



HÆBRID SERVO



PRINTED: IV ed. - October 2023
TEXTS BY: Motioncables
PRINTERS: Tipografia-Tipolito Cattabriga Srl
Via del Lavoro, 13
40065 Pianoro (BO)

PHOTOS: Photos and graphics by MotionCables

MOTION CABLES HYBRID SERVO

Hybrid servo technology has become the backbone of many applications and hybrid servo cable solutions have continued to evolve and change to meet the demands of the market. Our experience has accompanied this growth.

We launched the same brochure for the first time in 2018. Five years ago, hybrid solutions were sparse, but they showed the way to the coming future.

Five years later, we have passed our first 10 years as a company and are celebrating with growth in production and staff, and the arrival of a new production facility that will be 100% operational in early 2024.

This means that our conviction that hybrid servo technology would be THE technology of the future was correct.

Currently, about 50% of our production is dedicated to OCT cable solutions.

We have been awarded as a trusted partner by various OEMs, so we are more and more in a leading position regarding these products.

Our technical background, our pursuit of quality, has proven to be resolute.

Our increased level of service, the factory and the new factory, our partners around the world, all these aspects give us the impression that we are doing well.

But the truth comes from our customers and the praise they give us.

We are satisfied, but we don't think we are ever finished. Our goal is to grow, improve and become more and more **YOUR REAL PARTNER IN MOTION.**

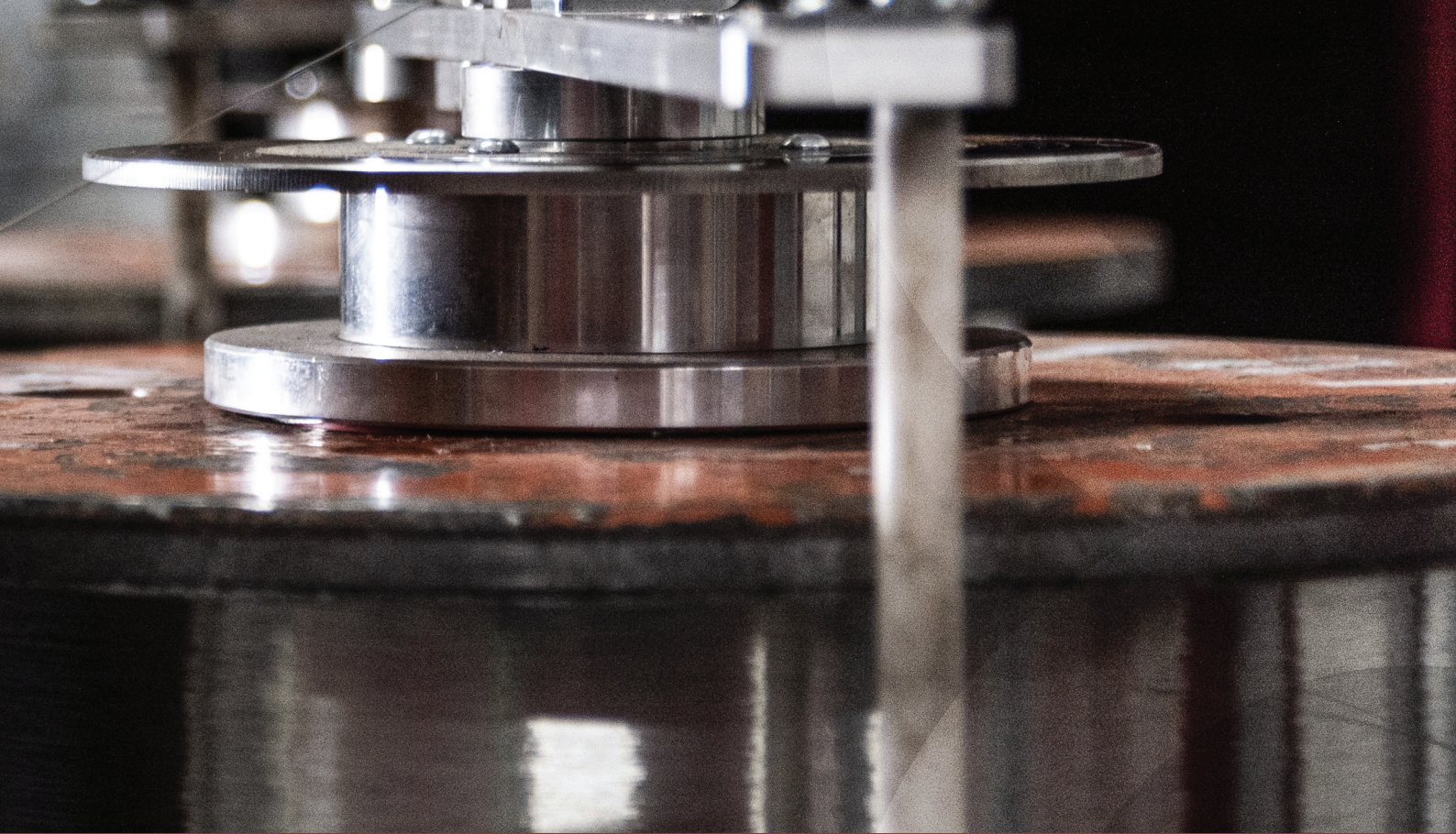
Filippo Porto

MANAGING DIRECTOR



CONTENTS

THE OCT TECHNOLOGY	6
OUR PLANTS	8
MOTIONLAB TESTING FACILITY	10
HYBRID SERVO RANGE	14
MOTION SERVICE MOTION NUMBERS	22
MOTION PAPERS MOTION CERTIFIED	24
MOTION VALUES MOTION WORLD	26





the OCT technology

HYBRID SERVO

OCT technology is more than 10 years old and has only just begun to show its capabilities. Our knowledge of this technology has grown accordingly, giving us the opportunity to play ahead and be prepared.

