

# Actuator AG02

Robust and compact actuator with a high output torque and the field-proven hollow-shaft principle. High flexibility and easy integration owing to various encoder types and driving options.

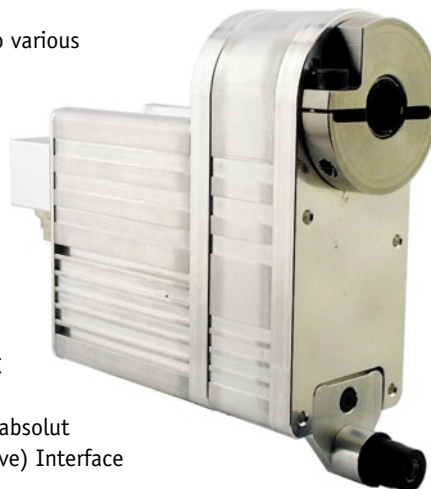


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**Features:**

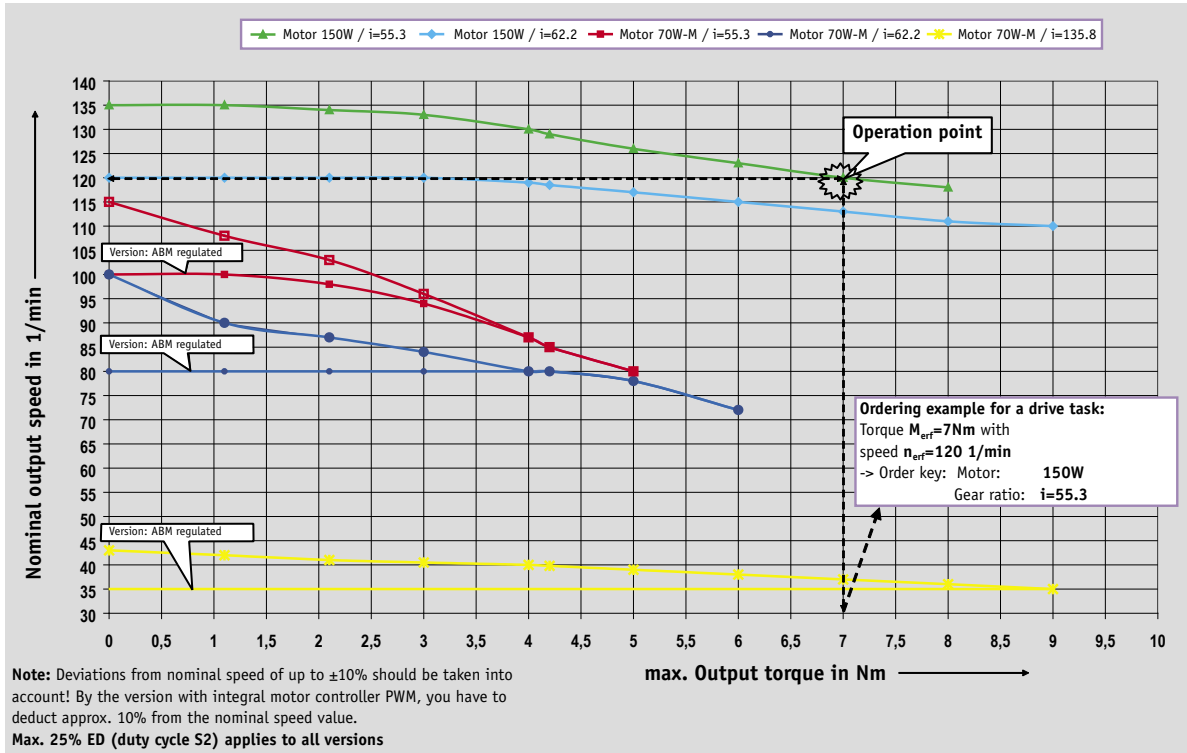
- easy mounting
- through hollow shaft up to max.  $\varnothing$ 14mm
- high-performance motor 150W or 70W, 24VDC
- various output speeds
- with integral position transducer: magnetic/ absolut
- with integral CANopen / Profibus-DP (Profidrive) Interface
- integrated motor controller
- RS232 / RS485 service interface

