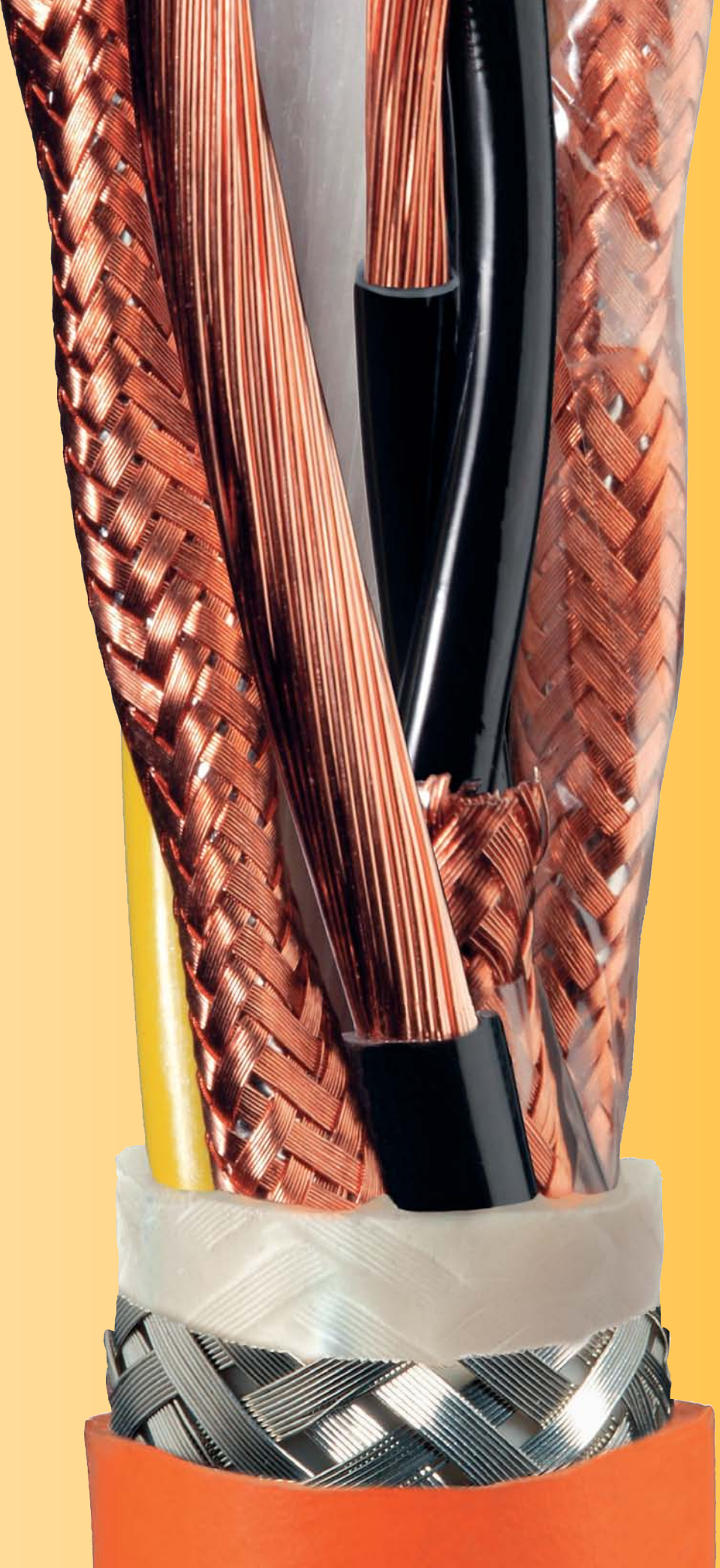


Servo Cables





Chainflex® CF21

PVC Energy Chain® cable, shielded, oil-resistant, flame-resistant

Conductor

Highly flexible special conductor

Core

Power conductor with signal pair elements stranded around high tensile center core

Pair shield

Extremely highly flexible braided copper shield

Inner jacket

gusset filled, pressure extruded

Overall shield

Highly flexible braided copper shield

Outer jacket

Pressure extruded, oil-proof PVC blend

Construction

Power conductor: Finely stranded bare copper wires according to EN 60228

Conductor insulation: Mechanically high quality TPE blend

Signal pair insulation: TPE, thin-walled version

Conductor twisting: Power conductors with signal pairs twisted with short pitch around high tensile center core

Power conductor color/numbering: Black with white numbers, one conductor green-yellow.

