



Documentation

Servo cables AM8xxx at AX8000

Version : 1.0
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BECKHOFF

Motor cable ZK4800-8022-zzzz



Plug connector	Contact	Function	Core identification	Contact	Plug connector
<p>Mating view</p> <p>ZS4000-2107</p>	A	U	black / 1	U	<p>ZS4800-2013</p>
	B	W	black / 3	W	
	C	V	black / 2	V	
	1	Brake +	5	Brake + / 1	
	2	Brake -	6	Brake - / 2	
	3	Temp. + / OCT +	white	Temp. + / OCT + / 4	
	4	Temp. - / OCT -	blue	Temp. - / OCT - / 5	
5	-	-	-	-	
	⊕	PE	green / yellow	PE	

Catalog data	
Catalog text	1 mm ² with i-Tec plug , highly flexible, for drag-chain use
Servomotor	AM801x, AM802x, AM803x and AM853x
Servo Drive	AX8108 and AX8206
Catalog description	(4x1.0mm ² + (2x0.75mm ²) + (2xAWG22))

Electrical properties at 20°C	
Max. operating voltage	1000 VAC (UL)
Direct current resistance	≤ 55.0 Ω/km (AWG22) / ≤ 26.0 Ω/km (0.75 mm ²) / ≤ 19.5 Ω/km (1.0 mm ²), DIN EN 50395
Insulation resistance	≥ 500 MΩ x km, DIN EN 50395
Max. acceleration	score / screen ≤ 150 pF/m (1.0mm ²), EN 50289-1-5

Mechanical properties	
Outside diameter d	11.6 ± 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 vertical
Max. torsion	± 30°/m
Max. bending cycles	5 Mio.
Operating temperature	-20°C to +60°C
Shield optical	>85 %

Properties cable	
Material outer sheath	TPU, flame retardant, halogen free
Color	Orange, like RAL 2003
Weight	0.215 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 Approbation	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 (IEC 60529)
Mating Cycles	min. 500

Properties AX8000 plug	
Contact material	Cu-Leg
Contact surface	tin-plated
Insulator	PBT
Licence	CSA, UL 1059
RoHS conformity	yes

Motor cable extension ZK4501-8022-zzzz



Plug connector	Contact	Function	Core identification	Contact	Plug connector
<p>Mating view</p> <p>ZS4000-2107</p>	A	U	black / 1	A	<p>Mating view</p> <p>ZS4000-2103</p>
	B	W	black / 3	B	
	C	V	black / 2	C	
	1	Brake +	5	1	
	2	Brake -	6	2	
	3	Temp. + / OCT +	white	3	
4	Temp. - / OCT -	blue	4		
5	-	-	5		
	PE	green / yellow			

Catalog data	Motor cable extension for motor cable ZK4800-8022-zzzz
Catalog text	1 mm ² with i-Tec plug , highly flexible, for drag-chain use
Servomotor	AM801x, AM802x, AM803x and AM853x
Servo Drive	AX8108 and AX8206
Catalog description	(4x1.0mm ² + (2x0.75mm ²) + (2xAWG22))

Electrical properties at 20°C	
Max. operating voltage	1000 VAC (UL)
Direct current resistance	≤ 55.0 Ω/km (AWG22) / ≤ 26.0 Ω/km (0.75 mm ²) / ≤ 19.5 Ω/km (1.0 mm ²), DIN EN 50395
Insulation resistance	≥ 500 MΩ x km, DIN EN 50395
Max. acceleration	score / screen ≤ 150 pF/m (1.0mm ²), EN 50289-1-5

Mechanical properties	
Outside diameter d	11.6 ± 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 vertical
Max. torsion	± 30°/m
Max. bending cycles	5 Mio.
Operating temperature	-20°C to +60°C
Shield optical	>85 %

Properties cable	
Material outer sheath	TPU, flame retardant, halogen free
Color	Orange, like RAL 2003
Weight	0.215 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 Approbation	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 (IEC 60529)
Mating Cycles	min. 500

