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www.SSDdrives.com **ssd@ssddrives.de**

AC Mn

SSD DRIVES

AC servo motors

Short - Description

The most important thing first

We thank you for the trust that you have shown in our product.
The short description presents themselves as an overview of the mounting and connecting-up.

Please read the product - manuals before putting the product to use.

If you have any questions, please contact your nearest SSD Drives representative.
Improper application of the product in connection with dangerous voltage, can lead to injuries.
In addition, damage can also occur to motors or other products.
Therefore please observe strictly our safety precautions.

Topic: Safety precautions

We assume that as an expert, you are familiar with the relevant safety regulations, especially in accordance with VDE 0100, VDE 0113, VDE 0160, EN 50178, the accident prevention regulations of the employers liability insurance company and the DIN regulations and that you can use and apply them.
Also the regulations are to be observed the relevant European directive.

Depending on the kind of application, additional norms e.g. UL, DIN are to be observed.
If our products are employed in connection with components from other manufacturers, their operating instructions are also to be strictly observed.

Made in Germany, 2005

3.4 Cabling instructions

Important rules when operating servo regulators and servomotors:

1. A radio interference suppression level cannot be maintained without an interference suppression filter at the line input. Moreover, line filter increase the immunity of the system to interference.

2. The cable between the power electronics and the motor must be shielded as YCY. A SY shield is not suitable. The shield support for the power cable (motor cable) must be on both ends.
We recommend using SSD Drives motor cables K M BG xx – B!

3. Metal parts in the switching cabinet must be connected with each other having large areas of contact and must carry high frequencies very well. Avoid anodized, yellow-passivized and painted surfaces which can have very high resistance values based on the frequency!
Make sure that the metals lie close together in the chemical circuit voltage class! Use the good conductivity and the large surface of the galvanized mounting plate as earth potential!

4. Relays, contactors and solenoid values build into the same circuit must be connected with spark-suppressing combinations or components limiting over voltage, respectively. This applies also if these parts are not mounted in the same cabinet as the servo regulator.

5. The shield for the analog signal lines must be installed on one end and, if possible, in the switching cabinet. Ensure a connection which provides extensive contact and which is low-resistant! The shield for the digital signal lines must be installed on both ends, must have extensive contact and must be low resistance. An additional equalizer is to be laid parallel when there are potential differences. It is necessary to use plugs with metal enclosures with separable connections.

6. Avoid unnecessary extra loops on all connecting cables. All measures regarding filtering and shielding can be short cicuited on them with high frequency. Connect unused litz wires in cables on both ends to the equipment ground conductor.

7. Unshielded cables of a cicuit, the conductors going out and returning, should be twisted due to symmetrical interferences.

8. Separate physically "live" and "dead" wires even in the planning phase. Give special attention to the motor cables. The area of the common terminal strip-line input and motor output is especially endangered.

9. Relays, contactors and solenoid values. The cables should be laid in the switching cabinet as close as possible to the ground; wires hanging freely in the air are preferred EMC victims as well as active and passive aerials.

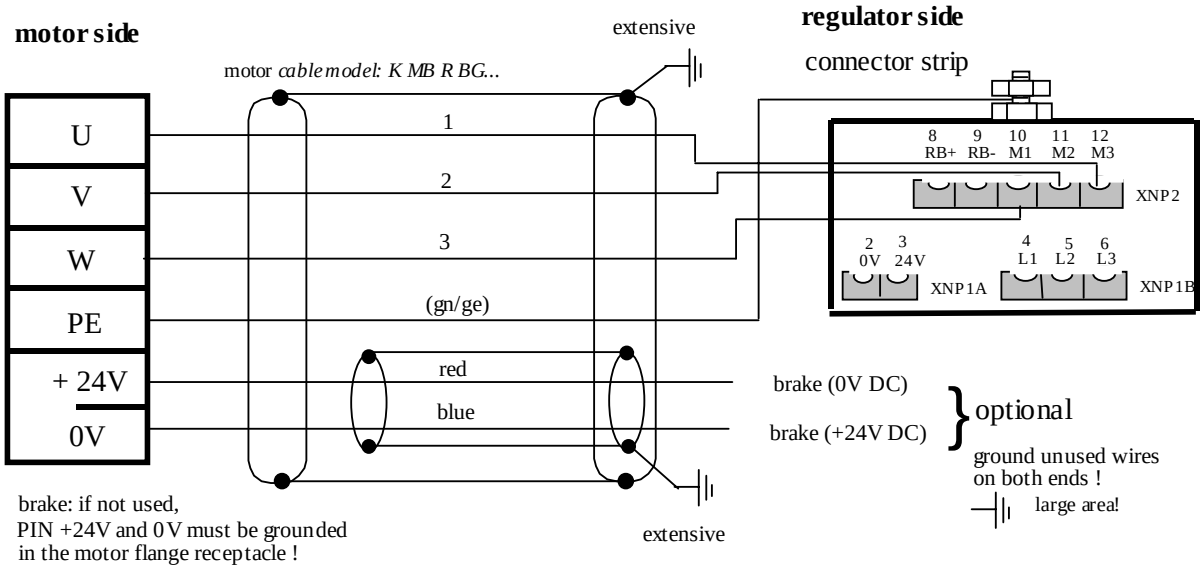
10. When operating with more than one line component in a common network, EMC problems are to be expected. From the start, the installation planer must integrate in his concept high frequency emitted interference as well as the electromagnetic susceptibility of the components to one another and take measures against it.