WHEN WE USE, the term HYBRID SERVO, we are referring to what is usually known as OCT or One Cable Technology. This development was introduced by SICK back in 2010. The idea was to integrate the encoder cable into the servo cable for motor power to have several advantages, the first of which was to reduce the number of cables and wiring time.

This cable development brought a parallel digital development of the interface that records, analyses and transmits position, data and other anonymous information (e.g. temperature, speed, operating status, etc.), allowing real-time monitoring of all machine or process parameters and performance.

With the introduction of the HYPERFACE DSL standard, SICK has created a completely new level of operation. The development of this standard is not yet complete.

We are here to continue.

ADVANTAGES



MACHINE END-USER

- Machine costs are reduced.
- Reduced number of cables and connectors improves machine reliability.
- Trouble-shooting and maintenance times reduced.
- Spare parts inventory reduced.



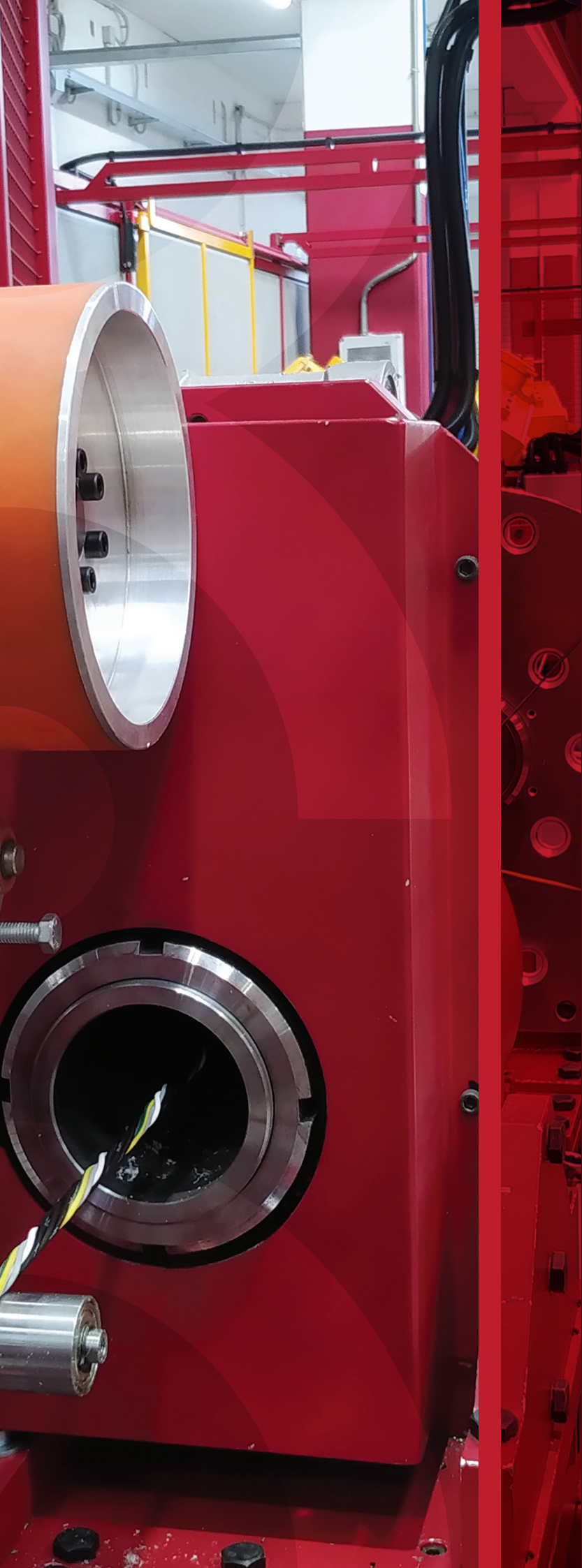
OEM MACHINE BUILDER

- Overall drive system cost reduced because of fewer cables and less time installing in machine
- Reduced number of cables and connections improves drive system reliability
- Spare part inventory reduced
- Start-up trouble shooting time reduced



DRIVE SYSTEM MANUFACTURER

- Reduced drive construction cost (fewer connection ports)
- Reduced motor construction cost (feedback connector eliminated)
- Lowers parts in inventory
- Reliability increases with fewer encoder interface connections



were the magic happens

OUR PLANTS

Completed in 2018, the plant has grown rapidly from 5 up to 35 different machines. Extrusion, braiding, layup an internal developed software (MotionNet) to manage all the production aspect. These are our plants.

WHEN WE decided in 2017 to start developing a new production site that would become the reference point for hybrid servo cable production, we could not have expected that after only three years we would already be opening a second site.

The new facility has an in-house test lab where materials and products are qualified and which also performs endurance and qualification tests for the finished cables.

Our production capacities and shorter delivery times are optimal to provide you with an extremely dedicated service for these new cable technologies and to be your proactive partner in supplying highly qualified and reliable hybrid servo cables.

From spring 2024 a new plant will be in full effect, so our production capabilities will double: same quality.



our testing facility

MOTION LAB

It is one of our pride: an area where all that pertains cables - from raw materials to finished products - is tested, tested and tested again. The type of test we can perform are several. Let's talk about for a while.

FROM the beginning, and based on our past experience, we have always been proud to have a testing area where we could test raw materials and finished products. This area was enlarged when we moved to our first premises and it has become bigger in our actual production facility.

What do we do there? In our **MotionLAB**, different types of tests are carried out every day. We go from standard qualification testing of materials to specific electrical testing and lifetime testing of products.

Durability testing is the most valuable type of analysis that we do on a regular basis. It consists of a **series of different evaluation tests** that - with the support of special machines - reproduce some specific aspects of a cable's service life requirements.

Endurance test on a drag chain with various speeds, bends and accelerations designed to simulate prolonged operational use in a short period of time.



These tests are mainly carried out to assess how the outer jacket, inner design and shields behave according to the requirements of the test. During these tests, we can also reproduce real situations - such as the complete setup of the chain, the speed, etc. - to give our customers a complete overview of how our cables perform under load.