Motor cable ZK4800-8003-zzzz



Plug connector	Contact	Function	Core identification	Contact	Plug connector
<p>Mating view</p> <p>ZS4000-2104</p>	A	U	black / 1	U	<p>ZS4800-2013</p>
	B	V	black / 2	V	
	C	W	black / 3	W	
	D	PE	green/yellow	PE	
	E	Temp. - / OCT -	blue	Temp. -	
	F	Screen	Screen	Screen	
	G	Brake +	black / 5	Brake +	
	H	Temp. + / OCT +	white	Temp. +	
	L	Brake -	black / 6	Brake -	

Catalog data	
Catalog text	1.5 mm ² with M23-speedtec® plug, fixed installation
Servomotor	AM883x and AM8x4x up to AM8x6x (up to winding code P)
Servo Drive	AX8108 and AX8206
Catalog description	(4x1.5mm ² + (2x0.75mm ²) + (2xAWG22))

Electrical properties at 20°C	
Max. operating voltage	1000 VAC (UL)
Direct current resistance	≤ 55.0 Ω/km (AWG22) / ≤ 26.0 Ω/km (0.75 mm ²) / ≤ 13.3 Ω/km (1.5 mm ²), DIN EN 50395
Insulation resistance	≥ 500 MΩ x km, DIN EN 50395
Operating capacity at 800 Hz	score / screen ≤ 150 pF/m (1.5mm ²), EN 50289-1-5

Mechanical properties	
Outside diameter d	12.2 ± 0.4 mm
Min. bending radius	5 x d for fixed installation
Max. torsion	± 30°/m
Operating temperature	-0°C to +80°C
Shield optical	>85 %

Properties cable	
Material outer sheath	PVC, flame retardant, oil resistance
Color	Orange, like RAL 2003
Weight	0.25 kg/m
RoHS conformity	Yes
Silicon-free	Yes
Halogen-free	No
Flame resistance	IEC 60332-1-2 / UL758 cable flame test
Oil resistance outer sheath	HD 22.10 Appendix A / DIN EN60811-2-1
UL Approbation	UL758 (AWM) Style 2570 (Outer sheath) and Style 10492 (Core)

Properties motor plug	
Housing	brass, zinc diecast; nickel-plated and chromated
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 (IEC 60529)
Mating Cycles	min. 500

Properties AX8000 plug	
Contact material	Cu-Leg
Contact surface	tin-plated
Insulator	PBT
Licence	CSA, UL 1059
RoHS conformity	yes

Motor cable extension ZK4501-8003-zzzz



Plug connector	Contact	Function	Core identification	Contact	Plug connector
<p>Mating view ZS4000-2104</p>	A	U	black / 1	A	<p>Mating view ZS4000-2108</p>
	B	V	black / 2	B	
	C	W	black / 3	C	
	D	PE	green/yellow	D	
	E	Temp. - / OCT -	blue	E	
	F	Screen	Screen	F	
	G	Brake +	black / 5	G	
	H	Temp. + / OCT +	white	H	
	L	Brake -	black / 6	L	

Catalog data	Motor cable extension for motor cable ZK4800-8003-zzzz
Catalog text	1.5 mm ² with M23-speedtec® plug, fixed installation
Servomotor	AM883x and AM8x4x up to AM8x6x (up to winding code P)
Servo Drive	AX8108 and AX8206
Catalog description	(4x1.5mm ² + (2x0.75mm ²) + (2xAWG22))

Electrical properties at 20°C	
Max. operating voltage	1000 VAC (UL)
Direct current resistance	≤ 55.0 Ω/km (AWG22) / ≤ 26.0 Ω/km (0.75 mm ²) / ≤ 13.3 Ω/km (1.5 mm ²), DIN EN 50395
Insulation resistance	≥ 500 MΩ x km, DIN EN 50395
Operating capacity at 800 Hz	score / screen ≤ 150 pF/m (1.5mm ²), EN 50289-1-5

