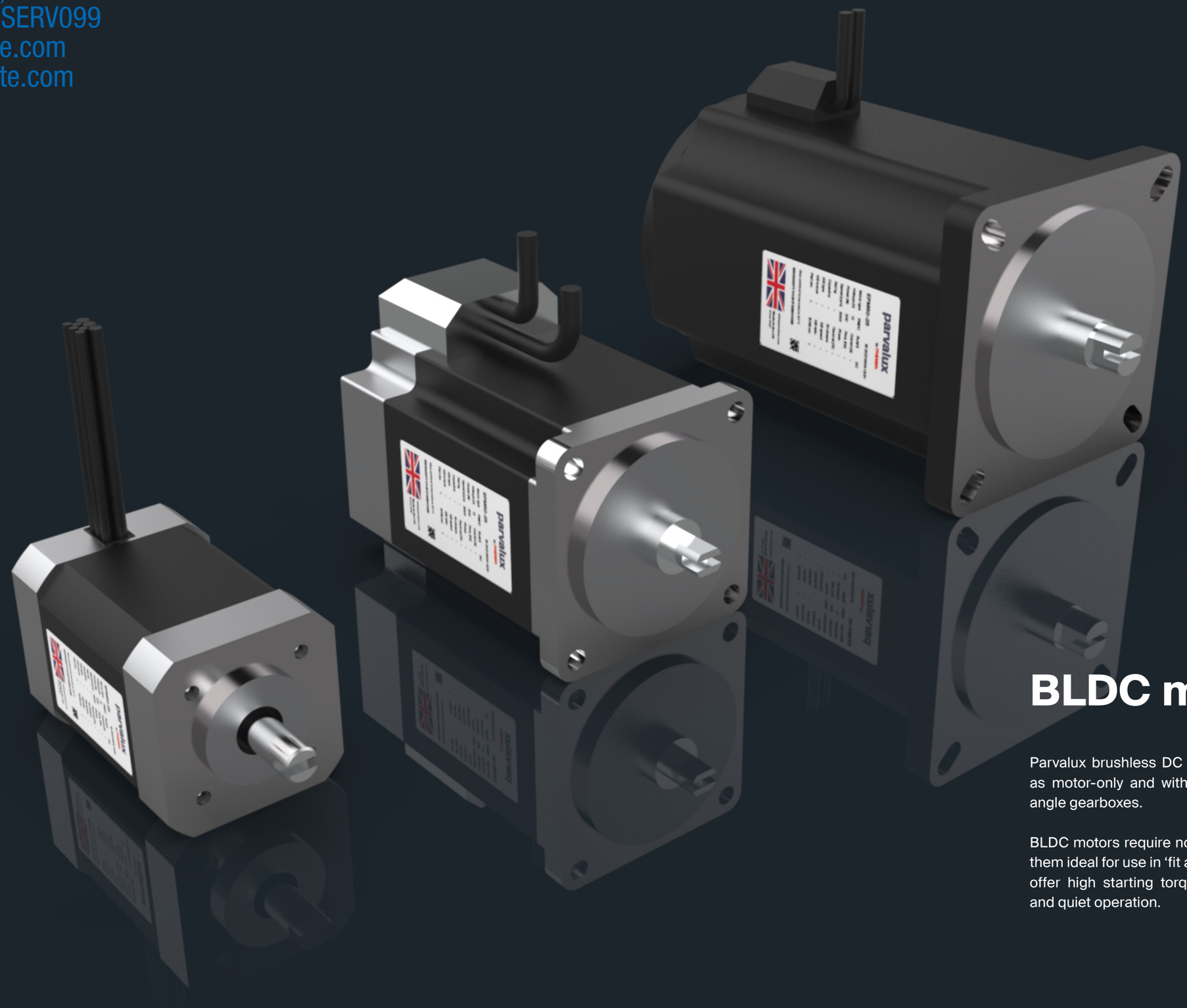


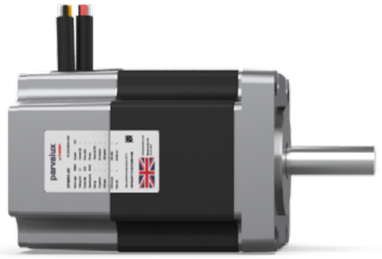
BLDC motors

Parvalux brushless DC (BLDC) motors are available as motor-only and with a choice of inline or right-angle gearboxes.

BLDC motors require no maintenance, which makes them ideal for use in ‘fit and forget’ applications. They offer high starting torque, excellent power density and quiet operation.

BLx60 Product Overview

PMDC motor // Ø42 mm frame



BLx60-40 BLDC motor

□60 mm frame // 40 mm stack

Overview

The BLx60 is part of our range of brushless permanent magnet DC motors. Currently available in a single stack length with a range of operating voltages.

The BLx60 is highly efficient motor, designed for market applications such as:

- **Materials handling**; AGVs, pallet and tray shuttles, conveyors, sorting machines
- **Medical devices**; Medical, fluid and air pumps
- **Mobility solutions;** Patient hoists, stairlifts
- **Building automation;** Door automation, access control

Motor Design

The 4-pole bi-directional brushless motor is housed within a powder coated steel and aluminium pressure die-cast housing, sealed to IP54 (with IP67 on request) protecting it from dust particles and water spray.

Built to Class F insulation, enabling a temperature rise of 115°C based on an ambient temperature of 40°C. Casing temperature can operate within -30° to +100°C.

It features a 40mm stack length (overall length 119mm) delivering 0.6Nm. Options include 3000RPM/4000RPM and 12v to 48v models.

Designed with an electronic commutation the motor can support custom shaft designs, special windings for specific voltages and speed, higher IP protection class, custom flanges and connectors as required.

UL, ETL, CSA approvals available on request, with EMC EN 61000-6-3: 2007 +A1:2011 suppression optional.

The motor can be combined with both Parvalux encoders & brakes, maxon & Parvalux controllers and gearheads as part of a modular system.

