rexroth
A Bosch Company

Reference Book

IndraDrive ■ EFC ■ MTX micro Motor Cables and Connectors

R911401938 Edition 09

Disclaimer

The specified data only serves to describe the product. As our products are constantly being further developed, no statements concerning a certain condition or suitability for a certain application can be derived from our information. The information given does not release the user from the obligation of own judgment and verification. Please note that our products are subject to a natural process of wear and aging.

DOK-CONNEC-MS2N*INDRV*-CA09-EN-P DC-AE / PAG-SW (jw), DC/ESW-FA1 (mb)

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1 About this documentation

1.1 Editions of this documentation

This reference description is intended for project planners, service technicians and system operators and provides information on the selection of ready-made cables

Table 1: Record of revisions

Edition	Release date	Notes
08	2025-01	Revision, design and selection of total document
09	2025-07	New: ● ➦Chapter 4.2 RLC1 Power cables, for ML3 electrical connection M40 (double clamping) on page 39 Amendment: ● ➦Chapter 4.1 RLC1 Power cables, for ML3 electrical connection M23 (double clamping) on page 36 ● ➦Chapter 3.3 RL2 Power cables, for MS2N Electrical connection "V" (M40) on page 20 Revision extension cable for terminal boxes ● ➦Chapter 3.6 RL2 Power cables, for MS2N Electrical connection “C” (Terminal boxes) on page 32 ● ➦Chapter 3.7 RL2 Power cables, for MS2N Electrical connection “E” (Terminal boxes) on page 34 ● ➦Chapter 3.5 RL2 Power cables, for MS2N Electrical connection "T" (Terminal boxes) on page 28
09	2025-09	Corrections regarding RH2 ● ➦Chapter 11.1 Cable specification on page 66 ● ➦Chapter 12.1 Cable connections on page 73

1.2 Further documentation

Table 2: Documentation - Drive systems, system components

Title	Document type	Documentation type[1)]	Material number
ctrlX DRIVE Drive systems	Project Planning Manual	DOK-XDRV**-X**********-PRxx-EN-P	➦R911386579
ctrlX DRIVE DC/DC converter XMV	Application Manual	DOK-XDRV**-XMV********-APxx-EN-P	➦R911413650
Security Guidelines Electric Drives and Controls	Project Planning Manual	DOK-IWORKS-SECURITY***-PRxx-EN-P	➦R911342562
Control cabinet Climatization, EMC, Setup, Protection Class, IndraDrive Electric, Rexroth EFC/Fv, Sytronix	Project Planning Manual	DOK-DRIVE*-CABINET****-PRxx-EN-P	➦R911344988

1) In the documentation types, xx is a placeholder for the current issue status of the documentation (example: PR01 means the first edition of the project planning manual)

Table 3: Documentation - Motors

Title	Document type	Documentation type[1)]	Material number
MS2N Synchronous Servomotors	Project Planning Manual	DOK-MOTOR*-MS2N*******-PRxx-EN-P	➦R911347583
MS2S Synchronous Servomotors	Project Planning Manual	DOK-MOTOR*-MS2S*******-PRxx-EN-P	➦R911410075
MS2E Synchronous Servomotors ATEX Directive 2014/34/EU	Project Planning Manual	DOK-MOTOR*-MS2E*******-PRxx-EN-P	➦R911394140
MKE Synchronous motors Synchronous Servomotors ATEX ■ UKEX ■ CCC	Project Planning Manual	DOK-MOTOR*-MKE*GEN3***-PRxx-EN-P	➦R911411017
MAD / MAF Asynchronous Motors MAD / MAF	Project Planning Manual	DOK-MOTOR*-MAD/MAF****-PRxx-EN-P	➦R911295781
MLF Synchronous linear motors	Project Planning Manual	DOK-MOTOR*-MLF********-PRxx-EN-P	➦R911293634
ML3 Self-Cooled Linear Motors	Project Planning Manual	DOK-MOTOR*-ML3********-PRxx-EN-P	➦R911389760
MCL Ironless Linear Motors MCL	Project Planning Manual	DOK-MOTOR*-MCL********-PRxx-EN-P	➦R911330592

1) In the documentation types, xx is a placeholder for the current issue status of the documentation (example: PR01 means the first edition of the project planning manual)

Table 4: Documentation - Cables

Title	Document type	Documentation type[1)]	Material number
ctrlX Motor Cables and Connectors	Reference	DOK-CONNEC-XDRV*******-RExx-EN-P	➦R911420100
IndraDrive ■ EFC ■ MTX micro Motor Cables and Connectors	Reference	DOK-CONNEC-MS2N*INDRV*-CAxx-EN-P	➦R911401938
IndraDrive and IndraDyn	Selection Data	DOK-CONNEC-CABLE*INDRV-CAxx-EN-P	➦R911322949

1) In the documentation types, xx is a placeholder for the current issue status of the documentation (example: CA03 means the third edition of the documentation catalogue)

2 Product information

2.1 Overview of cables

Rexroth motors and controllers are connected via motor power and encoder cables or via hybrid cables that combine power and encoder functions. The following product series are actually available:

Cable type	Motor	Drive controller	Cable series	Extension cable
Power cable	MS2N	IndraDrive (HMS, HMD, HCS)	RL2	RL2-5...
		IndraDrive Cs (HCS01)		
		IndraDrive Mi (KSM)		

Cable type	Motor	Drive controller	Cable series	Extension cable
		EFC5610	RLB3	
		MTX micro	RLB4	
	1MB/MBS/MBT/MLF	IndraDrive/ IndraDrive Cs/ IndraDrive Mi	RL2	RL2-5...
	ML3		RLC1	RLC1-5...
	BA1N		RL2	RL2-5...
Encoder cables	MS2N	All	RG2	RG2-5...
Hybrid cables	MS2N, MS2E	IndraDrive (HMS, HMD, HCS)	RH2	RH2-5...
		IndraDrive Cs (HCS01)		
		IndraDrive Mi (KSM)		
		MTX micro	RHB4	

Cable selection in conjunction with Rexroth drive and control devices requires knowledge of the relevant product manuals with regard to cable length limits or additional components. Refer to cable length specifications and other cable information in these manuals.

All product descriptions of Rexroth are available under ➦ www.boschrexroth.com/mediadirectory.

2.2 Product guarantee or safety

The cable material, cable design and cable shield of original Rexroth cables are assembled and 100% tested for specified motor-controller combinations. Any modification to these cables may result in functional failures, unsafe operation or equipment damage.

The same applies to the use of self-assembled cables or cables and connectors from third parties in conjunction with Bosch Rexroth equipment. Bosch Rexroth does not provide any coverage, warranty or liability for the safety, functionality or functions of the entire drive and control equipment if cables, connectors or modified components from third parties or Bosch Rexroth are used, including in the event of service calls and resulting costs associated with the use of such components.

2.3 Type codes

2.3.1 Power cable

Table 5: Type code RL2

Type short name	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
Example:	R	L	2	-	5	0	0	C	B	B	-	N	N	-	0	0	0	,	0																						
	①	②	③			④		⑤	⑥	⑦		⑧	⑨			⑩																										

①	**Product:** R = Rexroth cables
②	**Cable type:** L = Power cables
③	**Motor series:** 2 = Generation
④	**Cable number:** 001 = 001 (example)
⑤	**Cross section:** B = 0.75 mm² C = 1.0 mm² D = 1.5 mm² E = 2.5 mm² F = 4.0 mm² G = 6.0 mm² H = 10.0 mm² J = 16.0 mm² K = 25.0 mm² L = 35.0 mm² M = AWG1/0 (53 mm²) N = 50.0 mm²
⑥)	**Cable type:** B = Cable type B
⑦	**Design:** B = Basic T = Torsion
⑧	**Connection 1:** N = assembled
⑨	**Connection 2:** N = assembled
⑩	**Length:** 000.0 = Lengths in meter

More information about the cross-section code➥ Chapter 11.1 Cable specification on page 66

2.3.2 Hybrid cables

Table 6: Type code RH2

Type short name	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
Example:	R	H	2	-	0	0	1	B	B	B	-	N	N	-	0	0	0	,	0																						
	①	②	③			④			⑤	⑥	⑦		⑧	⑨				⑩																								

①	**Product:** R = Rexroth cables
②	**Cable type:** H = Hybrid cables
③	**Generation** 2 = Generation
④	**Cable number:** 011 = 011 (example)
⑤	**Cross section:** B = 0.75 mm² D = 1.5 mm² E = 2.5 mm²
⑥	**Cable type:** B = [4x L + (2x 0.5 mm²)C + (4x AWG 24)]StC C = {4x L + (2x 0.5 mm²)C + [(4x AWG 24)C]C}StC
⑦	**Design:** B = Basic
⑧	**Connection 1:** N = assembled
⑨	**Connection 2:** N = assembled
⑩	**Length:** 000.0 = Lengths in meter

More information about the cross-section code ➥ Chapter 11.1 Cable specification on page 66

2.3.3 Encoder cables

Table 7: Type code RG2

Type short name	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
Example:	R	G	2	-	0	0	1	A	B	B	-	N	N	-	0	0	0	,	0																						
	①	②	③			④			⑤	⑥	⑦		⑧	⑨				⑩																								

①	**Product:** R = Rexroth cables
②	**Cable type:** G = Encoder cables
③	**Generation:** 2 = Generation
④	**Cable number:** 001 = 001 (example)
⑤	**Cross section:** A = Cross-section code (example)
⑥	**Cable type:** A = Cable type digital B = Cable type analog
⑦	**Design:** B = Basic T = Torsion
⑧	**Connection 1:** N = assembled
⑨	**Connection 2:** N = assembled
⑩	**Length:** 000.0 = Lengths in meter

More information about the cross-section code➥ Chapter 11.1 Cable specification on page 66

2.4 Cable selection

The following information is necessary and has to be observed when selecting cable connections among motor and drive controller:

Power cable

- Type identification motor according to product type code "**Motor**"
- Type identification drive controller according to product type code "**Drive controller**"

The required current load of the connecting cable must be determined.

- The determining factor here can be the motor or the control device. The current load can be used to determine the power wire cross-section of the cable. When making your selection, take into account the current values (standstill current) specified in the technical data of the motors as well as information from the relevant standards for cable routing ➥ Chapter 11.3 Cable dimension on page 67

Encoder cables

- Encoder type according to product type code "**Motor**"
- Type identification drive controller including options according to product type code "**Drive controller**"

2.5 Cable extensions

The entire cable route between the controller and the motor can be set up with only one cable or with a limited number of extension segments. Segments with extension cables can be practically, if moved cable carrier systems are used.

Within a cable section, the length of all cable segments is added up to the total length L (➦ Total cable lengths “L” on page 69). The maximum permitted cable length and the number of cable segments for a specific motor-controller combination depend on various conditions:

- Technical specification of the controller or interface
- The PWM frequency set for this axis
- Local EMC conditions

– The maximum permitted cable length for a specified motor-controller combination applies to the total length of all cable segments in this axis. Additional cable extensions must not exceed the permitted maximum length of the total cable run.
– Observe the specifications in the control device documentation and do not exceed the specified limit values.➦ Chapter 1.2 Further documentation on page 5

Exceeding the allowed cable length for their particular equipment may cause an unsafe operating condition. If you are unsure about the allowed length for your individual configuration, contact your responsible Bosch Rexroth sales partner.

The following illustrations show a schematic layout of the power cables. Extensions for encoder and hybrid cables are similar to cables with a power connector.

2.5.1 Cable arrangement for motors with power connector

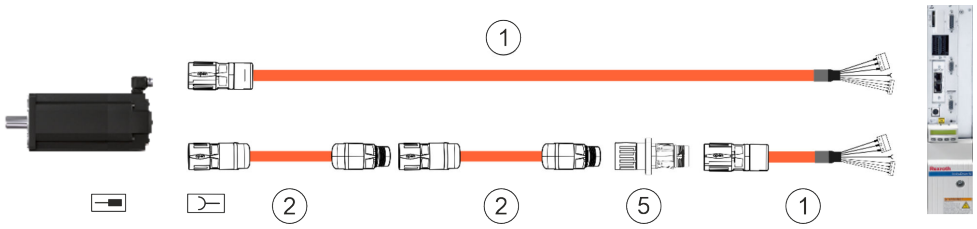


Fig. 1: Cable extensions connector

Standard connections:	Use standard cables as specified in the selection list ①.
Extension:	Add the extension cable ② from the cable selection list of the motor side and connect to the standard cable ①.
Further extension:	Insert optional cable segments ② of identical types in between.
Panel feed-through:	Add optional accessory connectors ⑤, no change of cable segment or cable type.

2.5.2 Cable arrangement for motors with terminal boxes

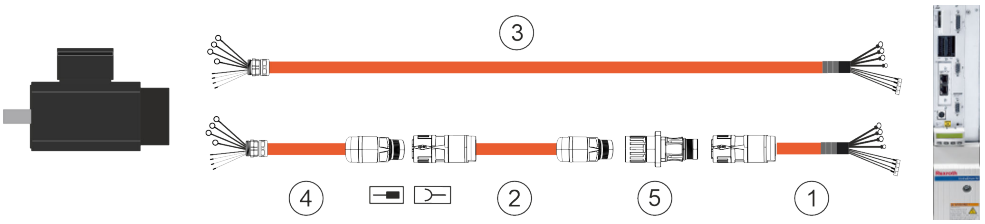


Fig. 2: Cable extensions terminal boxes

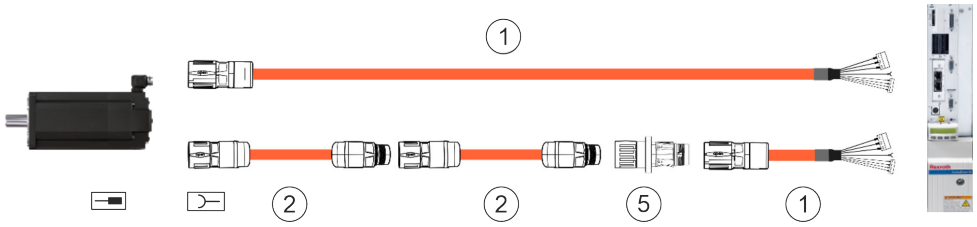
Standard connections:	Use standard cables ③ as specified in the selection list.
Extension:	Insert the first extension cable ④ from the selection list on the motor side and connect it to the standard cable ①. Select the power cable ① according to the motor and controller from the standard selection list.
Further extension:	Insert optional cable segments ② with new cable type. Select this type from the selection list of extension cables, note the cable cross-section and plug size selection.
Panel feed-through:	Add the optional accessory connector ⑤ no change of the cable segment or cable type.

3 Power cables for MS2N with IndraDrive

3.1 RL2 Power cables, ready-made MS2N electrical connections “D” (M17)

This selection is valid for the following motor types:

MS2N□□-□□□□□-□□D□□-□□□□□-□□ List of motor types including recommended power wire cross-section➥ Table 8 Power wire cross section, MS2N motor type on page 14



Drive controller IndraDrive	Power cables ① RL2-□□□□□□-NN-xxx,x		Extension ② RL2-□□□□□□-NN-xxx,x
Example: HCS01 - ...	[mm²] ➥ Chapter 11.1 Cable specification on page 66	□ B = Basic	□ B = Basic
HCS01.1E-W0003 HCS01.1E-W0005 HCS01.1E-W0006 HCS01.1E-W0008 HCS01.1E-W0009 HCS01.1E-W0013	1.0	001CB	500CB
HCS02.1E-W0012 HCS02.1E-W0028 HMD01.1N-W0012 HMD01.1N-W0020 HMD01.1N-W0036 HMS01.1N-W0020 HMS01.1N-W0036 HMS02.1N-W0028	1.0	002CB	500CB
HCS01.1E-W0018 HCS01.1E-W0028	1.0	003CB	500CB
HCS01.1E-W0054	1.0	004CB	500CB
HCS02.1E-W0054 HCS02.1E-W0070 HCS03.1E-W0070 HMS01.1N-W0054 HMS01.1N-W0070 HMS02.1N-W0054	1.0	005CB	500CB
KMS03.1	1.0	009CB	500CB
KMS01.2 KMS02.1	1.0	010CB	500CB

➥ Chapter 13 Accessories on page 75

Table 8: Power wire cross section, MS2N motor type

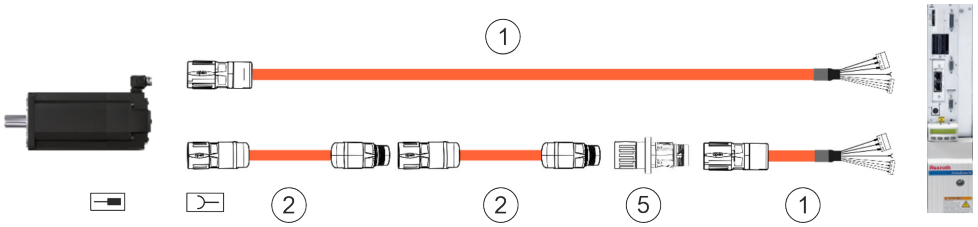
Motor	I_{0_60K} [A]	Power wire cross section * [mm²]	I_{0_100K} [A]	Power wire cross section * [mm²]	Connector
MS2N03-B0BYN-__D__-____-__	1.31	0.75 or 1.0	1.61	0.75 or 1.0	M17
MS2N03-D0BYN-__D__-____-__	2.07	0.75 or 1.0	2.6	0.75 or 1.0	M17
MS2N04-B0BNN-__D__-____-__	1.11	0.75 or 1.0	1.36	0.75 or 1.0	M17
MS2N04-B0BTN-__D__-____-__	2.2	0.75 or 1.0	2.7	0.75 or 1.0	M17
MS2N04-C0BNN-__D__-____-__	1.78	0.75 or 1.0	2.24	0.75 or 1.0	M17
MS2N04-C0BTN-__D__-____-__	3.11	0.75 or 1.0	3.9	0.75 or 1.0	M17
MS2N04-D0BHN-__D__-____-__	1.61	0.75 or 1.0	1.96	0.75 or 1.0	M17
MS2N04-D0BQN-__D__-____-__	2.86	0.75 or 1.0	3.48	0.75 or 1.0	M17
MS2N05-B0BNN-__D__-____-__	2.29	0.75 or 1.0	2.75	0.75 or 1.0	M17
MS2N05-B0BTN-__D__-____-__	4.55	0.75 or 1.0	5.45	0.75 or 1.0	M17
MS2N05-C0BNN-__D__-____-__	3.53	0.75 or 1.0	4.16	0.75 or 1.0	M17
MS2N05-C0BTN-__D__-____-__	7.1	0.75 or 1.0	8.35	0.75 or 1.0	M17
MS2N05-D0BHN-__D__-____-__	3.05	0.75 or 1.0	3.63	0.75 or 1.0	M17
MS2N05-D0BRN-__D__-____-__	6.05	0.75 or 1.0	7.2	0.75 or 1.0	M17

* Conditions according to ➦Table 28 Cable cross section and current carrying capacity on page 66, deviations may require other power cable cross sections.