11. It is absolutely necessary to run cable shields completely up to the connectors. The connection of the cable shields to ground must be in the near field of the servo regulator (10 - 50 cm). Sensitive measuring leads should be removed as far as possible from this area; this applies also when they are shielded!

12. It is mandatory to run the motor cables in a separate cable channel and to lay flexible cable shielding also when these are shielded. This channel must be separated by at least 30 - 40 cm from the channel for the signal lines.

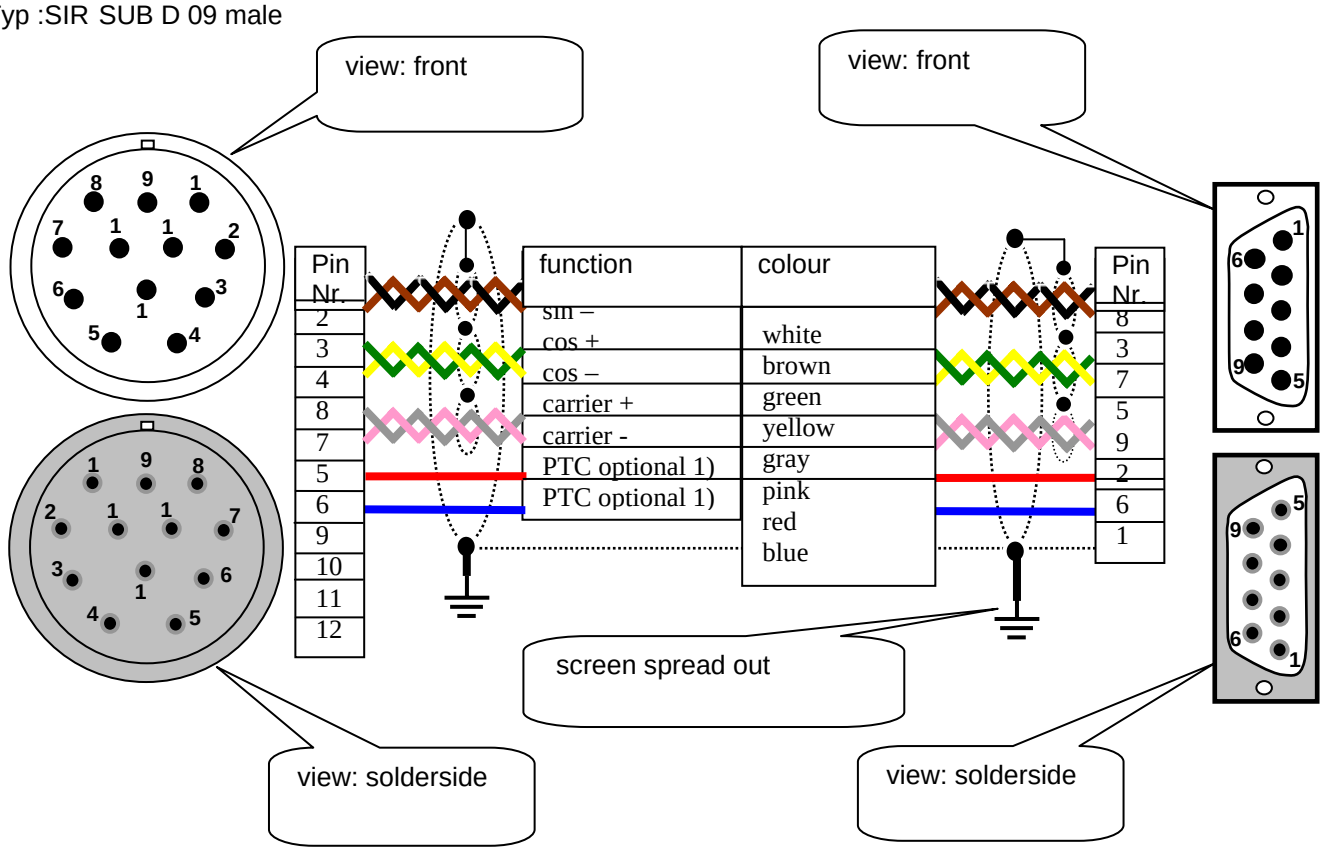
Connector assignment

3.2.3 SSD Drives-servo drive 637/K D6R in thea compact enclosure



3.3 Resolver connection for SSD Drives motor size 0...3 and on servo drive 631/635 and 637series

motor side resolver mating plugs **controller side** X 30 mating plugs
Typ :SIR SUB D 09 male



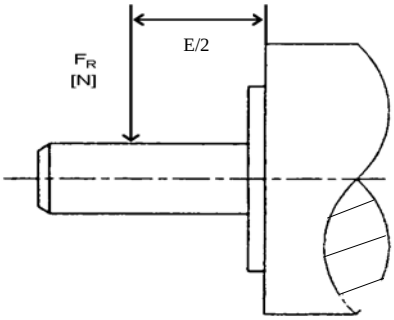
1) ⚠ **Attention ! Security and insulation:**
