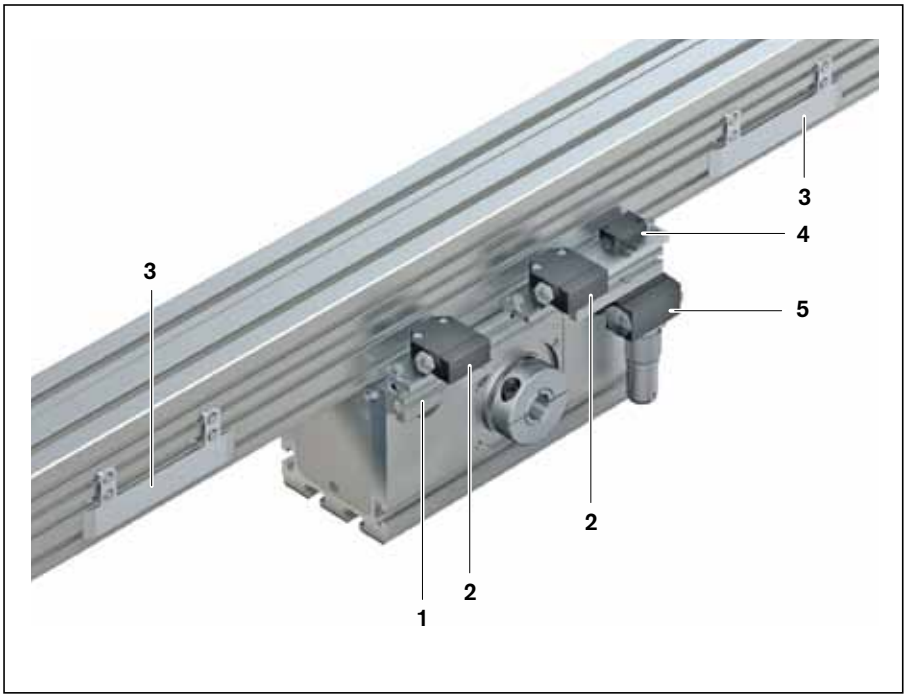
Switch Mounting Arrangements – carriage stationary, frame travels

Switching principle

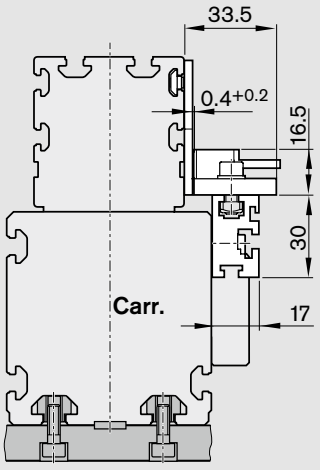
- Proximity or mechanical switches on the carriage (carr.)
- Switching via switching strips on the frame

Overview of switching system

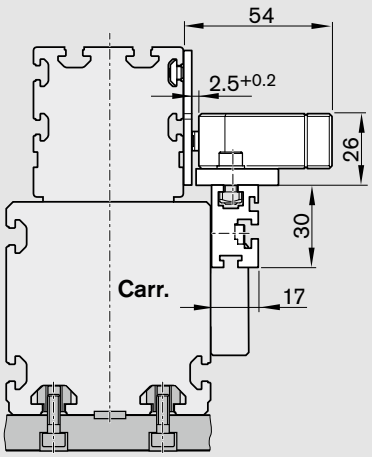
1 Switch mounting profile
2 Mechanical switches (with mounting accessories)
3 Switching strips on the frame
4 Proximity switch (with mounting accessories)
5 Socket and plug