Feature	Order text	Additional information
Gear ratio	55,3	
	62,2	
	135,8	
		only with encoder ABM (70W/M)
Motor power	150W	25%ED (duty cycle) at short time operation S2
	70W/M	25%ED (duty cycle) at short time operation S2
Shaft type / $\varnothing$ (mm)	KR/14	clamp ring / $\varnothing$ 14mm
	N/10	JS9 DIN 6885/1
		M=max. 5Nm
Hollow shaft type	S	blind hole
	D	through all
		only with encoder P10, MWI or MWU
Torque support (form)	B	bracket I
	OD	without
Outlet electrical connection	LR	radial
	LA	axial
Position transducer	LD24	incremental encoder 1000 pulses
	LD5	incremental encoder 1000 pulses
	OP	push pull with inversion
	P10	potentiometer 10K $\Omega$
	MWI	transducer 4...20mA
	MWU	transducer 0...10V
	ABM	absolut magnetic
0	without	
		only with motor 70W/M
Gear ratio of potentiometer	1 ... 128max.	only with encoder P10, MWI or MWU
Sense of rotation	i	clockwise increasing values
	e	counter-clockwise increasing values
		only with encoder MWI or MWU
Motor control module PWM	OMS	without
	SD	digital
	SUP	analogue unipolar 0 ... 10V
	SBP	analogue bipolar -10 ... +10V
Interface / protocol	XX/XX	without
	S1/00	RS232/standard
	S3/00	RS485/standard
		only with motor 70W/M
		only with motor 70W/M
Fieldbus	OFB	without
	PB	Profibus-DP
	CAN	CANopen
		only with motor 70W/M
		only with motor 70W/M
Software	SW	standard
		only with interface and Feldbus

Your ordering: AG02 - A - B - C ..... L - M - N

# Actuator AG02

## AG02-Drive-Line Selection guide



**Technical data**

Mechanical data		Additional information	
Hollow shaft	steel blue		
Housing	Aluminium		
Torque (max.) / speed (nom.)	at i=55,3 at i=62,2 at i=135,8	8Nm at 120min <sup>-1</sup> (motor 150W) 9Nm at 110min <sup>-1</sup> (motor 150W) 9Nm at 35min <sup>-1</sup> (Motor 70W/M)	5Nm at 80min <sup>-1</sup> (motor 70W/M) 6Nm at 70min <sup>-1</sup> (motor 70W/M)
Shock resistance	50g /11ms	DIN-IEC 68-2-27	
Vibration resistance axial / radial	10g / 50Hz	DIN-IEC 68-2-6	

**Electrical data motor**

Supply voltage	0 ... 24VDC		
Power consumption	P <sub>zu</sub> = 150W or P <sub>zu</sub> = 70W		
Rated current	5.8A±4% (150W) 2.9A±4% (70W/M) 2.1A±4% (70W/M)	max. load current at i=62.2 / i=55.3 max. load current at i=62.2 / i=55.3 max. load current at i=135.8	
No-load current (with gear)	500mA ±20%		

**Electrical data encoder**

	LD5	LD24	OP
Supply voltage	5VDC±5%	24VDC±20%	24VDC±20%
Power consumption	≤ 50mA	≤ 25mA	≤25mA
Output circuit	Line Driver (RS422)	Line Driver (RS422)	Push Pull (OP)
Output signals	A, B, /I, /A, /B, I	A, B, /I, /A, /B, I	A, B, /I, /A, /B, I
Resolution absolute encoder (ABM)	1600 steps per revolution (singleturn)		±6250 revolution (multiturn)

**Electrical data potentiometer:**

Resistance tolerance	± 5%	
Linearity tolerance	± 0.25%	
Load capacity	2W bei 40°C	Potentiometer
Standard residual end point resistance deviation	0.5% or 1Ω	(whichever value is higher)