The temperature sensor in the motor winding must be insolated for secure division (PELV).
Otherwise, the insulation class of the drive becomes reduced or the effort of an additional galvanic seperation is required.

The mating plugs are not included in the standard delivery

1 Shaft loads

1.1 radial shaft load

1.1.1 Representation of the definition

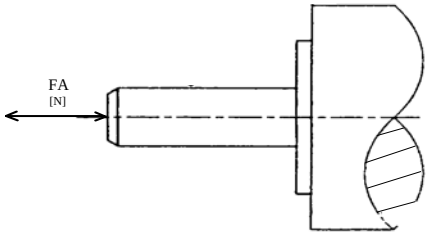


1.1.2 technical dates of the max. radial shaft load FR (N)

Motor size	rated speed	maximum radial shaft load
(-)	MN (1/min)	FR (N)
0	4000	220
1	4000	250
2	4000	300
3	4000	570

1.2 axial shaft load

1.2.1 Representation of the definition



1.2.2 technical dates of the max. axial shaft load FA (N)

Motor size	rated speed	maximum axial shaft load
(-)	MN (1/min)	FR (N)
0	4000	80
1	4000	90
2	4000	100
3	4000	200

The specifications refers to 20000 hours of operation !

1.3 Use Ball bearing type

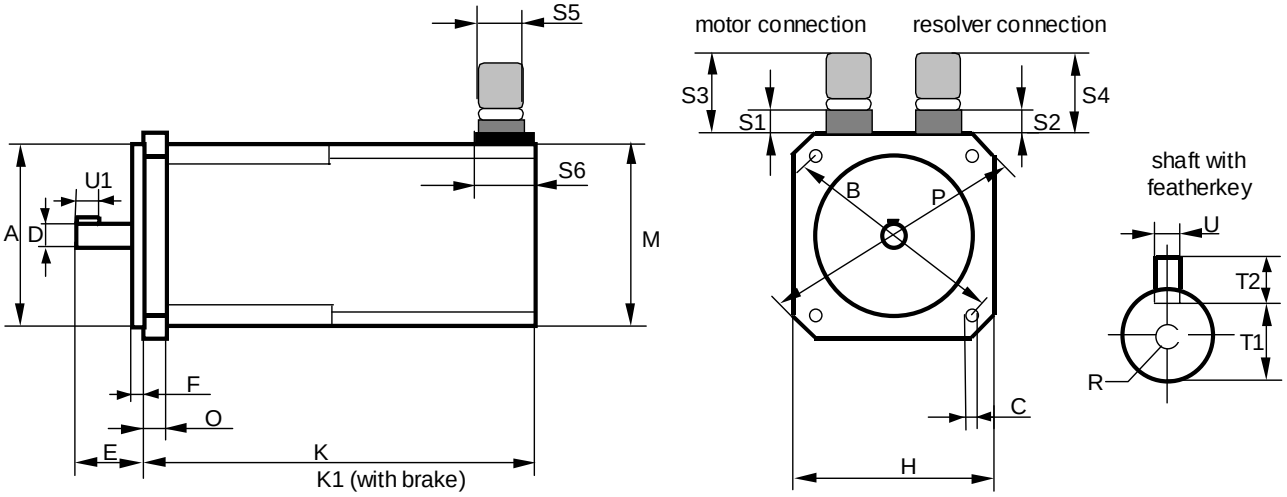
Motor-Baugröße	Kugellagertyp	
	A-seitig	B-seitig
0	6001	6001
1	6003	6001
2	6004	6002
3	6005	6003

