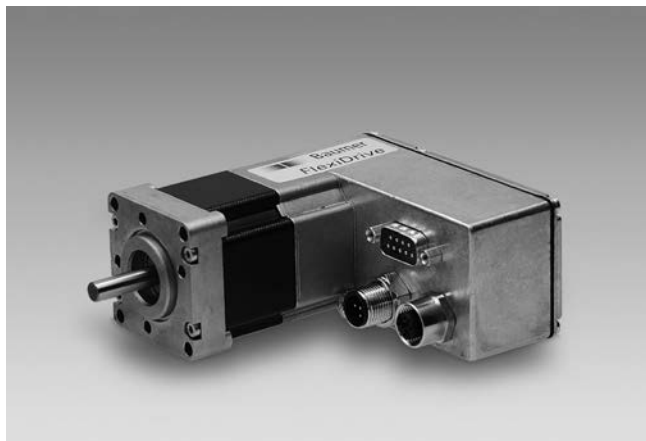


# Positioning drives

DC motor, brushless

Absolute multiturn position detection, Profibus-DP

## MSIA 42 - Profibus



MSIA 42 without gearing

### Features

- Positioning drive with/without planetary gears
- Profibus-DP
- Brushless DC motor
- Absolute multiturn position detection
- Nominal power output 36 W
- 4 inputs programmable
- Journey datasets programmable
- Separate communication and power supply

### Technical data - electrical ratings

Voltage supply	24 VDC $\pm 10\%$
Current consumption	$\leq 10$ A
Nominal current	2.3 A
Operating current typ.	$\leq 100$ mA
Positioning resolution motor	0.02 °
Positioning accuracy motor	$\pm 1$ °
Repeatability motor	0.3 °
Number of revolutions	262144 / 18 bit
Commutation	Sine
Undervoltage shutdown	$\leq 11.5$ V
Terminating resistor	Manually set by DIP switch
Controller	Integrated position and speed regulator (4Q)
Sensing method	Magnetic
Number of pole pairs	4 = 8 poles
Reverse polarity protection	Bus electronics
Overheat protection	112 °C (final power output circuit)
Interference immunity	DIN EN 61000-6-2
Emitted interference	DIN EN 61000-6-4

### Technical data - mechanical design

Dimensions	42 x 95 mm
Shaft type	$\varnothing 6$ mm solid shaft $\varnothing 8$ mm solid shaft
Operating speed	$\leq 4800$ rpm
Nominal speed	4400 rpm
Nominal power output	36 W
Nominal torque	0.08 Nm
Starting torque	$\leq 0.39$ Nm
Service life	10000 h (without gear)
Protection DIN EN 60529	IP 54
Ambient temperature	-15...+40 °C
Isolation class	B (+130 °C, DIN EN 60034-1)
Connection	Connector
Number of stages	1...3
Resistance	DIN EN 60068-2-6 Vibration DIN EN 60068-2-27 shock
Shaft surface	Smooth and round (without gear transmission); key (with gear transmission)
Material	Housing: zinc diecast, steel and aluminium
S1 continuous operation	DIN EN 60034-1
S3 intermittent operation	Power-on time 25 %, run time 1 min
Instruction	Nominal data at +40 °C ambient temperature for gearless motor. Service life at operating factor = 1.