Features at a glance

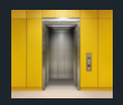
- 4 pole brushless design
- Continuously rated at up to 0.67Nm
- Selection of voltages up to 48V DC
- Bi-directional operation
- Supports custom shaft designs and windings

Market sectors

Materials handling

Medical devices

Mobility solutions



Building automation

BLx60 Modular System

Compatible gearboxes and accessories

BLx60
BLDC motor

Voltage V	BLx60-40
24	776618
48	776619

GB28
Right-angle gearbox

Mounting flange: 781251

Modular range ratios available	
15:1 Bronze	735904
30:1 Bronze	735906
60:1 Bronze	735907

Standard range ratios available :1
25, 50

Available in bronze gears

PGH52
Planetary gearbox

Mounting flange: TBC

Ratio :1	Composite / Steel
4	774284
12	774286
15	774287
45	774289
67	774291
98	774293
161	774295
288	774297
494	774299
684	774301

Additional ratios available on request (:1): 5, 19, 57, 82, 114, 207, 357, 552

PGH42
Planetary gearbox

Mounting flange: TBC

Ratio :1	Composite / Steel
15	775835
17	775848
51	775849
64	775850
84	775851
180	775852
222	775853
294	775854
1470	775855

Controllers

Controller	
SC50/15	738590

Brakes

Mounting flange: TBC

Brake	
1 Nm	735914

Encoders

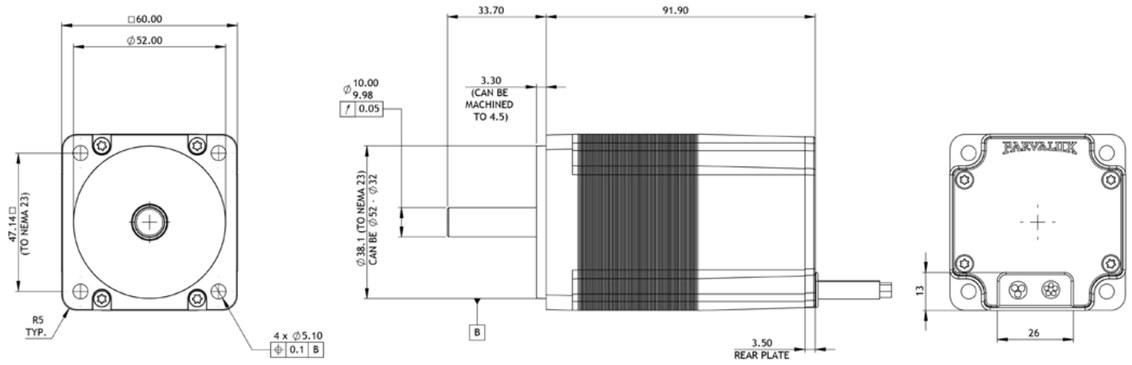
Mounting flange: TBC

Encoder	
Incremental	735912

BLx60-40 BLDC motor

Ø60 mm frame // 40 mm stack

all dimensions in mm



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

Available on request: Custom shaft length and diameter, shaft on both sides, special windings for specific voltages and speed, higher IP protection class, custom flanges and connectors

All products are built in accordance to performance tolerances from EN60034-1:2010. As continuous improvement, Parvalux periodically test their product range to ensure test results are as accurate as possible and are therefore subject to change. Please ensure you are using the latest datasheets found on our website

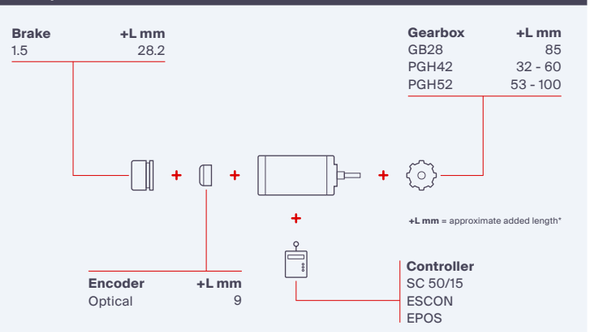
Technical data									
1 Part number		-	-	-	-	-	-	-	-
2 Nominal power	**W**	110	110	110	110	147	147	147	147
3 Nominal voltage	**V**	12	24	40	48	12	24	40	48
4 No load speed	**rpm**	4066	4066	4066	4066	5016	4843	4877	4843
5 No load current	**A**	0.58	0.29	0.17	0.15	1.15	0.55	0.33	0.28
6 Nominal speed	**rpm**	3000	3000	3000	3000	4000	4000	4000	4000
7 Nominal continuous torque (S1)	**Nm**	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35
8 Nominal continuous current (S1)	**A**	12.0	6.0	3.6	3.0	15.2	7.3	4.4	3.7
9 Max Intermittent torque (S2 - 15 minutes)	**Nm**	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60
10 Stall current	**A**	55.0	27.0	16.0	14.0	87.0	40.0	24.6	20.2
11 Stall torque	**Nm**	1.6	1.6	1.6	1.6	2.2	2.1	2.1	2.1
12 Stack length	**mm**	40	40	40	40	40	40	40	40
13 Maximum efficiency	**%**	84	84	84	84	84	84	84	84
14 Ra	**Ω**	0.22	0.88	2.44	3.50	0.14	0.59	1.63	2.37
15 Rl	**mH**	-	-	-	-	-	-	-	-
16 Speed constant	**rpm/V**	329	165	99	82	412	199	120	100
17 Torque constant	**Nm/A**	0.03	0.06	0.11	0.13	0.025	0.051	0.085	0.102
18 Speed torque gradient	**rpm/Nm**	2530	2530	2530	2530	2310	2310	2310	2310
19 Rotor inertia	**Kg/cm²**	2.4 x 10^{-5}	2.4 x 10^{-5}	2.4 x 10^{-5}	2.4 x 10^{-5}	2.4 x 10^{-5}	2.4 x 10^{-5}	2.4 x 10^{-5}	2.4 x 10^{-5}
20 Weight	**Kg**	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15

Thermal data		
21 Ambient temperature	**°C**	40

Mechanical data		
22 Radial load [distance from flange]	**N [mm]**	150 [15]
23 Radial play	**mm [@g]**	0.025 [450]
24 Axial end play	**mm [@g]**	0.025 [450]

Other data		
25 Number of poles		4
26 Winding type		Delta
27 Hall effect angle (electrical angle)	°	120
28 IP Rating		IP54
29 Enclosure		Enclosed
30 Insulation Class		F

Modular system



*additional length may also be required for mounting flange between components

Notes

PBL42 Product Overview

BLDC motor // ▫42 mm frame

PBL42-15 BLDC motor

▫42 mm frame // 15 mm stack

PBL42-35 BLDC motor

▫42 mm frame // 35 mm stack

Overview

The PBL42 is a brushless direct current (BLDC) motor. It is available in a range of options with 2 different stack lengths, voltages from 24V – 48V DC and output power up to 42 Watts.

It is rated for nominal continuous torque up to 0.15 Nm (S1) and maximum intermittent torque up to 0.1 Nm (S2 - 15 minutes).

This motor is perfectly suited for use with a range of Parvalux right-angle and inline gearboxes enabling you to assemble the perfect geared motor combination for your application.

Motor Design

The 8-pole bi-directional PBL42 is housed within a lamination steel casing with aluminium end caps, sealed to IP54 (IP50 at exposed motor shafts), protecting it from dust particles and water spray.

Built to Class B insulation, enabling a temperature rise of 115°C based on an ambient temperature of 40°C. Casing temperature can operate within -30° to +100°C.