2 Dimensions

2.1 Standard design Motor size 0...3

2.1.1 Connections via connectors

Please observe the bending radius of the cable !



Size	Motor				Resolver			
	S1	S3	S5	S6	S2	S4	S5	S6
0	28,0	88,0	28,0	30,0	31,0 - 34,0	71,0 - 74,0	26,0	25,4
1	16,0	76,0	28,0	30,0	21,0 - 24,0	61,0 - 64,0	26,0	25,4
2	16,0	76,0	28,0	30,0	21,0 - 24,0	61,0 - 64,0	26,0	25,4
3	25,0	96,0	35,6	38,0	21,0 - 24,0	61,0 - 64,0	26,0	25,4

Model AC Mn	BG	A (j6)	B	C	D (k6)	E	F	H	K	K1	M	O	P	R	T1	T2 (h9)	U (h9)	U1
0010-4/0-3	0.0	40	63	5,8	9	24	2,5	55	94	126	55	8	74	M3·10	7,2	3	3	14
0030-4/0-3	0.1	40	63	5,8	9	24	2,5	55	116	155	55	8	74	M3·10	7,2	3	3	14
0045-4/0-x	0.2	40	63	5,8	9	24	2,5	55	138	171	55	8	74	M3·10	7,2	3	3	14
0070-4/0-x	0.3	40	63	5,8	9	24	2,5	55	158	191	55	8	74	M3·10	7,2	3	3	14
0090-4/1-x	1.0	80	100	7	14	30	3	88	132	173	82	10	115	M4·12	11,1	5	5	20
0150-4/1-x	1.1	80	100	7	14	30	3	88	151	193	82	10	115	M4·12	11,1	5	5	20
0220-4/1-x	1.2	80	100	7	14	30	3	88	171	213	82	10	115	M4·12	11,1	5	5	20
0070-12/2-3	2.0	95	115	9	19	40	3	105	160	-	105	12	134	M6·15	15,5	6	6	30
0320-4/2-x	2.1	95	115	9	19	40	3	105	200	240	105	12	134	M6·15	15,5	6	6	30
0480-4/2-x	2.2	95	115	9	19	40	3	105	230	270	105	12	134	M6·15	15,5	6	6	30
0600-4/2-x	2.	95	115	9	19	40	3	105	230	-	105	12	134	M6·15	15,5	6	6	30
0650-4/2-x	2.3	95	115	9	19	40	3	105	280	315	105	12	134	M6·15	15,5	6	6	30
0960-4/3-x	3.1	130	165	11	24	50	3,5	145	300	345	145	12	188	M8·25	19,9	8	8	40
1200-4/3-x	3.2	130	165	11	24	50	3,5	145	340	383	145	12	188	M8·25	19,9	8	8	40

all specifikations in "mm"

