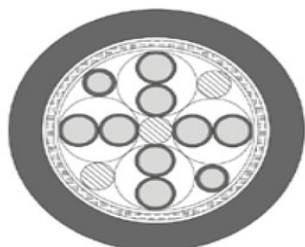


High flexible Feedback cable for drag chain according to Siemens, Bosch Rexroth, Lenze and other Standards



Technical data

Special PUR drag chain feedback cable acc. to UL AWM style 20233 and 20236 and CSA

Temperature range

flexing -30°C to +80°C

fixed installation -40°C to +80°C

Nominal voltage

acc. to Siemens 30 V

acc. to Bosch Rexroth and Lenze 300 V

further details on request

A.c. test voltage, 50 Hz

core/core 2000 V

core/screen 1000 V

Mutual capacitance at 800 Hz

core/core approx. 70 nF/km

core/screen approx. 110 nF/km

Insulation resistance

min. 20 MOhm x km

Coupling resistance

max. 250 Ohm

Minimum bending radius

flexing 15x cable Ø

fixed installation 6x cable Ø

min. 100.000 cycles

Cable structure

tinned copper, to
DIN VDE 0295 cl. 6, extra fine-wire,
BS 6360 cl. 6, IEC 60228 cl. 6
Core insulation of special polypropylene
Core colours on demand
Fleece wrapping facilitates sliding
Overall screening of tinned copper wire
braid with tinned drain wire, coverage
approx. 85%
Polyester foil
Outer sheath of PUR
Sheath colour green (RAL 6018)
acc. to DESINA® or orange

Properties

PUR outer sheath, low adhesion, extremely abrasion resistant, halogen-free, resistant to UV-,oil-, hydrolysis and microbial attack
Special feature: These cables are produced to high quality specifications and conform to the DESINA®-standard
Due to the high grade special core insulation, the PUR sheath and the highly flexible conductor, these cables are ideally suitable for use in drag chains and provide high functional reliability
Optimum compliance with requirements for electromagnetic compatibility (EMC) by approx. 85% coverage from the braided screen
Particularly attractive for export-oriented markets due to UL/CSA approval
The materials used in manufacture are cadmium-free and contain no silicone and free from substances harmful to the wetting properties of lacquers
Resistant to cleaning and disinfecting agents acc. to ECOLAB®

Note

For a corresponding motor- and servocables please check chapter TOPSERV® PUR

Encoder cables for static application please check chapter TOPGEBER 511 PVC

Brackets () indicate screen.

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Bosch Rexroth product designations INK- are registered trademarks of Bosch-Rexroth AG and are to be used only for purposes of comparison.

DESINA®: Explanation: see introduction.

Application

These low capacitance incremental encoder cables or position feedback cables transmit the control pulses for positioning and operating characteristics of servomotors. These cables are used as connecting cables for tachos, brakes and pulse generators in applications subjected to heavy mechanical stresses in industrial equipment, machine tools, control and automation equipment. Please observe applicable installation regulations for use in energy supply chains.

EMC = Electromagnetic compatibility

To optimize the EMC features we recommend a large round contact of the copper braiding on both ends.

CE = The product is conformed with the EC Low-Voltage Directive 2006/95/EC.

