



MOTION**SERVO** MOTION**HYBRID**

CABLE SOLUTIONS FOR SMART NEXT-GENERATION AUTOMATION

ICONS

Summary of the icons you will find in the catalogue pages, grouped by relevant area

RESISTANCE TO ENVIRONMENTAL AND AGGRESSIVE CHEMICAL THREATS



DURABILITY IN MECHANICAL & THERMAL CONDITIONS



BALANCED APPLICATION & STANDARD INTEGRATED COMPLIANCE



ELECTRICAL PROPERTIES



Use the icons for a fast summary and a general idea of the related product features. More details on product characteristics are available in the proper sections of each product page.

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Safety notice.

The cables and wires described in the catalogue are produced in accordance with national and international standards, as well as plant standards; application safety, as stipulated in the safety directives, standards, and statutory regulations, as amended, are provided. Following proper installation and usage guidelines, the possibility of product-specific dangers can be excluded. This catalogue describes general information for each product's use. Installation and processing must only be executed by qualified electricians.

CONTENTS

MOTION**SERVO**

MOTION**SERVO LCX**

MOTION**HYBRID**

MOTIONSERVO

FOR STATIC AND DYNAMIC APPLICATIONS – SHIELDED AND UNSHIELDED VERSIONS

MOTIONSERVO cables are designed to connect servo motors to their respective drives or inverters. In addition to transmitting electrical power, they can also include dedicated lines for brake control, motor thermal protection (thermistors, PTC, KTY), and other auxiliary signals. These cables are developed for high-stress industrial environments, making them suitable for both static installations and dynamic applications, such as in cable carriers.

Available in **Basic**, **Dynamic**, and **High Dynamic** Performance versions, all cables comply with the connection specifications of leading OEMs, including:

- 4 power conductors.
- 1 or more shielded pairs for command or feedback signals.
- Layout according to the standards of: Siemens®, SEW®, Lenze®, Bosch Rexroth®, and Schneider Electric®.
- Available cross-sections: from 0.50 to 185 mm².
- Insulation made from PP or XL-PE with a low dielectric constant.
- Sheath material: PVC(Basic), PVC TM5 (Dynamic), PUR FRHF (High Dynamic).
- Shielding: Tinned copper braid with >85% optical coverage.

All cables from the MOTIONSERVO family are available in three application levels:

Level	Name	Features
BP	BASIC PERFORMANCE	For fixed installation or occasional movement.
DP	DYNAMIC PERFORMANCE	For standard dynamic motion (light robotics, linear automation).
HP	HIGH DYNAMIC PERFORMANCE	For high dynamics, long travel distances, and high acceleration (CNC, packaging, advanced robotics).

Regardless of the application level, all products share these common characteristics and are resistant to:

- Industrial Oils.
- Flame.
- Water (for installation in humid or wet environments).
- Operating Temperature: from -40 °C to +90 °C (varies based on the jacket material).
- Rated Voltage: typically 600/1000V (UL), U_0/U 0.6/1.0 kV (IEC).
- Jacket Materials:
 - PUR FRHF (high flexibility, chemical resistance).
 - PVC TM5 (cost-effective).

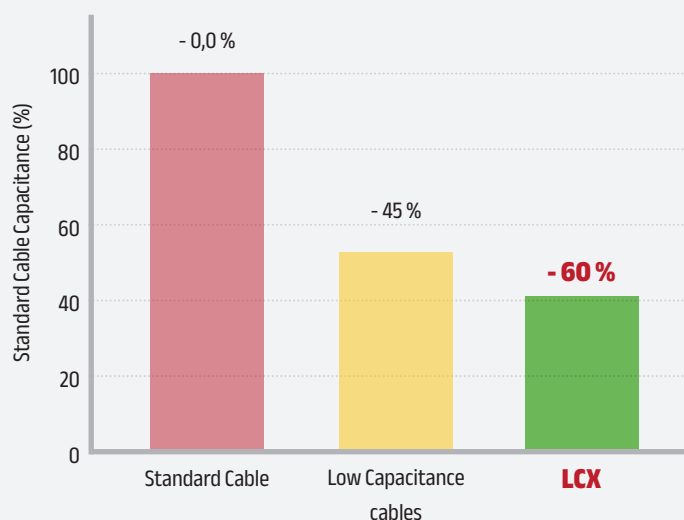
Configuration	Content	Typical Applications	Main Advantages	Available Levels
4-Pole (Power Only)	• 3 phases (U, V, W) • 1 PE (YE/GN)	• Motors without a brake or sensors • Conveyors, fans, pumps, simple axes	• Simple and cost-effective • Easy to install	BP DP HP
4-Pole + 1 Shielded Pair	• 3 phases (U, V, W) • 1 PE (YE/GN) • 1 shielded pair (brake or thermistor)	• Motors with a brake or thermal sensor • Standard automated systems	• Power + signal in a single cable • Optimal for cable carriers • Reduces wiring	BP DP HP
4-Pole + 2 Shielded Pairs	• 3 phases (U, V, W) • 1 PE (YE/GN) • 2 shielded pairs (brake + sensors)	• Systems with extended control • Motors with a brake + thermal protection	• Full versatility • Better signal management • Maximum integration	BP DP HP
4-Pole + 1 Shielded Triple	• 3 phases (U, V, W) • 1 PE (YE/GN) • 1 shielded triple (brake, thermistor, common)	• SEW® motors • Systems with a shared three-wire interface	• According to SEW® • A single cable for multiple functions • Robust for dynamic installation	BP DP HP



MOTION**SERVOCORE LCX**

LCX = Low Capacitance eXtended
NEW OEM-APPROVED TECHNOLOGY

Thanks to the adoption of an optimized structure with ultra-low parasitic capacitance (25% lower than existing Low Capacitance standards), these cables offer superior electrical performance, making them ideal for connecting inverters and motors in servo-assisted systems.



EFFECTIVE REDUCTION:

25% less than the best "Low Capacitance" cables
60% less than standard market cables

- ⊙ shared and approved project.
- ⊙ improved efficiency – lower electrical losses.
- ⊙ greater cabling distances between inverter and motor.
- ⊙ more stable and clean control signals.
- ⊙ reduction of parasitic currents and EMC disturbances.

Technological Benefit	User Advantages
Reduced parasitic capacitance	Less loss, greater efficiency
A more stable signal	More precise commands, fewer errors
Longer Cables Allowed	Drives can be placed farther from the motor without degradation
Inverter Protection	Less stress on bearings and components
Maximum Temperature 90 °C	Safe installation even in compact control panels
Rated Voltage 1000 V	Greater electrical robustness

MOTION**SERVOCORE LCX**

Why Choose the MOTION**SERVOCORE LCX** Family:

- ▶ OEM Approved.
- ▶ Optimized 4G + pairs layout, with >85% EMC shielding.
- ▶ Reduced linear capacitance: greater reliability and efficiency.
- ▶ Three performance levels for every type of installation (static, dynamic, robotic).
- ▶ Sustainable, compact, and safe solution.

MSP.BP 180 Series

MOTIONSERVO POWER

Servomotor cables, PVC sheath, Oil Resistant, Demi-static application - Acc.to SIEMENS® standards

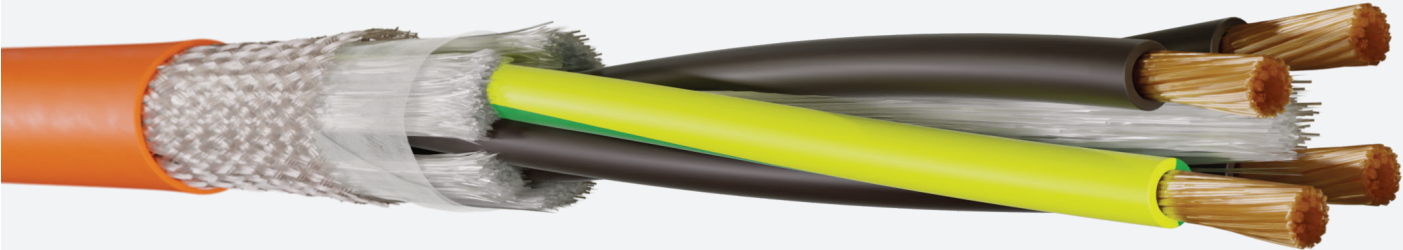
BASIC PERFORMANCE

BP

PVC

600 V
1000 V

-25°C
+90 °C



UL 21179
90 °C - 1000V



AWM I/II A/B
90 °C - 1000V



LABS
Free



200.000

DEMI-STATIC



12 x O.D.

MIN. BENDING RADIUS



180 m/min

MAX. SPEED



2.0 m / sec²

ACCELERATION MAX.