3.2 RL2 Power cables, ready-made for MS2N Electrical connection "U" (M23)

This selection is valid for the following motor types:

MS2N□□-□□□□□-□□U□□-□□□□□-□□ List of motor types including recommended power wire cross-section➥ Table 9 Power wire cross section, MS2N motor type on page 17



Drive controller IndraDrive	Power cables ① RL2-□□□□□□-NN-xxx,x		Extension ② RL2-□□□□□□-NN-xxx,x
Example: HCS01 - ...	[mm²] ➥ Chapter 11.1 Cable specification on page 66	□ B = Basic	□ B = Basic
HCS01.1E-W0003 HCS01.1E-W0005 HCS01.1E-W0006 HCS01.1E-W0008 HCS01.1E-W0009 HCS01.1E-W0013	1.0	021CB	521CB
HCS02.1E-W0012 HCS02.1E-W0028 HMD01.1N-W0012 HMD01.1N-W0020 HMD01.1N-W0036 HMS01.1N-W0020 HMS01.1N-W0036 HMS02.1N-W0028	1.0	022CB	521CB
HCS01.1E-W0018 HCS01.1E-W0028	1.0	023CB	521CB
HCS01.1E-W0054	1.0	024CB	521CB
HCS02.1E-W0054 HCS02.1E-W0070 HCS03.1E-W0070 HMS01.1N-W0054 HMS01.1N-W0070 HMS02.1N-W0054	1.0	025CB	521CB
HCS03.1E-W0100 HCS03.1E-W0150 HMS01.1N-W0110 HMS01.1N-W0150 HMS01.1N-W0210 HMS01.1N-W0300	-	-	-
HCS03.1E-W0210 HCS03.1E-W0280 HCS03.1E-W0350	-	-	-
HMS01.1E-W0350	-	-	-
KMS03.1	1.0	029CB	521CB

Drive controller IndraDrive	Power cables ① RL2-□□□□□□-NN-xxx,x		Extension ② RL2-□□□□□□-NN-xxx,x
Example: HCS01 - ...	[mm²] ➥ Chapter 11.1 Cable specification on page 66	□ B = Basic	□ B = Basic
KMS01.2 KMS02.1	1.0	521CB	521CB

➥ Chapter 13 Accessories on page 75

Table 9: Power wire cross section, MS2N motor type

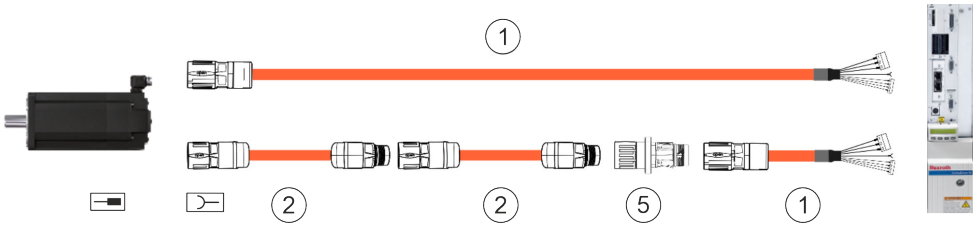
Motor	I_{0_60K} [A]	Power wire cross section * [mm²]	I_{0_100K} [A]	Power wire cross section * [mm²]	Connector
MS2N06-B1BNN-__U__-____-__	2.22	0.75 or 1.0	2.47	0.75 or 1.0	M23
MS2N06-C0BNN-__U__-____-__	3.75	0.75 or 1.0	4.5	0.75 or 1.0	M23
MS2N06-C0BTN-__U__-____-__	7.5	0.75 or 1.0	9	0.75 or 1.0	M23
MS2N06-D0BNN-__U__-____-__	6.1	0.75 or 1.0	7.55	0.75 or 1.0	M23
MS2N06-D0BRN-__U__-____-__	7.85	0.75 or 1.0	9.75	0.75 or 1.0	M23
MS2N06-D0BTN-__U__-____-__	11.55	1.0	14	1.5	M23
MS2N06-D1BNN-__U__-____-__	5.05	0.75 or 1.0	6.25	0.75 or 1.0	M23
MS2N06-E0BHN-__U__-____-__	5.4	0.75 or 1.0	6.8	0.75 or 1.0	M23
MS2N06-E0BRN-__U__-____-__	10.85	1.0	13.7	1.5	M23
MS2N07-B1BNN-__U__-____-__	4.25	0.75 or 1.0	4.74	0.75 or 1.0	M23
MS2N07-C0BNN-__U__-____-__	6.9	0.75 or 1.0	8.8	0.75 or 1.0	M23
MS2N07-C0BQN-__U__-____-__	10.1	0.75 or 1.0	12.9	1.0	M23
MS2N07-C1BNA-__U__-____-__	-	-	10.4	0.75 or 1.0	M23
MS2N07-C1BNN-__U__-____-__	6.6	0.75 or 1.0	8.35	0.75 or 1.0	M23
MS2N07-C1BRN-__U__-____-__	9.55	0.75 or 1.0	12.1	1.0	M23
MS2N07-D0BFA-__U__-____-__	-	-	9.55	0.75 or 1.0	M23
MS2N07-D0BFN-__U__-____-__	5.8	0.75 or 1.0	7.55	0.75 or 1.0	M23
MS2N07-D0BHN-__U__-____-__	8.55	0.75 or 1.0	11.1	1.0	M23
MS2N07-D0BNN-__U__-____-__	11.55	1.0	15	1.5	M23
MS2N07-D0BQN-__U__-____-__	10.53	1.0	13.04	1.5	M23
MS2N07-D0BRA-__U__-____-__	-	-	28.2	4.0	M23
MS2N07-D1BFN-__U__-____-__	5.45	0.75 or 1.0	6.9	0.75 or 1.0	M23
MS2N07-D1BHN-__U__-____-__	7.8	0.75 or 1.0	9.9	0.75 or 1.0	M23
MS2N07-D1BNN-__U__-____-__	9.9	0.75 or 1.0	12.5	1.0	M23
MS2N07-E0BDN-__U__-____-__	5.15	0.75 or 1.0	6.8	0.75 or 1.0	M23
MS2N07-E0BHN-__U__-____-__	10.35	0.75 or 1.0	13.7	1.5	M23
MS2N07-E1BDN-__U__-____-__	4.93	0.75 or 1.0	6.2	0.75 or 1.0	M23
MS2N07-E1BHN-__U__-____-__	9	0.75 or 1.0	11.3	1.0	M23
MS2N10-B1BQN-__U__-____-__	13.1	1.5	14.2	1.5	M23
MS2N10-C0BNN-__U__-____-__	16.8	2.5	19.3	2.5	M23
MS2N10-D0BHN-__U__-____-__	19.1	2.5	23.1	4.0	M23
MS2N10-D0BNA-__U__-____-__	-	-	48	10.0	M23
MS2N10-E0BHN-__U__-____-__	25	4.0	31	6.0	M23
MS2N10-E0BNA-__U__-____-__	-	-	62.9	16.0	M23

* Conditions according to ➥Table 28 Cable cross section and current carrying capacity on page 66, deviations may require other power wire cross sections. Select the next higher power wire cross-section, subject to availability.

3.3 RL2 Power cables, for MS2N Electrical connection "V" (M40)

This selection is valid for the following motor types:

MS2N□□-□□□□-□□V□-□□□□-□□ List of motor types including recommended power wire cross-section➥ Table 10 Power wire cross section, MS2N motor type on page 21



Drive controller IndraDrive	Power cables ① RL2-□□□□□□-NN-xxx,x		Extension ② RL2-□□□□□□-NN-xxx,x
Example: HCS01 - ...	[mm²] ➥ Chapter 11.1 Cable specification on page 66	□ B = Basic	□ B = Basic
HCS01.1E-W0003 HCS01.1E-W0005 HCS01.1E-W0006 HCS01.1E-W0008 HCS01.1E-W0009 HCS01.1E-W0013	-	-	-
HCS02.1E-W0012 HCS02.1E-W0028 HMD01.1N-W0012 HMD01.1N-W0020 HMD01.1N-W0036 HMS01.1N-W0020 HMS01.1N-W0036 HMS02.1N-W0028	1.5 2.5 4.0	042DB 042EB -	542DB 542EB 542FB
HCS01.1E-W0018 HCS01.1E-W0028	1.5 2.5 4.0	043DB 043EB 043FB	542DB 542EB 542FB
HCS01.1E-W0054	1.5 2.5 4.0	044DB 044EB 044FB	542DB 542EB 542FB
HCS02.1E-W0054 HCS02.1E-W0070 HCS03.1E-W0070 HMS01.1N-W0054 HMS01.1N-W0070 HMS02.1N-W0054	1.5 2.5 4.0	045DB 045EB 045FB	542DB 542EB 542FB
HCS03.1E-W0100 HCS03.1E-W0150 HMS01.1N-W0110 HMS01.1N-W0150 HMS01.1N-W0210 HMS01.1N-W0300	1.5 2.5 4.0	046DB 046EB 046FB	542DB 542EB 542FB

Drive controller IndraDrive	Power cables ① RL2-□□□□□□-NN-xxx,x		Extension ② RL2-□□□□□□-NN-xxx,x
Example: HCS01 - ...	[mm²] ➥ Chapter 11.1 Cable specification on page 66	□ B = Basic	□ B = Basic
HCS03.1E-W0210 HCS03.1E-W0280 HCS03.1E-W0350	-	-	-
HMS01.1E-W0350	-	-	-
KMS03.1	1.5 2.5 4.0	049DB 049EB -	542DB 542EB 542FB
KMS01.2 KMS02.1	1.0 1.5	541CB -	- 542DB

➥ Chapter 13 Accessories on page 75

Table 10: Power wire cross section, MS2N motor type

Motor	I_{0_60K} [A]	Power wire cross section * [mm²]	I_{0_100K} [A]	Power wire cross section * [mm²]	Connector
MS2N07-B1BNN-__V__-____-__	4.25	0.75 or 1.0	4.74	0.75 or 1.0	M40
MS2N07-C0BNA-__V__-____-__	-	-	11	1.0	M40
MS2N07-C0BNB-__V__-____-__	-	-	11	1.0	M40
MS2N07-C0BQA-__V__-____-__	-	-	15.8	2.5	M40
MS2N07-C0BQB-__V__-____-__	-	-	15.8	2.5	M40
MS2N07-C0BQL-__V__-____-__	-	-	22.3	2.5	M40
MS2N07-C1BNA-__V__-____-__	-	-	10.4	0.75 or 1.0	M40
MS2N07-C1BNB-__V__-____-__	-	-	10.4	0.75 or 1.0	M40
MS2N07-C1BNN-__V__-____-__	6.6	0.75 or 1.0	8.35	0.75 or 1.0	M40
MS2N07-C1BRA-__V__-____-__	-	-	14.9	1.5	M40
MS2N07-C1BRB-__V__-____-__	-	-	14.9	1.5	M40
MS2N07-C1BRL-__V__-____-__	-	-	20.8	2.5	M40
MS2N07-C1BRN-__V__-____-__	9.55	0.75 or 1.0	12.1	1.0	M40
MS2N07-D0BFA-__V__-____-__	-	-	9.55	0.75 or 1.0	M40
MS2N07-D0BHA-__V__-____-__	-	-	14.1	1.5	M40
MS2N07-D0BHB-__V__-____-__	-	-	14.1	1.5	M40
MS2N07-D0BHL-__V__-____-__	-	-	22.8	4.0	M40
MS2N07-D0BNA-__V__-____-__	-	-	19.1	2.5	M40
MS2N07-D0BNB-__V__-____-__	-	-	19.1	2.5	M40
MS2N07-D0BNL-__V__-____-__	-	-	31	6.0	M40
MS2N07-D0BRA-__V__-____-__	-	-	28.2	4.0	M40
MS2N07-D0BRB-__V__-____-__	-	-	28.2	4.0	M40
MS2N07-D0BRN-__V__-____-__	17.1	2.5	22.3	2.5	M40
MS2N07-D1BFA-__V__-____-__	-	-	9	0.75 or 1.0	M40
MS2N07-D1BHA-__V__-____-__	-	-	12.9	1.0	M40
MS2N07-D1BHB-__V__-____-__	-	-	12.9	1.0	M40
MS2N07-D1BNA-__V__-____-__	-	-	16.3	2.5	M40
MS2N07-D1BNB-__V__-____-__	-	-	16.3	2.5	M40

Motor	I_{0_60K} [A]	Power wire cross section * [mm²]	I_{0_100K} [A]	Power wire cross section * [mm²]	Connector
MS2N07-D1BNL-__V__-____-__	-	-	26.7	4.0	M40
MS2N07-E0BDA-__V__-____-__	-	-	8.9	0.75 or 1.0	M40
MS2N07-E0BDB-__V__-____-__	-	-	8.9	0.75 or 1.0	M40
MS2N07-E0BHA-__V__-____-__	-	-	17.9	2.5	M40
MS2N07-E0BHB-__V__-____-__	-	-	17.9	2.5	M40
MS2N07-E0BHL-__V__-____-__	-	-	31.5	6.0	M40
MS2N07-E0BNA-__V__-____-__	-	-	26.2	4.0	M40
MS2N07-E0BNB-__V__-____-__	-	-	26.2	4.0	M40
MS2N07-E0BNN-__V__-____-__	15.1	1.5	20	2.5	M40
MS2N07-E0BQA-__V__-____-__	-	-	33.3	6.0	M40
MS2N07-E0BQB-__V__-____-__	-	-	33.3	6.0	M40
MS2N07-E0BQN-__V__-____-__	19.1	2.5	25.3	4.0	M40
MS2N07-E1BDA-__V__-____-__	-	-	8.35	0.75 or 1.0	M40
MS2N07-E1BHA-__V__-____-__	-	-	15.2	1.5	M40
MS2N07-E1BHB-__V__-____-__	-	-	15.2	1.5	M40
MS2N07-E1BNA-__V__-____-__	-	-	23.9	4.0	M40
MS2N07-E1BNB-__V__-____-__	-	-	23.9	4.0	M40
MS2N07-E1BNL-__V__-____-__	-	-	42.1	10.0	M40
MS2N07-E1BNN-__V__-____-__	14.1	1.5	17.7	2.5	M40
MS2N10-C0BHA-__V__-____-__	-	-	18.8	2.5	M40
MS2N10-C0BHB-__V__-____-__	-	-	18.8	2.5	M40
MS2N10-C0BHN-__V__-____-__	12.6	1.0	14.5	1.5	M40
MS2N10-C0BNA-__V__-____-__	-	-	25.1	4.0	M40
MS2N10-C0BNB-__V__-____-__	-	-	25.1	4.0	M40
MS2N10-C0BNN-__V__-____-__	16.8	2.5	19.3	2.5	M40
MS2N10-C1BHA-__V__-____-__	-	-	16.7	2.5	M40
MS2N10-C1BHB-__V__-____-__	-	-	16.7	2.5	M40
MS2N10-C1BHN-__V__-____-__	11.1	1.0	12.75	1.0	M40
MS2N10-C1BNA-__V__-____-__	-	-	24.7	4.0	M40
MS2N10-C1BNB-__V__-____-__	-	-	24.7	4.0	M40
MS2N10-C1BNN-__V__-____-__	16.5	2.5	19	2.5	M40
MS2N10-D0BHA-__V__-____-__	-	-	32.4	6.0	M40
MS2N10-D0BHB-__V__-____-__	-	-	32.4	6.0	M40
MS2N10-D0BHN-__V__-____-__	19.1	2.5	23.1	4.0	M40
MS2N10-D0BNN-__V__-____-__	28.2	4.0	34.1	6.0	M40
MS2N10-D1BFA-__V__-____-__	-	-	24.2	4.0	M40
MS2N10-D1BFB-__V__-____-__	-	-	24.2	4.0	M40
MS2N10-D1BFN-__V__-____-__	14.3	1.5	17.2	2.5	M40
MS2N10-D1BNN-__V__-____-__	28.6	4.0	34.3	6.0	M40
MS2N10-E0BHA-__V__-____-__	-	-	46.1	10.0	M40
MS2N10-E0BHN-__V__-____-__	25	4.0	31	6.0	M40
MS2N10-E0BNN-__V__-____-__	34.5	6.0	42.8	10.0	M40
MS2N10-E1BFA-__V__-____-__	-	-	30.8	6.0	M40
MS2N10-E1BFB-__V__-____-__	-	-	30.8	6.0	M40
MS2N10-E1BFN-__V__-____-__	17.1	2.5	20.5	2.5	M40

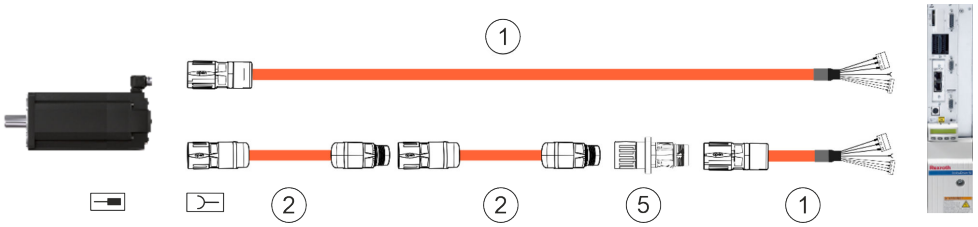
Motor	I_{0_60K} [A]	Power wire cross section * [mm²]	I_{0_100K} [A]	Power wire cross section * [mm²]	Connector
MS2N10-E1BNN-__V__-____-__	34.2	6.0	41	10.0	M40
MS2N10-F0BDA-__V__-____-__	-	-	28.8	4.0	M40
MS2N10-F0BDB-__V__-____-__	-	-	28.8	4.0	M40
MS2N10-F0BDN-__V__-____-__	15.8	2.5	19.5	2.5	M40
MS2N10-F0BHN-__V__-____-__	32	6.0	39.4	10.0	M40
MS2N10-F0BNN-__V__-____-__	55.8	16.0	68.7	16.0	M40
MS2N10-F1BDA-__V__-____-__	-	-	29.5	4.0	M40
MS2N10-F1BDB-__V__-____-__	-	-	29.5	4.0	M40
MS2N10-F1BDN-__V__-____-__	15.9	2.5	19.5	2.5	M40

* Conditions according to ➥ Table 28 Cable cross section and current carrying capacity on page 66, deviations may require other power wire cross sections. Select the next higher power wire cross-section, subject to availability.

3.4 RL2 Power cables, ready-made for MS2N electrical connections “A, B” (M58)

This selection is valid for the following motor types:

MS2N□□-□□□□□-□□A□□-□□□□□-□□ List of motor types including recommended power wire cross-section➥ Table 11 Power wire cross section, MS2N motor type on page 25



Drive controller IndraDrive	Power cables ① RL2-□□□□□□-NN-xxx,x		Extension ② RL2-□□□□□□-NN-xxx,x
Example: HCS01 - ...	[mm²] ➥ Chapter 11.1 Cable specification on page 66	□ B = Basic	□ B = Basic
HCS01.1E-W0003 HCS01.1E-W0005 HCS01.1E-W0006 HCS01.1E-W0008 HCS01.1E-W0009 HCS01.1E-W0013	-	-	-
HCS02.1E-W0012 HCS02.1E-W0028 HMD01.1N-W0012 HMD01.1N-W0020 HMD01.1N-W0036 HMS01.1N-W0020 HMS01.1N-W0036 HMS02.1N-W0028	-	-	-
HCS01.1E-W0018 HCS01.1E-W0028	-	-	-
HCS01.1E-W0054	10.0	064HB	563HB
HCS02.1E-W0054 HCS02.1E-W0070 HCS03.1E-W0070 HMS01.1N-W0054 HMS01.1N-W0070 HMS02.1N-W0054	6.0 10.0 16.0	065GB 065HB 065JB	563GB 563HB 563JB
HCS03.1E-W0100 HCS03.1E-W0150 HMS01.1N-W0110 HMS01.1N-W0150 HMS01.1N-W0210 HMS01.1N-W0300	6.0 10.0 16.0 35.0	066GB 066HB 066JB 066LB	563GB 563HB 563JB 563LB
HCS03.1E-W0210 HCS03.1E-W0280 HCS03.1E-W0350	10.0 16.0 35.0	067HB 067JB 067LB	563HB 563JB 563LB
HMS01.1E-W0350	-	-	-

Drive controller IndraDrive	Power cables ① RL2-□□□□□□-NN-xxx,x		Extension ② RL2-□□□□□□-NN-xxx,x
Example: HCS01 - ...	[mm²] ➥ Chapter 11.1 Cable specification on page 66	□ B = Basic	□ B = Basic
KMS03.1	-	-	-
KMS01.2 KMS02.1	-	-	-

dc_cable_M58_mounting_flange_tecdata➥

➥ Chapter 13 Accessories on page 75

Table 11: Power wire cross section, MS2N motor type

Motor	I_{0_60K} [A]	Power wire cross section * [mm²]	I_{0_100K} [A]	Power wire cross section * [mm²]	Connector
MS2N07-D0BRL-__A__-____-__	-	-	45.8	10.0	M58
MS2N07-D0BRL-__B__-____-__	-	-	45.8	10.0	M58
MS2N07-E0BNL-__A__-____-__	-	-	46	10.0	M58
MS2N07-E0BNL-__B__-____-__	-	-	46	10.0	M58
MS2N07-E0BQL-__A__-____-__	-	-	58.3	16.0	M58
MS2N07-E0BQL-__B__-____-__	-	-	58.3	16.0	M58
MS2N07-E1BNL-__A__-____-__	-	-	42.1	10.0	M58
MS2N07-E1BNL-__B__-____-__	-	-	42.1	10.0	M58
MS2N10-C0BNA-__A__-____-__	-	-	25.1	4.0	M58
MS2N10-C0BNL-__A__-____-__	-	-	30.8	6.0	M58
MS2N10-C0BNL-__B__-____-__	-	-	30.8	6.0	M58
MS2N10-C1BNL-__A__-____-__	-	-	29.9	6.0	M58
MS2N10-C1BNL-__B__-____-__	-	-	29.9	6.0	M58
MS2N10-D0BHA-__B__-____-__	-	-	32.4	6.0	M58
MS2N10-D0BHL-__A__-____-__	-	-	43.7	10.0	M58
MS2N10-D0BHL-__B__-____-__	-	-	43.7	10.0	M58
MS2N10-D0BHN-__B__-____-__	19.1	2.5	23.1	4.0	M58
MS2N10-D0BNA-__A__-____-__	-	-	48	10.0	M58
MS2N10-D0BNA-__B__-____-__	-	-	48	10.0	M58
MS2N10-D0BNB-__A__-____-__	-	-	48	10.0	M58
MS2N10-D0BNB-__B__-____-__	-	-	48	10.0	M58
MS2N10-D0BNL-__A__-____-__	-	-	64.7	16.0	M58
MS2N10-D0BNL-__B__-____-__	-	-	64.7	16.0	M58
MS2N10-D1BNA-__A__-____-__	-	-	48.5	10.0	M58
MS2N10-D1BNA-__B__-____-__	-	-	48.5	10.0	M58
MS2N10-D1BNB-__A__-____-__	-	-	48.5	10.0	M58
MS2N10-D1BNB-__B__-____-__	-	-	48.5	10.0	M58
MS2N10-D1BNL-__A__-____-__	-	-	63.3	16.0	M58
MS2N10-D1BNL-__B__-____-__	-	-	63.3	16.0	M58
MS2N10-E0BHA-__A__-____-__	-	-	46.1	10.0	M58
MS2N10-E0BHA-__B__-____-__	-	-	46.1	10.0	M58
MS2N10-E0BHB-__A__-____-__	-	-	46.1	10.0	M58
MS2N10-E0BHB-__B__-____-__	-	-	46.1	10.0	M58