According to Standard	Part No. HELUKABEL	Part No. OEM	No. of Cores	Cable Structure / Sheath Colour	Cop. Weight app. kg/km	Weight app. kg/km	Outer Diameter app. mm
Siemens 30V	700655	6FX8008-1BD11	16	(8 x 2 x 0.18) C 54 85 7.8	54	85	7.8
	78081	6FX8008-1BD21	12	(4 x 2 x 0.34 + 4 x 0.5) C	74	115	8.9
	707400	6FX8008-1BD31	8	(3 x (2 x 0.14) D + 2 x (0.5) D) C	70	120	9.0
	700657	6FX8008-1BD41	12	(3 x (2 x 0.14) D + 4 x 0.14 + 2 x 0.5) C	66	120	8.9
	700540	6FX8008-1BD51	16	(3 x (2 x 0.14) D + 4 x 0.14 + 4 x 0.25 + 2 x 0.5) C	75	135	9.6
	700654	6FX8008-1BD61	8	(4 x 2 x 0.18) C	35	61	6.4
	700653	6FX8008-1BD71	4	(2 x 2 x 0.18) C	24	39	5.0
	78079	6FX8008-1BD81	12	(12 x 0.22) C	49	77	6.9
	804767	6FX8008-2DC00	6	(2 x 2 x 0.20 + 1 x 2 x 0.38)	41	72	7.0
Schneider Electric	705413	Schneider Electric	8	(3 x 2 x 0.25 + 2 x 0.5) C	43	82	7.4
	706333	Schneider Electric	12	(5 x 2 x 0.25 + 2 x 0.5) C	69	110	8.8
	708489	Schneider Electric	8	(3 x 2 x 0.14 + 2 x 0.34) C	29	65	6.8
B+R	707403	B+R	6	(3 x 2 x AWG24) C	31	57	6.5
	707404	B+R	12	(5 x 2 x 0.14 + 2 x 0.5) C	48	79	7.8
Lenze 30V	707405	Lenze	8	3 x (2 x 0.14) C + (2 x 0.5) C	54	114	9.9
	707406	Lenze	10	4 x (2 x 0.14) C + (2 x 1.0) C	70	142	10.8
	707407	Lenze	9	3 x (2 x 0.14) C + (3 x 0.14) C	41	98	9.2
		Old NEW					
Bosch Rexroth 300V	702050	INK209 green	10	(4 x 2 x 0.25 + 2 x 1.0) C	64	120	8.8
	78080	INK448 green	10	4 x 2 x 0.25 + 2 x 0.5) C	51	103	8.5
	77741	INK208 green	9	(9 x 0.5) C	69	124	8.8
	707738	INK209	10	(4 x 2 x 0.25 + 2 x 1.0) C	64	112	8.8
	707739	INK448 REG0013	10	(4 x 2 x 0.25 + 2 x 0.5) C	51	104	8.5
	707740	INK208	9	(9 x 0.5) C	69	124	8.8
	707408	INK532	16	(4 x 1 + 4 x 2 x 0.14 + (4 x 0.14) D) C	84	139	9.5
	707418	INK280	11	(3 x (2 x 0.25) D + 3 x 0.25 + 2 x 1.0) C	74	130	9.0
	707409	INK750	6	(2 x 2 x 0.25 + 2 x 0.5) C	38	76	7.2
	713070	REG0011	14	5 x (2 x 0.14) Stc + 4 x 0.5	104	172.2	10
	17000504	REG0012	6	(2 x 2 x 0.2 + 2 x 0.5)	34	80	7.2
Heidenhain	710106	Heidenhain EnData 2.0	8	(1 x 4 x 0.14 + 4 x 0.34) C	36	61	6.0
	77753	Heidenhain	12	(10 x 0.14 + 2 x 0.5) C	43	79	7.2
	77743	Heidenhain	8	(3 x (2 x 0.14) D + 2 x (1 x 0.5) D) C	81	103	8.4
	709693	Heidenhain	8	(3 x (2 x 0.14) D + 2 x (1 x 0.5) D) C	81	103	8.4
	79513	Heidenhain	12	(4 x 2 x 0.14 + 4 x 0.5) C	52	103	8.5
	709691	Heidenhain	12	(4 x 2 x 0.14 + 4 x 0.5) C	52	103	8.5
	707410	Heidenhain	8	(3 x (2 x 0.14) D + 2 x (1.0) D) C	72	132	9.1
	700560	Heidenhain	16	(4 x 2 x 0.14 + (4 x 0.14) C + 4 x 0.5) C	81	123	9.0
	709692	Heidenhain	16	(4 x 2 x 0.14 + (4 x 0.14) C + 4 x 0.5) C	81	123	9.0
Baumüller	78963	Baumüller	12	(5 x 2 x 0.14 + 2 x 0.5) C	72	91	8.8
Fanuc	707761	Li9YC11Y	16	(5 x 2 x 0.18 + 6 x 0.5) C	74	120	8.7
	707762	Li9YC11Y	12	(3 x 2 x 0.18 + 6 x 1.0) C	93	130	8.7
	707116	Li9YC11Y	12	(3 x 2 x 0.18 + 6 x 0.5) C	66	108	8.7
	707763	Li9YC11Y	9	(2 x 2 x 0.18 + 5 x 0.5) C	55	90	7.8
	707115	Li9YC11Y	7	(1 x 2 x 0.18 + 5 x 0.5) C	49	86	7.4
	707764	Li9YC11Y	10	(4 x 2 x 0.22 + 2 x 0.5) C	54	87	7.8
Various	78828	Li9YC11Y	6	(3 x (2 x 0.25) D) C	55	79	7.2
	79613	Li9YC11Y	12	(5 x 2 x 0.38 + 2 x 0.5) C	69	124	9.2
	77744	Li9YC11Y	8	(3 x (2 x 0.14) D + 2 x 1.0) C	71	131	8.2
	78372	Li9YC11Y	8	(3 x 2 x 0.14 + 2 x 0.5) C	35	73	7.2
	705647	Li9YC11Y	16	(7 x 2 x 0.14 + 2 x 0.5) C	46	89	7.6
	707748	Li9YC11Y	10	(4 x (2 x 0.14) C + (2 x 1.0)) C	90	185	11.4
	77750	Li9YC11Y	10	(4 x (2 x 0.25) C + 2 x 1.0) C	89	162	10.5
	705221	Li9YC11Y	8	(4 x 2 x 0.25) C	39	82	7.5
	74418	Li9YC11Y	6	(3 x 2 x 0.25) C	38.4	65	7.0
	74419	Li9YC11Y	8	(4 x 2 x 0.25) C	43.2	72	7.1
	74420	Li9YC11Y	10	(5 x 2 x 0.25) C	51.5	102	8.8
	700662	Li9YC11Y	8	4 x 2 x 0.18	35	68	6.4
	78649	Li9YC11Y	16	8 x 2 x 0.25	67	114.4	8.8
	700241	Li9YC11Y	8	4 x 2 x 0.22	41	110	7.8
	708490	Li9YC11Y	10	4 x (2 x 0.14) D2Y + 2 x (1 x 0.5) D2Y	69.6	131.2	9.5