≤ 50 N / mm²

PULLING FORCE



-

TORSION



-

MAX. HORIZ. TRAVEL

DURABILITY IN MECHANICAL & THERMAL CONDITIONS

CYCLES	m.u.	
	MIL	0,2
MIN. BENDING RADIUS	x O.D.	12
MAXIMUM SPEED	m/min	180
MAXIMUM ACCELERATION	m/s ²	2,0
PULLING FORCE	N/mm ²	≤ 50
TORSION	°/m	-
MAX. HORIZONTAL TRAVEL	m	-
TEMPERATURE	°C	-25 / +90

ELECTRICAL PROPERTIES



Test
Voltage

4,0 kV x 5 min
acc.to EN 50395 Cl. 10.3



Insulation
Resistance

≥ 1.0 GΩ x km @ 20 °C
acc.to EN 50395 Cl. 8.1



Max. Short Circuit
Temperature

160 °C (≤ 1s)



Operating
Voltage

1000 V (UL/CSA)
U₀/U 0.6/1.0 kV (IEC)

RESISTANCE TO ENVIRONMENTAL AND AGGRESSIVE CHEMICAL THREATS



OIL RESISTANT



FLAME RETARDANT



WATER RESISTANT



EMC PROTECTED

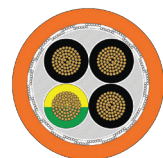


TEMPOR. OUTDOOR

MAIN ADVANTAGES

Optimized Low-Capacitance Geometry	Stable and reliable performance even over long cable runs
High-Density Copper Braid Shielding	Maximum immunity to EMC interference for clean signal transmission
Technical PVC Jacket, Flexible and Oil-Resistant	Long service life in industrial environments subject to mechanical stress or chemical agents
Compact Construction and Low Weight	Ease of routing in control cabinets or narrow cable passages
CE / UL / CSA Certifications	Global compatibility and reduced qualification time in international projects
Reinforced Electrical Insulation up to 1000 V	High operational safety, even under demanding conditions
Self-Extinguishing and Controlled Fire Behavior	Reliable protection in case of short circuits or overheating
Water-Resistant and Suitable for Temporary Outdoor Use	Safe operation even in humid environments or areas subject to splashing

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MotionCables code		EPlan Code	OEM code	Formation	Ø	Cu	DATA SHEET
				mm ²	mm	kg / km	
SFS15G04UR-A	●	MC. 117041521	6FX5008-1BB11	(4 G 1.5)	8.9	94	
SFS13G04UR-A	●	MC. 117041321	6FX5008-1BB21	(4 G 2.5)	10.6	142	
SFS11G04UR-A	●	MC. 117041121	6FX5008-1BB31	(4 G 4)	11.7	200	
SFS09G04UR-A	●	MC. 117040921	6FX5008-1BB41	(4 G 6)	14.4	310	
SFS07G04UR-A	●	MC. 117040721	6FX5008-1BB51	(4 G 10)	18.6	486	
SFS05G04UR-A	●	MC. 117040521	6FX5008-1BB61	(4 G 16)	22.8	770	
SFS03G04UR-A	●	MC. 117040321	6FX5008-1BB25	(4 G 25)	26.3	1167	
SFS02G04UR-A	●	MC. 117040221	6FX5008-1BB35	(4 G 35)	30.0	1540	
SFSA1G04UR-A	●	MC. 11704A121	6FX5008-1BB50	(4 G 50)	35.0	2247	



EPLAN

All the codes are available in the EPLAN PLAN8 System (use the EPLAN code in the relevant column).



SPAC CAVI

All the codes are available in the SPAC CAVI system (use MotionCables item code).

The names of trademarks and standards are provided for reference or information purposes only. These trademarks and standards are the exclusive property of their respective owners (see the complete list on the back cover).

MSP.DP 300 Series

MOTIONSERVO POWER

Servomotor cables, PVC TM5 sheath, Oil Resistant, Dynamic Application

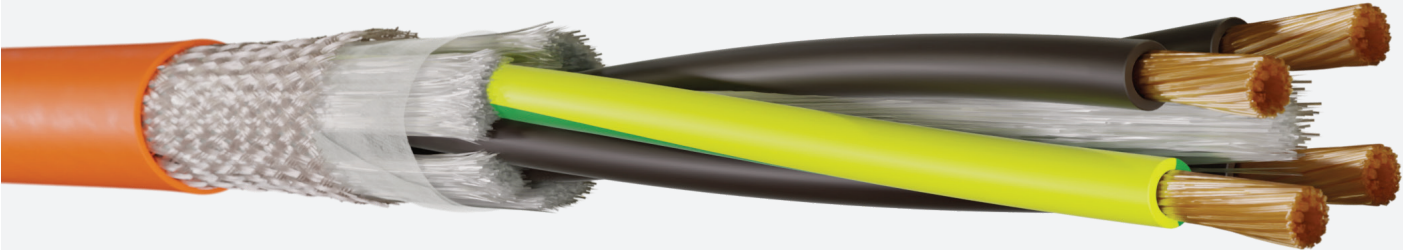
DP

DYNAMIC PERFORMANCE

PVC
TM5

600 V
1000 V

-30 °C
+90 °C



UL 21179
90 °C - 1000V

AWM I/II A/B
90 °C - 1000V

LABS
Free

5 million
CYCLES

7,5 x O.D.
MIN. BENDING RADIUS

300 m / min
MAX. SPEED

20 m / s²
ACCELERATION MAX.

≤ 50 N / mm²
PULLING FORCE

± 30 ° / m
TORSION

30 m
MAX. HORIZ. TRAVEL

DURABILITY IN MECHANICAL & THERMAL CONDITIONS

	m.u.			
CYCLES	MIL	0,2	5	1
MIN. BENDING RADIUS	x O.D.	12	7,5	10
MAXIMUM SPEED	m/min	180	300	180
MAXIMUM ACCELERATION	m/s ²	2,0	20	5
PULLING FORCE	N/mm ²	≤ 50	≤ 20	≤ 20
TORSION	°/m	-	± 30	± 30
MAX. HORIZONTAL TRAVEL	m	-	15	30
TEMPERATURE	°C	-30 / +90	-5 / +90	-5 / +90

ELECTRICAL PROPERTIES

	Test Voltage	4,0 kV x 5 min acc.to EN 50395 Cl. 10.3
	Insulation Resistance	≥ 1.0 GΩ x km @ 20 °C acc.to EN 50395 Cl. 8.1
	Max. Short Circuit Temperature	160 °C (≤ 1s)
	Operating Voltage	1000 V (UL/CSA) U ₀ /U 0.6/1.0 kV (IEC)

RESISTANCE TO ENVIRONMENTAL AND AGGRESSIVE CHEMICAL THREATS

OIL RESISTANT

FLAME RETARDANT

WATER RESISTANT

EMC PROTECTED

TEMPOR. OUTDOOR

MECHANICAL CRUSH

MAIN ADVANTAGES

Low-Capacitance Structure	Stable and precise performance even over long distances between inverter and motor
Flexible Construction for Continuous Motion	High mechanical durability in cable carriers with repeated cycles
High-Coverage Copper Braid Shielding	Reliable EMC protection against interference and signal noise
Low-Adhesion Technical PVC Outer Jacket	Smooth sliding and reduced friction inside the cable carrier
Resistant to Oils and Industrial Fluids	Ideal for production environments with lubricants or coolants
Self-Extinguishing according to IEC 60332-1-2	High safety in case of fire or over-temperature
Suitable for Damp and Wet Environments	Ensures service continuity under demanding operating conditions
Also Usable for Temporary Outdoor Applications	Versatility of use with adequate UV protection

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MotionCables code	EPlan Code	OEM code	Formation	Ø	Cu	DATA SHEET
			mm ²	mm	kg / km	
SDS15G04UR-A	● MC. 217041521		(4 G 1.5)	8.9	94	
SDS13G04UR-A	● MC. 217041321		(4 G 2.5)	10.6	142	
SDS11G04UR-A	● MC. 217041121		(4 G 4)	11.7	200	
SDS09G04UR-A	● MC. 217040921		(4 G 6)	14.4	310	
SDS07G04UR-A	● MC. 217040721		(4 G 10)	17.7	486	
SDS05G04UR-A	● MC. 217040521		(4 G 16)	22.4	770	
SDS03G04UR-A	● MC. 217040321		(4 G 25)	26.3	1167	
SDS02G04UR-A	● MC. 217040221		(4 G 35)	30.0	1540	
SDSA1G04UR-A	● MC. 21704A121		(4 G 50)	35.5	2247	



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SPAC CAVI

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MS.HP 600 Series

MOTIONSERVO POWER

Servomotor cables, PUR sheath, Oil Resistant, High Dynamic Application, Halogen Free - According to SIEMENS® standards

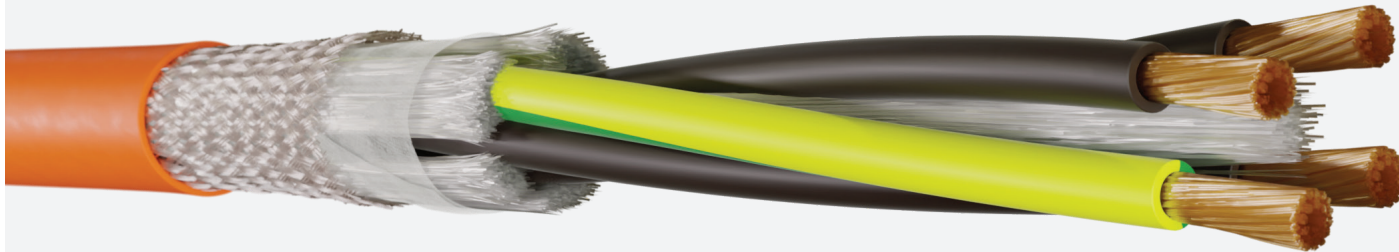
HIGH DYNAMIC PERFORMANCE

HP

PUR
FRHF

600 V
1000 V

-50 °C
+90 °C



UL 21209
90 °C - 1000V



AWM I/II A/B
90 °C - 1000V



LABS
Free



10 million

CYCLES



6,5 x O.D.

MIN. BENDING RADIUS



600 m / min

MAX. SPEED



60 m / s²

ACCELERATION MAX.



