

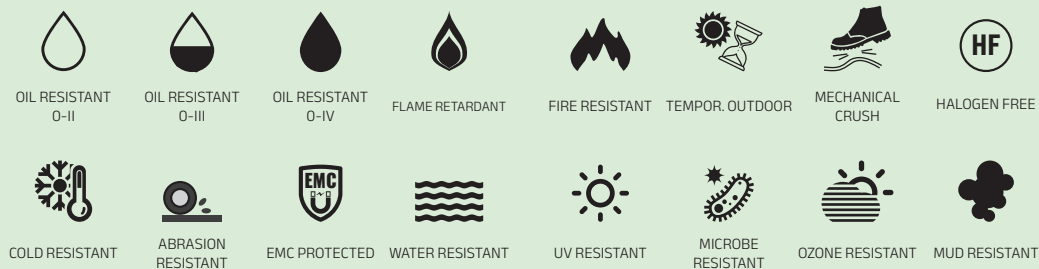
MOTION**FEEDBACK**

CABLE SOLUTIONS FOR FEEDBACK, ENCODERS AND RESOLVERS

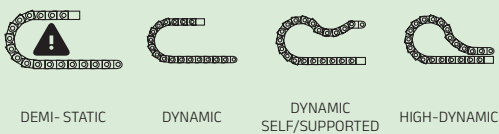
ICONS

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

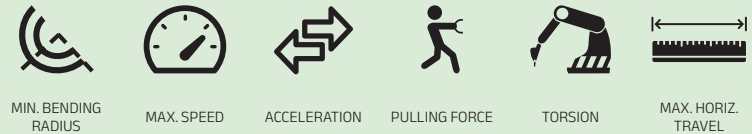
RESISTANCE TO ENVIRONMENTAL AND AGGRESSIVE CHEMICAL THREATS



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**FEEDBACK**

MOTION**SERVO LCX**

MOTION**HYBRID**

MOTIONFEEDBACK

CABLES FOR FEEDBACK, ENCODERS, AND RESOLVERS – STATIC AND DYNAMIC VERSIONS, SHIELDED AND UNSHIELDED

In the world of smart automation, precision is everything. MOTIONFEEDBACK cables are engineered for the transmission of control and positioning signals for servomotors, incremental encoders, and resolvers, ensuring reliability, signal stability, and EMC compatibility even in industrial environments subjected to high mechanical stresses.

Used for connecting encoders, resolvers, brakes, and pulse generators, these cables guarantee stable and secure data transfer even in applications with high clock frequencies and continuous dynamic cycles, such as robotics, machine tools, and automated lines.

All MOTIONFEEDBACK cables are manufactured in compliance with CE, UL/CSA, and DESINA standards.

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

TECHNICAL BENEFIT OF THE MOTIONFEEDBACK FAMILY

- Precise and stable transmission of encoder/resolver signals
- Excellent EMC shielding and noise immunity
- High-performance materials for intensive dynamic cycles
- DESINA®, CE, UL, CSA compliance
- Shielded and unshielded versions for every requirement
- Cables free from cadmium, silicones, and harmful substances
- Superior mechanical lifespan in severe dynamic environments

ELECTRICAL & MATERIAL SPECIFICATIONS

CHARACTERISTIC	TECHNICAL SPECIFICATION
Conductors	Bare or tinned copper, extra-flexible
Insulation	Special PP (Polypropylene) – low capacitance, excellent electrical stability
Core Identification	According to manufacturer's standard or standard encoder/resolver coding
Shielding	Tinned copper braid with $\leq 85\%$ coverage + optional polyester tape
Outer Jacket	PVC TM5 (DP series) or PUR FRHF (HP series) – standard colour Green RAL 6018, Orange RAL 2003
Certifications	CE, UL/CSA, DESINA®, RoHS – cadmium and silicone-free materials
Nominal Voltage	300V
Operating Temperature	-30 °C / +80 °C (PVC); -50 °C / +80 °C (PUR FRHF)
Minimum Bending Radius (DP)	6.5 × Outer Diameter
Oil Resistance	IEC 60811-2-1, Oil Res I & II
Minimum Bending Radius (HP)	Down to 7.5 × Outer Diameter