Connector assignment

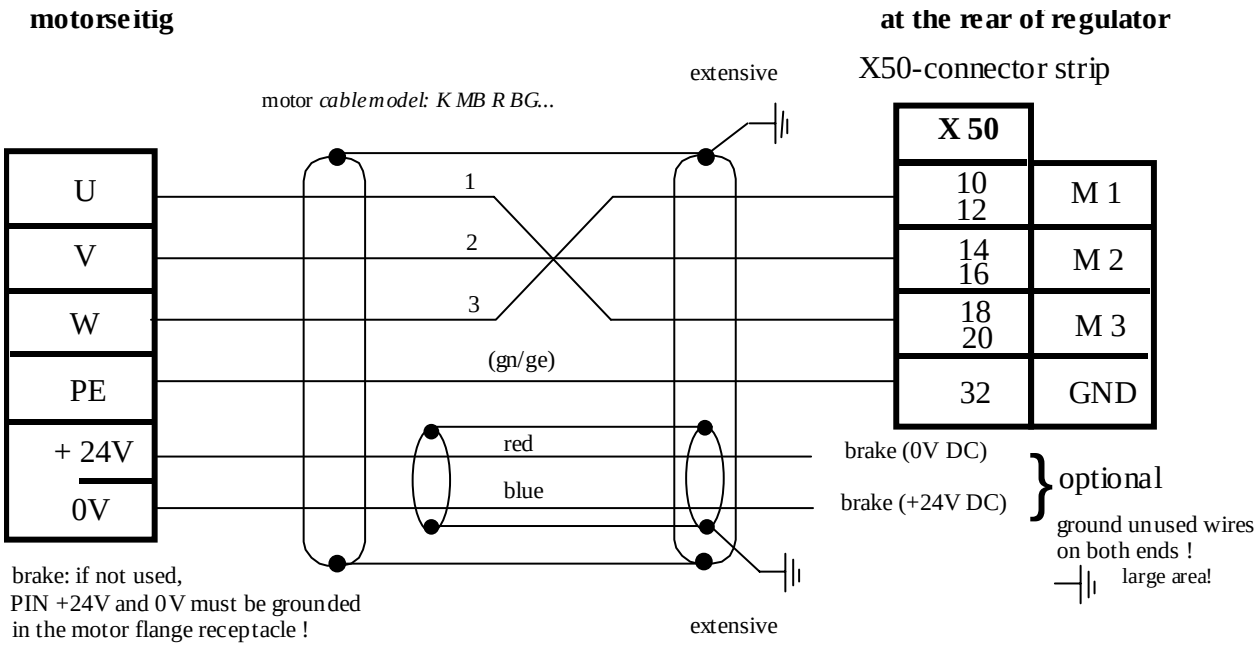
3.2 Motor connection for special design (Connections via PG with cable ends)

Pin assignment for SSD Drives motors, size 0…3

3.2.1 SSD Drives servo drives 635/DER / 637/D6R

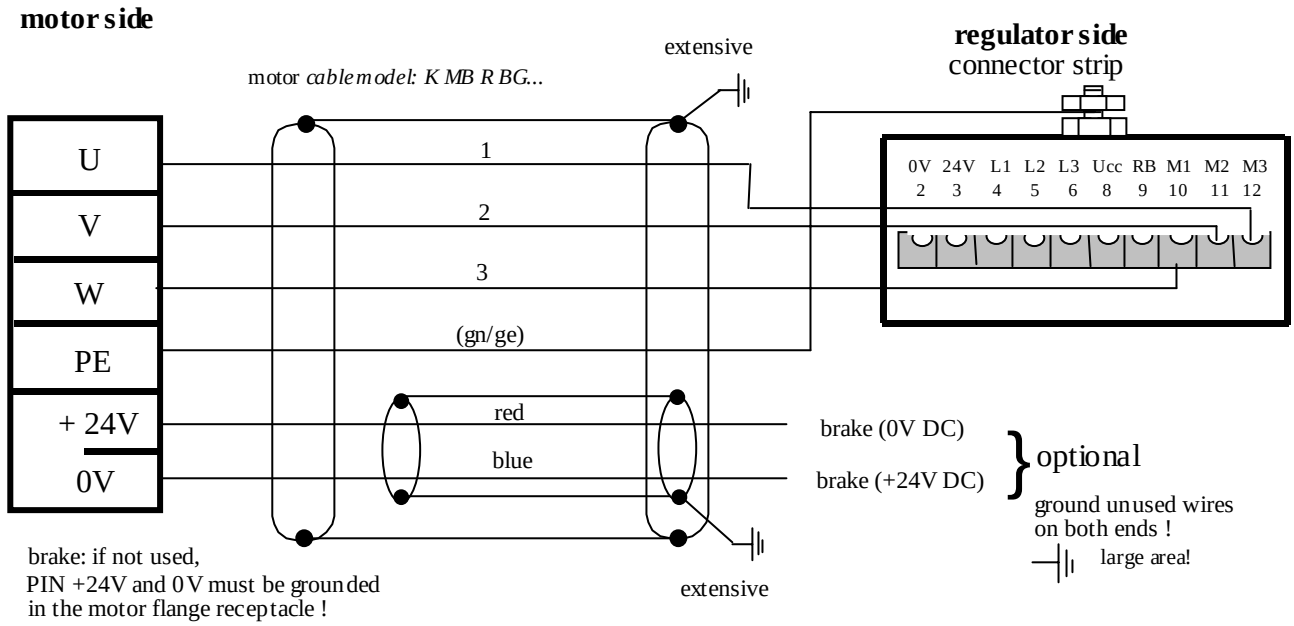
(old products ESR AC S, FRR AC S)