Furthermore, these types of tests are essential to ensure the highest possible reliability and quality of our products. Endurance tests can vary in terms of time and number of cycles: It all depends on how intensively we need to push our evaluation.

There is also the **bending/torsion test**, a specific test used to qualify cables that have to work on robots or in continuous torque applications. The sample to be tested is moved at different speeds and different accelerations (progressive or sudden) to simulate traction, torsion and bending.

Part of the cable is attached to a weight, the rest runs over two rollers of different diameters that move longitudinally. We make the cable work for a number of cycles (a complete movement from one side to the other), depending on how long we want to simulate an operation in real time. The diameter of the two pulleys can be adjusted accordingly.

Similar to this test, usually performed at the same time, is the **single/bundle torsion test**. Here the cable (or a bundle of cables) is connected to a rotating system whose angular deflection can be changed accordingly. One end of the cable is weighted, the other attached to the torque. The complete clockwise/anticlockwise rotation is considered as one complete cycle.

As with all tests, we plan a number of cycles according to the assessment of the lifeline we wish to reproduce.



Among the other dynamic tests we perform in **MotionLAB**, there is the so-called **tick/tock test** (because the movement is reminiscent of the coming and going of a pendulum). The technical name is the alternating bending test.

In this test, the cable is subjected to a regime of push-ups (each considered as a single cycle) performed at different angles and loads. This test simulates the continuous friction of the cable during operation in the drag chain. It is a destructive test performed to qualify the performance of the outer sheath.

In addition to these dynamic tests, we also carry out **environmental tests**:

- Ageing in an air oven at cold or hot temperatures;
- Cold impact on the surface of the cable;
- Bending of the cable at low temperatures;
- Tests with various liquids (oils, chemicals, water, polluted water, etc.).

Last but not least, there are material tests such as tensile and elongation tests, video microscope analyses and all the important electrical tests. Another type of tests that are still important and mandatory are the safety tests: Flame resistance test from FT1 to FT4.

So as you can see, there is a lot to do on a normal day in our **MotionLAB**.



Endurance Test

Cable's life-cycle is simulated using drag-chains with different running lengths at different speed and acceleration.

Run	Acceleration	Speed
2 m	6 G	600 m/min
5 m	4 G	400 m/min
15 m	2 G	200 m/min
110 m	0.5 G	100 m/min

Single/ Bunch Torsion

Diameter Ranges

5 - 50 mm

5 - 50 mm

Rotation Angle

540°

360°

Test Length

1000 mm

3000 mm

The cable, or bundle of cables, is rotated according to the imposed angle to the right and to the left while undergoing a downward pulling force (F).

Each alternating motion is considered a cycle.

TORX Ø5/50 mm.
rot.ang. ±540°

Alternate Bend

Running Length

5 meters

Acceleration

4G

Speed

400 m/min

The cable specimen to be tested is moved at different speeds and accelerations (sometimes abruptly) to simulate tension, torsion and bending.

Part of the cable is attached to a weight, the rest is guided over two pulleys. Each run is considered a cycle.

Tick/Tock Test

Diameter Range

5 - 50 mm

Rotation Angle

540°

Test Length

1000 mm

The type of test requires the cable to be subjected to a bending regime (each of which is considered a cycle) based on different load parameters.

The maximum tensile load is 3000N.

The maximum cable diameter is 50 mm.

The test is comparable to the analogue DIN VDE 0281 Part 2.

ACC. 4G L.5 mt.
SPEED 400 m/min

100 mm.
ROT. ANG. ± 13
 \varnothing 5/50 mm.

DRIVEConn® MT OCT cables

HYBRID

SERVO

DRIVECONN MT OCT is the family we developed back in 2015 that comprises all the **One Cable Technology** solutions. At the beginning we treated them as Custom solution, then when we saw their increase we decided to create a specific series of products.

Since then this family has grown up sensibly. Now we call it **HYBRID SERVO** as it has become a more common term of reference.

TRADEMARKS

- ⊙ Siemens 6FX5002..., Siemens 6FX8002... are registered trademarks of SIEMENS AG and are to be used only for purposes of comparison.
- ⊙ IndraDyn... are registered trademarks of BOSCH REXROTH AG and are to be used only for purposes of comparison.
- ⊙ SEW Eurodrive Movilink DDI... are registered trademarks of Sew Eurodrive Inc. and are to be used only for purposes of comparison.
- ⊙ SICK HIPERFACE DSL ... are registered trademarks of SICK AG and are to be used only for purposes of comparison.
- ⊙ B&R ACOPOS... are registered trademarks of Bernecker + Reiner Industrie Elektronik GmbH and are to be used only for purposes of comparison.
- ⊙ Heidenhain EnDAT 2.2 ... are registered trademarks of Dr. Johannes Heidenhain GmbH and are to be used only for purposes of comparison.
- ⊙ Heidenhain HMC6... are registered trademarks of Dr. Johannes Heidenhain GmbH and are to be used only for purposes of comparison.

The DRIVEConn MT OCT family includes

- **SICK HYPERFACE® DSL**
- **SIEMENS MOTION CONNECT® S120**
- **HEIDENHAIN EnDAT® 2.2 HMC6**
- **B&R OCT ACOPOS® servo drives**
- **BOSCH REXROTH IndraDyn® S**
- **SEW-EURODRIVE MOVILINK® DDI**

Sideways we develop wealth of custom solutions that share the same technology background.

Performance


LEVELS

ALL OUR PRODUCTS have been developed and designed to meet the most wide installation options.

For this reason and in order to help our customers decide the best suitable one, we have created three main LEVEL OF PERFORMANCE. These levels differs slightly but sensibly according material, layup and other technicalities with the intention to provide the correct cable solution according the need.

BASIC Performance

BP




Cables for fixed laying or for applications with infrequent movements and bends. Anti-oil PVC sheath, fire retardant and able to withstand the main industrial oils. They are suitable for installation even in wet or humid environments. The cables are standard UL / CSA and - where reported - UL LISTED.