There are two models available, the PBL42-15 (stack length 15mm, overall motor length 47 mm), and the PBL42-35 (stack length 35mm, overall motor length 67 mm) delivering 0.063 Nm and 0.1 Nm continuous torque (S1) respectively, with a range of voltage options in each.

The motor can be combined with Parvalux encoders, controllers, and gearheads as part of a modular system.

Features at a glance

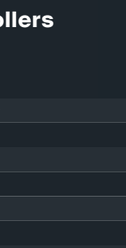
- Delivers up to 0.15 Nm (S2 - 15 minutes)
- Compact envelope size & lightweight
- Selection of voltages from 24 - 48V DC
- Continuously rated at up to 0.1 Nm
- Bi-directional operation
- Supports custom shaft designs and windings

PBL42 Modular System

Compatible gearboxes and accessories

PBL42

BLDC motor



Voltage V	PBL42-15	PBL42-35
24	776614	776616
48	776615	776617

PGH52

Planetary gearbox

Mounting flange: TBC

Ratio :1	Composite / Steel
4	774284
12	774286
15	774287
45	774289
67	774291
98	774293
161	774295
288	774297
494	774299
684	774301

Additional ratios available on request (:1): 5, 19, 57, 82, 114, 207, 357, 552

PGH42

Planetary gearbox

Mounting flange: 781248

Ratio :1	Composite / Steel
15	775835
17	775848
51	775849
64	775850
84	775851
180	775852
222	775853
294	775854
1470	775855

Controllers

Controller	
SC50/15	738590

Encoders

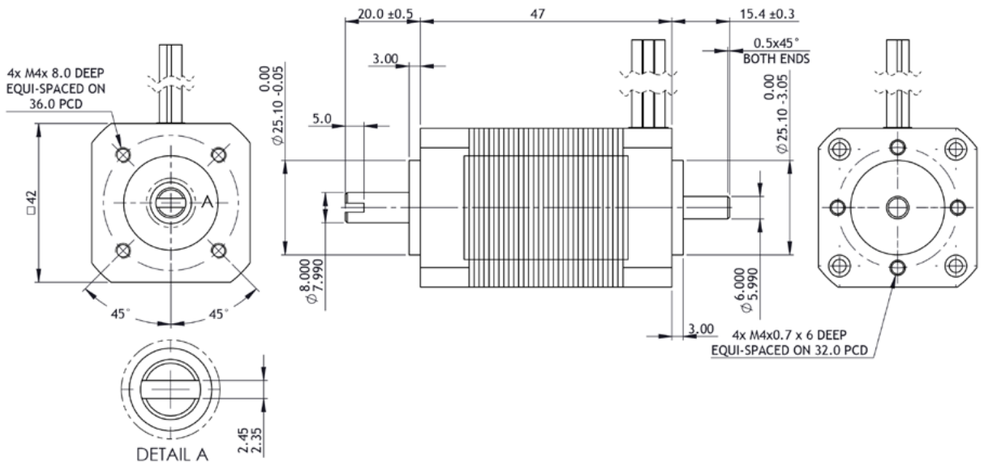
Mounting flange: 781280

Encoder	
Incremental	735912

PBL42-15 BLDC motor

Ø42 mm frame // 15 mm stack

all dimensions in mm



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

Available on request: custom shaft length and diameter, shaft on both sides, special windings for specific voltages and speed, higher IP protection class, custom flanges and connectors

All products are built in accordance to performance tolerances from EN60034-1:2010. As continuous improvement, Parvalux periodically test their product range to ensure test results are as accurate as possible and are therefore subject to change. Please ensure you are using the latest datasheets found on our website

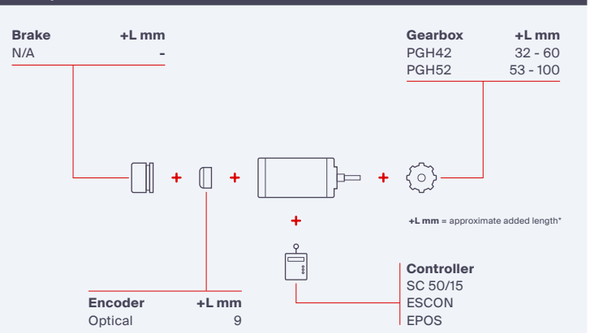
Technical data				
1	Part number		776614	776615
2	Nominal power	**W**	26	26
3	Nominal voltage	**V**	24	48
4	No load speed	**rpm**	6068	6227
5	No load current	**A**	0.4	0.3
6	Nominal speed	**rpm**	4000	4000
7	Nominal continuous torque (S1)	**Nm**	0.063	0.063
8	Nominal continuous current (S1)	**A**	1.8	1.0
9	Max Intermittent torque (S2 - 15 minutes)	**Nm**	0.095	0.095
10	Stall current	**A**	6.50	3.34
11	Stall torque	**Nm**	0.21	0.21
12	Stack length	**mm**	15	15
13	Maximum efficiency	**%**	75	75
14	Ra	**Ω**	1.8	7.1
15	Rl	**mH**	2260	911
16	Speed constant	**rpm/V**	230.4	142.0
17	Torque constant	**Nm/A**	0.032	0.070
18	Speed torque gradient	**rpm/Nm**	28152	29351
19	Rotor inertia	**Kgcm²**	3.3 x 10^{-6}	3.3 x 10^{-6}
20	Weight	**Kg**	0.30	0.30

Thermal data			
22	Ambient temperature	**°C**	40

Mechanical data			
23	Radial load [distance from flange]	**N [mm]**	130 [15]
24	Radial play	**mm [@g]**	0.06 [450]
25	Axial end play	**mm [@g]**	0.06 [450]

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

Modular system

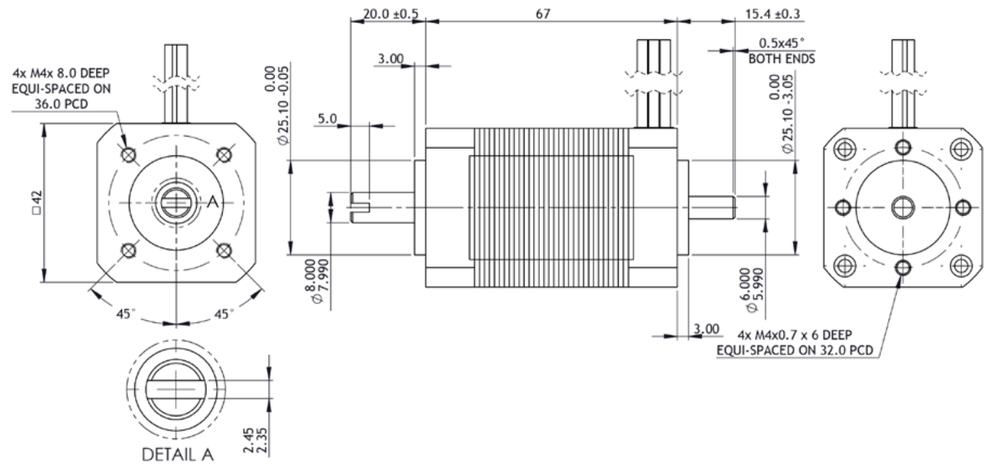


*additional length may also be required for mounting flange between components

PBL42-35 BLDC motor

Ø42 mm frame // 35 mm stack

all dimensions in mm



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

Available on request: custom shaft length and diameter, shaft on both sides, special windings for specific voltages and speed, higher IP protection class, custom flanges and connectors

