

SIEMENS

Ingenuity for life



MOTION-CONNECT

The easy, fast and reliable connection

Brochure

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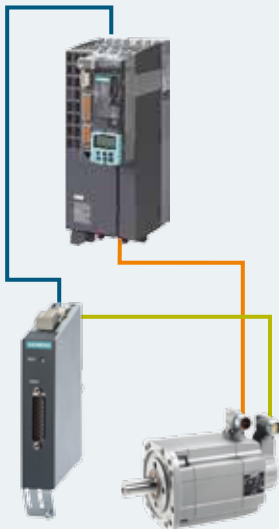

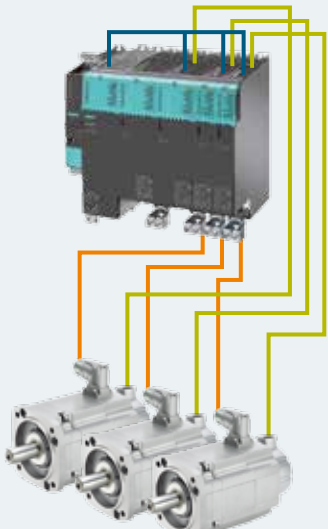
usa.siemens.com/motion-connect

Simply ideal, simply a plus

MOTION-CONNECT—the original and best connections for your machines

The MOTION-CONNECT® connection system is the ideal solution for your machine. Representing the connection to every motion control system, it allows for easy and reliable customization to meet your needs.



System-tested reliability

SINAMICS S120/S110 single-axis system	MOTION-CONNECT connection system	SINAMICS S120 multi-axis system
	 <p>Pre-assembled power cables</p> <p>Pre-assembled signal cables</p> <div style="display: flex; justify-content: space-around;"> <div style="text-align: left;"> <p>Motor without DRIVE-CLiQ</p> <p>Connection via SMC:</p> <ul style="list-style-type: none"> ■ Signal cable to SMC ■ DRIVE-CLiQ cable to SINAMICS </div> <div style="text-align: left;"> <p>Motor with DRIVE-CLiQ</p> <p>Advantage:</p> <ul style="list-style-type: none"> ■ Electronic rating plate facilitates commissioning </div> </div>	
<p> ■ Power cable ■ DRIVE-CLiQ without 24V DC cores ■ DRIVE-CLiQ with 24V DC cores </p>		

The original—tailored to your machine

MOTION-CONNECT provides connection systems and components that are perfectly suited to your individual areas of application. A comprehensive range of original innovations made by Siemens—which we can tailor to your needs. MOTION-CONNECT cables offer you top quality and system-tested reliability.

MOTION-CONNECT 800PLUS and MOTION-CONNECT 500 overview

Connections to SINAMICS S120 Motor Modules	In the control cabinet
	
<p>From left to right:</p> <ul style="list-style-type: none"> ① Power cable (for motors with SPEED-CONNECT connector size 1) ② Power cable (for motors with full-thread connector size 1.5) ③ DRIVE-CLiQ cable (for motor / externally-mounted encoder with DRIVE-CLiQ interface and RJ45 connector) ④ DRIVE-CLiQ cable (for externally-mounted encoder with DRIVE-CLiQ interface and M17 connector) ⑤ DRIVE-CLiQ cable (for externally-mounted encoder with DRIVE-CLiQ interface and M12 connector) ⑥ Signal cable (for motor / externally-mounted encoder with M23 connector via SMCxx) ⑦ DRIVE-CLiQ cable (for connecting components with DRIVE-CLiQ interfaces within the control cabinet) 	

MOTION-CONNECT connection system

The right cable for every motion control task

Our product matches your requirements

Whatever your machine requirements, MOTION-CONNECT offers the solution. That's why we offer two different cable types—MC500 and MC800PLUS.

Theme	MC500	MC800PLUS
MOTION-CONNECT standard	Rugged, high-performance, easy-to-use thanks to pre-assembled cables with rugged IP67 metal connectors and reliable quick-release locks (SPEED-CONNECT) Outstanding and proven quality thanks to consistent quality management and system-tested cables	
Product-specific features	<ul style="list-style-type: none"> Cost-effective solution for predominantly fixed installations Tested for traversing paths up to 5 meters 	<ul style="list-style-type: none"> Meets requirements for use in cable carriers Oil-resistant Tested for traversing paths up to 50 meters

Technical overview of MOTION-CONNECT					
Product	Type	Max. traversing velocity v [m/min]	Max. bends* [million]	Max. acceleration* a [m/s ²]	Max. traversing path* [m]
MC500	Power cable	0–30	0–0.1	0–2	0–5
	Signal cable	0–180	0–2	0–5	0–5
MC800 PLUS	Power cable (up to 16 mm ²) and signal cable	0–300	0–10	0–50	0–50
	Power cable (25–50 mm ²)	0–300	0–10	0–50	0–20