in the SSD Drives Rack



3.2.2 SSD Drives-servo drive 635/K DER

in the compact- or low cost enclosure



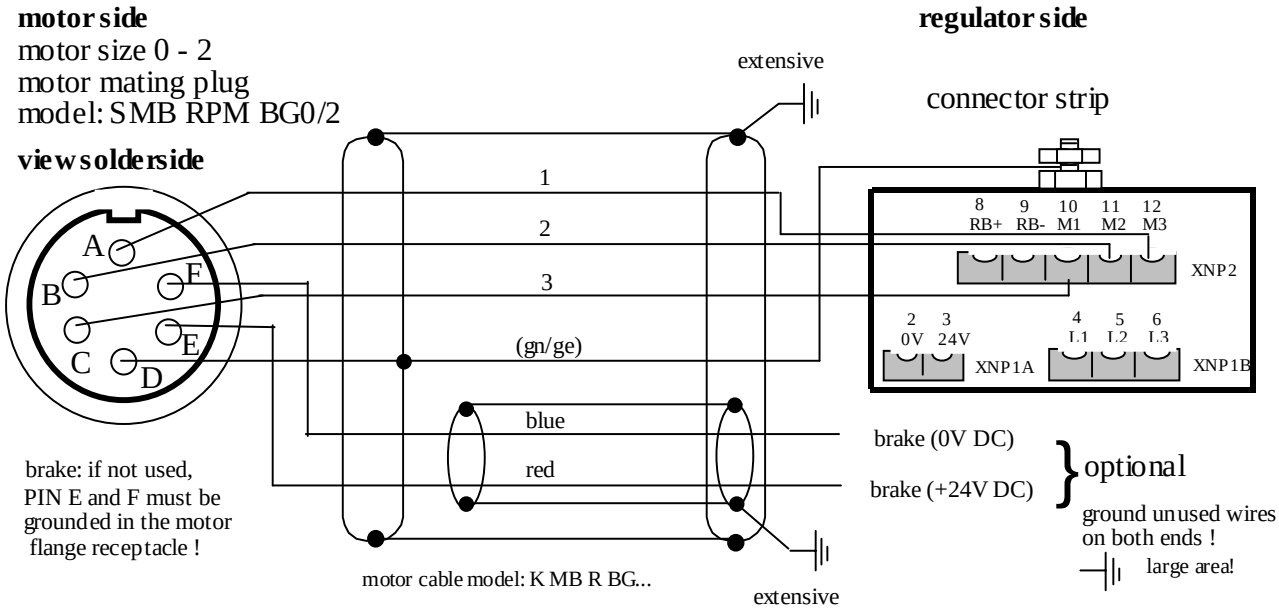
Motor-line-shield: on both ends, extensively connected!

Connector assignment

Motor connection for standard design Pin assignment for SSD Drives motors, size 0...3

3.1.3 SSD Drives-servo drive 637/K D6R

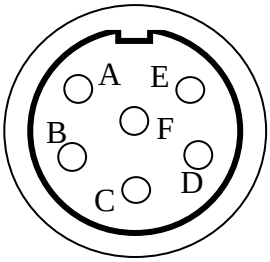
in the compact enclosure



Motor-line-shield:on both ends, extensively connected!