≤ 50 N / mm²

PULLING FORCE



± 30 ° / m

TORSION



50 m

MAX. HORIZ. TRAVEL

DURABILITY IN MECHANICAL & THERMAL CONDITIONS

ELECTRICAL PROPERTIES

	m.u.				
CYCLES	MIL	0,2	1	5	10
MIN. BENDING RADIUS	x O.D.	12	6,5	7,5	10
MAXIMUM SPEED	m/min	180	600	300	240
MAXIMUM ACCELERATION	m/s²	2,0	50	30	15
PULLING FORCE	N/mm²	≤ 50	≤ 20	≤ 20	≤ 20
TORSION	°/m	-	± 30	± 30	± 30
MAX. HORIZONTAL TRAVEL	m	-	3	15	50
TEMPERATURE	°C	-50 / +90	-40 / +90	-40 / +90	-40 / +90



Test
Voltage

4,0 kV x 5 min
acc.to EN 50395 Cl. 10.3



Insulation
Resistance

≥ 1.0 GΩ x km @ 20 °C
acc.to EN 50395 Cl. 8.1



Max. Short
Circuit
Temperature

160 °C (≤ 1s)



Operating
Voltage

1000 V (UL/CSA)
U₀/U 0.6/1.0 kV (IEC)

RESISTANCE TO ENVIRONMENTAL AND AGGRESSIVE CHEMICAL THREATS



OIL RESISTANT



FLAME RETARDANT



COLD RESISTANT



ABRASION RESISTANT



EMC PROTECTED



WATER RESISTANT



UV RESISTANT



MICROBE RESISTANT



OZONE RESISTANT



MUD RESISTANT

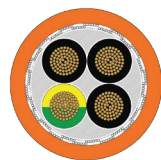


HALOGEN FREE

MAIN ADVANTAGES

Low-Capacitance Structure	Allows for long connections and signal stability even at high frequencies
High-Performance PUR Jacket	Excellent mechanical, chemical, and abrasion resistance
High-Dynamic Construction	Engineered for cable carriers with long travel distances and high accelerations
Full-Coverage Tinned Copper Shielding	Maximum EMC protection for high-precision servo systems
High Resistance to Oils, Coolants, and Chemical Agents	Suitable for use in harsh industrial environments and wet areas
Wide Operating Temperature Range	Reliability even in extreme climatic conditions, indoors or outdoors
Compatibility with Major Servo Systems	Universal solution for multi-brand applications
Robust and Flexible Construction	Long service life and reduced machine downtime

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MotionCables code	EPlan Code	OEM code	Formation	Ø	Cu	DATA SHEET
			mm ²	mm	kg / km	
SDS15G04UP-A	● MC. 317041531	6FX8008-1BB11	(4 G 1.5)	9.0	94	
SDS13G04UP-A	● MC. 317041331	6FX8008-1BB21	(4 G 2.5)	10.7	142	
SDS11G04UP-A	● MC. 317041131	6FX8008-1BB31	(4 G 4)	11.9	200	
SDS09G04UP-A	● MC. 317040931	6FX8008-1BB41	(4 G 6)	14.4	310	
SDS07G04UP-A	● MC. 317040731	6FX8008-1BB51	(4 G 10)	17.7	486	
SDS05G04UP-A	● MC. 317040531	6FX8008-1BB61	(4 G 16)	21.6	770	
SDS03G04UP-A	● MC. 317040331	6FX8008-1BB25	(4 G 25)	25.5	1167	
SDS02G04UP-A	● MC. 317040231	6FX8008-1BB35	(4 G 35)	30.0	1540	
SDSA1G04UP-A	● MC. 31704A131	6FX8008-1BB50	(4 G 50)	35.5	2247	
SDSA2G04UP-A	● MC. 31704A231	6FX8008-1BB70	(4 G 75)	41.6	2800	
SDSA3G04UP-A	● MC. 31704A331	6FX8008-1BB95	(4 G 95)	46.8	3600	



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SPAC CAVI

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MS.BP 180 Series

MOTIONSERVO

Servomotor cables, PVC sheath, Oil Resistant, Demi-static application

BP

PVC

BASIC PERFORMANCE

600 V

1000 V

-25°C

+90 °C



UL 21179
90 °C - 1000V

AWM I/II A/B
90 °C - 1000V

LABS Free

200.000
DEMI-STATIC

12 x O.D.
MIN. BENDING RADIUS

180 m/min
MAX. SPEED

2.0 m / sec²
ACCELERATION MAX.

≤ 50 N / mm²
PULLING FORCE

-
TORSION

-
MAX. HORIZ. TRAVEL

DURABILITY IN MECHANICAL & THERMAL CONDITIONS

ELECTRICAL PROPERTIES

	m.u.	
CYCLES	MIL	0,2
MIN. BENDING RADIUS	x O.D.	12
MAXIMUM SPEED	m/min	180
MAXIMUM ACCELERATION	m/s ²	2,0
PULLING FORCE	N/mm ²	≤ 50
TORSION	°/m	-
MAX. HORIZONTAL TRAVEL	m	-
TEMPERATURE	°C	-25 / +90

	Test Voltage	4,0 kV x 5 min acc.to EN 50395 Cl. 10.3
	Insulation Resistance	≥ 1.0 GΩ x km @ 20 °C acc.to EN 50395 Cl. 8.1
	Max. Short Circuit Temperature	160 °C (≤ 1s)
	Operating Voltage	1000 V (UL/CSA) U ₀ /U 0.6/1.0 kV (IEC)

RESISTANCE TO ENVIRONMENTAL AND AGGRESSIVE CHEMICAL THREATS

OIL RESISTANT

FLAME RETARDANT

WATER RESISTANT

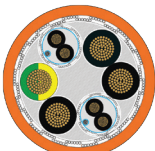
EMC PROTECTED

TEMPOR. OUTDOOR

MAIN ADVANTAGES

Optimized Low-Capacitance Geometry	Stable and reliable performance even over long cable runs
High-Density Copper Braid Shielding	Maximum immunity to EMC interference for clean signal transmission
Technical PVC Jacket, Flexible and Oil-Resistant	Long service life in industrial environments subject to mechanical stress or chemical agents
Compact Construction and Low Weight	Ease of routing in control cabinets or narrow cable passages
CE / UL / CSA Certifications	Global compatibility and reduced qualification time in international projects
Reinforced Electrical Insulation up to 1000 V	High operational safety, even under demanding conditions
Self-Extinguishing and Controlled Fire Behavior	Reliable protection in case of short circuits or overheating
Water-Resistant and Suitable for Temporary Outdoor Use	Safe operation even in humid environments or areas subject to splashing

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	MotionCables code	EPLAN Code	OEM code	Formation	Ø	Cu	DATA SHEET
				mm ²	mm	kg / km	
Acc.to Siemens® 	SFS15G06UR-A	MC.118061521	6FX5008-1BA11	[4 G 1.5 + (2 x 1.5)]	10.5	155	
	SFS13G06UR-A	MC.118061321	6FX5008-1BA21	[4 G 2.5 + (2 x 1.5)]	12.0	200	
	SFS11G06UR-A	MC.118061121	6FX5008-1BA31	[4 G 4 + (2 x 1.5)]	13.5	272	
	SFS09G06UR-A	MC.118060921	6FX5008-1BA41	[4 G 6 + (2 x 1.5)]	15.6	377	
	SFS07G06UR-A	MC.118060721	6FX5008-1BA51	[4 G 10 + (2 x 1.5)]	21.0	552	
	SFS05G06UR-A	MC.118060521	6FX5008-1BA61	[4 G 16 + (2 x 1.5)]	24.1	880	
	SFS03G06UR-A	MC.118060321	6FX5008-1BA25	[4 G 25 + (2 x 1.5)]	26.6	1210	
	SFS02G06UR-A	MC.118060221	6FX5008-1BA35	[4 G 35 + (2 x 1.5)]	30.9	1570	
	SFSA1G06UR-A	MC.11806A121	6FX5008-1BA50	[4 G 50 + (2 x 1.5)]	34.0	2299	
Acc.to Bosch Rexroth Indramat® 	SFSI19G08UR-A	MC.119061921		[4 G 0.75 + (2 x 0.50)]	9.2	73	
	SFSI17G08UR-A	MC.119061721		[4 G 1.0 + 2 x (2 x 0.75)]	11.6	170	
	SFSI15G08UR-A	MC.119061521		[4 G 1.5 + 2 x (2 x 0.75)]	12.2	189	
	SFSI13G08UR-A	MC.119061321		[4 G 2.5 + 2 x (2 x 1.0)]	14.6	223	
	SFSI11G08UR-A	MC.119061121		[4 G 4 + (2 x 1) + (2 x 1.5)]	16.3	309	
	SFSI09G08UR-A	MC.119060921		[4 G 6 + (2 x 1) + (2 x 1.5)]	18.1	395	
	SFSI07G08UR-A	MC.119060721		[4 G 10 + (2 x 1) + (2 x 1.5)]	21.8	575	
	SFSI05G08UR-A	MC.119060521		[4 G 16 + 2 x (2 x 1.5)]	25.5	850	
	SFSI03G08UR-A	MC.119060321		[4 G 25 + 2 x (2 x 1.5)]	28.8	1250	
	SFSI02G08UR-A	MC.119060221		[4 G 35 + 2 x (2 x 1.5)]	30.9	1588	
	SFSIA1G08UR-A	MC.11906A121		[4 G 50 + 2 x (2 x 2.5)]	36.3	2351	
Acc.to Lenze® 	SFSL19G06UR-A	MC.120061921		[4G0.75+(2x0.5)]	10.0	91	
	SFSL17G06UR-A	MC.120061721		[4G1.0+(2x0.5)]	10.8	91	
	SFSL15G06UR-A	MC.120061521		[4G1.5+(2x0.5)]	11.5	106	
	SFSL13G06UR-A	MC.120061321		[4G2.5+(2x0.5)]	13.2	153	
	SFSL11G06UR-A	MC.120061121		[4G4.0+(2x1.0)]	14.6	235	
	SFSL09G06UR-A	MC.120060921		[4G6.0+(2x1.0)]	16.8	316	
	SFSL07G06UR-A	MC.120060721		[4G10+(2x1.0)]	20.1	513	
	SFSL05G06UR-A	MC.120060521		[4G16+(2x1.0)]	23.8	710	



EPLAN

All the codes are available in the EPLAN PLAN8 System (use the EPLAN code in the relevant column).



SPAC CAVI

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MS.DP 300 Series

MOTIONSERVO

Servomotor cables, PVC TM5 sheath, Oil Resistant, Dynamic Application

DP

DYNAMIC PERFORMANCE

PVC
TM5

600 V
1000 V

-30 °C
+90 °C



UL 21179
90 °C - 1000V

AWM I/II A/B
90 °C - 1000V

LABS Free

5 million
CYCLES

7,5 x O.D.
MIN. BENDING RADIUS

300 m / min
MAX. SPEED

20 m / s²
ACCELERATION MAX.