- Static: -30° C / +80° C
- 10 x O.D.
- 180 m/min
- 2.0 m/sec²
- 200.00 Cycles
- ANTI-OIL PVC
- VDE 0281 Part 1, VDE 0472 Sect. 803 B, UL Oil Res I
- UL VW1, IEC 60332-1-2, EN 50265-2-1

DYNAMIC Performance

DP




Cables for mobile laying for energy chains suitable for control and control systems used for machine tools. Anti-oil PVC sheath, fire retardant and able to withstand the main industrial oils. They are suitable for installation even in wet or humid environments. The cables are at standard UL / CSA and - where indicated - UL LISTED.

- Static: -25° C / +80° C Dynamic: -40° C / +80° C
- 6,5 x O.D.
- 300 m/min
- 20 m/sec²
- 5.000.000 Cycles
- ANTI-OIL PVC
- VDE 0281 Part 1, VDE 0472 Sect. 803 B, UL Oil Res I
- UL VW1, IEC 60332-1-2, EN 50265-2-1

HIGH Performance

HP



Cables for laying on cable drag chains and high performance systems. Halogen-free PUR sheath, fire retardant and able to withstand the main industrial oils, high mechanical stress, cuts and abrasions. They are suitable for installation even in wet or humid environments. The cables are UL / CSA standard and silicon free.

- Static: -40° C / +80° C Dynamic: -50° C / +80° C
- 6,5 x O.D.
- 600 m/min
- 60 m/sec²
- 10.000.000 Cycles
- PUR - HALOGEN FREE
- VDE 0281 Part 1, VDE 0472 Sect. 803 B, UL Oil Res I
- UL VW1, IEC 60332-1-2, EN 50265-2-1

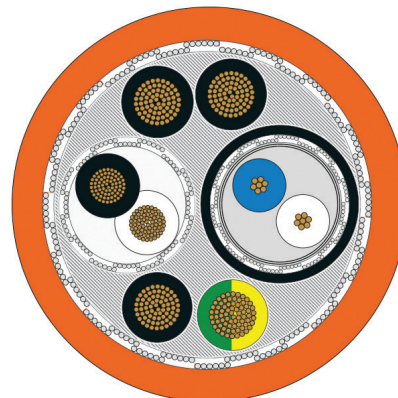
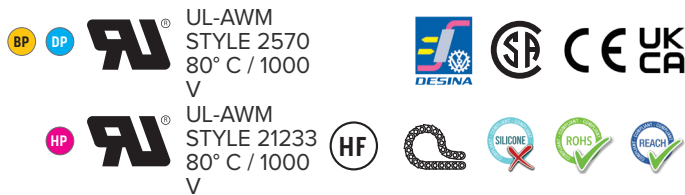
Acc.to SICK® standard
HYBRID SERVO
HYPERFACE DSL®

SICK has been the leader of this technology since 2012.
 The HYPERFACE DSL has been the first Hybrid Servo cables
 MotionCables has produced since the beginning.

Different tests have been performed on our cable solution, giving
 extremely good results. For example the dual shield solution has
 been tested for noise reduction up to 4,5 kV @ 10 MHz.

CONSTRUCTION FEATURES

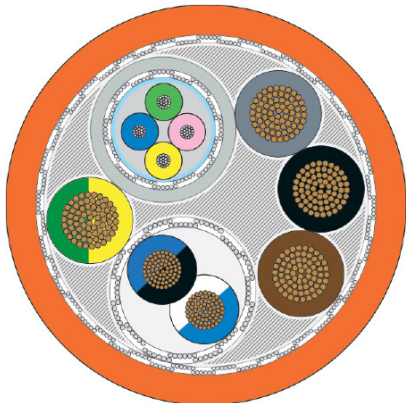
DSL 100 Ohm	Conductor	Flexible Tinned Copper
	Insulation	Polyolefin - Blue/White
	Shield	Tinned Copper Wire Braid O.C. ≥ 85%
CONTROL ELEMENTS	Inner Sheath	Thermoplastic Compound - Black
	Conductor	Flexible BP DP Extra Flexible Bare Copper HP
	Insulation	Special Polypropylene: white/black
POWER	Tape	Non Woven Tape
	Shield	Tinned Copper Wire Braid O.C. ≥ 85%
	Tape	Non-Woven Tape
TOTAL	Conductor	Flexible BP DP Extra Flexible Bare Copper HP
	Insulation (control)	Special PP - U/ V/ W + YG
	Overall shield	Tinned Copper Wire Braid O.C. ≥ 85%
	Separator	Easy strip-away tape
	Outer Sheath	Anti Oil PVC BP DP PUR HP
	Colour	Orange - RAL 2003



MotionCables Part. No.	# cores	Construction & Outersheath Colour	CU kg/km	Diam mm.
HFSI17G08UR-A	8	[4G1.0+(2x0.75)+(2x22AWG)]	125	12,5
HFSI15G08UR-A	8	[4G1.5+(2x1.0)+(2x22AWG)]	160	13,2
HFSI13G08UR-A	8	[4G2.5+(2x1.0)+(2x22AWG)]	200	14,5
HFSI11G08UR-A	8	[4G4+(2x1.5)+(2x22AWG)]	285	16,3
HFSI09G08UR-A	8	[4G6+(2x1.5)+(2x22AWG)]	380	18,0
HFSI07G08UR-A	8	[4G10+(2x1.5)+(2x22AWG)]	538	21,3
HDSI17G08UR-A	8	[4G1.0+(2x0.75)+(2x22AWG)]	125	12,5
HDSI15G08UR-A	8	[4G1.5+(2x1.0)+(2x22AWG)]	160	13,2
HDSI13G08UR-A	8	[4G2.5+(2x1.0)+(2x22AWG)]	200	14,5
HDSI11G08UR-A	8	[4G4+(2x1.5)+(2x22AWG)]	285	16,3
HDSI09G08UR-A	8	[4G6+(2x1.5)+(2x22AWG)]	380	18,0
HDSI07G08UR-A	8	[4G10+(2x1.5)+(2x22AWG)]	538	21,3
HDSI17G08UP-A	8	[4G1.0+(2x0.75)+(2x22AWG)]	125	12,5
HDSI15G08UP-A	8	[4G1.5+(2x1.0)+(2x22AWG)]	160	13,2
HDSI13G08UP-A	8	[4G2.5+(2x1.0)+(2x22AWG)]	200	14,5
HDSI11G08UP-A	8	[4G4+(2x1.5)+(2x22AWG)]	285	16,3
HDSI09G08UP-A	8	[4G6+(2x1.5)+(2x22AWG)]	380	18,0
HDSI07G08UP-A	8	[4G10+(2x1.5)+(2x22AWG)]	538	21,3