MAIN CHARACTERISTICS

Function	Performance
Low Parasitic Capacitance (PP)	Precise transmission of pulse signals, even over long distances
High EMC Shielding (85%)	Protection from electromagnetic interference, signal stability
Mechanical Flexibility	Ideal for installation in cable carriers and dynamic applications
Chemical and Mechanical Resistance (PUR)	High resistance to oils, UV, hydrolysis, coolants, and abrasion
Eco-friendly Materials	Halogen-free, silicone-free, and substances non-harmful to paint wetting impairment
DESINA® Conformity	Compatibility with European industrial wiring standards

APPLICATION EXAMPLES

- Industrial Automation and Robotics.
- Machine Tools and CNC Systems.
- Incremental Encoders and Absolute Resolvers.
- Positioning Systems and Axis Control.
- Packaging, Logistics, and Automated Handling.
- Applications in Cable Carriers and Collaborative Robots (Cobots).

MOTION**FEEDBACK** – the range of cables for feedback, encoders, and resolvers engineered for maximum signal precision and mechanical durability in the static and dynamic applications of modern industrial automation.

CABLES TYPES



**DYNAMIC PERFORMANCE
ENCODER**

**PVC
TM5**

**30 ÷
300 V**

**-30 °C
+80 °C**

58



**HIGH DYNAMIC PERFORMANCE
ENCODER**

**PUR
FRHF**

**30 ÷
300 V**

**-50 °C
+80 °C**

62



**DYNAMIC PERFORMANCE RESOLVER
DYNAMIC PERFORMANCE RESOLVER SH**

**PVC
TM5**

**30 ÷
300 V**

**-30 °C
+80 °C**

**66
68**



**HIGH DYNAMIC PERFORMANCE RESOLVER
HIGH DYNAMIC PERFORMANCE RESOLVER SH**

**PUR
FRHF**

**30 ÷
300 V**

**-50 °C
+80 °C**

**70
72**



UL 20293
80 °C -30V
UL 2464
80 °C -300V



AWM I/II A/B
80 °C - 30V
AWM I/II A/B
80 °C - 300V



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

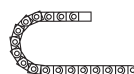
MAX. HORIZ. TRAVEL

DURABILITY IN MECHANICAL & THERMAL CONDITIONS

ELECTRICAL PROPERTIES

CYCLES

m.u.



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/s²

2,0

20

5

PULLING FORCE

N/mm²

≤ 50

≤ 20

≤ 20

TORSION

°/m

-

± 30

± 30

MAX. HORIZONTAL TRAVEL

m

-

15

30

TEMPERATURE

°C

-30 / +80

-5 / +80

-5 / +80



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

30 ÷ 300 V (UL/CSA)