All products are built in accordance to performance tolerances from EN60034-1:2010. As continuous improvement, Parvalux periodically test their product range to ensure test results are as accurate as possible and are therefore subject to change. Please ensure you are using the latest datasheets found on our website

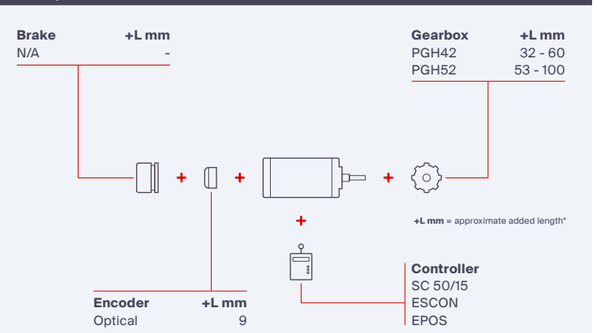
Technical data				
1	Part number		776616	776617
2	Nominal power	**W**	42	42
3	Nominal voltage	**V**	24	48
4	No load speed	**rpm**	5835	6001
5	No load current	**A**	0.4	0.3
6	Nominal speed	**rpm**	4000	4000
7	Nominal continuous torque (S1)	**Nm**	0.1	0.1
8	Nominal continuous current (S1)	**A**	2.6	1.3
9	Max Intermittent torque (S2 - 15 minutes)	**Nm**	0.15	0.15
10	Stall current	**A**	9.6	5.0
11	Stall torque	**Nm**	0.4	0.4
12	Stack length	**mm**	35	35
13	Maximum efficiency	**%**	77	75
14	Ra	**Ω**	0.87	3.35
15	Rl	**mH**	1298	5415
16	Speed constant	**rpm/V**	251.7	132.2
17	Torque constant	**Nm/A**	0.043	0.093
18	Speed torque gradient	**rpm/Nm**	14157	13361
19	Rotor inertia	**Kgcm²**	5.5 x 10^{-6}	5.5 x 10^{-6}
20	Weight	**Kg**	0.45	0.45

Thermal data			
22	Ambient temperature	**°C**	40

Mechanical data			
23	Radial load [distance from flange]	**N [mm]**	130 [15]
24	Radial play	**mm [@g]**	0.06 [450]
25	Axial end play	**mm [@g]**	0.06 [450]

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

Modular system



*additional length may also be required for mounting flange between components

PBL60 Product Overview

BLDC motor // □60 mm frame

PBL60-50 BLDC motor

□60 mm frame // 50 mm stack

PBL60-70 BLDC motor

□60 mm frame // 70 mm stack

Overview

The Parvalux PBL60 is a brushless direct current (BLDC) motor. It is available in 2 different stack lengths and a range of voltage options from 24V – 48V DC and output power up to 157 Watts.

It is rated for nominal continuous torque up to 0.5 Nm (S1) and maximum intermittent torque up to 0.88 Nm (S2 – 15 minutes).

This motor is perfectly suited for use with a range of Parvalux right-angle and inline gearboxes enabling you to assemble the perfect geared motor combination for your application.

Motor Design

The 8-pole bi-directional PBL60 is housed within a lamination steel casing with aluminium end caps, sealed to IP54 (IP50 at exposed motor shafts), protecting it from dust particles and water spray.

Built to Class B insulation, enabling a temperature rise of 115°C based on an ambient temperature of 40°C. Casing temperature can operate within -30° to +100°C.

There are two models available, the PBL60-50 (stack length 50mm, overall motor length 90mm), and the PBL60-70 (stack length 70mm, overall motor length 110mm) delivering 0.33 Nm and 0.50 Nm continuous torque (S1) respectively, with a range of voltage options in each.

The motor can be combined with Parvalux encoders, controllers, and gearheads as part of a modular system.

Features at a glance

- Delivers up to 0.88 Nm (S2 - 15 minutes)
- Compact envelope size & lightweight
- Selection of voltages from 24 - 48V DC
- Continuously rated at up to 0.5 Nm
- Bi-directional operation
- Supports custom shaft designs and windings

PBL60 Modular System

Compatible gearboxes and accessories

PBL60
BLDC motor

Voltage V	PBL60-50	PBL60-70
24	776618	776620
48	776619	776621

GB28
Right-angle gearbox

Mounting flange: 781251

Modular range ratios available	
15:1 Bronze	735904
30:1 Bronze	735906
60:1 Bronze	735907

Standard range ratios available :1
25, 50

Available in bronze gears

PGH52
Planetary gearbox

Mounting flange: TBC

Ratio :1	Composite / Steel
4	774284
12	774286
15	774287
45	774289
67	774291
98	774293
161	774295
288	774297
494	774299
684	774301

Additional ratios available on request (:1): 5, 19, 57, 82, 114, 207, 357, 552

PGH42
Planetary gearbox

Mounting flange: TBC

Ratio :1	Composite / Steel
15	775835
17	775848
51	775849
64	775850
84	775851
180	775852
222	775853
294	775854
1470	775855

Controllers

Controller	
SC50/15	738590

Brakes

Mounting flange: 781281

Brake	
1 Nm	735914

Encoders

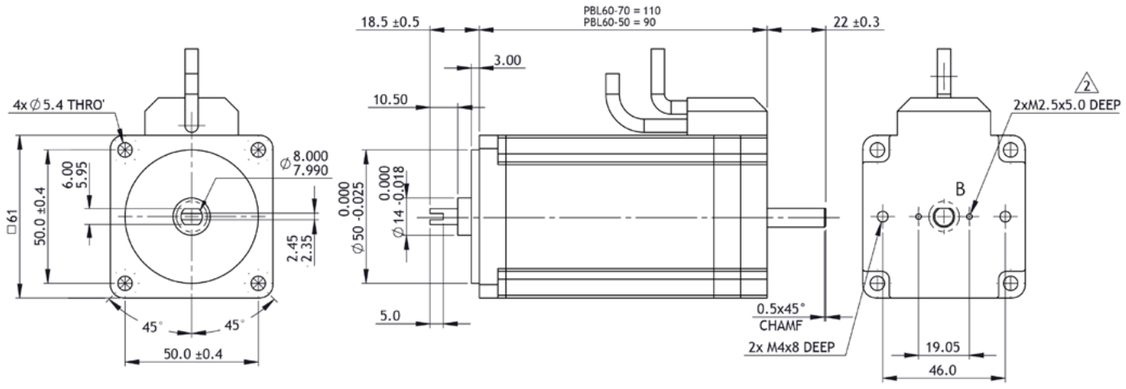
Mounting flange: 781281

Encoder	
Incremental	735912

PBL60-50 BLDC motor

Ø60 mm frame // 50 mm stack

all dimensions in mm



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

Available on request: custom shaft length and diameter, shaft on both sides, special windings for specific voltages and speed, higher IP protection class, custom flanges and connectors

