BERGER LAHR

Integrated Positioning Drives

D065 with spur wheel gearbox p.2

D065 with planetary gearbox p.6

D042 with planetary gearbox p.10

Edition 04/2003

IclA

IclA D065 with spur wheel gearbox

Customer benefits at a glance:

- decentralised intelligence
- the minimum resetting times in the system
- smaller/no control cabinet
  as there is no need for external control electronics
- no brake required due to the high intrinsic detend torque (current-free)
- energy efficient
- communication and updates via CAN-bus-interface
- EMC-compatibility
- Spur wheel gearbox with needle bearing

Technical data

IclA D065 DC 024	SN 018[1]	SN 038[2]	SN 054[2]	SN 115[2]
Gearbox ratio	160 : 9	75 : 2	490 : 9	3675 : 32
Rated voltage	24 VDC ± 20%	24 VDC ± 20%	24 VDC ± 20%	24 VDC ± 20%
Rated current	3,9 A	4,1 A	4,1 A	2,26 A
Rated speed	210 rpm	89 rpm	67 rpm	39 rpm
Rated torque	2,8 Nm	7,3 Nm	8,9 Nm	9,2 Nm
Rated power delivery	61,5 W	68 W	62,4 W	37,6 W
Idle speed	280 rpm	133 rpm	83 rpm	42 rpm
Idle current	< 0,5 A	< 0,5 A	< 0,5 A	< 0,5 A
Idle current (stand-by)	0,05 A	0,05 A	0,05 A	0,05 A
Detend torque (current-free)	0,7 Nm	1,4 Nm	2,6 Nm	5 Nm
Inertia	0,006 kgm^2	0,024 kgm^2	0,052 kgm^2	0,23 kgm^2
Positioning resolution	1,667°	0,8°	0,55°	0,26°
Torsional flank clearance	≤ 1°	≤ 1°	≤ 1°	≤ 1°
mass	1,3 kg	1,3 kg	1,3 kg	1,3 kg
Max. transverse force	200 N	200 N	200 N	200 N
Max. axial force ≤ 2500 h	80 N	80 N	80 N	80 N
Max. axial force > 2500 h	not valid	not valid	not valid	not valid

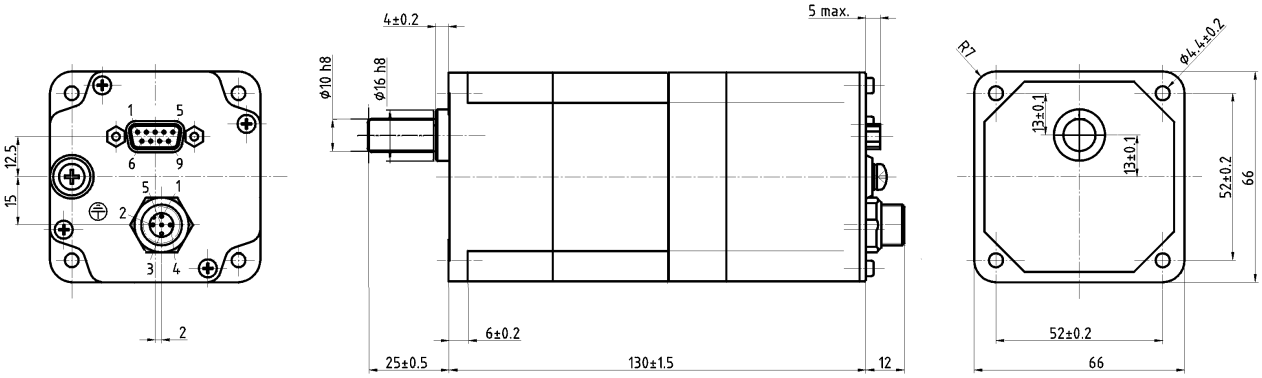
[1] = Determination of the rated values at maximum motor power

[2] = Determination of the rated values at maximum motor power and an average life of 2500h

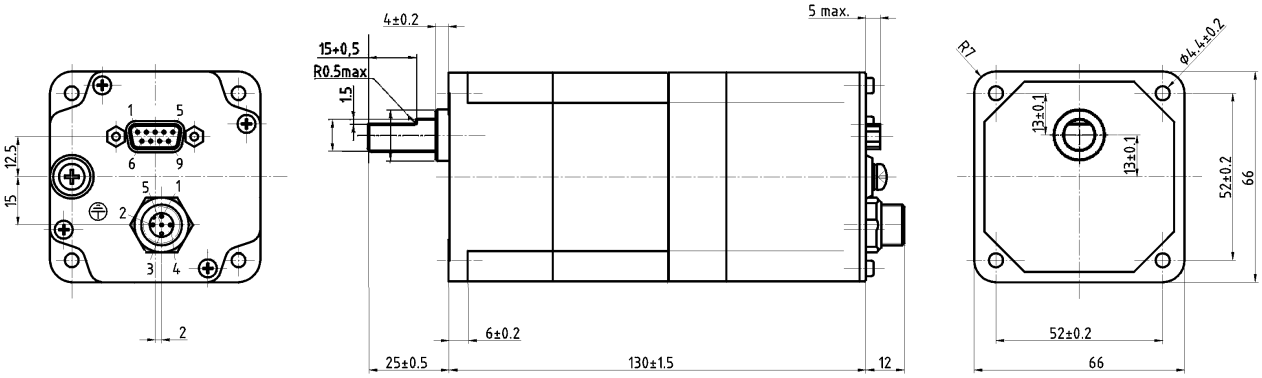
Ambient conditions

Ambient temperature		0 – 60 °C
Shock according to DIN EN 60068-2	Acceleration	300 m/s^2
	Duration	18 ms
Vibration according to DIN EN 60068-2	Excursion (10 – 300 Hz)	± 0,35 mm
	Acceleration	50 m/s^2
Protection type according to DIN EN 600529		IP54, IP65 (with shaft seals)
Insulation material class according to DIN EN60034-·		B
Dielectric strength according to DIN EN 60034-1		550 V