≤ 50 N / mm²
PULLING FORCE

± 30 ° / m
TORSION

30 m
MAX. HORIZ. TRAVEL

DURABILITY IN MECHANICAL & THERMAL CONDITIONS

	m.u.			
CYCLES	MIL	0,2	5	1
MIN. BENDING RADIUS	x O.D.	12	7,5	10
MAXIMUM. SPEED	m/min	180	300	180
MAXIMUM ACCELERATION	m/s ²	2,0	20	5
PULLING FORCE	N/mm ²	≤ 50	≤ 20	≤ 20
TORSION	°/m	-	± 30	± 30
MAX HORIZONTAL TRAVEL	m	-	15	30
TEMPERATURE	°C	-30 / +90	-5 / +90	-5 / +90

ELECTRICAL PROPERTIES

Test Voltage	4,0 kV x 5 min acc.to EN 50395 Cl. 10.3
Insulation Resistance	≥ 1.0 GΩ x km @ 20 °C acc.to EN 50395 Cl. 8.1
Max. Short Circuit Temperature	160 °C (≤ 1s)
Operating Voltage	1000 V (UL/CSA) U ₀ /U 0.6/1.0 kV (IEC)

RESISTANCE TO ENVIRONMENTAL AND AGGRESSIVE CHEMICAL THREATS

OIL RESISTANT

FLAME RETARDANT

WATER RESISTANT

EMC PROTECTED

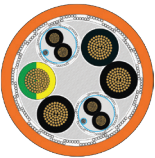
TEMPOR. OUTDOOR

MECHANICAL CRUSH

MAIN ADVANTAGES

Low-Capacitance Structure	Stable and precise performance even over long distances between inverter and motor
Flexible Construction for Continuous Motion	High mechanical durability in cable carriers with repeated cycles
High-Coverage Copper Braid Shielding	Reliable EMC protection against interference and signal noise
Low-Adhesion Technical PVC Outer Jacket	Smooth sliding and reduced friction inside the cable carrier
Resistant to Oils and Industrial Fluids	Ideal for production environments with lubricants or coolants
Self-Extinguishing according to IEC 60332-1-2	High safety in case of fire or over-temperature
Suitable for Damp and Wet Environments	Ensures service continuity under demanding operating conditions
Also Usable for Temporary Outdoor Applications	Versatility of use with adequate UV protection

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	MotionCables code	EPLAN Code	OEM code	Formation	Ø	Cu	DATA SHEET
				mm ²	mm	kg / km	
Acc.to Siemens® 	SDS15G06UR-A	MC.218061521		[4 G 1.5 + (2 x 1.5)]	11.6	155	
	SDS13G06UR-A	MC.218061321		[4 G 2.5 + (2 x 1.5)]	13.4	200	
	SDS11G06UR-A	MC.218061121		[4 G 4 + (2 x 1.5)]	14.2	272	
	SDS09G06UR-A	MC.218060921		[4 G 6 + (2 x 1.5)]	16.5	377	
	SDS07G06UR-A	MC.218060721		[4 G 10 + (2 x 1.5)]	20.0	552	
	SDS05G06UR-A	MC.218060521		[4 G 16 + (2 x 1.5)]	23.5	880	
	SDS03G06UR-A	MC.218060321		[4 G 25 + (2 x 1.5)]	26.6	1210	
	SDS02G06UR-A	MC.218060221		[4 G 35 + (2 x 1.5)]	30.5	1570	
	SDSA1G06UR-A	MC.218060221		[4 G 50 + (2 x 1.5)]	34.5	2299	
	SDS19G06UR-A	MC.219061931		[4 G 0.75 + (2 x 0.50)]	9.2	73	
Acc.to Bosch Rexroth Indramat® 	SDS17G08UR-A	MC.219061731		[4 G 1.0 + 2 x (2 x 0.75)]	11.6	170	
	SDS15G08UR-A	MC.219061531		[4 G 1.5 + 2 x (2 x 0.75)]	12.2	189	
	SDS13G08UR-A	MC.219061331		[4 G 2.5 + 2 x (2 x 1.0)]	14.6	223	
	SDS11G08UR-A	MC.219061131		[4 G 4 + (2 x 1) + (2 x 1.5)]	16.3	309	
	SDS09G08UR-A	MC.219060931		[4 G 6 + (2 x 1) + (2 x 1.5)]	18.1	395	
	SDS07G08UR-A	MC.219060731		[4 G 10 + (2 x 1) + (2 x 1.5)]	21.8	575	
	SDS05G08UR-A	MC.219060531		[4 G 16 + 2 x (2 x 1.5)]	25.5	850	
	SDS03G08UR-A	MC.219060331		[4 G 25 + 2 x (2 x 1.5)]	28.8	1250	
	SDS02G08UR-A	MC.219060231		[4 G 35 + 2 x (2 x 1.5)]	30.9	1588	
	SDSIA1G08UR-A	MC.21906A131		[4 G 50 + 2 x (2 x 2.5)]	36.3	2351	
Acc.to Lenze® 	SDSL19G06UR-A	MC.220061721		[4G0.75+(2x0.5)]	9.30	91	
	SDSL17G06UR-A	MC.220061731		[4G1.0+(2x0.5)]	10.0	91	
	SDSL15G06UR-A	MC.220061531		[4G1.5+(2x0.5)]	11.0	106	
	SDSL13G06UR-A	MC.220061331		[4G2.5+(2x0.5)]	12.3	153	
	SDSL11G06UR-A	MC.220061131		[4G4.0+(2x1.0)]	14.6	235	
	SDSL09G06UR-A	MC.220060931		[4G6.0+(2x1.0)]	16.7	316	
	SDSL07G06UR-A	MC.220060731		[4G10+(2x1.0)]	19.4	513	
	SDSL05G06UR-A	MC.220060531		[4G16+(2x1.0)]	23.8	710	
Acc.to SEW® 	SDSS15G07UR-A	MC.221061731		[4G1.5+(3x1.0)]	11.8	150	
	SDSS13G07UR-A	MC.221061531		[4G2.5+(3x1.0)]	13.4	213	
	SDSS11G07UR-A	MC.221061231		[4G4+(3x1.0)]	15.0	280	
	SDSS09G07UR-A	MC.221061131		[4G6+(3x1.5)]	17.0	390	
	SDSS07G07UR-A	MC.221060931		[4G10+(3x1.5)]	20.0	620	



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MS.HP 600 Series

MOTIONSERVO

Servomotor cables, PUR sheath, Oil Resistant, High Dynamic Application, Halogen Free

HP

HIGH DYNAMIC PERFORMANCE

PUR
FRHF

600 V
1000 V

-50 °C
+90 °C



UL 21209
90 °C - 1000V



AWM I/II A/B
90 °C - 1000V



LABS
Free




10 million
CYCLES


6,5 x O.D.
MIN. BENDING RADIUS


600 m / min
MAX. SPEED


60 m / s²
ACCELERATION MAX.

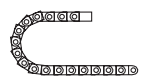
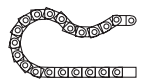

≤ 50 N / mm²
PULLING FORCE


± 30 ° / m
TORSION


50 m
MAX. HORIZ. TRAVEL

DURABILITY IN MECHANICAL & THERMAL CONDITIONS

ELECTRICAL PROPERTIES

	m.u.				
CYCLES	MIL	0,2	1	5	10
MIN. BENDING RADIUS	x O.D.	12	6,5	7,5	10
MAXIMUM. SPEED	m/min	180	600	300	240
MAXIMUM ACCELERATION	m/s ²	2,0	50	30	15
PULLING FORCE	N/mm ²	≤ 50	≤ 20	≤ 20	≤ 20
TORSION	°/m	-	± 30	± 30	± 30
MAX HORIZONTAL TRAVEL	m	-	3	15	50
TEMPERATURE	°C	-50 / +90	-40 / +90	-40 / +90	-40 / +90

	Test Voltage	4,0 kV x 5 min acc.to EN 50395 Cl. 10.3
	Insulation Resistance	≥ 1.0 GΩ x km @ 20 °C acc.to EN 50395 Cl. 8.1
	Max. Short Circuit Temperature	160 °C (≤ 1s)
	Operating Voltage	1000 V (UL/CSA) U ₀ /U 0.6/1.0 kV (IEC)

RESISTANCE TO ENVIRONMENTAL AND AGGRESSIVE CHEMICAL THREATS

 OIL RESISTANT

 FLAME RETARDANT

 COLD RESISTANT

 ABRASION RESISTANT

 EMC PROTECTED

 WATER RESISTANT

 UV RESISTANT

 MICROBE RESISTANT

 OZONE RESISTANT

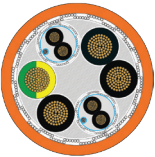
 MUD RESISTANT

 HALOGEN FREE

MAIN ADVANTAGES

Low-Capacitance Structure	Allows for long connections and signal stability even at high frequencies
High-Performance PUR Jacket	Excellent mechanical, chemical, and abrasion resistance
High-Dynamic Construction	Engineered for cable carriers with long travel distances and high accelerations
Full-Coverage Tinned Copper Shielding	Maximum EMC protection for high-precision servo systems
High Resistance to Oils, Coolants, and Chemical Agents	Suitable for use in harsh industrial environments and wet areas
Wide Operating Temperature Range	Reliability even in extreme climatic conditions, indoors or outdoors
Compatibility with Major Servo Systems	Universal solution for multi-brand applications
Robust and Flexible Construction	Long service life and reduced machine downtime

