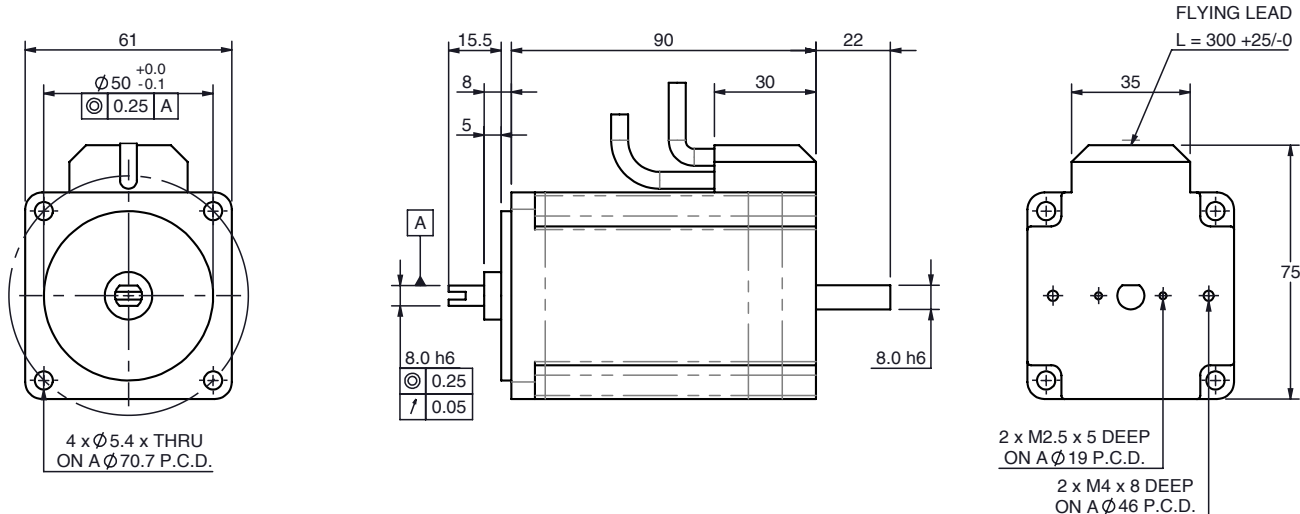


PBL60-50 BLDC motor

Ø60 mm frame // 50 mm stack

parvalux
by **maxon**



all dimensions in mm

Part number key			
Modular	#####		
Standard	#####		
Calculated data	#####		

Technical data				Connection details		
1 Part number		776618	776619	Lead colour	Lead gauge	Function
2 Nominal power	W	104	104	Red	UL1007/26 AWG	VCC
3 Nominal voltage	V	24	48	Black	UL1007/26 AWG	GND
4 No load speed	rpm	3798	3827	Blue	UL1007/26 AWG	Hall A
5 No load current	A	1.1	0.5	Green	UL1007/26 AWG	Hall B
6 Nominal speed	rpm	3000	3000	White	UL1007/26 AWG	Hall C
7 Nominal continuous torque (S1)	Nm	0.33	0.33	Red	UL1007/18 AWG	Phase U
8 Nominal continuous current (S1)	A	6.1	3.0	Yellow	UL1007/18 AWG	Phase V
9 Max Intermittent torque (S2 - 15 minutes)	Nm	0.58	0.58	Black	UL1007/18 AWG	Phase W
10 Stall current	A	41.00	26.40			
11 Stall torque	Nm	2.6	3.4			
12 Stack length	mm	50	50			
13 Maximum efficiency	%	80	84			
14 Ra	Ω	0.202	0.757			
15 RI	mH	0.21	0.86			
16 Speed constant	rpm/V	159.6	80.7			
17 Torque constant	Nm/A	0.07	0.13			
18 Speed torque gradient	rpm/Nm	1502.6	1152.9			
19 Rotor inertia	Kgcm ²	4.97 x 10 ⁻⁶	4.97 x 10 ⁻⁶			
20 Weight	Kg	1.20	1.20			

Thermal data			Compatible products					
21 Ambient temperature	°C	40	Gearbox	Page #	Brake	Page #	Controller	Page #
			S Box	216	1.5 Nm	80	SC 50/15	82
			GB28	66	2.0 Nm	259	EPOS	265
			GB58	219	4.0 Nm	260	ESCON	274
			M Box	222	Power-On	261		
			GB80	67				
			MWS	230	Encoder	Page #		
			GB36	231	Incr. 5-pin	78		
			PGx52	249	Incr. 10-pin	78		
			GB12	232	Diff. 10-pin	79		
					Magnetic	256		
							Key	
							Standard combination	
							Modular combination	