motor size 3
motor mating plug
model: SMB R BG 3

view solderside



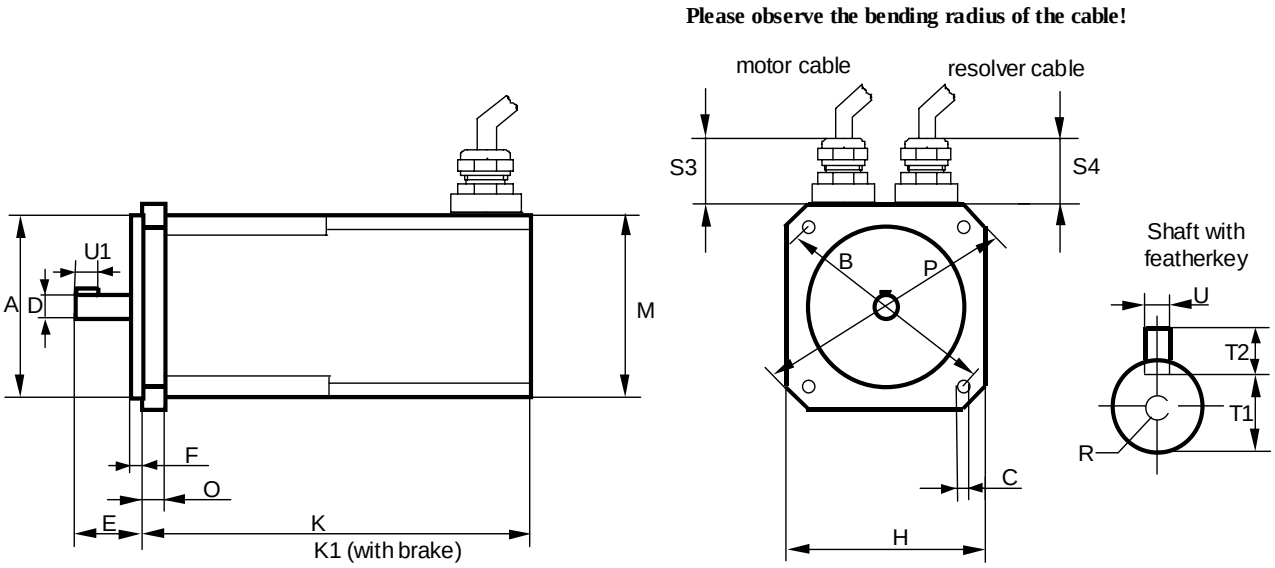
connections see above !

The mating plugs are not included in the standard delivery!

Dimensions

2.2 Special design Motor size 0...3

2.2.1 Connections via PG couplings and cables



Dimensions like standard design, except:

AC Mn size	S3 Design Skintop	S3 Design EMC	S4 Design Skintop	S4 Design EMC	Motor connection via PG coupling	Resolver connection via PG coupling	Comments
0	-	-	-	-	-	-	-
1	28	21	25	20	13,5	9	-
2	28	21	25	20	13,5	9	-
3	-	-	-	-	-	-	-

Attention with S3 and S4:
Observe the bending radius of the cables !

2.2.2 Motor with pulse encoder attachment preparation for incremenal encoder DG60 resp. ROD426 for motor size 1 - 3

Dimension drawing: on request !