1. U / L1 / C / L+
2. V / L2
3. W / L3 / D / L-
4. green / yellow

Conductor identification 1 signal pair: black with white numerals

1. #4
2. #5

Conductor identification 2 signal pairs: black with white numerals

1. #5
2. #6
3. #7
4. #8

Signal pair shield: Tinned copper braid, coverage approx. 90% optical, over aluminum/polyester film.

Intermediate jacket: PVC-based blend, adapted to the requirements of the Energy Chain®.

Outer shielding: Tinned copper braid, coverage approx. 90% optical.

Outer jacket: PVC-based, low-adhesion blend, adapted to the requirements of the Energy Chain®. Silicon-free in compliance with PV 3.10.7 - status 1992. **Color:** green (RAL 6005).

Technical Data

Minimum bending radius, moving: 7.5 x outer cable diameter

Minimum bending radius, fixed: 4 x outer cable diameter

Permissible temperature, moving: +23°F to +158°F (-5°C to +70°C)

Permissible temperature, fixed: -4°F to +158°F (-20°C to +70°C)

Voltage: 1000V

Testing Voltage: 4000V

Oil resistance: Medium

UV resistance: Medium

Regulations: cRUus: UL AWM style for USA & Canada: 2570 80°C 1000V, **Flame Resistance:** FT1, **CE:** CEI 20-20, **RoHS:** 2002/95/EC; Please reference the Design Section (Chapter 1) for more information.

Typical Applications

- for high mechanical load requirements
- preferably indoor applications, outdoor is acceptable for temperatures greater than +41°F (+5°C)
- designed for AC motors with variable frequency drive (VFD)
- for freely suspended and gliding travel up to 328 ft (100m)
- storage and retrieval units for high-bay warehouses, machining tools, packaging machines, quick handling, indoor cranes

PVC Servo Cables

Chainflex® CF21

PVC Energy Chain® cable, shielded, oil-resistant, flame-resistant



Price Index



CF21



STANDARD

Part No.	Power AWG	Signal AWG	No. of Conductors and Rated Cross- Section in mm²	Outer Diameter (approx.) in. (mm)	Copper Index		Weight	
					lbs/mft	(kg/km)	lbs/mft	(kg/km)
1 Control Pair Shielded								
CF21-07-05-02-01-UL	18		4 C x 0.75					
		20	1 STP x 0.5	.43 (11)	64.6	(95)	117.0	(172)
CF21-15-10-02-01-UL	16		4 C x 1.5					
		17	1 STP x 1.0	.49 (12.5)	85.0	(125)	170.0	(250)
CF21-25-10-02-01-UL	14		4 C x 2.5					
		17	1 STP x 1.0	.53 (13.5)	120.4	(177)	204.0	(300)
CF21-40-10-02-01-UL	12		4 C x 4.0					
		17	1 STP x 1.0	.61 (15.5)	157.8	(232)	253.0	(372)
CF21-160-10-02-01-UL	6		4 C x 16.0					
		17	1 STP x 1.0	.96 (24.5)	476.0	(700)	714.0	(1050)