BP DP  UL-AWM
STYLE 2570
80° C / 1000
V

HP  UL-AWM
STYLE 21233
80° C / 1000
V



Acc.to SIEMENS® standard HYBRID SERVO SIEMENS S210®

SINAMICS S120 drives include high-performance single drives and coordinated drives (multiple-axis applications) with vector or servo functionalities that allow implementation of customized high performance drive solutions for the ultimate in flexibility and increased productivity.

MotionCables Hybrid Servo cables has been developed to cope with the technical demands that this modular system requires.

CONSTRUCTION FEATURES

Conductor

Extra Flexible Tinned Copper

Insulation

Special Polypropylene - Green, Pink, Yellow, Blue

Tape

Non-Woven Tape

1st Shield

ALU/PET Tape

2nd Shield

Tinned Copper Wire Braid O.C. ≥ 85%

Inner Sheath

Polyolefyn, colour White

Conductor

 Flexible  Extra Flexible Bare Copper


Insulation

Special PP: White/Turquoise - Black/Turquoise

Shield

Tinned Copper Wire Braid O.C. ≥ 85%

Conductor

 Flexible  Extra Flexible Bare Copper

Insulation (control)

Special PP - Gray, Black, Brown, Yellow/Green

Separator

Non-Woven Tape



Overall shield

Tinned Copper Wire Braid O.C. ≥ 85%

Separator

Non-Woven Tape

Outer Sheath

 Anti-oil PVC  PUR

Colour

Orange - RAL 2003

MotionCables Part. No.	OEM Code	Construction & Outersheath Colour	CU kg/km	Diam mm.
HFSSI22Z10UR-A	6FX5002-8QN04-1	[4G0.38+(2x0.38)+(4x0,20)]	79	9.5
HFSSI19Z10UR-A	6FX5002-8QN08-1	[4G0.75+(2x0.50)+(4x0,20)]	105	10.4
HFSSI15Z10UR-A	6FX5002-8QN11-1	[4G1.50+(2x1.50)+(4x0,20)]	162	12.3
HFSSI13Z10UR-A	6FX5002-8QN21-1	[4G2.50+(2x1.50)+(4x0,20)]	214	13.3
HDSSI22Z10UP-A	6FX8002-8QN04-1	[4G0.38+(2x0.38)+(4x0,20)]	79	9,5
HDSSI19Z10UP-A	6FX8002-8QN08-1	[4G0.75+(2x0.50)+(4x0,20)]	105	10.4
HDSSI15Z10UP-A	6FX8002-8QN11-1	[4G1.50+(2x1.50)+(4x0,20)]	162	12.3
HDSSI13Z10UP-A	6FX8002-8QN21-1	[4G2.50+(2x1.50)+(4x0,20)]	214	13.3

DATA

CONTROL

POWER

TOTAL

Acc.to HEIDENHAIN® standard HYBRID SERVO HMC 6®

HEIDENHAIN has integrated the encoder wires into the power cable. Thus, now only a single cable is needed between the motor and electrical cabinet. The HMC 6 single-cable solution was specifically designed for the HEIDENHAIN EnDat22 interface with purely serial data transmission at a cable length of up to 100 m.s.

MotionCables's Hybrid Servo solutions developed according to HMC 6 are suitable with all HEIDENHAIN encoders that are equipped with the EnDat22 interface .