OBB 55

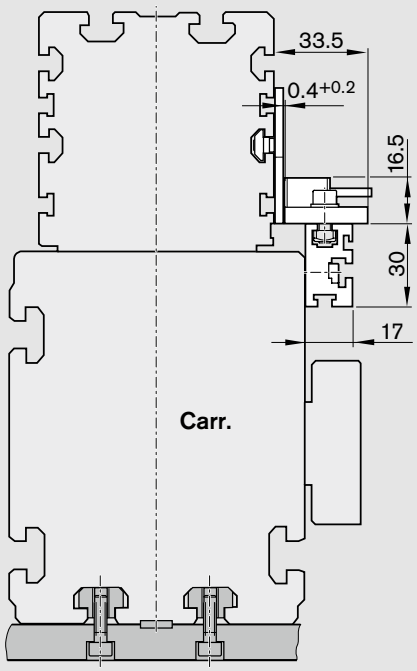


Proximity switches with mounting accessories

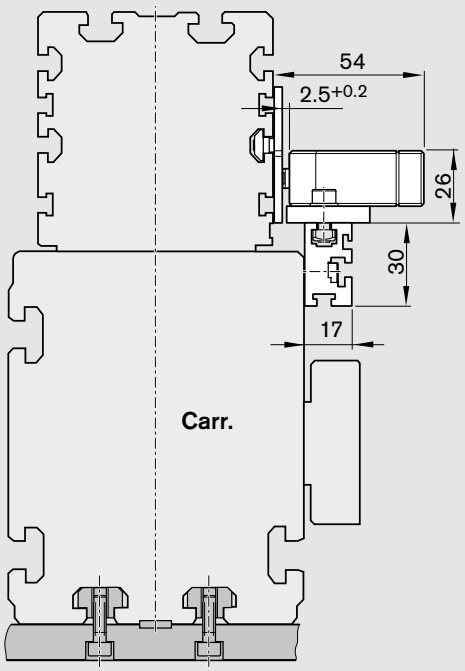


Mechanical switches with mounting accessories

OBB 85

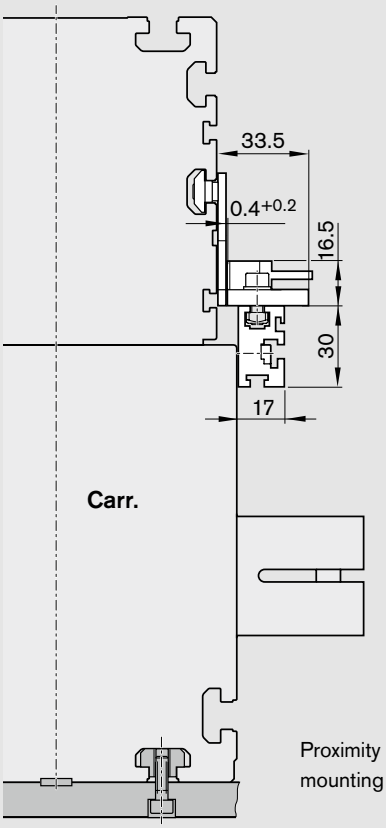


Proximity switches with mounting accessories

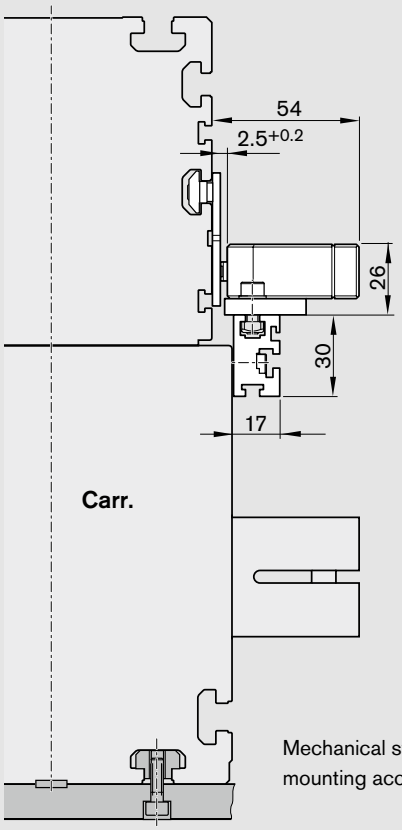


Mechanical switches with mounting accessories

OBB 120



Proximity switches with mounting accessories



Mechanical switches with mounting accessories