Mechanical properties	
Outside diameter d	12.2 ± 0.4 mm
Min. bending radius	5 x d for fixed installation
Max. torsion	± 30°/m
Operating temperature	-0°C to +80°C
Shield optical	>85 %

Properties cable	
Material outer sheath	PVC, flame retardant, oil resistance
Color	Orange, like RAL 2003
Weight	0.25 kg/m
RoHS conformity	Yes
Silicon-free	Yes
Halogen-free	No
Flame resistance	IEC 60332-1-2 / UL758 cable flame test
Oil resistance outer sheath	HD 22.10 Appendix A / DIN EN60811-2-1
UL Approbation	UL758 (AWM) Style 2570 (Outer sheath) and Style 10492 (Core)

Properties motor plug	
Housing	brass, zinc diecast; nickel-plated and chromated
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 (IEC 60529)
Mating Cycles	min. 500

Motor cable ZK4800-8023-zzzz



Plug connector	Contact	Function	Core identification	Contact	Plug connector
<p>Mating view</p> <p>ZS4000-2104</p>	A	U	black / 1	U	<p>ZS4800-2013</p>
	B	V	black / 2	V	
	C	W	black / 3	W	
	D	PE	green/yellow	PE	
	E	Temp. - / OCT -	blue	Temp. -	
	F	Screen	Screen	Screen	
	G	Brake +	black / 5	Brake +	
	H	Temp. + / OCT +	white	Temp. +	
	L	Brake -	black / 6	Brake -	

Catalog data	
Catalog text	1.5 mm ² with M23-speedtec® plug, highly flexible, for drag-chain use
Servomotor	AM883x and AM8x4x up to AM8x6x (up to winding code P)
Servo Drive	AX8108 and AX8206
Catalog description	(4x1.5mm ² + (2x0.75mm ²) + (2xAWG22))

Electrical properties at 20°C	
Max. operating voltage	1000 VAC (UL)
Direct current resistance	≤ 55.0 Ω/km (AWG22) / ≤ 26.0 Ω/km (0.75 mm ²) / ≤ 13.3 Ω/km (1.5 mm ²), DIN EN 50395
Insulation resistance	≥ 500 MΩ x km, DIN EN 50395
Operating capacity at 800 Hz	score / screen ≤ 150 pF/m (1.5mm ²), EN 50289-1-5

Mechanical properties	
Outside diameter d	12.7 ± 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 vertical
Max. torsion	± 30°/m
Max. bending cycles	5 Mio.
Operating temperature	-20°C to +60°C
Shield optical	>85 %

Properties cable	
Material outer sheath	TPU, flame retardant, halogen free
Color	Orange, like RAL 2003
Weight	0.25 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 Approbation	UL758 (AWM) Style 21223 (Outer sheath) and Style 10492 (Core)

Properties motor plug	
Housing	brass, zinc diecast; nickel-plated and chromated
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 (IEC 60529)
Mating Cycles	min. 500

Properties AX8000 plug	
Contact material	Cu-Leg
Contact surface	tin-plated
Insulator	PBT
Licence	CSA, UL 1059
RoHS conformity	yes

Motor cable extension ZK4501-8023-zzzz



Plug connector	Contact	Function	Core identification	Contact	Plug connector
<p>Mating view ZS4000-2104</p>	A	U	black / 1	A	<p>Mating view ZS4000-2108</p>
	B	V	black / 2	B	
	C	W	black / 3	C	
	D	PE	green/yellow	D	
	E	Temp. - / OCT -	blue	E	
	F	Screen	Screen	F	
	G	Brake +	black / 5	G	
	H	Temp. + / OCT +	white	H	
	L	Brake -	black / 6	L	