CONSTRUCTION FEATURES

HMC6

Conductor
Extra Flexible Tinned Copper

Insulation
Polyolefin:
Grey/Pink, Brown-Green, Violet/Yellow
White-Green

1st Shield
ALU/PET Tape

2nd Shield
Tinned Copper Wire Braid O.C. ≥ 85%

POWER

Conductor
Extra Flexible Bare Copper

Insulation
Polyolefin: Black, Blue, Brown

Shield
Tinned Copper Wire Braid O.C. ≥ 85%

Tape
Polyester Tape

BRAKE

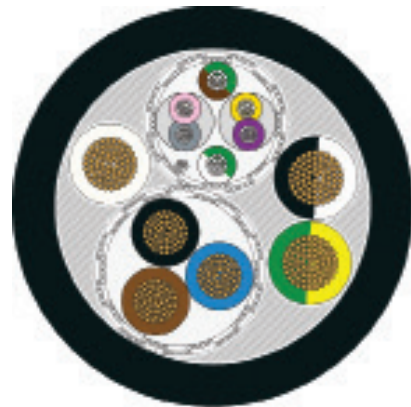
Conductor
Extra Flexible Bare Copper

Insulation
Polyolefin - White, White/Black

TOTAL

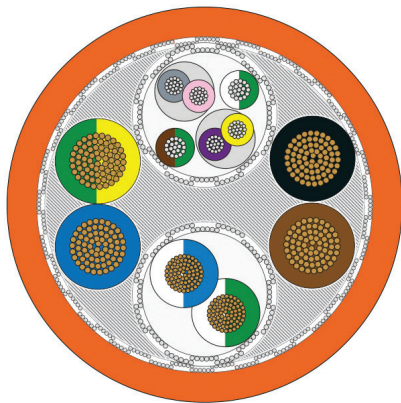
Outer Sheath
DP Anti-oil PVC **HP** PUR

Colour
Black - RAL 9005



MotionCables Part. No.	# cores	Construction & Outersheath Colour	CU kg/km	Diam mm.
HDS15G12UR-N	12	(3x1.5)+1x1.5+2x1+(2x0.30+4x0.09)	86	12,5
HDS13G12UR-N	12	(3x2.5)+1x2.5+2x1+(2x0.30+4x0.09)	113	14,2
HDS11G12UR-N	12	(3x4)+1x4+2x1+(2x0.30+4x0.09)	150	16.5
HDS15G12UP-N	12	(3x1.5)+1x1.5+2x1+(2x0.30+4x0.09)	86	12,5
HDS13G12UP-N	12	(3x2.5)+1x2.5+2x1+(2x0.30+4x0.09)	113	14,2
HDS11G12UP-N	12	(3x4)+1x4+2x1+(2x0.30+4x0.09)	150	16.5

 **UL**[®] UL-AWM
 STYLE 2570
 80° C / 1000
 V
 **UL**[®] UL-AWM
 STYLE 21233
 80° C / 1000
 V



MotionCables Part. No.	# cores	Construction & Outersheath Colour	CU kg/km	Diam mm.
HDSH15G12UR-A	12	[4G1.5+(2x0.75)+(2x0.30+2x2x0.15)]	165	13,0
HDSH13G12UR-A	12	[4G2.5+(2x0.75)+(2x0.30+2x2x0.15)]	210	14,2
HDSH11G12UR-A	12	[4G4+(2x1.0)+(2x0.30+2x2x0.15)]	285	16,5
HDSH15G12UP-A	12	[4G1.5+(2x0.75)+(2x0.30+2x2x0.15)]	165	13,0
HDSH13G12UP-A	12	[4G2.5+(2x0.75)+(2x0.30+2x2x0.15)]	210	14,2
HDSH11G12UP-A	12	[4G4+(2x1.0)+(2x0.30+2x2x0.15)]	285	16,5

Acc.to B&R[®] standard

HYBRID SERVO

ACOPOS[®]

Hybrid Servo solutions developed to be used with B&R[®] single-cable technology Assembled specifically for use with ACOPOS[®] servo drives 8V1180/... and B&R servo motors with option "Single-cable solution (hybrid)".

MotionCable's Hybrid Servo solutions developed according to ACOPOS[®] parameters are suitable with all B&R encoders that are equipped with this interface.

CONSTRUCTION FEATURES

Conductor

Flexible Tinned Copper

Insulation

Polyolefin:
Grey/Pink, Brown-Green, Violet/Yellow White-Green

1st Shield

ALU/PET Tape overlap ≥ 25%

Drain Wire

Tinned Copper Drain Wire, section (19x0.15 mm)

2nd Shield

Tinned Copper Wire Braid O.C. ≥ 85%

Tape

Polyester Tape overlap ≥ 25%

Conductor

Extra Flexible Bare Copper

Insulation

Special Polypropylene: White/Green, White/Blue

Shield

Tinned Copper Wire Braid O.C. ≥ 85%

Conductor

Extra Flexible Bare Copper

Insulation

Special Polypropylene: Black, Blue, Brown, Y/G

Overall shield

Tinned Copper Wire Braid O.C. ≥ 85%

Separator

Easy strip-away tape

Outer Sheath

 Anti-oil PVC  PUR

Colour

Orange - RAL 2003

ENDAT 2.2

CONTROL

POWER

TOTAL

Acc.to BOSCH® standard

HYBRID SERVO INDRADYN S®

Bosch Rexroth's range of synchronous servo motors deliver precise positioning, speed and torque control for efficient and modern machine automation applications.

MotionCables Hybrid Servo cable cope with Bosch requirements and can be used for installation that use this synchronous servo motors range, IndraDYN S.

CONSTRUCTION FEATURES



DATA

Conductor

Extra Flexible Bare Copper

Insulation

Polyolefin - Blue, Yellow, White, Orange

Tape

Non Woven Tape

1st Shield

ALU/PET Tape

2nd Shield

Tinned Copper Wire Braid O.C. ≥ 85%

Inner Sheath

Thermoplastic Compound - Black

CONTROL ELEMENTS

Conductor

Extra Flexible Bare Copper

Insulation

Special Polypropylene: Red, Blue

1st Shielded

ALU/PET Tape

Shield

Tinned Copper Wire Braid O.C. ≥ 85%

POWER

Conductor

Extra Flexible Bare Copper

Insulation (control)

Special PP - Black, Brown, Grey + YG

Overall shield

Tinned Copper Wire Braid O.C. ≥ 85%

Separator

Easy strip-away tape

Outer Sheath

PUR

Colour

Orange - RAL 2003

TOTAL

MotionCables Part. No.	# cores	Construction & Outersheath Colour	CU kg / km	Diam mm.
HDSBR19Z10UP-A	10	[4G0.75+(2x0.50)+(4x24AWG)]	139	11.8
HDSBR15Z10UP-A	10	[4G1.5+(2x0.75)+(4x24AWG)]	148	13.0



Acc.to SEW-EURODRIVE® standard HYBRID SERVO MOVILINK DDI®

Hybrid Servo solutions developed according to SEW-EURODRIVE® MOVILINK DDI. Single-cable technology is the basis for continuous, uninterrupted power and data exchange. On a technological level, this means that regardless of the size of your system, a single hybrid cable is sufficient to supply the motor and establish communication with the frequency inverter.

