

# Brushless synchronous motors, □ 86 mm

- **Three sizes: 1.0, 1.8, and 2.1 Nm**
- **Nominal speed up to 3000 rpm**
- **Three-phase Y-connected stator**
- **4-pole neodymium magnet rotor**
- **Feedback: Resolver and Hall sensors**

The 86 series offers a unique combination of a brushless synchronous motor with very competitive prices focusing on the high quantity OEM market. Insulation class B (130°C). All motors of the 86 series are fitted with Hall sensors.

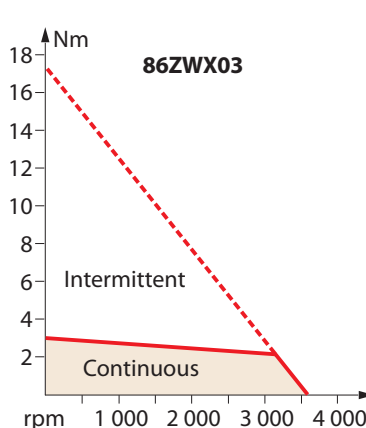
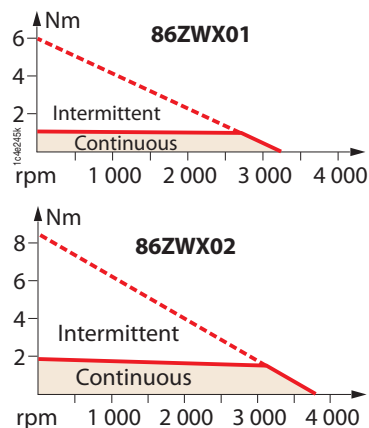


## Technical data

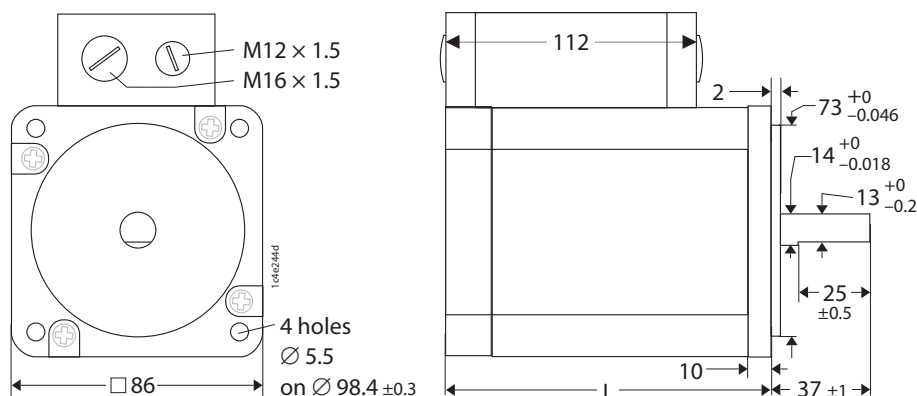
Part numbers	86ZWX01-AB	86ZWX02-AB	86ZWX03-AB	
- with terminal box + brake + resolver	L44135035	L44135041	L44135051	
- with terminal box + resolver	L44135032	L44135042	L44135052	
- with flying leads connection	441386011	441386022	441386033	
- with flying leads + resolver	L44135034	L44135044	L44135054	
Nominal voltage	V DC	48	48	48
Back-EMF constant	$V_{RMS}/krpm$	11.1	11.1	10.3
Torque constant	Nm/A	0.13	0.13	0.12
Terminal resistance (phase-phase)	Ohm	0.465	0.161	0.092
Inductance (phase-phase)	mH	1.00	0.20	0.15
Rated torque	Nm	1.0	1.5	2.1
Rated speed	rpm	2 700	3 100	3 100
Stall torque (theoretical value)	Nm	6.0	8.4	17.5
No-load speed	rpm	3 200	3 700	3 600
Rotor inertia	kgm <sup>2</sup>	$1.2 \times 10^{-4}$	$2.2 \times 10^{-4}$	$3.2 \times 10^{-4}$
Weight	kg	2.5	3.6	4.7

Brake holding torque (24 V DC, 12,5 W) 1 Nm @ 100 rpm

## Torque and speed



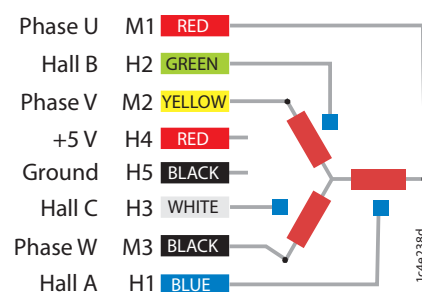
## Dimensions



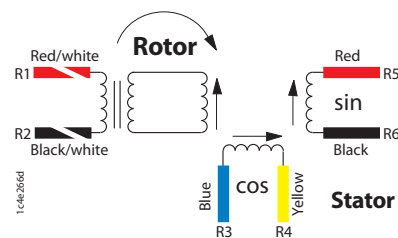
Length (L) 86ZWX01-AB – 111 ± 1 mm, 86ZWX02-AB – 136 ± 1 mm, 86ZWX03-AB – 161 ± 1 mm

Brake adds 51 mm to the motor length

## Connection, Hall sensor



## Connection, resolver



Planetary gearheads for □ 86 mm BLDC motors, see datasheet **PM86LN**.