Catalog data	Motor cable extension for motor cable ZK4800-8023-zzzz
Catalog text	1.5 mm ² with M23-speedtec® plug, highly flexible, for drag-chain use
Servomotor	AM883x and AM8x4x up to AM8x6x (up to winding code P)
Servo Drive	AX8108 and AX8206
Catalog description	(4x1.5mm ² + (2x0.75mm ²) + (2xAWG22))

Electrical properties at 20°C	
Max. operating voltage	1000 VAC (UL)
Direct current resistance	≤ 55.0 Ω/km (AWG22) / ≤ 26.0 Ω/km (0.75 mm ²) / ≤ 13.3 Ω/km (1.5 mm ²), DIN EN 50395
Insulation resistance	≥ 500 MΩ x km, DIN EN 50395
Operating capacity at 800 Hz	score / screen ≤ 150 pF/m (1.5mm ²), EN 50289-1-5

Mechanical properties	
Outside diameter d	12.7 ± 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 vertical
Max. torsion	± 30°/m
Max. bending cycles	5 Mio.
Operating temperature	-20°C to +60°C
Shield optical	>85 %

Properties cable	
Material outer sheath	TPU, flame retardant, halogen free
Color	Orange, like RAL 2003
Weight	0.25 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 Approbation	UL758 (AWM) Style 21223 (Outer sheath) and Style 10492 (Core)

Properties motor plug	
Housing	brass, zinc diecast; nickel-plated and chromated
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 (IEC 60529)
Mating Cycles	min. 500

Motor cable ZK4800-8004-zzzz



Plug connector	Contact	Function	Core identification	Contact	Plug connector
<p>Mating view</p> <p>ZS4000-2104</p>	A	U	black / 1	U	<p>ZS4800-2013</p>
	B	V	black / 2	V	
	C	W	black / 3	W	
	D	PE	green/yellow	PE	
	E	Temp. - / OCT -	blue	Temp. -	
	F	Screen	Screen	Screen	
	G	Brake +	black / 5	Brake +	
	H	Temp. + / OCT +	white	Temp. +	
	L	Brake -	black / 6	Brake -	

Catalog data	
Catalog text	2.5 mm ² with M23-speedtec® plug, fixed installation
Servomotor	AM8x4x up to AM8x6x (up to winding code P)
Servo Drive	AX8118
Catalog description	(4x2.5mm ² + (2x1.0mm ²) + (2xAWG22))

Electrical properties at 20°C	
Max. operating voltage	1000 VAC (UL)
Direct current resistance	≤ 55.0 Ω/km (AWG22) / ≤ 19.5 Ω/km (1.0 mm ²) / ≤ 7.98 Ω/km (2.5 mm ²), DIN EN 50395
Insulation resistance	≥ 500 MΩ x km, DIN EN 50395
Operating capacity at 800 Hz	score / screen ≤ 150 pF/m (2.5mm ²), EN 50289-1-5

Mechanical properties	
Outside diameter d	13.8 ± 0.4 mm
Min. bending radius	5 x d for fixed installation
Max. torsion	± 30°/m
Operating temperature	-0°C to +80°C
Shield optical	>85 %

Properties cable	
Material outer sheath	PVC, flame retardant, oil resistance
Color	Orange, like RAL 2003
Weight	0.31 kg/m
RoHS conformity	Yes
Silicon-free	Yes
Halogen-free	No
Flame resistance	IEC 60332-1-2 / UL758 cable flame test
Oil resistance outer sheath	HD 22.10 Appendix A / DIN EN60811-2-1
UL Approbation	UL758 (AWM) Style 21223 (Outer sheath) and Style 10492 (Core)

Properties motor plug	
Housing	brass, zinc diecast; nickel-plated and chromated
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 (IEC 60529)
Mating Cycles	min. 500

Properties AX8000 plug	
Contact material	Cu-Leg
Contact surface	tin-plated
Insulator	PBT
Licence	CSA, UL 1059
RoHS conformity	Yes

