil, also with bio-oils
- Indoor and outdoor applications without direct sun radiation
- Unsupported travel distances and for gliding applications up to 1312 ft (400 m) and more
- Storage and retrieval units for high-bay warehouses, Machining units/machine tools, quick handling, Clean room, semiconductor insertion, indoor cranes, low temperature applications



Pre-harnessed igus® energy supply systems for machine tool manufacture. E-Chain®: System E4/4

1,244 types from stock ... no cutting costs*
... no minimum order quantity ... *(up to 10 cuts of the same part number)

36 months guarantee on every chainflex® cable ...
... up to 10 million cycles guaranteed ...



TPE Measuring system cable | CF11-D

Class 6.6.4.1

Requirements
Travel distance
Oli 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		±180°			

Strip cables 50 % faster!

IGUS® CHAINFLEX® CF11.D

Image exemplary.

Part No.	AWG	Number of Conductors and rated cross section [mm²]	Outer diameter max.		Copper index		Weight		Part No.	Core group	Color code
			in.	mm	lbs/mft	kg/km	lbs/mft	kg/km			
CF11-001-D	26	3 STP x 0.14	0.41	10.5	53.8	80	118.3	176	CF11-001-D	3x(2x0.14)C (4x0.14) (2x0.5)	green/yellow, black/brown, red/orange gray/blue/white-yellow/white-black brown-red/brown-blue
	26	4 x 0.14									
	20	2 x 0.5									
CF11-002-D	26	3 STP x 0.14	0.39	10.0	55.1	82	126.3	188	CF11-002-D	3x(2x0.14)C 2x(0.5)C	green/yellow, black/brown, red/orange black, red
	20	2 SC x 0.5									
CF11-003-D	26	3 PR x 0.14	0.33	8.5	41.0	61	83.3	124	CF11-003-D	3x(2x0.14) 2x1.0	white/brown, green/yellow, gray/pink blue, red
	17	2 x 1.0									
CF11-004-D	26	4 PR x 0.14	0.45	11.5	61.1	91	132.4	197	CF11-004-D	2x(2x(2x0.14)) (4x0.14)C (4x0.5)	(brown/green)/(yellow/violet), (gray/pink)/(red/black) yellow-black/red-black/green-black/blue-black brown-green/white-green/blue/white
	26	4 x 0.14 SHLD									
	20	4 x 0.5									
CF11-005-D	26	4 PR x 0.14	0.35	9.0	45.7	68	96.8	144	CF11-005-D	4x(2x0.14) 4x0.5	white/brown, green/yellow, gray/pink, blue/red black, violet, gray-pink, red-blue
	20	4 x 0.5									
CF11-006-D	26	3 STP x 0.14	0.43	11.0	62.5	93	135.7	202	CF11-006-D	3x(2x0.14)C (4x0.14) (4x0.25) (2x0.5)	green/yellow, black/brown, red/orange gray/blue/white-yellow/white-black brown-yellow/brown-gray/green-black/green-red brown-red/brown-blue
	26	4 x 0.14									
	24	4 x 0.25									
	20	2 x 0.5									
CF11-007-D ²⁾	22	2 PR x 0.34	0.24	6.0	21.5	32	43.7	65	CF11-007-D ²⁾	4x0.34	white, green, brown, yellow (star-quad stranding)
CF11-008-D	24	3 PR x 0.25	0.30	7.5	24.9	37	54.4	81	CF11-008-D	3x(2x0.25)	white/brown, green/yellow, gray/pink
CF11-009-D	24	4 PR x 0.25	0.37	9.5	44.3	66	92.1	137	CF11-009-D	4x(2x0.25) 2x0.5	brown/green, blue/violet, gray/pink, red/black white, brown
	20	2 x 0.5									
CF11-010-D	24	4 PR x 0.25	0.37	9.5	53.8	80	108.2	161	CF11-010-D	4x(2x0.25) 2x1.0	brown/green, blue/violet, gray/pink, red/black white, brown
	17	2 x 1.0									
CF11-011-D	22	4 PR x 0.34	0.41	10.5	64.5	96	135.1	201	CF11-011-D	4x(2x0.34) 4x0.5	black/brown, red/orange, green/yellow, blue/violet black-white, red-white, yellow-white, blue-white
	20	4 x 0.5									
CF11-012-D	26	3 STP x 0.14	0.45	11.5	66.5	99	149.2	222	CF11-012-D	3x(2x0.14)C (3x0.14)C (4x0.14) (2x0.14+2x0.5)	green/yellow, white/gray, blue/red red/green/brown gray/yellow/pink/violet blue/brown-blue/gray/brown-red
	26	3 x 0.14 SHLD									
	26	6 x 0.14									
	20	2 x 0.5									
CF11-013-D	26	3 STP x 0.14	0.37	9.5	47.0	70	102.1	152	CF11-013-D	3x(2x0.14)C 2x0.5	white/brown, green/yellow, gray/pink blue, red
	20	2 x 0.5									
CF11-014-D	24	4 STP x 0.25	0.45	11.5	63.8	95	142.5	212	CF11-014-D	4x(2x0.25)C (2x0.5)	white/brown, green/yellow, gray/pink, blue/red black no.1/black no.2
	20	2 x 0.5									
CF11-015-D	26	4 PR x 0.14	0.35	9.0	45.7	68	94.1	140	CF11-015-D	4x(2x0.14) 4x0.5	brown/green, yellow/violet, gray/pink, red/black blue, white, brown-green, white-green
	20	4 x 0.5									
CF11-016-D	24	3 STP x 0.25	0.37	9.5	43.7	65	96.8	144	CF11-016-D	3x(2x0.25)C	white/brown, green/yellow, gray/pink
CF11-017-D ⁴⁾	26	4 PR x 0.14	0.43	11.0	77.9	116	164.6	245	CF11-017-D ⁴⁾	4x(2x0.14) (4x0.14)C 4x1.0	red/black, brown/green, yellow/violet, gray/pink blue-black/yellow-black/red-black/green-black white-green, brown-green, blue, white
	26	4 x 0.14 SHLD									
	17	4 x 1.0									
CF11-018-D ⁴⁾	24	2 PR x 0.25	0.26	6.5	26.9	40	51.1	76	CF11-018-D ⁴⁾	2x(2x0.25) 2x0.5	red/black, gray/pink white, brown
	20	2 x 0.5									

