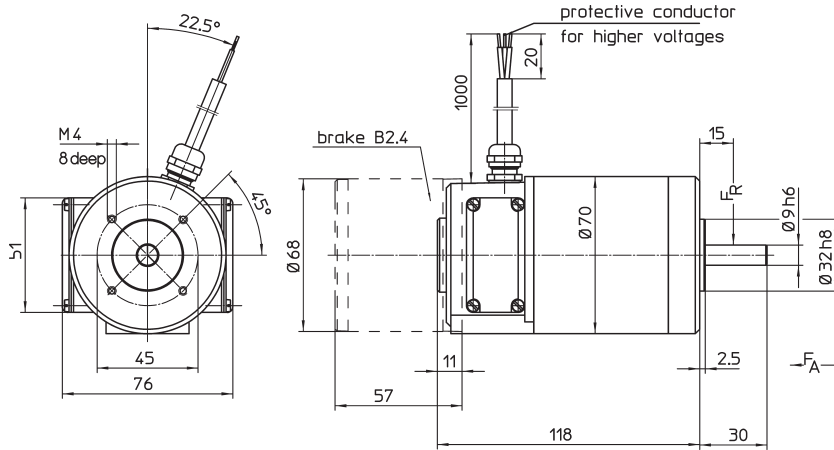


## GNM 4125

**DC Motors**  
with permanent magnet field

Motor series GNM 4125  
**up to 60 Watts output power**  
with + without parking brake

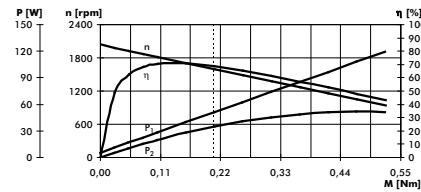


**Operation characteristics:**

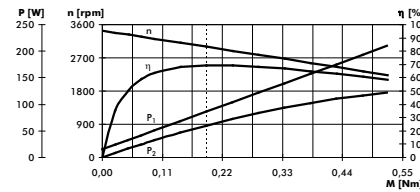
$n$  - Speed  
 $\eta$  - Efficiency

$P_1$  - Input power  
 $P_2$  - Output power

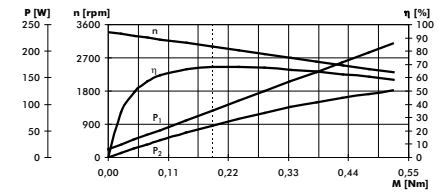
GNM4125, 24V, 1600rpm



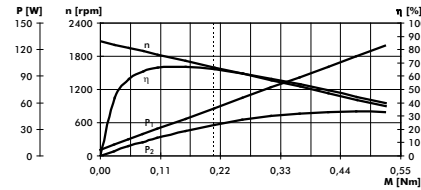
GNM4125, 24V, 3000rpm



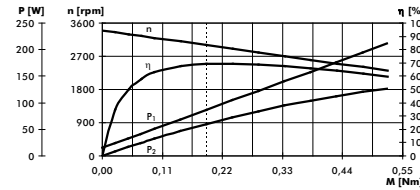
GNM4125, 42V, 3000rpm



GNM4125, 180V, 1600rpm



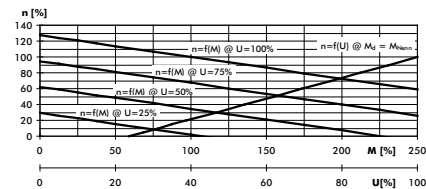
GNM4125, 180V, 3000rpm



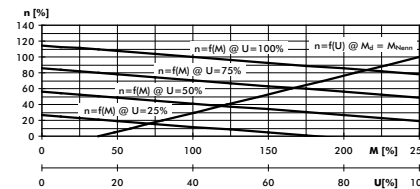
**Control characteristics :**

$n=f(M)$  - Speed as a torque function  
 $n=f(U)$  - Speed as a supply voltage function