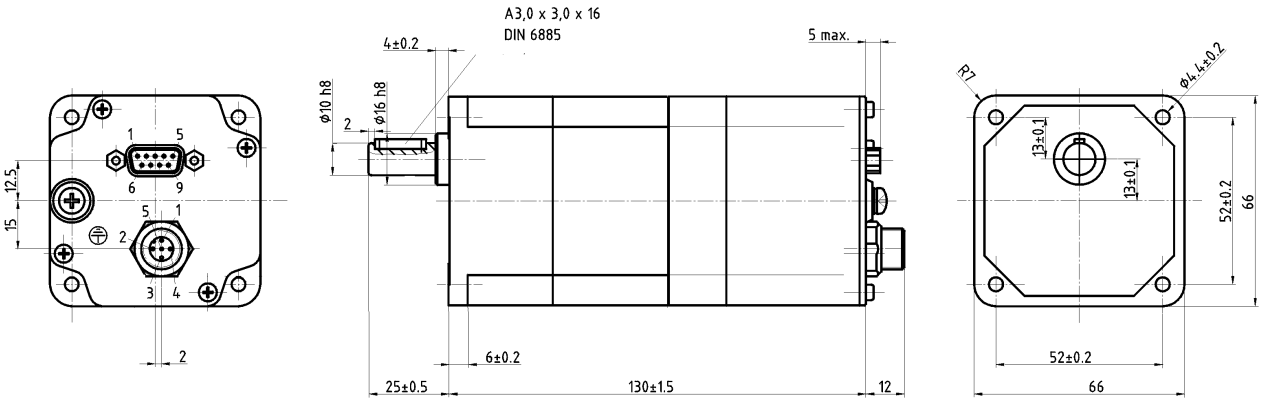
Dimensional drawings



*IclA D065 DC024 SN xxx **R***



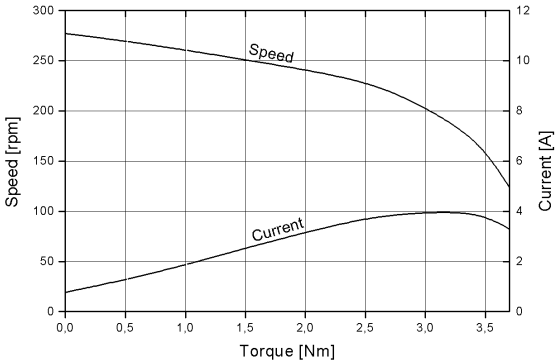
*IclA D065 DC024 SN xxx **F***

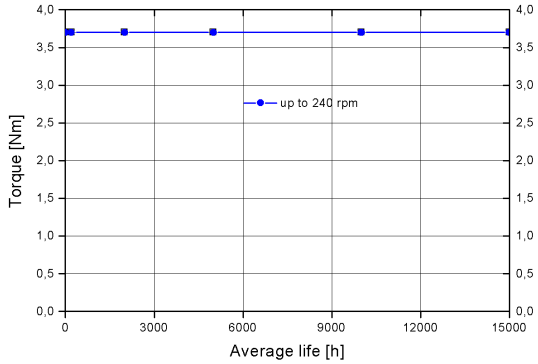


*IclA D065 DC024 SN xxx **K***

Characteristic curves

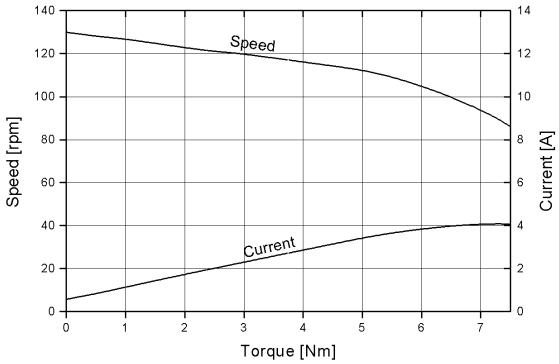
IclA D065 DC024 SN 018 x CANopen

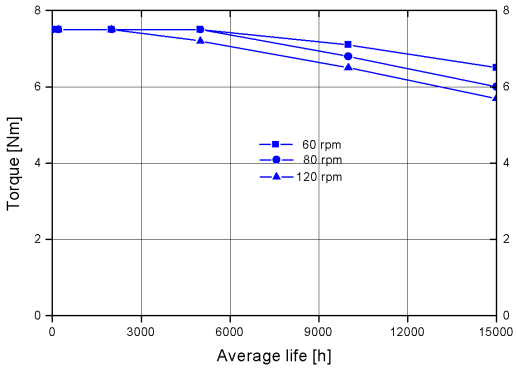




Spur wheel gearbox needle bearing

IclA D065 DC024 SN 038 x CANopen

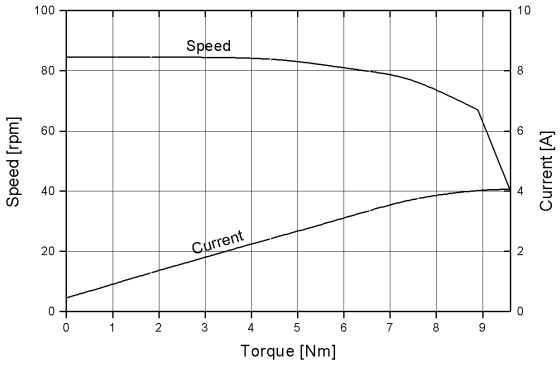


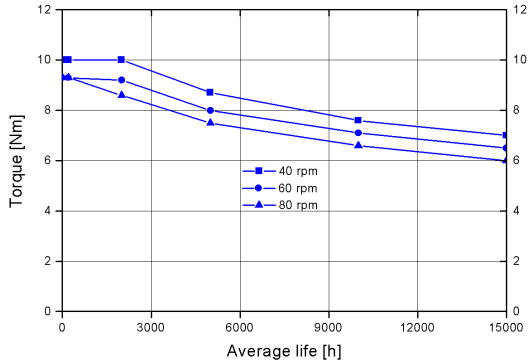


Spur wheel gearbox needle bearing

Characteristic curves

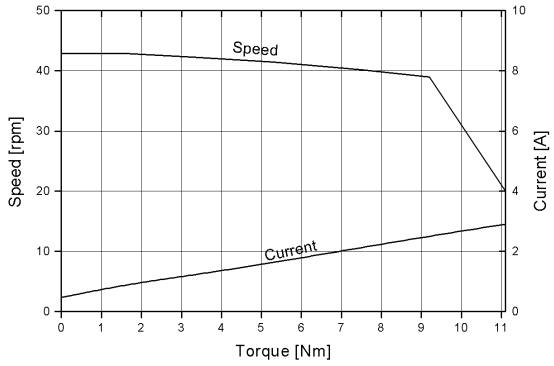
IclA D065 DC024 SN 054 x CANopen

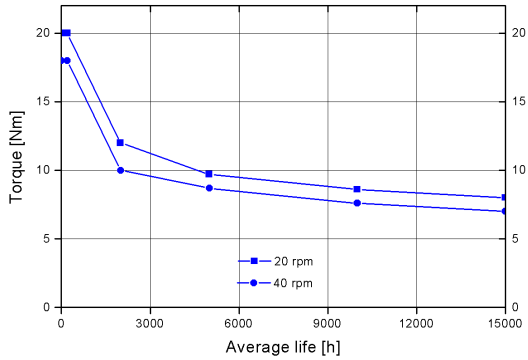




Spur wheel gearbox needle bearing

IclA D065 DC024 SN 115 x CANopen





Spur wheel gearbox needle bearing

IclA D065 with planetary gearbox

Customer benefits at a glance:

- decentralised intelligence
- the minimum resetting times in the system
- smaller/no control cabinet
  as there is no need for external control electronics
