

Connectivity Solutions

Cable Assemblies according to SIEMENS 6FX Standard



Efficiency in Automation Cable • Connectivity • Cabinet • Control

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Welcome to LUTZE

Cable Solutions



Connectivity Solutions



Cabinet Solutions



Control Solutions



Transportation Solutions



Efficiency in Automation - A reflection of our company philosophy

As an experienced specialist in automation technology, with solutions for flexible and high flexing cables, cable assemblies, interfaces, current control and cabinet wiring, we have had a focus on efficiency for many years.

LÜTZE defines Efficiency in Automation as the use of sustainable products and solutions to further increase the performance of our products in our customers applications.

We realise this by using components for highly efficient control systems, products with above average life cycles and raising energy efficiency in control cabinets by means of the LSC wiring system.

Efficiency in Automation reflects our efforts in striving for efficient working relationships with our customers: in a medium sized family owned company we have short communcation channels and a high level of manufacturing competence.

The value of a product or a solution from LÜTZE is determined by its sustainable qualities. Every innovation will only be successful in the future if it has a long term positive effect. Therefore, we provide long lasting as well as highly efficient components.

Thus LÜTZE creates value through efficiency. LÜTZE provides answers and demonstrates how to handle resources responsibly, with our environment and our future in mind. LÜTZE - Efficiency in Automation

For more information on our solutions, please visit www.lutze.com





Motor and servo feed by means of maximum



Your efficient connection to the drive

Are you looking for the right connection between the control cabinet and the drive? LÜTZE can offer you a complete solution from one source. 100% compatible with standard servo systems: Quality is LÜTZE's top priority.

LÜTZE cables are specially designed for rough industrial environments which exceed some standard requirements. Or are you looking for a very individual solution? We adapt cable assemblies to meet your requirements. Just ask us! We have a wide range of cables, connectors, protective hoses and openings to choose from - all readily available!

The LÜTZE cable specialists are familiar with all applications and technologies in the broad field of automation solutions. Ultimately,

LÜTZE and its product ranges Cable, Connectivity, Cabinet and Control are a part of the industrial automation field!

back: Best possible efficiency power transmission

Full power in all drive situations - the low-capacity cables from LÜTZE have the lowest losses which means that the maximum output can be transferred as a ratio to the cross-section. The special LÜTZE cable design therefore offers a maximum of efficiency and also helps to save energy.



Cable assemblies for the following systems:

Allen-Bradley Bosch Rexroth Lenze SEW Siemens 6FX



Always connected pro Cable assemblies by



Moulded closed

LÜTZE Tamper-proof connector plastic moulded round plug connectors M23 for industrial use offer the user an economical and, at the same time, safe solution for the electrical connection of machines and systems.

The LÜTZE program contains various termination numbers and cable lengths. This means terminations of 6 - 28 and transfer outputs of up to 30 A at 630 V, and therefore robust, safe cabling is available for numerous signal and power applications.

The integrated protection against kinking and the inner metal housing with 360° EMC shielding ensure the cable assemblies meet the requirements for the industrial sector - **they really are sealed shut!**

Other benefits:

- Tamper-proof: To prevent the connector casing from being opened or wrong connections within the connector
- Integrated anti-kink device
- 100 % compatible with Allen Bradley®; SIEMENS®, BOSCH REXROTH®, LENZE®, SEW®...
- Production of single unit available
- Available at short notice
- Protection class IP66/67

perly LÜTZE

Helical cables - Manufactured to meet your specifications, our helical cables are suitable for high mechanical loads such as high-performance machines, lifting

platforms and lots of other moving applications. Also highly suited for use outside for millions of load changes without failure!



Customer-specific solutions



Each installation is different. Therefore, make use of our cable assembly expertise; experts will plan your project and document your application making use of a product range containing more than 1700 cables, connectors, strain relief elements and protective hoses.

Courtesy of Steven Engineering, Inc - (800) 258-9200 - sales@steveneng.com - www.stevenengineering.com

Servo cable assemblies without brake pairs for fixed installation

According to SIEMENS-6FX5002 standard **Base cable**





Part No.



SIEMENS designation



Number of



OD Ø



		m	strands/cross- section	ca. mm
SINAMICS, spe	ed-connect/Booksize			
198098.1000	6FX5002-5CN01-1BA0*	10.0	(4G1.5)	8.4
198103.1000	6FX5002-5CN11-1BA0*	10.0	(4G2.5)	10.6
198104.1000	6FX5002-5CN21-1BA0*	10.0	(4G1.5)	8.4
198106.1000	6FX5002-5CN31-1BA0*	10.0	(4G2.5)	10.6
198107.1000	6FX5002-5CN41-1BA0*	10.0	(4G4)	11.5
198108.1000	6FX5002-5CN51-1BA0*	10.0	(4G6)	13.2
198109.1000	6FX5002-5CN61-1BA0*	10.0	(4G10)	16.5
SINAMICS, full	thread/Booksize			
198205.1000	6FX5002-5CS01-1BA0*	10.0	(4G1.5)	8.4
198124.1000	6FX5002-5CS11-1BA0*	10.0	(4G2.5)	10.6
198128.1000	6FX5002-5CS13-1BA0*	10.0	(4G10)	16.5
198129.1000	6FX5002-5CS21-1BA0*	10.0	(4G1.5)	8.4
198132.1000	6FX5002-5CS31-1BA0*	10.0	(4G2.5)	10.6
198133.1000	6FX5002-5CS41-1BA0*	10.0	(4G4)	11.5
198136.1000	6FX5002-5CS51-1BA0*	10.0	(4G6)	13.2
198139.1000	6FX5002-5CS61-1BA0*	10.0	(4G10)	16.5
SINAMICS, ope	en end/Booksize			
198123.1000	6FX5002-5CS02-1BA0*	10.0	(4G1.5)	8.4
198126.1000	6FX5002-5CS12-1BA0*	10.0	(4G2.5)	10.6
198321.1000	6FX5002-5CS42-1BA0*	10.0	(4G4)	16.5
198322.1000	6FX5002-5CS52-1BA0*	10.0	(4G6)	14.0
198323.1000	6FX5002-5CS62-1BA0*	10.0	(4G10)	16.5

Length

Application

- Base cable for Siemens servo drives
 For stationary and flexible applications without continuous flexing

PropertiesPVC Flame-retardant, self-extinguishingSilicone free

RoHS-compliant

loonnour auta	
UL approval	cURus
Nominal voltage	1000 V 80 °C
Voltage	
U ₀ /U	0.6/1 kV
Test voltage	4000 V
Insulation resistance	min. 500 MΩ × km
Temperature range	
moving	-5 °C to +80 °C
fixed	-25 °C to +80 °C
Minimum bending radius	
moving	D × 10
fixed	D × 6
Burning behavior	Flame-retardant according to VDE 0482 T 265-2, DIN EN 50265-2, IEC 60332-1, UL 1581 section 1080 VW-1, CSA FT 1
Product photo	The product photos are not to scale and do not represent detailed

Construction

Construction Bare copper wire, multi-strand according to DIN VDE 0295 class 5, IEC 60228 class 5 Special TPM/PP-conductor insulation, UL Conductor marking Power conductors black with numbered print U/L1/C/L+, V/L2, W/L3/D/L-Ground conductor green/yellow according to DIN EN 50334 Fleece wrap over cable core Braid from tinpad concer wire, optical coverage ≥ 85 %

images of the respective products.

- .

Braid from tinned copper wire, optical coverage ≥ 85 % Orange PVC jacket, RAL2003 •

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 * UL approval and technical data shown apply to the cable used in the assemblies



Servo cable assemblies without brake pairs for fixed installation

According to SIEMENS-6FX5002 standard **Base cable**





Part No.

198353.1000



SIEMENS designation

6FX5002-5CG32-1BA0*



Number of

section

(4G1.5)

(4G2.5)

(4G10)

(4G1.5)

(4G16)

(4G2.5)

(4G4)

(4G6)

(4G10)

(4G1.5)

(4G2.5)

(4G10)

(4G1.5)

(4G16)

(4G2.5)

(4G4)

(4G6)

(4G10)

(4G10)

(4G16)

(4G10)

(4G2.5)

(4G6)

strands/cross- ca.mm

Length

m

10.0

10.0

10.0

10.0

10.0

10.0

10.0

10.0

10.0

10.0

10.0

10.0

10.0

10.0

10.0

10.0

10.0

10.0

10.0

10.0

10.0

10.0

10.0



OD Ø

84

10.6

16.5

8.4

21.2

10.6

11.5

13.2

16.5

84

10.6

16.5

8.4

21.2

10.6

11.5

14.0

16.5

16 5

21.2

14.0

16.5

10.6

Application Base cable for Siemens servo drives For flexible applications without continuous flexing

- PropertiesPVC Flame-retardation
- Silicone free

RoHS-compliant

Technical data UL approval Nominal voltage Voltage U₀/U Test voltage Insulation resistance Temperature range movina fixed Minimum bending rad moving