Motor	I_{0_60K} [A]	Power wire cross section * [mm²]	I_{0_100K} [A]	Power wire cross section * [mm²]	Connector
MS2N10-E0BHD-__A__-____-__	-	-	46.1	10.0	M58
MS2N10-E0BHL-__A__-____-__	-	-	65.4	16.0	M58
MS2N10-E0BHL-__B__-____-__	-	-	65.4	16.0	M58
MS2N10-E0BHN-__A__-____-__	25	4.0	31	6.0	M58
MS2N10-E0BNA-__A__-____-__	-	-	62.9	16.0	M58
MS2N10-E0BNA-__B__-____-__	-	-	62.9	16.0	M58
MS2N10-E0BNB-__A__-____-__	-	-	62.9	16.0	M58
MS2N10-E0BNB-__B__-____-__	-	-	62.9	16.0	M58
MS2N10-E0BNL-__A__-____-__	-	-	90	25.0	M58
MS2N10-E0BNL-__B__-____-__	-	-	90	25.0	M58
MS2N10-E0BNN-__A__-____-__	34.5	6.0	42.8	10.0	M58
MS2N10-E0BNN-__B__-____-__	34.5	6.0	42.8	10.0	M58
MS2N10-E1BNA-__A__-____-__	-	-	61.7	16.0	M58
MS2N10-E1BNA-__B__-____-__	-	-	61.7	16.0	M58
MS2N10-E1BNB-__A__-____-__	-	-	61.7	16.0	M58
MS2N10-E1BNB-__B__-____-__	-	-	61.7	16.0	M58
MS2N10-E1BNL-__A__-____-__	-	-	88	25.0	M58
MS2N10-E1BNL-__B__-____-__	-	-	88	25.0	M58
MS2N10-E1BNN-__A__-____-__	34.2	6.0	41	10.0	M58
MS2N10-E1BNN-__B__-____-__	34.2	6.0	41	10.0	M58
MS2N10-F0BHA-__A__-____-__	-	-	58.6	16.0	M58
MS2N10-F0BHA-__B__-____-__	-	-	58.6	16.0	M58
MS2N10-F0BHB-__A__-____-__	-	-	58.6	16.0	M58
MS2N10-F0BHB-__B__-____-__	-	-	58.6	16.0	M58
MS2N10-F0BHD-__A__-____-__	-	-	58.6	16.0	M58
MS2N10-F0BHL-__A__-____-__	-	-	87.5	25.0	M58
MS2N10-F0BHL-__B__-____-__	-	-	87.5	25.0	M58
MS2N10-F0BHN-__A__-____-__	32	6.0	39.4	10.0	M58
MS2N10-F0BHN-__B__-____-__	32	6.0	39.4	10.0	M58
MS2N10-F0BNA-__A__-____-__	-	-	96	35.0	M58
MS2N10-F0BNB-__A__-____-__	-	-	96	35.0	M58
MS2N10-F0ENL-__A__-____-__	-	-	92	25.0	M58
MS2N10-F1BDL-__A__-____-__	-	-	42.8	10.0	M58
MS2N10-F1BDL-__B__-____-__	-	-	42.8	10.0	M58
MS2N10-F1BHA-__A__-____-__	-	-	58.6	16.0	M58
MS2N10-F1BHA-__B__-____-__	-	-	58.6	16.0	M58
MS2N10-F1BHB-__A__-____-__	-	-	58.6	16.0	M58
MS2N10-F1BHB-__B__-____-__	-	-	58.6	16.0	M58
MS2N10-F1BHL-__A__-____-__	-	-	86	25.0	M58
MS2N10-F1BHL-__B__-____-__	-	-	86	25.0	M58
MS2N10-F1BHN-__A__-____-__	31.8	6.0	38.9	10.0	M58
MS2N10-F1BHN-__B__-____-__	31.8	6.0	38.9	10.0	M58
MS2N10-R0BLA-__A__-____-__	-	-	72.4	25.0	M58
MS2N10-R0BLA-__B__-____-__	-	-	72.4	25.0	M58
MS2N10-R0BLB-__B__-____-__	-	-	72.4	25.0	M58

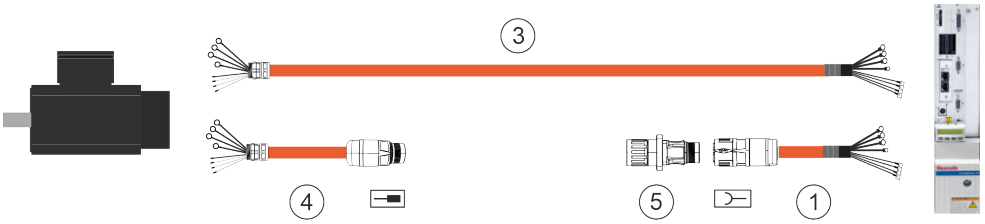
Motor	I_{0_60K} [A]	Power wire cross section * [mm²]	I_{0_100K} [A]	Power wire cross section * [mm²]	Connector
MS2N10-R0BLL-__A__-____-__	-	-	96.2	35.0	M58
MS2N10-R0BLL-__B__-____-__	-	-	96.2	35.0	M58
MS2N10-R0BQL-__A__-____-__	-	-	143	D	M58
MS2N10-R0BQN-__A__-____-__	58.7	16.0	69.8	16.0	M58
MS2N10-R0BQN-__B__-____-__	58.7	16.0	69.8	16.0	M58
MS2N10-R0EQL-__A__-____-__	-	-	92	25.0	M58

* Conditions according to ➥ Table 28 Cable cross section and current carrying capacity on page 66, deviations may require other power wire cross sections. Select the next higher power wire cross-section, subject to availability.

3.5 RL2 Power cables, for MS2N Electrical connection "T" (Terminal boxes)

This selection is valid for the following motor types:

MS2N□□-□□□□□-□□T□□-□□□□□-□□ List of motor types including recommended power wire cross-section➦ Table 12 Power wire cross section, MS2N motor type on page 29



Drive controller IndraDrive	Power cables ③ RL2-□□□□□□-NN-xxx,x			Extension ④ RL2--NN-xxx,x	Extension ① RL2-□□□□□□-NN-xxx,x
Example: HCS01 - ...	[mm²] ➦ Chapter 11.1 Cable specification on page 66	MS2N... Terminal boxes T (M32) □ B = Basic	MS2N... Terminal boxes T (M40) □ B = Basic	Motor ⇨ junction □ B = Basic	Junction ⇨ Controller □ B = Basic
HCS01.1E-W0003 HCS01.1E-W0005 HCS01.1E-W0006 HCS01.1E-W0008 HCS01.1E-W0009 HCS01.1E-W0013	-	-	-	--	-
HCS02.1E-W0012 HCS02.1E-W0028 HMD01.1N-W0012 HMD01.1N-W0020 HMD01.1N-W0036 HMS01.1N-W0020 HMS01.1N-W0036 HMS02.1N-W0028	2.5	102EB	-	601EB	022EB
HCS01.1E-W0018 HCS01.1E-W0028	4.0 6.0	-	-	--	043FB 043GB
HCS01.1E-W0054	2.5	104EB	-	601EB[1)]	024EB [1)]
	4.0	104FB	-	602FB[2)]	044FB [2)]
	6.0	-	-	602GB[2)]	044GB
HCS02.1E-W0054 HCS02.1E-W0070 HCS03.1E-W0070 HMS01.1N-W0054 HMS01.1N-W0070 HMS02.1N-W0054	2.5	105EB	-	601EB[1)]	025EB[1)]
	4.0	105FB	-	602FB[2)]	045FB[2)]
	6.0	105GB	-	602GB[2)]	045GB[2)]
				603GB[3)]	065GB[3)]
	10.0	-	085HB	583HB[3)]	065HB[3)]
HCS03.1E-W0100 HCS03.1E-W0150 HMS01.1N-W0110 HMS01.1N-W0150 HMS01.1N-W0210 HMS01.1N-W0300	6.0	106GB	-	602GB[2)]	046GB[2)]
				603GB[3)]	066GB[3)]
	10.0	-	086HB	583HB[3)]	066HB[3)]
	16.0	-	086JB	583JB[3)]	066JB[3)]

Drive controller IndraDrive	Power cables ③ RL2-□□□□□□-NN-xxx,x			Extension ④ RL2--NN-xxx,x	Extension ① RL2-□□□□□□-NN-xxx,x
Example: HCS01 - ...	[mm²] ➦ Chapter 11.1 Cable specification on page 66	MS2N... Terminal boxes T (M32) □ B = Basic	MS2N... Terminal boxes T (M40) □ B = Basic	Motor ⇨ junction □ B = Basic	Junction ⇨ Controller □ B = Basic
HCS03.1E-W0210 HCS03.1E-W0280 HCS03.1E-W0350	10.0	-	087HB	583HB[3]	067HB[3]
	16.0	-	087JB	583JB[3]	067JB[3]
HMS01.1E-W0350	-	-	-	-	-
KMS03.1	-	-	-	-	-
KMS01.2 KMS02.1	-	-	-	--	-

[1] Connector size for extension cable **M23**

[2] Connector size for extension cable **M40**

[3] Connector size for extension cable **M58**

➦ Chapter 13 Accessories on page 75

Table 12: Power wire cross section, MS2N motor type

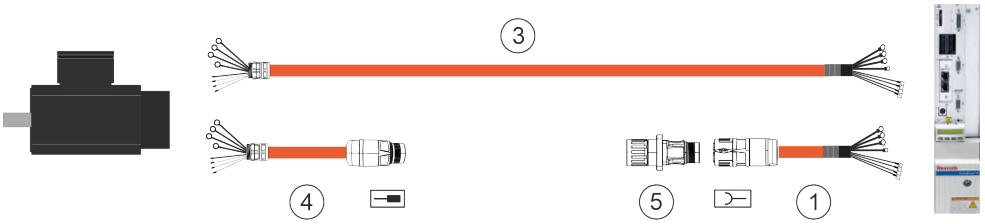
Motor	I_{0_60K} [A]	Power wire cross section * [mm²]	I_{0_100K} [A]	Power wire cross section * [mm²]	Connector
MS2N10-C0BHA-__T__-____-__	-	-	18.8	2.5	T (M32)
MS2N10-C0BHB-__T__-____-__	-	-	18.8	2.5	T (M32)
MS2N10-C0BNA-__T__-____-__	-	-	25.1	4.0	T (M32)
MS2N10-C0BNB-__T__-____-__	-	-	25.1	4.0	T (M32)
MS2N10-C0BNL-__T__-____-__	-	-	30.8	6.0	T (M32)
MS2N10-D0BHA-__T__-____-__	-	-	32.4	6.0	T (M32)
MS2N10-D0BHB-__T__-____-__	-	-	32.4	6.0	T (M32)
MS2N10-D0BHL-__T__-____-__	-	-	43.7	10.0	T (M32)
MS2N10-D0BHN-__T__-____-__	19.1	2.5	23.1	4.0	T (M32)
MS2N10-D0BNA-__T__-____-__	-	-	48	10.0	T (M32)
MS2N10-D0BNB-__T__-____-__	-	-	48	10.0	T (M32)
MS2N10-D0BNL-__T__-____-__	-	-	64.7	16.0	T (M32)
MS2N10-E0BHA-__T__-____-__	-	-	46.1	10.0	T (M32)
MS2N10-E0BHB-__T__-____-__	-	-	46.1	10.0	T (M32)
MS2N10-E0BHL-__T__-____-__	-	-	65.4	16.0	T (M32)
MS2N10-E0BNA-__T__-____-__	-	-	62.9	16.0	T (M40)
MS2N10-E0BNB-__T__-____-__	-	-	62.9	16.0	T (M40)
MS2N10-E1BNA-__T__-____-__	-	-	61.7	16.0	T (M40)
MS2N10-F0BDA-__T__-____-__	-	-	28.8	4.0	T (M32)
MS2N10-F0BDB-__T__-____-__	-	-	28.8	4.0	T (M40)
MS2N10-F0BHA-__T__-____-__	-	-	58.6	16.0	T (M40)
MS2N10-F0BHB-__T__-____-__	-	-	58.6	16.0	T (M40)
MS2N10-F0BNA-__T__-____-__	-	-	96	35.0	T (M40)
MS2N10-F0BNB-__T__-____-__	-	-	96	35.0	T (M40)
MS2N10-F1BHA-__T__-____-__	-	-	58.6	16.0	T (M40)
MS2N10-F1BHB-__T__-____-__	-	-	58.6	16.0	T (M40)
MS2N10-R0BLA-__T__-____-__	-	-	72.4	25.0	T (M40)

* Conditions according to ➥Chapter 11.1 Cable specification on page 66, deviations may require other power wire cross sections. Select the next higher power wire cross-section, subject to availability.

3.6 RL2 Power cables, for MS2N Electrical connection “C” (Terminal boxes)

This selection is valid for the following motor types:

MS2N□□-□□□□□-□□C□□-□□□□□-□□ List of motor types including recommended power wire cross-section➦ Table 13 Power wire cross section, MS2N motor type on page 33



Drive controller IndraDrive	Power cables ③ RL2-□□□□□□-NN-xxx,x		Extension ④ RL2--NN-xxx,x	Extension ① RL2-□□□□□□-NN-xxx,x
Example: HCS01 - ...	[mm²] ➦ Chapter 11.1 Cable specification on page 66	MS2N... Terminal boxes C (M50) □ B = Basic	Motor ⇨ junction □ B = Basic	Junction ⇨ Controller □ B = Basic
HCS01.1E-W0003 HCS01.1E-W0005 HCS01.1E-W0006 HCS01.1E-W0008 HCS01.1E-W0009 HCS01.1E-W0013	-	-	--	-
HCS02.1E-W0012 HCS02.1E-W0028 HMD01.1N-W0012 HMD01.1N-W0020 HMD01.1N-W0036 HMS01.1N-W0020 HMS01.1N-W0036 HMS02.1N-W0028	-	-	-	-
HCS01.1E-W0018 HCS01.1E-W0028	-	-	-	-
HCS01.1E-W0054	-	-	-	-
HCS02.1E-W0054 HCS02.1E-W0070 HCS03.1E-W0070 HMS01.1N-W0054 HMS01.1N-W0070 HMS02.1N-W0054	16.0	145JB	613JB	-
HCS03.1E-W0100 HCS03.1E-W0150 HMS01.1N-W0110 HMS01.1N-W0150 HMS01.1N-W0210 HMS01.1N-W0300	16.0	146JB	613JB[3)]	066JB[3)]
	25.0	146KB	613KB[3)]	066KB[3)]
	35.0	146LB	613LB[3)]	066LB[3)]
HCS03.1E-W0210 HCS03.1E-W0280 HCS03.1E-W0350	16.0	147JB	613JB[3)]	067JB[3)]
	25.0	147KB	613KB[3)]	067KB[3)]
	35.0	147LB	613LB[3)]	067LB[3)]
	AWG1/0	147MB	-	-

Drive controller IndraDrive	Power cables ③ RL2-□□□□□□-NN-xxx,x		Extension ④ RL2–NN-xxx,x	Extension ① RL2-□□□□□□-NN-xxx,x
Example: HCS01 - ...	[mm²] ➦ Chapter 11.1 Cable specification on page 66	MS2N... Terminal boxes C (M50) □ B = Basic	Motor ⇨ junction □ B = Basic	Junction ⇨ Controller □ B = Basic
HMS01.1E-W0350	16.0	148JB	613JB[3)]	-
	25.0	148KB	613KB[3)]	068KB[3)]
	35.0	148LB	613LB[3)]	-
	AWG1/0	148MB	-	-
KMS03.1	-	-	-	-
KMS01.2 KMS02.1	-	-	--	-

[1)] Connector size for extension cable **M23**

[2)] Connector size for extension cable **M40**

[3)] Connector size for extension cable **M58**

⑤➦ Chapter 13 Accessories on page 75

Table 13: Power wire cross section, MS2N motor type

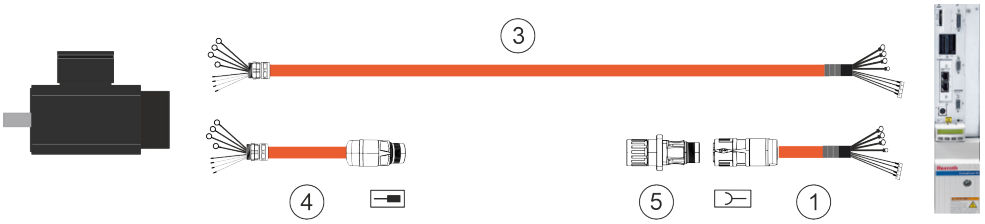
Motor	I_{0_60K} [A]	Power wire cross section * [mm²]	I_{0_100K} [A]	Power wire cross section * [mm²]	Connector
MS2N10-E0BNL-__C__-____-__	-	-	90	25.0	C (M50)
MS2N10-F0BHL-__C__-____-__	-	-	87.5	25.0	C (M50)
MS2N10-F0BNL-__C__-____-__	-	-	127	AWG1/0	C (M50)
MS2N10-F0CNL-__C__-____-__	-	-	120	AWG1/0	C (M50)
MS2N10-R0BLL-__C__-____-__	-	-	96.2	35.0	C (M50)
MS2N10-R0BQL-__C__-____-__	-	-	143	2x 25.0	C (M50)
MS2N13-B1BHC-__C__-____-__	-	-	63	16.0	C (M50)
MS2N13-B1BHL-__C__-____-__	-	-	72.5	25.0	C (M50)
MS2N13-B1BHN-__C__-____-__	36.5	6.0	38.7	10.0	C (M50)
MS2N13-B1BNC-__C__-____-__	-	-	87.3	25.0	C (M50)
MS2N13-B1BNL-__C__-____-__	-	-	100	35.0	C (M50)
MS2N13-B1BNN-__C__-____-__	50.7	10.0	53.6	16.0	C (M50)
MS2N13-C1BHC-__C__-____-__	-	-	85	25.0	C (M50)
MS2N13-C1BHL-__C__-____-__	-	-	98	35.0	C (M50)
MS2N13-C1BHN-__C__-____-__	48.4	10.0	52.3	10.0	C (M50)
MS2N13-C1BNC-__C__-____-__	-	-	111.5	35.0	C (M50)
MS2N13-C1BNL-__C__-____-__	-	-	127.5	AWG1/0	C (M50)
MS2N13-D1BHC-__C__-____-__	-	-	101.5	35.0	C (M50)
MS2N13-E1BNL-__C__-____-__	-	-	183	D	C (M50)

* Conditions according to ➦ Table 28 Cable cross section and current carrying capacity on page 66, deviations may require other power wire cross sections. Select the next higher power wire cross-section, subject to availability.