Part No. HELUKABEL	Colour Code
700655	wh/ye+wh/gn; wh/rd+wh/og; wh/bk+wh/bn; gy+wh; bu+vt; ye+gn; rd+og; bk+bn
78081	bn+bk; rd+og; bu+vt; gy+ye (0.34qmm pairs) • bu/wh; bk/wh; rd/wh; ye/wh (0.5qmm)
707400	gn+ye; bk+bn; rd+og (0.14qmm pairs) • bk+rd (0.5qmm)
700657	gn+ye; bk+bn; rd+og (0.14qmm pairs) • bn/rd+bn/bu (0.5qmm) • gy+bu+wh/ye+wh/bk (0.14qmm quad)
700540	gn+ye; bk+bn; rd+og (0.14qmm pairs) • bn/rd+bn/bu (0.5qmm) • gy+bu+wh/ye+whbk (0.14qmm quad) • bn/ye+bn/gy+gn/bk+gn/rd (0.25qmm quad)
700654	bk+bn; rd+og; gn+ye; bu+vt
700653	rd+og; bk+bn
78079	bk; bn; rd; (first lay) • og; ye. gn; bu; vt; gy; wh; wh/bk; wh/ bn (second lay)
804767	bu+pk; gn+ye (0.2qmm) • rd; bk (0.38qmm)
705413	wh; bn; gn; ye; gy; pk (0.25qmm pairs) • bu; rd (0.5qmm)
706333	wh/bn; gn/ye; gy/pk; bk/vt; gypk/rdbu (0.25qmm pairs) • bu; rd (0.5qmm)
708489	wh+bn; gn+ye; gy+pk (0.14qmm pairs) • bu+rd (0.34qmm)
707403	wh+bn; gn+ye; gy+pk
707404	gn+bn; gy+wh; wh+vt; bk+rd; pk+bu (0.14qmm pairs) • wh/gn; wh/rd (0.5qmm)
707405	bk+ye; bk+gn; bk+rd (0.14qmm pairs) • bk+wh (0.5qmm)
707406	bk+ye; bk+gn; bk+rd; bl+bu (0.14qmm pairs) • bk+ws (1.0qmm)
707407	bk+ye; bk+gn; bk+rd (0.14qmm pairs) • bk+gy+pk (0.5qmm)
702050	gn+bn; bk+rd; gy+pk; bu+vt (0.25qmm pairs) • wh+bn (1.0qmm)
78080	gn+bn; bk+rd; gy+pk; bu+vt (0.25qmm pairs) • wh+bn (0.5qmm)
77741	bu+wh+rd+pk+gn+ye+bn+bk+gy
707738	gn+bn; bk+rd; gy+pk; bu+vt (0.25qmm pairs) • wh+bn (1.0qmm)
707739	gn+bn; bk+rd; gy+pk; bu+vt (0.25qmm pairs) • wh+bn (0.5qmm)
707740	bu+wh+rd+pk+gn+ye+bn+bk+gy
707408	ye/bk+bu/bk+gn/bk+rd/bk (0.14qmm quad) • wh+bn/gn+wh/gn+bu (1.0qmm) • rd+bk; bn+gn; ye+vt; gy+pk (0.14qmm Pairs)
707418	gn+bn; gy+pk; bk+rd (0.25qmm pairs) • ye+bu+vt (0.25qmm tripple) • bn. wh (1.0qmm)
707409	rd+bk; gy+pk (0.25qmm pairs) • wh+bn (0.5qmm)
713070	wh+ye; bl+rd; bl+vio; gn+br; gr+rs
17000504	
710106	gy; ye; pink; violet (0,14qmm) • bu; wh; bn-gn; ws-gn (0,34qmm)