	Ŭ		
ant, self-extinguishing		SIMODRIVE, f	ull thread/open end
		198042.1000	6FX5002-5CA01-1BA0*
		198046.1000	6FX5002-5CA11-1BA0*
		198048.1000	6FX5002-5CA13-1BA0*
	d IRus	198051.1000	6FX5002-5CA21-1BA0*
	1000 V 80 °C	198052.1000	6FX5002-5CA23-1BA0*
	1000 1 00 0	198054.1000	6FX5002-5CA31-1BA0*
	0.6(1 k)/	198059.1000	6FX5002-5CA41-1BA0*
	4000 \/	198063.1000	6FX5002-5CA51-1BA0*
	4000 V	198066.1000	6FX5002-5CA61-1BA0*
	11111. 500 W122 × K111	SINAMICS, ful	I thread/open end
	5 °C to +80 °C	198068.1000	6FX5002-5CG01-1BA0*
		198071.1000	6FX5002-5CG11-1BA0*
diulo	-25 C 10 +80 C	198292.1000	6FX5002-5CG13-1BA0*
lius	$D \times 10$	198073.1000	6FX5002-5CG21-1BA0*
		198293.1000	6FX5002-5CG23-1BA0*
	Elamo retardant according to	198078.1000	6FX5002-5CG31-1BA0*
	VDE 0482 T 265-2.	198083.1000	6FX5002-5CG41-1BA0*
	DIN EN 50265-2, IEC 60332-1,	198088.1000	6FX5002-5CG51-1BA0*
	UL 1581 section 1080 VW-1,	198093.1000	6FX5002-5CG61-1BA0*
		198273.1000	6FX5002-5CS14-1BA0*
	and do not represent detailed	198294.1000	6FX5002-5CS23-1BA0*
	images of the respective products.	198299.1000	6FX5002-5CS54-1BA0*
		198309.1000	6FX5002-5CS64-1BA0*

Product photo

Burning behavior

Construction

fixed

- 5, IEC 60228 class 5 Special TPM/PP-conductor insulation, UL
- Conductor marking Power conductors black with numbered print U/L1/C/L+, V/L2, W/L3/D/L-
- Ground conductor green/yellow according to DIN EN 50334 Fleece wrap over cable core Braid from tinned copper wire, optical coverage ≥ 85 % Orange PVC jacket, RAL2003

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Servo cable assemblies with brake pairs for fixed installation

198325.1000

198176.1000

198177.1000

198245.1000

198178.1000

198179.1000

198182.1000

According to SIEMENS-6FX5002 standard **Base cable**





6FX5002-5DS11-1BA0*

6FX5002-5DS13-1BA0*

6FX5002-5DS21-1BA0*

6FX5002-5DS31-1BA0*

6FX5002-5DS41-1BA0*

6FX5002-5DS51-1BA0*

6FX5002-5DS61-1BA0*



(4G2.5+(2×1.5))

(4G10+(2×1.5))

(4G1.5+(2×1.5))

(4G2.5+(2×1.5))

(4G4+(2×1.5))

(4G6+(2×1.5))

(4G10+(2×1.5))



13.0

18.5

11.6

13.0

14.0

15.8

18.5

Application Base cable for Siemens servo drives · For flexible applications without continuous flexing

Properties
PVC Flame-retardant, self-extinguishing

Silicone free RoHS-compliant

Technical data UL approval cURus Nominal voltage 1000 V 80 °C Voltage 0.6/1 kV U₀/U Test voltage 4000 V min. 500 MΩ × km Insulation resistance Temperature range -5 °C to +80 °C movina -25 °C to +80 °C fixed Minimum bending radius moving

D × 10 D × 6 Flame-retardant according to VDE 0482 T 265-2, DIN EN 50265-2, IEC 60332-1, UL 1581 section 1080 VW-1, CSA FT 1 The product photos are not to scale and do not represent detailed images of the respective products.



10.0

10.0

10.0

10.0

10.0

10.0

10.0

Construction	

Product photo

fixed

Burning behavior

- Bare copper wire, multi-strand according to DIN VDE 0295 class 5, IEC 60228 class 5 Special TPM/PP-conductor insulation, UL
- Conductor marking Power conductors black with numbered print U/L1/C/L+, V/L2, W/L3/D/L-
- Ground conductor: white/black (1 pair)
- Fleece wrap over cable core
- Braid from tinned copper wire, optical coverage ≥ 85 % Jacket color orange RAL 2003
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Servo cable assemblies with brake pairs for fixed installation

According to SIEMENS-6FX5002 standard Base cable





Part No.



SIEMENS designation



Number of

Length

m



ODØ

ca. mm

Application

Base cable for Siemens servo drives For flexible applications without continuous flexing

- strands/crosssection PropertiesPVC Flame-retardant, self-extinguishing SIMODRIVE, full thread/open end 198461.1000 6FX5002-5DA01-1BA0* 10.0 (4G1.5+(2×1.5)) 11.6 Silicone free RoHS-compliant 198481.1000 6FX5002-5DA11-1BA03 10.0 (4G2.5+(2×1.5)) 13.0 198146.1000 6FX5002-5DA13-1BA0* 10.0 (4G10+(2×1.5)) 18.5 Technical data 198501.1000 6FX5002-5DA21-1BA03 10.0 (4G1.5+(2×1.5)) 11.6 UL approval cURus 198871.1000 6FX5002-5DA23-1BA0* (4G16+(2×1.5)) 10.0 23.6 Nominal voltage 1000 V 80 °C 198531 1000 6FX5002-5DA31-1BA03 10.0 (4G2.5+(2×1.5)) 13.0 Voltage 198881.1000 6FX5002-5DA33-1BA0* 10.0 (4G25+(2×1.5)) 28.5 0.6/1 kV U₀/U 198561.1000 6FX5002-5DA41-1BA0* (4G4+(2×1.5)) 10.0 14.0 Test voltage 4000 V 198571.1000 6FX5002-5DA51-1BA0* 10.0 (4G6+(2×1.5)) 15.8 min. 500 M Ω × km Insulation resistance 6FX5002-5DA61-1BA03 198581.1000 (4G10+(2×1.5)) 10.0 18.5 Temperature range SINAMICS, full thread/open end -5 °C to +70 °C movina 198076.1000 6FX5002-5DG01-1BA0* 10.0 (4G1.5+(2×1.5)) 11.6 fixed -25 °C to +70 °C 198086.1000 6FX5002-5DG11-1BA0* (4G2.5+(2×1.5)) 10.0 13.0 Minimum bending radius 198287.1000 6FX5002-5DG13-1BA03 (4G10+(2×1.5)) 18.5 10.0 moving D × 10 198081.1000 6FX5002-5DG21-1BA0* (4G1.5+(2×1.5)) 10.0 11.6 D × 6 fixed 198288 1000 6FX5002-5DG23-1BA0* 10.0 (4G16+(2×1.5)) 23.6 Burning behavior Flame-retardant according to 198091.1000 6FX5002-5DG31-1BA0* 10.0 (4G2.5+(2×1.5)) 13.0 VDE 0482 T 265-2, DIN EN 50265-2, IEC 60332-1, UL 1581 section 1080 VW-1, (4G25+(2×1.5)) 198289.1000 6FX5002-5DG33-1BA03 10.0 28.6 198096.1000 6FX5002-5DG41-1BA0* (4G4+(2×1.5)) 14.0 10.0 CSA FT 1 $(4G6+(2\times15))$ 6FX5002-5DG51-1BA03 198101 1000 10.0 15.8 The product photos are not to scale and do not represent detailed Product photo 198116.1000 6FX5002-5DG61-1BA0* 10.0 (4G10+(2×1.5)) 18.5 198296.1000 6FX5002-5DS14-1BA0* 10.0 (4G10+(2×1.5)) 18.5 images of the respective products. 198264.1000 6FX5002-5DS23-1BA0* 10.0 (4G16+(2×1.5)) 23.6 198297.1000 6FX5002-5DS54-1BA0* 10.0 (4G6+(2×1.5)) 15.8 198298 1000 6FX5002-5DS64-1BA0* 10.0 (4G10+(2×1.5)) 18 5
- Construction
- 5, IEC 60228 class 5 Special TPM/PP-conductor insulation, UL
- Conductor marking Power conductors black with numbered print U/L1/C/L+, V/L2, W/L3/D/L-
- Ground conductor green/yellow according to DIN EN 50334 Control pair color-coded (bk, wh)
- Control pair with braided shield and foil tape
- Fleece wrap over cable core Braid from tinned copper wire, optical coverage ≥ 85 % Jacket color orange RAL 2003

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Servo cable assemblies without brake pairs for fixed installation

Part No.

198049.1000

198053.1000

198058.1000

198062.1000

198064 1000

198067.1000

198143.1000

198144.1000

According to SIEMENS-6FX5002 standard Extension





Length

m

10.0

10.0

10.0

10.0

10.0

10.0

10.0

10.0

10.0

Number of

section

(4G1.5)

(4G2.5)

(4G1.5)

(4G2.5)

(4G4)

(4G6)

(4G10)

(4G10)

(4G16)

strands/cross- ca. mm

ODØ

84

10.6

8.4

10.6

11.5

13.2

16.5

16.5

21.2

SIEMENS designation

6FX5002-5CA15-1BA0*

6FX5002-5CA28-1BA0*

6FX5002-5CA38-1BA0*

6FX5002-5CA48-1BA0*

6EX5002-5CA58-1BA0*

6FX5002-5CA68-1BA0*

6FX5002-5CX18-1BA0*

6FX5002-5CX28-1BA0*

SINAMICS/SIMODRIVE, full thread 198044.1000 6FX5002-5CA05-1BA0*

Application

Extension cable for Siemens servo drives
 For flexible applications without continuous flexing

- PropertiesPVC Flame-retardant, self-extinguishing
- Silicone free RoHS-compliant
- Notes:

The extension can also be used for SPEED-CONNECT plug connection, for this the O-ring must be removed on the outer thread. This does not affect the tightness of the plug connection.