**Environmental conditions:**

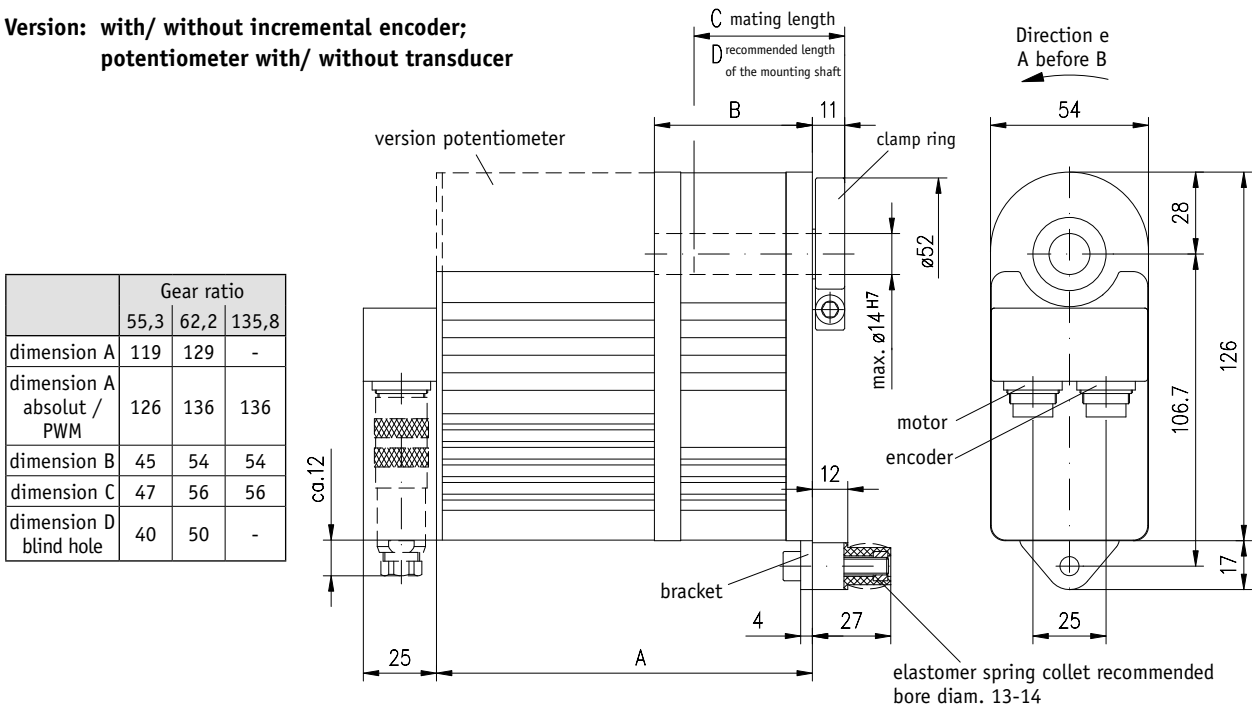
Operating temperature (condensation not permitted)	-10°C ... +80°C (general)	0°C ... +70°C (with transducer)	0°C ... +50°C (absolut magnetic)
Protection	IP50	according to DIN VDE 0470 (other on request)	
Operating mode	short-time operation S2 (25%ED)	according to DIN 57530 / VDE 0530 Part 1	
Certification / protection class	conforms to CE	according to EN 61000-6-2 and EN 61000-6-4	

**Accessory:**

82182	Mating connector for motor / network	3pins circular cableconnector	81363	Mating connector for motor / network	3pins angle cableconnector
76141	Mating connector for encoder	7pins circular cableconnector	76572	Mating connector for encoder	12pins circular cableconnector
79666	Mating connector for encoder	12pins angle cableconnector	81351	Mating connector for PWM	8pins circular cableconnector
82804	Mating connector for Profibus IN	5pins angle cableconnector	82805	Mating connector for Profibus OUT	5pins angle cableconnector
83006	Mating connector for CANopen IN	5pins angle cableconnector	83007	Mating connector for CANopen OUT	5pins angle cableconnector
82816	Bus terminator Profibus	5pins straight connector	82815	Bus terminator CANopen	5pins straight connector