- no brake required due to the high intrinsic detend torque (current-free)
- energy efficient
- communication and updates via CAN-bus-interface
- EMC-compatibility
- Planetary gearbox

Technical data

IclA D065 DC 024 planetary gearbox	**PB 016**[1]	**PB 040**[1]	**PB 060**[1]	**PB 120**[1]
Gearbox ratio	16 : 1	40 : 1	60 : 1	120 : 1
Rated voltage	24 VDC ± 20%	24 VDC ± 20%	24 VDC ± 20%	24 VDC ± 20%
Rated current	4,0 A	4,1 A	4,1 A	4,0 A
Rated speed	222 rpm	92 rpm	60 rpm	32 rpm
Rated torque	3,1 Nm	7,3 Nm	9,8 Nm	18 Nm
Rated power delivery	71,8 W	70,5 W	61,7 W	60 W
Idle speed	308 rpm	123 rpm	79 rpm	40 rpm
Idle current	< 0,5 A	< 0,5 A	< 0,5 A	< 0,5 A
Idle current (stand-by)	0,05 A	0,05 A	0,05 A	0,05 A
Detend torque (current-free)	0,64 Nm	1,6 Nm	2,4 Nm	4,8 Nm
Inertia	0,0043 kgm^2	0,027 kgm^2	0,061 kgm^2	0,244 kgm^2
Positioning resolution	1,875°	0,75°	0,5°	0,25°
Torsional flank clearance	≤ 0,58°	≤ 0,58°	≤ 0,67°	≤ 0,667°
mass	1,7 kg	1,7 kg	1,8 kg	1,8 kg
Max. transverse force	200 N	200 N	200 N	200 N
Max. axial force	200 N	200 N	200 N	200 N