3.7 RL2 Power cables, for MS2N Electrical connection “E” (Terminal boxes)

This selection is valid for the following motor types:

MS2N□□-□□□□□-□□E□□-□□□□□-□□ List of motor types including recommended power wire cross-section➦ Table 14 Power wire cross section, MS2N motor type on page 35



Drive controller IndraDrive	Power cables ③ RL2-□□□□□□-NN-xxx,x		Extension ④ RL2--NN-xxx,x	Extension ① RLB2-□□□□□□-NN-xxx,x
Example: HCS01 - ...	[mm²] ➦ Chapter 11.1 Cable specification on page 66	MS2N... Terminal boxes C (M50) □ B = Basic	Motor ⇨ junction □ B = Basic	Junction ⇨ Controller □ B = Basic
HCS01.1E-W0003 HCS01.1E-W0005 HCS01.1E-W0006 HCS01.1E-W0008 HCS01.1E-W0009 HCS01.1E-W0013	-	-	--	-
HCS02.1E-W0012 HCS02.1E-W0028 HMD01.1N-W0012 HMD01.1N-W0020 HMD01.1N-W0036 HMS01.1N-W0020 HMS01.1N-W0036 HMS02.1N-W0028	-	-	-	-
HCS01.1E-W0018 HCS01.1E-W0028	-	-	-	-
HCS01.1E-W0054	-	-	-	-
HCS02.1E-W0054 HCS02.1E-W0070 HCS03.1E-W0070 HMS01.1N-W0054 HMS01.1N-W0070 HMS02.1N-W0054	-	-	-	-
HCS03.1E-W0100 HCS03.1E-W0150 HMS01.1N-W0110 HMS01.1N-W0150 HMS01.1N-W0210 HMS01.1N-W0300	25.0	166KB	623KB[3)]	066KB[3)]
	35.0	166LB	623LB[3)]	066LB[3)]
HCS03.1E-W0210 HCS03.1E-W0280 HCS03.1E-W0350	25.0	167KB	623KB[3)]	067KB[3)]
	35.0	167LB	623LB[3)]	067LB[3)]
	AWG1/0	167MB	-	-
HMS01.1E-W0350	16.0	-	-	-

Drive controller IndraDrive	Power cables ③ RL2-□□□□□□-NN-xxx,x		Extension ④ RL2–NN-xxx,x	Extension ① RLB2-□□□□□□-NN-xxx,x
Example: HCS01 - ...	[mm²] ➦ Chapter 11.1 Cable specification on page 66	MS2N... Terminal boxes C (M50) □ B = Basic	Motor ⇨ junction □ B = Basic	Junction ⇨ Controller □ B = Basic
	25.0	168KB	623KB[3)]	-
	35.0	168LB	623LB[3)]	-
	AWG1/0	-	-	-
KMS03.1	-	-	-	-
KMS01.2 KMS02.1	-	-	--	-

[1)] Connector size for extension cable **M23**

[2)] Connector size for extension cable **M40**

[3)] Connector size for extension cable **M58**

⑤➦ Chapter 13 Accessories on page 75

Table 14: Power wire cross section, MS2N motor type

Motor	I_{0_60K} [A]	Power wire cross section * [mm²]	I_{0_100K} [A]	Power wire cross section * [mm²]	Connector
MS2N13-D1BHC-__E__-____-__	-	-	101.5	35.0	E (M50)
MS2N13-D1BHL-__E__-____-__	-	-	122	AWG1/0	E (M50)
MS2N13-D1BHN-__E__-____-__	56.5	16.0	62.5	16.0	E (M50)
MS2N13-D1BNC-__E__-____-__	-	-	134.5	AWG1/0	E (M50)
MS2N13-D1BNL-__E__-____-__	-	-	162	D	E (M50)
MS2N13-D1BNN-__E__-____-__	74.3	25.0	83	25.0	E (M50)
MS2N13-E1BHC-__E__-____-__	-	-	116	35.0	E (M50)
MS2N13-E1BHL-__E__-____-__	-	-	138	AWG1/0	E (M50)
MS2N13-E1BNC-__E__-____-__	-	-	152	D	E (M50)
MS2N13-E1BNL-__E__-____-__	-	-	183	D	E (M50)
MS2N13-E1BNN-__E__-____-__	83.8	25.0	94.8	35.0	E (M50)
MS2N16-E1BNL-__E__-____-__	-	-	217.2	D	E (M50)

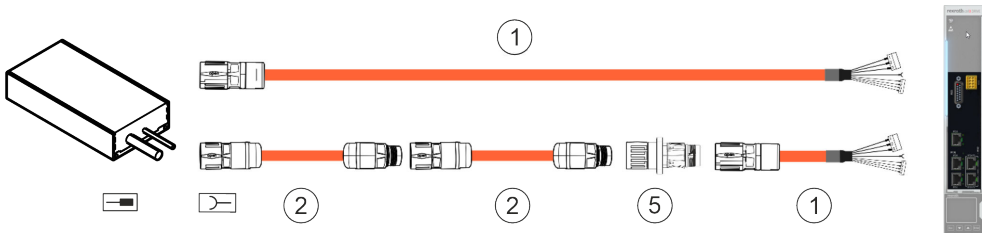
* Conditions according to ➦ Table 28 Cable cross section and current carrying capacity on page 66, deviations may require other power wire cross sections. Select the next higher power wire cross-section, subject to availability.

4 ML3 Power cables (double) with IndraDrive

4.1 RLC1 Power cables, for ML3 electrical connection M23 (double clamping)

This selection is valid for the following motor types:

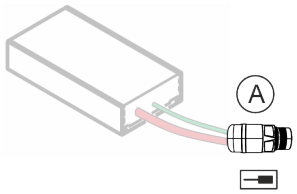
ML3□-□□□□□-□□E□-□□□□□-□□ List motor type including recommended power wire cross-section➥ Table 15 Power wire cross section, ML3 motor type on page 37



Drive controller IndraDrive	Power cables ① RLC1-□□□□□□-NN-xxx,x		Extension ② RLC1-□□□□□□-NN-xxx,x
Example: HCS01 - ...	[mm²] ➥ Chapter 11.1 Cable specification on page 66	□ B = Basic	□ B = Basic
HCS01.1E-W0003 HCS01.1E-W0005 HCS01.1E-W0006 HCS01.1E-W0008 HCS01.1E-W0009 HCS01.1E-W0013	0.75	121BG	532BG
HCS02.1E-W0012 HCS02.1E-W0028 HMD01.1N-W0012 HMD01.1N-W0020 HMD01.1N-W0036 HMS01.1N-W0020 HMS01.1N-W0036 HMS02.1N-W0028	0.75	125BG	532BG
HCS01.1E-W0018 HCS01.1E-W0028	0.75 2.5	122BG 122EC	532BG 532EC
HCS01.1E-W0054	2.5	123EC	532EC
HCS02.1E-W0054 HCS02.1E-W0070 HCS03.1E-W0070 HMS01.1N-W0054 HMS01.1N-W0070 HMS02.1N-W0054	0.75 2.5	124BG 124EC	532BG 532EC
HCS03.1E-W0100 HCS03.1E-W0150 HMS01.1N-W0110 HMS01.1N-W0150 HMS01.1N-W0210 HMS01.1N-W0300	-	-	-

Drive controller IndraDrive	Power cables ① RLC1-□□□□□□-NN-xxx,x		Extension ② RLC1-□□□□□□-NN-xxx,x
Example: HCS01 - ...	[mm²] → Chapter 11.1 Cable specification on page 66	□ B = Basic	□ B = Basic
HCS03.1E-W0210 HCS03.1E-W0280 HCS03.1E-W0350	-	-	-
HMS01.1E-W0350	-	-	-
KMS03.1	0.75	127BG	532BG
	2.5	127EC	532EC
KMS01.2 KMS02.1	0.75	126BG	532BG
	2.5	126EC	532EC

⑤ → Chapter 13 Accessories on page 75



NOTICE

Connector (connector set to assemble the connection cable to the motor)

The prerequisite for connecting ready-made cables is the preparation of the ML3 motors. The connection cables of ML3 motors have to be prepared Ⓐ with connector sets. For further information refer to the ML3 motors documentation.

Table 15: Power wire cross section, ML3 motor type

Motors Installation mode A20/80K	I_{N_20} [A]	Power wire cross section * [mm²]	Connector set Ⓐ
ML3P03-ANBWN	1.5	4x0.75	R911398822 RLS2352/CUB3 (M23)
ML3P03-BNBWN	3.0	4x0.75	R911398822 RLS2352/CUB3 (M23)
ML3P03-DNBWN	6.0	4x0.75	R911398822 RLS2352/CUB3 (M23)
ML3P03-FNBNN	4.5	4x0.75	R911398822 RLS2352/CUB3 (M23)
ML3P03-FNBUN	9.3	4x0.75	R911398822 RLS2352/CUB3 (M23)
ML3P06-BNBKU	2.15	4x0.75	R911398823 RLS2362/CUB3 (M23)
ML3P06-BNBRU	4.3	4x0.75	R911398823 RLS2362/CUB3 (M23)
ML3P06-CNBCU	2.15	4x0.75	R911398823 RLS2362/CUB3 (M23)
ML3P06-CNBRU	6.45	4x0.75	R911398823 RLS2362/CUB3 (M23)
ML3P06-DNBKU	4.3	4x0.75	R911398823 RLS2362/CUB3 (M23)
ML3P06-DNBRU	8.60	4x0.75	R911398823 RLS2362/CUB3 (M23)
ML3P06-ENBKU	4.46	4x0.75	R911398823 RLS2362/CUB3 (M23)
ML3P06-FNBKU	6.5	4x0.75	R911398823 RLS2362/CUB3 (M23)
ML3P06-HNBKU	8.60	4x0.75	R911398823 RLS2362/CUB3 (M23)
ML3P11-DNBFN	4.10	4x0.75	R911398824 RLS2372/CUB3 (M23)
ML3P11-DNBQN	8.20	4x0.75	R911398824 RLS2372/CUB3 (M23)

Motors Installation mode A20/80K	I_{N_20} [A]	Power wire cross section * [mm²]	Connector set Ⓐ
ML3P11-ENBCN	4.20	4x0.75	R911398824 RLS2372/CUB3 (M23)
ML3P11-ENBQN	10.2	4x0.75	R911398824 RLS2372/CUB3 (M23)
ML3P11-FNBFN	6.1	4x0.75	R911398824 RLS2372/CUB3 (M23)
ML3P11-HNBCN	6.6	4x0.75	R911398824 RLS2372/CUB3 (M23)
ML3P11-LNBCN	8.50	4x0.75	R911398824 RLS2372/CUB3 (M23)
ML3P06-ENBRU	10.75	4x2.5	R911398824 RLS2372/CUB3 (M23)
ML3P06-FNBRU	13.3	4x2.5	R911398824 RLS2372/CUB3 (M23)
ML3P06-HNBRU	17.20	4x2.5	R911398824 RLS2372/CUB3 (M23)
ML3P11-LNBQN	20.50	4x2.5	R911398824 RLS2372/CUB3 (M23)

* Conditions according to ➦Table 28 Cable cross section and current carrying capacity on page 66, deviations may require other power cable cross sections.

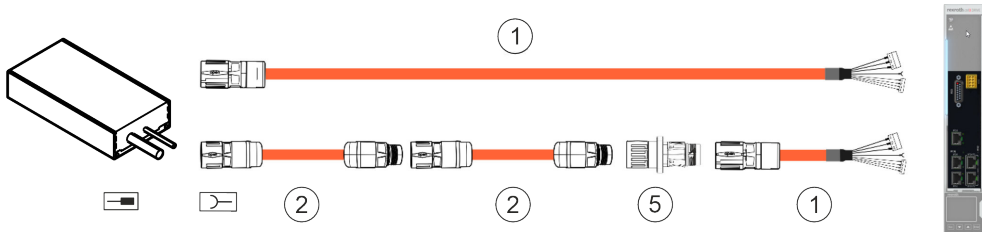
Motors Installation mode A40/60K	I_{N_40} [A]	Power wire cross section * [mm²]	Connector set Ⓐ
ML3P03-ANBWN	1.3	4x0.75	R911398822 RLS2352/CUB3 (M23)
ML3P03-BNBWN	2.6	4x0.75	R911398822 RLS2352/CUB3 (M23)
ML3P03-DNBWN	5.20	4x0.75	R911398822 RLS2352/CUB3 (M23)
ML3P03-FNBNN	3.9	4x0.75	R911398822 RLS2352/CUB3 (M23)
ML3P03-FNBUN	8.1	4x0.75	R911398822 RLS2352/CUB3 (M23)
ML3P06-BNBKU	1.9	4x0.75	R911398823 RLS2362/CUB3 (M23)
ML3P06-BNBRU	3.7	4x0.75	R911398823 RLS2362/CUB3 (M23)
ML3P06-CNBCU	1.9	4x0.75	R911398823 RLS2362/CUB3 (M23)
ML3P06-CNBRU	5.6	4x0.75	R911398823 RLS2362/CUB3 (M23)
ML3P06-DNBKU	3.72	4x0.75	R911398823 RLS2362/CUB3 (M23)
ML3P06-DNBRU	7.4	4x0.75	R911398823 RLS2362/CUB3 (M23)
ML3P06-ENBKU	3.86	4x0.75	R911398823 RLS2362/CUB3 (M23)
ML3P06-ENBRU	9.31	4x0.75	R911398823 RLS2362/CUB3 (M23)
ML3P06-FNBKU	5.6	4x0.75	R911398823 RLS2362/CUB3 (M23)
ML3P06-HNBKU	7.45	4x0.75	R911398823 RLS2362/CUB3 (M23)
ML3P11-DNBFN	3.6	4x0.75	R911398824 RLS2372/CUB3 (M23)
ML3P11-DNBQN	7.1	4x0.75	R911398824 RLS2372/CUB3 (M23)
ML3P11-ENBCN	3.64	4x0.75	R911398824 RLS2372/CUB3 (M23)
ML3P11-ENBQN	8.83	4x0.75	R911398824 RLS2372/CUB3 (M23)
ML3P11-FNBFN	5.28	4x0.75	R911398824 RLS2372/CUB3 (M23)
ML3P11-HNBCN	5.71	4x0.75	R911398824 RLS2372/CUB3 (M23)
ML3P11-LNBCN	7.36	4x0.75	R911398824 RLS2372/CUB3 (M23)
ML3P06-FNBRU	11.5	4x2.5	R911398824 RLS2372/CUB3 (M23)
ML3P06-HNBRU	14.9	4x2.5	R911398824 RLS2372/CUB3 (M23)
ML3P11-LNBQN	17.75	4x2.5	R911398824 RLS2372/CUB3 (M23)

* Conditions according to ➦Table 28 Cable cross section and current carrying capacity on page 66, deviations may require other power cable cross sections.

4.2 RLC1 Power cables, for ML3 electrical connection M40 (double clamping)

This selection is valid for the following motor types:

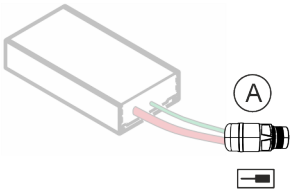
ML3□□-□□□□□-□□E□□-□□□□□-□□ List motor type including recommended power wire cross-section➥ Table 16 Power wire cross section, ML3 motor type on page 40



Drive controller IndraDrive	Power cables ① RLC1-□□□□□□-NN-xxx,x		Extension ② RLCx-□□□□□□-NN-xxx.x
Example: HCS01 - ...	[mm²] ➥ Chapter 11.1 Cable specification on page 66	□ B = Basic	□ B = Basic
HCS01.1E-W0003 HCS01.1E-W0005 HCS01.1E-W0006 HCS01.1E-W0008 HCS01.1E-W0009 HCS01.1E-W0013	-	-	-
HCS02.1E-W0012 HCS02.1E-W0028 HMD01.1N-W0012 HMD01.1N-W0020 HMD01.1N-W0036 HMS01.1N-W0020 HMS01.1N-W0036 HMS02.1N-W0028	-	-	-
HCS01.1E-W0018 HCS01.1E-W0028	-	-	-
HCS01.1E-W0054	6.0	143GD	RLC2-542GD
HCS02.1E-W0054 HCS02.1E-W0070 HCS03.1E-W0070 HMS01.1N-W0054 HMS01.1N-W0070 HMS02.1N-W0054	-	-	-
HCS03.1E-W0100 HCS03.1E-W0150 HMS01.1N-W0110 HMS01.1N-W0150 HMS01.1N-W0210 HMS01.1N-W0300	-	-	-
HCS03.1E-W0210 HCS03.1E-W0280 HCS03.1E-W0350	-	-	-
HMS01.1E-W0350	-	-	-
KMS03.1	-	-	-

Drive controller IndraDrive	Power cables ① RLC1-□□□□□□-NN-xxx,x		Extension ② RLCx-□□□□□□-NN-xxx.x
Example: HCS01 - ...	[mm²] ➦Chapter 11.1 Cable specification on page 66	□ B = Basic	□ B = Basic
KMS01.2 KMS02.1	-	-	-

⑤➦Chapter 13 Accessories on page 75



NOTICE

Connector (connector set to assemble the connection cable to the motor)

The prerequisite for connecting ready-made cables is the preparation of the ML3 motors. The connection cables of ML3 motors have to be prepared Ⓐ with connector sets. For further information refer to the ML3 motors documentation.

Table 16: Power wire cross section, ML3 motor type

Motors Installation mode A20/60K	I_{N_20} [A]	Power wire cross section * [mm²]	Connector set Ⓐ
ML3P11-RNBCU-BANNN-NN	12.7	4x6.0	R911423737 RLS4052/CUB3
ML3P11-RNBQU-BANNN-NN	30.7	4x6.0	R911423737 RLS4052/CUB3

* Conditions according to ➦Table 28 Cable cross section and current carrying capacity on page 66, deviations may require other power cable cross sections.

Motors Installation mode A40/60K	I_{N_40} [A]	Power wire cross section * [mm²]	Connector set Ⓐ
ML3P11-RNBCU-BANNN-NN	11.0	4x6.0	R911423737 RLS4052/CUB3
ML3P11-RNBQU-BANNN-NN	26.59	4x6.0	R911423737 RLS4052/CUB3

* Conditions according to ➦Table 28 Cable cross section and current carrying capacity on page 66, deviations may require other power cable cross sections.

5 Power cables 1MB, MBS, MBT, MLF kit motors with IndraDrive

5.1 RL2 Power cables, for 1MB, MBS, MBT, MLF Kit motors

Power cables for kit motors

Kit motors typically consist of an active and a passive motor part, so the OEM has to integrate these motor components into the machine design and design a solution for the electrical connection.

There are two general solutions for an electrical connection:

- A **terminal box** can be a customized solution for certain machine designs, but separate terminal boxes are not part of the Rexroth product portfolio. Contact your local accessory dealer, if you need such components.
- **Plug-in connector & ready-made cables** offer a solution of connections for a simple handling and maintenance.
  Cable connectors are a part of ready-made cables from Rexroth. The counterpart, the cable coupling, must be selected from the Rexroth connector program according to the respective requirement.

The following selection list only contains solutions with ready-made cables. Selection procedure:

- The rated motor current can be found on the motor data sheet or in the manual.
- Navigate to the table on the next page and select the row with the respective current.
- Select the cable type from the column with the respective control unit type.

The ready-made cable requires a counter-coupling at the motor or the machine of the kit. To select the appropriate connector for mounting on the kit motor, contact your local Rexroth sales partner.

NOTICE	Standard types of pre-assembled motor power cables always have 4 wires with smaller cross-sections, which are used for temperature signals and brake control. If no external brake is used in this kit axis, clamp the brake wires of the ready-made cable and securely terminated on the drive controller side of the cable. Disconnect the brake wires 3 (BD+) and 4 (BD-) on the controller side of the cable and secure it against electric contact. For details about cabling refer to the chapter “Cable connection” in the following.

For the encoder, you should preferably choose cables and connectors from the Rexroth portfolio. Please check compatibility issues regarding sensors or kit motors from third-party suppliers with your Rexroth sales partner.