Motor cable extension ZK4501-8004-zzzz



Plug connector	Contact	Function	Core identification	Contact	Plug connector
 Mating view ZS4000-2104	A	U	black / 1	A	 Mating view ZS4000-2108
	B	V	black / 2	B	
	C	W	black / 3	C	
	D	PE	green/yellow	D	
	E	Temp. - / OCT -	blue	E	
	F	Screen	Screen	F	
	G	Brake +	black / 5	G	
	H	Temp. + / OCT +	white	H	
	L	Brake -	black / 6	L	

Catalog data	Motor cable extension for motor cable ZK4800-8004-zzzz
Catalog text	2.5 mm ² with M23-speedtec® plug, fixed installation
Servomotor	AM8x4x up to AM8x6x (up to winding code P)
Servo Drive	AX8118
Catalog description	(4x2.5mm ² + (2x1.0mm ²) + (2xAWG22))

Electrical properties at 20°C	
Max. operating voltage	1000 VAC (UL)
Direct current resistance	≤ 55.0 Ω/km (AWG22) / ≤ 20.0 Ω/km (1.0 mm ²) / ≤ 7.98 Ω/km (2.5 mm ²), DIN EN 50395
Insulation resistance	≥ 500 MΩ x km, DIN EN 50395
Operating capacity at 800 Hz	score / screen ≤ 150 pF/m (2.5mm ²), EN 50289-1-5

Mechanical properties	
Outside diameter d	13.8 ± 0.4 mm
Min. bending radius	5 x d for fixed installation
Max. torsion	± 30°/m
Operating temperature	-0°C to +80°C
Shield optical	>85 %

Properties cable	
Material outer sheath	PVC, flame retardant, oil resistance
Color	Orange, like RAL 2003
Weight	0.31 kg/m
RoHS conformity	Yes
Silicon-free	Yes
Halogen-free	No
Flame resistance	IEC 60332-1-2 / UL758 cable flame test
Oil resistance outer sheath	HD 22.10 Appendix A / DIN EN60811-2-1
UL Approbation	UL758 (AWM) Style 2570 (Outer sheath) and Style 10492 (Core)

Properties motor plug	
Housing	brass, zinc diecast; nickel-plated and chromated
Connecting Nut	Brass, zinc diecast; nickel-plated
Contacts	brass gold plated
Seals	FPM/HNBR (Viton)
Clamp Ring	brass nickel-plated
Protection Type	connected: IP 65 (IEC 60529)
Mating Cycles	min. 500

Motor cable ZK4800-8024-zzzz



Plug connector	Contact	Function	Core identification	Contact	Plug connector
<p>Mating view ZS4000-2104</p>	A	U	black / 1	U	<p>ZS4800-2013</p>
	B	V	black / 2	V	
	C	W	black / 3	W	
	D	PE	green/yellow	PE	
	E	Temp. - / OCT -	blue	Temp. -	
	F	Screen	Screen	Screen	
	G	Brake +	black / 5	Brake +	
	H	Temp. + / OCT +	white	Temp. +	
	L	Brake -	black / 6	Brake -	

Catalog data	
Catalog text	2.5 mm ² with M23-speedtec® plug, highly flexible, for drag-chain use
Servomotor	AM8x4x up to AM8x6x (up to winding code P)
Servo Drive	AX8118
Catalog description	(4x2.5mm ² + (2x1.0mm ²) + (2xAWG22))

Electrical properties at 20°C	
Max. operating voltage	1000 VAC (UL)
Direct current resistance	≤ 55.0 Ω/km (AWG22) / ≤ 20.0 Ω/km (1.0 mm ²) / ≤ 7.98 Ω/km (2.5 mm ²), DIN EN 50395
Insulation resistance	≥ 500 MΩ x km, DIN EN 50395
Operating capacity at 800 Hz	score / screen ≤ 150 pF/m (2.5mm ²), EN 50289-1-5

Mechanical properties	
Outside diameter d	13.9 ± 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 vertical
Max. torsion	± 30°/m
Max. bending cycles	5 Mio.
Operating temperature	-20°C to +60°C
Shield optical	>85 %