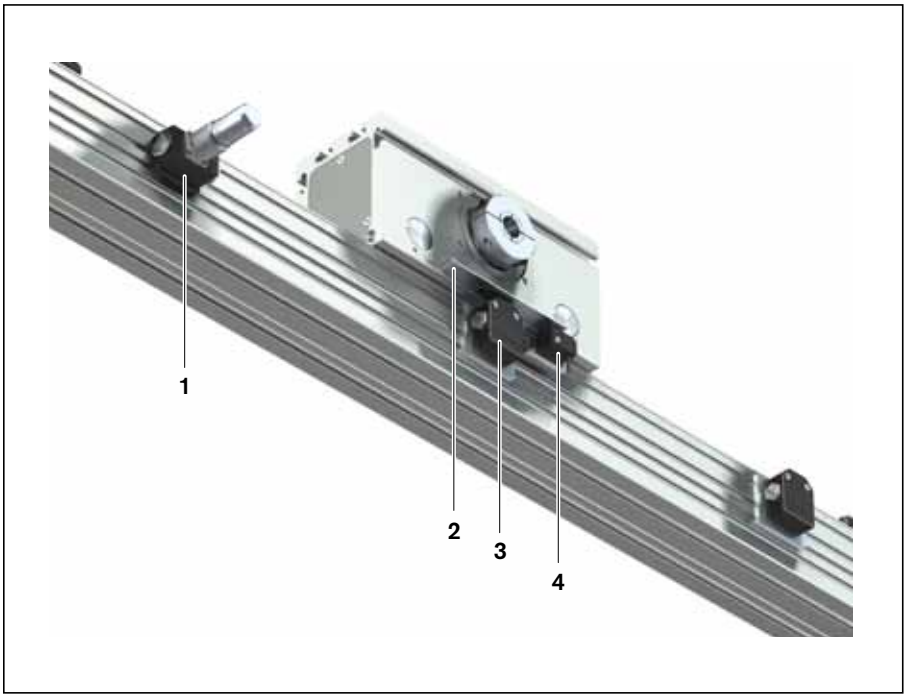
Switch Mounting Arrangements – frame stationary, carriage travels

Switching principle

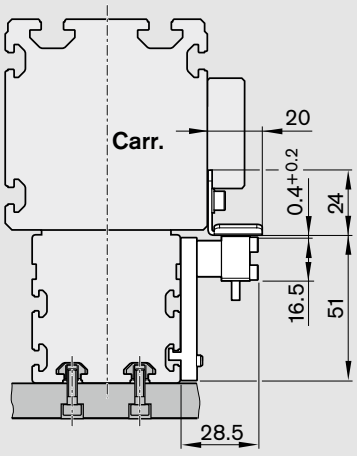
- Proximity or mechanical switches on the frame
- Switching via switching strip on the carriage (carr.)
- Similar to Linear Module series

Overview of switching system

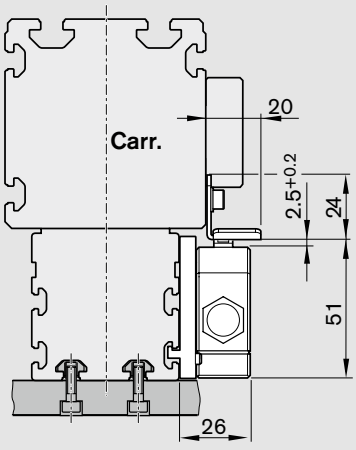
1 Socket and plug
2 Switching strip
3 Mechanical switch (with mounting accessories)
4 Proximity switch (with mounting accessories)