RESISTANCE TO ENVIRONMENTAL AND AGGRESSIVE CHEMICAL THREATS



OIL RESISTANT



FLAME RETARDANT



WATER RESISTANT



EMC PROTECTED



TEMPOR. OUTDOOR



MECHANICAL CRUSH

MAIN ADVANTAGES

Extra-Flexible Bare or Tinned Copper Conductors

High mechanical service life even with repeated bending

Low-Capacitance Polypropylene (PP) Insulation

Stable signal transmission, minimal dispersion, and interference

Copper Braid Shielding ≥85%

Excellent EMC protection and noise immunity

Flexible PVC TM5 Outer Jacket

Optimal balance between mechanical resistance and flexibility

Structure Optimized for Cable Carriers

Reliability in continuous motion cycles and dynamic installations

CE, UL/CSA, and DESINA® Certifications

Compliance with major international standards

Low Parasitic Capacitance

Clean transmission of high-frequency signals for encoders and resolvers

Cadmium, Silicone, and Halogen-Free Materials

Safety and compatibility with sensitive environments and industrial painting

MotionCables Code	EPlan Code	OEM Code	Formation	∅	Cu	DATA SHEET
			mm ²	mm	kg/km	
EFS24X04UR-G 	MC.224042427	1DC00	(2x2x0.22)	7.0	83	
EDS22X06UR-VE 	MC.224062222	2DC00	(2x2x0.22+1x2x0.34)	7.2	38	
EDS25P08UR-VE 	MC.224082622	1BD11	(8x2x0.18)	7.8	52	
EDS21X12UR-VE 	MC.224122222	1BD21	(4x2x0.38+4x0.50)	8.9	80	
EDSI21X12UR-VE 	MC.224122221	1BD41	[3x(2x0.14)+4x0.14+2x0.50]	8.8	69	
EDS21X16UR-VE 	MC.224162222	1BD51	[3x(2x0.14)+4x0.14+2x0.50+4x0.22]	9.4	84	
EDS25X08UR-VE 	MC.224082622	1BD61	(4x2x0.18)	6.4	34	
EDS25P02UR-VE 	MC.224042622	1BD71	(2x2x0.18)	5.0	21	
EDS24X12UR-VE 	MC.224122422	1BD81	(12x0.22)	6.9	48	

MotionCables Code	EPlan Code	OEM Code	Formation	∅	Cu	DATA SHEET
			mm ²	mm	kg/km	
EDS17X10UR-A 	MC.225101722	INK 0209	(4x2x0.25+2x1.0)	8.8	74	
EDS21X10UR-A 	MC.225102222	INK 0448	(4x2x0.25+2x0.50)	8.5	70	
EDSI21X09UR-A 	MC.225092222	INK 0208	(9x0.50)	8.8	75	
EDSI17X16UR-A 	MC.225161722	INK 0532	[4x1.0+4x2x0.14+(4x0.14)]	9.7	81	

MotionCables Code	EPlan Code	OEM Code	Formation	∅	Cu	DATA SHEET
			mm ²	mm	kg/km	
EDSF21X07UR-VE 	MC.227072122		(1x2x0.18+5x0.50)	7.8	45	
EDSF21X09UR-VE 	MC.227092122		(2x2x0.18+5x0.50)	7.8	47	
EDSF21X12UR-VE 	MC.227122122		(3x2x0.18+6x0.50)	8.7	77	
EDSF17X12UR-VE 	MC.227121722		(3x2x0.18+6x1.0)	8.7	88	
EDSF21X16UR-VE 	MC.227162122		(5x2x0.18+6x0.50)	8.7	84	
EDSF21X10UR-VE 	MC.227102122		(4x2x0.22+2x0.50)	7.6	72	
EDSF24P10UR-VE 	MC.227102422		(10x2x0.22)	9.0	60	
EDSF28P10UR-VE 	MC.227102822		(10x2x28AWG)	6.0	30	

**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).

Acc.TO: **LENZE®**

MotionCables Code	EPlan Code	OEM Code	Formation	∅	Cu	DATA SHEET
			mm ²	mm	kg/km	
 EDSL17Z10UR-VE	● MC.226101722		4x(2x0.14)+(2x1.0)	11.2	68	
EDSL26Z09UR-VE	● MC.226092622		3x(2x0.14)+(3x0.14)	9.2	42	
EDSL21Z14UR-VE	● MC.226142132		3x(2x0.14)+(4x0.14)+2x(2x0.50)	12.0	79	

Acc.TO: **HEIDENHAIN®**

MotionCables Code	EPlan Code	OEM Code	Formation	∅	Cu	DATA SHEET
			mm ²	mm	kg/km	
 EDS21X08UR-VE	● MC.228082122		[3x(2x0.14)+2x(1x0.50)]	8.4	64	
EDSH17X08UR-VE	● MC.228081722		[3x(2x0.14)+2x(1x1.0)]	9.1	69	
EDSH21X12UR-VE	● MC.228122122		(4x2x0.14+4x0.50)	8.5	50	
EDSH21X16UR-VE	● MC.228162122		[4x2x0.14+(4x0.14)+4x0.50]	8.3	58	