2 Control Pairs Shielded								
CF21-07-03-02-02-UL	18		4 C x 0.75					
		22	2 STP x 0.3	.49 (12.5)	76.8	(113)	142.8	(210)
CF21-10-07-02-02-UL	17		4 C x 1.0					
		18	2 STP x 0.75	.53 (13.5)	99.3	(146)	180.9	(266)
CF21-15-07-02-02-UL	16		4 C x 1.5					
		18	2 STP x 0.75	.57 (14.5)	119.0	(175)	210.8	(310)
CF21-25-15-02-02-UL	14		4 C x 2.5					
		16	2 STP x 1.5	.67 (17)	180.2	(265)	251.6	(370)
CF21-40-15-02-02-UL	12		4 C x 4.0					
		16	2 STP x 1.5	.73 (18.5)	206.7	(304)	295.8	(435)
CF21-60-15-02-02-UL	10		4 C x 6.0					
		16	2 STP x 1.5	.81 (20.5)	270	(397)	474	(697)
CF21-100-15-02-02-UL	8		4 C x 10.0					
		16	2 STP x 1.5	.95 (24)	381	(560)	697	(1025)
CF21-160-15-02-02-UL	6		4 C x 16.0					
		16	2 STP x 1.5	1.06 (27)	537.2	(790)	863.6	(1270)
CF21-250-15-02-02-UL	4		4 C x 25.0					
		16	2 STP x 1.5	1.22 (31)	776	(1140)	1299	(1910)

STP = Individually shielded pair

C = Single Conductor

NOTE: The mentioned external diameters are maximum values.

PDF: www.igus.com/pdf/chainflex.asp
 Specs/CAD/RFQ: www.igus.com/chainflex.asp
 RoHS info: www.igus.com/RoHS.asp

No Minimum Order • No Cut Charges on up to 10 cuts of the same part number



Chainflex® CF27

PUR Energy Chain® cable, shielded, oil and coolant-resistant, cut-resistant, flame-retardant, hydrolysis-resistant, microbe-resistant, PVC-free/halogen-free



Construction

Power conductor: Finely stranded bare copper wires according to EN 60228

Conductor insulation: Mechanically high quality TPE blend

Conductor twisting: Conductors in short pitch stranded over a high-tensile-strength center core.

Power conductor color/numbering: Black with white numbers, one conductor green-yellow.

1. U / L1 / C / L+
2. V / L2
3. W / L3 / D / L-
4. green / yellow

Conductor identification 1 signal pair: black with white numerals

1. #4
2. #5

Conductor identification 2 signal pairs: black with white numerals

1. #5
2. #6
3. #7
4. #8

Signal pair shield: Tinned copper braid, coverage approx. 90% optical, over aluminum/polyester film.

Intermediate jacket: TPE-based blend, adapted to the requirements of the Energy Chain®.

Overall shielding: Tinned copper braid, coverage approx., 90% optical.

Outer jacket Low-adhesion PUR blend, adapted to the requirements of the Energy Chain®. Silicon-free in compliance with PV 3.10.7 - status 1992. **Color:** orange (RAL 2003).

Technical Data

Minimum bending radius, moving: 7.5 x outer cable diameter

Minimum bending radius, fixed: 4 x outer cable diameter

Permissible temperature, moving: -4°F to +176°F (-20°C to +80°C)

Permissible temperature, fixed: -40°F to +176°F (-40°C to +80°C)

Voltage: 1000V

Testing voltage: 4000V

Oil resistance: High

UV resistance: Medium

Regulations: cRUUs: UL AWM style for USA & Canada: 20234 80°C 1000V **Flame Resistance:** FT1, **DESINA,** CE, RoHS: 2002/95/EC; Please reference the Design Section (Chapter 1) for more information.

Typical Applications

- for maximum mechanical load requirements
- indoor and outdoor applications, UV-resistant
- designed for AC motors with variable frequency drive (VFD)
- for freely suspended and gliding travel up to 328 ft (100m)
- storage and retrieval units for high-bay warehouses, machine tools, quick handling, cleanroom, semiconductor insertion, outdoor cranes, low temperature applications

PUR Servo Cables

Chainflex® CF27

PUR Energy Chain® cable, shielded, oil and coolant-resistant, cut-resistant, flame-retardant, hydrolysis-resistant, microbe-resistant, PVC-free/halogen-free