[1]= Determination of the rated values at maximum motor power

IclA D065 with angular planetary gearbox

Technical data

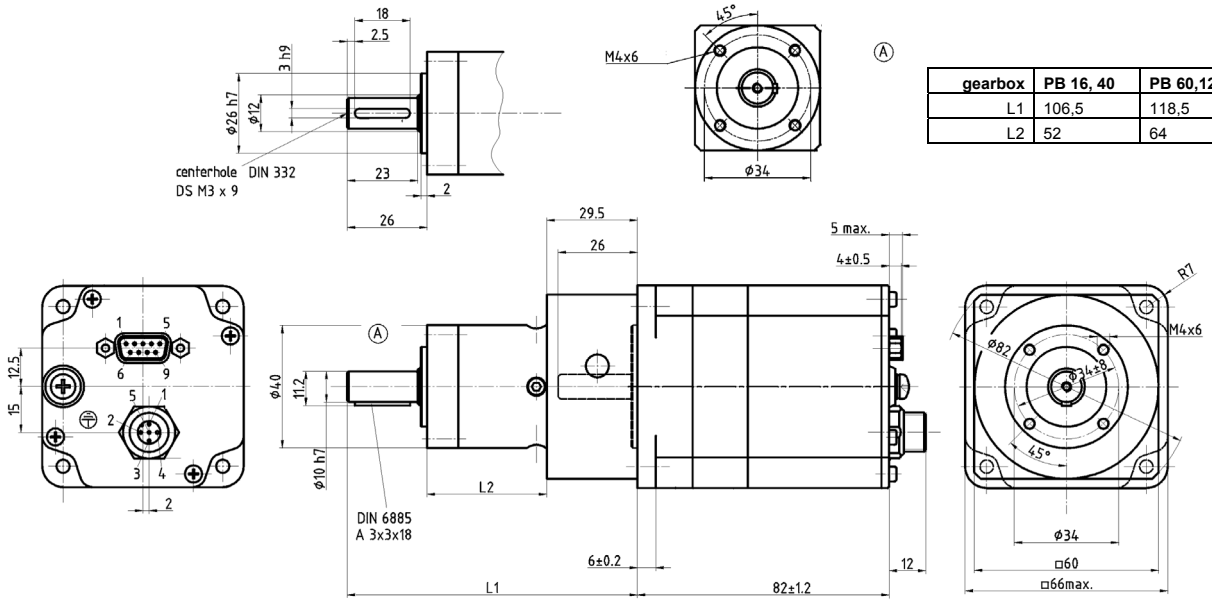
IclA D065 DC 024 angular planetary gearbox	APB 016[1]	APB 040[1]	APB 060[1]	APB 120[1]
Gearbox ratio	16 : 1	40 : 1	60 : 1	120 : 1
Rated voltage	24 VDC ± 20%	24 VDC ± 20%	24 VDC ± 20%	24 VDC ± 20%
Rated current	4,1 A	4,1 A	4,1 A	4,1 A
Rated speed	210 rpm	84 rpm	51 rpm	29 rpm
Rated torque	2,8 Nm	7,3 Nm	9,8 Nm	18 Nm
Rated power delivery	62,8 W	64,9 W	52,8 W	54,8 W
Idle speed	293 rpm	117 rpm	75 rpm	38 rpm
Idle current	< 0,5 A	< 0,5 A	< 0,5 A	< 0,5 A
Idle current (stand-by)	0,05 A	0,05 A	0,05 A	0,05 A
Detend torque (current-free)	0,64 Nm	1,6 Nm	2,4 Nm	4,8 Nm
Inertia	0,0043 kgm^2	0,027 kgm^2	0,061 kgm^2	0,245 kgm^2
Positioning resolution	1,875°	0,75°	0,5°	0,25°
Torsional flank clearance	≤ 0,75 °	≤ 0,75°	≤ 0,83°	≤ 0,83°
mass	1,9 kg	1,9 kg	2 kg	2 kg
Max. transverse force	200 N	200 N	200 N	200 N
Max. axial force	200 N	200 N	200 N	200 N