Mechanical data		
22 Radial load [distance from flange]	N [mm]	350 [15]
23 Radial play	mm [g]	0.025 [450]
24 Axial end play	mm [g]	0.025 [450]

Other data		
25 Number of poles		8
26 Winding type		Delta
27 Hall effect angle (electrical angle)	°	120
28 IP Rating		IP54
29 Enclosure		Enclosed
30 Insulation Class		B

PBL60-50 combinations

Quickview - combination drawing and technical data

parvalux
by **maxon**

Combination drawing		Technical data							
PBL60-50-S-Box		Gear material ¹	Comp.	Comp.	Comp.	Bronze	Bronze	Bronze	
		Gear ratio ²	:1	4	30	70	4	30	70
		Speed rpm	750	100	43	750	100	43	
		Nominal torque Nm	1.1	3.0	2.0	0.9	4.5	3.0	
		Intermittent torque Nm	1.9	4.8	3.2	1.6	7.2	4.8	
PBL60-50-GB28		Gear material ¹	Comp.	Comp.	Comp.	Bronze	Bronze	Bronze	
		Gear ratio ²	:1	-	-	-	15	30	60
		Speed rpm	-	-	-	200	100	50	
		Nominal torque Nm	-	-	-	3.7	5.0	5.0	
		Intermittent torque Nm	-	-	-	6.5	8.0	8.0	
PBL60-50-GB58		Gear material ¹	Comp.	Comp.	Comp.	Bronze	Bronze	Bronze	
		Gear ratio ²	:1	4	15	25	-	-	-
		Speed rpm	750	200	120	-	-	-	
		Nominal torque Nm	1.1	3.7	4.0	-	-	-	
		Intermittent torque Nm	2.0	6.5	8.0	-	-	-	
PBL60-50-M-Box		Gear material ¹	Comp.	Comp.	Comp.	Bronze	Bronze	Bronze	
		Gear ratio ²	:1	4	30	72	4	30	72
		Speed rpm	750	100	42	750	100	42	
		Nominal torque Nm	1.1	6.9	5.0	1.0	6.0	8.0	
		Intermittent torque Nm	2.0	12.2	8.0	1.7	10.6	12.0	
PBL60-50-GB80		Gear material ¹	Comp.	Comp.	Comp.	Bronze	Bronze	Bronze	
		Gear ratio ²	:1	15	30	60	-	-	-
		Speed rpm	200	100	50	-	-	-	
		Nominal torque Nm	3.8	6.9	6.0	-	-	-	
		Intermittent torque Nm	6.7	12.2	10.0	-	-	-	
PBL60-50-MWS		Gear material ¹	Comp.	Comp.	Comp.	Bronze	Bronze	Bronze	
		Gear ratio ²	:1	24	120	1400	-	-	-
		Speed rpm	125	25	2	-	-	-	
		Nominal torque Nm	6.0	22.0	45.0	-	-	-	
		Intermittent torque Nm	9.0	22.0	45.0	-	-	-	
PBL60-50-GB36		Gear material ¹	Comp.	Comp.	Comp.	Bronze	Bronze	Bronze	
		Gear ratio ²	:1	24	120	1400	-	-	-
		Speed rpm	125	25	2	-	-	-	
		Nominal torque Nm	6.0	22.0	45.0	-	-	-	
		Intermittent torque Nm	9.0	22.0	45.0	-	-	-	
PBL60-50-PGX52		Gear material ¹	Comp.	Comp.	Comp.	Steel	Steel	Steel	
		Gear ratio [stages] ²	:1	-	-	-	3.9 [1]	44 [2]	172 [3]
		Speed rpm	-	-	-	769	68	17	
		Nominal torque Nm	-	-	-	1.2	13.4	30.0	
		Intermittent torque Nm	-	-	-	2.1	23.0	45.0	
PBL60-50-GB12		Gear material ¹	Comp.	Comp.	Comp.	Bronze	Bronze	Bronze	
		Gear ratio ²	:1	15	30	60	15	30	60
		Speed rpm	200	100	50	200	100	50	
		Nominal torque Nm	4.1	7.1	10.9	3.7	6.4	9.9	
		Intermittent torque Nm	7.2	12.5	19.1	6.5	11.3	17.4	

Key

Standard combination / standard gear ratio

Modular combination / modular gear ratio

Notes

¹ Comp. = Composite gears

² Full gear ratio options displayed on individual gearbox datasheets

→ Technical data displayed above calculated based on **PBL60-50 48V 3000 rpm** motor. Intermittent torque displayed based on S2 - 15 minute duty cycle.

→ Simplified drawings displayed above show overall envelope size of the combination. Please see individual motor and gearbox datasheets for detailed technical drawings.