Drive controller IndraDrive		Power cables ① RL2-□□□□□□-NN-xxx,x		Extension ② RL2-□□□□□□-NN-xxx,x
Example: HCS01 - ...	Connector size	[mm²] ⇀ Chapter 11.1 Cable specification on page 66	□ B = Basic	□ B = Basic
HCS01.1E-W0003 HCS01.1E-W0005 HCS01.1E-W0006 HCS01.1E-W0008 HCS01.1E-W0009 HCS01.1E-W0013	M17	1.0	021CB	500CB
HCS02.1E-W0012 HCS02.1E-W0028 HMD01.1N-W0012 HMD01.1N-W0020 HMD01.1N-W0036 HMS01.1N-W0020 HMS01.1N-W0036 HMS02.1N-W0028	M17	1.0	002CB	-
	M23	1.5	022DB	521DB
	M40	2.5	042EB	542EB
	M40	4.0	-	542FB
	M40	6.0	-	542GB
HCS01.1E-W0018 HCS01.1E-W0028	M17	1.0	003CB	-
	M23	1.5	023DB	521DB
	M40	2.5	043EB	542EB
	M40	4.0	-	542FB
	M40	6.0	-	542GB
HCS01.1E-W0054	M17	1.0	004CB	-
	M23	1.5	024DB	521DB
	M40	2.5	044EB	542EB
	M40	4.0	-	542FB
	M40	6.0	-	542GB
HCS02.1E-W0054 HCS02.1E-W0070 HCS03.1E-W0070 HMS01.1N-W0054 HMS01.1N-W0070 HMS02.1N-W0054	M17	1.0	005CB	500CB
	M23	1.5	025DB	521DB
	M40	2.5	045EB	542EB
	M40	4.0	045FB *	542FB
	M40	6.0	-	542GB
	M58	10.0	065HB	563HB
	M58	16.0	-	563JB
HCS03.1E-W0100 HCS03.1E-W0150 HMS01.1N-W0110 HMS01.1N-W0150 HMS01.1N-W0210 HMS01.1N-W0300	M40	2.5	046EB	542EB
	M40	4.0	046FB	542FB
	M40	6.0	046GB	542GB
	M58	10.0	046HB	563HB
	M58	16.0	046JB	563JB
	M58	25.0	046KB	563KB
	M58	35.0	046LB	563LB
HCS03.1E-W0210 HCS03.1E-W0280 HCS03.1E-W0350	M58	10.0	067HB	563HB
	M58	16.0	067JB	563JB
	M58	25.0	067KB	563KB
	M58	35.0	067LB	563LB
HMS01.1E-W0350	M58	25.0	068B	563KB

Drive controller IndraDrive		Power cables ① RL2-□□□□□□-NN-xxx,x		Extension ② RL2-□□□□□□-NN-xxx,x
Example: HCS01 - ...	Connector size	[mm²] ➥ Chapter 11.1 Cable specification on page 66	□ B = Basic	□ B = Basic
KMS03.1	M17	1.0	009CB	500CB
	M23	1.5	029DB	521DB
	M40	2.5	029EB	542EB
	M40	4.0	-	542FB
	M40	6.0	-	542GB
KMS01.2 KMS02.1	M17	1.0	010CB	500CB
	M23	1.5	521CB	521DB
	M40	2.5	541CB	542EB

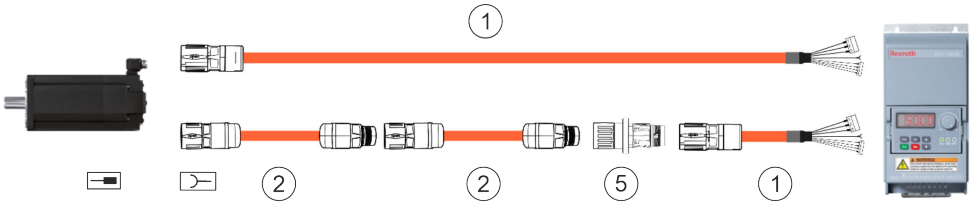
➥ Chapter 13 Accessories on page 75

6 Power cables MS2N with EFC

6.1 RLB3 Power cables, for MS2N Electrical connection "V" (M40) on EFC

This selection is valid for the following motor types:

MS2N□□-□□□□□-□□V□□-□□□□□-□□ List of motor types including recommended power wire cross-section➥ Table 17 Power wire cross section, MS2N motor type on page 45



Drive controller EFC	Power cables ① RLB3 RLB3-□□□□□□-NN-xxx,x		Extension ② RL2-□□□□□□-NN-xxx,x
Example: EFC5610 - ...	[mm²] ➥ Chapter 11.1 Cable specification on page 66	□ B = Basic	□ B = Basic
EFC5610-0K40 EFC5610-0K75 EFC5610-1K50 EFC5610-2K20	-	-	-
EFC5610-3K00 EFC5610-4K00	-	-	-
EFC5610-5K50 EFC5610-7K50	-	-	-
EFC5610-11K0 EFC5610-15K0	2.5 6.0	044EC 044GD	542EB 542GB
EFC5610-18K5 EFC5610-22K0	-	-	-
EFC5610-30K0 EFC5610-37K0	-	-	-
EFC5610-45K0 EFC5610-55K0	-	-	-
EFC5610-75K0 EFC5610-90K0	-	-	-

➥ Chapter 13 Accessories on page 75

Table 17: Power wire cross section, MS2N motor type

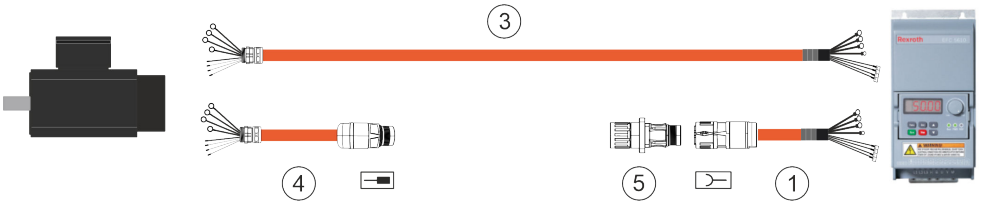
Motor	I_{0_60K} [A]	Power wire cross section * [mm²]	I_{0_100K} [A]	Power wire cross section * [mm²]	Connector
MS2N07-C0BQA-__V__-____-__	-	-	15.8	2.5	M40
MS2N07-C0BQB-__V__-____-__	-	-	15.8	2.5	M40
MS2N07-C0BQL-__V__-____-__	-	-	22.3	2.5	M40
MS2N07-C1BRL-__V__-____-__	-	-	20.8	2.5	M40
MS2N07-D0BNA-__V__-____-__	-	-	19.1	2.5	M40
MS2N07-D0BNB-__V__-____-__	-	-	19.1	2.5	M40
MS2N07-D0BNL-__V__-____-__	-	-	31	6.0	M40
MS2N07-D0BRN-__V__-____-__	17.1	2.5	22.3	2.5	M40
MS2N07-D1BNA-__V__-____-__	-	-	16.3	2.5	M40
MS2N07-D1BNB-__V__-____-__	-	-	16.3	2.5	M40
MS2N07-E0BHA-__V__-____-__	-	-	17.9	2.5	M40
MS2N07-E0BHB-__V__-____-__	-	-	17.9	2.5	M40
MS2N07-E0BHL-__V__-____-__	-	-	31.5	6.0	M40
MS2N07-E0BNN-__V__-____-__	15.1	1.5	20	2.5	M40
MS2N07-E0BQA-__V__-____-__	-	-	33.3	6.0	M40
MS2N07-E0BQB-__V__-____-__	-	-	33.3	6.0	M40
MS2N07-E1BNN-__V__-____-__	14.1	1.5	17.7	2.5	M40
MS2N10-C0BHA-__V__-____-__	-	-	18.8	2.5	M40
MS2N10-C0BHB-__V__-____-__	-	-	18.8	2.5	M40
MS2N10-C0BNN-__V__-____-__	16.8	2.5	19.3	2.5	M40
MS2N10-C1BHA-__V__-____-__	-	-	16.7	2.5	M40
MS2N10-C1BHB-__V__-____-__	-	-	16.7	2.5	M40
MS2N10-C1BNN-__V__-____-__	16.5	2.5	19	2.5	M40
MS2N10-D0BHA-__V__-____-__	-	-	32.4	6.0	M40
MS2N10-D0BHB-__V__-____-__	-	-	32.4	6.0	M40
MS2N10-D0BNN-__V__-____-__	28.2	4.0	34.1	6.0	M40
MS2N10-D1BFN-__V__-____-__	14.3	1.5	17.2	2.5	M40
MS2N10-D1BNN-__V__-____-__	28.6	4.0	34.3	6.0	M40
MS2N10-E0BHN-__V__-____-__	25	4.0	31	6.0	M40
MS2N10-E1BFA-__V__-____-__	-	-	30.8	6.0	M40
MS2N10-E1BFB-__V__-____-__	-	-	30.8	6.0	M40
MS2N10-E1BFN-__V__-____-__	17.1	2.5	20.5	2.5	M40
MS2N10-F0BDN-__V__-____-__	15.8	2.5	19.5	2.5	M40
MS2N10-F1BDN-__V__-____-__	15.9	2.5	19.5	2.5	M40

* Conditions according to ➥ Table 28 Cable cross section and current carrying capacity on page 66, deviations may require other power wire cross sections. Select the next higher power wire cross-section, subject to availability.

6.2 RLB3 Power cables, for MS2N Electrical connection “T" (M40 Terminal boxes) on EFC

This selection is valid for the following motor types:

MS2N□□-□□□□□-□□T□□-□□□□□-□□ List of motor types including recommended power wire cross-section➥ Table 18 Power wire cross section, MS2N motor type on page 47



Drive controller EFC	Power cables ① RLB3 RLB3-□□□□□□-NN-xxx,x		Extension ② RL2-□□□□□□-NN-xxx,x
Example: EFC5610 - ...	[mm²] ➥ Chapter 11.1 Cable specification on page 66	MS2N... Terminal boxes T (M40) □ B = Basic	□ B = Basic
EFC5610-0K40 EFC5610-0K75 EFC5610-1K50 EFC5610-2K20	-	-	-
EFC5610-3K00 EFC5610-4K00	-	-	-
EFC5610-5K50 EFC5610-7K50	-	-	-
EFC5610-11K0 EFC5610-15K0	-	-	-
EFC5610-18K5 EFC5610-22K0	10.0	085HD	-
EFC5610-30K0 EFC5610-37K0	16.0	086JE	-
EFC5610-45K0 EFC5610-55K0	-	-	-
EFC5610-75K0 EFC5610-90K0	-	-	-

➥ Chapter 13 Accessories on page 75

Table 18: Power wire cross section, MS2N motor type

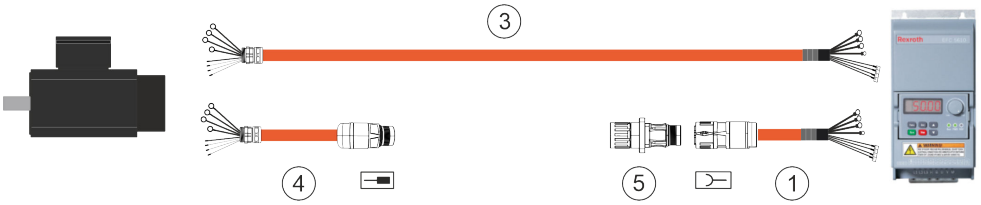
Motor	I_{0_60K} [A]	Power wire cross section * [mm²]	I_{0_100K} [A]	Power wire cross section * [mm²]	Connector
MS2N10-D0BHL-__T__-____-__	-	-	43.7	10.0	T (M40)
MS2N10-D0BNA-__T__-____-__	-	-	48	10.0	T (M40)
MS2N10-D0BNB-__T__-____-__	-	-	48	10.0	T (M40)
MS2N10-D0BNL-__T__-____-__	-	-	64.7	16.0	T (M40)
MS2N10-E0BHA-__T__-____-__	-	-	46.1	10.0	T (M40)
MS2N10-E0BHB-__T__-____-__	-	-	46.1	10.0	T (M40)
MS2N10-E0BHL-__T__-____-__	-	-	65.4	16.0	T (M40)
MS2N10-E0BNA-__T__-____-__	-	-	62.9	16.0	T (M40)
MS2N10-E0BNB-__T__-____-__	-	-	62.9	16.0	T (M40)
MS2N10-E1BNA-__T__-____-__	-	-	61.7	16.0	T (M40)
MS2N10-F0BHA-__T__-____-__	-	-	58.6	16.0	T (M40)
MS2N10-F0BHB-__T__-____-__	-	-	58.6	16.0	T (M40)
MS2N10-F1BHA-__T__-____-__	-	-	58.6	16.0	T (M40)
MS2N10-F1BHB-__T__-____-__	-	-	58.6	16.0	T (M40)

* Conditions according to ➥ Table 28 Cable cross section and current carrying capacity on page 66, deviations may require other power wire cross sections. Select the next higher power wire cross-section, subject to availability.

6.3 RLB3 Power cables, for MS2N Electrical connection "E" (M50 Terminal boxes) on EFC

This selection is valid for the following motor types:

MS2N□□-□□□□□-□□E□□-□□□□□-□□ List of motor types including recommended power wire cross-section➥ Table 19 Power wire cross section, MS2N motor type on page 48



Drive controller EFC	Power cables ① RLB3 RLB3-□□□□□□-NN-xxx,x		Extension ② RL2-□□□□□□-NN-xxx,x
Example: EFC5610 - ...	[mm²] / [AWG] ➥ Chapter 11.1 Cable specification on page 66	MS2N... Terminal boxes E (M50) □ B = Basic	□ B = Basic
EFC5610-0K40 EFC5610-0K75 EFC5610-1K50 EFC5610-2K20	-	-	-
EFC5610-3K00 EFC5610-4K00 EFC5610-5K50	-	-	-
EFC5610-5K50 EFC5610-7K50	-	-	-
EFC5610-11K0 EFC5610-15K0	-	-	-
EFC5610-18K5 EFC5610-22K0	-	-	-
EFC5610-30K0 EFC5610-37K0	-	-	-
EFC5610-45K0 EFC5610-55K0	35.0 AWG1/0	127LE 127MF	-
EFC5610-75K0 EFC5610-90K0	35.0 AWG1/0	128LE 128MF	-

➥ Chapter 13 Accessories on page 75

Table 19: Power wire cross section, MS2N motor type

Motor	I_{0_60K} [A]	Power wire cross section * [mm²]	I_{0_100K} [A]	Power wire cross section * [mm²]	Connector
MS2N13-D1BHC-__E__-____-__	-	-	101.5	35.0	E (M50)
MS2N13-D1BHL-__E__-____-__	-	-	122	AWG1/0	E (M50)
MS2N13-D1BNC-__E__-____-__	-	-	134.5	AWG1/0	E (M50)
MS2N13-D1BNL-__E__-____-__	-	-	162	D	E (M50)
MS2N13-E1BHC-__E__-____-__	-	-	116	35.0	E (M50)
MS2N13-E1BHL-__E__-____-__	-	-	138	AWG1/0	E (M50)

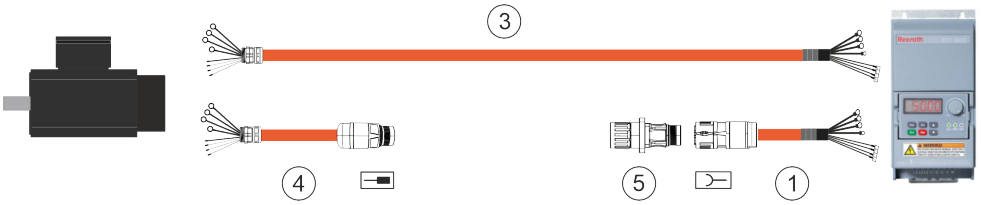
Motor	I_{0_60K} [A]	Power wire cross section * [mm²]	I_{0_100K} [A]	Power wire cross section * [mm²]	Connector
MS2N13-E1BNC-__E__-____-__	-	-	152	D	E (M50)
MS2N13-E1BNL-__E__-____-__	-	-	183	D	E (M50)
MS2N13-E1BNN-__E__-____-__	83.8	25.0	94.8	35.0	E (M50)
MS2N16-E1BNL-__E__-____-__	-	-	217.2	D	E (M50)

* Conditions according to ➥ Table 28 Cable cross section and current carrying capacity on page 66, deviations may require other power wire cross sections. Select the next higher power wire cross-section, subject to availability.

6.4 RLB3 Power cables, for MS2N Electrical connection "C" (M50 Terminal boxes) on EFC

This selection is valid for the following motor types:

MS2N□□-□□□□□-□□T□□-□□□□□-□□ List of motor types including recommended power wire cross-section➥ Further information on page 50



Drive controller EFC	Power cables ① RLB3 RLB3-□□□□□□-NN-xxx,x		Extension ② RL2-□□□□□□-NN-xxx,x
Example: EFC5610 - ...	[mm²] / [AWG] ➥ Chapter 11.1 Cable specification on page 66	MS2N... Terminal boxes C (M50) □ B = Basic	□ B = Basic
EFC5610-0K40 EFC5610-0K75 EFC5610-1K50 EFC5610-2K20	-	-	-
EFC5610-3K00 EFC5610-4K00 EFC5610-5K50	-	-	-
EFC5610-5K50 EFC5610-7K50	-	-	-
EFC5610-11K0 EFC5610-15K0	-	-	-
EFC5610-18K5 EFC5610-22K0	-	-	-
EFC5610-30K0 EFC5610-37K0	25.0	116KE	-
EFC5610-45K0 EFC5610-55K0	25.0 AWG1/0	117KE 117MF	-
EFC5610-75K0 EFC5610-90K0	-	-	-

➥ Chapter 13 Accessories on page 75

Table 20: Power wire cross section, MS2N motor type

Motor	I_{0_60K} [A]	Power wire cross section * [mm²]	I_{0_100K} [A]	Power wire cross section * [mm²]	Connector
MS2N10-E0BNL-__C__-____-__	-	-	90	25.0	C (M50)
MS2N10-F0BHL-__C__-____-__	-	-	87.5	25.0	C (M50)
MS2N10-F0BNL-__C__-____-__	-	-	127	AWG1/0	C (M50)
MS2N10-F0CNL-__C__-____-__	-	-	120	AWG1/0	C (M50)
MS2N13-B1BHL-__C__-____-__	-	-	72.5	25.0	C (M50)
MS2N13-B1BNC-__C__-____-__	-	-	87.3	25.0	C (M50)
MS2N13-C1BHC-__C__-____-__	-	-	85	25.0	C (M50)

Motor	I_{0_60K} [A]	Power wire cross section * [mm²]	I_{0_100K} [A]	Power wire cross section * [mm²]	Connector
MS2N13-C1BNL-__C__-____-__	-	-	127.5	AWG1/0	C (M50)

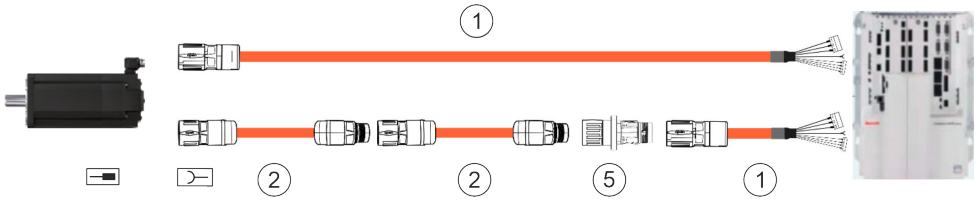
* Conditions according to ➥ Table 28 Cable cross section and current carrying capacity on page 66, deviations may require other power wire cross sections. Select the next higher power wire cross-section, subject to availability.

7 Power cables MS2N with MTX micro

7.1 RLB4 Power cables, ready-made for MS2N Electrical connection "U" (M23)

This selection is valid for the following motor types:

MS2N□□-□□□□□-□□U□□-□□□□□-□□ List of motor types including recommended power wire cross-section➥ Table 21 Power wire cross section, MS2N motor type on page 52



Drive controller MTXmicro	Power cables ① RLB4-□□□□□□-NN-xxx,x		Extension ② RL2-□□□□□□-NN-xxx,x
Example: HC□02.1E - ...	[mm²] ➥ Chapter 11.1 Cable specification on page 66	□ B = Basic	□ B = Basic
HCQ02.1E-W0025 X5.1 X5.2 X5.3 X5.4	1.0	021CB	521CB
HCT02.1E-W0025 X5.1 X5.2 X5.3	1.0	021CB	521CB

➥ Chapter 13 Accessories on page 75

Table 21: Power wire cross section, MS2N motor type

Motor	I_{0_60K} [A]	Power wire cross section * [mm²]	I_{0_100K} [A]	Power wire cross section * [mm²]	Connector
MS2N06-B1BNN-__U__-____-__	2.22	0.75 or 1.0	2.47	0.75 or 1.0	M23
MS2N06-C0BNN-__U__-____-__	3.75	0.75 or 1.0	4.5	0.75 or 1.0	M23
MS2N06-C0BTN-__U__-____-__	7.5	0.75 or 1.0	9	0.75 or 1.0	M23
MS2N06-D0BNN-__U__-____-__	6.1	0.75 or 1.0	7.55	0.75 or 1.0	M23
MS2N06-D0BRN-__U__-____-__	7.85	0.75 or 1.0	9.75	0.75 or 1.0	M23
MS2N06-D1BNN-__U__-____-__	5.05	0.75 or 1.0	6.25	0.75 or 1.0	M23
MS2N06-E0BHN-__U__-____-__	5.4	0.75 or 1.0	6.8	0.75 or 1.0	M23
MS2N07-B1BNN-__U__-____-__	4.25	0.75 or 1.0	4.74	0.75 or 1.0	M23
MS2N07-C0BNN-__U__-____-__	6.9	0.75 or 1.0	8.8	0.75 or 1.0	M23
MS2N07-C0BQN-__U__-____-__	10.1	0.75 or 1.0	12.9	1.0	M23
MS2N07-C1BNA-__U__-____-__	-	-	10.4	0.75 or 1.0	M23
MS2N07-C1BNN-__U__-____-__	6.6	0.75 or 1.0	8.35	0.75 or 1.0	M23
MS2N07-C1BRN-__U__-____-__	9.55	0.75 or 1.0	12.1	1.0	M23
MS2N07-D0BFA-__U__-____-__	-	-	9.55	0.75 or 1.0	M23
MS2N07-D0BFN-__U__-____-__	5.8	0.75 or 1.0	7.55	0.75 or 1.0	M23
MS2N07-D0BHN-__U__-____-__	8.55	0.75 or 1.0	11.1	1.0	M23
MS2N07-D1BFN-__U__-____-__	5.45	0.75 or 1.0	6.9	0.75 or 1.0	M23

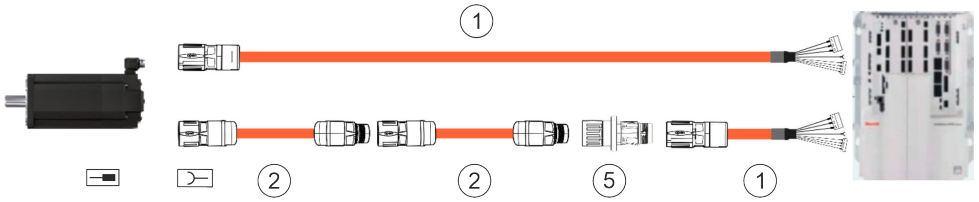
Motor	I_{0_60K} [A]	Power wire cross section * [mm²]	I_{0_100K} [A]	Power wire cross section * [mm²]	Connector
MS2N07-D1BHN-__U__-____-__	7.8	0.75 or 1.0	9.9	0.75 or 1.0	M23
MS2N07-D1BNN-__U__-____-__	9.9	0.75 or 1.0	12.5	1.0	M23
MS2N07-E0BDN-__U__-____-__	5.15	0.75 or 1.0	6.8	0.75 or 1.0	M23
MS2N07-E1BDN-__U__-____-__	4.93	0.75 or 1.0	6.2	0.75 or 1.0	M23
MS2N07-E1BHN-__U__-____-__	9	0.75 or 1.0	11.3	1.0	M23

* Conditions according to ➥ Table 28 Cable cross section and current carrying capacity on page 66, deviations may require other power wire cross sections. Select the next higher power wire cross-section, subject to availability.