All products are built in accordance to performance tolerances from EN60034-1:2010. As continuous improvement, Parvalux periodically test their product range to ensure test results are as accurate as possible and are therefore subject to change. Please ensure you are using the latest datasheets found on our website

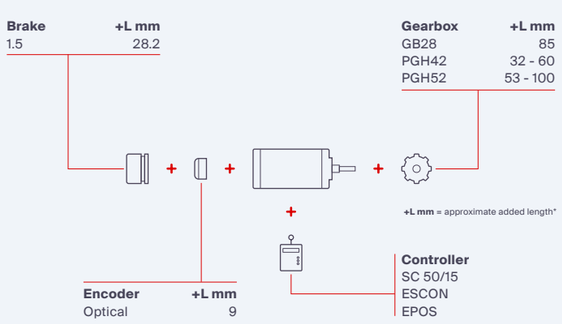
Technical data				
1	Part number		776618	776619
2	Nominal power	**W**	104	104
3	Nominal voltage	**V**	24	48
4	No load speed	**rpm**	3798	3827
5	No load current	**A**	1.1	0.5
6	Nominal speed	**rpm**	3000	3000
7	Nominal continuous torque (S1)	**Nm**	0.33	0.33
8	Nominal continuous current (S1)	**A**	6.1	3.0
9	Max Intermittent torque (S2 - 15 minutes)	**Nm**	0.58	0.58
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	Rl	**mH**	211.8	856.4
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	**Kgcm²**	4.97 x 10^{-5}	4.97 x 10^{-5}
20	Weight	**Kg**	1.20	1.20

Thermal data			
21	Ambient temperature	**°C**	40

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

Modular system

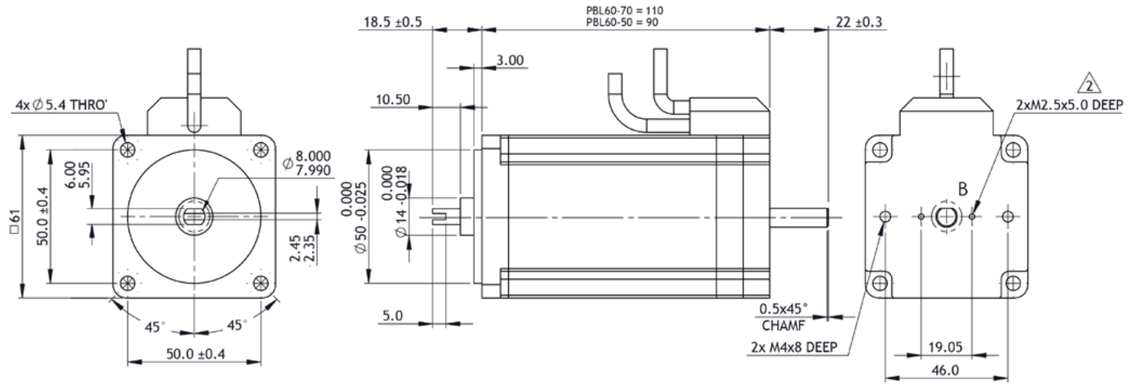


*additional length may also be required for mounting flange between components

PBL60-70 BLDC motor

Ø60 mm frame // 70 mm stack

all dimensions in mm



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

Available on request: custom shaft length and diameter, shaft on both sides, special windings for specific voltages and speed, higher IP protection class, custom flanges and connectors

All products are built in accordance to performance tolerances from EN60034-1:2010. As continuous improvement, Parvalux periodically test their product range to ensure test results are as accurate as possible and are therefore subject to change. Please ensure you are using the latest datasheets found on our website

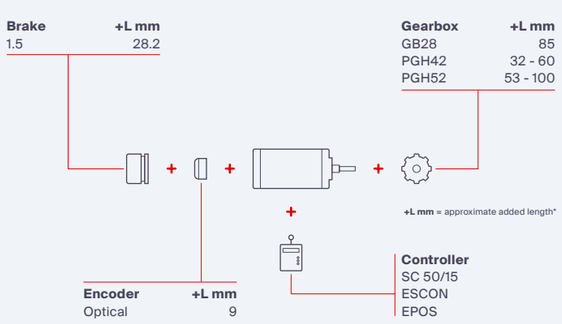
Technical data				
1	Part number		776620	776621
2	Nominal power	**W**	157	157
3	Nominal voltage	**V**	24	48
4	No load speed	**rpm**	3983	3811
5	No load current	**A**	1.7	0.7
6	Nominal speed	**rpm**	3000	3000
7	Nominal continuous torque (S1)	**Nm**	0.5	0.5
8	Nominal continuous current (S1)	**A**	9.9	4.6
9	Max Intermittent torque (S2 - 15 minutes)	**Nm**	0.88	0.88
10	Stall current	**A**	63.44	36.90
11	Stall torque	**Nm**	3.7	4.5
12	Stack length	**mm**	70	70
13	Maximum efficiency	**%**	0.77	0.83
14	Ra	**Ω**	0.12	0.48
15	Rl	**mH**	124.1	555.3
16	Speed constant	**rpm/V**	167.30	80.34
17	Torque constant	**Nm/A**	0.06	0.12
18	Speed torque gradient	**rpm/Nm**	1121.90	870.34
19	Rotor inertia	**Kgcm²**	7.28 x 10^{-5}	7.28 x 10^{-5}
20	Weight	**Kg**	1.60	1.60

Thermal data			
21	Ambient temperature	**°C**	40

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

Modular system



*additional length may also be required for mounting flange between components

PBL70 Product Overview

BLDC motor // ▫70 mm frame

PBL70-70 BLDC motor

▫70 mm frame // 70 mm stack

PBL70-80 BLDC motor

▫70 mm frame // 80 mm stack

Overview

The Parvalux PBL70 is a brushless direct current (BLDC) motor. It is available in two stack lengths with voltage of 48V DC and output power up to 276 Watts.

It is rated for nominal continuous torque up to 0.88 Nm (S1) and maximum intermittent torque up to 1.54 Nm (S2 - 15 minutes).

This motor is perfectly suited for use with a range of Parvalux right-angle and inline gearboxes enabling you to assemble the perfect geared motor combination for your application.