Properties cable	
Material outer sheath	TPU, flame retardant, halogen free
Color	Orange, like RAL 2003
Weight	0.31 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 Approbation	UL758 (AWM) Style 21223 (Outer sheath) and Style 10492 (Core)

Properties motor plug	
Housing	brass, zinc diecast; nickel-plated and chromated
Connecting Nut	Brass, zinc diecast; nickel-plated
Contacts	brass gold plated
Seals	FPM/HNBR (Viton)
Clamp Ring	brass nickel-plated
Protection Type	connected: IP 65 (IEC 60529)
Mating Cycles	min. 500

Properties AX8000 plug	
Contact material	Cu-Leg
Contact surface	tin-plated
Insulator	PBT
Licence	CSA, UL 1059
RoHS conformity	yes

Motor cable extension ZK4501-8024-zzzz



Plug connector	Contact	Function	Core identification	Contact	Plug connector
<p>Mating view ZS4000-2104</p>	A	U	black / 1	A	<p>Mating view ZS4000-2108</p>
	B	V	black / 2	B	
	C	W	black / 3	C	
	D	PE	green/yellow	D	
	E	Temp. - / OCT -	blue	E	
	F	Screen	Screen	F	
	G	Brake +	black / 5	G	
	H	Temp. + / OCT +	white	H	
	L	Brake -	black / 6	L	

Catalog data	Motor cable extension for motor cable ZK4800-8024-zzzz
Catalog text	2.5 mm ² with M23-speedtec® plug, highly flexible, for drag-chain use
Servomotor	AM8x4x up to AM8x6x (up to winding code P)
Servo Drive	AX8118
Catalog description	(4x2.5mm ² + (2x1.0mm ²) + (2xAWG22))

Electrical properties at 20°C	
Max. operating voltage	1000 VAC (UL)
Direct current resistance	≤ 55.0 Ω/km (AWG22) / ≤ 20.0 Ω/km (1.0 mm ²) / ≤ 7.98 Ω/km (2.5 mm ²), DIN EN 50395
Insulation resistance	≥ 500 MΩ x km, DIN EN 50395
Operating capacity at 800 Hz	score / screen ≤ 150 pF/m (2.5mm ²), EN 50289-1-5

Mechanical properties	
Outside diameter d	13.9 ± 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 vertical
Max. torsion	± 30°/m
Max. bending cycles	5 Mio.
Operating temperature	-20°C to +60°C
Shield optical	>85 %

Properties cable	
Material outer sheath	TPU, flame retardant, halogen free
Color	Orange, like RAL 2003
Weight	0.31 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 Approbation	UL758 (AWM) Style 21223 (Outer sheath) and Style 10492 (Core)

Properties motor plug	
Housing	brass, zinc diecast; nickel-plated and chromated
Connecting Nut	Brass, zinc diecast; nickel-plated
Contacts	brass gold plated
Seals	FPM/HNBR (Viton)
Clamp Ring	brass nickel-plated
Protection Type	connected: IP 65 (IEC 60529)
Mating Cycles	min. 500

Motor cable ZK4800-8025-zzzz



Plug connector	Contact	Function	Core identification	Contact	Plug connector
<p>Mating view</p> <p>ZS4000-2109</p>	U	U	black / 1	U	<p>ZS4800-2013</p>
	V	V	black / 2	V	
	W	W	black / 3	W	
	PE	PE	green/yellow	PE	
	N	n. c.		n.c.	
	+	Brake +	black / 5	Brake +	
	-	Brake -	black / 6	Brake -	
	1	n. c.		n. c.	
	2	n. c.		n. c.	
	H	OCT + / Temp. +	white	OCT + / Temp. +	
L	OCT - / Temp. -	blue	OCT - / Temp. -		

Catalog data	
Catalog text	4 mm ² with M40-speedtec® plug, highly flexible, for drag-chain use
Servomotor	AM8x6x (from winding code Q) and AM807x
Servo Drive	AX8118
Catalog description	(4x4.0mm ² + (2x1.0mm ²) + (2xAWG22))