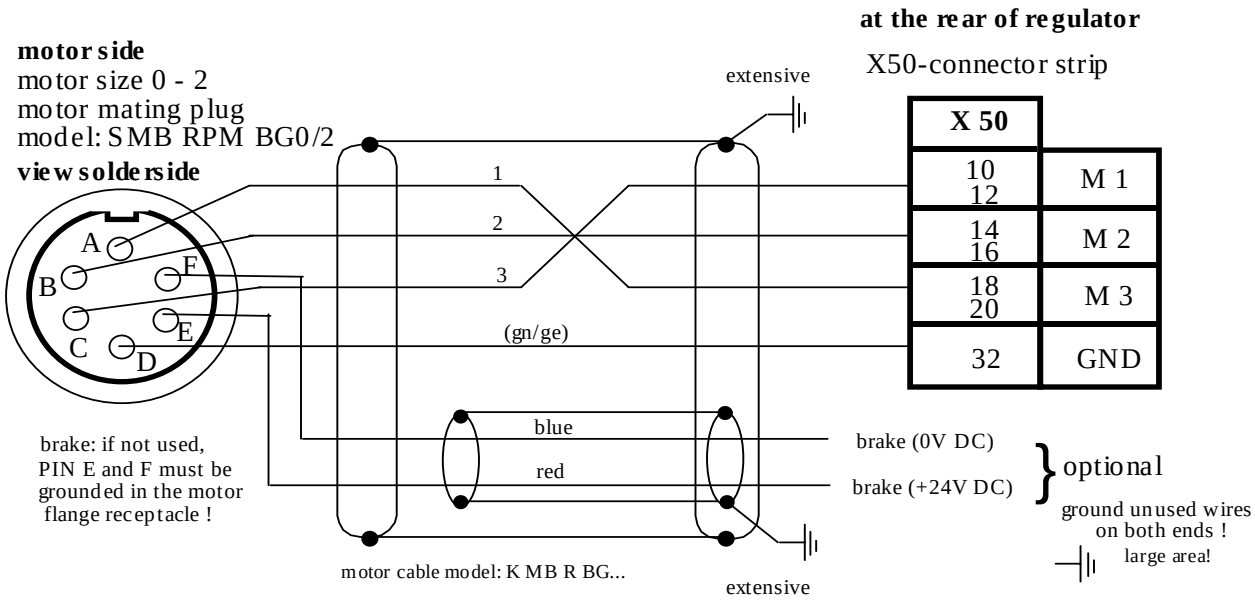
3 Connector assignment

3.1 Motor connection for standard design Pin assignment for SSD Drives motors, size 0...3

3.1.1 SSD Drives-servo drives 635/DER / 637/D6R

(and old products FRR AC S, ESR AC S)

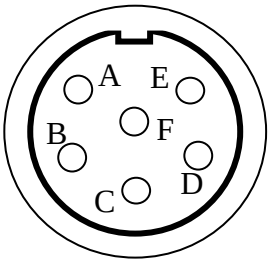
in the SSD Drives Rack



Motor-line-shield:on both ends, extensively connected!

motor size 3
motor mating plug
model: SMB R BG 3

view solderside



connections see above !

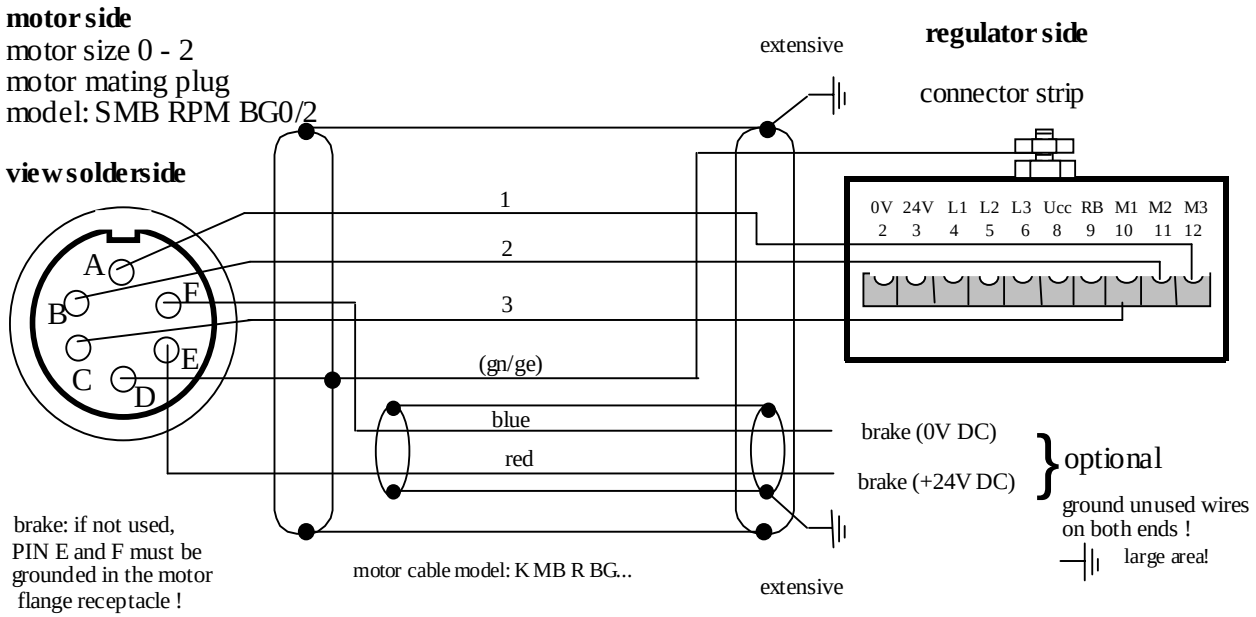
The mating plugs are not included in the standard delivery!

Connector assignment

Motor connection for standard design Pin assignment for SSD Drives motors, size 0...3

3.1.2 SSD Drives-servo drive 635/K DER

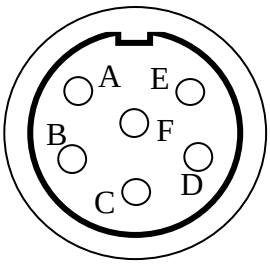
in the compact enclosure



Motor-line-shield:on both ends, extensively connected!

motor size 3
motor mating plug
model: SMB R BG 3

view solderside



connections see above !

The mating plugs are not included in the standard delivery!