

MOTION-CONNECT connection systems

Signal cables for SINAMICS S120

Overview



MOTION-CONNECT DRIVE-CLiQ signal cable with IP20/IP67 connector

Signal cables are pre-assembled and are sold by the meter for connecting a variety of components.

The following different types of cable are available:

- DRIVE-CLiQ signal cables
- MOTION-CONNECT DRIVE-CLiQ signal cables
- MOTION-CONNECT pre-assembled signal cables

Type of delivery for pre-assembled signal cables

Pre-assembled signal cables are available in units of 10 cm (3.94 in).

The cables are supplied on reels up to 30 kg or 100 m (66.2 lb or 328 ft). Above 30 kg or 100 m (66.2 lb or 328 ft), cable drums are used instead of reels.

Application

DRIVE-CLiQ signal cables without 24 V DC cores

are used to connect components with DRIVE-CLiQ connections which have a separate or external 24 V DC power supply.

MOTION-CONNECT DRIVE-CLiQ signal cables with 24 V DC cores

are used whenever components with DRIVE-CLiQ connections must meet high requirements such as mechanical stress and oil resistance, e.g., where a connection is made outside the cabinet between Power Modules, Motor Modules, and SIMOTICS S-1FK7/SIMOTICS M-1PH8 motors with DRIVE-CLiQ interface.

MOTION-CONNECT pre-assembled signal cables

are used whenever motor encoders on motors without DRIVE-CLiQ interface need to be connected to Sensor Modules.

Design

If pre-assembled signal cables are to be installed in a cable carrier in such a way that the connector would inhibit assembly, pre-assembled cables without assembled connector can also be supplied. In this case, the contacts of the cables are crimped and the connector enclosure is supplied separately. After installing the cables, the customer assembles the connector enclosure.

The 6FX.002-2....-.... signal cables are available with crimped contacts and with the connector enclosure supplied separately (not in the case of DRIVE-CLiQ signal cables and signal cables with exposed core ends).

Signal cables with separately supplied **module-end** connector: in this case, the 6th position of the Article No. must be changed from **0** to **1**:

6FX.012-2C....-.... (not for signal cables for connecting via terminals or 6FX.002-2AH00-...., 6FX.002-2CA12-....).

Signal cables with separately supplied **motor-end** connector: in this case, the 6th position of the Article No. must be changed from **0** to **4**:

6FX.042-2C....-.... (not for signal cables for connecting via terminals or 6FX8002-2BA20-...., 6FX8002-2BA21-....).

Note:

Once the contacts have latched into the insulator, they can no longer be removed.

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Technical specifications

DRIVE-CLiQ signal cables	DRIVE-CLiQ 6FX2...-1DC...-....	DRIVE-CLiQ MOTION-CONNECT 500 6FX5...-..DC...-....	DRIVE-CLiQ MOTION-CONNECT 800PLUS 6FX8...-..DC...-....
Certificate of suitability			
• cURus or UR/CSA	UL STYLE 2502/CSA-N.210.2-M90	UL STYLE 2502/CSA-N.210.2-M90	UL STYLE 2502/CSA-N.210.2-M90
• UR-CSA File No. ¹⁾	Yes	Yes	Yes
• RoHS conformity	Yes	Yes	Yes
Rated voltage according to EN 50395	30 V	30 V	30 V
Test voltage, rms	500 V	500 V	500 V
Operating temperature on the surface			
• Fixed installation	-20 ... +80 °C (-4 ... +176 °F)	-20 ... +80 °C (-4 ... +176 °F)	-20 ... +80 °C (-4 ... +176 °F)
• Flexible installation	–	0 ... 60 °C (32 ... 140 °F)	-20 ... +60 °C (-4 ... +140 °F)
Tensile stress, max.			
• Fixed installation	45 N/mm ² (6526 lb/in ²)	80 N/mm ² (11603 lb/in ²)	50 N/mm ² (7252 lb/in ²)
• Flexible installation	–	30 N/mm ² (4351 lb/in ²)	20 N/mm ² (2901 lb/in ²)
Smallest bending radius			
• Fixed installation	50 mm (1.97 in)	35 mm (1.38 in)	35 mm (1.38 in)
• Flexible installation	–	125 mm (4.92 in)	75 mm (2.95 in)
Torsional stress	–	Absolute 30°/m	Absolute 30°/m
Bending	–	100000	10 million
Traversing velocity	–	30 m/min (98.4 ft/min)	300 m/min (984 ft/min)
Acceleration	–	2 m/s ² (6.56 ft/s ²)	Up to 50 m/s ² (164 ft/s ²), see characteristics on page 12/5
Insulation material, incl. jacket	CFC/silicone-free	CFC/silicone-free	CFC/halogen-free/silicon-free IEC 60754-1/DIN VDE 0472-815
Oil resistance	EN 60811-2-1	EN 60811-2-1 (mineral oil only)	EN 60811-2-1
Outer jacket	PVC	PVC	PUR, HD22.10 S2 (VDE 0282, Part 10)
	Gray RAL 7032	DESINA color green RAL 6018	DESINA color green RAL 6018
Flame-retardant	EN 60332-1-1 to 1-3	EN 60332-1-1 to 1-3	EN 60332-1-1 to 1-3

Degree of protection of the pre-assembled signal cables and their extensions when closed and inserted: IP67.

¹⁾ The File No. is printed on the cable jacket.