Technical data

UL approval	cURus
Nominal voltage	1000 V 80 °C
Voltage	
U ₀ /U	0.6/1 kV
Test voltage	4000 V
Insulation resistance	min. 500 MΩ × km
Temperature range	
moving	-5 °C to +80 °C
fixed	-25 °C to +80 °C
Minimum bending radius	
moving	D × 10
fixed	D × 6
Burning behavior	Flame-retardant according to VDE 0482 T 265-2, DIN EN 50265-2, IEC 60332-1, UL 1581 section 1080 VW-1, CSA FT 1
Product photo	The product photos are not to scale and do not represent detailed images of the respective products.

Construction

Bare copper wire, multi-strand according to DIN VDE 0295 class 5, IEC 60228 class 5 Special TPM/PP-conductor insulation, UL

- Conductor marking Power conductors black with numbered print U/L1/C/L+, V/L2, W/L3/D/L-Ground conductor green/yellow according to DIN EN 50334 Fleece wrap over cable core

- Braid from tinned copper wire, optical coverage ≥ 85 % Jacket color orange RAL 2003



* UL approval and technical data shown apply to the cable used in the assemblies.



Servo cable assemblies with brake pairs for fixed installation

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Low Capacitance

According to SIEMENS-6FX5002 standard Extension





Application
Extension cable for Siemens servo drives
For flexible applications without continuous flexing

- PropertiesPVC Flame-retardant, self-extinguishing
- Silicone free RoHS-compliant
- Notes:
- The extension can also be used for SPEED-CONNECT plug connection, for this the O-ring must be removed on the outer thread. This does not affect the tightness of the plug connection.

Technical data

UL approval	cURus
Nominal voltage	1000 V 80 °C
Voltage	
U ₀ /U	0.6/1 kV
Test voltage	4000 V
Insulation resistance	min. 500 MΩ × km
Temperature range	
moving	-5 °C to +80 °C
fixed	-25 °C to +80 °C
Minimum bending radius	
moving	D × 10
fixed	D × 6
Burning behavior	Flame-retardant according to
	DIN EN 50265-2, IEC 60332-1, UL 1581 section 1080 VW-1, CSA FT 1
Product photo	The product photos are not to scale and do not represent detailed images of the respective products.

Part No.	SIEMENS designation	Length m	Number of strands/ cross-section	OD Ø ca. mm			
SINAMICS/SIMODRIVE, full thread							
198731.1000	6FX5002-5DA05-1BA0*	10.0	(4G1.5+(2×1.5))	11.6			
198991.1000	6FX5002-5DA15-1BA0*	10.0	(4G2.5+(2×1.5))	13.0			
198791.1000	6FX5002-5DA28-1BA0*	10.0	(4G1.5+(2×1.5))	11.6			
198801.1000	6FX5002-5DA38-1BA0*	10.0	(4G2.5+(2×1.5))	13.0			
198006.1000	6FX5002-5DA48-1BA0*	10.0	(4G4+(2×1.5))	14.0			
198011.1000	6FX5002-5DA58-1BA0*	10.0	(4G6+(2×1.5))	15.8			
198026.1000	6FX5002-5DA68-1BA0*	10.0	(4G10+(2×1.5))	18.5			
198183.1000	6FX5002-5DX18-1BA0*	10.0	(4G10+(2×1.5))	18.5			
198184.1000	6FX5002-5DX28-1BA0*	10.0	(4G16+(2×1.5))	23.6			
198186.1000	6FX5002-5DX38-1BA0*	10.0	(4G25+(2×1.5))	28.5			

RoHS 🔰

Construction

- Bare copper wire, multi-strand according to DIN VDE 0295 class 5, IEC 60228 class 5 Special TPM/PP-conductor insulation, UL
- Special TPM/PP-conductor insulation, UL Conductor marking Power conductors black with numbered print U/L1/C/L+, V/L2, W/L3/D/L-Ground conductor green/yellow according to DIN EN 50334 Control pair color-coded (bk, wh) Control pair with braided shield and foil tape Fleece wrap over cable core Braid from tinned copper wire, optical coverage ≥ 85 % Jacket color orange RAL 2003

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 * UL approval and technical data shown apply to the cable used in the assemblies.



According to SIEMENS-6FX5002 standard Base cable DRIVE-CLIQ $^{\ensuremath{\mathbb{R}}}$





ApplicationResolver cableFor flexible application without continuous flexing

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PropertiesSilicone freeRoHS-compliant	
Technical data	
UL approval	cURus
Nominal voltage	30 V 80 °C
Test voltage	500 V
Insulation resistance	min. 20 MΩ × km
Temperature range	
moving	-5 °C to +80 °C
fixed	-25 °C to +80 °C
Minimum bending radius	
moving	D × 15
fixed	D × 7.5
Burning behavior	Flame-retardant according to VDE 0482 T 265-2, DIN EN 50265-2, IEC 60332-1
Product photo	The product photos are not to scale and do not represent detailed images of the respective products.

Part No.	SIEMENS designation	Length m	OD Ø ca. mm
SINAMICS			
198036.1000	6FX5002-2DC00-1BA0*	10.0	7.2
198037.1000	6FX5002-2DC10-1BA0*	10.0	7.2
198038.1000	6FX5002-2DC20-1BA0*	10.0	7.2

Construction

Bare copper wire, multi-strand according to DIN VDE 0295 class 5, IEC 60228 class 5 Special thermoplastic conductor insulation

- .
- Color coded conductor Ground conductor green/yellow according to DIN EN 50334 Braid from tinned copper wire, optical coverage ≥ 85 % Jacket special PVC TM2 according to HD21.1, matte, adhesion-free surface .
- Jacket color green RAL 6018

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 * UL approval and technical data shown apply to the cable used in the assemblies.



LÜTZE SUPERFLEX® and LÜTZE SUPERFLEX® PLUS



LÜTZE SUPERFLEX[®] sets Industry standards: longevity, reliability, flexibility

LÜTZE offers a variety of high flexing cables specifically designed for use in continuous motion applications such as drag chains. LÜTZE SUPERFLEX® and LÜTZE SUPERFLEX® Plus cables include high flexing control and motor supply cables, as well as electronic and network cables.

All LÜTZE SUPERFLEX $^{\!\circ}$ cables are compatible with all major brand drag chains.

LÜTZE SUPERFLEX® N is designed for moderate to higher performance flexing in short to medium length drag chains. LÜTZE SUPERFLEX® N is offered with PVC or High Glide Insulation (TPE) insulation and with specially formulated PVC jacket.

LÜTZE SUPERFLEX® Plus PUR is designed for high performance flexing or longer drag chains. LÜTZE SUPERFLEX® Plus PUR contains high grade premium materials such as High Glide TPE insulation and PUR jackets for high performance applications in modern high speed machine tools.

All high flexing cables require special handling and installation techniques which are different from those of standard flexible control cables. To ensure the longest possible life span for your cable, it is important to follow installation procedures precisely.





Find here more informations about LÜTZE SUPERFLEX®: http://bit.ly/ZUdgUK

LÜTZE SUPERFLEX[®] - longevity, reliability, flexibility The high mechanical requirements in a drag chain require the use of special cables, which are designed for the usage in continuous motion application. The life span of cable in drag chains is strongly influenced by mechanical parameters of the application, as well as the carefulness of the installation.

Type of cable	Traveling distance	Bending radius = Factor x Cable-Ø (mm)	Velocity m/s	Acceleration	Cycles
LÜTZE SUPERFLEX® PLUS			11/5	11/5	inio.
Unshielded cable with	≤ 5	≥ 10Ø	≤ 3	≤ 5	≥ 20
special TPE or HGI	≤ 20	≥7,5Ø	≤ 5	≤10	≥ 10
insulation, PUR or TPE jacket	≤ 100	≥7,5Ø	≤ 5	≤10	≥2
LÜTZE SUPERFLEX® PLUS (C)					
Shielded cable with	≤ 5	≥ 12 Ø	≤ 3	≤ 5	≥ 20
special TPE or HGI	≤ 20	≥ 10 Ø	≤ 5	≤10	≥ 10
insulation, PUR or TPE jacket	≤ 100	≥ 10 Ø	≤ 5	≤10	≥2
LÜTZE SUPERFLEX®					
Unshielded cable	≤ 5	≥ 12 Ø	≤ 3	≤ 5	≥ 10
	≤ 15	≥ 10 Ø	≤ 5	≤10	≥ 5
LÜTZE SUPERFLEX*(C)					
Shielded cable	≤ 5	≥ 15 Ø	≤ 3	≤ 5	≥ 10
	≤ 15	≥ 12 Ø	≤ 5	≤10	≥ 5

The values of this table show application-parameter and actual performed cycles in independent tests. The cycle count can only be compared, if every value is taken in consideration with each other. A valuation as "Million Operating Cycles" is insignificant, if traveling distance, velocity and bending radius is unknown.

