

PUR Measuring system cable | CF111-D

- For medium mechanical load requirements
- PUR outer jacket
- Shielded
- Oil-resistant and coolant-resistant
- Notch-resistant
- Flame-retardant
- Hydrolysis/microbe-resistant
- PVC-free/halogen-free

Dynamic Information

	Bend radius	E-Chain®	min. 10 x d
		flexible	min. 8 x d
		fixed	min. 5 x d
	Temperature	E-Chain®	-13 °F to +176 °F (-25 °C to +80 °C)
		flexible	-40 °F to +176 °F (-40 °C to +80 °C)
		fixed	-58 °F to +176 °F (-50 °C to +80 °C)
	v max.	unsupported	16.41 ft/s (5 m/s)
		gliding	9.84 ft/s (3 m/s)
	a max.		98.4 ft/s² (30 m/s²)
	Travel distance	Unsupported travel distances and for gliding applications up to 32.81 ft (10 m), Class 2	

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, tinned copper cover. 90% optical coverage
	Intermediate layer	Foil taping over the external layer.
	Overall shield	Bending-resistant tinned copper braid. 80 % optical coverage
	Outer jacket	Low-adhesion, highly abrasion-resistant mixture on the basis of PUR, adapted to suit the requirements in E-Chains® (following DIN VDE 0282 Part 10). Color: Green (similar to RAL 6018)

Electrical Information

	Nominal voltage	50 V
	Test voltage	500 V

Configurators ► www.igus.com/CF111D

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

Class 4.2.3.1

Properties and approvals

	UV resistance	Medium
	Oil resistance	Oil-resistant (following DIN EN 50363-10-2), Class 3
	Offshore	MUD-resistant following NEK 606 - status 2009
	Flame resistance	According to IEC 60332-1-2, CEI 20-35, FT1, VW-1
	Silicone-free	Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
	Halogen-free	Following EN 50267-2-1
	UL/CSA	Style 1589 and 20236, 30 V, 80 °C
	NFFPA 79	Complies to NFFPA 79-2015 chapter 12.9
	DNV-GL	Certified according to GL type testing – Certificate no.: 61 936-14 HH
	EAC	Certified according to no. TC RU C-DE.ME77.B.01559
	CTP	Certified according to no. C-DE.PB49.B.00416
	CEI	Following CEI 20-35
	Lead-free	Following 2011/65/EC (RoHS-II)
	Cleanroom	According to ISO Class 1. Outer jacket material complies with CF27-07-05-02-01-D, 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] unsupported	a max. [ft/s²] gliding	Travel distance [ft]	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]	
-13 / +5				≤ 32.81	12.5	13.5	14.5			
+5 / +158		16.41	9.84	98.43	10	11	12			
+158 / +176					12.5	13.5	14.5			

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

Typical application areas

- For medium mechanical load requirements
- Almost unlimited resistance to oil
- Indoor and outdoor applications without direct sun radiation
- Unsupported travel distances and for gliding applications up to 32.81 ft (10 m)
- Machining units/machine tools, low temperature applications



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Requirements
Travel distance
Oli resistance
Torsion

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

IGUS® CHAINFLEX® CF111.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			
CF111-001-D	26	3 STP x 0.14	0.35	9.0	42.3	63	69.9	104	CF111-001-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									
CF111-002-D	26	3 STP x 0.14	0.37	9.5	43.7	65	72.6	108	CF111-002-D	3x(2x0.14)C 2x(0.5)C	green/yellow, black/brown, red/orange black, red
	20	2 SC x 0.5									
CF111-004-D	26	4 PR x 0.14	0.41	10.5	49.7	74	82.0	122	CF111-004-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									
CF111-006-D	26	3 STP x 0.14	0.39	10.0	53.8	80	84.7	126	CF111-006-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									
CF111-009-D	24	4 PR x 0.25	0.31	8.0	34.3	51	55.1	82	CF111-009-D	4x(2x0.25) 2x0.5	brown/green, blue/violet, gray/pink, red/black white, brown
	20	2 x 0.5									
CF111-010-D	24	4 PR x 0.25	0.33	8.5	42.3	63	64.5	96	CF111-010-D	4x(2x0.25) 2x1.0	brown/green, blue/violet, gray/pink, red/black white, brown
	17	2 x 1.0									
CF111-011-D	22	4 PR x 0.34	0.35	9.0	48.4	72	72.6	108	CF111-011-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									
CF111-014-D	24	4 STP x 0.25	0.39	10.0	52.4	78	84.0	125	CF111-014-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									
CF111-015-D	26	4 PR x 0.14	0.33	8.5	36.3	54	59.1	88	CF111-015-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									
CF111-020-D	26	3 PR x 0.14	0.33	8.5	36.3	54	61.8	92	CF111-020-D	3x(2x0.14) 2x(4x0.14) (2x0.5)	blue/red, black/violet, gray-pink/red-blue green/gray/yellow/pink, white-green/white-yellow/brown-green/brown-yellow white/brown
	26	8 x 0.14									
	20	2 x 0.5									
CF111-021-D	24	6 x 0.50	0.37	9.5	54.4	81	80.6	120	CF111-021-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									
CF111-022-D	24	1 PR x 0.25	0.28	7.0	31.6	47	49.7	74	CF111-022-D	(2x0.25) 5x0.5	white/brown green, yellow, gray, pink, blue
	20	5 x 0.5									
CF111-024-D	26	4 x 0.14	0.28	7.0	24.9	37	42.3	63	CF111-024-D	(4x0.14) 2x(2x0.34)	yellow/gray/violet/pink white-green/white, brown-green/blue
	22	2 PR x 0.34									
CF111-027-D	26	5 PR x 0.14	0.31	8.0	30.9	46	52.4	78	CF111-027-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									
CF111-028-D	26	2 PR x 0.15	0.30	7.5	24.9	37	50.4	75	CF111-028-D	2x(2x0.15) (2x0.38)	green/yellow, pink/blue red/black
	22	2 x 0.38									
CF111-032-D	26	3 STP x 0.14	0.33	8.5	22.2	33	47.7	71	CF111-032-D	3x(2x0.14)C (3x0.14)C	green/black, yellow/black, red/black gray/pink/black
	26	3 x 0.14 SHLD									
CF111-033-D	26	4 STP x 0.14	0.37	9.5	41.0	61	75.9	113	CF111-033-D	4x(2x0.14)C 2x(1.0)C	yellow/black, red/black, blue/black, green/black white, brown
	17	2 SC x 1.0									