In practise, this also means cost and time savings during installation. The particularly robust and powerful design of the coaxial cable enables compact installation without space problems

CONSTRUCTION FEATURES

Conductor

Flexible Tinned Copper

Insulation

Polyolefin - Natural

Shield

Tinned Copper Wire Braid O.C. ≥ 85%

Inner Sheath

Thermoplastic Compound - Violet

Conductor

Extra Flexible Bare Copper

Insulation

Special Polypropylene:

1st pair: pink/violet

2nd pair: yellow/orange

Tape

Non Woven Tape

Shield

Tinned Copper Wire Braid O.C. ≥ 85%

Tape

Non-Woven Tape

Conductor

Extra Flexible Bare Copper

Insulation

Special PP - U/ V/ W + YG

Overall shield

Tinned Copper Wire Braid O.C. ≥ 85%

Separator

Easy strip-away tape

Outer Sheath

PUR

Colour

Orange - RAL 2003

MotionCables Part. No.	# cores	Construction & Outersheath Colour	CU kg/km	Diam mm.
HDSS15G09UP-A	9	[4G1.5+2x(2x1.0) +1 Coax RG58]	198	15.7
HDSS13G09UP-A	9	[4G2.5+2x(2x1.0) +1 Coax RG58]	236	16.7
HDSS11G09UP-A	9	[4G4.0+2x(2x1.0) +1 Coax RG58]	302	17.0
HDSS09G09UP-A	9	[4G6.0+2x(2x1.5) +1 Coax RG58]	410	19.7
HDSS07G09UP-A	9	[4G10+2x(2x1.5) +1 Coax RG58]	605	22.1

DATA COAX RG58

CONTROL ELEMENTS 2 x (2 x sect.)

POWER

TOTAL



not only logistic

MOTION SERVICE

Customer's care is the other side of MotionCables way of working. We consolidate partnership and daily work through a constant interconnection between customers



QUICK ANSWER

MotionCables team react quickly either for sales or technical questions.



AVAILABILITY

MotionCables stockyard provide proper flexibility and prompt reaction in delivery time.



TYPES AND RANGES

MotionCables offer a wide range of cables that can satisfy the need and suitability according application.



QUALITY OVER TIME

MotionCables is committed to comply with applicable laws and other legal requirements.



INTERNATIONAL STANDARDS

MotionCables has been granted with the most diffused standards that allow to work in every market.

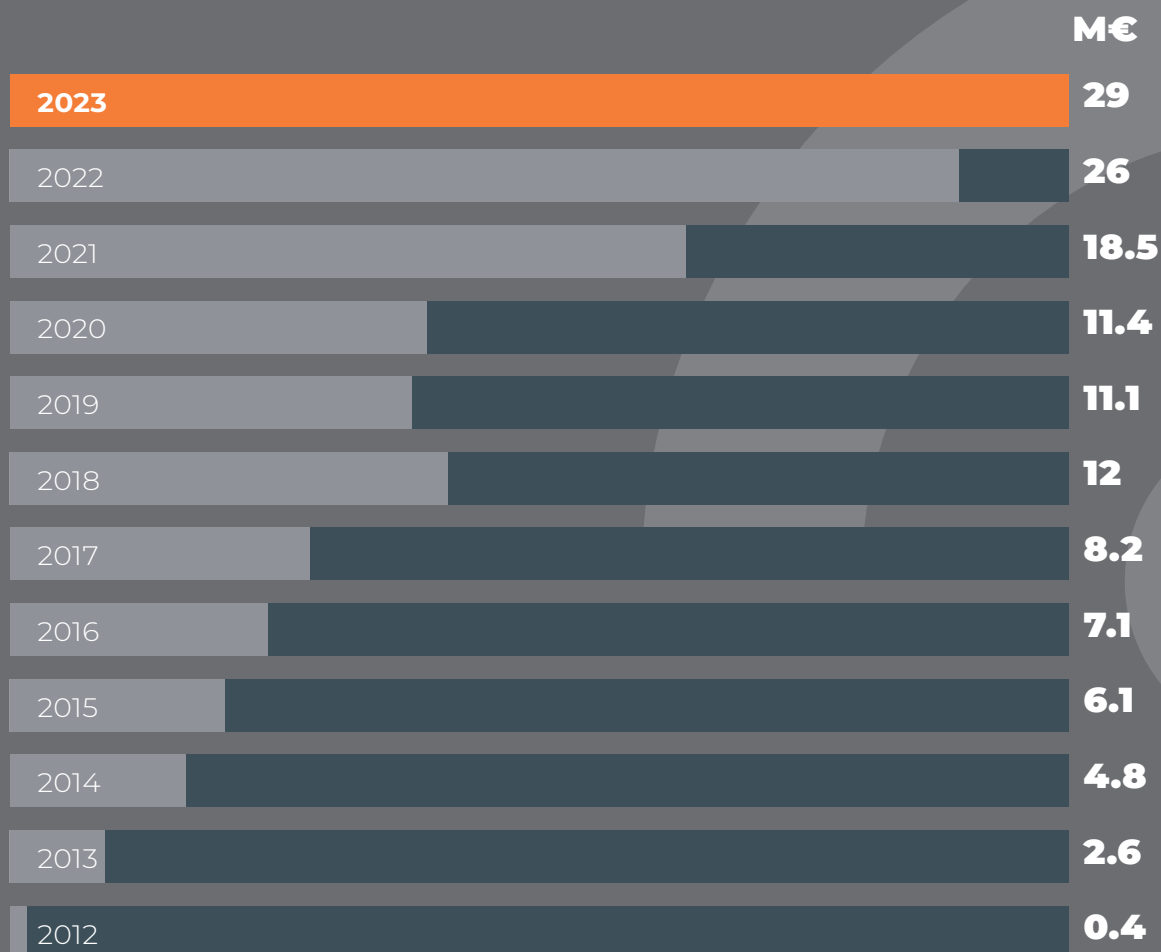


INNOVATION

MotionCables continuously operate to improve existing products and propose new solutions.

constantly growing

MOTION IN NUMBERS



IN THESE YEARS WE HAVE EXPERIENCED CONSTANT GROWTH, WHICH PROVES THAT OUR PATH IS THE RIGHT ONE. OUR FIGURES SPEAK A CLEAR LANGUAGE.

