



Documentation

Servo cables AM81xx/AM31xx at EL7201

Version : 1.0
Date : 2014-03-21

BECKHOFF

Motor cable ZK4704-0421-2zzz (OCT)



Plug connector	Contact	Function	Core identification	Clamping unit	Plug connector
<p>Mating view</p>	A	U	black	4	Flying leads
	B	W	grey	5	
	C	V	brown	12	
	1	Brake +	red	6	
	2	Brake -	black	14	
	3	Temp. + / OCT +	white	1	
	4	Temp. - / OCT -	blue	9	
	5	-	-	-	
	⊕	PE	green/yellow	PE	

Catalog data	
Catalog text	0.75mm ² with iTex plug, highly flexible, for drag-chain use
Servomotor	AM812x and AM813x
Servo Drive	EL7201-0010
Catalog description	(4x0.75mm ² + (2x0.34mm ²)+ (2xAWG22))

Electrical properties at 20°C	
Max. operating voltage	1000 VAC (UL)
Direct current resistance	≤ 55.0 Ω/km (AWG22) / ≤ 55.0 Ω/km (0.34 mm ²) / ≤ 26.0 Ω/km (0.75 mm ²) acc. to DIN EN 50395
Insultion resistance	≥ 500 MΩ x km acc. to DIN EN 50395
Operating capacity at 800 Hz	score / screen ≤ 150 pF/m (0.75mm ²) acc. to EN 50289-1-5

Mechanical properties	
Outside diameter d	11.0 ± 0.4 mm
Min. bending radius	5 x d for fixed installation / 7 x d for dynamic use
Max. driven speed	240 m/min
Max. acceleration	30 m/s ² (at 5 m movement)
Max. allowable travelling distance	20 m horizontal / 5 m vertikal
Max. torsion	± 30°/m
Max. bending cycles	5 Mio.
Operating temperature	-20°C to +60°C
Shield	optical coverage >85 %

Properties cable	
Material outer sheath	TPU, flame retardant, halogen-free
Color	Orange, like RAL 2003
Weight	0.175 kg/m
RoHS conformity	Yes
Silicon-free	Yes
Halogen-free	DIN VDE 0472 T815
Flame resistance	IEC 60332-1-2 / UL758 cable flame test
Oil resistance outer sheath	HD 22.10 Appendix A / DIN EN60811-2-1
UL Approbationen	UL758 (AWM) Style 21223 (Outer sheath) and Style 10492 (Core)

Properties motor plug	
Housing	brass, zinc diecast; nickel-plated and plastic-coated
Connecting Nut	Fiber-glass reinforced for high mechanical stress
Contacts	brass, gold-plated
Seals	FPM (Viton)
Clamp Ring	brass nickel-plated
Protection Type	connected: IP 65 (acc. IEC 60529)
Mating Cycles	min. 500

Motor cable ZK4704-0411-2zzz



Plug connector	Contact	Function	Core identification	Clamping unit	Plug connector
<p>Mating view</p>	A	U	black	4	Flying leads
	B	W	grey	5	
	C	V	brown	12	
	1	Brake +	red	6	
	2	Brake -	Black	14	
	3	-	-	-	
	4	-	-	-	
5	-	-	-	-	
	⊕	PE	green/yellow	PE	

Catalog data	
Catalog text	Motor cable with 0.75mm ² wire gauge, flexible for drag-chain use
Servomotor	AM812x and AM813x, AM311x and AM312x
Servo Drive	EL7201-0000
Catalog description	(4x0.75mm ² + (2x0.5mm ²))

Electrical properties at 20°C	
Max. operating voltage	300 V
Direct current resistance	IEC 60228 Cl.5
Insultion resistance	≥ 20 MΩ x km
Operating capacity at 800 Hz	score / screen ≤ 100 pF/m (0.75mm ²), ≤ 120 pF/m (0.5mm ²)

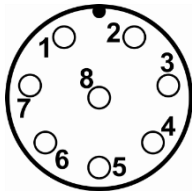

Mechanical properties	
Outside diameter d	8.8 ± 0. 4 mm
Min. bending radius	36 mm
Max. driven speed	300 m/min
Max. acceleration	50 m/s ²
Max. allowable travelling distance	50 m horizontal / 5 m vertikal
Max. bending cycles	10 Mio.
Operating temperature	-20°C to +60°C

Properties cable	
Material outer sheath	TMPU, halogen-free according to UL AWM & CSA AWM
Color	Orange, like RAL 2003
Weight	0.120 kg/m
RoHS conformity	Yes
Silicon-free	Yes
Halogen-free	Yes
Flame resistance	DE EN 50265-2-1
Oil resistance outer sheath	UL 1581
Norm	UL AWM gelistet 80°C - 300V; CSA AWM gelistet 80°C - 300V; VDE

Properties motor plug	
Housing	brass, zinc diecast; nickel-plated and plastic-coated
Connecting Nut	Fiber-glass reinforced for high mechanical stress
Contacts	brass, gold-plated
Seals	FPM (Viton)
Clamp Ring	brass nickel-plated
Protection Type	connected: IP 65 (acc. IEC 60529)
Mating Cycles	min. 500

Resolver cable ZK4724-0410-2zzz



Plug connector	Contact	Function	Core identification	Clamping unit	Plug connector
 <p>Mating view</p> 	1	Sin +	white	2	Flying leads
	2	Sin -	brown	10	
	3	Cos +	green	3	
	4	Cos -	yellow	11	
	5	Ref +	grey	1	
	6	Ref -	pink	9	
	7	-	-	-	
	8	-	-	-	

Catalog data	
Catalog text	Resolver cable with 0.25mm ² wire gauge, flexible for drag-chain use
Servomotor	AM812x and AM813x, AM311x and AM312x
Servo Drive	EL7201-0000
Catalog description	(3 x 2 x 0.25mm ²)

Electrical properties at 20°C	
Max. operating voltage	30 V
Direct current resistance	77.8 Ohm IEC 60228 Cl.5
Insultion resistance	≥ 200 MΩ x km
Operating capacity at 800 Hz	≤ 120 pF/m (0.25mm ²)

Mechanical properties	
Outside diameter d	6.6 ± 0, 4 mm
Min. bending radius	33 mm
Max. driven speed	240 m/min
Max. acceleration	30 m/s ²
Max. allowable travelling distance	20 m horizontal / 5 m vertikal
Max. bending cycles	10 Mio.
Operating temperature	-20°C to +60°C

Properties cable	
Material outer sheath	TMPU, halogen-free according to UL AWM & CSA AWM
Color	Green,like RAL 6018
Weight	0.77 kg/m
RoHS conformity	Yes
Silicon-free	Yes
Halogen-free	Yes
Flame resistance	DE EN 50265-2-1
Oil resistance outer sheath	UL 1581
Norm	UL AWM gelistet 80°C - 300V; CSA AWM gelistet 80°C - 300V; VDE

Properties motor plug	
Housing	TPU, UL94, black
Connecting Nut	GD-Zn, Ni
Contact material	CuZn
Contact surface	Ni, Au gal.
Contact holder	PA, UL94
Seals	FPM (Viton)
Protection Type	connected: IP 67 (acc. IEC 60529)
Mating Cycles	mind. 100