7.2 RLB4 Power cables, for MS2N Electrical connection "V" (M40)

This selection is valid for the following motor types:

MS2N□□-□□□□□-□□V□□-□□□□□-□□ List of motor types including recommended power wire cross-section➥ Table 22 Power wire cross section, MS2N motor type on page 54



Drive controller MTXmicro	Power cables ① RLB4-□□□□□□-NN-xxx,x		Extension ② RL2-□□□□□□-NN-xxx,x
Example: HC□02.1E - ...	[mm²] ➥ Chapter 11.1 Cable specification on page 66	□ B = Basic	□ B = Basic
HCQ02.1E-W0025 X5.1 X5.2 X5.3 X5.4	1.5 2.5	041DB 041EC	542DB 542EB
HCT02.1E-W0025 X5.1 X5.2 X5.3	1.5 2.5	041DB 041EC	542DB 542EB

➥ Chapter 13 Accessories on page 75

Table 22: Power wire cross section, MS2N motor type

Motor	I_{o_60K} [A]	Power wire cross section * [mm²]	I_{o_100K} [A]	Power wire cross section * [mm²]	Connector
MS2N07-C0BQA-__V__-____-__	-	-	15.8	2.5	M40
MS2N07-C0BQB-__V__-____-__	-	-	15.8	2.5	M40
MS2N07-C0BQL-__V__-____-__	-	-	22.3	2.5	M40
MS2N07-C1BRA-__V__-____-__	-	-	14.9	1.5	M40
MS2N07-C1BRB-__V__-____-__	-	-	14.9	1.5	M40
MS2N07-C1BRL-__V__-____-__	-	-	20.8	2.5	M40
MS2N07-D0BHA-__V__-____-__	-	-	14.1	1.5	M40
MS2N07-D0BHB-__V__-____-__	-	-	14.1	1.5	M40
MS2N07-D0BNA-__V__-____-__	-	-	19.1	2.5	M40
MS2N07-D0BNB-__V__-____-__	-	-	19.1	2.5	M40
MS2N07-D0BRN-__V__-____-__	17.1	2.5	22.3	2.5	M40
MS2N07-D1BNA-__V__-____-__	-	-	16.3	2.5	M40
MS2N07-D1BNB-__V__-____-__	-	-	16.3	2.5	M40
MS2N07-E0BHA-__V__-____-__	-	-	17.9	2.5	M40
MS2N07-E0BHB-__V__-____-__	-	-	17.9	2.5	M40
MS2N07-E0BNN-__V__-____-__	15.1	1.5	20	2.5	M40
MS2N07-E1BHA-__V__-____-__	-	-	15.2	1.5	M40
MS2N07-E1BHB-__V__-____-__	-	-	15.2	1.5	M40
MS2N07-E1BNN-__V__-____-__	14.1	1.5	17.7	2.5	M40

Motor	I_{0_60K} [A]	Power wire cross section * [mm²]	I_{0_100K} [A]	Power wire cross section * [mm²]	Connector
MS2N10-C0BHA-__V__-____-__	-	-	18.8	2.5	M40
MS2N10-C0BHB-__V__-____-__	-	-	18.8	2.5	M40
MS2N10-C0BHN-__V__-____-__	12.6	1.0	14.5	1.5	M40
MS2N10-C0BNN-__V__-____-__	16.8	2.5	19.3	2.5	M40
MS2N10-C1BHA-__V__-____-__	-	-	16.7	2.5	M40
MS2N10-C1BHB-__V__-____-__	-	-	16.7	2.5	M40
MS2N10-C1BNN-__V__-____-__	16.5	2.5	19	2.5	M40
MS2N10-D1BFN-__V__-____-__	14.3	1.5	17.2	2.5	M40
MS2N10-E1BFN-__V__-____-__	17.1	2.5	20.5	2.5	M40
MS2N10-F0BDN-__V__-____-__	15.8	2.5	19.5	2.5	M40
MS2N10-F1BDN-__V__-____-__	15.9	2.5	19.5	2.5	M40

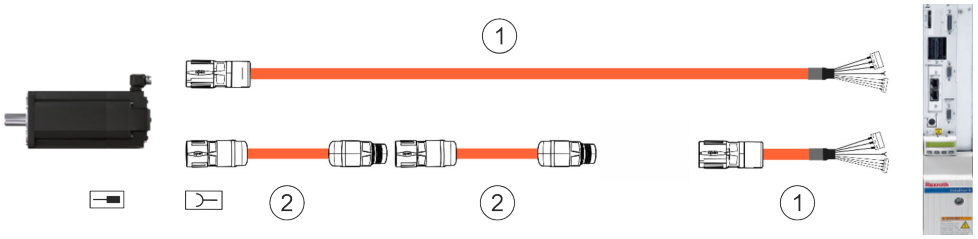
* Conditions according to ➥ Table 28 Cable cross section and current carrying capacity on page 66, deviations may require other power wire cross sections. Select the next higher power wire cross-section, subject to availability.

8 Hybrid cables for MS2N with IndraDrive

8.1 RH2 Hybrid cables, for MS2N, MS2S Electrical connection “H” (M17 Hybrid)

This selection is valid for the following motor types:

MS2N□□-□□□□□-□□H□□-□□□□□-□□ List of motor types including recommended power wire cross-section➥ Table 23 Power wire cross section, MS2N motor type on page 57



Drive controller IndraDrive	Power cables ① RH2-□□□□□□-NN-xxx,x		Extension ② RH2-□□□□□□-NN-xxx,x
Example: HCS01 - ...	[mm²] ➥ Chapter 11.1 Cable specification on page 66	□ B = Basic	□ B = Basic
HCS01.1E-W0003 HCS01.1E-W0005 HCS01.1E-W0006 HCS01.1E-W0008 HCS01.1E-W0009 HCS01.1E-W0013	0.75	011BB	500BB 501BB (adapter to M23)
HCS02.1E-W0012 HCS02.1E-W0028 HMD01.1N-W0012 HMD01.1N-W0020 HMD01.1N-W0036 HMS01.1N-W0020 HMS01.1N-W0036 HMS02.1N-W0028	0.75	012BB	500BB 501BB (adapter to M23)
HCS01.1E-W0018 HCS01.1E-W0028	0.75	013BB	500BB 501BB (adapter to M23)
HCS01.1E-W0054	-	-	-
HCS02.1E-W0054 HCS02.1E-W0070 HCS03.1E-W0070 HMS01.1N-W0054 HMS01.1N-W0070 HMS02.1N-W0054	-	-	-
HCS03.1E-W0100 HCS03.1E-W0150 HMS01.1N-W0110 HMS01.1N-W0150 HMS01.1N-W0210 HMS01.1N-W0300	-	-	-

Drive controller IndraDrive	Power cables ① RH2-□□□□□□-NN-xxx,x		Extension ② RH2-□□□□□□-NN-xxx,x
Example: HCS01 - ...	[mm²] ➥ Chapter 11.1 Cable specification on page 66	□ B = Basic	□ B = Basic
HCS03.1E-W0210 HCS03.1E-W0280 HCS03.1E-W0350	-	-	-
HMS01.1E-W0350	-	-	-
KSM01.2 KSM02.1 KMS03.1*	0.75	020BB	500BB 501BB (adapter to M23)
KMS03.1-...-TO*	-	-	-
HCS02.1E-W0012 HCS02.1E-W0028	-	-	-

➥ Chapter 13 Accessories on page 75

Table 23: Power wire cross section, MS2N motor type

Motor	I_{0_60K} [A]	Power wire cross section * [mm²]	I_{0_100K} [A]	Power wire cross section * [mm²]	Connector
MS2N03-A0BYN-__H__-____-__	1.59	0.75	1.85	0.75	M17 Hybrid
MS2N03-B0BYN-__H__-____-__	1.31	0.75	1.61	0.75	M17 Hybrid
MS2N03-D0BYN-__H__-____-__	2.07	0.75	2.6	0.75	M17 Hybrid
MS2N04-B0BNN-__H__-____-__	1.11	0.75	1.36	0.75	M17 Hybrid
MS2N04-B0BTN-__H__-____-__	2.2	0.75	2.7	0.75	M17 Hybrid
MS2N04-C0BNN-__H__-____-__	1.78	0.75	2.24	0.75	M17 Hybrid
MS2N04-C0BTN-__H__-____-__	3.11	0.75	3.9	0.75	M17 Hybrid
MS2N04-C0DTN-__H__-____-__	3.11	0.75	3.9	0.75	M17 Hybrid
MS2N04-D0BHN-__H__-____-__	1.61	0.75	1.96	0.75	M17 Hybrid
MS2N04-D0BQN-__H__-____-__	2.86	0.75	3.48	0.75	M17 Hybrid
MS2N04-D0DQN-__H__-____-__	2.86	0.75	3.48	0.75	M17 Hybrid
MS2N05-B0BNN-__H__-____-__	2.29	0.75	2.75	0.75	M17 Hybrid
MS2N05-B0BTN-__H__-____-__	4.55	0.75	5.45	0.75	M17 Hybrid
MS2N05-C0BNN-__H__-____-__	3.53	0.75	4.16	0.75	M17 Hybrid
MS2N05-C0BTN-__H__-____-__	7.1	0.75	8.35	0.75	M17 Hybrid
MS2N05-D0BHN-__H__-____-__	3.05	0.75	3.63	0.75	M17 Hybrid
MS2N05-D0BRN-__H__-____-__	6.05	0.75	7.2	0.75	M17 Hybrid

* Conditions according to ➥ Table 28 Cable cross section and current carrying capacity on page 66, deviations may require other power wire cross sections. Select the next higher power wire cross-section, subject to availability.

Table 24: Power wire cross section, MS2S motor type

Motors Operation mode 60K	I_{0_60K}[A]	Power wire cross section * [mm²]	Connector
MS2S03-B0BYN-IMHG0/-1	1.3	0.75	M17 Hybrid
MS2S03-C0BYN-IMHG0/-1	2.2	0.75	M17 Hybrid
MS2S04-B0BTN-IMHG0/-1	2.2	0.75	M17 Hybrid
MS2S04-C0BTN-IMHG0/-1	3.1	0.75	M17 Hybrid
MS2S05-B0BTN-IMHG0/-1	4.55	0.75	M17 Hybrid
MS2S05-C0BTN-IMHG0/-1	7.1	0.75	M17 Hybrid

* Conditions according to ➦Table 28 Cable cross section and current carrying capacity on page 66, deviations may require other power cable cross sections.

Motors Operation mode 100K	I_{0_100K}[A]	Power wire cross section * [mm²]	Connector
MS2S03-B0BYN-IMHG0/-1	1.6	0.75	M17 Hybrid
MS2S03-C0BYN-IMHG0/-1	2.7	0.75	M17 Hybrid
MS2S04-B0BTN-IMHG0/-1	2.7	0.75	M17 Hybrid
MS2S04-C0BTN-IMHG0/-1	3.9	0.75	M17 Hybrid
MS2S05-B0BTN-IMHG0/-1	5.5	0.75	M17 Hybrid
MS2S05-C0BTN-IMHG0/-1	8.4	0.75	M17 Hybrid

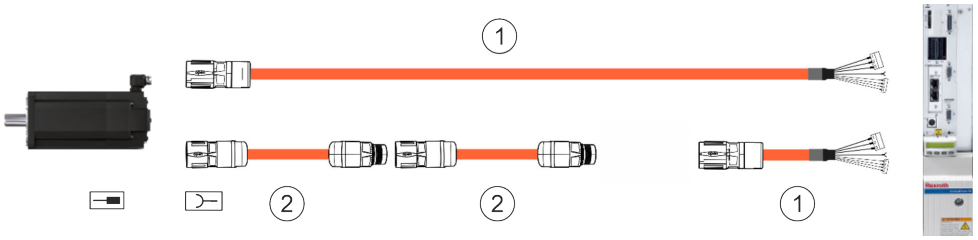
* Conditions according to ➦Table 28 Cable cross section and current carrying capacity on page 66, deviations may require other power cable cross sections.

8.2 RH2 Hybrid cables, ready-made for MS2N, MS2E Electrical connection “S" (M23)

This selection is valid for the following motor types:

MS2N□□-□□□□□-□□S□□-□□□□□-□□ List of motor types including recommended power wire cross-section➥ Table 25 Power wire cross section, MS2N motor type on page 61

MS2E□□-□□□□□-□□S□□-□□□□□-□□ List of motor types including recommended power wire cross-section➥ Table 26 Power wire cross section, MS2E motor type on page 62



Drive controller IndraDrive	Power cables ① RH2-□□□□□□-NN-xxx,x		Extension ② RH2-□□□□□□-NN-xxx,x
Example: HCS01 - ...	[mm²] ➥ Chapter 11.1 Cable specification on page 66	□ B = Basic	□ B = Basic
HCS01.1E-W0003 HCS01.1E-W0005 HCS01.1E-W0006 HCS01.1E-W0008 HCS01.1E-W0009 HCS01.1E-W0013	1.5	021DB	521DB
HCS02.1E-W0012 HCS02.1E-W0028 HMD01.1N-W0012 HMD01.1N-W0020 HMD01.1N-W0036 HMS01.1N-W0020 HMS01.1N-W0036 HMS02.1N-W0028	1.5	022DB	521DB
HCS01.1E-W0018 HCS01.1E-W0028	1.5	023DB	521DB
HCS01.1E-W0054	1.5	024DB	521DB
HCS02.1E-W0054 HCS02.1E-W0070 HCS03.1E-W0070 HMS01.1N-W0054 HMS01.1N-W0070 HMS02.1N-W0054	1.5	025DB	521DB
HCS03.1E-W0100 HCS03.1E-W0150 HMS01.1N-W0110 HMS01.1N-W0150 HMS01.1N-W0210 HMS01.1N-W0300	-	-	-

Drive controller IndraDrive	Power cables ① RH2-□□□□□□-NN-xxx,x		Extension ② RH2-□□□□□□-NN-xxx,x
Example: HCS01 - ...	[mm²] ➥ Chapter 11.1 Cable specification on page 66	□ B = Basic	□ B = Basic
HCS03.1E-W0210 HCS03.1E-W0280 HCS03.1E-W0350	-	-	-
HMS01.1E-W0350	-	-	-
KSM01.2 KSM02.1 KMS03.1*	1.5	030DB	521DB
KMS03.1-...-TO*	1.5	029DB	521DB
HCS02.1E-W0012 HCS02.1E-W0028	1.5	031DB	521DB

➥ Chapter 13 Accessories on page 75

Table 25: Power wire cross section, MS2N motor type

Motor	I_{0_60K} [A]	Power wire cross section * [mm²]	I_{0_100K} [A]	Power wire cross section * [mm²]	Connector
MS2N03-B0BYN-__S__-____-__	1.31	0.75 or 1.0	1.61	0.75 or 1.0	M23 Hybrid
MS2N03-D0BYN-__S__-____-__	2.07	0.75 or 1.0	2.6	0.75 or 1.0	M23 Hybrid
MS2N04-B0BHN-__S__-____-__	0	0.75 or 1.0	0	0.75 or 1.0	M23 Hybrid
MS2N04-B0BNN-__S__-____-__	1.11	0.75 or 1.0	1.36	0.75 or 1.0	M23 Hybrid
MS2N04-B0BTN-__S__-____-__	2.2	0.75 or 1.0	2.7	0.75 or 1.0	M23 Hybrid
MS2N04-C0BNN-__S__-____-__	1.78	0.75 or 1.0	2.24	0.75 or 1.0	M23 Hybrid
MS2N04-C0BTN-__S__-____-__	3.11	0.75 or 1.0	3.9	0.75 or 1.0	M23 Hybrid
MS2N04-D0BHN-__S__-____-__	1.61	0.75 or 1.0	1.96	0.75 or 1.0	M23 Hybrid
MS2N04-D0BQN-__S__-____-__	2.86	0.75 or 1.0	3.48	0.75 or 1.0	M23 Hybrid
MS2N05-B0BNN-__S__-____-__	2.29	0.75 or 1.0	2.75	0.75 or 1.0	M23 Hybrid
MS2N05-B0BTN-__S__-____-__	4.55	0.75 or 1.0	5.45	0.75 or 1.0	M23 Hybrid
MS2N05-C0BNN-__S__-____-__	3.53	0.75 or 1.0	4.16	0.75 or 1.0	M23 Hybrid
MS2N05-C0BTN-__S__-____-__	7.1	0.75 or 1.0	8.35	0.75 or 1.0	M23 Hybrid
MS2N05-D0BHN-__S__-____-__	3.05	0.75 or 1.0	3.63	0.75 or 1.0	M23 Hybrid
MS2N05-D0BRN-__S__-____-__	6.05	0.75 or 1.0	7.2	0.75 or 1.0	M23 Hybrid
MS2N06-B1BNN-__S__-____-__	2.22	0.75 or 1.0	2.47	0.75 or 1.0	M23 Hybrid
MS2N06-C0BNN-__S__-____-__	3.75	0.75 or 1.0	4.5	0.75 or 1.0	M23 Hybrid
MS2N06-C0BTN-__S__-____-__	7.5	0.75 or 1.0	9	0.75 or 1.0	M23 Hybrid
MS2N06-D0BNN-__S__-____-__	6.1	0.75 or 1.0	7.55	0.75 or 1.0	M23 Hybrid
MS2N06-D0BRN-__S__-____-__	7.85	0.75 or 1.0	9.75	0.75 or 1.0	M23 Hybrid
MS2N06-D0BTN-__S__-____-__	11.55	1.0	14	1.5	M23 Hybrid
MS2N06-D1BNN-__S__-____-__	5.05	0.75 or 1.0	6.25	0.75 or 1.0	M23 Hybrid
MS2N06-E0BHN-__S__-____-__	5.4	0.75 or 1.0	6.8	0.75 or 1.0	M23 Hybrid
MS2N06-E0BRN-__S__-____-__	10.85	1.0	13.7	1.5	M23 Hybrid
MS2N07-B1BNN-__S__-____-__	4.25	0.75 or 1.0	4.74	0.75 or 1.0	M23 Hybrid
MS2N07-C0BNN-__S__-____-__	6.9	0.75 or 1.0	8.8	0.75 or 1.0	M23 Hybrid
MS2N07-C0BQN-__S__-____-__	10.1	0.75 or 1.0	12.9	1.0	M23 Hybrid
MS2N07-C1BNN-__S__-____-__	6.6	0.75 or 1.0	8.35	0.75 or 1.0	M23 Hybrid

Motor	I_{0_60K} [A]	Power wire cross section * [mm²]	I_{0_100K} [A]	Power wire cross section * [mm²]	Connector
MS2N07-C1BRN-__S__-____-__	9.55	0.75 or 1.0	12.1	1.0	M23 Hybrid
MS2N07-D0BFN-__S__-____-__	5.8	0.75 or 1.0	7.55	0.75 or 1.0	M23 Hybrid
MS2N07-D0BHN-__S__-____-__	8.55	0.75 or 1.0	11.1	1.0	M23 Hybrid
MS2N07-D0BNN-__S__-____-__	11.55	1.0	15	1.5	M23 Hybrid
MS2N07-D1BFN-__S__-____-__	5.45	0.75 or 1.0	6.9	0.75 or 1.0	M23 Hybrid
MS2N07-D1BHN-__S__-____-__	7.8	0.75 or 1.0	9.9	0.75 or 1.0	M23 Hybrid
MS2N07-D1BNN-__S__-____-__	9.9	0.75 or 1.0	12.5	1.0	M23 Hybrid
MS2N07-E0BDN-__S__-____-__	5.15	0.75 or 1.0	6.8	0.75 or 1.0	M23 Hybrid
MS2N07-E0BHN-__S__-____-__	10.35	0.75 or 1.0	13.7	1.5	M23 Hybrid
MS2N07-E1BDN-__S__-____-__	4.93	0.75 or 1.0	6.2	0.75 or 1.0	M23 Hybrid
MS2N07-E1BHN-__S__-____-__	9	0.75 or 1.0	11.3	1.0	M23 Hybrid

* Conditions according to ➥Table 28 Cable cross section and current carrying capacity on page 66, deviations may require other power wire cross sections. Select the next higher power wire cross-section, subject to availability.