* Mechanically tested

Highlights	
SPEED-CONNECT	Fast, stable and reliable connections can be made using the pre-assembled cables with SPEED-CONNECT connectors. The cap nut is hand-tightened with a short rotation in clockwise direction and secures the interlock. The cables with SPEED-CONNECT connectors supplement the MOTION-CONNECT® cable portfolio with proven, full-thread connectors.
RJ45 DRIVE-CLiQ connector	The standard connector in a rugged metal design for motor connections that have a DRIVE-CLiQ interface.
M17 DRIVE-CLiQ connector	The proven and rugged connection system with IP67 degree of protection and SPEED-CONNECT or full-thread connector — e.g. for the ideal implementation of an isolation point for DRIVE-CLiQ.
M12 DRIVE-CLiQ connector	The compact and rugged connection system with IP67 degree of protection for connecting direct measuring systems with a DRIVE-CLiQ interface.
Plug-and-play thanks to system test	Servo, main, linear and torque motors — with MOTION-CONNECT, you will find pre-assembled power and signal cables for every application. A perfect connection that, thanks to plug-and-play, is easy-to-install and saves a great deal of time and money.
Well-protected	Up to IP67 degree of protection when plugged-in / tightened
Immune to interference	Maximum interference immunity as a result of 360-degree shielding

	MOTION-CONNECT 500	MOTION-CONNECT 800PLUS
Main application	Mainly fixed installation, production machines	Cable carriers, machine tools
Approvals		
Power/signal cables		
▪ VDE	Yes	Yes
▪ c/UL or UL/CSA	758/C22.2 N.210	758/C22.2 N.210
▪ RoHS conformity	Yes	Yes
Electrical specifications		
Rated voltage		
Power cable U₀/U		
▪ Power conductors	600/1000V	600/1000V
▪ Signal conductors	24V (EN) 1000V (UL/CSA)	24V (EN) 1000V (UL/CSA)
Signal cable	30V	30V
Test voltage		
Power cable		
▪ Power conductors	4 kV _{rms}	4 kV _{rms}
▪ Signal conductors	2 kV _{rms}	2 kV _{rms}
Signal cable	500V _{rms}	500V _{rms}
Operating temperature		
On the surface		
▪ Fixed	-20 to +80° C	-50 to +80° C
▪ Movable	0 to +60° C	-20 to +60° C
Mechanical specifications		
Max. tensile stress power/signal/DRIVE-CLiQ cable		
▪ Fixed	50 N/mm ² / 50 N/mm ² / 80 N/mm ²	50 N/mm ²
▪ Movable	20 N/mm ² / 50 N/mm ² / 30 N/mm ²	20 N/mm ²
Min. bending radius power/signal/DRIVE-CLiQ cable		
▪ Fixed	5 x D _{max} / 60 mm / 35 mm	4 x D _{max} / 35 mm (DRIVE-CLiQ cable)
Torsional stress	Absolute 30°/m	Absolute 30°/m
Bends		
▪ 1.5 to 16 mm ² power/signal/DRIVE-CLiQ cable	100,000 / 2 million / 100,000	10 million
▪ 25 to 50 mm ² power cable	100,000	10 million
Traversing velocity¹⁾		
▪ 1.5 to 16 mm ² power/signal/DRIVE-CLiQ cable	30 m/min / 180 m/min / 30 m/min	Up to 300 m/min
▪ 25 to 50 mm ² power cable	30 m/min	Up to 300 m/min
Acceleration¹⁾ power/signal/DRIVE-CLiQ cable	2 m/s ² / 5 m/s ² / 2 m/s ²	Up to 50 m/s ²
Chemical specifications		
Insulation material	CFC-free, silicon-free	Halogen-free, CFC-free, silicon-free DIN 472 815/IEC 754-1
Oil-resistant	VDE 0472, Part 803 test type B/EN 60 811-2-1 (only hydraulic oil)	VDE 0472, Part 803 test type B/EN 60 811-2-1
Outer sheath		
Power cable	PVC DESINA color orange RAL 2003	PUR DIN VDE 0282, Part 10 DESINA color orange RAL 2003
Signal cable	PVC DESINA color green RAL 6018	PUR DIN VDE 0282, Part 10 DESINA color green RAL 6018
Flame retardant	EN 60 332.1-1 to 1-3	EN 60 332.1-1 to 1-3

¹⁾ Dependent upon travel path

General note: MOTION-CONNECT cables are not suitable for outdoor use and are not self-supporting.

Siemens Industry, Inc.
5300 Triangle Parkway, Suite 100
Norcross, GA 30092

1-770-871-3800

usa.siemens.com/motioncontrol

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