Acc.TO: **YASKAWA®**

MotionCables Code	EPlan Code	OEM Code	Formation	∅	Cu	DATA SHEET
			mm ²	mm	kg/km	
 EDS22X09UR-VE	● MC.232092222		(3x2x0.35+3G0.50)	9.0	50	
EDSY22P02UR-VE	● MC.232042222		(2x2x0.34)	7.0	30	
LDS22P03UR-VE	● MC.232062222		(3x2x0.34)	7.5	42	

Acc.TO: **SCHNEIDER-ELAU®**

MotionCables Code	EPlan Code	OEM Code	Formation	∅	Cu	DATA SHEET
			mm ²	mm	kg/km	
 EDS22X08UR-VE	● MC.234082222		(3x2x0.14+2x0.34)	7.0	29	
EDSE21X08UR-VE	● MC.234082122		(3x2x0.25+2x0.50)	8.3	44	

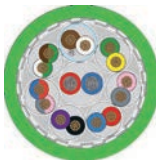
Acc.TO: **OMRON®**

MotionCables Code	EPlan Code	OEM Code	Formation	∅	Cu	DATA SHEET
			mm ²	mm	kg/km	
 EDS21X06UR-VE ● MC.228062122			(2x2x0.25+2x0.50)	6.5	33	
EDS17X06UR-VE ● MC.228061722			(2x2x0.25+2x1.0)	7.6	43	

Acc.TO: **B&R®**

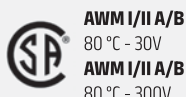
MotionCables Code	EPlan Code	OEM Code	Formation	∅	Cu	DATA SHEET
			mm ²	mm	kg/km	
 EDSP21X12UR-VE ● MC.233122122			(5X2X0.14+2X0.50)	7.8	52	

Acc.TO: **CONTROL-TECHNIQUES®**

MotionCables Code	EPlan Code	OEM Code	Formation	∅	Cu	DATA SHEET
			mm ²	mm	kg/km	
 EDS17X16UR-VE ● MC.230161722			[6x2x0.34+1x(2x0.34)+1x2x1.0]	6.9	48	

Acc.TO: **ROCKWELL®**

MotionCables Code	EPlan Code	OEM Code	Formation	∅	Cu	DATA SHEET
			mm ²	mm	kg/km	
 EDSR22P05UR-VE ● MC.231102222			(5x2x0.35)	8.7	75	



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 / +80	-40 / +80	-40 / +80	-40 / +80

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
Voltage

30 ÷ 300 V (UL/CSA)

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



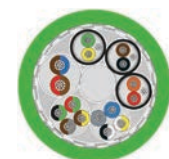
MUD RESISTANT



HALOGEN FREE

MAIN ADVANTAGES

Ultra-Flexible Tinned Copper Conductors	Long service life even in extreme and robotic motion
Technical Ultra-Low Capacitance PP Insulation	High electrical stability and precision in signal transmission
Composite Shielding with Copper Braid and Polyester Tape	Total EMC protection, even in high-frequency systems
PUR FRFH (Halogen-Free Flame Retardant) Jacket	Exceptional resistance to oils, coolants, UV, abrasion, and chemical agents
Structure Optimized for Severe Motion	Consistent performance in intensive dynamic cycles and multi-axis movements
Stable Operation even at Low Temperatures (-50°C)	Flexibility maintained in cold environments or those with thermal variations
Shielded and Unshielded Versions	Solution suitable for any installation requirement or machine layout
Robust and Flexible Construction	Long service life and reduced machine downtime



