


0027784	DATA SHEET	
Valid from: 01.04.2019	SERVO LK SMS FX8PLUS motor cable	

Application

LAPP servo motor cables according to Siemens[®]* (see footnote) Standard **FX8008 PLUS** are part of a new generation of very highly flexible, screened motor power cables (P/N's **0027784** thru **0027789**), with PUR outer sheath and UL/CSA approvals. They are suitable in **very highly dynamically operating power chain applications** under accelerations up to **50 m/s²** as well as for static use. Lapp FX8PLUS motor cables are made in accordance with Siemens Motion Connect* typically used for interconnection in between motors and servo drive controllers of Siemens SINAMICS* drive systems. Typical kind of application: In power chains of **modern high-speed / high-efficiency machine tools**, production plants, car body presses, transfer lines...

Cables can be used in dry and damp areas and also outdoors, provided the recommended temperatures of use are respected. Usage of these cables in moving cable carriers, respectively on motor drum guidance or under a strain of more than 20 N/mm² is not allowed. LK SMS-FX8PLUS cables have increased oil resistance, and are halogen-free and free from PWIS – Paint-Wetting Impairment Substances (“silicone-free”).

Technical Data

Conductor: stranded copper wires acc. to IEC 60228 Cl. 6/ VDE 0295 Cl. 6

Insulation: PP / Polypropylene

Conductor ID Code: black with white, alphanumeric marking:

sizes 1.5 - 2.5 mm ² :	V/L2 U/L1/C/L+ W/L3/D/L- green-yellow
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sizes 4 - 16 mm ² :	U/L1/C/L+ V/L2 W/L3/D/L- green-yellow
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Cable design: 3 + PE power conductors, associated by fillers
twisted together to form a round cable

Overall shield: tinned copper braid
coverage ≥80 %

Jacket: TPU polyurethane DIN EN 50363-10-2
orange (similar to RAL 2003)


Nominal AC RMS voltage U₀/U: IEC & VDE: 0.6/1 kV

Max. operating voltage: UL & CSA: 1000 V

AC RMS test voltage: 4 kV x 5 min between all conductors as well as all shields


Insulation resistance: ≥2500 MOhm x km, resp. 10 MOhm x km at 80 °C

Creator: TOME/PCM Released: ALTE/PDC	Document: DB0027784EN Version: 03	Page 1 of 4
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0027784	DATA SHEET	
Valid from: 01.04.2019	SERVO LK SMS FX8PLUS motor cable	

Max. capacitance (800 – 1200 Hz):	1.5 mm ² - 6 mm ² :	≤150 pF/m
	10 mm ² - 16 mm ² :	≤300 pF/m
Max. shield transfer impedance:	size:	
	1.5 to 4 mm ² :	
	0.01 MHz to 2 MHz:	≤20 mOhm/m
	4 MHz:	≤40 mOhm/m
	10 MHz:	≤100 mOhm/m
	30 MHz:	≤300 mOhm/m
	6 mm ² to 16 mm ² :	
	0.01 MHz to 1 MHz:	≤10 mOhm/m
	2 MHz	≤20 mOhm/m
	4 MHz	≤40 mOhm/m
10 MHz	≤100 mOhm/m	
30 MHz	≤300 mOhm/m	
Temperature range:	operating:	-20 °C up to +60 °C
	static/storage:	-50 °C up to +80 °C
	max. allowable on conductors:	+80 °C
Dynamic performance		
Pulling force (dynamic):	≤20 N/mm ²	
Pulling force (static):	≤50 N/mm ²	
Max. acceleration:	see table B	
Max. length, horizontal, of motor cables:	1.5 mm ² - 16 mm ² :	see table B
Max. speed:	5 m/s, resp. 300 m/min	
Min. bending radii:	dynamic applications:	7.5 x outer cable diameter
	static applications:	4 x outer cable diameter
Max. torsion load:	+/-30 °/m	
Bends:	10.000.000	
Oil resistance:	DIN EN 50363-10-2	
Halogen free:	VDE 0472-815	
Flame resistance:	IEC/EN 60332-1-2	
	IEC/EN 60332-1-3	
	FT1	
	VW-1	

Creator: TOME/PCM Released: ALTE/PDC	Document: DB0027784EN Version: 03	Page 2 of 4
---	--------------------------------------	-------------

0027784	DATA SHEET	
Valid from: 01.04.2019	SERVO LK SMS FX8PLUS motor cable	

Approvals:

USA: UL AWM Style 21223 80°C 1000V VW-1

Canada: CSA AWM I/II A/B 80°C 1000V FT1

Europe: VDE registered - VDE Reg. No.: see outer sheath imprint, please

Conformities:

