

FLEXMOV® Servo cables

FLEXMOV® 伺服电缆

FMV610 伺服电缆 Servo cables



- PVC 外护套
- 带屏蔽
- 耐油
- 阻燃
- PVC outer jacket
- Shielded
- Oil-resistant
- Flame resistance

移动参数 Dynamic Information

	最小弯曲半径 Min. bending radius	拖链内移动 Moving in cable carriers	7.5 x d
		非拖链内移动 Flexible moving	6 x d
		固定铺设 Fixed installation	4 x d
	使用温度范围 Temperature	拖链内移动 Moving in cable carriers	+5°C至to +70°C
		非拖链内移动 Flexible moving	-5°C至to +70°C
		固定铺设 Fixed installation	-15°C至to +70°C
	最大速度 v max.	架空 Unsupported	10 m/s
		滑行 Gliding	5 m/s
	最大加速度 a max.		80 m/s ²
	行程距离 Travel distance	架空应用和行程距离小于100米的滑行应用 Unsupported travels and up to 100 m for gliding applications	

电缆结构 Cable structure

	导体 Conductor	高抗弯强度的精细裸铜多股线（符合 EN 60228 标准） Conductor consisting of bare copper wires (according to DIN EN 60228).
	绝缘材料 Conductor insulation	高机械性能、低电容的XLPE混合物 Mechanically high-quality, especially low-capacitance XLPE mixture.
	芯线结构 Conductor construction	动力导线和信号对线以短节距围绕高强度的中心线绞合在一起。 Power cores and control pair elements wound with a short pitch length around a high tensile strength centre element.
	芯线识别 Color code	动力导线: 一根为黄-绿芯线, 其余均为黑色芯线带白色数字 Power conductors: Black with white numbers, one conductor green-yellow. 1: U / L1 / C / L+ 2: V / L2 3: W / L3 / D / L- 1 对控制对线Control pair: 黑色芯线带白色数字Black with white numbers, 4/ 5 2 对控制对线Control pairs: 黑色芯线带白色数字Black with white numbers, 5/6/7/8
	单元屏蔽 Element shield	抗弯曲的镀锡铜丝编织。 Bending-resistant braiding made of tinned copper wires.
	内护套 Inner jacket	PVC混合物适用于拖链 PVC mixture adapted to suit the requirements in cable carriers.
	总屏蔽 Overall shield	抗弯曲的镀锡铜丝编织。覆盖线性约70%，光学约90%。 Bending-resistant braiding made of tinned copper wires. Coverage linear approx. 70%, optical approx. 90%
	外护套 Outer jacket	低粘性、耐油的PVC基混合材料，符合拖链要求 Low adhesion mixture on the basis of PVC, adapted to suit the requirements in cable carriers. 颜色: 苔绿色 Color: Green RAL 6005

电气参数 Electrical Information

	额定电压 Nominal voltage	U_0/U : 600/1000 V (符合following VDE0298-3)
	测试电压 Test voltage	4000 V (符合following EN50395)

特性和认证 Properties and approvals

	抗紫外线 UV-resistance	中等 Medium
	耐油性 Oil resistance	耐油 (符合 IEC60811-404 标准, 经SGS检测), 耐生物油 (符合VDMA24568 标准, 经SGS检测) Oil-resistant (following IEC60811-404, tested by SGS), bio-oil-resistant (following VDMA24568, tested by SGS)
	阻燃 Flame resistance	符合According to IEC 60332-1-2、VW-1、FT1
	REACH	符合 Accordding to the regulation (EC) No. 1907/2006 (REACH)
	EAC	经认证Certificate No. KG 417/043.CN.02.00249
	无铅 Lead-free	符合Following 2015/863/EU (RoHS-II 经SGS检测 Tested by SGS)
	无尘室 Cleanroom	符合Following ISO 14644-1
	CE	符合Following 2014/35/EU
	UL	符合Following UL2570, 1000V, 80°C

质保使用寿命 Guaranteed service life

往返行程 Double strokes	500万次 5 million times	750万次 7.5 million times	1000万次 10 million times
适用温度范围 Temperature, from/to [°C]	最小弯曲半径 R min. [系数factor x d]	最小弯曲半径 R min. [系数factor x d]	最小弯曲半径 R min. [系数factor x d]
+5/+15	10	11	12
+15/+60	7.5	8.5	9.5
+60/+70	10	11	12