MotionCables Code	EPlan Code	OEM Code	Formation	∅	Cu	DATA SHEET
			mm ²	mm	kg/km	
EDS22X06UP-VE	● MC.324062232	2DC00 Plus	(2x2x0.22+1x2x0.34)	7.2	38	
EDSL22X06UP-VE	● MC.324062232L	2DC00 Plus	(2x2x0.20+1x2x0.38)	6.9	35	
EDS25P08UP-VE	● MC.324162632	1BD11	(8x2x0.18)	7.8	52	
EDS21X12UP-VE	● MC.324122232	1BD21	(4x2x0.38+4x0.50)	8.9	80	
EDSI21X12UP-VE	● MC.324122232	1BD41	[3x(2x0.14)+4x0.14+2x0.50]	8.8	69	
EDS21X16UP-VE	● MC.324162232	1BD51	[3x(2x0.14)+4x0.14+2x0.50+4x0.22]	9.4	84	
EDS25X08UP-VE	● MC.324082632	1BD61	(4x2x0.18)	6.4	34	
EDS25P02UP-VE	● MC.324042632	1BD71	(2x2x0.18)	5.0	21	
EDS24X12UP-VE	● MC.324122432	1BD81	(12x0.22)	6.9	48	



MotionCables Code	EPlan Code	OEM Code	Formation	∅	Cu	DATA SHEET
			mm ²	mm	kg/km	
EDS17X10UP-A	● MC.325101732	INK 0209	(4x2x0.25+2x1.0)	8.8	74	
EDS21X10UP-A	● MC.325103232	INK 0448	(4x2x0.25+2x0.50)	8.5	70	
EDSI21X09UP-A	● MC.325093232	INK 0208	(9x0.50)	8.8	75	
EDSI17X16UP-A	● MC.325161732	INK 0532	[4x1.0+4x2x0.14+(4x0.14)]	9.7	81	



MotionCables Code	EPlan Code	OEM Code	Formation	∅	Cu	DATA SHEET
			mm ²	mm	kg/km	
EDSF21X07UP-VE	● MC.327072132	LX66L-0003-0462	(1x2x0.18+5x0.50)	7.8	45	
EDSF21X09UP-VE	● MC.327092132	LX66L-0003-0461	(2x2x0.18+5x0.50)	7.8	47	
EDSF21X12UP-VE	● MC.327132132	LX66L-0003-0312	(3x2x0.18+6x0.50)	8.7	77	
EDSF17X12UP-VE	● MC.327121732	LX66L-0003-0401	(3x2x0.18+6x1.0)	8.7	88	
EDSF21X16UP-VE	● MC.327162132	LX66L-0003-0369	(5x2x0.18+6x0.50)	8.7	84	
EDSF21X10UP-VE	● MC.327102132	LX66L-0003-0482	(4x2x0.22+2x0.50)	7.6	72	
EDSF24P10UP-VE	● MC.327102432		(10x2x0.22)	9.0	60	
EDSF28P10UP-VE	● MC.327102832	LX66L-0003-0283	(10x2x28AWG)	6.0	30	

**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).

Acc.TO: **LENZE®**

MotionCables Code	EPlan Code	OEM Code	Formation	Ø	Cu	DATA SHEET
			mm²	mm	kg/km	
 EDSL17Z10UP-VE	● MC.326101732		4x(2x0.14)+(2x1.0)	11.2	68	
EDSL26Z09UP-VE	● MC.326092632		3x(2x0.14)+(3x0.14)	9.2	42	
EDSL21Z14UP-VE	● MC.326142132		3x(2x0.14)+(4x0.14)+2x(2x0.50)	12.0	79	