Electrical properties at 20°C	
Max. operating voltage	1000 VAC (UL)
Direct current resistance	≤ 55.0 Ω/km (AWG22) / ≤ 20.0 Ω/km (1.0 mm ²) / ≤ 4.95 Ω/km (4 mm ²), DIN EN 50395
Insulation resistance	≥ 500 MΩ x km, DIN EN 50395
Operating capacity at 800 Hz	score / screen ≤ 150 pF/m (4 mm ²), EN 50289-1-5

Mechanical properties	
Outside diameter d	15.9 ± 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 vertical
Max. torsion	± 30°/m
Max. bending cycles	5 Mio.
Operating temperature	-20°C to +60°C
Shield optical	>85 %

Properties cable	
Material outer sheath	TPU, flame retardant, halogen free
Color	Orange, like RAL 2003
Weight	0.42 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 Approbation	UL758 (AWM) Style 21223 (Outer sheath) and Style 10492 (Core)

Properties motor plug	
Housing	brass, zinc diecast; nickel-plated and chromated
Connecting Nut	Brass, zinc diecast; nickel-plated
Contacts	brass gold plated
Seals	FPM/HNBR (Viton)
Clamp Ring	brass nickel-plated
Protection Type	connected: IP 65 (IEC 60529)
Mating Cycles	min. 500

Properties AX8000 plug	
Contact material	Cu-Leg
Contact surface	tin-plated
Insulator	PBT
Licence	CSA, UL 1059
RoHS conformity	yes

Motor cable extension ZK4501-8025-zzzz



Plug connector	Contact	Function	Core identification	Contact	Plug connector
<p>Mating view</p> <p>ZS4000-2109</p>	U	U	black / 1	U	<p>Mating view</p>
	V	V	black / 2	V	
	W	W	black / 3	W	
	PE	PE	green/yellow	PE	
	N	n. c.		n.c.	
	+	Brake +	black / 5	+	
	-	Brake -	black / 6	-	
	1	n. c.		n. c.	
	2	n. c.		n. c.	
	H	OCT + / Temp. +	white	H	
	L	OCT - / Temp. -	blue	L	

Catalog data	Motor cable extension for motor cable ZK4800-8025-zzzz
Catalog text	4 mm ² with M40-speedtec® plug, highly flexible, for drag-chain use
Servomotor	AM8x6x (from winding code Q) and AM807x
Servo Drive	AX8118
Catalog description	(4x4mm ² + (2x1.0mm ²) + (2xAWG22))

Electrical properties at 20°C	
Max. operating voltage	1000 VAC (UL)
Direct current resistance	≤ 55.0 Ω/km (AWG22) / ≤ 20.0 Ω/km (1.0 mm ²) / ≤ 4.95 Ω/km (4 mm ²), DIN EN 50395
Insulation resistance	≥ 500 MΩ x km, DIN EN 50395
Operating capacity at 800 Hz	score / screen ≤ 150 pF/m (4 mm ²), EN 50289-1-5

Mechanical properties	
Outside diameter d	15.9 ± 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 vertical
Max. torsion	± 30°/m
Max. bending cycles	5 Mio.
Operating temperature	-20°C to +60°C
Shield optical	>85 %

Properties cable	
Material outer sheath	TPU, flame retardant, halogen free
Color	Orange, like RAL 2003
Weight	0.42 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 Approbation	UL758 (AWM) Style 21223 (Outer sheath) and Style 10492 (Core)

Properties motor plug	
Housing	brass, zinc diecast; nickel-plated and chromated
Connecting Nut	Brass, zinc diecast; nickel-plated
Contacts	brass gold plated
Seals	FPM/HNBR (Viton)
Clamp Ring	brass nickel-plated
Protection Type	connected: IP 65 (IEC 60529)
Mating Cycles	min. 500