LÜTZE SUPERFLEX® PLUS M (C) PUR UL Servo 0,6 / 1 kV according to SIEMENS* Standard Similar to SIEMENS MOTION-CONNECT 800PLUS

	Traveling distance in m	Bending radius = Factor x Cable-Ø (mm)	Velocity m/s	Acceleration m/s ²	Cycles mio.
LÜTZE SUPERFLEX® PLUS M (C) PUR UL Servo 0,6 / 1 kV					
	≤3	≥ 10Ø	≤ 5	≤ 50	≥ 10
	≤ 5	≥ 10Ø	≤ 5	≤ 30	≥ 10
	≤ 10	≥ 10Ø	≤ 5	≤ 15	≥ 10
	≤ 15	≥ 10Ø	≤ 5	≤ 10	≥ 10
	≤ 50	≥ 10Ø	≤ 5	≤ 5	≥ 10

Servo cable assemblies without brake pairs for C-tracks

According to SIEMENS-6FX8002 standard **Base cable**











Application

- Base cable DRIVE-CLIQ[®], for SIEMENS SERVO drives
 Due to full PUR jacket and TPE conductor insulation optimally sui-
- ted for c-tracks, extremely rough operating conditions, aggressive coolants and lubricants
- Especially for industrial environments, machines and plants PropertiesSilicone free

	-				
٠	Ro	HS	-CO	m	pliant

Technical data

loonnour auta	
UL approval	cURus
Nominal voltage	1000 V 80 °C
Voltage	
U ₀ /U	0.6/1 kV
Test voltage	4000 V
Insulation resistance	min. 500 MΩ × km
Temperature range	
moving	-25 °C to +80 °C
fixed	-40 °C to +80 °C
Minimum bending radius	
moving	D × 10
fixed	D × 6
Burning behavior	Flame-retardant according to
	VDE 0482 1 265-2, DIN EN 50265-2, IEC 60332-1, UL 1581 section 1080 VW-1, CSA FT 1
Halogen free	according to DIN EN 50267-2-1
Product photo	The product photos are not to scale and do not represent detailed images of the respective products.

Construction

- onstruction Bare copper wire, finely stranded according to DIN VDE 0295 class 6, IEC 60228 class 6 Special TPE/HGI conductor insulation, UL Conductor marking Power conductors black with numbered print U/L1/C/L+, V/L2, W/L3/D/L-Ground conductor green/yellow according to DIN EN 50334 Conductors cabled in layers without mechanical stress, layer pitch ontimised

- .
- optimised
- Fleece wrap over cable core
- Braid from tinned copper wire, optical coverage ≥ 85 % Full polyurethane jacket, matte, adhesion-free surface Orange PUR jacket, RAL 2003

Part No.	SIEMENS designation	Length m	Number of strands/cross-section	OD Ø ca. mm			
SINAMICS, sp	SINAMICS, speed-connect/Booksize						
198326.1000	6FX8002-5CN01-1BA0*	10.0	(4G1.5)	8.6			
198327.1000	6FX8002-5CN11-1BA0*	10.0	(4G2.5)	10.8			
198328.1000	6FX8002-5CN21-1BA0*	10.0	(4G1.5)	8.6			
198329.1000	6FX8002-5CN31-1BA0*	10.0	(4G2.5)	10.8			
198330.1000	6FX8002-5CN41-1BA0*	10.0	(4G4)	12.2			
198331.1000	6FX8002-5CN51-1BA0*	10.0	(4G6)	14.0			
198332.1000	6FX8002-5CN61-1BA0*	10.0	(4G10)	17.6			
SINAMICS, full	l thread/Booksize						
198300.1000	6FX8002-5CS01-1BA0*	10.0	(4G1.5)	8.6			
198302.1000	6FX8002-5CS11-1BA0*	10.0	(4G2.5)	10.8			
198214.1000	6FX8002-5CS13-1BA0*	10.0	(4G10)	17.6			
198304.1000	6FX8002-5CS21-1BA0*	10.0	(4G1.5)	8.6			
198305.1000	6FX8002-5CS31-1BA0*	10.0	(4G2.5)	10.8			
198317.1000	6FX8002-5CS41-1BA0*	10.0	(4G4)	12.2			
198318.1000	6FX8002-5CS51-1BA0*	10.0	(4G6)	14.0			
198319.1000	6FX8002-5CS61-1BA0*	10.0	(4G10)	17.6			
SINAMICS, op	en end/Booksize						
198301.1000	6FX8002-5CS02-1BA0*	10.0	(4G1.5)	8.6			
198303.1000	6FX8002-5CS12-1BA0*	10.0	(4G2.5)	10.6			
198306.1000	6FX8002-5CS42-1BA0*	10.0	(4G4)	12.2			
198307.1000	6FX8002-5CS52-1BA0*	10.0	(4G6)	14.0			
198308.1000	6FX8002-5CS62-1BA0*	10.0	(4G10)	17.6			

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 * UL approval and technical data shown apply to the cable used in the assemblies.



Servo cable assemblies without brake pairs for C-tracks

According to SIEMENS-6FX8002 standard **Base cable**







halogen free



Application

Properties Silicone freeRoHS-compliant Technical data UL approval

Nominal voltage

Insulation resistance Temperature range moving

Minimum bending radius

Voltage

U₀/U Test voltage

fixed

moving

Burning behavior

fixed

н	ppilcation
•	Base cable, for Siemens servo drives
•	Due to full PUR jacket and TPE conductor insulation optimally sui-
	ted for c-tracks, extremely rough operating conditions, aggressive coolants and lubricants

vo drives PE conductor insulation optimally sui- ugh operating conditions, aggressive	Part No.	SIEMENS designation	Length m	Number of strands/cross-section	OD Ø ca. mm	
agn operating contaitene, aggrecoive	SIMODRIVE, full thread/open end					
	198360.1000	6FX8002-5CA01-1BA0*	10.0	(4G1.5)	8.6	
	198380.1000	6FX8002-5CA11-1BA0*	10.0	(4G2.5)	10.8	
	198845.1000	6FX8002-5CA13-1BA0*	10.0	(4G10)	17.6	
	198400.1000	6FX8002-5CA21-1BA0*	10.0	(4G1.5)	8.6	
cURus	198810.1000	6FX8002-5CA23-1BA0*	10.0	(4G16)	21.2	
1000 V 80 °C	198410.1000	6FX8002-5CA31-1BA0*	10.0	(4G2.5)	10.8	
	198430.1000	6FX8002-5CA41-1BA0*	10.0	(4G4)	12.2	
0.6/1 kV	198440.1000	6FX8002-5CA51-1BA0*	10.0	(4G6)	14.0	
4000 V	198450.1000	6FX8002-5CA61-1BA0*	10.0	(4G10)	17.6	
min 500 MO x km	SINAMICS, full	thread/open end				
	198950.1000	6FX8002-5CG01-1BA0*	10.0	(4G1.5)	8.6	
-25 °C to +80 °C	198040.1000	6FX8002-5CG11-1BA0*	10.0	(4G2.5)	10.8	
-40 °C to +80 °C	198283.1000	6FX8002-5CG13-1BA0*	10.0	(4G10)	17.6	
	198035.1000	6FX8002-5CG21-1BA0*	10.0	(4G1.5)	8.6	
D x 10	198803.1000	6FX8002-5CG23-1BA0*	10.0	(4G16)	21.2	
	198045.1000	6FX8002-5CG31-1BA0*	10.0	(4G2.5)	10.8	
Elame-retardant according to	198050.1000	6FX8002-5CG41-1BA0*	10.0	(4G4)	12.2	
VDE 0482 T 265-2,	198055.1000	6FX8002-5CG51-1BA0*	10.0	(4G6)	14.0	
DIN EN 50265-2, IEC 60332-1,	198060.1000	6FX8002-5CG61-1BA0*	10.0	(4G10)	17.6	
UL 1581 section 1080 VW-1,	198284.1000	6FX8002-5CS14-1BA0*	10.0	(4G10)	17.6	
according to DIN EN 50267.2.1	198285.1000	6FX8002-5CS23-1BA0*	10.0	(4G16)	21.2	
The product photos are not to apple	198980.1000	6FX8002-5CS54-1BA0*	10.0	(4G6)	14.0	
and do not represent detailed	198286.1000	6FX8002-5CS64-1BA0*	10.0	(4G10)	17.6	
images of the respective products.	198198.1000	6FX8002-5CG32-1BA0*	10.0	(4G2.5)	10.8	

Construction

Halogen free

Product photo

- Construction Bare copper wire, finely stranded according to DIN VDE 0295 class 6, IEC 60228 class 6 Special TPE/HGI conductor insulation, UL Conductor marking Power conductors black with numbered print U/L1/C/L+, V/L2, W/L3/D/L-Ground conductor green/yellow according to DIN EN 50334 Conductors cabled in layers without mechanical stress, layer pitch optimized .
- optimised Braid from tinned copper wire, optical coverage ≥ 85 % .
- Full polyurethane jacket, matte, adhesion-free surface Jacket color orange RAL 2003

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Servo cable assemblies with brake pairs for C-tracks

According to SIEMENS-6FX8002 standard **Base cable**





Part No.