Acc.TO: **HEIDENHAIN®**

MotionCables Code	EPlan Code	OEM Code	Formation	Ø	Cu	DATA SHEET
			mm²	mm	kg/km	
 EDS21X08UP-VE	● MC.328082132		[3x(2x0.14)+2x(1x0.50)]	8.4	64	
EDSH17X08UP-VE	● MC.328082132		[3x(2x0.14)+2x(1x1.0)]	9.1	69	
EDSH21X12UP-VE	● MC.328082132		(4x2x0.14+4x0.50)	8.5	50	
EDSH21X16UP-VE	● MC.328082132		[4x2x0.14+(4x0.14)+4x0.50]	8.3	58	

Acc.TO: **YASKAWA®**

MotionCables Code	EPlan Code	OEM Code	Formation	Ø	Cu	DATA SHEET
			mm²	mm	kg/km	
 EDS22X09UP-VE	● MC.332092232		(3x2x0.35+3G0.50)	9.0	50	
EDSY22P02UP-VE	● MC.332042232		(2x2x0.34)	7.0	30	
LDS22P03UP-VE	● MC.332062232		(3x2x0.34)	7.5	42	

Acc.TO: **SCHNEIDER-ELAU®**

MotionCables Code	EPlan Code	OEM Code	Formation	Ø	Cu	DATA SHEET
			mm²	mm	kg/km	
 EDS22X08UP-VE	● MC.334082232		(3x2x0.14+2x0.34)	7.0	29	
EDSE21X08UP-VE	● MC.334082132		(3x2x0.25+2x0.50)	8.3	44	

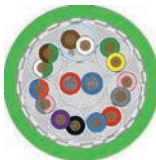
Acc.TO: **OMRON®**

MotionCables Code	EPlan Code	OEM Code	Formation	Ø	Cu	DATA SHEET
			mm²	mm	kg/km	
 EDS21X06UP-VE ● MC.328062132			(2x2x0.25+2x0.50)	6.5	33	
EDS17X06UP-VE ● MC.328061732			(2x2x0.25+2x1.0)	7.6	43	

Acc.TO: **B&R®**

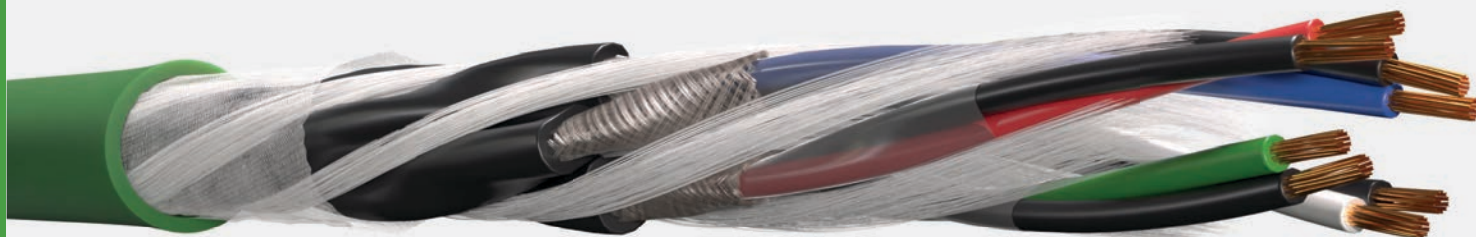
MotionCables Code	EPlan Code	OEM Code	Formation	Ø	Cu	DATA SHEET
			mm²	mm	kg/km	
 EDSP21X12UP-VE ● MC.333122132			(5x2x0.14+2x0.50)	7.8	52	

Acc.TO: **CONTROL-TECHNIQUES®**

MotionCables Code	EPlan Code	OEM Code	Formation	Ø	Cu	DATA SHEET
			mm²	mm	kg/km	
 EDS17X16UP-VE ● MC.330161732			[6x2x0.34+1x(2x0.34)+1x2x1.0]	6.9	48	

Acc.TO: **ROCKWELL®**

MotionCables Code	EPlan Code	OEM Code	Formation	Ø	Cu	DATA SHEET
			mm²	mm	kg/km	
 EDSR22P05UP-VE ● MC.331102232			(5x2x0.35)	8.7	75	