[1]= Determination of the rated values at maximum motor power

Ambient conditions

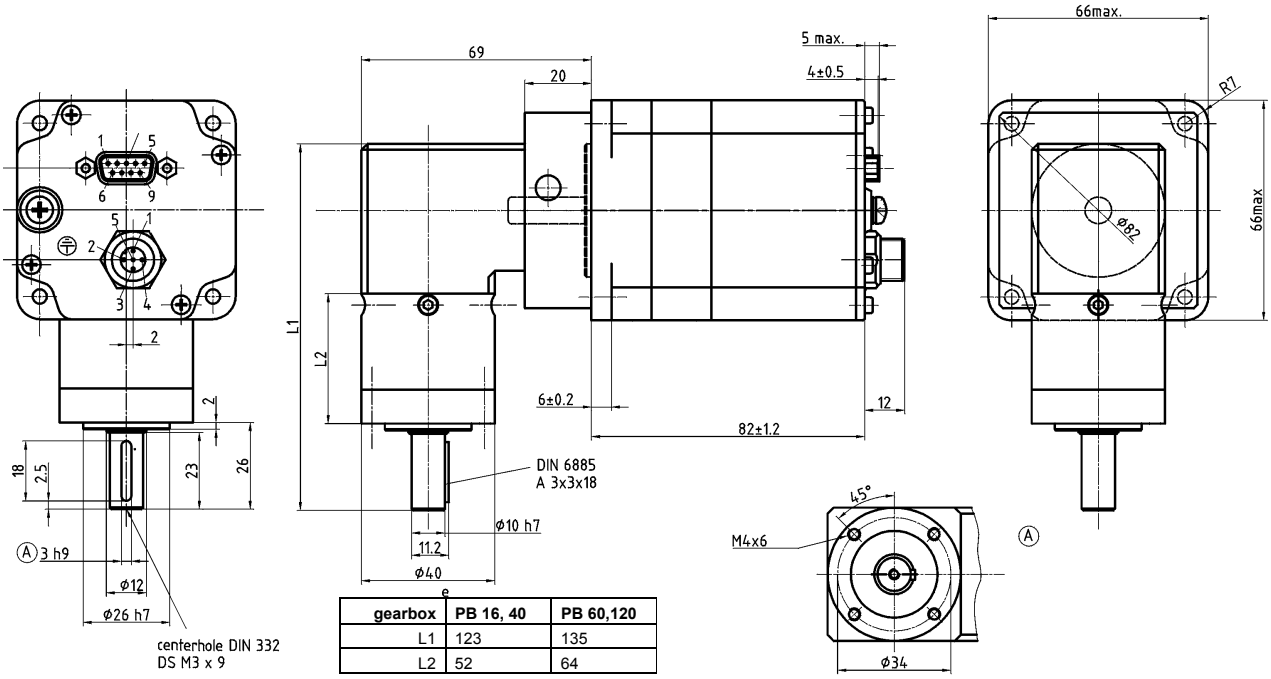
Ambient temperature		0 – 60 °C
Shock according to DIN EN 60068-2	Acceleration	300 m/s^2
	Duration	18 ms
Vibration according to DIN EN 60068-2	Excursion (10 – 300 Hz)	± 0,35 mm
	Acceleration	50 m/s^2
Protection type according to DIN EN 600529		IP54, IP65 (with shaft seals)
Insulation material class according to DIN EN60034-1		B
Dielectric strength according to DIN EN 60034-1		550 V

Dimensional drawings



gearbox	PB 16, 40	PB 60,120
L1	106,5	118,5
L2	52	64

IclA D065 DC024 ***PB*** *xxx K*

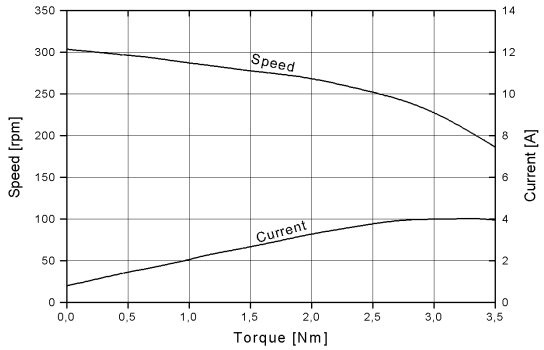


gearbox	PB 16, 40	PB 60,120
L1	123	135
L2	52	64

IclA D065 DC024 ***APB*** *xxx K*

Characteristic curves

IcIA D065 DC024 PB 016 K CANopen



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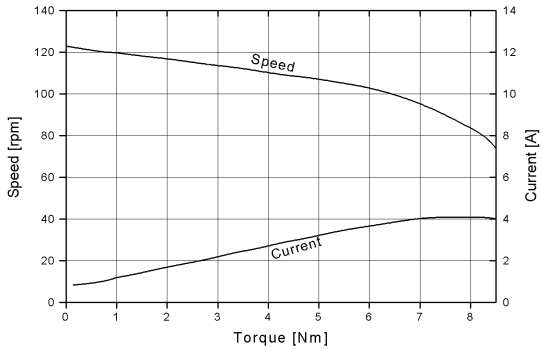

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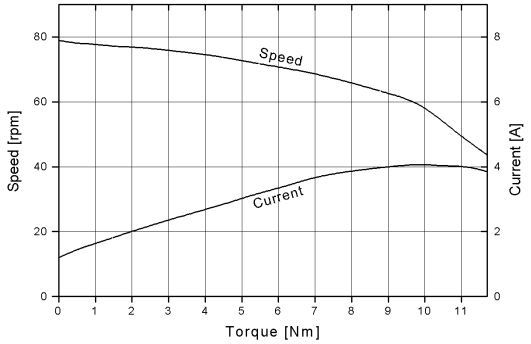
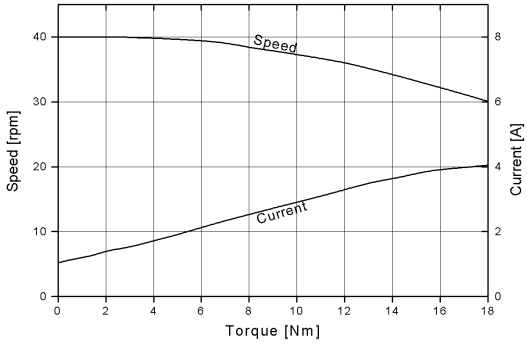
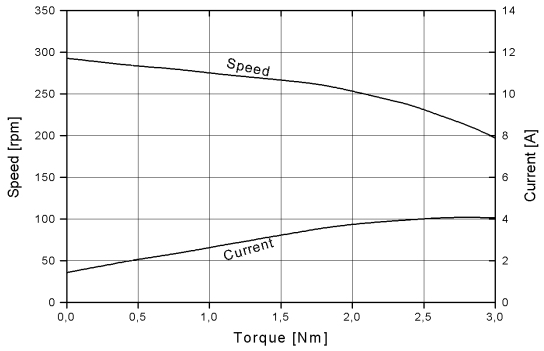