Other types available on request.
Note: The mentioned outer diameters are maximum values.

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





Image exemplary.

Part No.	AWG	Number of Conductors and rated cross section [mm ²]	Outer diameter max.		Copper index		Weight		Part No.	Core group	Color code
			in.	mm	lbs/mft	kg/km	lbs/mft	kg/km			
CF111-035-D	24	4 STP x 0.25	0.43	11.0	60.5	90	96.8	144	CF111-035-D	4x(2x0.25)C	white/brown, green/yellow, gray/pink, blue/red
	20	2 PR x 0.5								2x(2x0.5)	black no.1/black no.2, black no.3/black no.4
CF111-040-D	26	14 x 0.14	0.35	9.0	56.4	84	83.3	124	CF111-040-D	(3x(4x0.14)	black/red/white-black/white-red, green/blue/white-green/white-blue
	22	2 x 0.34								(2x0.14+2x0.34)	yellow/brown/white-yellow/white-brown
	16	2 x 1.5								2x1.5	violet/orange/white-violet/white-orange white-gray, gray

Other types available on request.

Note: The mentioned outer diameters are maximum values.

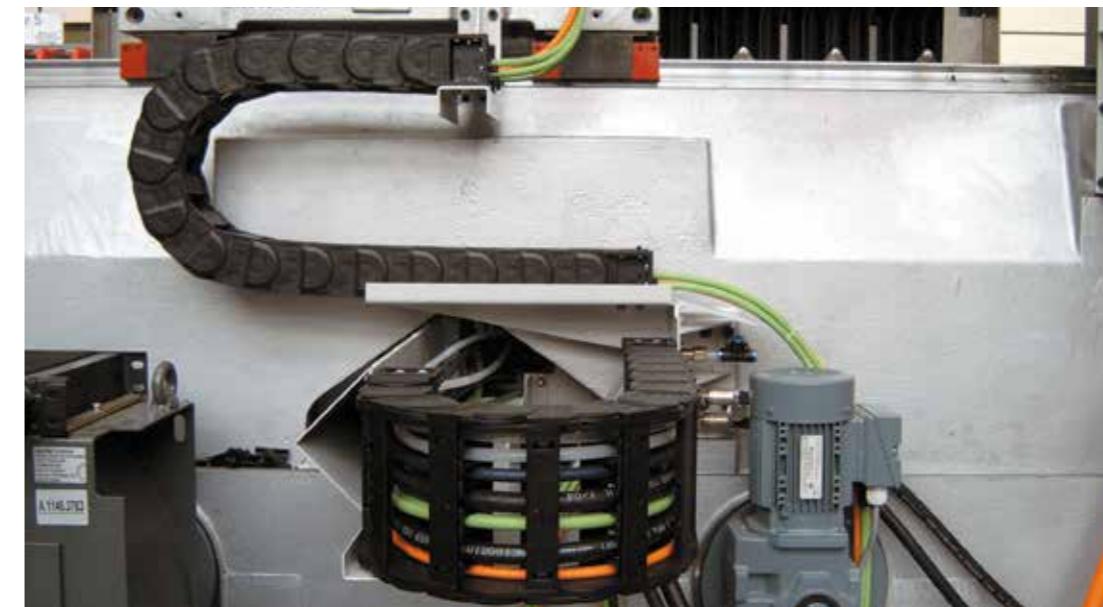
STP = Individually shielded Twisted Pair
SC = Individually shielded Conductor

PR = Twisted Pair
SHLD = Shielded Precable

Order example: **CF111.021.D** – In your desired length
CF111.D Chainflex® series .021 Code measuring system type

Online order ► www.chainflex.com/CF111D

Delivery time 24hr or today.
Delivery time means time until shipping of goods.



The ReadyChain® systems from igus® are completely pre-harnessed with Chainflex® cables, hoses, screw attachments, metal parts etc.

Configurators ► www.igus.com/CF111D