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

ELECTRICAL PROPERTIES

	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	-5 / +80	-30 / +80	-30 / +80

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
Voltage

300 V (UL/CSA)

RESISTANCE TO ENVIRONMENTAL AND AGGRESSIVE CHEMICAL THREATS



OIL RESISTANT



FLAME RETARDANT



WATER RESISTANT



EMC PROTECTED



TEMPOR. OUTDOOR



MECHANICAL CRUSH

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 300 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	
RDN24P03UR-V ●	MC.235062422		3 x (2 x 0.25)	8.3	36	
RDN24P04UR-V ●	MC.235082422		4 x (2 x 0.25)	9.0	47	
RDN24P05UR-V ●	MC.235102422		5 x (2 x 0.25)	10.3	57	
RDN24P06UR-V ●	MC.235122422		6 x (2 x 0.25)	11.7	68	
RDN24P09UR-V ●	MC.235182422		9 x (2 x 0.25)	13.6	103	
RDN22P03UR-V ●	MC.235062222		3 x (2 x 0.34)	9.4	41	
RDN22P04UR-V ●	MC.235082222		4 x (2 x 0.34)	10	55	
RDN22P05UR-V ●	MC.235102222		5 x (2 x 0.34)	11.2	70	
RDN22P06UR-V ●	MC.235122222		6 x (2 x 0.34)	12.6	85	
RDN22P09UR-V ●	MC.235182222		9 x (2 x 0.34)	15.7	125	



FEEDBACK



EPLAN

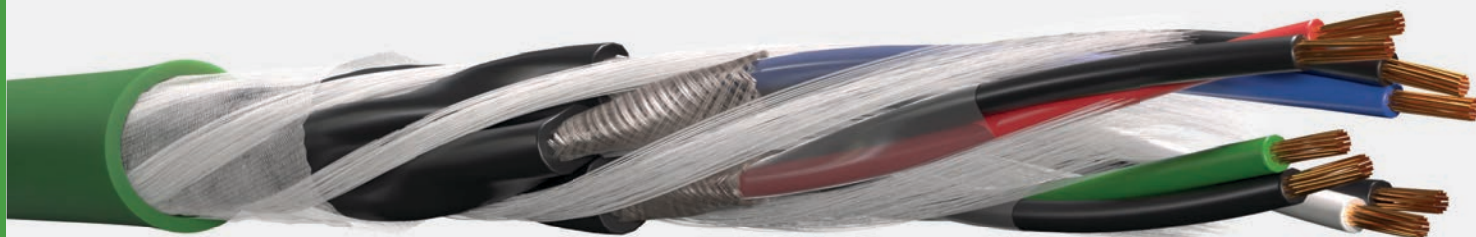
All the codes are available in the EPLAN PLAN8 System (use the EPLAN code in the relevant column).



SPAC CAVI

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

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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 / +80	-40 / +80	-40 / +80	-40 / +80

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
Voltage

300 V (UL/CSA)

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

Ultra-Flexible Tinned Copper Conductors	Long service life even in extreme and robotic motion
Technical Ultra-Low Capacitance PP Insulation	High electrical stability and precision in signal transmission
Composite Shielding with Copper Braid and Polyester Tape	Total EMC protection, even in high-frequency systems
PUR FRFH (Halogen-Free Flame Retardant) Jacket	Exceptional resistance to oils, coolants, UV, abrasion, and chemical agents
Structure Optimized for Severe Motion	Consistent performance in intensive dynamic cycles and multi-axis movements
Stable Operation even at Low Temperatures (-50°C)	Flexibility maintained in cold environments or those with thermal variations
Shielded and Unshielded Versions	Solution suitable for any installation requirement or machine layout
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	
RDN24P03UP-V	● MC.335062432		3 x (2 x 0.25)	8.3	36	
RDN24P04UP-V	● MC.335082432		4 x (2 x 0.25)	9.0	47	
RDN24P05UP-V	● MC.335102432		5 x (2 x 0.25)	10.3	57	
RDN24P06UP-V	● MC.335122432		6 x (2 x 0.25)	11.7	68	
RDN24P09UP-V	● MC.335182432		9 x (2 x 0.25)	13.6	103	
RDN22P03UP-V	● MC.335062232		3 x (2 x 0.34)	9.4	41	
RDN22P04UP-V	● MC.335082232		4 x (2 x 0.34)	10	55	
RDN22P05UP-V	● MC.335102232		5 x (2 x 0.34)	11.2	70	
RDN22P06UP-V	● MC.335122232		6 x (2 x 0.34)	12.6	85	
RDN22P09UP-V	● MC.335182232		9 x (2 x 0.34)	15.7	125	