IcIA D065 DC024 PB 120 K CANopen



IcIA D065 DC024 APB 016 K CANopen



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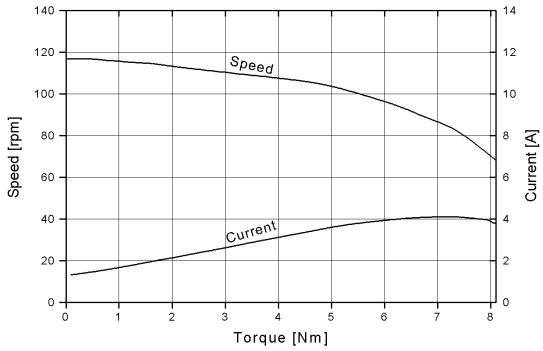
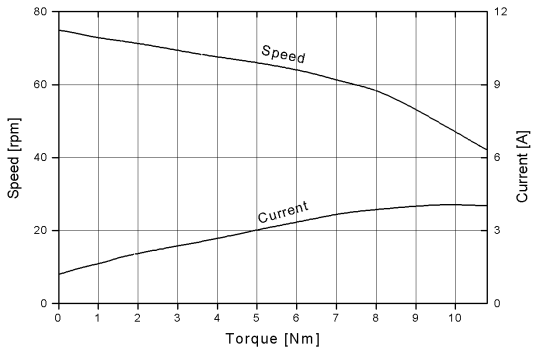


IcIA D065 DC024 APB 060 K CANopen



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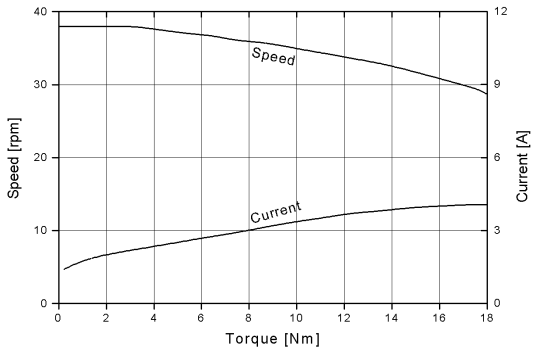


IclA D042 with planetary gearbox

Customer benefits at a glance:

- decentralised intelligence
- the minimum resetting times in the system
- smaller/no control cabinet
  as there is no need for external control electronics
- no brake required due to the high intrinsic detend torque (current-free)
- energy efficient
- communication and updates via CAN-bus-interface
- EMC-compatibility
- Planetary gearbox

Technical data

IclA D0421 DC 024	PB 016[1]	PB 040[1]	PB 060[1]	PB 120[1]
Gearbox ratio	16 : 1	40 : 1	60 : 1	120 : 1
Rated voltage	24 VDC ± 20%	24 VDC ± 20%	24 VDC ± 20%	24 VDC ± 20%
Rated current	2,2 A	2,2 A	2,2 A	2,2 A
Rated speed	280 rpm	103 rpm	75 rpm	38 rpm
Rated torque	1,2 Nm	3,26 Nm	4,33 Nm	8 Nm
Rated power delivery	35,4 W	35,3 W	34 W	31,4 W
Idle speed	313 rpm	125 rpm	83 rpm	41 rpm
Idle current	< 0,5 A	< 0,5 A	< 0,5 A	< 0,5 A
Idle current (stand-by)	0,05 A	0,05 A	0,05 A	0,05 A
Detend torque (current-free)	0,608 Nm	1,52 Nm	2,28 Nm	4,56 Nm
Inertia	0,0016 kgm^2	0,0099 kgm^2	0,022 kgm^2	0,089 kgm^2
Positioning resolution	1,25°	0,5°	0,33°	0,1667°
Torsional flank clearance	≤ 0,58°	≤ 0,58°	≤ 0,667°	≤ 0,66°
mass	1,2 kg	1,3 kg	1,35 kg	1,35 kg
Max. transverse force	200 N	200 N	200 N	200 N
Max. axial force	200 N	200 N	200 N	200 N