77753	wh; bn; gn; ye; gy; pk; bu; rd; bk; vt (0.14qmm) • gy/pk; rd/bu (0.5qmm)
77743	gn+ye; gy+pk; bu+rd (0.14qmm pairs) • wh+bn (0.5qmm)
709693	gn+ye; gy+pk; bu+rd (0.14qmm pairs) • wh+bn (0.5qmm)
79513	gn+bn; ye+vt; pk+gy. rd+bk (0.14qmm) • wh; bu; wh/gn; bn/gn (0.5qmm)
709691	gn+bn; ye+vt; pk+gy. rd+bk (0.14qmm) • wh; bu; wh/gn; bn/gn (0.5qmm)
707410	gn+ye; gy+pk; bu+rd (0.14qmm) • wh+bn (1.0qmm)
700560	ge+vio; gy+rs; sw+rtbr+gn (0,14qmm) • ge/sw; bl/sw; gn/sw; rt/sw (0,14qmm quad) • ws; bl; ws/gn; br/gn (0,5qmm)
709692	ge+vio; gy+rs; sw+rtbr+gn (0,14qmm) • ge/sw; bl/sw; gn/sw; rt/sw (0,14qmm quad) • ws; bl; ws/gn; br/gn (0,5qmm)
78963	wh; bn (0.5qmm) • gn+ye; gy+pk; bu+rd; bk+vt; gy/pk+rd/bu (0.14qmm pairs)
707761	bk+og; bk+gy; wh+ye; wh+gy; wh+bn (0.18qmm) • 3x rd num. 4-6; 3x bk num. 1-3 (0.5qmm)
707762	rd+wh; rd+bk; bk+wh (0.18qmm) • 3x rd num. 4-6; 3x bk num. 1-3 (1.0qmm)
707116	rd+wh; rd+bk; bk+wh (0.18qmm) • 3x rd num. 4-6; 3x bk num. 1-3 (0.5qmm)
707763	bk+vt; wh+bn (0.18qmm) • gn; ye. gy. pk. bu (0.5qmm)
707115	bn+wh (0.18qmm) • bu; pk; gy; ye; gn (0.5qmm)
707764	bn/bk+bn/rd; ye/bk+ye/rd; gn/bk+gn/rd; gy/bk+gy/rd (0.22mm pairs) • bn. ye (0.5qmm)
78828	wh+bn; gn+ye; gy+pk
79613	wh+bn; gn+ye; gy+pk; bu+rd; bk+vt (0.38qmm pairs) • wh; bn (0.5qmm)
77744	gn+ye; gy+pk; bu+rd (0.14qmm pairs) • wh+bn (1.0qmm)
78372	gn+ye; gy+pk; bu+rd (0.14qmm pairs) • wh+bn (0.5qmm)
705647	wh+br; gn+ye; gy+pink; bu+rd; bk+violet; gy-pk+rb-bu; wh-gn; bn-gn (0,14qmm pairs) • wh; br (0,5qmm)
707748	wh+br; gn+gn; gn+pink; bu+rd (0,14qmm pairs) • wh+br (1,0qmm pairs)
77750	gn+bn; bk+rd; gy+pk; bu+vt (0.25qmm pairs) • wh+bn (1.0qmm)
705221	wh+bn; gn+ye; gy+pk; bu+rd
74418	wh+bn; gn+ye; gy+pk
74419	wh+bn; gn+ye; gy+pk; bu+rd
74420	wh+br; gn+ye; gy+pk; bu+rd; bk+violet (0,25qmm pairs)
700662	wh+bn; gn+ye; gr+rs; bl+rd
78649	wh+br; gn+ge; gr+rs; bl+rt; sw+vio; grrs+ rtbl; wsgn+brgn; wsge+gebr
700241	wh+br; gn+ge; gr+rs; bl+rt
708490	wh; br; gn+ge; gr+rs; bl+rt; sw+vio