FEEDBACK



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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

ELECTRICAL PROPERTIES

	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 / +80	-5 / +80	-5 / +80

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
Voltage

300 V (UL/CSA)

RESISTANCE TO ENVIRONMENTAL AND AGGRESSIVE CHEMICAL THREATS



OIL RESISTANT



FLAME RETARDANT



WATER RESISTANT



EMC PROTECTED



TEMPOR. OUTDOOR



MECHANICAL CRUSH

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 300 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	
RDS24P03UR-VE ●	MC.236062222		[3 x (2 x 0.25)]	8.8	66	
RDS24P04UR-VE ●	MC.236082222		[4 x (2 x 0.25)]	9.5	80	
RDS24P05UR-VE ●	MC.236102222		[5 x (2 x 0.25)]	10.8	98	
RDS24P06UR-VE ●	MC.236122222		[6 x (2 x 0.25)]	12.2	113	
RDS24P09UR-VE ●	MC.236182222		[9 x (2 x 0.25)]	14.1	155	
RDS22P03UR-VE ●	MC.236062222		[3 x (2 x 0.34)]	9.9	76	
RDS22P04UR-VE ●	MC.236082222		[4 x (2 x 0.34)]	10.5	98	
RDS22P05UR-VE ●	MC.236102222		[5 x (2 x 0.34)]	11.7	115	
RDS22P06UR-VE ●	MC.236122222		[6 x (2 x 0.34)]	13.1	135	
RDS22P09UR-VE ●	MC.236182222		[9 x (2 x 0.34)]	16.2	185	



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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 / +80	-40 / +80	-40 / +80	-40 / +80

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
Voltage

300 V (UL/CSA)

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

Ultra-Flexible Tinned Copper Conductors	Long service life even in extreme and robotic motion
Technical Ultra-Low Capacitance PP Insulation	High electrical stability and precision in signal transmission
Composite Shielding with Copper Braid and Polyester Tape	Total EMC protection, even in high-frequency systems
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MotionCables Code	EPlan Code	OEM Code	Formation	Ø	Cu	DATA SHEET
			mm ²	mm	kg / km	
RDS24P03UP-VE ●	MC.336062232		[3 x (2 x 0.25)]	8.8	66	
RDS24P04UP-VE ●	MC.336082232		[4 x (2 x 0.25)]	9.5	80	
RDS24P05UP-VE ●	MC.336102232		[5 x (2 x 0.25)]	10.8	98	
RDS24P06UP-VE ●	MC.336122232		[6 x (2 x 0.25)]	12.2	113	
RDS24P09UP-VE ●	MC.336182232		[9 x (2 x 0.25)]	14.1	155	
RDS22P03UP-VE ●	MC.336062232		[3 x (2 x 0.34)]	9.9	76	
RDS22P04UP-VE ●	MC.336082232		[4 x (2 x 0.34)]	10.5	98	
RDS22P05UP-VE ●	MC.336102232		[5 x (2 x 0.34)]	11.7	115	
RDS22P06UP-VE ●	MC.336122232		[6 x (2 x 0.34)]	13.1	135	
RDS22P09UP-VE ●	MC.336182232		[9 x (2 x 0.34)]	16.2	185	



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

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