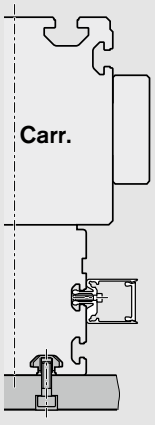
OBB 55



Proximity switches with mounting accessories

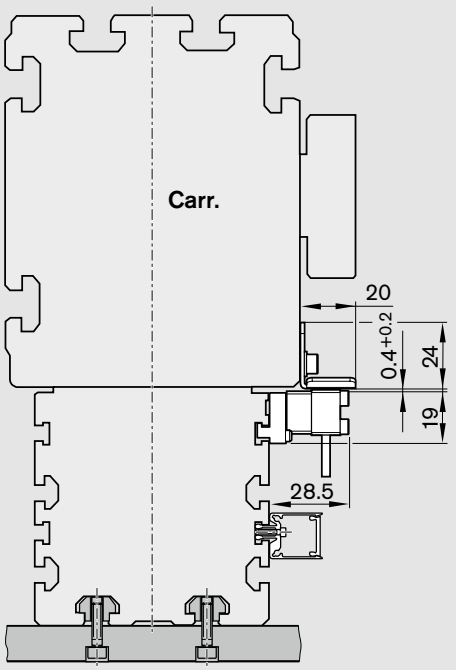


Mechanical switches with mounting accessories

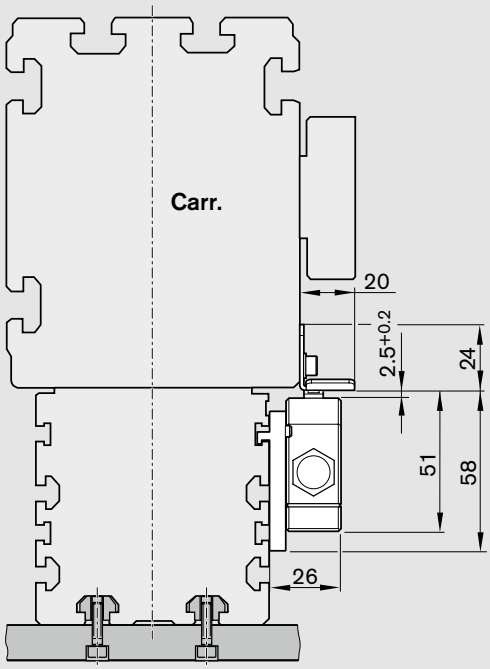


Cable duct

OBB 85

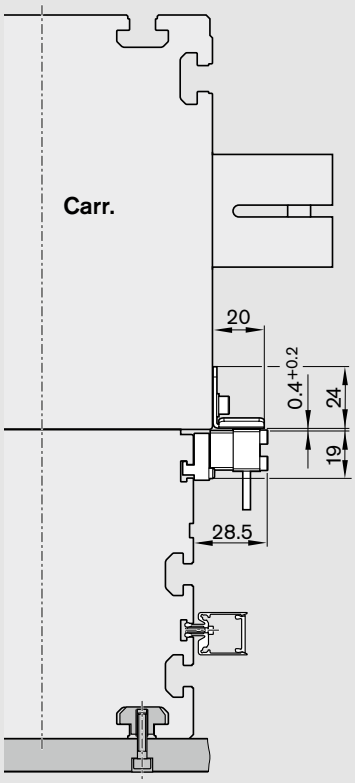


Proximity switches with mounting accessories / cable duct

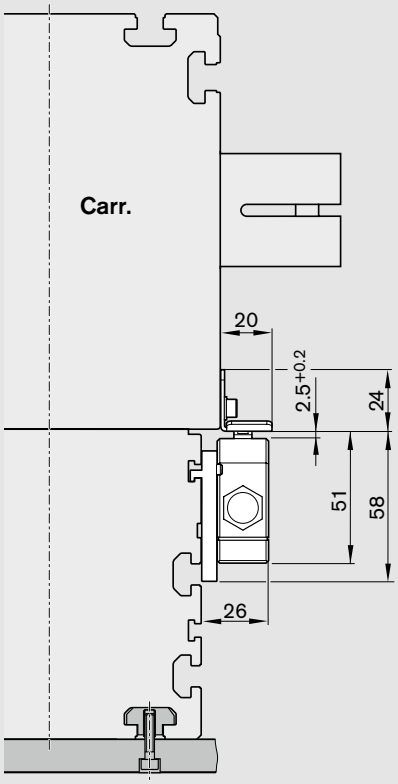


Mechanical switches with mounting accessories

OBB 120



Proximity switches with mounting accessories / cable duct



Mechanical switches with mounting accessories

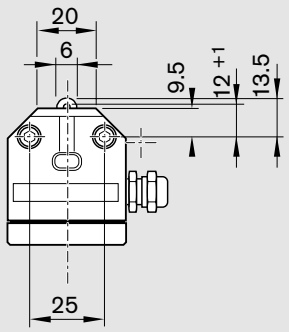
Switches, Socket-Plug, Cable Duct

Switches

Mechanical switches

Mechanical switch Technical data	
Repeatability	± 0.05 mm
Permissible ambient temperature	–5 °C to +80 °C
Protection class	DIN 40050 IP 67
Bounce time	< 2 ms
Insulation class	Group C as per VDE 0110
Rated voltage	250 V AC
Continuous current	5 A
Switching capacity at 220 V, 40–60 Hz	cosφ = 0.8 at 2 A
Contact resistance when new	< 240 mΩ
Connection type	Screw connector
Contact system	Single-pole changeover
Switching system	Snap-action
B_{10d} as per EN ISO 13849-1	1 000 000 switching cycles

Mechanical switch

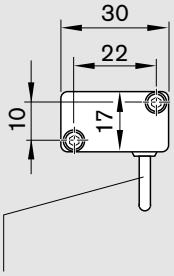


Connection dimensions ☞ 32-35

Proximity switches

Proximity switch with potted cable (3 x 0.14 mm² Unitronic) Technical data	
Housing form	NO
Minisensor	Form A DIN 41635
Operating voltage	10 ... 30 V DC
Residual ripple	≤ 10%
Load	200 mA
No-load current	≤ 20 mA
Switching frequency	max. 1500 Hz
Temperature-related shift in make point	≤ 4 µm/K
Output signal steepness	≥ 1V/µs
Repeatability of make point per EN 50008	≤ 0.1 mm
Cable length	3 m
$MTTF_d$ as per EN ISO 13849-1	30 – 100 years

Proximity switch



Cable length: 3 m

Connection dimensions ☞ 32-35

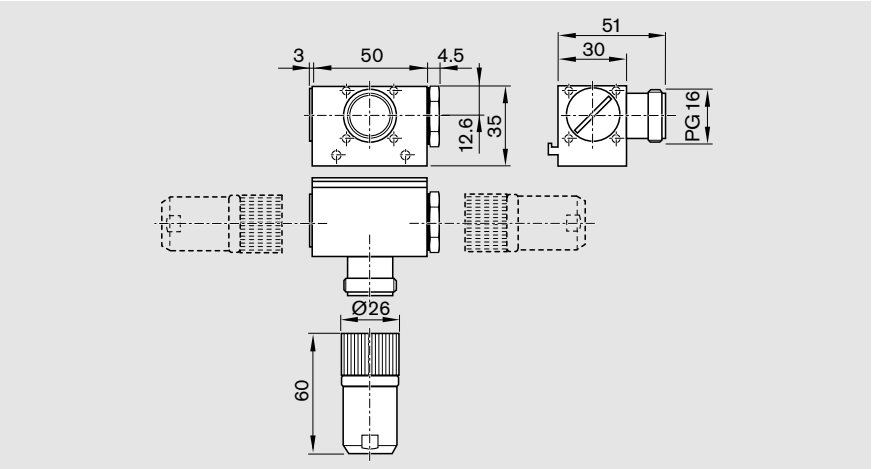
Socket-plug

Notes

The socket and plug have 16 pins.
The socket and plug are not pre-wired.

Since the mounting arrangements allow shifting of the switches, the switch activation points can be optimized during start-up.
A plug is provided.
The plug can be mounted in three directions.

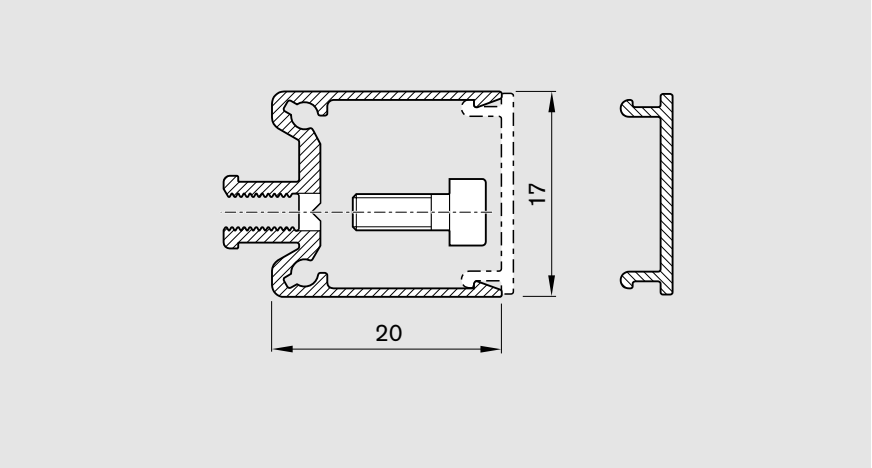
- Attach the socket at the end with the most switches. (See example on next page.)