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	MotionCables code	EPLAN Code	OEM code	Formation	Ø	Cu	DATA SHEET
				mm ²	mm	kg / km	
Acc.to Siemens® 	SDS15G06UP-A	MC.318061531	6FX8008-1BA11	[4 G 1.5 + (2 x 1.5)]	11.6	155	
	SDS13G06UP-A	MC.318061331	6FX8008-1BA21	[4 G 2.5 + (2 x 1.5)]	13.4	200	
	SDS11G06UP-A	MC.318061131	6FX8008-1BA31	[4 G 4 + (2 x 1.5)]	14.4	272	
	SDS09G06UP-A	MC.318060931	6FX8008-1BA41	[4 G 6 + (2 x 1.5)]	16.8	377	
	SDS07G06UP-A	MC.318060731	6FX8008-1BA51	[4 G 10 + (2 x 1.5)]	20.0	552	
	SDS05G06UP-A	MC.318060531	6FX8008-1BA61	[4 G 16 + (2 x 1.5)]	23.7	880	
	SDS03G06UP-A	MC.318060331	6FX8008-1BA25	[4 G 25 + (2 x 1.5)]	26.6	1210	
	SDS02G06UP-A	MC.318060231	6FX8008-1BA35	[4 G 35 + (2 x 1.5)]	30.5	1570	
	SDSA1G06UP-A	MC.31806A131	6FX8008-1BA50	[4 G 50 + (2 x 1.5)]	34.5	2299	
Acc.to Bosch Rexroth Indramat® 	SDSI19G08UP-A	MC.319061931		[4 G 0.75 + (2 x 0.50)]	8.5	73	
	SDSI17G08UP-A	MC.319061731	REL0105	[4 G 1.0 + 2 x (2 x 0.75)]	11.5	170	
	SDSI15G08UP-A	MC.319061531	REL0106	[4 G 1.5 + 2 x (2 x 0.75)]	11.7	189	
	SDSI13G08UP-A	MC.319061331	REL0107	[4 G 2.5 + 2 x (2 x 1.0)]	14.7	223	
	SDSI11G08UP-A	MC.319061131	REL0108	[4 G 4 + (2 x 1) + (2 x 1.5)]	16.3	309	
	SDSI09G08UP-A	MC.319060931	REL0109	[4 G 6 + (2 x 1) + (2 x 1.5)]	18.1	395	
	SDSI07G08UP-A	MC.319060731	REL0110	[4 G 10 + (2 x 1) + (2 x 1.5)]	21.8	575	
	SDSI05G08UP-A	MC.319060531	REL0111	[4 G 16 + 2 x (2 x 1.5)]	24.5	850	
	SDSI03G08UP-A	MC.319060331	REL0112	[4 G 25 + 2 x (2 x 1.5)]	28.8	1250	
	SDSI02G08UP-A	MC.319060231	REL0113	[4 G 35 + 2 x (2 x 1.5)]	30.9	1588	
	SDSIA1G08UP-A	MC.31906A131	INK0668	[4 G 50 + 2 x (2 x 2.5)]	36.3	2351	
Acc.to Lenze® 	SDSL19G06UP-A	MC.320061721		[4G0.75+(2x0.5)]	9.8	91	
	SDSL17G06UP-A	MC.320061731		[4G1.0+(2x0.5)]	10.5	91	
	SDSL15G06UP-A	MC.320061531		[4G1.5+(2x0.5)]	11.5	106	
	SDSL13G06UP-A	MC.320061331		[4G2.5+(2x0.5)]	13.2	153	
	SDSL11G06UP-A	MC.320061131		[4G4.0+(2x1.0)]	14.6	235	
	SDSL09G06UP-A	MC.320060931		[4G6.0+(2x1.0)]	17.5	316	
	SDSL07G06UP-A	MC.320060731		[4G10+(2x1.0)]	20.1	513	
	SDSL05G06UP-A	MC.320060531		[4G16+(2x1.0)]	23.8	710	
Acc.to SEW® 	SDSS15G07UP-A	MC.321061731		[4G1.5+(3x1.0)]	11.9	150	
	SDSS13G07UP-A	MC.321061531		[4G2.5+(3x1.0)]	13.4	213	
	SDSS11G07UP-A	MC.321061331		[4G4+(3x1.0)]	15.0	280	
	SDSS09G07UP-A	MC.321061131		[4G6+(3x1.5)]	16.8	390	
	SDSS07G07UP-A	MC.321060931		[4G10+(3x1.5)]	19.3	620	



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MS.LCXHP 600 Series

MOTIONSERVOCORE LCX

HP

HIGH DYNAMIC PERFORMANCE

PUR
FRHF

600 V
1000 V

-50 °C
+90 °C

Servomotor cables, PUR sheath, Oil Resistant, High Dynamic Application, Halogen Free - Increased Low Capacitance



UL 21209
90 °C - 1000V



AWM I/II A/B
90 °C - 1000V



LABS
Free



10 million

CYCLES



6,5 x O.D.

MIN. BENDING RADIUS



600 m / min

MAX. SPEED



60 m / s²

ACCELERATION MAX.



≤ 50 N / mm²

PULLING FORCE



± 30 ° / m

TORSION



50 m

MAX. HORIZ. TRAVEL

DURABILITY IN MECHANICAL & THERMAL CONDITIONS

ELECTRICAL PROPERTIES

	m.u.				
CYCLES	MIL	0,2	1	5	10
MIN. BENDING RADIUS	x O.D.	12	6,5	7,5	10
MAXIMUM SPEED	m/min	180	600	300	240
MAXIMUM ACCELERATION	m/s ²	2,0	50	30	15
PULLING FORCE	N/mm ²	≤ 50	≤ 20	≤ 20	≤ 20
TORSION	°/m	-	± 30	± 30	± 30
MAX. HORIZONTAL TRAVEL	m	-	3	15	50
TEMPERATURE	°C	-50 / +90	-40 / +90	-40 / +90	-40 / +90

	Test Voltage	4,0 kV x 5 min acc.to EN 50395 Cl. 10.3
	Insulation Resistance	≥ 1.0 GΩ x km @ 20 °C acc.to EN 50395 Cl. 8.1
	Max. Short Circuit Temperature	160 °C (≤ 1s)
	Operating Voltage	1000 V (UL/CSA) U ₀ /U 0.6/1.0 kV (IEC)

RESISTANCE TO ENVIRONMENTAL AND AGGRESSIVE CHEMICAL THREATS

OIL RESISTANT	FLAME RETARDANT	COLD RESISTANT	ABRASION RESISTANT	EMC PROTECTED	WATER RESISTANT	UV RESISTANT	MICROBE RESISTANT	OZONE RESISTANT	MUD RESISTANT	HALOGEN FREE

MAIN ADVANTAGES

Optimized Ultra-Low Capacitance Structure (~25% compared to the best "Low Capacitance" standards)	Higher electrical efficiency and lower signal losses.
Up to 60% Reduction compared to Standard Market Cables	Stable performance over longer wiring distances between inverter and motor.
Balanced 4G+ Shielded Pairs Layout	Clean transmission of control signals and reduction of stray currents.
High Coverage EMC Shielding (~85%)	Excellent immunity to electromagnetic disturbances.
OEM Approval	Construction quality validated by major servo system manufacturers.
Three Performance Levels (Static, Dynamic, High Dynamic)	Scalable solutions optimized for different movement intensities.
Compact Architecture with Thermal Optimization	Better energy management and greater system efficiency.
Low Dispersion and Precise Power Control	High signal stability and maximum operational reliability.

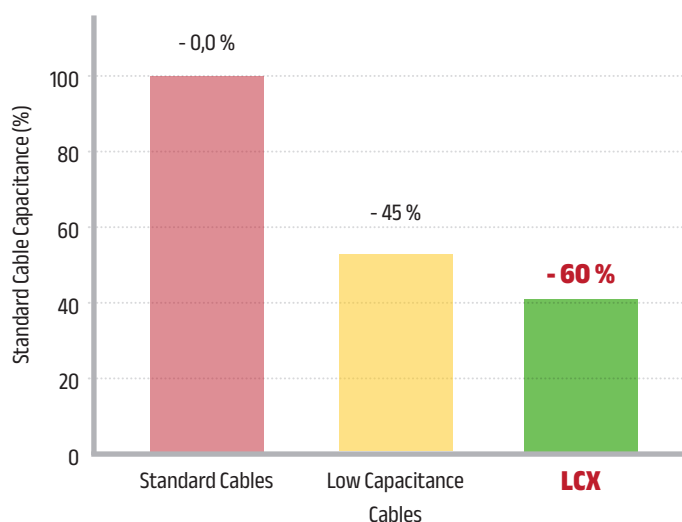


MotionCables code	EPlan Code	OEM code	Formation	Ø	Cu
			mm ²	mm	kg / km
SDS15G06UP-ALCX	MC.377061531		[4 G 1.5 + (2 x 1.5)]	13.4	200
SDS13G06UP-ALCX	MC.377061331		[4 G 2.5 + (2 x 1.5)]	14.4	272
SDS11G06UP-ALCX	MC.377061131		[4 G 4 + (2 x 1.5)]	16.8	377
SDS09G06UP-ALCX	MC.377060931		[4 G 6 + (2 x 1.5)]	20.0	552
SDS07G06UP-ALCX	MC.377060731		[4 G 10 + (2 x 1.5)]	23.7	880
SDS05G06UP-ALCX	MC.377060531		[4 G 16 + (2 x 1.5)]	26.6	1210



LCX = Low Capacitance eXtended NEW OEM-APPROVED TECHNOLOGY

Thanks to the adoption of an optimized structure with ultra-low parasitic capacitance (25% lower than existing Low Capacitance standards), these cables offer superior electrical performance, making them ideal for connecting inverters and motors in servo-assisted systems.



EFFECTIVE REDUCTION:

25% less than the best "Low Capacitance" cables
60% less than standard market cables

- shared and approved project.
- improved efficiency – lower electrical losses.
- greater cabling distances between inverter and motor.
- more stable and clean control signals.
- reduction of parasitic currents and EMC disturbances.

Why Choose the MOTION **SERVOCORE LCX** Family:

- ▶ OEM Approved.
- ▶ Optimized 4G + pairs layout, with >85% EMC shielding.
- ▶ Reduced linear capacitance: greater reliability and efficiency.
- ▶ Three performance levels for every type of installation (static, dynamic, robotic).
- ▶ Sustainable, compact, and safe solution.

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digital version on
our website



EPLAN

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SPAC CAVI

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ONE CABLE SOLUTION - HYBRID CABLES FOR SMART AUTOMATION

MOTIONHYBRID

FOR STATIC AND DYNAMIC APPLICATIONS – SHIELDED AND UNSHIELDED VERSIONS

MOTION**HYBRID** cables represent the MOTION**CABLES** solution for modern, advanced automation requirements, integrating power, motor, and feedback lines into a single cable solution.