198333.1000

198334.1000

198335.1000



Length

m

10.0

10.0

10.0

SIEMENS designation

6FX8002-5DN01-1BA0*

6FX8002-5DN11-1BA0*

6FX8002-5DN21-1BA0*

SINAMICS, speed-connect/Booksize



Number of strands/ OD Ø

ca. mm

11.4

12.9

11.4

12.9

14.5

16.1

19.5

11.4

12.9

11.4

12.9

14.5

16.1

19.5

19.5

cross-section

(4G1.5+(2×1.5))

(4G2.5+(2×1.5))

(4G1.5+(2×1.5))

Application

- Base cable for Siemens servo drives Full PUR jacket and TPE conductor insulation optimally suited for c-tracks, extremely rough operating conditions, aggressive coolants and lubricants Especially for industrial environments, machines and plants

PropertiesSilicone freeRoHS-compliant

Technical data

moving

moving

Halogen free

Product photo

Burning behavior

Minimum bending radius

fixed

fixed

UL approval	(
Nominal voltage	
Voltage	
U ₀ /U	(
Test voltage	4
Insulation resistance	1
Temperature range	

cURus 1000 V 80 °C
0.6/1 kV 4000 V min. 500 MΩ × km
-25 °C to +80 °C -40 °C to +80 °C
D × 10

Flame-retardant according to

VDE 0482 T 265-2, DIN EN 50265-2, IEC 60332-1, UL 1581 section 1080 VW-1,

according to DIN EN 50267-2-1, EN 60684-2

and do not represent detailed images of the respective products.

The product photos are not to scale

198336.1000	6FX8002-5DN31-1BA0*	10.0	(4G2.5+(2×1.5))
198337.1000	6FX8002-5DN41-1BA0*	10.0	(4G4+(2×1.5))
198338.1000	6FX8002-5DN51-1BA0*	10.0	(4G6+(2×1.5))
198339.1000	6FX8002-5DN61-1BA0*	10.0	(4G10+(2×1.5))
SINAMICS, full	thread/Booksize		
198310.1000	6FX8002-5DS01-1BA0*	10.0	(4G1.5+(2×1.5))
198311.1000	6FX8002-5DS11-1BA0*	10.0	(4G2.5+(2×1.5))
198312.1000	6FX8002-5DS21-1BA0*	10.0	(4G1.5+(2×1.5))
198313.1000	6FX8002-5DS31-1BA0*	10.0	(4G2.5+(2×1.5))
198314.1000	6FX8002-5DS41-1BA0*	10.0	(4G4+(2×1.5))
198315.1000	6FX8002-5DS51-1BA0*	10.0	(4G6+(2×1.5))
198316.1000	6FX8002-5DS61-1BA0*	10.0	(4G10+(2×1.5))
198247.1000	6FX8002-5DS13-1BA0*	10.0	(4G10+(2×1.5))

Construction

Bare copper wire, finely stranded according to DIN VDE 0295 class 6, IEC 60228 class 6

D × 6

CSA FT 1

- Special TPE/HGI conductor insulation, UL Conductor marking Power conductors black with numbered print U/L1/C/L+, V/L2, W/L3/D/L-

- Ground conductor green/yellow according to DIN EN 50334 Control pair color-coded (bk, wh) Control pair with braided shield and foil tape Conductors cabled in layers without mechanical stress, layer pitch . optimised
- Fleece wrap over cable core
- Braid from tinned copper wire, optical coverage \geq 85 % Outer jacket Full polyurethane jacket, matte, adhesion-free sur-
- face . Jacket color orange RAL 2003

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UL approval and technical data shown apply to the cable used in the assemblies.



Servo cable assemblies with brake pairs for C-tracks

According to SIEMENS-6FX8002 standard **Base cable**





LÜTZE SUPERFLEX®

Application

А	pplication
•	Base cable, for Siemens servo drives
•	Due to full PUR jacket and TPE conductor insulation optimally sui-
	ted for c-tracks, extremely rough operating conditions, aggressive
	coolants and lubricants
•	Especially for industrial environments, machines and plants

PropertiesSilicone freeRoHS-compliant	
Technical data	
UL approval	cURus
Nominal voltage	1000 V 80 °C

Nominal voltage	1000 V 80 °C
Voltage	
U ₀ /U	0.6/1 kV
Test voltage	4000 V
Insulation resistance	min. 500 MΩ × km
Temperature range	
moving	-25 °C to +80 °C
fixed	-40 °C to +80 °C
Minimum bending radius	
moving	D × 10
fixed	D × 6
Burning behavior	Flame-retardant according to VDE 0482 T 265-2, DIN EN 50265-2, IEC 60332-1, UL 1581 section 1080 VW-1, CSA FT 1
Halogen free	according to DIN EN 50267-2-1, EN 60684-2
Product photo	The product photos are not to scale and do not represent detailed images of the respective products.

Part No.	SIEMENS designation	Length m	Number of strands/ cross-section	OD Ø ca. mm
SIMODRIVE, f	ull thread/open end			
198460.1000	6FX8002-5DA01-1BA0*	10.0	(4G1.5+(2×1.5))	11.4
198480.1000	6FX8002-5DA11-1BA0*	10.0	(4G2.5+(2×1.5))	12.9
198840.1000	6FX8002-5DA13-1BA0*	10.0	(4G10+(2×1.5))	19.5
198500.1000	6FX8002-5DA21-1BA0*	10.0	(4G1.5+(2×1.5))	11.4
198870.1000	6FX8002-5DA23-1BA0*	10.0	(4G16+(2×1.5))	23.6
198530.1000	6FX8002-5DA31-1BA0*	10.0	(4G2.5+(2×1.5))	12.9
198880.1000	6FX8002-5DA33-1BA0*	10.0	(4G25+(2×1.5))	28.5
198560.1000	6FX8002-5DA41-1BA0*	10.0	(4G4+(2×1.5))	14.5
198349.1000	6FX8002-5DA43-1BA0*	10.0	(4G35+(2×1.5))	32.0
198570.1000	6FX8002-5DA51-1BA0*	10.0	(4G6+(2×1.5))	16.1
198580.1000	6FX8002-5DA61-1BA0*	10.0	(4G10+(2×1.5))	19.5
SINAMICS, ful	ll thread/open end			
198075.1000	6FX8002-5DG01-1BA0*	10.0	(4G1.5+(2×1.5))	11.4
198085.1000	6FX8002-5DG11-1BA0*	10.0	(4G2.5+(2×1.5))	12.9
198275.1000	6FX8002-5DG13-1BA0*	10.0	(4G10+(2×1.5))	19.5
198080.1000	6FX8002-5DG21-1BA0*	10.0	(4G1.5+(2×1.5))	11.4
198276.1000	6FX8002-5DG23-1BA0*	10.0	(4G16+(2×1.5))	23.6
198090.1000	6FX8002-5DG31-1BA0*	10.0	(4G2.5+(2×1.5))	12.9
198277.1000	6FX8002-5DG33-1BA0*	10.0	(4G25+(2×1.5))	28.5
198095.1000	6FX8002-5DG41-1BA0*	10.0	(4G4+(2×1.5))	14.5
198278.1000	6FX8002-5DG43-1BA0*	10.0	(4G35+(2×1.5))	32.0
198100.1000	6FX8002-5DG51-1BA0*	10.0	(4G6+(2×1.5))	16.1
198279.1000	6FX8002-5DG53-1BA0*	10.0	(4G50+(2×1.5))	37.3
198115.1000	6FX8002-5DG61-1BA0*	10.0	(4G10+(2×1.5))	19.5
198263.1000	6FX8002-5DS14-1BA0*	10.0	(4G10+(2×1.5))	19.5
198267.1000	6FX8002-5DS23-1BA0*	10.0	(4G16+(2×1.5))	23.6
198259.1000	6FX8002-5DS54-1BA0*	10.0	(4G6+(2×1.5))	16.1
198262.1000	6FX8002-5DS64-1BA0*	10.0	(4G10+(2×1.5))	19.5

Construction

- Bare copper wire, finely stranded according to DIN VDE 0295 class 6, IEC 60228 class 6
- Special TPE/HGI conductor insulation, UL Conductor marking Power conductors black with numbered print U/L1/C/L+, V/L2, W/L3/D/L-
- .
- Ground conductor green/yellow according to DIN EN 50334 Control pair color-coded (bk, wh) Control pair with braided shield and foil tape Conductors cabled in layers without mechanical stress, layer pitch optimised
- Fleece wrap over cable core
- Braid from tinned copper wire, optical coverage ≥ 85 % Outer jacket Full polyurethane jacket, matte, adhesion-free sur-. face
- . Jacket color orange RAL 2003

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 * UL approval and technical data shown apply to the cable used in the assemblies.



Servo cable assemblies without brake pairs for C-tracks

According to SIEMENS-6FX8002 standard Extension









- Application
 Extension cable for Siemens servo drives
 Due to full PUR jacket and TPE conductor insulation optimally suited for c-tracks, extremely rough operating conditions, aggressive coolants and lubricants

- PropertiesSilicone freeRoHS-compliant
- Notes:
- The extension can also be used for **SPEED-CONNECT** plug connection, for this the O-ring must be removed on the outer thread. This does not affect the tightness of the plug connection.

Technical data

UL approval	cURus
Nominal voltage	1000 V 80 °C
Voltage	
U ₀ /U	0.6/1 kV
Test voltage	4000 V
Insulation resistance	min. 500 MΩ × km
Temperature range	
moving	-25 °C to +80 °C
fixed	-40 °C to +80 °C
Minimum bending radius	
moving	D × 10
fixed	D × 6
Burning behavior	Flame-retardant according to VDE 0482 T 265-2,
	DIN EN 50265-2, IEC 60332-1, UL 1581 section 1080 VW-1, CSA FT 1
Halogen free	according to DIN EN 50267-2-1, EN 60684-2
Product photo	The product photos are not to scale and do not represent detailed images of the respective products.