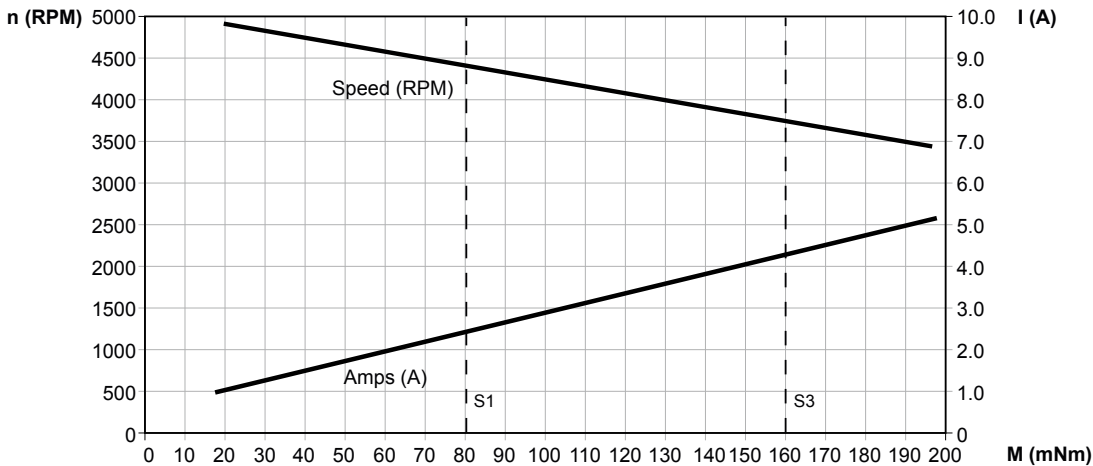
# Positioning drives

DC motor, brushless

Absolute multturn position detection, Profibus-DP

## MSIA 42 - Profibus

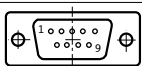
### Characteristic load curve motor without gears



### Terminal assignment

#### Connector – D-Sub, 9-pin

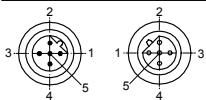
Connector	Signal	Description
Pin 1	+VsE	+24 VDC voltage supply electronic
Pin 2	Input 1	Input programmable
Pin 3	Input 2	Input programmable
Pin 4	Input 3	Input programmable
Pin 5	Input 4	Input programmable
Pin 6	0 VME	0 VDC voltage s. motor / electronic
Pin 7	0 VME	0 VDC voltage s. motor / electronic
Pin 8	+VsM	+24 VDC voltage supply motor
Pin 9	+VsM	+24 VDC voltage supply motor
	Shield	Housing



#### Connector male / female – M12, 5-pin, B-coded

Connector	Signal	Description
Pin 1	+VsDP	VP Profibus +5 VDC (female) <sup>1)</sup>
Pin 2	A line green	Cable green / Profibus-DP
Pin 3	0 VDP	DGND Profibus (female) <sup>1)</sup>
Pin 4	B line red	Cable red / Profibus-DP
Pin 5	n.c.	–
	Shield	Housing

<sup>1)</sup> option: external terminating resistor



### Technical data - communication

Interface	Profibus-DPV0
Output stages	Profibus Insulated RS485 Interface
Profile conformity	Profidrive no. 3 Version 2.0
PPO	Type 2
Cyclic data transfer	Communication according to DPV0
Transmission rate	9.6...12000 kbit/s
Galvanic isolation bus	Yes
Inputs	4 digitally programmable
Switching frequency	<500 Hz
Inputs	
Setting switch	Manual setting of bus address and terminating resistor
Potential equalization	Separate screw connection
Status indicator	DUO-LED integrated in housing
Operating modes	Position-controlled operation, Referencing, External targets, Journey datasets
Diagnostic functions	Temperature control Parameter error Multiturn sensing Self-diagnosis
Programming software	Yes
Factory setting	Node ID 3, terminating resistor OFF

# Positioning drives

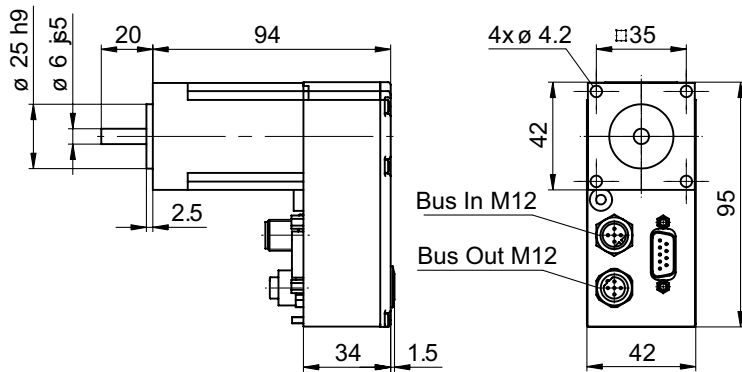
DC motor, brushless

Absolute multiturn position detection, Profibus-DP

## MSIA 42 - Profibus

### Dimensions

#### MSIA 42 without gearing



#### MSIA 42 planetary gearing