Table 26: Power wire cross section, MS2E motor type

Motor	I_{0_60K} [A]	Power wire cross section * [mm²]	Connector
MS2E03-B0BYN-C_S__-____-__	0.72	0.75 or 1.0	M23 Hybrid
MS2E04-B0BNN-C_S__-____-__	0.86	0.75 or 1.0	M23 Hybrid
MS2E04-C0BTN-C_S__-____-__	1.51	0.75 or 1.0	M23 Hybrid
MS2E05-B0BTN-C_S__-____-__	2.39	0.75 or 1.0	M23 Hybrid
MS2E05-C0BTN-C_S__-____-__	3.77	0.75 or 1.0	M23 Hybrid
MS2E06-C0BNN-C_S__-____-__	2.71	0.75 or 1.0	M23 Hybrid
MS2E06-D0BRN-C_S__-____-__	4.06	0.75 or 1.0	M23 Hybrid
MS2E07-C0BNN-C_S__-____-__	4.72	0.75 or 1.0	M23 Hybrid
MS2E07-C0BQN-C_S__-____-__	5.3	0.75 or 1.0	M23 Hybrid
MS2E07-E0CNN-C_S__-____-__	8.2	0.75 or 1.0	M23 Hybrid

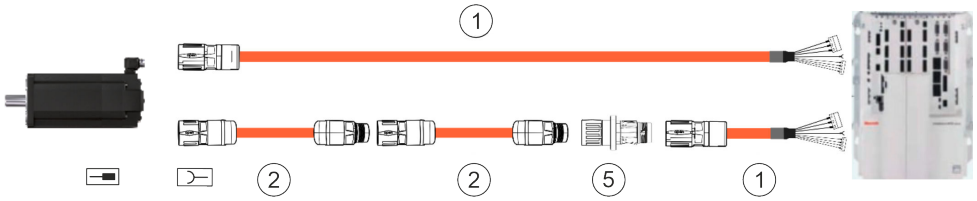
* Conditions according to ➥Table 28 Cable cross section and current carrying capacity on page 66, deviations may require other power wire cross sections. Select the next higher power wire cross-section, subject to availability.

9 Hybrid cables for MS2N with MTX micro

9.1 RHB4 Power cables, for MS2N Electrical connection "S" (M23)

This selection is valid for the following motor types:

MS2N□□-□□□□□-□□S□□-□□□□□-□□ List of motor types including recommended power wire cross-section➥ Table 27 Power wire cross section, MS2N motor type on page 64



Drive controller MTXmicro	Power cables ① RHB4-□□□□□□-NN-xxx,x		Extension ② RH2-□□□□□□-NN-xxx,x
Example: HC□02.1E - ...	[mm²] ➥ Chapter 11.1 Cable specification on page 66	□ B = Basic	□ B = Basic
HCQ02.1E-W0025 X5.1 X5.2 X5.3 X5.4	1.0	021DD	521DB
HCT02.1E-W0025 X5.1 X5.2 X5.3	1.0	021DD	521DB

➥ Chapter 13 Accessories on page 75

Table 27: Power wire cross section, MS2N motor type

Motor	I_{0_60K} [A]	Power wire cross section * [mm²]	I_{0_100K} [A]	Power wire cross section * [mm²]	Connector
MS2N03-B0BYN-__S__-____-__	1.31	0.75 or 1.0	1.61	0.75 or 1.0	M23 Hybrid
MS2N03-D0BYN-__S__-____-__	2.07	0.75 or 1.0	2.6	0.75 or 1.0	M23 Hybrid
MS2N04-B0BHN-__S__-____-__	0	0.75 or 1.0	0	0.75 or 1.0	M23 Hybrid
MS2N04-B0BNN-__S__-____-__	1.11	0.75 or 1.0	1.36	0.75 or 1.0	M23 Hybrid
MS2N04-B0BTN-__S__-____-__	2.2	0.75 or 1.0	2.7	0.75 or 1.0	M23 Hybrid
MS2N04-C0BNN-__S__-____-__	1.78	0.75 or 1.0	2.24	0.75 or 1.0	M23 Hybrid
MS2N04-C0BTN-__S__-____-__	3.11	0.75 or 1.0	3.9	0.75 or 1.0	M23 Hybrid
MS2N04-D0BHN-__S__-____-__	1.61	0.75 or 1.0	1.96	0.75 or 1.0	M23 Hybrid
MS2N04-D0BQN-__S__-____-__	2.86	0.75 or 1.0	3.48	0.75 or 1.0	M23 Hybrid
MS2N05-B0BNN-__S__-____-__	2.29	0.75 or 1.0	2.75	0.75 or 1.0	M23 Hybrid
MS2N05-B0BTN-__S__-____-__	4.55	0.75 or 1.0	5.45	0.75 or 1.0	M23 Hybrid
MS2N05-C0BNN-__S__-____-__	3.53	0.75 or 1.0	4.16	0.75 or 1.0	M23 Hybrid
MS2N05-C0BTN-__S__-____-__	7.1	0.75 or 1.0	8.35	0.75 or 1.0	M23 Hybrid
MS2N05-D0BHN-__S__-____-__	3.05	0.75 or 1.0	3.63	0.75 or 1.0	M23 Hybrid
MS2N05-D0BRN-__S__-____-__	6.05	0.75 or 1.0	7.2	0.75 or 1.0	M23 Hybrid
MS2N06-B1BNN-__S__-____-__	2.22	0.75 or 1.0	2.47	0.75 or 1.0	M23 Hybrid
MS2N06-C0BNN-__S__-____-__	3.75	0.75 or 1.0	4.5	0.75 or 1.0	M23 Hybrid
MS2N06-C0BTN-__S__-____-__	7.5	0.75 or 1.0	9	0.75 or 1.0	M23 Hybrid
MS2N06-D0BNN-__S__-____-__	6.1	0.75 or 1.0	7.55	0.75 or 1.0	M23 Hybrid
MS2N06-D0BRN-__S__-____-__	7.85	0.75 or 1.0	9.75	0.75 or 1.0	M23 Hybrid
MS2N06-D1BNN-__S__-____-__	5.05	0.75 or 1.0	6.25	0.75 or 1.0	M23 Hybrid
MS2N06-E0BHN-__S__-____-__	5.4	0.75 or 1.0	6.8	0.75 or 1.0	M23 Hybrid
MS2N07-B1BNN-__S__-____-__	4.25	0.75 or 1.0	4.74	0.75 or 1.0	M23 Hybrid
MS2N07-C0BNN-__S__-____-__	6.9	0.75 or 1.0	8.8	0.75 or 1.0	M23 Hybrid
MS2N07-C0BQN-__S__-____-__	10.1	0.75 or 1.0	12.9	1.0	M23 Hybrid
MS2N07-C1BNN-__S__-____-__	6.6	0.75 or 1.0	8.35	0.75 or 1.0	M23 Hybrid
MS2N07-C1BRN-__S__-____-__	9.55	0.75 or 1.0	12.1	1.0	M23 Hybrid
MS2N07-D0BFN-__S__-____-__	5.8	0.75 or 1.0	7.55	0.75 or 1.0	M23 Hybrid
MS2N07-D0BHN-__S__-____-__	8.55	0.75 or 1.0	11.1	1.0	M23 Hybrid
MS2N07-D1BFN-__S__-____-__	5.45	0.75 or 1.0	6.9	0.75 or 1.0	M23 Hybrid
MS2N07-D1BHN-__S__-____-__	7.8	0.75 or 1.0	9.9	0.75 or 1.0	M23 Hybrid
MS2N07-D1BNN-__S__-____-__	9.9	0.75 or 1.0	12.5	1.0	M23 Hybrid
MS2N07-E0BDN-__S__-____-__	5.15	0.75 or 1.0	6.8	0.75 or 1.0	M23 Hybrid
MS2N07-E1BDN-__S__-____-__	4.93	0.75 or 1.0	6.2	0.75 or 1.0	M23 Hybrid
MS2N07-E1BHN-__S__-____-__	9	0.75 or 1.0	11.3	1.0	M23 Hybrid

* Conditions according to ➦Table 28 Cable cross section and current carrying capacity on page 66, deviations may require other power wire cross sections. Select the next higher power wire cross-section, subject to availability.

10 Encoder cables for IndraDrive

10.1 Encoder cables for IndraDrive, EFC, MTX micro

Encoder cable | Geberkabel RG2-xxxxx**B**-NN-xxx,x - Basic RG2-xxxxx**T**-NN-xxx,x - Torsion					IndraDrive CSB02, CDB02, CSH02	IndraDrive Mi KMS03.1	IndraDrive Mi KMS02.1	Frequency converter EFC36, EFC56	MTX micro HCQ/HCT	Extension RG2 Verlängerung
					EC	END	ENH	EN2		
Encoder Geber		Interface Schnittstelle	Plug Stecker	Cable Kabel	RGS0010	RGS0725	RGS2302	RGS0011	RGS0010	
analog	AS/AM, BS/BM	Hiperface®	M17	Basic	002ABB	003ABB	004ABB		010AB	500ABB
				Torsion	002ABT	003ABT	004ABT			500ABT
digital	CS/CM, HS/HM, DS/DM	Acuro®link	M17	Basic	002AA	003AA			010AA	510AAB
analog	Pump unit MPA02	Hiperface®	M17	Basic				006AB		

Fig. 3: Encoder cable RG2

11 Cable specification

11.1 Cable cross section and current carrying capacity

The cable cross section of the biggest core defines the cross section type of the cable.

Table 28: Cable cross section and current carrying capacity

Cross section type code	Cable design	Inner cable type			Ø IEC / DIN EN 60228		Current carrying capacity	
		Power	Encoder	Hybrid	mm²	AWG	A_{eff}	Reference
A	Basic	–	➦ REG0012	–	0.5	20	–	Not relevant for encoder cables
			➦ REG0013					
	Torsion		➦ REG0748					
			➦ REG0712					
B	Basic	➦ INK0670	–	➦ REH0807	0.75	18	10.4	Rexroth Standard
C	Basic	➦ REL0105	–	–	1.0	17	13.0	DIN VDE 0298-4 (Tabelle 11) T_{amb} = 40 °C TL = 90 °C
	Torsion	➦ REL0753						
D	Basic	➦ REL0106	–	➦ REH0804	1.5	16	15.6	
E	Basic	➦ REL0107	–	➦ REH0805	2.5	14	22.6	
F	Basic	➦ REL0108	–	–	4.0	12	29.5	
G	Basic	➦ REL0109	–	–	6.0	10	38.2	
H	Basic	➦ REL0110	–	–	10.0	8	53.0	
J	Basic	➦ REL0111	–	–	16.0	6	71.3	
K	Basic	➦ REL0112	–	–	25.0	4	93.9	
L	Basic	➦ REL0113	–	–	35.0	2	116	IEC 60364-5-52 T_{amb} = 40 °C, TL = 90 °C Installation type B
M	Basic	➦ REL0114	–	–	(53.0)	AWG1/0	140	

For type codes of ready-made cables refer to ➦ Chapter 2.3 Type codes on page 8

11.2 Compatibility raw cables

Rexroth product sanitization for raw cables. INK raw cables are replaced by the current **REL** raw cable series. The REL cables are compatible with the INK cable types. For further details refer to the technical data of the REL cable. Ready-made cables **RKLxxxx/000,0** can still be ordered. The cables are manufactured and delivered with the compatible REL cable types.

Table 29: Power cable

Power wire cross-section [mm²]	End-of-life announcement / Phasing out		Replacements	
	Material number	Cable type	Material number	Cable type
1.0	R911245291	INK0653 [1]	R911345764	REL0105 [1]
1.5	R911245290	INK0650	R911370254	REL0106
2.5	R911245286	INK0602	R911346531	REL0107
4.0	R911245287	INK0603	R911346530	REL0108
6.0	R911239169	INK0604	R911346529	REL0109
10.0	R911237490	INK0605	R911346300	REL0110
16.0	R911245288	INK0606	R911369959	REL0111
25.0	R911245289	INK0607	R911371588	REL0112
35.0	R911245292	INK0667	R911371591	REL0113
50.0	R911245293	INK0668	R911388304	REL0114 [2]

[1] Wire designation changed:	
INK0653	**REL0105**
(1)	(BN)
(2)	(BK)
(3)	(GY)
GNYE	GNYE
(5)	(PK)
(6)	(WH)
(7)	(RD)
(8)	(BU)

[2] Power wire cross-section AWG 1/0

Table 30: Encoder cables

End-of-life announcement / Phasing out		Replacements	
Material number	**Cable type**	**Material number**	**Cable type**
R911258380	INK0448 [1]	R911370321	REG0013 [1]

[1] Wire designation changed:	
INK0448	**REG0013**
(WH) 0.5 mm²	(WH) 0.5 mm²
(BN) 0.5 mm²	(BN) 0.5 mm²
(BN) 0.25 mm²	(YE) 0.25 mm²
(GN) 0.25 mm²	(GN) 0.25 mm²
(PK) 0.25 mm²	(PK) 0.25 mm²
(GY) 0.25 mm²	(GY) 0.25 mm²
(RD) 0.25 mm²	(RD) 0.25 mm²
(BK) 0.25 mm²	(BK) 0.25 mm²
(BU) 0.25 mm²	(BU) 0.25 mm²
(VT) 0.25 mm²	(VT) 0.25 mm²

11.3 Cable dimension

The cable sizes given in this document are only basic information for the selection of motor power cables. Select each power cable and the size of each cable segment according to the respective technical standards.

Observe the standards:

- DIN VDE 0298-4
- HD 60364-5-52 (harmonized EC standard)
- IEC 60364-5-52

Current carrying capacity and cross-section refer to an ambient temperature of + 40°C at the place of use. For higher or lower ambient temperatures, there are correction factors for the current carrying capacity of cables that either derate (higher ambient temperature) or increase (lower ambient temperature) the current carrying capacity. Corresponding correction factors can be found in the specified standards.

Observe technical standards and guidelines for installation and sizing that apply in the respective country and place of use, as well as the specific local conditions for installation and environment.

11.4 Transport and storage

Observe the following ambient conditions for transport, handling and storage of all cable types.

General conditions	Transport and handling	Storage
Technical standard	DIN EN IEC 60721-3-2	DIN EN IEC 60721-3-1
Classification	2K11, 2B1, 2C1, 2S5, 2M4	1K21, 1B1, 1C1, 1S10, 1M11
Deviations to classification groups		
Ambient temperature	-25 ... +70 °C	-25 ... +55 °C
Relative humidity	5 ... 75 %	5 ... 75 %
Absolute humidity	-	1 ... 29 g/m³
Direct sunlight exposure	Not allowed	Not allowed

11.5 General installation directives

All cable installations must comply with the standards and requirements applicable at the place of use as well as the specified guidelines of the machine manufacturer and its equipment. Incorrect or inadequate installation can lead to increased wear, damage or unsafe operation.

Observe the following handling instructions:

- Consult the product manual of the machine equipment or the manufacturer for information on the appropriate use and installation of cables, e.g. the suitable arrangement of cables within movable cable guides or rigid cable supports.
- Lay out the cables without any twisting before installation.
- Always install the cables twist-free
- Keep the specified allowed bending radius. Do not bend the cable.
- Install proper cables only.
- Avoid any kind of tensile load or excessive torsion load onto the cables (for torsion load limit refer to data sheet)
- Check that there is no voltage before disconnecting electrical connections. Disconnect electrical connections non-violently. Always pull the connector, never the cable.
- Observe the installation directives of the device manufacturers during installation of energy chains.
- Do not pack too many cables into movable or rigid cable carriers. Do not cross cables in moving or rigid cable trays.
- Maintain the minimum distances between power and encoder cables to maintain EMC immunity. Observe the installation directives for drive controllers specified in the respective documents.
- Only trained personnel may work on electrical equipment.
- Observe the safety instructions.

11.6 Cable carriers and drag chains

For cables and installations in moving energy chains or rigid cable trays, some additional guidelines must be followed.

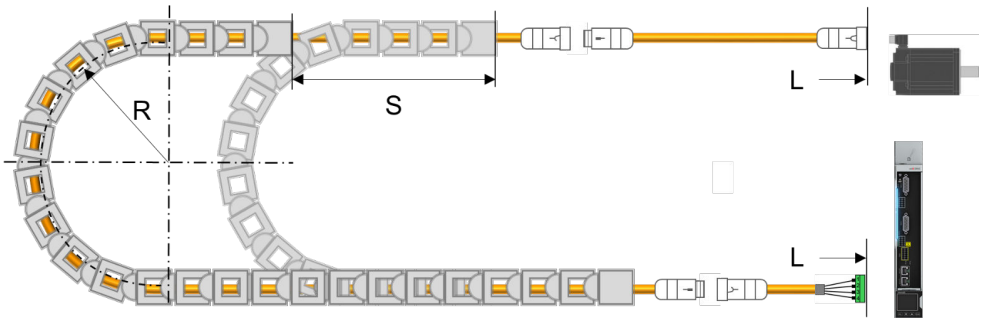


Fig. 4: Cables and cable carriers

Total cable lengths “L”

The cables between a motor and the drive controller are constructed from just one or more cable segments, combining motor cables with appropriate extension cables. The **total cable length "L"** comprises all cable segments from the drive controller to the motor.

The individual maximum cable length for a given motor-controller combination must not be exceeded. Refer to the particular documentation about drive-controllers for information about the maximum cable lengths.

Reducing the number of cable segments and keeping cable lengths as short as possible maintains noise immunity, operational reliability and helps reduce costs.

Travel length "S"

The cable parameters for dynamic movement (cable acceleration, traverse speed, traverse path and bending cycles) may only be applied over the **traverse path "S"** and may not be exceeded.

Bending radius “R”

The effective bending radius always refers to the inner radius of the bent cable and must never fall below the specific minimum radius, see corresponding cable data sheet. This applies to movable or rigid installations as well as to transport and storage.

If several cables with different bending radius are installed in the same cable carrier, the cable with the largest outer diameter defines the minimum bending radius for all cables in this carrier.

Bending cycles

A bending cycle is a complete movement cycle over the travel distance "S" or a shorter distance with one cable movement forward and one cable movement backward.

11.7 Parameter of movable cables

In moving installations, individual parameters for acceleration, travel speed and travel distance apply and influence each other. Exceeding one or more of these parameter limitations may result in permanent wear, damage and unsafe operation. Observe the following parameter limitations:

Table 31: Parameter of movable cables

Cable type			Travel length distance (S)	Travel velocity	Acceleration	Bending cycles
Power cable	BASIC	Cross section ≤ 16 mm²	50 m	5 m/s	50 m/s²	see data sheet

Cable type			Travel length distance (S)	Travel velocity	Acceleration	Bending cycles
		Cross section ≥ 25 mm²	20 m			
Encoder cables	BASIC		50 m	5 m/s	50 m/s²	
Power cable	TORSION		5 m	3 m/s	20 m/s²	
Encoder cables	TORSION		5 m	3 m/s	20 m/s²	
Hybrid cables	BASIC		20 m	4 m/s	30 m/s²	

The acceleration limitation and the reference to the travel distance are given in the following diagram:

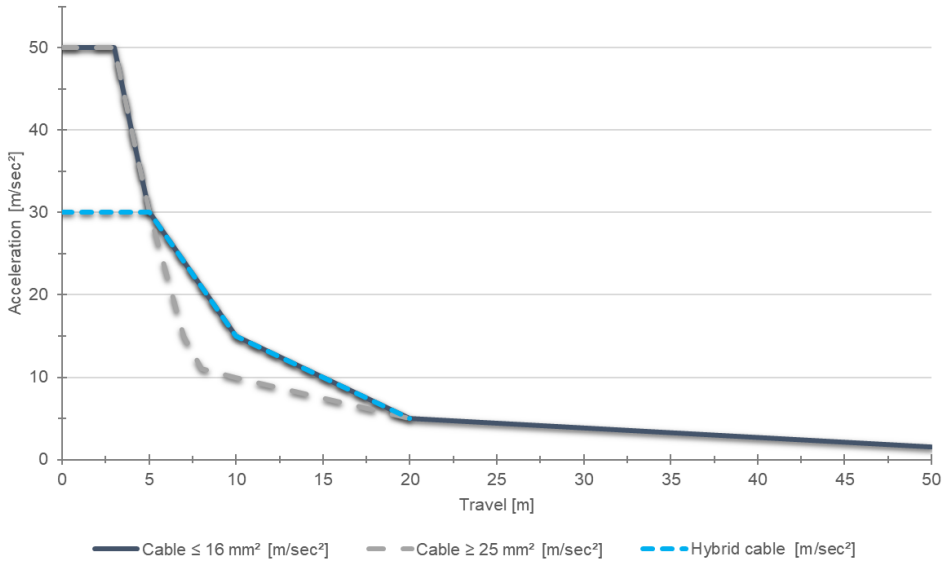


Fig. 5: Cable acceleration vs. Path

See single cable data sheets for complete specification.