DESINA

RoHS

CE

Table A

Part Number	Product Name	Nominal diameter in mm			
		above insulated conductor approx.	above overall shield approx.	above outer jacket approx.	
0027784	SERVO LK SMS FX8PLUS-1BB11/4G1.5	2.4	6.7	9.1	+/- 0.4
0027785	SERVO LK SMS FX8PLUS-1BB21/4G2.5	3.0	8.3	10.6	+/- 0.4
0027786	SERVO LK SMS FX8PLUS-1BB31/4G4	3.6	9.8	11.9	+/- 0.4
0027787	SERVO LK SMS FX8PLUS-1BB41/4G6	4.4	11.8	14.4	+/- 0.5
0027788	SERVO LK SMS FX8PLUS-1BB51/4G10	5.6	14.8	17.5	+/- 0.7
0027789	SERVO LK SMS FX8PLUS-1BB61/4G16	7.1	18.1	21.6	+/- 0.7

Creator: TOME/PCM Released: ALTE/PDC	Document: DB0027784EN Version: 03	Page 3 of 4
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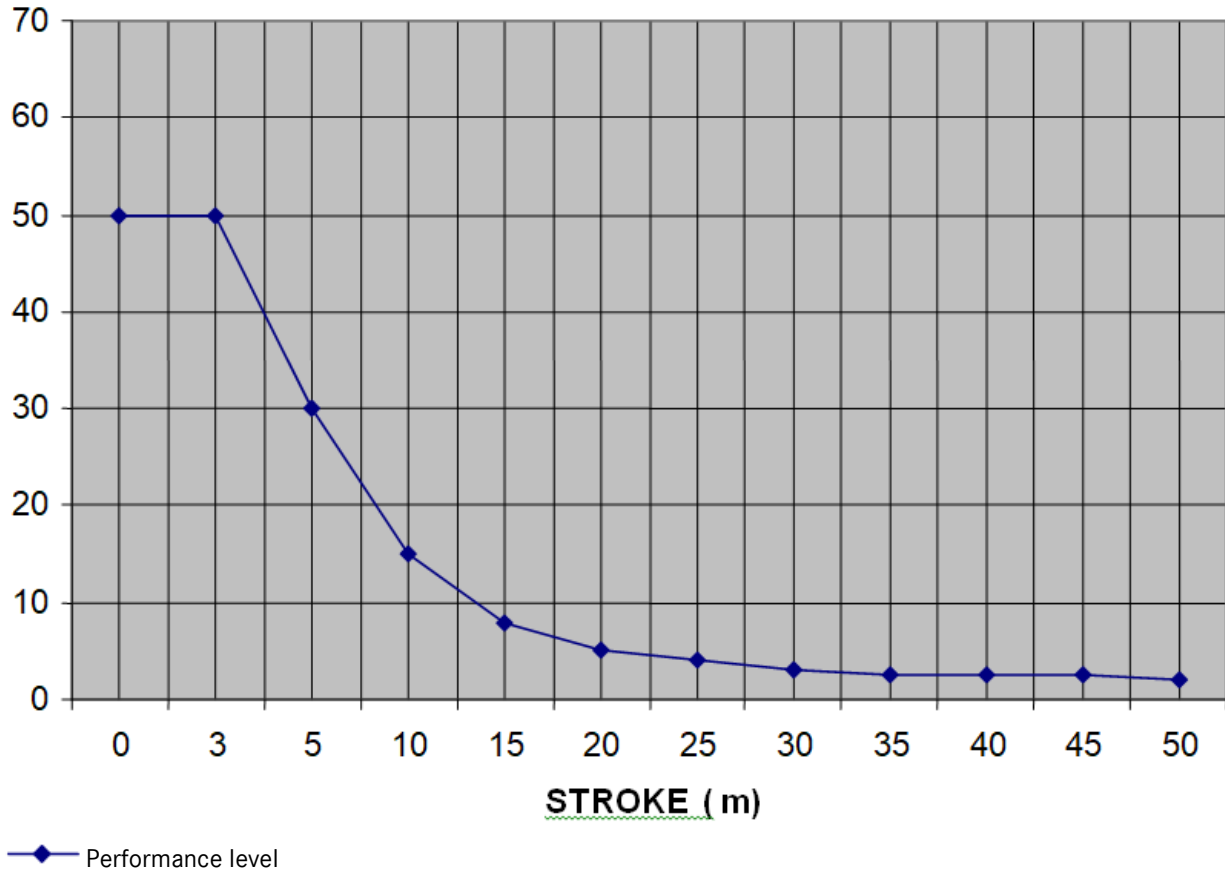
0027784	DATA SHEET	
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Table B - Motor cable 1.5 – 16 mm²

Maximum acceleration (m/sec²) Dynamic Characteristic



* SIEMENS, SINAMICS, MOTION CONNECT, DRIVE CLIQ and Siemens part designations (i.e. 6FX5002/5008, 6FX7002/7008, 6FX8002/8008, 6FX8002/8008-Plus) are registered trademarks of Siemens AG and for comparing purpose only.