Motor Design

The 8-pole bi-directional PBL70 is housed within a lamination steel casing with aluminium end caps, sealed to IP54 (IP50 at exposed motor shafts), protecting it from dust particles and water spray.

Built to Class B insulation, enabling a temperature rise of 115°C based on an ambient temperature of 40°C. Casing temperature can operate within -30° to +100°C.

There are two models available, the PBL70-70 (stack length 70mm, overall motor length 114mm), and the PBL70-80 (stack length 80mm, overall motor length 124mm) delivering 0.77 Nm and 0.88 Nm continuous torque (S1) respectively. This motor comes as a 48v option only.

The motor can be combined with Parvalux encoders, controllers, and gearheads as part of a modular system.

Features at a glance

- Delivers up to 1.54 Nm (S2 - 15 minutes)
- Available voltage: 48V
- Continuously rated at up to 0.88 Nm
- Bi-directional operation
- Supports custom shaft designs and windings

PBL70 Modular System

Compatible gearboxes and accessories

PBL70
BLDC motor

Voltage V	PBL70-70	PBL70-80
48	776622	776623

GB12
Right-angle gearbox

Mounting flange: 781255

Modular range ratios available	
15:1 Composite	735900
30:1 Composite	735901
60:1 Composite	735902

Standard range ratios available :1

12.5, 15, 19, 21, 25, 30, 50, 60, 75

Available in both composite and bronze gears

PGS80
Planetary gearbox

Mounting flange: 781254

Ratio :1	Composite / Steel
4	776144
13	776145
15	776181
49	776182
55	776183
186	776184
210	776185

PGS71
Planetary gearbox

Mounting flange: TBC

Ratio :1	Composite / Steel
4	776197
16	776198
20	776199
50	776200
60	776201
75	776202
91	776203
189	776204
414	776205
543	776206

Controllers

Controller	
SC50/15	738590

Brakes

Mounting flange: 781283

Brake	
1 Nm	735914

Encoders

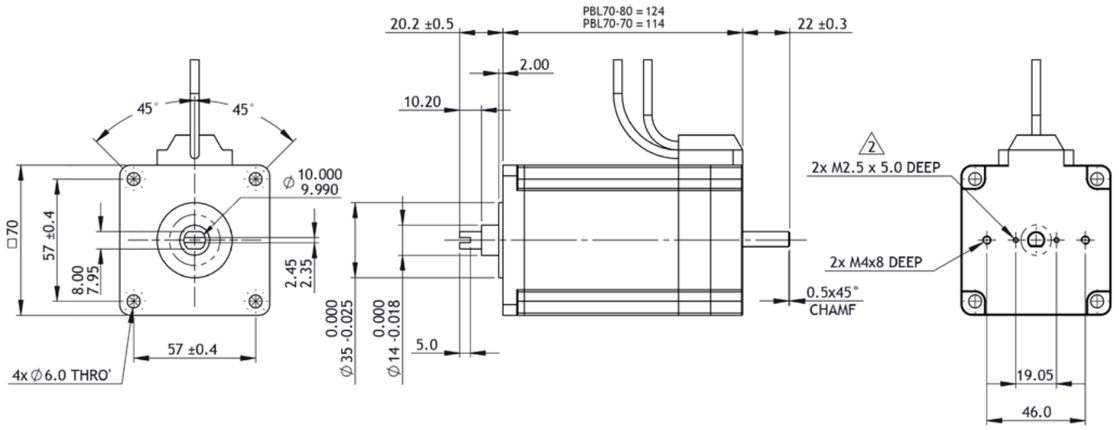
Mounting flange: 781283

Encoder	
Incremental	735912

PBL70-70 BLDC motor

Ø70 mm frame // 70 mm stack

all dimensions in mm



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

Available on request: custom shaft length and diameter, shaft on both sides, special windings for specific voltages and speed, higher IP protection class, custom flanges and connectors

All products are built in accordance to performance tolerances from EN60034-1:2010. As continuous improvement, Parvalux periodically test their product range to ensure test results are as accurate as possible and are therefore subject to change. Please ensure you are using the latest datasheets found on our website

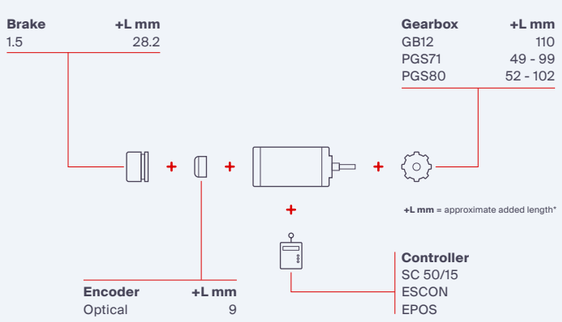
Technical data			
1	Part number		776622
2	Nominal power	W	363
3	Nominal voltage	V	48
4	No load speed	rpm	4857
5	No load current	A	1.4
6	Nominal speed	rpm	4500
7	Nominal continuous torque (S1)	Nm	0.77
8	Nominal continuous current (S1)	A	8.9
9	Max Intermittent torque (S2 - 15 minutes)	Nm	1.35
10	Stall current	A	68.2
11	Stall torque	Nm	6.9
12	Stack length	mm	70
13	Maximum efficiency	%	84
14	Ra	Ω	0.151
15	Rl	mH	0.283
16	Speed constant	rpm/V	102.2
17	Torque constant	Nm/A	0.103
18	Speed torque gradient	rpm/Nm	731.0
19	Rotor inertia	Kgcm²	2.39 x 10^{-4}
20	Weight	Kg	2.20

Thermal data			
21	Ambient temperature	°C	40

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

Modular system

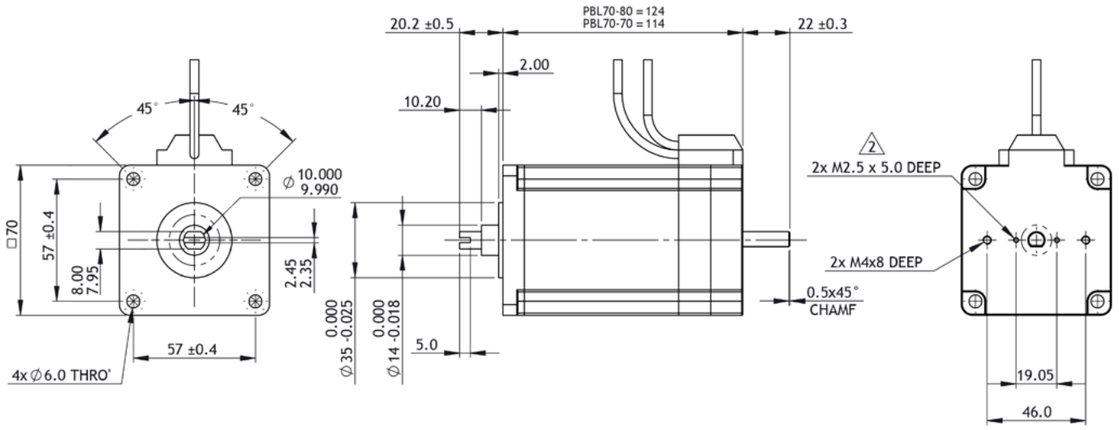


*additional length may also be required for mounting flange between components

PBL70-80 BLDC motor

Ø70 mm frame // 80 mm stack

all dimensions in mm



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

Available on request: custom shaft length and diameter, shaft on both sides, special windings for specific voltages and speed, higher IP protection class, custom flanges and connectors