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FMV610

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产品编码 Part No.	芯数及截面积 Number of cores and conductor nominal cross-section [mm]	外径 Outer diameter [mm]	铜含量 Copper index [kg/km]	重量 Weight [kg/km]
1 对控制对线带屏蔽 Control pair shielded				
FMV610.07.05.02.01	(4G0.75+(2x0.5)C)C	11	76	159
FMV610.15.15.02.01	(4G1.5+(2x1.5)C)C	13	145	256
FMV610.25.15.02.01	(4G2.5+(2x1.5)C)C	14.5	199	330
FMV610.40.15.02.01	(4G4.0+(2x1.5)C)C	16	256	406
FMV610.60.15.02.01	(4G6.0+(2x1.5)C)C	18	343	546
FMV610.100.15.02.01	(4G10+(2x1.5)C)C	21.5	536	828
2 对控制对线带屏蔽 Control pair shielded				
FMV610.07.03.02.02	(4G0.75+2x(2x0.34)C)C	12.5	103	208
FMV610.10.07.02.02	(4G1.0+2x(2x0.75)C)C	13.5	148	269
FMV610.15.07.02.02	(4G1.5+2x(2x0.75)C)C	14.5	167	309
FMV610.25.15.02.02	(4G2.5+2x(2x1.5)C)C	17	254	434
FMV610.40.15.02.02	(4G4.0+2x(2x1.5)C)C	18	308	515
FMV610.60.15.02.02	(4G6.0+2x(2x1.5)C)C	21	412	695
FMV610.100.15.02.02	(4G10+2x(2x1.5)C)C	23	592	925
FMV610.160.15.02.02	(4G16+2x(2x1.5)C)C	26.5	878	1287

注Note: 外径是指参考值 The outer diameters are reference values.

G: 带黄-绿接地线 With green-yellow earth core

x: 不带接地线 Without earth core

FMV610

FLEXMOV®

www.csb-ep.com
sales@csb-ep.com

电话: 0573 84186133/84185527
Tel: 0086 573 84187009

FMV910 伺服电缆 Servo cables



- PUR 外护套
- 带屏蔽
- 耐油和冷却剂
- 阻燃
- 不含PVC和卤素
- 耐划痕
- 抗水解和微生物
- PUR outer jacket
- Shielded
- Oil-resistant and coolant-resistant
- Flame resistance
- PVC and halogen-free
- Notch-resistant
- Hydrolysis and microbe-resistant

移动参数 Dynamic Information

	最小弯曲半径 Min. bending radius	拖链内移动 Moving in cable carriers	10 x d
		非拖链内移动 Flexible moving	8 x d
		固定铺设 Fixed installation	5 x d
	使用温度范围 Temperature	拖链内移动 Moving in cable carriers	-25°C至to +80°C
		非拖链内移动 Flexible moving	-40°C至to +80°C
		固定铺设 Fixed installation	-50°C至to +80°C
	最大速度 v max.	架空 Unsupported	10 m/s
		滑行 Gliding	2 m/s
	最大加速度 a max.	50 m/s ²	
	行程距离 Travel distance	架空应用和行程距离小于10米的滑行应用 Unsupported travels and up to 10 m for gliding applications	

电缆结构 Cable structure

	导体 Conductor	高抗弯强度的精细裸铜多股线（符合 EN 60228 标准） Conductor consisting of bare copper wires (according to DIN EN 60228).
	绝缘材料 Conductor insulation	高机械性能、低电容的XLPE混合物 Mechanically high-quality, especially low-capacitance XLPE mixture.
	芯线结构 Conductor construction	动力导线和信号对线以短节距围绕高强度的中心线绞合在一起。 Power cores and control pair elements wound with a short pitch length around a high tensile strength centre element.
	芯线识别 Color code	动力导线: 一根为黄-绿芯线, 其余均为黑色芯线带白色数字 Power conductors: Black with white numbers, one conductor green-yellow. 1: U / L1 / C / L+ 2: V / L2 3: W / L3 / D / L- 1 对控制对线Control pair: 黑色芯线带白色数字Black with white numbers, 4/ 5 2 对控制对线Control pairs: 黑色芯线带白色数字Black with white numbers, 5/6/7/8
	单元屏蔽 Element shield	抗弯曲的镀锡铜丝编织。 Bending-resistant braiding made of tinned copper wires.
	中间层 Intermediate layer	聚合物薄带缠绕在芯线束外 Foil taping over the outer layer.
	总屏蔽 Overall shield	抗弯曲的镀锡铜丝编织。覆盖线性约55%，光学约80%。 Bending-resistant braiding made of tinned copper wires. Coverage linear approx. 55%, optical approx. 80%
	外护套 Outer jacket	低粘性的 PUR 基混合材料，特别耐磨损适用于拖链（符合 EN 50363-10-2 标准） 颜色：粉橙色 Color: Pink orange RAL 2003 Low-adhesion, highly abrasion resistant PUR mixture, adapted to suit the requirements in cable carriers.

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电气参数 Electrical Information

	额定电压 Nominal voltage	U ₀ /U: 600/1000 V (符合following VDE0298-3)
	测试电压 Test voltage	4000 V (符合following EN50395)

特性和认证 Properties and approvals

	抗紫外线 UV-resistance	中等 Medium
	耐水解 Hydrolysis-resistance	高 High
	耐低温 Cold-resistant	-50°C
	耐油性 Oil resistance	耐油 (符合 IEC60811-404 标准, 经SGS检测), 耐生物油 (符合VDMA24568 标准, 经SGS检测) Oil-resistant (following IEC60811-404, tested by SGS), bio-oil-resistant (following VDMA24568, tested by SGS)
	阻燃 Flame resistance	符合According to IEC 60332-1-2、VW-1、FT1
	无卤素 Halogen-free	符合Following IEC60754
	REACH	符合 Accordding to the regulation (EC) No. 1907/2006 (REACH)
	EAC	经认证Certificate No. KG 417/043.CN.02.00249
	无铅 Lead-free	符合Following 2015/863/EU (RoHS-II 经SGS检测 Tested by SGS)
	无尘室 Cleanroom	符合Following ISO 14644-1
	CE	符合Following 2014/35/EU
	UL	符合Following UL20234, 1000V, 80°C

质保使用寿命 Guaranteed service life

往返行程 Double strokes	500万次 5 million times	750万次 7.5 million times	1000万次 10 million times
适用温度范围 Temperature, from/to [°C]	最小弯曲半径 R min. [系数factor x d]	最小弯曲半径 R min. [系数factor x d]	最小弯曲半径 R min. [系数factor x d]
-25/-15	12.5	13.5	14.5
-15/+70	10	11	12
+70/+80	12.5	13.5	14.5

FMV910

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产品编码 Part No.	芯数及截面积 Number of cores and conductor nominal cross-section [mm]	外径 Outer diameter [mm]	铜含量 Copper index [kg/km]	重量 Weight [kg/km]
1 对控制对线带屏蔽 Control pair shielded				
FMV910.15.15.02.01	(4G1.5+(2x1.5)C)C	12.5	154	247
FMV910.25.15.02.01	(4G2.5+(2x1.5)C)C	14	210	301
FMV910.40.15.02.01	(4G4.0+(2x1.5)C)C	15	255	392
FMV910.60.15.02.01	(4G6.0+(2x1.5)C)C	16.5	343	491
FMV910.100.15.02.01	(4G10+(2x1.5)C)C	21	526	788
FMV910.160.15.02.01	(4G16+(2x1.5)C)C	24	771	1126
2 对控制对线带屏蔽 Control pair shielded				
FMV910.07.03.02.02	(4G0.75+2x(2x0.34)C)C	12	105	192
FMV910.10.07.02.02	(4G1.0+2x(2x0.75)C)C	13	135	245
FMV910.15.07.02.02	(4G1.5+2x(2x0.75)C)C	13.5	161	280
FMV910.25.15.02.02	(4G2.5+2x(2x1.5)C)C	16	244	384
FMV910.40.15.02.02	(4G4.0+2x(2x1.5)C)C	17	309	477
FMV910.60.15.02.02	(4G6.0+2x(2x1.5)C)C	19	403	600
FMV910.100.15.02.02	(4G10+2x(2x1.5)C)C	22.5	576	887
FMV910.160.15.02.02	(4G16+2x(2x1.5)C)C	26	815	1206
FMV910.250.15.02.02	(4G25+2x(2x1.5)C)C	28.5	1223	1686
不带控制对线 Without control pair				
FMV910.07.04	(4G0.75)C	8	45	95
FMV910.15.04	(4G1.5)C	10	86	140
FMV910.25.04	(4G2.5)C	11.5	146	210
FMV910.40.04	(4G4.0)C	13	195	296
FMV910.60.04	(4G6.0)C	15	289	416
FMV910.100.04	(4G10)C	18	449	644
FMV910.160.04	(4G16)C	22	698	997
FMV910.250.04	(4G25)C	25.5	1045	1384
FMV910.350.04	(4G35)C	33	1520	2111
主轴/单芯电缆 Spindle cable/Single core				
FMV910.60.01	(1x6.0)C	7.5	72	95
FMV910.100.01	(1x10)C	8.5	114	145
FMV910.160.01	(1x16)C	9.5	178	209
FMV910.250.01	(1x25)C	11	269	304
FMV910.350.01	(1x35)C	13	374	419
FMV910.500.01	(1x50)C	15	525	579
FMV910.700.01	(1x70)C	17	751	804

注Note: 外径是指参考值 The outer diameters are reference values.

G: 带黄-绿接地线 With green-yellow earth core

x: 不带接地线 Without earth core