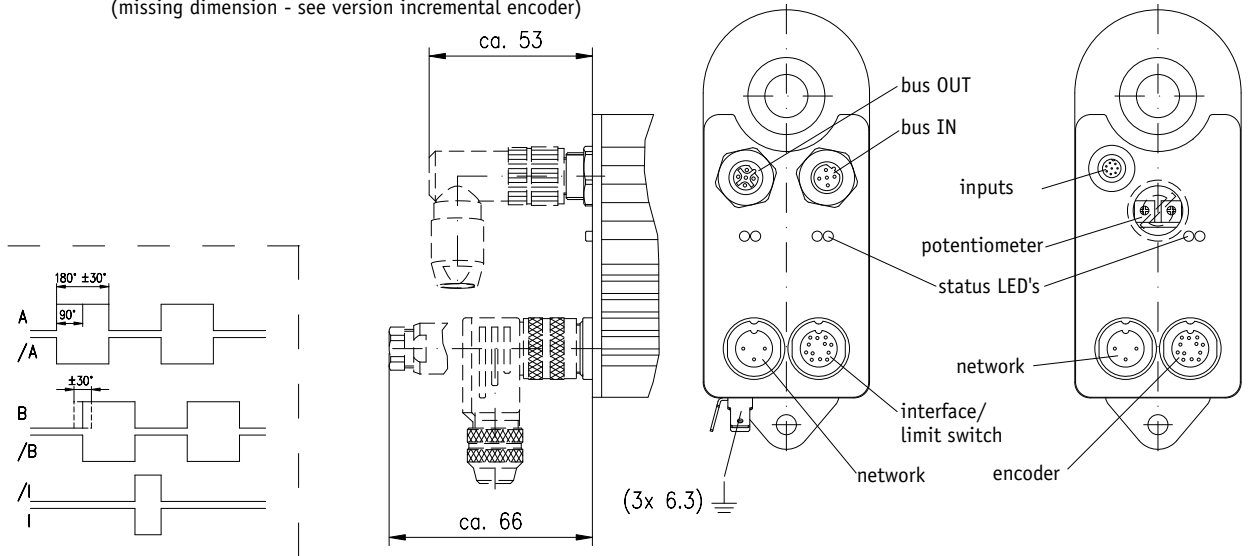
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Version: with/ without incremental encoder;  
potentiometer with/ without transducer



	Gear ratio		
	55,3	62,2	135,8
dimension A	119	129	-
dimension A absolut / PWM	126	136	136
dimension B	45	54	54
dimension C	47	56	56
dimension D blind hole	40	50	-

Version: absolut magnetic / motor control module PWM  
(missing dimension - see version incremental encoder)



Pin assignment motor/network

Pin	1	2	3
Signal	+	N.C.	-

Pin assignment interface/limit switch

Pin	A	B	C	D	E	F	G	H	J	K	L	M
Signal	ES1	ES2	emergency-off	N.C.	+24VDC	N.C.	RXD/DÜA	TXD/DÜB	GND/ser.	GND (ES1, ES2, Not-Aus, CAL)	CAL	N.C.

Pin assignment fieldbus

Pin	1	2	3	4	5
Profibus-DP	+5VDC	BUS A	GND	BUS B	N.C.
CANopen	N.C.	N.C.	CAN_GND	CAN_H	CAN_L

Pin assignment incremental (with/without motor control module)

Pin	A	B	C	D	E	F	G	H	J	K	L	M
Encoder "LD24, OP"	/B	N.C.	/I	I	A	/A	N.C.	B	N.C.	GND	N.C.	+UB
Encoder "LD5"	/B	+SUB (Sensor)	/I	I	A	/A	N.C.	B	N.C.	GND	SGND (Sensor)	+UB

Pin assignment potentiometer

Pin	1	2	3	4-7
Encoder "P10"	Pe	Po	S	N.C.
Encoder "MWI"	I-	I+	N.C.	N.C.
Encoder "MWU"	GND	+24VDC	U <sub>out</sub>	N.C.

Pin assignment motor control module PWM

Pin	1	2	3	4	5	6	7+8
Version digital	right motion plus	right motion ground	left motion plus	left motion ground	fast/creep motion Plus	fast/creep motion ground	N.C.
Version analogue unipolar	enable plus	enable ground	right/left plus	right/left ground	analogue 0 ... +10V	analogue ground	N.C.
Version analogue bipolar	Enable Plus	Enable ground	N.C.	N.C.	analogue -10V ... +10V	analogue ground	N.C.

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## Notes: