

Actuators

DC motor, brush-type

Incremental position sensing, input for cw and ccw run

MDBA 42



MDBA 42

Features

- Actuator / input for cw and ccw run
- Brush-type DC motor
- Incremental position sensing
- Nominal power output 20 W
- Output push-pull, short-circuit-proof
- Radial connector output

Technical data - electrical ratings

Voltage supply	24 VDC $\pm 10\%$
Current consumption	≤ 2 A
Nominal current	1.75 A
Starting current	Charging current capacitor 4.7 μ F
Operating current type	≤ 20 mA
Initializing time	≤ 1 ms after power on
Positioning resolution motor	90 ° (4-times evaluation)
Positioning accuracy motor	± 10 ° (4-times evaluation)
Loop controller	No
Sensing method	Magnetic
Reverse polarity protection	Electronics and motor
Excess temperature protection	150 °C (final power output circuit)
Interference immunity	DIN EN 61000-6-2
Emitted interference	DIN EN 61000-6-4

Technical data - mechanical design

Dimensions (flange)	$\varnothing 42$ mm
Shaft	$\varnothing 8$ mm
Nominal speed	2700 rpm
Nominal power output	20 W
Nominal torque	0.09 Nm
Service life	3000 h
Protection DIN EN 60529	IP 42
Ambient temperature	-15...+40 °C
Isolation class	E (+120 °C, DIN EN 60034-1)
Connection	Connector
Shaft surface	Key
Material	Housing: steel and aluminium
S1 continuous operation	DIN EN 60034-1
Information	Nominal data at +40 °C ambient temperature for gearless motor. Service life at operating factor = 1.

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Part number

MDBA 42IN0C-G42028P

Gear reducer

004 3.7 : 1
007 6.75 : 1
014 13.73 : 1
025 25.01 : 1
046 45.56 : 1
093 92.7 : 1
169 168.84 : 1
308 307.54 : 1

Accessories

Connectors and cables

10123301	Female connector Binder 423, 8-pin, angled
10153202	Female connector Binder 423, 8-pin, straight

Motor-gearing-combination

Gear ratio	Torque nominal (Nm)	Rotational speed (rpm)	Admitted shaft load (N)		Weight (kg)	Length L (mm)	Positioning resolution (°)	Max. transmission play (°)	Mmax gear (Nm)	Gear efficiency approx.
	S2	S2	axial	radial						
3.7	0.29	750	50	160	1.1	189	22.5	0.90	3.0	0.80
6.75	0.50	429	50	160	1.1	189	12.8	0.90	3.0	0.80
13.73	0.94	214	80	230	1.2	202	6.4	0.95	7.5	0.75
25.01	1.67	120	80	230	1.2	202	3.6	0.95	7.5	0.75
45.56	3.10	65	80	230	1.2	202	1.9	0.95	7.5	0.75
92.70	5.86	32	110	300	1.3	215	0.96	1.00	15.0	0.70
168.84	10.65	18	110	300	1.3	215	0.53	1.00	15.0	0.70
307.54	15.00*	10	110	300	1.3	215	0.29	1.00	15.0	0.70

* external current limit 1 A

Further motor - gear combinations upon request.

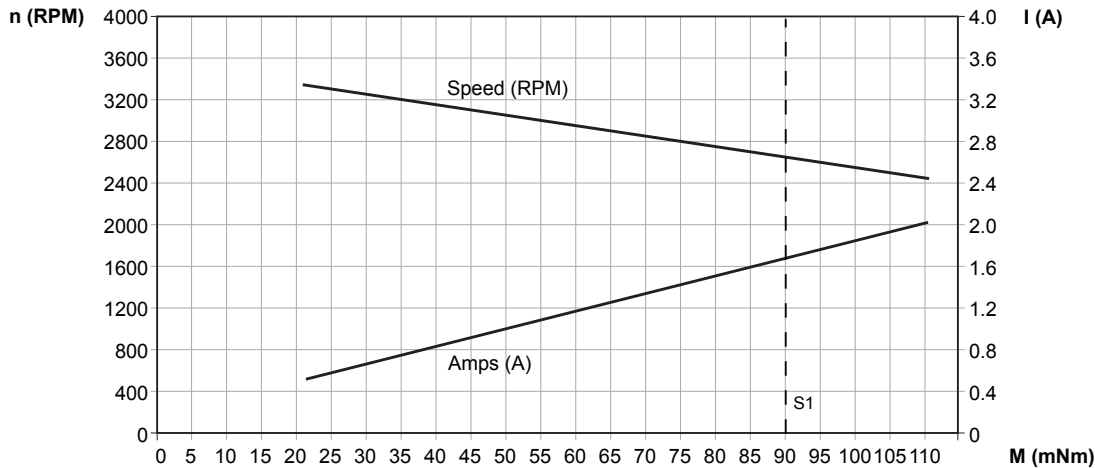
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Characteristic load curve motor without gears



Terminal assignment

Connector – Binder 423, 8-pin

Connector	Signals	Description
Pin 1	+VsE	+24 VDC voltage supply electronic
Pin 2	CHA	Channel A
Pin 3	0 VE	0 VDC voltage supply electronic
Pin 4	CHB	Channel B
Pin 5	Input 1	Input right
Pin 6	Input 2	Input left
Pin 7	+VsM	+24 VDC voltage supply motor
Pin 8	0 VM	0 VDC voltage supply motor

Technical data - communication

Output circuit	Push-pull short-circuit proof
Setting switch	No
Operating mode	ccw, cw run
Control signals	Counterclockwise Clockwise
Output signals	A 90° B
Short-circuit proof	Yes

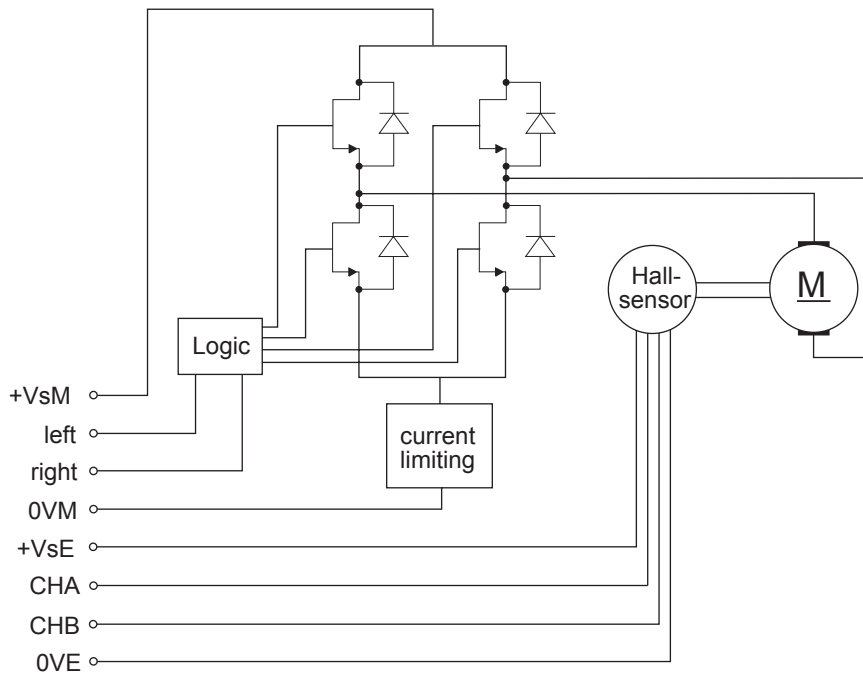
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Block circuit diagram



Dimensions