All products are built in accordance to performance tolerances from EN60034-1:2010. As continuous improvement, Parvalux periodically test their product range to ensure test results are as accurate as possible and are therefore subject to change. Please ensure you are using the latest datasheets found on our website

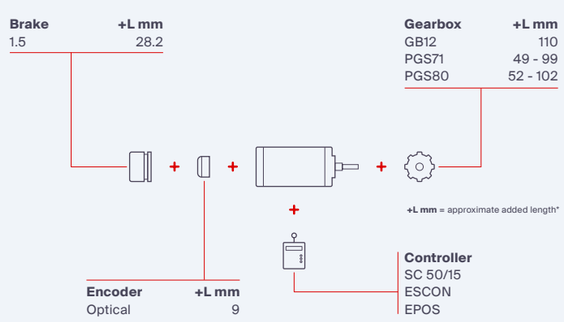
Technical data			
1	Part number		776623
2	Nominal power	W	415
3	Nominal voltage	V	48
4	No load speed	rpm	4902
5	No load current	A	1.5
6	Nominal speed	rpm	4500
7	Nominal continuous torque (S1)	Nm	0.88
8	Nominal continuous current (S1)	A	10.4
9	Max Intermittent torque (S2 - 15 minutes)	Nm	1.54
10	Stall current	A	75.6
11	Stall torque	Nm	7.3
12	Stack length	mm	80
13	Maximum efficiency	%	82
14	Ra	Ω	0.151
15	Rl	mH	0.221
16	Speed constant	rpm/V	103
17	Torque constant	Nm/A	0.10
18	Speed torque gradient	rpm/Nm	691.7
19	Rotor inertia	Kgcm²	2.77 x 10^{-4}
20	Weight	Kg	2.60

Thermal data			
21	Ambient temperature	°C	40

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

Modular system



*additional length may also be required for mounting flange between components

PBL86 Product Overview

BLDC motor // ▫86 mm frame

PBL86-55 BLDC motor

▫86 mm frame // 55 mm stack

PBL86-80 BLDC motor

▫86 mm frame // 80 mm stack

Overview

The Parvalux PBL86 is a brushless direct current (BLDC) motor. It is available in two stack lengths, with a voltage of 48V DC and output power up to 586 Watts

It is rated for nominal continuous torque up to 1.4 Nm (S1) and maximum intermittent torque up to 2.5 Nm (S2 - 15 minutes).

This motor is perfectly suited for use with a range of Parvalux right-angle and inline gearboxes enabling you to assemble the perfect geared motor combination for your application.

Motor Design

The 8-pole bi-directional PBL86 is housed within a lamination steel casing with aluminium end caps, sealed to IP54 (IP50 at exposed motor shafts), protecting it from dust particles and water spray.

Built to Class B insulation, enabling a temperature rise of 115°C based on an ambient temperature of 40°C. Casing temperature can operate within -30° to +100°C.

There are two models available, the PBL86-55 (stack length 55mm, overall motor length 111mm), and the PBL86-80 (stack length 80mm, overall motor length 136mm) delivering 1.0 Nm and 1.4 Nm continuous torque (S1) respectively. This motor is available in a 48v option only.

The motor can be combined with Parvalux encoders, controllers and gearheads as part of a modular system.

Features at a glance

- Delivers up to 2.5 Nm (S2 - 15 minutes)
- Available voltage: 48V
- Continuously rated at up to 1.4 Nm
- Bi-directional operation
- Supports custom shaft designs and windings

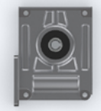
PBL86 Modular System

Compatible gearboxes and accessories

PBL86
BLDC motor

Voltage V	PBL86-55	PBL86-80
48	776624	776625

GB9
Right-angle gearbox



Mounting flange: 781261

Modular range ratios available	
15:1 Bronze	735894
30:1 Bronze	735895
60:1 Bronze	735896

Standard range ratios available :1

12.5, 15, 25, 30, 40, 60, 75

Available in both composite and bronze gears

GB12
Right-angle gearbox

Mounting flange: 781260

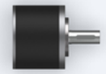
Modular range ratios available	
15:1 Composite	735900
30:1 Composite	735901
60:1 Composite	735902

Standard range ratios available :1

12.5, 15, 19, 21, 25, 30, 50, 60, 75

Available in both composite and bronze gears

PGS90
Planetary gearbox



Mounting flange: 781259

Ratio :1	Composite / Steel
19	775882
77	775883
89	775884
294	775885
403	775886
517	775887

PGS80
Planetary gearbox

Mounting flange: TBC

Ratio :1	Composite / Steel
4	776144
13	776145
15	776181
49	776182
55	776183
186	776184
210	776185

Controllers

Controller	
SC50/15	738590

Brakes

Mounting flange: 781284

Brake	
1 Nm	735914

Encoders

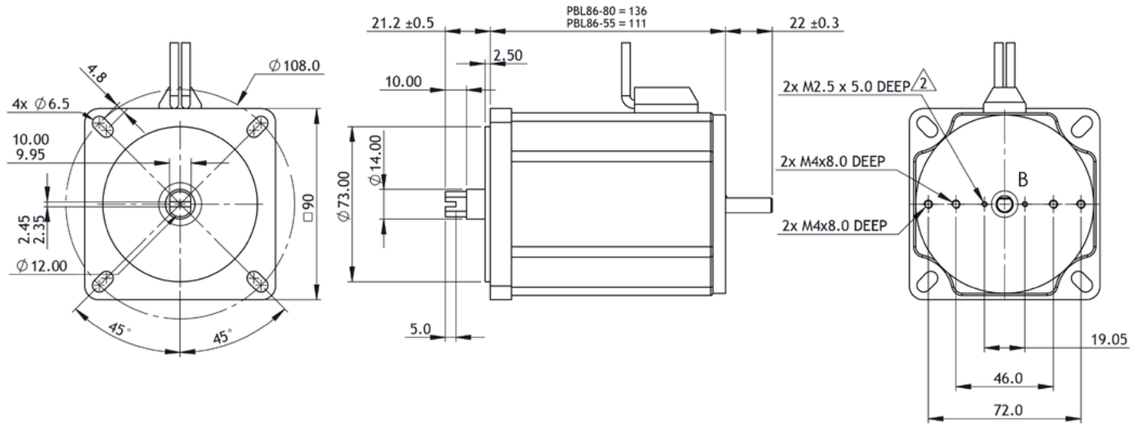
Mounting flange: 781284

Encoder	
Incremental	735912

PBL86-55 BLDC motor

Ø86 mm frame // 55 mm stack

all dimensions in mm



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

Available on request: custom shaft length and diameter, shaft on both sides, special windings for specific voltages and speed, higher IP protection class, custom flanges and connectors