11.8 Cable wear and lifetime

Cables are wear parts and suffer from mechanical, electrical, thermal and chemical stress. Lifetime is reduced when cables with different parameters than specified are used or subjected to conditions beyond the cable's individual specification, but may also improve under favorable conditions. There is no established method for predicting or calculating the effective useful life; it may vary in each individual case.

The standard lifetime parameters for cables are

- 30,000 operating hours
- 5 Mio bending cycles

These are only standard guideline values which vary depending on effective operating and environmental conditions and are therefore not valid for every possible application.

11.9 Cable length

Motor and encoder cables can be up to 75 m long. The effectively used cable length may vary depending on the individual combination of drive equipment, operating parameters, additional components and local installation conditions. For information about possible lenghts limitations refer to the documentation of the drive controller.

- The maximum cable length allowed for a specific motor-controller combination applies to the total length of all cable segments of this axis. Additional cable extensions must not exceed the permitted maximum length of the total cable run.
- Observe the guidelines in the drive controller documentation and do not exceed specified limitation values.➥ Chapter 1.2 Further documentation on page 5

Exceeding the allowed cable length for the specified equipment may cause an unsafe operating condition. If you are unsure about the allowed length for your individual configuration, contact your responsible Bosch Rexroth sales partner.

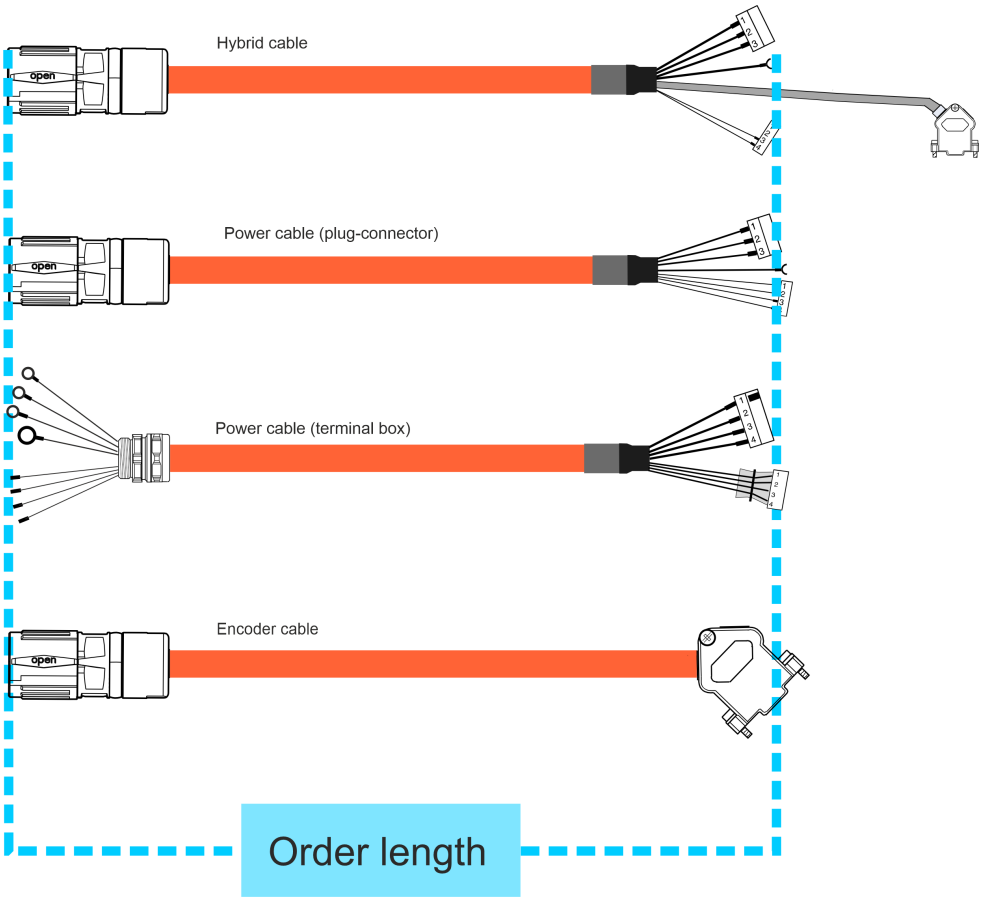


Fig. 6: Ordering length cable

Ordering length

Example:
RLB2-xxxxxx-NN-□□□, □ (ordering length 60.5 m)

RLB2-xxxxxx-NN-060.5

The minimum orderable length is 0.5 m, the minimum length increment is 0.1 m. The effective order length of the cables is measured from end to end.

Tolerances

The cable length tolerance is only specified as a positive value.

Cable length ≤ 5 m	+ 0.05 m
Cable length > 5 m	+ 1% of the ordered length

11.10 Identification

Fig. 7: Example of cable type plate

11.11 Maintenance

To maintain operational safety and the service life, observe the following cable maintenance procedures

- Regularly check all electrical cable connections and terminals for suitable, tight and secure connection, corrosion, breakages, proper installation, etc. in accordance with technical standards and safety regulations.
- Regularly check all electrical cables for signs of wear, e.g. abrasion of the cable sheath or corkscrew deformation in the cable carrier, etc.
- Immediately replace cables and connectors that show signs of wear or damage. They cannot be operated safely under certain circumstances.
- During operation, cables dissipate heat along the entire length of the cable. Keep the cables clean of dirt and dust to help dissipate heat and avoid temperature-related derating effects or overheating.
- For all maintenance instructions and intervals, refer to the machine manufacturer's maintenance schedule.

12 Cable connections

12.1 General

Cable and contact assignment of Rexroth motors and drive controllers follow a general wiring scheme for all motor and cable sizes, typical connection diagrams are given below.

12.2 RL2 Power cables for double cable connection

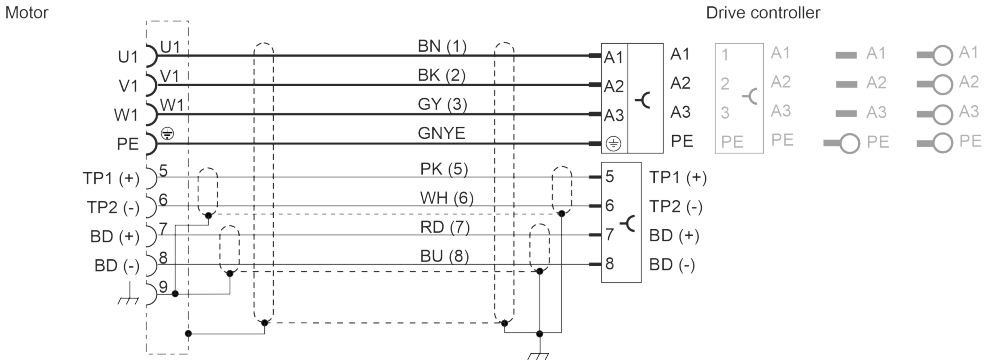


Fig. 8: Interconnection diagram RL2-□□□□□□

0.75 mm², 1.0 mm² Colored wires
≥ 1.5 mm² Numbered wires

12.3 RG2 Encoder cables for double cable connection

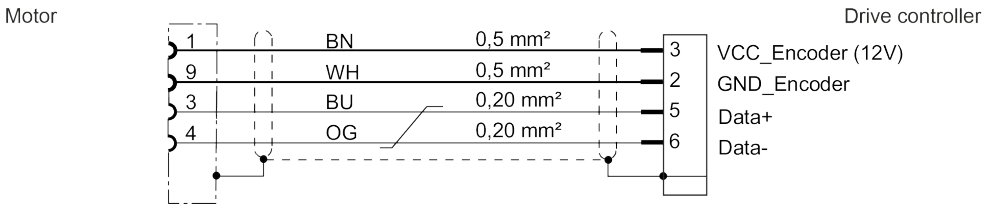


Fig. 9: Connection plan RG2-007AA (digital encoder)

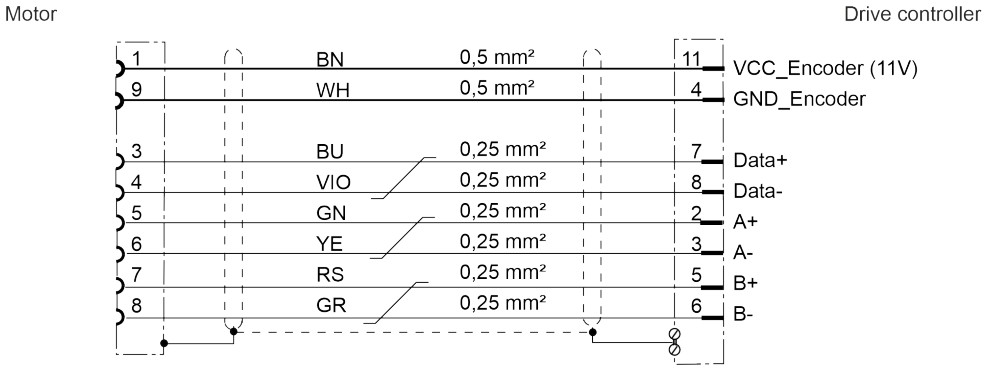


Fig. 10: Connection plan RG2-002AB (analog encoder)

12.4 RH2 Hybrid cables for single cable connection

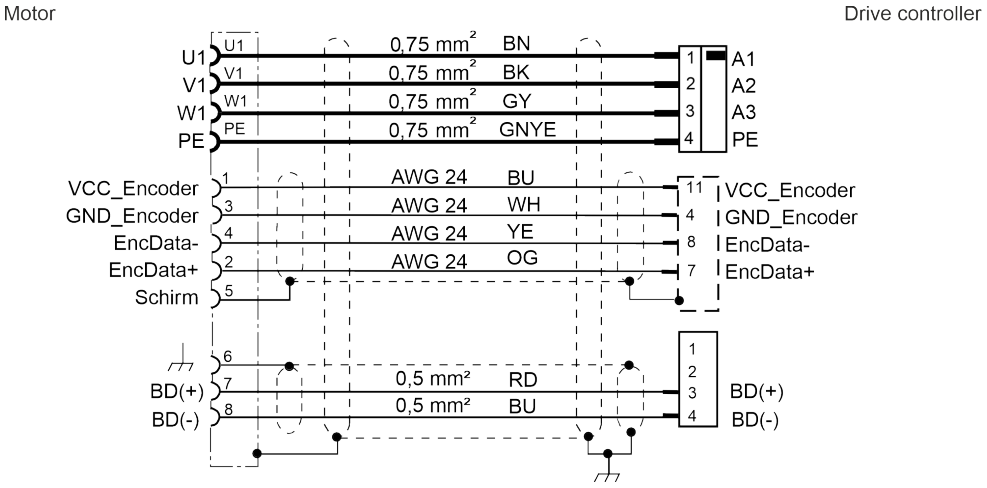


Fig. 11: Connection plan RH2-011BB

12.5 Extension cable

Extension cables have a similar design with connectors on both cable ends. Internal connections are routed 1:1 among both connectors. The maximum cable length allowed for a specific motor-controller combination applies to the total length of all cable segments of this axis. Additional cable extensions must not exceed the permitted maximum length of the total cable run.

13 Accessories

M17 Power

➦ M17 Power connector, data sheet [1)]

- ➦ M17 Cable connector Speedcon [2)]
- ➦ M17 Cable coupling Speedcon [2)]
- ➦ M17 Flange socket Speedcon [2)]
- ➦ M17 Flange connector Speedcon [2)]
- ➦ M17 Panel feed-through Speedcon [2)]
- ➦ M17 Square mounting flange Speedcon [2)]

M17 Hybrid

➦ M17 Hybrid connector, data sheet [1)]

- ➦ M17 Cable connector SpeedTec [2)]
- ➦ M17 Cable coupling SpeedTec [2)]
- ➦ M17 Square mounting flange SpeedTec [2)]

M23 Power

➦ M23 Power connector, data sheet [1)]

- ➦ M23 Cable connector Speedcon [2)]
- ➦ M23 Cable coupling Speedcon [2)]
- ➦ M23 Cable coupling SpeedTec [2)]
- ➦ M23 Flange socket Speedcon [2)]
- ➦ M23 Flange socket Speedcon [2)]
- ➦ M23 Panel feed-through Speedcon [2)]
- ➦ M23 Square mounting flange Speedcon [2)]
- ➦ M23 Square mounting flange SpeedTec [2)]

M23 Hybrid

➦ M23 Hybrid connector, data sheet [1)]

- ➦ M23 Cable connector Speedcon [2)]
- ➦ M23 Cable connector SpeedTec [2)]
- ➦ M23 Cable coupling Speedcon [2)]
- ➦ M23 Cable coupling SpeedTec [2)]
- ➦ M23 Device connector Speedcon [2)]
- ➦ M23 Panel feed-through Speedcon [2)]
- ➦ M23 Square mounting flange Speedcon [2)]
- ➦ M23 Square mounting flange SpeedTec [2)]

B40 Power

➦ B40 Power connector INS048*/***, data sheet [1)]

- ➦ B40 Cable connector Bayonet [2)]
- ➦ B40 Cable coupling Bayonet [2)]

M40 Power

➦ M40 Power connector, data sheet [1)]

- ➦ M40 Cable connector Speedcon [2)]
- ➦ M40 Cable coupling Speedcon [2)]
- ➦ M40 Cable coupling SpeedTec [2)]

- ➦M40 Flange socket [2)]
- ➦M40 Square mounting flange Speedcon [2)]

M58 Power

➦M58 Power connector, data sheet [1)]

- ➦M58 Cable coupling screw thread [2)]
- ➦M58 Cable coupling screw thread [2)]
- ➦M58 Flange socket [2)]
- ➦M58 Square mounting flange screw thread [2)]

B58 Power

➦B58 Power connector INS038*/***, Data sheet [1)]

- ➦B58 Cable connector Bayonet [2)]
- ➦B58 Cable coupling Bayonet [2)]

1) Link to the Bosch Rexroth Download Center  .

2) Active link in Content Delivery Portal  .

Mounting flanges offer a solid solution for cable fastening and strain relief clamp. This accessories are easy to mount.

NOTICE

Adjust the fastening material to the installation situation.

Please note that mounting screws are not included in the scope of delivery, because they have to be adjusted to the specific installation situation.

Accessory kit for assembly at controller side

Connector sets are available for assembling the controller-side connections of motor power cables. They contain all necessary components to assemble the controller of Bosch Rexroth. When selecting, please note the control device connection group and the required power wire cross-section.

Drive controller IndraDrive		Accessory kit for assembly at controller side		
Type: HCS01 - ...	Connection group	[mm²]	MaterialNumber	Material description
HCS01.1E-W0003 HCS01.1E-W0005 HCS01.1E-W0006 HCS01.1E-W0008 HCS01.1E-W0009 HCS01.1E-W0013	RLS0745	0.75	R911344729	RLS0745/KM75---(CONNECTOR*SET-*****-***)
		1.0	R911331274	RLS0745/K01_---(CONNECTOR*SET-*****-***)
		1.5	R911331273	RLS0745/K02_---(CONNECTOR*SET-*****-***)
HCS02.1E-W0012 HCS02.1E-W0028 HMD01.1N-W0012 HMD01.1N-W0020 HMD01.1N-W0036 HMS01.1N-W0020 HMS01.1N-W0036 HMS02.1N-W0028	RLS0722	1.0	R911306912	RLS0722/K01_---(CONNECTOR*SET-*****-***)
		1.5	R911306913	RLS0722/K02_---(CONNECTOR*SET-*****-***)
		2.5	R911306914	RLS0722/K03_---(CONNECTOR*SET-*****-***)
		4.0	R911306915	RLS0722/K04_---(CONNECTOR*SET-*****-***)

Drive controller IndraDrive		Accessory kit for assembly at controller side		
Type: HCS01 - ...	Connection group	[mm²]	MaterialNumber	Material description
HCS01.1E-W0018 HCS01.1E-W0028	RLS0746	0.75	R911344728	RLS0746/KM75---(CONNECTOR*SET-*****-***)
		1.0	R911330988	RLS0746/K01_---(CONNECTOR*SET-*****-***)
		1.5	R911330987	RLS0746/K02_---(CONNECTOR*SET-*****-***)
		2.5	R911330986	RLS0746/K03_---(CONNECTOR*SET-*****-***)
HCS01.1E-W0054	RLS0749	1.5	R911372057	RLS0749/K02_---(CONNECTOR*SET-*****-***)
		2.5	R911377409	RLS0749/K03_---(CONNECTOR*SET-*****-***)
HCS02.1E-W0054 HCS02.1E-W0070 HCS03.1E-W0070 HMS01.1N-W0054 HMS01.1N-W0070 HMS02.1N-W0054	RLS0721	1.0	R911314984	RLS0721/K01_---(CONNECTOR*SET-*****-***)
		1.5	R911306907	RLS0721/K02_---(CONNECTOR*SET-*****-***)
		2.5	R911306908	RLS0721/K03_---(CONNECTOR*SET-*****-***)
		4.0	R911306909	RLS0721/K04_---(CONNECTOR*SET-*****-***)
		6.0	R911306910	RLS0721/K06_---(CONNECTOR*SET-*****-***)
		10.0	R911306911	RLS0721/K10_---(CONNECTOR*SET-*****-***)
		16.0	R911316618	RLS0721/K16_---(CONNECTOR*SET-*****-***)
HCS03.1E-W0100 HCS03.1E-W0150 HMS01.1N-W0110 HMS01.1N-W0150 HMS01.1N-W0210 HMS01.1N-W0300	RLS0723	2.5	R911314985	RLS0723/K03_---(CONNECTOR*SET-*****-***)
		4.0	R911314986	RLS0723/K04_---(CONNECTOR*SET-*****-***)
		6.0	R911306916	RLS0723/K06_---(CONNECTOR*SET-*****-***)
		10.0	R911306917	RLS0723/K10_---(CONNECTOR*SET-*****-***)
		16.0	R911306918	RLS0723/K16_---(CONNECTOR*SET-*****-***)
		25.0	R911306919	RLS0723/K25_---(CONNECTOR*SET-*****-***)
		35.0	R911306920	RLS0723/K35_---(CONNECTOR*SET-*****-***)
		50.0	R911317152	RLS0723/K50_---(CONNECTOR*SET-*****-***)
HCS03.1E-W0210 HCS03.1E-W0280 HCS03.1E-W0350	RLS0724	16.0	R911316616	RLS0724/K16_---(CONNECTOR*SET-*****-***)
		25.0	R911317458	RLS0724/K25_---(CONNECTOR*SET-*****-***)
		35.0	R911318888	RLS0724/K35_---(CONNECTOR*SET-*****-***)
		50.0	R911322016	RLS0724/K50_---(CONNECTOR*SET-*****-***)
HMS01.1E-W0350	RLS0727	25.0	R911325288	RLS0727/K25_---(CONNECTOR*SET-*****-***)
		35.0	R911316617	RLS0727/K35_---(CONNECTOR*SET-*****-***)
		50.0	R911322017	RLS0727/K50_---(CONNECTOR*SET-*****-***)
KMS03.1	RLS0725	1.0	R911372645	RLS0725/K01_---(CONNECTOR*SET-*****-***)
		1.5	R911377411	RLS0725/K02_---(CONNECTOR*SET-*****-***)
KMS01.2 KMS02.1	RLS2302	1.0		

14 Appendix

14.1 EU declaration of conformity

The EU declaration of conformity is published in the ➦ Bosch Rexroth Media directory

Search term ➦ DCTC-30317-025

14.2 UK declaration of conformity

The EU declaration of conformity is published in the ➦ Bosch Rexroth Media directory.

Search term ➦ DCTC-30317-053

14.3 CE

The CE conformity according to the EU directive is printed onto the cable type plate➦ Chapter 11.10 Identification on page 72

14.4 UL, CSA

RL2, RG2, RH2, RL and RH cables and associated connectors are "registered components", approved to UL (USA) and CSA (Canada) standards. The respective marking and UL file number are printed on the cable sheath. The UL file numbers of the connectors are E153698, E335019 and E151413. Details of file numbers are available from the UL File Database at www.ul.com.

14.5 RoHS

All cable and connector components of RL2, RG2, RH2, RL and RH comply with the European Directive 2011/65/EC "Restriction of the use of certain hazardous substances in electrical and electronic equipment".

14.6 China RoHS

All RL2, RG2, RH2, RL... and RH... Cables have been tested according to the Chinese directive RoHS SJ/T 11364. These cables do not require a China RoHS mark, just an intere list of materials used. This internal document is available from your Bosch Rexroth sales partner on demand.

The "EFUP" (Environment-Friendly Use Period) is 25 years in case one or more substances are above the limit.

14.7 CCC ("China Compulsory Certificate")

The assembled cables RL2, RG2, RH2, RL and RH are not covered by these CCC regulations. CCC lists other materials for cables and insulation that are not used in Rexroth cables. For more details or questions refer directly to ➦ CCC Authority. http://www.cqc.com.cn/www/english/ProductCertification/CCC/

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