Careful design engineering ensures:

- Reduced space within cable carriers and automation cabinets.
- Optimized installation time.
- Maximum Electromagnetic Compatibility (EMC), thanks to total and partial shielding.
- Reliability and durability in severe industrial environments, even with flexing cycles exceeding 10.000.000.

These cables are developed to meet the specifications of major servo drive and control manufacturers, guaranteeing CE, UL, and CSA standard compliance. They are ideal for applications in:

- Automated production lines.
- Machine tools and high-precision industrial machinery.
- Export-oriented systems, with demands for international safety and certifications.

PERFORMANCE LEVEL	Suggested Usage Conditions	Insulation	Outer Sheath	Key Features
BASIC PERFORMANCE	Static or Demi-Static installation	Polypropylene (PP) or Polyolefin	PVC	Flexibility, oil/fluid resistance, flame retardant
DYNAMIC PERFORMANCE	Dynamic installation (cable carriers)	Polypropylene (PP) or Polyolefin	PVC TM5	Designed for repeated bending, high performance in dynamic environments
HIGH DYNAMIC PERFORMANCE	Severe dynamic, robotics	Polypropylene (PP) or Polyolefin	Polyurethane (PUR FRHF)	High flexibility even at low temperatures, chemical resistance, halogen-free

ELECTRICAL & MATERIAL SPECIFICATIONS

CHARACTERISTIC	TECHNICAL SPECIFICATION
Conductors	Bare or tinned copper, extra-fine strands according to DIN VDE 0295 cl.6 / IEC 60228 cl.6, ensuring flexibility and resistance to mechanical fatigue.
Conductor Insulation	Special Polypropylene or Polyolefin, optimized to reduce parasitic capacitance.
Conductor Identification	Colour or numerical coding according to the technical datasheet, to facilitate installation and maintenance.
Textile Tape	Inserted for mechanical stability and protection against mechanical stress.
Shield	Tinned copper braid, optical coverage approx. 85%, for total EMC protection and interference reduction.
Additional Shield	ALU/PET tape, enhances shielding and protection against chemical agents.
Outer Jacket	PVC (BP), PVC TM5 (DP), PUR FRHF (HP), resistant to oils, solvents, UV radiation, and mechanical wear.
Jacket Colour	Orange RAL 2003, Green RAL 6018, Black RAL 9005.

INCREASED MAX
CONDUCTOR
TEMPERATURE

90°C

TECHNICAL BENEFIT OF THE MOTIONHYBRID FAMILY

- Motor and Feedback Integration in a single cable.
- Space-saving and reduced wiring time.
- Superior EMC Shielding, optimal in noisy industrial environments
- Resistance to Oils, Fluids, Chemicals, and UV.
- Applicable to static, dynamic, and highly dynamic installations.
- International compliance (CE, UL, CSA).

APPLICATION EXAMPLES

- Automated Production Lines.
- Machine Tools and CNC.
- Industry 4.0:
Smart Factory and installations with high wiring density.
- Multi-Axis Synchronized Systems.



CABLES TYPES ACCORDING TO STANDARDS

PROTOCOL	IMPEDANCE (Ω)	MAX FREQUENCY	MANUFACTURER	DETAILED DESCRIPTION
Endat 2.2	120±12	10 MHz	Heidenhain®	Bidirectional digital interface for absolute and incremental encoders. Synchronous serial transmission over 4 lines (CLOCK+/-, DATA+/-). Ideal for CNC, robotics, and machine tools; supports safety functions up to SIL 3.
Endat 3	120±10	Up to 100 MHz	Heidenhain®	Evolution of EnDat 2.2, featuring higher transmission speed, more efficient diagnostic data management, and support for integrated safety systems. Optimized for high-precision, high-speed applications.
Hiperface DSL	110±10	10 MHz	SICK®	Digital and analog protocol for encoders, suitable for high-speed servo and robotics applications.
SINAMICS	100±10	100 MHz	Siemens®	Digital feedback for SINAMICS drives, supports high-speed transmission and complex motor control.
IndraDyn-S	110±10	10 MHz	Bosch-Rexroth®	Servo drive and control system for robotics and automation, featuring precise digital feedback.
HMC 6	120±10	8 MHz	Heidenhain®	High-precision digital encoder for motors and linear systems, ideal for CNC and robotics.
ILM 62	100±10	100 MHz	Schneider Electric®	Digital encoder for motor position control, suitable for industrial production lines.
MOVILINK DDI	50±2	1000 MHz	SEW®	Digital protocol for SEW drives, enabling secure communication between servo and controller.

MS.HYB BP 180

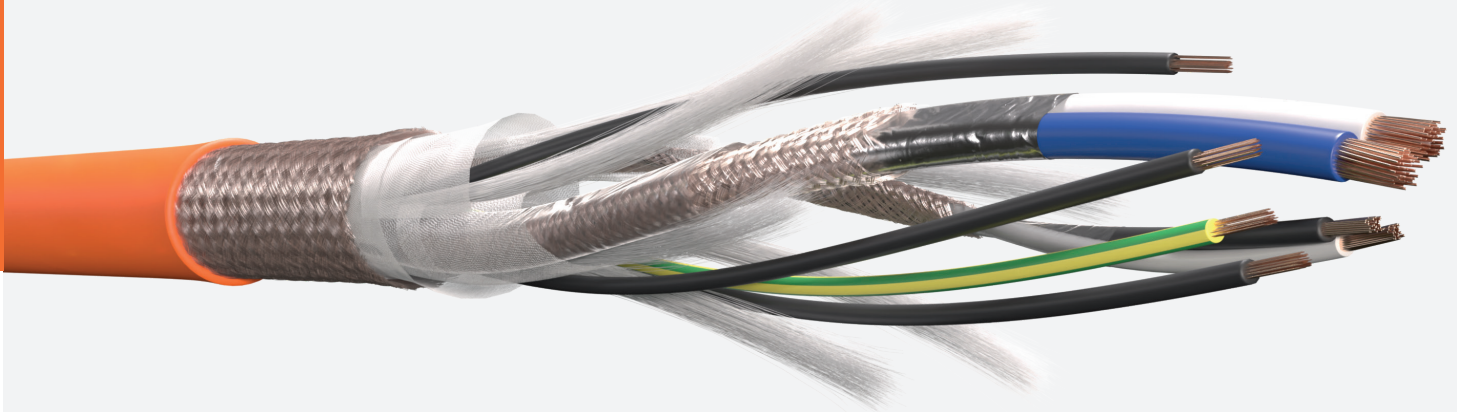
MOTION **HYBRID SERVO**

Hybrid OCT cables, PVC sheath, Oil Resistant, Demi-Static application

BASIC PERFORMANCE

BP

PVC

600 V
1000 V-25 °C
+90 °CUL 21179
90 °C - 1000VAWM I/II A/B
90 °C - 1000VLABS
Free

200.000

DEMI-STATIC



12 x O.D.

MIN. BENDING RADIUS



180 m/min

MAX. SPEED



2.0 m/sec²

ACCELERATION MAX.



≤ 50 N / mm²

PULLING FORCE



-

TORSION



-

MAX. HORIZ. TRAVEL

DURABILITY IN MECHANICAL & THERMAL CONDITIONS

CYCLES	m.u.	
	MIL	0,2
MIN. BENDING RADIUS	x O.D.	12
MAXIMUM. SPEED	m/min	180
MAXIMUM ACCELERATION	m/s²	2,0
PULLING FORCE	N/mm²	≤ 50
TORSION	°/m	-
MAX HORIZONTAL TRAVEL	m	-
TEMPERATURE	°C	+5 / +90

ELECTRICAL PROPERTIES

Test
Voltage4,0 kV x 5 min
acc.to EN 50395 Cl. 10.3Insulation
Resistance≥ 1.0 GΩ x km @ 20 °C
acc.to EN 50395 Cl. 8.1Max. Short Circuit
Temperature

160 °C (≤ 1s)

Operating
Voltage1000 V (UL/CSA)
U₀/U 0.6/1.0 kV (IEC)

RESISTANCE TO ENVIRONMENTAL AND AGGRESSIVE CHEMICAL THREATS



OIL RESISTANT



FLAME RETARDANT



WATER RESISTANT



EMC PROTECTED



TEMPOR. OUTDOOR

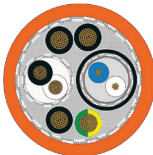
MAIN ADVANTAGES

One Cable Technology (Power + Signal)	A single cable for power, brake, and feedback: 50% reduction in cabling
Low-Capacitance Architecture	Higher electrical efficiency and stability of control signals
Full-Coverage Copper Shielding	Reliable protection against noise and EMC interference
Balanced Layout and Dedicated Communication Pair	Clean digital transmission, without loss of synchronization
Flexible PVC Outer Jacket	Ease of installation and good resistance in general industrial environments
Reduction in Overall Weight and Size	Optimized space in control cabinets and cable carriers
Compatibility with Major Digital Protocols	Direct interface with standard servo motors and OEM systems
Economical and Functional Solution	Perfect for lines with limited motion or semi-dynamic applications

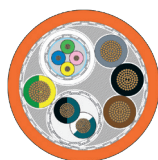
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Protocol: **HYPERFACE DSL®**