All products are built in accordance to performance tolerances from EN60034-1:2010. As continuous improvement, Parvalux periodically test their product range to ensure test results are as accurate as possible and are therefore subject to change. Please ensure you are using the latest datasheets found on our website

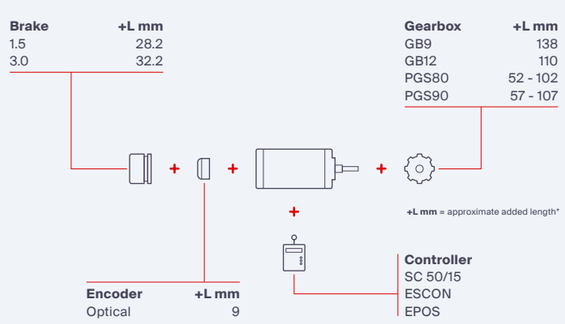
Technical data			
1	Part number		776624
2	Nominal power	**W**	419
3	Nominal voltage	**V**	48
4	No load speed	**rpm**	4342
5	No load current	**A**	1.2
6	Nominal speed	**rpm**	4000
7	Nominal continuous torque (S1)	**Nm**	1.0
8	Nominal continuous current (S1)	**A**	10.3
9	Max Intermittent torque (S2 - 15 minutes)	**Nm**	1.75
10	Stall current	**A**	93
11	Stall torque	**Nm**	10.1
12	Stack length	**mm**	55
13	Maximum efficiency	**%**	85
14	Ra	**Ω**	0.087
15	Rl	**mH**	230.7
16	Speed constant	**rpm/V**	90.8
17	Torque constant	**Nm/A**	0.11
18	Speed torque gradient	**rpm/Nm**	439.5
19	Rotor inertia	**Kgm²**	2.04 x 10^{-4}
20	Weight	**Kg**	3.20

Thermal data			
21	Ambient temperature	**°C**	40

Mechanical data			
22	Radial load [distance from flange]	**N [mm]**	350 [15]
23	Radial play	**mm [@g]**	0.06 [450]
24	Axial end play	**mm [@g]**	0.08 [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

Modular system

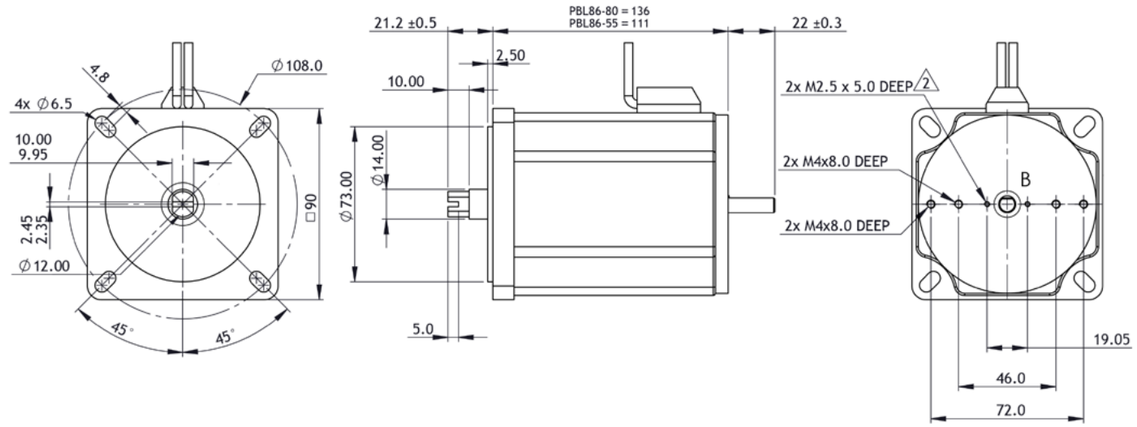


*additional length may also be required for mounting flange between components

PBL86-80 BLDC motor

Ø86 mm frame // 80 mm stack

all dimensions in mm



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

Available on request: custom shaft length and diameter, shaft on both sides, special windings for specific voltages and speed, higher IP protection class, custom flanges and connectors

All products are built in accordance to performance tolerances from EN60034-1:2010. As continuous improvement, Parvalux periodically test their product range to ensure test results are as accurate as possible and are therefore subject to change. Please ensure you are using the latest datasheets found on our website

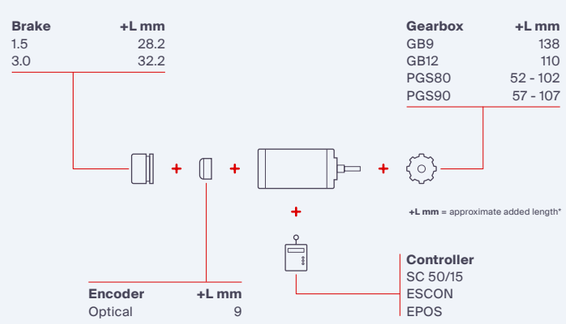
Technical data			
1	Part number		776625
2	Nominal power	**W**	586
3	Nominal voltage	**V**	48
4	No load speed	**rpm**	4192
5	No load current	**A**	1.9
6	Nominal speed	**rpm**	4000
7	Nominal continuous torque (S1)	**Nm**	1.4
8	Nominal continuous current (S1)	**A**	14.4
9	Max Intermittent torque (S2 - 15 minutes)	**Nm**	2.45
10	Stall current	**A**	116
11	Stall torque	**Nm**	12.7
12	Stack length	**mm**	80
13	Maximum efficiency	**%**	83
14	Ra	**Ω**	0.057
15	Rl	**mH**	161.3
16	Speed constant	**rpm/V**	87.9
17	Torque constant	**Nm/A**	0.11
18	Speed torque gradient	**rpm/Nm**	345.6
19	Rotor inertia	**Kgm²**	2.9 x 10^{-4}
20	Weight	**Kg**	4.20

Thermal data			
21	Ambient temperature	**°C**	40

Mechanical data			
22	Radial load [distance from flange]	**N [mm]**	350 [15]
23	Radial play	**mm [@g]**	0.06 [450]
24	Axial end play	**mm [@g]**	0.08 [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

Modular system



*additional length may also be required for mounting flange between components