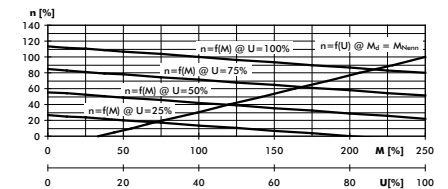
GNM4125, 24V, 1600rpm



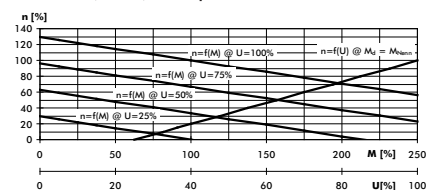
GNM4125, 24V, 3000rpm



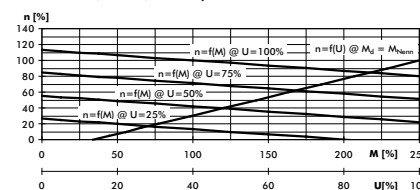
GNM4125, 42V, 3000rpm



GNM4125, 180V, 1600rpm



GNM4125, 180V, 3000rpm



edition 01.11

		<b>GNM 4125</b>				
		A				
type	series	1600	3000	3000	1600	3000
nominal speed	rpm	24	24	42	180	180
nominal voltage	V	24	3,6	2,1	0,3	0,48
nominal current	A	2,15	60	60	35	60
nominal power	W	35				
operation acc. to VDE 0530				S1		
protection acc. to VDE 0530				IP 54		
connection				light plastic-sheathed cable		
rotating direction				reversible		
design				B 14		
<b>mechanical data:</b>						
mass moment of inertia	kgm <sup>2</sup>			0,0558*10 <sup>-3</sup>		
nominal torque	Nm	0,209	0,191	0,191	0,209	0,191
starting torque	Nm	0,87	1,35	1,35	0,83	1,3
max. continuous torque at stall	Nm	0,23	0,23	0,23	0,23	0,23
speed regulation constant	N <sup>-1</sup> cm <sup>-1</sup> rpm	21	23	21	22,4	20,8
mechanical time constant	ms	12,3	13,5	12,3	13,2	12,2
friction torque	Nm	0,025	0,04	0,04	0,03	0,04
rotor weight	kg		0,425			
motor weight	kg		1,45			
motor weight incl. parking brake	kg		1,85			
ball bearings			629/629			
F <sub>r</sub> (allowable radial shaft load)			130			
F <sub>A</sub> (allowable axial shaft load)			52			
<b>electrical data:</b>						
armature resistance	Ω	2,52	0,86	2,52	150	50
armature inductance	mH	5,8	1,85	5,8	300	105
terminal resistance	Ω	2,66	1	2,66	151	50,5
voltage constant	V/1000 rpm	11,47	6,73	11,47	84,3	50,7
torque constant	Nm/A	0,11	0,0643	0,11	0,8	0,48
starting current	A	9	24	15	1,2	3,5
max. peak current <sup>1)</sup>	A	14	24	14	1,9	3,1
electrical time constant	ms	2,2	1,85	2,2	2	2,1
<b>thermal data:</b>						
max. ambient temperature	°C		40			
insulation class acc. to VDE 0530			F			
thermal time constant	min		40			
temperature-rise without cooling	K/W	6,1	3,95	3,95	5,5	3,95
<b>parking brake B 2:</b>						
nominal voltage	V		24			
nominal current	A		0,35			
static break torque (motor shaft)	Nm		0,8			
max. number of operations per hour			2000			
Tolerances acc. to standard VDE 0530. ± 10 % is valid for not VDE mentioned tolerances.						
The values mentioned in the table are valid for supply with DC voltage with allowable harmonic content up to 5%. For undulatory current with increased harmonic content the rated motor values must be multiplied by 0,7.						
<sup>1)</sup> The values are valid for operation in temperature-ranges from 0 up to 40°C and it is not allowed to exceed them, even not for a short-time, to avoid magnet-weakening.						
● Motors also available with DC tachogenerator and/or incremental encoder.						
● Motors also available with device plug DIN 43650.						
<b>Motor design:</b> Brushed 2-pole DC motor with permanent magnet field. Brush holder opening will be accessible by removing the cover plate. Flange mounting with 4 threads (see drawing).  Rotating direction: The rotating direction can be changed by inverting the connections. 1. Order example Motor GNM 4125A 24 V, 1600 rpm, 35 W 2. Order example Motor GNM 4125A 42 V, 3000 rpm, 60 W Special designs on request.						