Manufacturer: **SICK®**



MotionCables Code	EPlan Code	OEM Code	Formation	∅	Cu	DATA SHEET
			mm²	mm	kg/km	
≤ 50 m connection						
HFSS21G08UR-A ●	MC.122082131		[4 G 0.50 + (2 x 0.35) + (2 x 26 AWG)]	9.8	86	
HFSS17G08UR-A ●	MC.122081731		[4 G 1.0 + (2 x 0.75) + (2 x 26 AWG)]	11.5	113	
HFSS15G08UR-A ●	MC.122081531		[4 G 1.5 + (2 x 0.75) + (2 x 26 AWG)]	12.5	150	
HFSS13G08UR-A ●	MC.122081331		[4 G 2.5 + (2 x 1.0) + (2 x 26 AWG)]	13.8	195	
≤ 100 m connection						
HFSI17G08UR-A ●	MC.122081731		[4 G 1.0 + (2 x 0.75) + (2 x 22 AWG)]	12.5	125	
HFSI15G08UR-A ●	MC.122081531		[4 G 1.5 + (2 x 1.0) + (2 x 22 AWG)]	13.2	160	
HFSI13G08UR-A ●	MC.122081331		[4 G 2.5 + (2 x 1.0) + (2 x 22 AWG)]	14.5	200	
HFSI11G08UR-A ●	MC.122081131		[4 G 4 + (2 x 1.5) + (2 x 22 AWG)]	16.3	285	



HFSS122Z10UR-A ●	MC.156102221		[4G0.38 + (2x0.38) + (4x0.20)]	9.5	79	
HFSS119Z10UR-A ●	MC.156101921		[4G0.75 + (2x0.50) + (4x0.20)]	10.4	105	
HFSS115Z10UR-A ●	MC.156101521		[4G1.50 + (2x1.50) + (4x0.20)]	12.3	162	
HFSS113Z10UR-A ●	MC.156101321		[4G2.50 + (2x1.50) + (4x0.20)]	13.3	214	



EPLAN

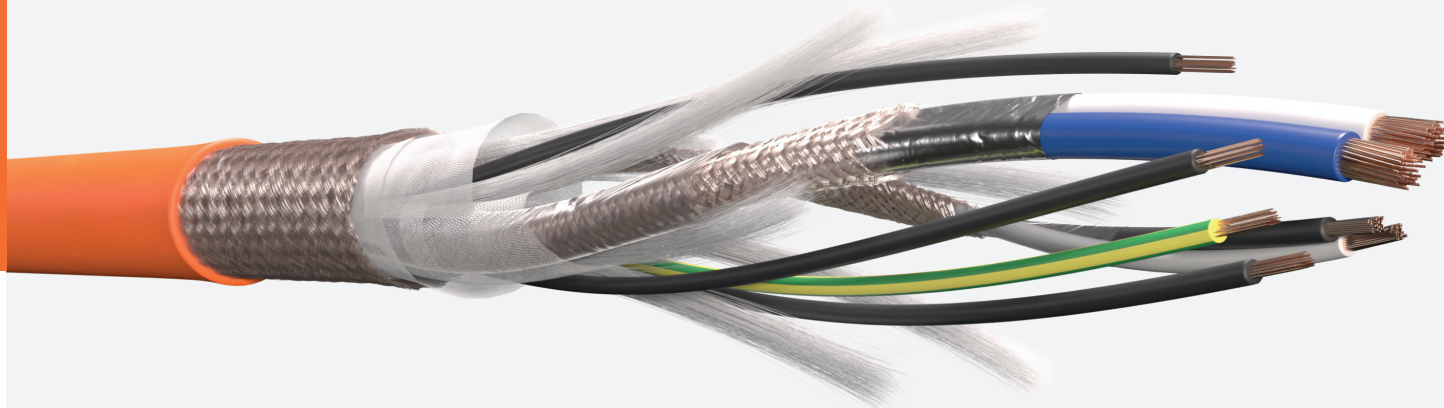
All the codes are available in the EPLAN PLAN8 System (use the EPLAN code in the relevant column).



SPAC CAVI

All the codes are available in the SPAC CAVI system (use MotionCables item code).

The names of trademarks and standards are provided for reference or information purposes only. These trademarks and standards are the exclusive property of their respective owners (see the complete list on the back cover).

UL 21179
90 °C - 1000VAWM I/II A/B
90 °C - 1000VLABS
Free

5 million

CYCLES



7,5 x O.D.

MIN. BENDING RADIUS



300 m / min

MAX. SPEED

20 m / s²

ACCELERATION MAX.

≤ 50 N / mm²

PULLING FORCE



± 30 ° / m

TORSION



30 m

MAX. HORIZ. TRAVEL

DURABILITY IN MECHANICAL & THERMAL CONDITIONS

	m.u.			
CYCLES	MIL	0,2	5	1
MIN. BENDING RADIUS	x O.D.	12	7,5	10
MAXIMUM. SPEED	m/min	180	300	180
MAXIMUM ACCELERATION	m/s ²	2,0	20	5
PULLING FORCE	N/mm ²	≤ 50	≤ 20	≤ 20
TORSION	°/m	-	± 30	± 30
MAX HORIZONTAL TRAVEL	m	-	15	30
TEMPERATURE	°C	-30 / +90	-5 / +90	-5 / +90

ELECTRICAL PROPERTIES

Test
Voltage4,0 kV x 5 min
acc.to EN 50395 Cl. 10.3Insulation
Resistance≥ 1.0 GΩ x km @ 20 °C
acc.to EN 50395 Cl. 8.1Max. Short Circuit
Temperature

160 °C (≤ 1s)

Operating
Voltage1000 V (UL/CSA)
U₀/U 0.6/1.0 kV (IEC)

RESISTANCE TO ENVIRONMENTAL AND AGGRESSIVE CHEMICAL THREATS



OIL RESISTANT



FLAME RETARDANT



WATER RESISTANT



EMC PROTECTED



TEMPOR. OUTDOOR



MECHANICAL CRUSH

MAIN ADVANTAGES

High-Performance One Cable Technology	Simultaneous transmission of power, brake, and DSL signals in a single conductor
Flexible Architecture Optimized for Continuous Motion	High resistance to bending cycles and mechanical stress
Individually Twisted and Shielded Data Element	Stable and interference-free digital feedback
Multiple EMC Shielding	Total protection against high-frequency noise and harmonics
Low-Adhesion Technical PVC Outer Jacket	Smooth sliding in the cable carrier, reducing friction
Resistance to Oils and Coolants	Safe operation in lubricated or humid industrial environments
40-50% Reduced Cabling Compared to Traditional Systems	Lower installation times and reduced maintenance complexity
Water-Resistant and Suitable for Temporary Outdoor Use	Safe operation even in humid environments or areas subject to splashing

Scan the QRcode for a more detailed digital version on our website

Protocol: **HYPERFACE DSL®**

Manufacturer: **SICK®**



MotionCables Code	EPlan Code	OEM Code	Formation	∅	Cu	DATA SHEET
			mm²	mm	kg/km	
≤ 50 m connection						
HDSS21G08UR-A ●	MC.222082131		[4 G 0.50 + (2 x 0.35) + (2 x 26 AWG)]	9.8	86	
HDSS17G08UR-A ●	MC.222081731		[4 G 1.0 + (2 x 0.75) + (2 x 26 AWG)]	11.5	113	
HDSS15G08UR-A ●	MC.222081531		[4 G 1.5 + (2 x 0.75) + (2 x 26 AWG)]	12.5	150	
HDSS13G08UR-A ●	MC.222081331		[4 G 2.5 + (2 x 1.0) + (2 x 26 AWG)]	13.8	195	
≤ 100 m connection						
HDSI17G08UR-A ●	MC.222081731		[4 G 1.0 + (2 x 0.75) + (2 x 22 AWG)]	12.5	125	
HDSI15G08UR-A ●	MC.222081531		[4 G 1.5 + (2 x 1.0) + (2 x 22 AWG)]	13.2	160	
HDSI13G08UR-A ●	MC.222081331		[4 G 2.5 + (2 x 1.0) + (2 x 22 AWG)]	14.5	200	
HDSI11G08UR-A ●	MC.222081131		[4 G 4 + (2 x 1.5) + (2 x 22 AWG)]	16.3	285	

Protocol: **HMC6®**

Manufacturer: **HEIDENHAIN®**

MotionCables Code	EPlan Code	OEM Code	Formation	∅	Cu	DATA SHEET
			mm²	mm	kg/km	
HDS15G12UR-N ●	MC.223121525		[(3x1.50)+1G1.50+2x1.0+(2x0.30+2x2x0.15)]	12.5	86	
HDS13G12UR-N ●	MC.223121325		[(3x2.50)C+1G2.50+2x1.0+(2x0.30+2x2x0.15)]	14.2	113	
HDS11G12UR-N ●	MC.223121125		[(3x4.0)+1G4.0+2x1.0+(2x0.30+2x2x0.15)]	16.5	150	

Protocol: **EnDAT 2.2®**

MotionCables Code	EPlan Code	OEM Code	Formation	∅	Cu	DATA SHEET
			mm²	mm	kg/km	
HDSH15G12UR-A ●	MC255121521		[4G1.5+1x(2x0.75)+1x(2x0.30+2x2x0.15)]	13.0	165	
HDSH13G12UR-A ●	MC255121321		[4G2.5+1x(2x0.75)+1x(2x0.30+2x2x0.15)]	14.2	210	
HDSH11G12UR-A ●	MC255121121		[4G4+1x(2x0.75)+1x(2x0.30+2x2x0.15)]	16.5	285	

Protocol: **EnDAT 3®**

MotionCables Code	EPlan Code	OEM Code	Formation	∅	Cu	DATA SHEET
			mm²	mm	kg/km	
HDSE19G08UR-A ●	MC.322081731		[4G0.75+1x(2x0.34)+1x((2x24AWG))]	11.5	190	
HDSE15G08UR-A ●	MC.322081531		[4G1.5+1x(2x0.75)+1x((2x24AWG))]	13.2	255	
HDSE11G08UR-A ●	MC.322081331		[4G4+1x(2x1.0)+1x((2x24AWG))]	16.2	415	

Protocol: **ILM 62®**

MotionCables Code	EPlan Code	OEM Code	Formation	∅	Cu	DATA SHEET
			mm²	mm	kg/km	
HDN13Z14UR-VE ●	MC.275141322		5G2.5+2x(4x0.34)+1x(0.34)	14.8	186	



EPLAN

All the codes are available in the EPLAN PLAN8 System (use the EPLAN code in the relevant column).



SPAC CAVI

All the codes are available in the SPAC CAVI system (use MotionCables item code).