Cable duct

- The cable duct is fastened in the T-slots on the side of the frame. Fastening screws widen the profile and give the cable duct a secure hold.

For the slot position, see “Components and Ordering Data” tables and “Dimensions”.
The cable duct will accommodate up to two cables for mechanical switches and three cables for proximity switches.
Fastening screws and cable grommets are included.

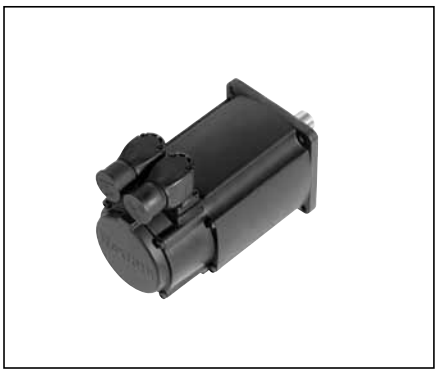


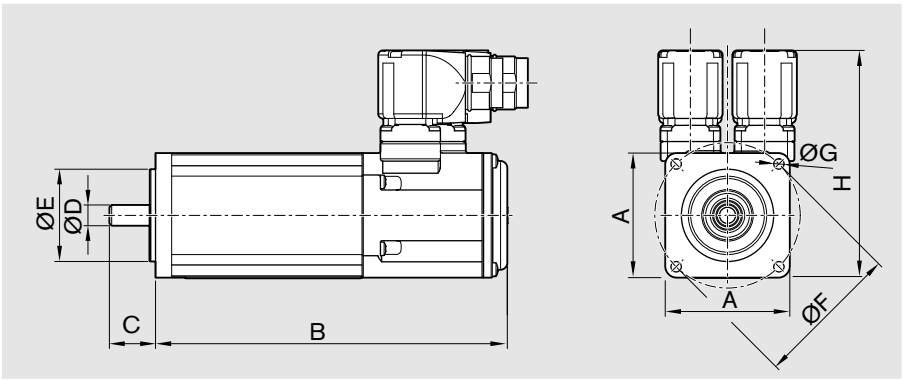
IndraDyn S Servo Motors

Notes

All MSK/MSM servo motors have an absolute multiturn encoder. The motors can be supplied complete with controller and control unit. For more information on motors, controllers and control systems, please refer to the Rexroth catalogs “IndraDrive Cs” and “Drive System Rexroth IndraDrive”.

IndraDyn S Servo Motor MSK





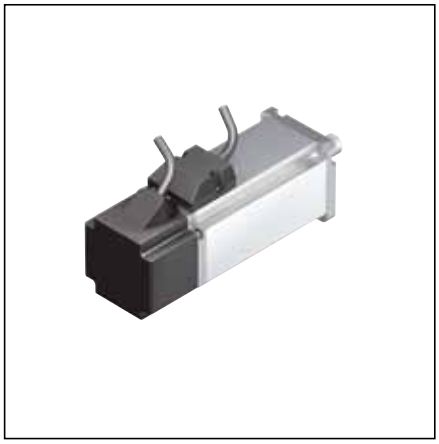
Motor		n_{max} (min⁻¹)	$M_{0\ 60K}$ (Nm)	M_{max} (Nm)	I_0 (A)	I_{max} (A)	J_m (kgm²)	Mass[1] (kg)	Dimensions (mm) A	B[1]	C	ØD	ØE	ØF	ØG	H
MSK040	B-0450	6000	1.7	5.1	1.5	6	0.0001	2.8	82	155.5	30	14	50	95	6.6	124.5
	B-0600	7500	1.7	5.1	2	8	0.0001	2.8								
	C-0450	6000	2.7	8.1	2.4	9.6	0.00014	3.6		185.5						
	C-0600	7500	2.7	8.1	3.1	12.4	0.00014	3.6								
MSK050	B-0300	4300	3	9	1.8	7.2	0.00028	4.0	98	173	40	19	95	115	9	134.5
	B-0450	6000	3	9	2.8	11.2	0.00028	4.0								
	B-0600	6000	3	9	3.7	14.8	0.00028	4.0								
	C-0300	4700	5	15	3.1	12.4	0.00033	5.4		203						
	C-0450	6000	5	15	4.7	18.8	0.00033	5.4								
	C-0600	6000	5	15	6.2	24.8	0.00033	5.4								
MSK076	C-0300	4700	12	43.5	7.2	32.4	0.0043	13.8	140	292.5	50	24	110	165	11	180.0
	C-0450	5000	12	43.5	12.2	54.9	0.0043	13.8								