Part No.	SIEMENS designation	Length m	Number of strands/cross- section	OD Ø ca. mm
SINAMICS/SIN	IODRIVE, full thread			
198820.1000	6FX8002-5CA05-1BA0*	10.0	(4G1.5)	8.6
198985.1000	6FX8002-5CA15-1BA0*	10.0	(4G2.5)	10.8
198765.1000	6FX8002-5CA28-1BA0*	10.0	(4G1.5)	8.6
198995.1000	6FX8002-5CA38-1BA0*	10.0	(4G2.5)	10.8
198015.1000	6FX8002-5CA48-1BA0*	10.0	(4G4)	12.2
198020.1000	6FX8002-5CA58-1BA0*	10.0	(4G6)	14.0
198030.1000	6FX8002-5CA68-1BA0*	10.0	(4G10)	17.6
198216.1000	6FX8002-5CX18-1BA0*	10.0	(4G10)	17.6
198217.1000	6FX8002-5CX28-1BA0*	10.0	(4G16)	21.2
SINAMICS, speed-connect				
198204.1000	6FX8002-5CN05-1BA0*		(4G1.5)	8.6

Construction

- Construction Bare copper wire, finely stranded according to DIN VDE 0295 class 6, IEC 60228 class 6 Special TPE/HGI conductor insulation, UL Conductor marking Power conductors black with numbered print U/L1/C/L+, V/L2, W/L3/D/L-Ground conductor green/yellow according to DIN EN 50334 Conductors cabled in layers without mechanical stress, optimised lav nitch

- lay pitch
- Fleece wrap over cable core Braid from tinned copper wire, optical coverage ≥ 85 % Outer jacket Full polyurethane jacket, matte, adhesion-free sur-.
- face
- Jacket color orange RAL 2003

* Siemens article designations are registered trademarks of Siemens AG, and are for reference purposes only * UL approval and technical data shown apply to the cable used in the assemblies.



Servo cable assemblies with brake pairs for C-tracks

According to SIEMENS-6FX8002 standard Extension





Application

- Extension cable for Siemens servo drives Due to full PUR jacket and TPE conductor insulation optimally sui-ted for c-tracks, extremely rough operating conditions, aggressive coolants and lubricants Especially for industrial environments, machines and plants
- Properties
- Silicone free RoHS-compliant

 Notes:
 The extension can also be used for SPEED-CONNECT plug
 The extension can also be used for specific and the outer connection, for this the O-ring must be removed on the outer thread. This does not affect the tightness of the plug connection.

Technical data

UL approval	cURus
Nominal voltage	1000 V 80 °C
Voltage	
U ₀ /U	0.6/1 kV
Test voltage	4000 V
Insulation resistance	min. 500 MΩ × km
Temperature range	
moving	-25 °C to +80 °C
fixed	-40 °C to +80 °C
Minimum bending radius	
moving	D × 10
fixed	D × 6
Burning behavior	Flame-retardant according to
	DIN EN 50265-2, IEC 60332-1.
	UL 1581 section 1080 VW-1, CSA FT 1
Halogen free	according to DIN EN 50267-2-1
Product photo	The product photos are not to scale and do not represent detailed images of the respective products.

Construction

- Bare copper wire, finely stranded according to DIN VDE 0295 class 6, IEC 60228 class 6
- Class 6, IEC 60226 Class 6 Special TPE/HGI conductor insulation, UL Conductor marking Power conductors black with numbered print U/L1/C/L+, V/L2, W/L3/D/L-Ground conductor green/yellow according to DIN EN 50334 Control pair color-coded (bk, wh) Control pair with braided shield and foil tape Conductors cabled in lavers without mechanical stress, optimised

- Conductors cabled in layers without mechanical stress, optimised
- lay pitch Fleece wrap over cable core
- Braid from tinned copper wire, optical coverage ≥ 85 % Outer jacket Full polyurethane jacket, matte, adhesion-free surface Jacket color orange RAI 2003

Part No. Length Number of strands/ OD Ø **SIEMENS** designation cross-section m ca. mm SINAMICS/SIMODRIVE, full thread 198730.1000 6FX8002-5DA05-1BA0* 10.0 (4G1.5+(2×1.5)) 11.4 198990.1000 6FX8002-5DA15-1BA0* 10.0 (4G2.5+(2×1.5)) 12.9 (4G1.5+(2×1.5)) 198790.1000 6FX8002-5DA28-1BA0* 10.0 11.4 (4G2.5+(2×1.5)) 6FX8002-5DA38-1BA03 198800.1000 10.0 12.9 198005,1000 6FX8002-5DA48-1BA0* (4G4+(2×1.5)) 10.0 14.5 198010.1000 6FX8002-5DA58-1BA0* 10.0 (4G6+(2×1.5)) 16.1 198025.1000 6FX8002-5DA68-1BA0* 10.0 (4G10+(2×1.5)) 19.5 198248.1000 6FX8002-5DX18-1BA0* 10.0 (4G10+(2×1.5)) 19.5 198249.1000 6FX8002-5DX28-1BA0* 10.0 (4G16+(2×1.5)) 23.6 198252.1000 6FX8002-5DX38-1BA0* 10.0 (4G25+(2×1.5)) 28.5 198187.1000 6FX8002-5DX48-1BA0* 10.0 (4G35+(2×1.5)) 32.0 198254.1000 6FX8002-5DX58-1BA0* (4G50+(2×1.5)) 10.0 37.3 SINAMICS, speed-connect 6FX8002-5DN05-1BA0* 198735,1000 (4G1.5+(2×1.5)) 11.4

- * Siemens article designations are registered trademarks of Sie-
- mens AG, and are for reference purposes only
- * UL approval and technical data shown apply to the cable used in the assemblies.



According to SIEMENS-6FX8002 standard Base cable DRIVE-CLIQ $^{\ensuremath{\mathbb{R}}}$









LÜTZE SUPERFLEX®

Application
Resolver cable
Due to full PUR jacket and TPE conductor insulation optimally suited for c-tracks, extremely rough operating conditions, aggressive coolants and lubricants

cURus

Part No.	SIEMENS designation	Length m	OD Ø ca. mm
SINAMICS			
198890.1000	6FX8002-2DC00-1BA0*	10.0	6.8
198900.1000	6FX8002-2DC10-1BA0*	10.0	6.8
198910.1000	6FX8002-2DC20-1BA0*	10.0	6.8

PropertiesSilicone freeRoHS-compliant

Technical data

UL approval
Nominal voltage
Test voltage
Insulation resistance
Temperature range
moving
fixed
Minimum bending radius
moving
fixed
Burning behavior

Halogen free Product photo

30 V 80 °C 500 V min. 2000 M Ω × km -25 °C to +80 °C -40 °C to +80 °C

D × 12 D × 6 Flame-retardant according to VDE 0482 T 265-2, DIN EN 50265/2, IEC 60332-1, UL 1581 section 1080 VW-1 CSA FT 1 according to DIN EN 50267-2-1 The product photos are not to scale and do not represent detailed images of the respective products.

- Construction
 Bare copper wire, finely stranded according to DIN VDE 0295 class 6, IEC 60228 class 6
 Special TPE conductor insulation, UL
 Conductors color-coded for specific system
 Conductors cabled in layers without mechanical stress, layer pitch optimized
- .
- optimised Fleece wrap over cable core
- Fraid from tinned copper wire, optical coverage ≥ 85 % Full polyurethane jacket, matte adhesion-free surface Jacket color green RAL 6018

* Siemens article designations are registered trademarks of Siemens AG, and are for reference purposes only * UL approval and technical data shown apply to the cable used in

the assemblies.



Courtesy of Steven Engineering, Inc - (800) 258-9200 - sales@steveneng.com - www.stevenengineering.com

According to SIEMENS-6FX8002 standard base cable and extension









Part No.	SIEMENS designation	Length m	OD Ø ca. mm
SIMODRIVE ba	ise cable		
198110.1000	6FX8002-2AD00-1BA0*	10.0	8.6
198830.1000	6FX8002-2AH00-1BA0*	10.0	9.0
198120.1000	6FX8002-2CA11-1BA0*	10.0	9.0
198130.1000	6FX8002-2CA15-1BA0*	10.0	8.6
198628.1000	6FX8002-2CA31-1BA0*	10.0	9.5
198850.1000	6FX8002-2CA51-1BA0*	10.0	8.6
198150.1000	6FX8002-2CA61-1BA0*	10.0	8.6
198200.1000	6FX8002-2CB51-1BA0*	10.0	9.0
198210.1000	6FX8002-2CC11-1BA0*	10.0	9.0
198220.1000	6FX8002-2CD01-1BA0*	10.0	9.0
198240.1000	6FX8002-2CF02-1BA0*	10.0	8.6
198170.1000	6FX8002-2CG00-1BA0*	10.0	9.0
198250.1000	6FX8002-2CH00-1BA0*	10.0	8.6
198280.1000	6FX8002-2EQ10-1BA0*	10.0	9.5
198140.1000	6FX8002-2CA21-1BA0*	10.0	8.6
198260.1000	6FX8002-2CE07-1BA0*	10.0	9.0
SIMODRIVE ex	tension		
198160.1000	6FX8002-2CA34-1BA0*	10.0	9.5
198740.1000	6FX8002-2CF04-1BA0*	10.0	8.6
198700.1000	6FX8002-2EQ14-1BA0*	10.0	9.5
198105.1000	6FX8002-2AD04-1BA0*	10.0	8.6
198295.1000	6FX8002-2CB54-1BA0*	10.0	9.0

Application
Resolver cable
Due to full PUR jacket and TPE conductor insulation optimally suited for c-tracks, extremely rough operating conditions, aggressive coolants and lubricants

....