⁴⁾ manufactured without inner jacket
The chainflex® types marked with ²⁾ are cables designed as a star-quad. Other types available on request.
Note: The mentioned outer diameters are maximum values.
G = with green-yellow earth core x = without earth core

Other types ► page 272



TPE Measuring system cable | CF11-D

Class 6.6.4.1

Requirements
Travel distance
Oli 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	±180°				

Strip cables 50 % faster!

IGUS® CHAINFLEX® CF11.D

Image exemplary.

Part No.	AWG	Number of Conductors and rated cross section [mm²]	Outer diameter max.		Copper index		Weight		Part No.	Core group	Color code
			in.	mm	lbs/mft	kg/km	lbs/mft	kg/km			
CF11-019-D ⁴⁾	24	3 STP x 0.25	0.41	10.5	71.2	106	153.2	228	CF11-019-D ⁴⁾	3x(2x0,25)C (3x0,25) 2x1.0	brown/green, gray/pink, red/black blue/violet/yellow white, brown
	24	3 x 0.25									
	17	2 x 1.0									
CF11-021-D	24	6 x 0.5	0.43	11.0	68.5	102	143.1	213	CF11-021-D	(4x0,25) 3x(2x0,25+2x0,5)	white/brown/gray/black, black no.1/white/black no.2/yellow, black no.3/white/black no. 4/gray, black no. 5/black/black no. 6/orange
	24	5 PR x 0.25									
CF11-022-D	24	1 PR x 0.25	0.33	8.5	37.0	55	80.6	120	CF11-022-D	(2x0,25) 5x0,5	white/brown green, yellow, gray, pink, blue
	20	5 x 0.5									
CF11-025-D	26	3 STP x 0.14	0.41	10.5	54.4	81	122.3	182	CF11-025-D	3x(2x0,14)C (2x0,5)	green/yellow, blue/red, gray/pink white/brown
	20	1 STP x 0.5									
CF11-027-D	26	5 PR x 0.14	0.35	9.0	39.0	58	81.3	121	CF11-027-D	5x(2x0,14) 2x0,5	brown/green, yellow/gray, white/violet, red-black, pink/blue white-green, white-red
	20	1 PR x 0.5									
CF11-029-D	24	5 STP x 0.25	0.49	12.5	80.0	119	181.4	270	CF11-029-D	5x(2x0,25)C (2x0,25+2x0,5)	white/brown, green/yellow, gray/pink, blue/red, black/violet gray-pink/brown-green/white-green/red-blue
	24	2 x 0.25									
	20	2 x 0.5									
CF11-031-D	24	2 STP x 0.25	0.35	9.0	51.1	76	104.2	155	CF11-031-D	2x(2x0,25)C 2x1,0	white/brown, green/yellow black no.1, black no.2
	17	2 x 1.0									
CF11-032-D ¹⁵⁾	26	3 STP x 0.14	0.31	8.0	45.7	68	101.5	151	CF11-032-D ¹⁵⁾	3x(2x0,14)C (3x0,14)C	green/black, yellow/black, red/black gray/pink/black
	26	3 x 0.14 SHLD									
CF11-033-D ¹⁵⁾	26	4 STP x 0.14	0.39	10.0	71.9	107	161.3	240	CF11-033-D ¹⁵⁾	4x(2x0,14)C 2x(1,0)C	yellow/black, red/black, blue/black, green/black white, brown
	17	2 SC x 1.0									
CF11-034-D ¹⁵⁾	26	3 STP x 0.14	0.45	11.5	77.9	116	126.3	188	CF11-034-D ¹⁵⁾	3x(2x0,14)C (4x0,14)C 2x(2x0.5)C	green/black, violet/black, blue/black red/yellow/black-red/black-yellow black/white, black/brown
	26	4 x 0.14 SHLD									
	20	2 STP x 0.5									
CF11-035-D	24	4 STP x 0.25	0.49	12.5	76.6	114	170.7	254	CF11-035-D	4x(2x0,25)C 2x(2x0,5)	white/brown, green/yellow, gray/pink, blue/red black no.1/black no.2, black no.3/black no.4
	20	2 PR x 0.5									
CF11-038-D	26	3 PR x 0.14	0.30	7.5	24.2	36	45.7	68	CF11-038-D	3x(2x0,14) (2x0,34)	white/brown, green/yellow, gray/pink blue/red
	22	1 PR x 0.34									
CF11-040-D	26	14 x 0.14	0.41	10.5	67.9	101	104.2	155	CF11-040-D	(3x(4x0,14) (2x0,14+ 2x0,34) 2x1.5	black/red/white-black/white-red, green/blue/white-green/white-blue, yellow/brown/white-yellow/white-brown violet/orange/white-violet/white-orange white-gray, gray
	22	2 x 0.34									
	16	2 x 1.5									

⁴⁾ manufactured without inner jacket
¹⁵⁾ manufactured without overall shield
Note: The mentioned outer diameters are maximum values.

Other types available on request.

STP = Individually shielded Twisted Pair
SC = Individually shielded Conductor
PR = Twisted Pair
SHLD = Shielded Precable

Configurators ► www.igus.com/CF11D

Other types ► page 270