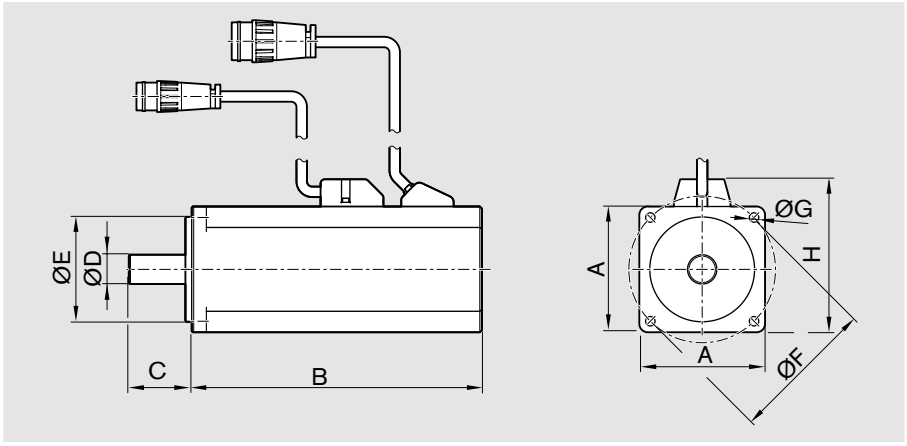
1) Without holding brake

n_{max} = maximum motor speed
$M_{0\ 60K}$ = continuous torque at standstill
M_{max} = maximum torque
I_0 = continuous current at standstill
I_{max} = maximum current
J_m = mass moment of inertia

Motor		Part number Without holding brake	Type designation Without holding brake
MSK040	B-0450	R911316887	MSK040B-0450-NN-M1-UG0-NNNN
	B-0600	R911306058	MSK040B-0600-NN-M1-UG0-NNNN
	C-0450	R911320143	MSK040C-0450-NN-M1-UG0-NNNN
	C-0600	R911306060	MSK040C-0600-NN-M1-UG0-NNNN
MSK050	B-0300	R911308506	MSK050B-0300-NN-M1-UG0-NNNN
	B-0450	R911326097	MSK050B-0450-NN-M1-UG0-NNNN
	B-0600	R911299935	MSK050B-0600-NN-M1-UG0-NNNN
	C-0300	R911307944	MSK050C-0300-NN-M1-UG0-NNNN
	C-0450	R911316880	MSK050C-0450-NN-M1-UG0-NNNN
	C-0600	R911298354	MSK050C-0600-NN-M1-UG0-NNNN
MSK076	C-0300	R911314849	MSK076C-0300-NN-M1-UG0-NNNN
	C-0450	R911318098	MSK076C-0450-NN-M1-UG0-NNNN

IndraDyn S Servo Motor MSM





Motor	n_{max} (min^{-1})	M_0 (Nm)	M_{max} (Nm)	P_N (W)	Mass[1] (kg)	Dimensions (mm) A	B[1]	C	ØD	ØE	ØF	ØG	H
MSM 031C	5000	1.3	3.8	400	1.2/1.7	60	98.5/135	30	14	50	70	4.5	73
MSM 041B	4500	2.4	7.1	750	2.3/3.1	80	112/149	35	19	70	90	6	93

1) Without/with holding brake

n_{max} = maximum motor speed
$M_{0\ 60K}$ = continuous torque at standstill
M_{max} = maximum torque
P_N = continuous power

Motor		Part number		Type designation	
		Without holding brake	With holding brake	Without holding brake	With holding brake
MSM 031C	0300	R911325139	R911325140	MSM 031C-0300-NN-M0-CH0	MSM 031C-0300-NN-M0-CH1
MSM 041B	0300	R911325143	R911325144	MSM 041B-0300-NN-M0-CH0	MSM 041B-0300-NN-M0-CH1