Properties

Silicone free
RoHS-compliant

Technical data

cURus
30 V 80 °C
500 V
min. 2000 MΩ × km
-25 °C to +80 °C
-40 °C to +80 °C
D × 12
D × 6
Flame-retardant according to
VDE 0482 T 265-2,
DIN EN 50265/2, IEC 60332-1,
CSA FT 1
according to DIN EN 50267-2-1
The product photos are not to scale and do not represent detailed images of the respective products.

Construction

- Bare copper wire, finely stranded according to DIN VDE 0295 class 6, IEC 60228 class 6 Special TPE conductor insulation, UL Conductors color-coded for specific system Conductors cabled in layers without mechanical stress, layer pitch optimized
- .
- optimised Fleece wrap over cable core Braid from tinned copper wire, optical coverage ≥ 85 % Full polyurethane jacket, matte adhesion-free surface Jacket color green RAL 6018

.

* Siemens article designations are registered trademarks of Siemens AG, and are for reference purposes only
 * UL approval and technical data shown apply to the cable used in the assemblies.



LÜTZE SILFLEX[®] M (C) PVC SERVO 0.6/1 kV Motor/energy supply cable for Siemens and other systems





Part No.



Number of strands/cross-section



Cu-Index

Weight

6

OD Ø

SIE-

Application

- For Siemens 6FX5008* standard system (and similar) Connection cable motor or motor/brake especially for frequency converters and SERVO drives in machine and plant construction, transport and conveyor technology Flexible construction for easy installation
- Suitable for static laying and slight movement of machine compo-nents (not C-track)
- Low capacitance for high dielectric strength for long cable guide from inverter to motor
- In dry and damp rooms Especially for industrial environments in mechanical and system engineering

- PropertiesLow capacitance for high dielectric strength

- High active and passive interference resistance (EMC) PVC, flame-retardant and self-extinguishing Orange RAL 2003 per DESINA Resistant to most oils, greases, alcohol-free benzines and kero-•
- sene Silicone free
- · RoHS compliant

Technical data

UL approval	AWM 2570
Nominal voltage	1000 V 80 °C
Voltage	
U ₀ /U	0.6/1 kV
Test voltage	4000 V
Insulation resistance	min. 500 MΩ × km
Temperature range	
moving	-5 °C to +80 °C
fixed	-25 °C to +80 °C
Minimum bending radius	
moving	D × 10
fixed	D × 6
Burning behavior	Flame-retardant according to VDE 0482 part 265-2, DIN EN 50265-2, IEC 60332-1, UL 1581 section 1080 VW-1, CSA ET 4

Construction

- Bare copper wire, super finely stranded according to DIN VDE 0295 KI. 5 or IEC 60228 cl. 5 Conductor insulation Special TPM/PP Conductor marking Power conductors black with number print U/ L1/C/L+, V/L2, W/L3/D/L-Coround conductor grace fuellow according to DIN EN 5000 for the Ground conductor green/yellow according to DIN EN 50334 in the •
- top layer G = with green/yellow ground conductor, × = without ground con-
- Signal strands: white/black (1 pair) Fleece wrap over cable core
- Braid from tinned copper wire, optical coverage ≥ 85 % Jacket special-PVC, matte, adhesion-free surface Jacket color orange RAL 2003

CE These products are in conformity with the EU Low Voltage Directive

2014/35/EU

*Siemens article designations are registered trademarks of Siemens AG * UL approval and technical data shown apply to the cable used in the assemblies.

		designa- tion	cu. mm	kg/100 m	kg/100 m
Construct	tion without signal strands				
116401	(4G1.5)	1BB11*	8.4	13.1	8.8
116402	(4G2.5)	1BB21*	10.6	21.9	13.2
116403	(4G4)	1BB31*	11.5	31.2	19.5
116404	(4G6)	1BB41*	13.2	38.0	28.0
116405	(4G10)	1BB51*	16.5	62.0	44.5
116406	(4G16)	1BB61*	21.2	106.0	71.5
116407	(4G25)	1BB25*	25.0	165.0	111.0
116408	(4G35)	1BB35*	31.8	231.0	154.0
Construction with 1 signal pair					
116415	(4G1.5+(2×1.5))	1BA11*	11.6	24.8	15.5
116416	(4G2.5+(2×1.5))	1BA21*	13.0	31.0	19.5
116417	(4G4+(2×1.5))	1BA31*	14.0	44.5	27.5
116418	(4G6+(2×1.5))	1BA41*	15.8	55.4	35.3
116419	(4G10+(2×1.5))	1BA51*	18.5	80.6	53.7
116420	(4G16+(2×1.5))	1BA61*	23.6	108.5	75.9
116421	(4G25+(2×1.5))	1BA25*	28.5	168.5	115.4

LÜTZE SILFLEX[®] (C) PVC FEEDBACK Feedback cable for Siemens DRIVE-CLIQ 6FX5008 standard system





Low Capacitance

Application

- Digital feedback cable compatible with Siemens DRIVE-CLIQ standard stystem In dry and damp rooms
- · For flexible applications without continuous flexing

Properties

- High active and passive interference resistance (EMC) PVC Flame-retardant, self-extinguishing Resistant to most oils, greases, acids and bases :
- .
- Silicone free RoHS compliant •

Technical data

Construction

.

sion-free surface Jacket color green RAL 6018

AWM 2502 30 V 80 °C 500 V
min. 200 MΩ × km
-5 °C to +80 °C
-25 °C to +80 °C
D × 15
D × 7.5
Flame-retardant according to VDE 0482 part 265-2, DIN EN 50265-2, IEC 60332-1,

Bare copper wire, super finely stranded according to DIN VDE 0295 KI. 5 or IEC 60228 cl. 5

Conductor insulation Special thermoplast Conductors color-coded Braid from tinned copper wire, optical coverage ≥ 85 % Jacket special PVC TM2 according to VDE 0281-1, matte, adhe-

Weight kg/100 m Number of strands/cross-section/ OD Ø Cu-Index Part No. strand colors kg/100 m ca. mm For Siemens system DRIVE-CLIQ 2DC00 (2×2×AWG26) 6.4 3.4 104313 7.3 green/yellow/blue/pink 104341 6.8 85 42

(2×2×AWG26+1×2×AWG22) AWG26: green/yellow/blue/pink

AWG22: red/black

CE These products are in conformity with the EU Low Voltage Directive 2014/35/EU

*Siemens article designations are registered trademarks of Siemens AG * UL approval and technical data shown apply to the cable used in the



assemblies.

LÜTZE SUPERFLEX[®] PLUS M (C) PUR SERVO 0.6/1 kV Supply line for Siemens and other systems For highest requirements





Part No. Number of strands/cross-section





Weight Cu-Index

ODØ

Application

- ppication Connection cable motor or motor/brake especially for frequency converters and SERVO drives in machine and plant construction, transport and conveyor technology Due to optimized cable construction optimally suited for conti-nuous flexing applications in C-tracks

- Very good resitance against aggressive coolants and lubricants Especially for industrial environments in mechanical and system
- engineering

- PropertiesHigh active and passive interference resistance (EMC)

- Praided shield optimised for continuous flexible use Very good alternating bending strength Low adhesion, abrasion-resistant, nick-resistant, tear-propagation-resistant
- Hydrolysis-resistant, microbe-resistant, and rot-resistant Weatherproof, ozone and UV resistant (normal lighting condi-. tions)
- Good ruggedness and salt water resistance
- Excellent coolant and lubricant resistance Resistant to most oils, greases, alcohol-free benzines and kero-. sene Silicone free
- RoHS compliant

Technical data

UL approval	AWM 21223
Nominal voltage	1000 V 80 °C
Voltage U ₀ /U	0.6/1 kV
Test voltage	4000 V
Insulation resistance	min. 500 MΩ × km
Temperature range	
moving	-25 °C to +80 °C
fixed	-40 °C to +80 °C
Minimum bending radius	
moving	7.5×D ≤16 mm ²
	10×D ≥25 mm ²
fixed	5×D
Burning behavior	Flame-retardant according to VDE 0482 part 265-2 DIN EN 50265-2, IEC 60332-1, UL 1581 section 1080 VW-1, CSA FT 1
Halogen free	according to EN 50267-2-1

Construction

Bare copper wire, super finely stranded according to DIN VDE 0295 class 6, IEC 60228 class 6 Conductor insulation Special TPE, high glide Power conductors black with numbered print U/L1/C/L+, V/L2, W/

- 13/D/L-.
- Ground conductor green/yellow according to DIN EN 50334 G = with green/yellow ground conductor, × = without ground con-Control pair color-coded (bk, wh) Control pair with braided shield and foil tape
- Conductors cabled in layers without mechanical stress, layer pitch optimised
- Fleece wrap over cable core
- Braid from tinned copper wire, optical coverage ≥ 85 % Jacket special-PUR, matte, adhesion-free surface Jacket color orange RAL 2003

CE These products are in conformity with the EU Low Voltage Directive 2014/35/EU

*Siemens article designations are registered trademarks of Siemens AG * UL approval and technical data shown apply to the cable used in the assemblies.