Price Index



CF27



PREMIUM

Part No.	Power AWG	Signal AWG	No. of Conductors and Rated Cross- Section in mm²	Outer Diameter (approx.) in. (mm)	Copper Index lbs/mft (kg/km)	Weight lbs/mft (kg/km)
1 Control Pair Shielded						
CF27-07-05-02-01-D	18		4 C x 0.75			
		20	1 STP x 0.5	.45 (11.5)	64.6 (95)	116.3 (171)
CF27-15-10-02-01-D	16		4 C x 1.5			
		17	1 STP x 1.0	.49 (12.5)	92.5 (136)	149.6 (220)
CF27-25-10-02-01-D	14		4 C x 2.5			
		17	1 STP x 1.0	.53 (13.5)	120 (177)	195.0 (286)
CF27-40-10-02-01-D	12		4 C x 4.0			
		17	1 STP x 1.0	.61 (15.5)	158.0 (232)	242.0 (356)
CF27-60-10-02-01-D	10		4 C x 6.0			
		17	1 STP x 1.0	.69 (17.5)	223.0 (327)	327.0 (481)
CF27-100-10-02-01-D	8		4 C x 10.0			
		17	1 STP x 1.0	.81 (20.5)	361.0 (530)	503.0 (740)
CF27-160-10-02-01-D	6		4 C x 16.0			
		17	1 STP x 1.0	.91 (23.0)	476.0 (700)	696.0 (1023)
CF27-250-15-02-01-D	4		4 C x 25.0			
		16	1 STP x 1.5	1.12 (28.5)	718.0 (1056)	976.0 (1435)
CF27-350-15-02-01-D	2		4 C x 35.0			
		16	1 STP x 1.5	1.28 (32.5)	1057.0 (1553)	1414.0 (2079)

2 Control Pairs Shielded

CF27-10-07-02-02-D	17		4 C x 1.0			
		18	2 STP x 0.75	.53 (13.5)	97.2 (143)	170.7 (251)
CF27-15-07-02-02-D	16		4 C x 1.5			
		18	2 STP x 0.75	.57 (14.5)	119.0 (175)	200.6 (295)
CF27-25-15-02-02-D	14		4 C x 2.5			
		16	2 STP x 1.5	.65 (16.5)	180.2 (265)	237.3 (349)
CF27-40-15-02-02-D	12		4 C x 4.0			
		16	2 STP x 1.5	.71 (18)	206.0 (303)	275.4 (405)
CF27-60-15-02-02-D	10		4 C x 6.0			
		16	2 STP x 1.5	.77 (19.5)	270.0 (397)	437.2 (643)
CF27-100-15-02-02-D	8		4 C x 1.0			
		16	2 STP x 1.5	.92 (23.5)	380.8 (560)	680.0 (1000)
CF27-160-15-02-02-D	6		4 C x 16.0			
		16	2 STP x 1.5	1.02 (26)	537.2 (790)	850.0 (1250)
CF27-250-15-02-02-D	4		4 C x 25.0			
		16	2 STP x 1.5	1.18 (30.0)	775.2 (1140)	1285.2 (1890)

Without Control Pair

CF27-07-04-D	18		4 C x 0.75	.37 (9.5)	35 (52)	77 (113)
CF27-10-04-D	17		4 C x 1.0	.39 (10.0)	42 (62)	86 (126)
CF27-15-04-D	16		4 C x 1.5	.41 (10.5)	59 (86)	109 (160)
CF27-25-04-D	14		4 C x 2.5	.47 (12.0)	95 (140)	177 (260)
CF27-500-04-D	1		4 C x 50.0	1.48 (37.5)	1517 (2230)	2177 (3200)

NOTE: The mentioned external diameters are maximum values.

PDF: www.igus.com/pdf/chainflex.asp
 Specs/CAD/RFQ: www.igus.com/chainflex.asp
 RoHS info: www.igus.com/RoHS.asp

No Minimum Order • No Cut Charges on up to 10 cuts of the same part number