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MS.HYB HP 600

MOTION **HYBRID SERVO**

Hybrid OCT Servomotor cables, PUR outer sheath, Oil Resistant, High Dynamic Application, Halogen Free

HIGH DYNAMIC PERFORMANCE

HP**PUR
FRHF****600 V
1000 V****-50 °C
+90 °C**

HYBRID SERVO

UL 21209
90 °C - 1000VAWM I/II A/B
90 °C - 1000VLABS
Free

UPON REQUEST

**10 million**

CYCLES

**6,5 x O.D.**

MIN. BENDING RADIUS

**600 m / min**

MAX. SPEED

**60 m / s²**

ACCELERATION MAX.

**≤ 50 N / mm²**

PULLING FORCE

**± 30 ° / m**

TORSION

**50 m**

MAX. HORIZ. TRAVEL

DURABILITY IN MECHANICAL & THERMAL CONDITIONS**ELECTRICAL PROPERTIES**

	m.u.				
CYCLES	MIL	0,2	1	5	10
MIN. BENDING RADIUS	x O.D.	12	6,5	7,5	10
MAXIMUM SPEED	m/min	180	600	300	240
MAXIMUM ACCELERATION	m/s ²	2,0	50	30	15
PULLING FORCE	N/mm ²	≤ 50	≤ 20	≤ 20	≤ 20
TORSION	°/m	-	± 30	± 30	± 30
MAX. HORIZONTAL TRAVEL	m	-	3	15	50
TEMPERATURE	°C	-50 / +90	-40 / +90	-40 / +90	-40 / +90

**Test
Voltage**4,0 kV x 5 min
acc.to EN 50395 Cl. 10.3**Insulation
Resistance**≥ 1.0 GΩ x km @ 20 °C
acc.to EN 50395 Cl. 8.1**Max. Short
Circuit
Temperature**

160 °C (≤ 1s)

**Operating
Voltage**1000 V (UL/CSA)
U₀/U 0.6/1.0 kV (IEC)**RESISTANCE TO ENVIRONMENTAL AND AGGRESSIVE CHEMICAL THREATS**

OIL RESISTANT



FLAME RETARDANT



COLD RESISTANT



ABRASION RESISTANT



EMC PROTECTED



WATER RESISTANT



UV RESISTANT



MICROBE RESISTANT



OZONE RESISTANT



MUD RESISTANT



HALOGEN FREE

MAIN ADVANTAGES**Latest Generation One Cable Architecture**

Integrated transmission of power, brake, and digital data over a single high-performance cable

High-Resistance PUR Jacket

Excellent mechanical and chemical integrity even in harsh environments

Reinforced Structure for Long-Travel Cable Carriers and High Accelerations

Superior mechanical reliability even under extreme conditions

Communication Pair for Digital Feedback (DSL / S210 / EnDat 3...)

Precise motor control and real-time diagnostics

Dual-Layer Composite Shielding

Noise immunity even in systems with high EMC emissions

Resistance to Mineral Oils, Coolants, and Chemical Agents

Ideal for wet areas or applications with industrial contaminants

Extended Temperature Range and Dimensional Stability

Consistent performance from -40°C to +90°C

Advanced Solution for Industry 4.0

Supports predictive diagnostics, reduced downtime, and system digitalization

Scan the QRcode for a more detailed digital version on our website

Protocol: **HYPERFACE DSL®**

Manufacturer: **SICK®**



MotionCables Code	EPlan Code	OEM Code	Formation	∅	Cu	DATA SHEET
			mm²	mm	kg/km	
≤ 50 m connection						
HDS521G08UP-A	●	MC.322082131	[4 G 0.50 + (2 x 0.35) + (2 x 26 AWG)]	9.8	86	
HDS517G08UP-A	●	MC.322081731	[4 G 1.0 + (2 x 0.75) + (2 x 26 AWG)]	11.5	113	
HDS515G08UP-A	●	MC.322081531	[4 G 1.5 + (2 x 0.75) + (2 x 26 AWG)]	12.5	150	
HDS513G08UP-A	●	MC.322081331	[4 G 2.5 + (2 x 1.0) + (2 x 26 AWG)]	13.8	195	
≤ 100 m connection						
HDS117G08UP-A	●	MC.322081731	[4 G 1.0 + (2 x 0.75) + (2 x 22 AWG)]	12.5	125	
HDS115G08UP-A	●	MC.322081531	[4 G 1.5 + (2 x 1.0) + (2 x 22 AWG)]	13.2	160	
HDS113G08UP-A	●	MC.322081331	[4 G 2.5 + (2 x 1.0) + (2 x 22 AWG)]	14.5	200	
HDS11G08UP-A	●	MC.322081131	[4 G 4 + (2 x 1.5) + (2 x 22 AWG)]	16.3	285	

Protocol: **HMC6®**

Manufacturer: **HEIDENHAIN®**

MotionCables Code	EPlan Code	OEM Code	Formation	∅	Cu	DATA SHEET
			mm²	mm	kg/km	
HDS15G12UP-N ●	MC.323121525		[(3x1.50)+1G1.50+2x1.0+(2x0.30+2x2x0.15)]	12.5	86	
HDS13G12UP-N ●	MC.323121325		[(3x2.50)C+1G2.50+2x1.0+(2x0.30+2x2x0.15)]	14.2	113	
HDS11G12UP-N ●	MC.323121125		[(3x4.0)+1G4.0+2x1.0+(2x0.30+2x2x0.15)]	16.5	150	

Protocol: **EnDAT 2.2®**

MotionCables Code	EPlan Code	OEM Code	Formation	∅	Cu	DATA SHEET
			mm²	mm	kg/km	
HDSH15G12UP-A ●	MC355121531		[4G1.5+1x(2x0.75)+1x(2x0.30+2x2x0.15)]	13.0	165	
HDSH13G12UP-A ●	MC355121331		[4G2.5+1x(2x0.75)+1x(2x0.30+2x2x0.15)]	14.2	210	
HDSH11G12UP-A ●	MC355121131		[4G4+1x(2x0.75)+1x(2x0.30+2x2x0.15)]	16.5	285	



EPLAN

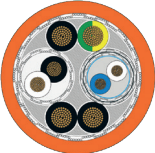
All the codes are available in the EPLAN PLAN8 System (use the EPLAN code in the relevant column).

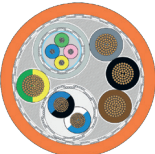


SPAC CAVI

All the codes are available in the SPAC CAVI system (use MotionCables item code).

The names of trademarks and standards are provided for reference or information purposes only. These trademarks and standards are the exclusive property of their respective owners (see the complete list on the back cover).

MotionCables Code	EPlan Code	OEM Code	Formation	Ø	Cu	DATA SHEET
			mm²	mm	kg/km	
 HDSE19G08UP-A	● MC.322081731		[4G0.75+1x(2x0.34)+1x((2x24AWG))]	11.5	190	
HDSE15G08UP-A	● MC.322081531		[4G1.5+1x(2x0.75)+1x((2x24AWG))]	13.2	255	
HDSE11G08UP-A	● MC.322081331		[4G4+1x(2x1.0)+1x((2x24AWG))]	16.2	415	

MotionCables Code	EPlan Code	OEM Code	Formation	Ø	Cu	DATA SHEET
			mm²	mm	kg/km	
 HDSSI22Z10UP-A	● MC.356102231	6FX8008 Plus-1BE04	[4G0.38 + (2x0.38) + (4x0.20)]	9.5	79	
HDSSI19Z10UP-A	● MC.356101931	6FX8008 Plus-1BE08	[4G0.75 + (2x0.50) + (4x0.20)]	10.4	105	
HDSSI15Z10UP-A	● MC.356101531	6FX8008 Plus-1BE11	[4G1.50 + (2x1.50) + (4x0.20)]	12.3	162	
HDSSI13Z10UP-A	● MC.356101331	6FX8008 Plus-1BE21	[4G2.50 + (2x1.50) + (4x0.20)]	13.3	214	



Protocol: **ILM 62®**

MotionCables Code	EPlan Code	OEM Code	Formation	Ø	Cu	DATA SHEET
			mm²	mm	kg/km	
 HDN13Z14UP-VE	 MC.375141332		5G2.5+2x(4x0.34)+1x(0.34)	14.8	186	

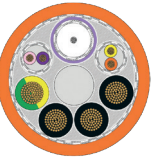
Protocol: **INDRADYN-S®**

Manufacturer: **BOSCH-REXROTH®**

MotionCables Code	EPlan Code	OEM Code	Formation	Ø	Cu	DATA SHEET
			mm²	mm	kg/km	
 HDSBR19Z10UP-A	 MC.357101931		[4G0.75+(2x0.50)+(4x24 AWG)]	11.8	139	
HDSBR15Z10UP-A	 MC.357101531		[4G1.5+(2x0.75)+(4x24 AWG)]	13.0	148	
HDSBR13Z10UP-A	 MC.357101331		[4G2.5+(2x0.75)+(4x24 AWG)]	15.8	159	

Protocol: **MOVILINK DDI®**

Manufacturer: **SEW®**

MotionCables Code	EPlan Code	OEM Code	Formation	Ø	Cu	DATA SHEET
			mm²	mm	kg/km	
 HDSS15G09UP-A	 MC.359091531		[4G1.5+2(2x1.0)+1 Coax RG58]	15.7	198	
HDSS13G09UP-A	 MC.359091331		[4G2.5+2(2x1.0)+1 Coax RG58]	16.7	236	
HDSS11G09UP-A	 MC.359091131		[4G4+2(2x1.0)+1 Coax RG58]	17.0	302	
HDSS09G09UP-A	 MC.359090931		[4G6+2(2x1.0)+1 Coax RG58]	19.7	410	
HDSS07G09UP-A	 MC.359090731		[4G10+2(2x1.0)+1 Coax RG58]	22.1	605	



EPLAN

All the codes are available in the EPLAN PLAN8 System (use the EPLAN code in the relevant column).



SPAC CAVI

All the codes are available in the SPAC CAVI system (use MotionCables item code).

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