[1]= Determination of the rated values at maximum motor power

Technical data

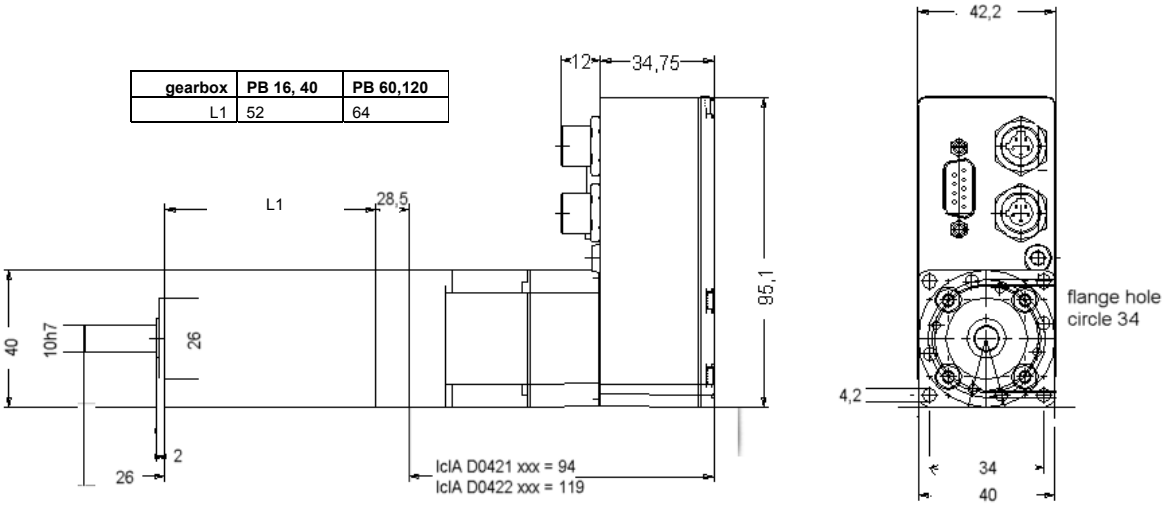
IcIA D0422 DC 024	PB 016[1]	PB 040[1]	PB 060[1]	PB 120[1]
Gearbox ratio	16 : 1	40 : 1	60 : 1	120 : 1
Rated voltage	24 VDC ± 20%	24 VDC ± 20%	24 VDC ± 20%	24 VDC ± 20%
Rated current	2,8 A	2,8 A	2,8 A	2,9 A
Rated speed	273 rpm	109 rpm	73 rpm	38 rpm
Rated torque	1,66 Nm	4,14 Nm	5,95 Nm	11,35 Nm
Rated power delivery	47,4 W	47,4 W	45,4 W	45,5 W
Idle speed	310 rpm	124 rpm	83 rpm	42 rpm
Idle current	< 0,5 A	< 0,5 A	< 0,5 A	< 0,5 A
Idle current (stand-by)	0,05 A	0,05 A	0,05 A	0,05 A
Detend torque (current-free)	1,25 Nm	3,12 Nm	4,68 Nm	9,36 Nm
Inertia	0,0032 kgm^2	0,019 kgm^2	0,044 kgm^2	0,177 kgm^2
Positioning resolution	1,25°	0,5°	0,33°	0,166°
Torsional flank clearance	≤ 0,583°	≤ 0,583°	≤ 0,667°	≤ 0,667°
mass	1,2 kg	1,2 kg	1,35 kg	1,35 kg
Max. transverse force	200 N	200 N	200 N	200 N
Max. axial force	200 N	200 N	200 N	200 N

[1]= Determination of the rated values at maximum motor power

Ambient conditions

Ambient temperature		0 – 60 °C
Shock according to DIN EN 60068-2	Acceleration	300 m/s^2
	Duration	18 ms
Vibration according to DIN EN 60068-2	Excursion (10 – 300 Hz)	± 0,35 mm
	Acceleration	50 m/s^2
Protection type according to DIN EN 600529		IP54, IP65 (with shaft seals)
Insulation material class according to DIN EN60034-1		B
Dielectric strength according to DIN EN 60034-1		550 V

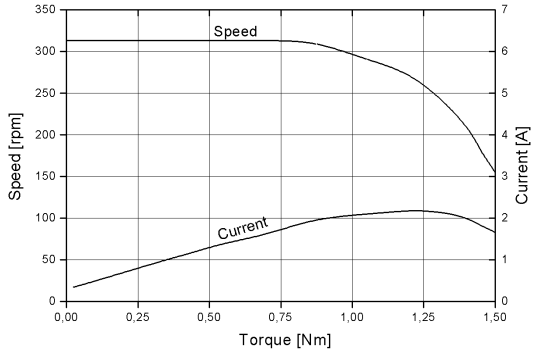
Dimensional drawings



IclA D042 DC024 PB xxx ***K***

Characteristic curves

IclA D0421 DC024 PB 016 K CANopen



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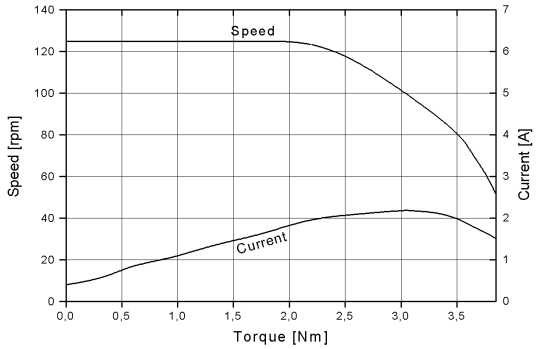

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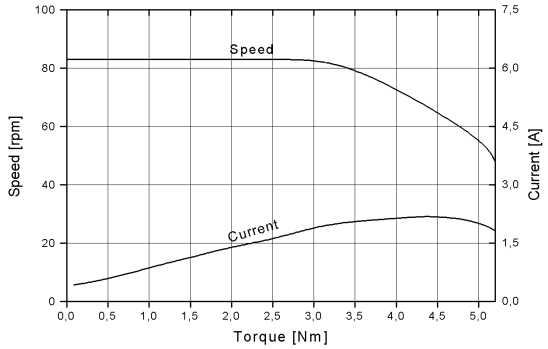

