

DC Planetary Gear Motor DSMP420

The planetary gear motor DSMP420 is a high-quality motor-gear combination with the following characteristics:

- Brushed DC motor (12 Vdc or 24 Vdc)
- Motor pinion made of milled metal
- Sun gears made of milled and heat-treated metal
- all gear stage made of sintered metal gear wheels
- Ball bearing and interference suppression filter
- Repeatability $\leq 3^\circ$
- Radial load 10 mm from flange ≤ 80 N
- Axial load ≤ 30 N
- Radial clearance $\leq 0,05$ mm
- Axial clearance $\leq 0,3$ mm
- Operating temperature: -10°C to $+60^\circ\text{C}$

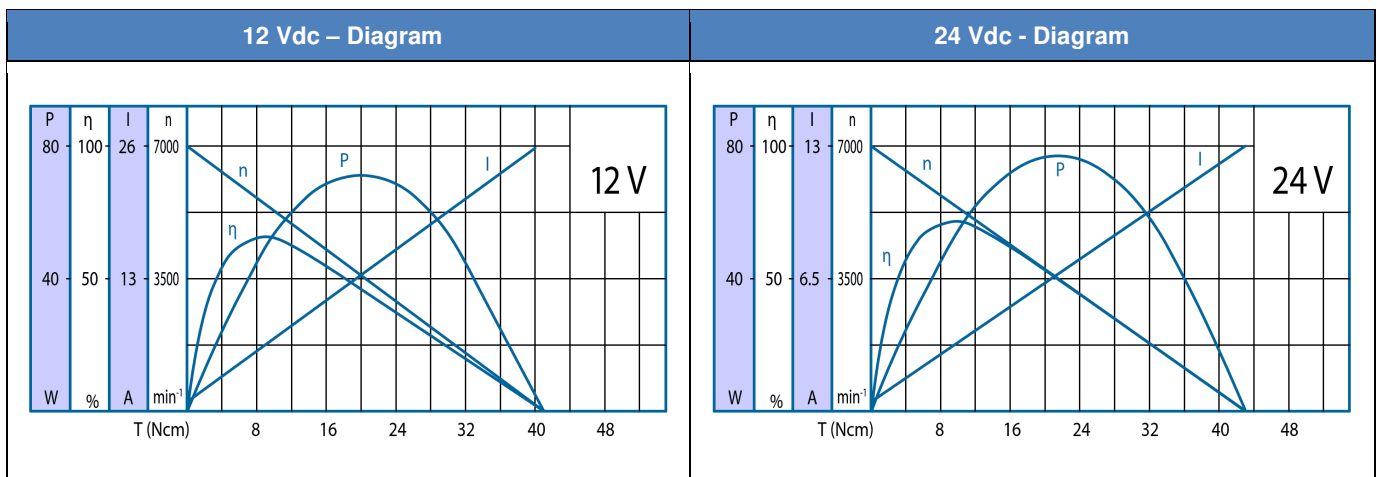
The planetary gear motor can be equipped with a 2-channel Hall sensor for positioning purposes.



Type code (all options can be combined)

DSMP420	-	12	-	0004	-	B	F	E
Type		Voltage		Gear reduction i		Bearing	Filter	Optionally
		12 Vdc 24 Vdc		4 3600		Ball bearing		E: Hall sensor

Motor specifications



Motor – additional technical specifications

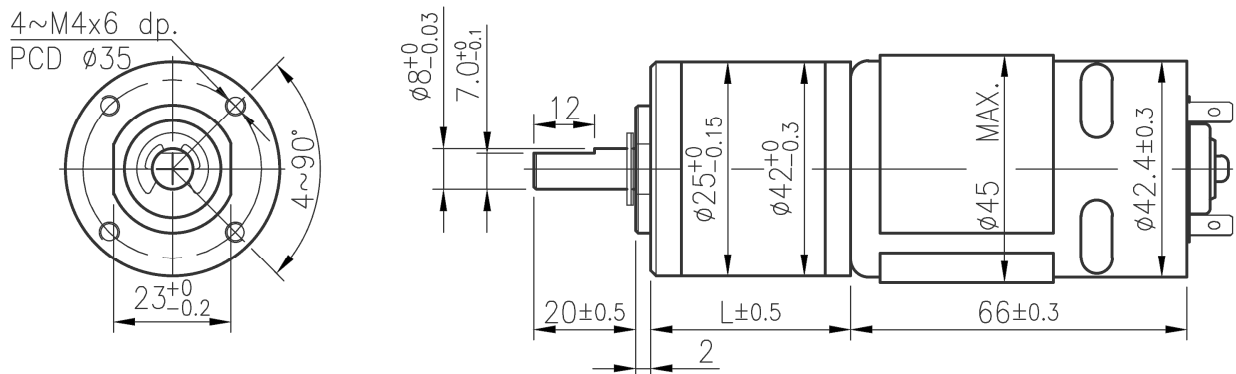
Voltage in Vdc	Rated torque in Ncm	Rated speed in U/min	Rated current in mA	No-load speed in U/min	No-load current in mA	Rated output in W
12	7	5,700	$\leq 5,500$	7,000	≤ 900	41.3
24	5.7	5,900	$\leq 2,100$	7,000	≤ 500	34.4

Planetary gear motor – technical specifications

Gear stages		1				2				3					4					5				
Gear length L in mm		32.5				39.2				45.9					52.6					59.6				
Weight in g		499				551				591					641					686				
Gear reduction i		4	14	17	24	49	61	84	104	144	212	294	504	624	720	864	1062	1470	2500	3000	3600			
12 Vdc	Rated torque in Nm	0.22	0.65	0.8	0.8	1.8	1.8	1.8	2.0	2.0	2.5	2.5	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0			
	Rated speed in U/min	1400	405	325	248	120	98	76	63	45	31	22	13.5	10.9	9.5	8.0	6.5	4.6	2.7	2.3	1.9			
24 Vdc	Rated torque in Nm	0.18	0.54	0.66	0.8	1.6	1.8	1.8	2.0	2.0	2.5	2.5	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0			
	Rated speed in U/min	1445	420	340	246	122	102	77.5	63	47	31	21.8	13.5	10.9	9.5	8.0	6.5	4.6	2.7	2.3	1.9			

Caution: The reductions are rounded down or rounded up. Please ask for the exact values, if you are interested!

Dimensioning



Option: 2-channel Hall sensor

Optionally, the gear motor can be equipped with a magnetic 2-channel Hall sensor. It provides two channels offset by 90°. The Hall sensor has a diameter of 42,5 mm and a depth of approx. 15,5 mm and accordingly lengthens the geared motor by this value.

Number of pulses per revolution	2 x 5 pulses		<p>Connector pin assignment:</p> <ul style="list-style-type: none"> 1 red : + Motor 2 black : - Motor 3 brown : Hall sensor Vcc 4 green : Hall sensor GND 5 blue : Hall sensor A 6 violet : Hall sensor B
Operating Voltage	3.5 - 20 Vdc		
Output current per channel	5 mA		
Temperature range	-10 to +60 °C		
Relative humidity of the air	20 - 80 % RH		

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