Table of Recognized Styles

ic insulation.			
14	1477	1642	1957
16	1478	1643	1967
17	1479	1644	1968
18	1480	1645	1970
19	1483	1646	1988
1320	1493	1647	1989
1321	1495	1649	1990
1325	1497	1650	1997
1326	1498	1659	1999
1327	1499	1662	10002
1328	1500	1663	10009
1330	1506	1670	10012
1331	1507	1671	10025
1332	1508	1674	10029
1333	1509	1686	10036
1341	1511	1687	10042
1344	1513	1688	10049
1345	1516	1689	10051
1346	1517	1692	10056
1347	1518	1707	10057
1348	1519	1708	10059
1349	1520	1709	10061
1350	1521	1710	10062
1351	1522	1716	10063
1352	1523	1726	10064
1353	1534	1727	10065
1354	1536	1729	10066
1365	1538	1730	10067
1366	1541	1731	10068
1545	1758		10069
1545			10070
1545			10071
1545			10072
1545			10073
1545			10074
1545			10075
1545			10076
1545			10077
1545			10078
1545			10079
1545			10080
1545			10081
1545			10082
1545			10083
1545			10084
1545			10085
1545			10086
1545			10087
1545			10088
1545			10089
1545			10090
1545			10091
1545			10092
1545			10093
1545			10094
1545			10095
1545			10096
1545			10097
1545			10098
1545			10099
1545			10100
1545			10101
1545			10102
1545			10103
1545			10104
1545			10105
1545			10106
1545			10107
1545			10108
1545			10109
1545			10110
1545			10111
1545			10112
1545			10113
1545			10114
1545			10115
1545			10116
1545			10117
1545			10118
1545			10119
1545			10120
1545			10121
1545			10122
1545			10123
1545			10124
1545			10125
1545			10126
1545			10127

international approvals

MOTION PAPERS

Approvals demonstrate a company's commitment to be reliable and defensible in terms of quality and production. Regular audits confirm and validate our efforts.

MOTIONCABLES is continuously strive to gain further approvals in order to support our customers with the latest utmost releases.

Up to now, **MotionCables** has been approved for:

-  AWM for CANADA
AVLV8.E356538
-  TRAY CABLES
E467918
-  POWER CONTROL TRAY CANADA
QPOR7.E467818
-  MACHINE TOOLS WIRE
E467624
-  THERMOPLASTIC INSULATED WIRE
E467625
-  THERMOPLASTIC INSULATED WIRE CANADA
ZLGR7.467625

Actually **MotionCables** has completed the 120° C, the 90° C and PLTC approvals and we are completing the last steps to obtain the Lloyd Register for Naval installation.

international approvals

MOTION CERTIFIED

MOTIONCABLES has been certified according to:

DIN EN ISO 9001:2015

DIN EN ISO 14001:2015

DIN EN ISO 45001:2018

A further confirmation that quality is written in capital letters at **MotionCables**. Our certifications are the point of arrival of a process we started far beyond certifications themselves.

Producing, in these days, is not only a matter of raw material transformation, but it means to be sustainable and keep our planet safer and protected. **MotionCables** has adopted a series of activities fro been sustainable, from using certified green electricity, and properly handle scrapes and difficult material.



further improvement

120° C 300V

90° C 1000 V

PLTC

LLOYD REGISTER NAVAL



our values

MOTION VALUES

Quality and service are not enough when it comes to our perspective. There are other important values and a code of conduct to take care.



ADHERENCE TO LAWS

MotionCables is committed to comply with applicable laws and other legal requirements.



INTEGRITY AND GOVERNANCE

MotionCables is committed to comply with applicable laws and other legal requirements.



RESPECT FOR PRIVACY

MotionCables is committed to comply with applicable laws and other legal requirements.



HEALTH AND SAFETY

MotionCables is committed to comply with applicable laws and other legal requirements.



HUMAN RIGHTS

MotionCables is committed to promoting human rights respect as from the Charter of Nationals.



ENVIRONMENT

MotionCables meets the requirements and standards for environmental protection and acts in friendly manner.



IMPLEMENTATION

MotionCables will make all appropriate and reasonable effort to implement values described herewith.



CONTINUOUS UPDATING

MotionCables instructs the functions to maintain continuous updates on laws and regulations in force.

ITALY

AGENCAVI srl
Via Marconi, 4
20060 Liscate (MI)

Tel.: +39 95344550
Email: info@agencavi.it

FRANCE

I.C. AUTOMATION
69 Rue Des Caillottiers
69655 Villefranche sur Saône

Tel.: +33 0474072860
Email: contact@ic-automation.fr

DEUTSCHLAND

Herr THOMAS PIKKEMAAT
Holzäckerstrasse 4
91353 Hausen

Mob.: +49 174 8952504
Email: thomas.pikkemaat@motioncables.com

FINLAND

TAMPEREEN SÄHKÖPALVELU OY
Lentokentänkatu 9 b
FI 33900 Tampere

Tel.: +358 32525 111
Email: tsp@tsp.fi

CHINA

MUXUN SPECIAL WIRE & CABLES
SHANGAI Co. Ltd
Room 205, Block A, No. 399
Zhongren Road - Jiading District
Shanghai

Tel.: +86 021.58876870
Email: info@motioncables.com.cn



BRASIL

EUROCABOS
Av. Parapanema, 121
Taboão Diadema - SP - CEP
09930-450

Tel.: +11 4092-9292
Email: euocabos@euocabos.com.br

TAIWAN

HESHENG HARDWARE CO. LTD
No 66-6, Sec.5
Huazhong Rd. Nantun Dist.
Taichung City 408003

Tel.: +886 4.24790000
Email: sales@hesengcables.com.tw

MOTION WORLD



MOTION**CABLES** Srl
Via Guido Rossa 8/12
20066 Melzo (MI) - ITALY
T. +39.02.94652630
E. sales@motioncables.com
W. <https://www.motioncables.com>

DEUTSCHLAND
Herr Thomas Pikkemaat
Holzäckerstrasse 4
91353 Hausen
M: +49 174 8952504
E. thomas.pikkemaat@motioncables.com