		MENS designa- tion	ca. mm	kg/100 m	kg/100 m
Construct	ion without signal strands				
111879	(4G1.0)	*	7.4	10.8	6.5
111460	(4G1.5)	1BB11*	8.6	11.7	8.3
111461	(4G2.5)	1BB21*	10.8	17.3	13.0
111462	(4G4)	1BB31*	12.2	24.5	19.3
111463	(4G6)	1BB41*	14.0	36.5	27.5
111464	(4G10)	1BB51*	17.6	54.9	45.0
111465	(4G16)	1BB61*	21.2	84.9	72.0
111466	(4G25)	1BB25*	25.0	129.9	108.0
111467	(4G35)	1BB35*	28.8	169.2	152.4
111468	(4G50)	1BB50*	33.9	244.2	216.8
Assembly	with 1 signal pair				
111420	(4G1.5+(2×1.5))	1BA11*	11.4	21.0	14.9
111421	(4G2.5+(2×1.5))	1BA21*	12.9	23.5	19.3
111422	(4G4+(2×1.5))	1BA31*	14.5	32.0	25.5
111423	(4G6+(2×1.5))	1BA41*	16.1	43.0	33.9
111424	(4G10+(2×1.5))	1BA51*	19.5	68.0	52.6
111425	(4G16+(2×1.5))	1BA61*	23.6	95.6	77.3
111426	(4G25+(2×1.5))	1BA25*	28.5	136.5	113.0
111427	(4G35+(2×1.5))	1BA35*	31.0	274.6	159.0
111428	(4G50+(2×1.5))	1BA50*	34.5	373.7	224.0

SIE-



LÜTZE SUPERFLEX[®] PLUS (C) PUR FEEDBACK Encoder cables for Siemens and other systems For highest requirements in drive technology





strand colors

Part No.

Number of strands/cross-section/

For Siemens 6FX8000* standard system (and similar)



SIE-

MENS

designation

OD Ø

ca. mm



Weight Cu-Index

kg/100 m kg/100 m

Application

- Incremental encoder cable, connection cable for tacho sensor,
- brake sensor, speed sensor Due to Full PUR jacket and TPE conductor insulation optimally suited for c-tracks, extremely rough operating conditions and aggressive coolants and lubricants
- · Especially for industrial environments in mechanical and system engineering

Properties

- High active and passive interference resistance (EMC) Braided shield optimised for continuous flexible use .
- Very good alternating bending strength Low adhesion, abrasion-resistant, nick-resistant, tear-propaga-
- tion-resistant
- Hydrolysis-resistant, microbe-resistant, and rot-resistant Weatherproof, ozone and UV resistant (normal lighting conditions)
- Good ruggedness and salt water resistance Excellent coolant and lubricant resistance Resistant to most oils, greases, alcohol-free benzines and kerosene
- Silicone free

 RoHS compliant 	
Technical data	
UL approval	AWM 20236
Nominal voltage	30 V 80 °C
Test voltage	500 V
Insulation resistance	min. 200 MΩ × km
Temperature range	
moving	-25 °C to +80 °C
fixed	-40 °C to +80 °C
Minimum bending radius	
moving	D × 12
fixed	D × 6
Burning behavior	Flame-retardant according to VDE 0482 part 265-2 DIN EN 50265-2, IEC 60332-1, UL 1581 section 1080 VW-1, CSA FT 1
Halogen free	according to EN 50267-2-1

Construction

- Bare copper wire, super finely stranded according to DIN VDE 0295 class 6, IEC 60228 class 6 Conductor insulation Special-TPE
- Conductors color-coded for specific system
- Conductors cabled in layers without mechanical stress, layer pitch

optimised Fleece wrap over cable core

- Braid from tinned copper wire, optical coverage \geq 85 % Full polyurethane jacket, matte, adhesion-free surface Jacket color green RAL 6018
- .

111412	(8×2×0.18) black/brown, red/orange, yellow/green, blue/violet, gray/white, whiteblack/whitebrown, whitered/white- orange, whitegreen/whiteyellow	1BD11*	8.1	13.1	7.3	
111456	(4×0.5+4×2×0.38) 0.5: whiteblue, whiteblack, whitered, whiteyellow 0.38: black/brown, red/orange, green/ yellow, blue/violet	1BD21*	9.2	13.2	8.6	
111459	(2×(0.5)+3×(2×0.14)) 0.5: black, red 0.14: black/brown, red/orange, green/ yellow	1BD31*	8.7	12.8	6.9	
111458	(2×0.5+3×(2×0.14)+4×0.14) 0.5: brownblue, brownred (0.14) black/brown, red/orange, green/ yellow 0.14: blue, gray, whiteblack, whiteyel- low	1BD41*	9.0	12.2	6.1	
111457	(2×0.5+3×(2×0.14)+4×0.23+4×0.14) 0.5: brownblue, brownred 0.23: greenblack, greenred, brownyel- low, browngray (0.14) black/brown, red/orange, yellow/ green 0.14: blue, gray, whiteblack, whiteyel- low	1BD51*	9.8	15.3	9.3	
111453	(4×2×0.18) black/brown, red/orange, green/yellow, blue/violet	1BD61*	6.4	7.6	3.2	
111452	(2×2×0.18) Star quad, black, red, orange, brown	1BD71*	5.0	4.2	2.2	
111454	(12×0.23) black, brown, red, orange, green, yel- low, blue, violet, gray, white, whiteblack, whitebrown	1BD81*	6.7	8.5	4.7	
For Siemens-System Drive Cliq standard system (and similar)						
104310	(2×2×AWG26+1×2×AWG22)	2DC00*	6.8	7.3	3.4	

AWG26: pin/bl, yel/grn AWG22: red/black

CE These products are in conformity with the EU Low Voltage Directive

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assemblies.

Additional information on LUTZE Cable Assemblies

Connectors – Standard thread vs. Speed-connect

Female

Male

Standard thread



Standard thread - with o-ring



Speed-connect



Speed-connect - Remove o-ring



General features

- High quality industrial grade connectors
- Proper low resistance crimp and shield termination
- Quality tested and verified
- Fully compatible with SIEMENS servo systems
- Available in various industrial protection grades (IP)

Speed-connect features

- Fast connection due to onequarter turn lock
- No o-ring required
- Full protection against vibration

Male connector can be used with female standard thread and female Speed-connect connectors. **Important: Remove o-ring for Speed-connect option**

Special features

- No minimum order
- Short lead times
- Cable lengths are available in increments of 0.5 meters
- Please provide complete part number including length code as explained in the key



Technical design

Technical design

Cable length in cm

For example, 198360.0500 corresponds to a cable length of 5 m/ 500 cm

Cable length in cm



Handling and Installation LÜTZE SUPERFLEX[®] – Quick Overview

1. Selecting Cables for Continuous Motion Applications – C-Tracks

We recommend special high flexing cables such as LÜTZE SUPERFLEX® cables, for use in C-tracks to ensure long life times:

- LÜTZE SUPERFLEX® cable is proven to be compatible with all major brands of C-tracks.
- LÜTZE SUPERFLEX® N is designed for moderate flexing in short to medium length C-tracks.
- LÜTZE SUPERFLEX® Plus PUR is designed for high performance flexing or longer C-tracks.

High Flexing Cables such as LÜTZE SUPERFLEX® cables are different from standard flexible cables:

Standard Flexible Cables – LÜTZE SILFLEX®



long pitch

- · Low number of strands per conductor
- · longer pitch layering
- · designed as a pliable cable for easy routing and installation





short pitch, layered design with control core

- · high number of super fine strands per conductor
- short pitch layering
- · conductors are cabled without mechanical back twist
- · higher quality of materials
- slower and more complex manufacturing process on high-end equipment
- designed for linear constant flexing



Periodical Free Flexing

Bend & Route



- no central core
- mostly PVC as insulation material
- · foil shield or braid shield
- · jacket material depends on application





- · central core for single layer construction
- special PVC or TPE as insulation material
- tinned copper braid shield
- · high abrasion resistant jacket material such as PUR

Handling and Installation LÜTZE SUPERFLEX® – Quick Overview

2. Correct Handling of LÜTZE SUPERFLEX® Cables

When unreeling the cable, do not change the bend direction. The cable has to go on the new reel in the same direction it came off the reel. Low and equal tensile force during spooling!



Ring put ups require careful uncoiling by rolling the ring upright over the floor



Do not twist the cable when unwinding. always unwind straight from spool.

3. Correct Installation of LÜTZE SUPERFLEX® Cables

Cable retains bend from reel. Do not flex against original bend or relax cable for 24 hrs by laying it flat.



Use dividers horizontally and vertically to separate the track into separate cavities. Install just one cable per separated cavity. If absolutely necessary, two small or a small and a big cable can share a cavity.



Try to ensure balanced weight distribution. If you have more than one heavy cable, we recommend installing the heavy cables evenly to each side of the track.



Observe the minimum bending radius for optimum performance. Make sure that all cables are lengthadjusted and run in the neutral zone.









USA

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Cables

Cable assemblies

Cable fittings

LSC Wiring System

Module and Interface Technology

Ethernet Connectivity

Suppression Technology

Power Supplies

Railway Technology

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