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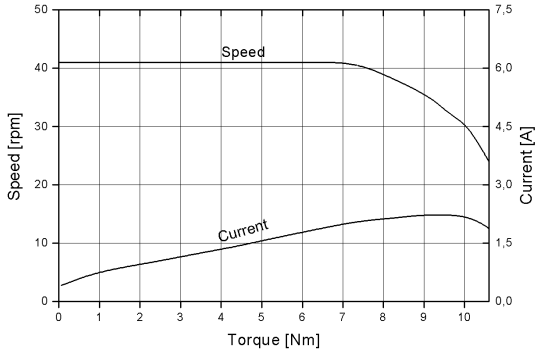

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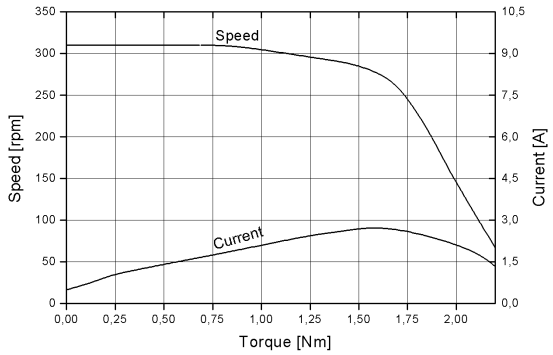

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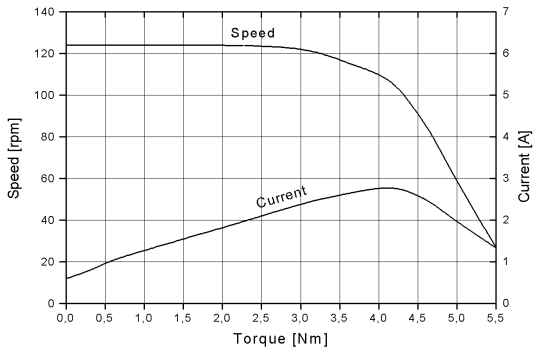

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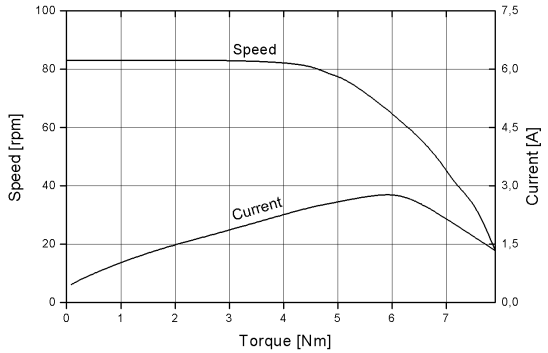

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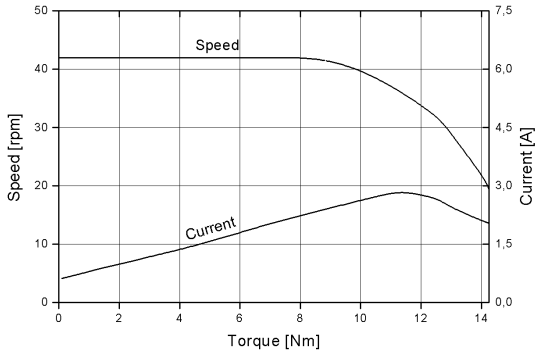

Accessories

Description		Language	Order number
Device manual IclA D065	printed, DIN A4	German	596 001 000 06
		English	596 001 000 07
		French	596 001 000 08
		Italian	596 001 000 09
CANopen manual IclA	printed, DIN A4	German	596 001 000 10
		English	596 001 000 11
		French	596 001 000 12
		Italian	596 001 000 13
CD-ROM with all manuals	pdf-format	contains all languages	596 001 000 14

Cable

Description		Length	Order number
IclA CAN cable IP65 at motor end eurofast® open litz wire at device-end		5m	596 000 000 17
IclA cable for signal interface IP65 at motor end SUB-D-plug open litz wire at device-end		5m	596 000 000 24
IclA CAN branching unit for eurofast® plug type VB2-FKM FKM FSM 57			596 000 000 21
IclA CAN terminating resistor 120 Ω in eurofast® plug type RSE57-TR2			596 000 000 22

IclA in format adjustment application

Type key

	IclA	D0XX	DC024	XX	X	XXX	X	CANopen
Size D065 = 66 mm flange dim. D0421 = 42 mm flange dim. motor length 94 mm D0422 = 42 mm flange dim. motor length 119 mm	IclA	**D0XX**	DC024	XX	X	XXX	X	CANopen
Voltage variant DC024 = 24 VDC	IclA	D0XX	**DC024**	XX	X	XXX	X	CANopen
Gearbox type S = spur wheel gearbox P = planetary gearbox AP = angular planetary gearbox	IclA	D0XX	DC024	**XX**	X	XXX	X	CANopen
Bearing type (gearbox) N = needle bearing B = ball bearing	IclA	D0XX	DC024	XX	**X**	XXX	X	CANopen
Gearbox ratio 016 = 16 :1 018 = 160 : 9 040 = 40 : 1 038 = 75 : 2 060 = 60 : 1 054 = 490 : 9 120 = 120 : 1 115 = 3675 : 32	IclA	D0XX	DC024	XX	X	**XXX**	X	CANopen
Shaft type R = round shaft F = flated shaft K = feather key shaft	IclA	D0XX	DC024	XX	X	XXX	**X**	CANopen
BUS - system CANopen	IclA	D0XX	DC024	XX	X	XXX	X	**CANopen**

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