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[KDE4012XF-400 Brushless Motor for Heavy-Lift Electric Multi-Rotor \(sUAS\) Series](#)

KDE4012XF-400

BRUSHLESS MOTOR FOR HEAVY-LIFT ELECTRIC MULTI-ROTOR (SUAS) SERIES

(PATENT PENDING)



Quantity

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OVERVIEW

Recommended ESC: [KDE Direct XF UAS 55A+ Multi-Rotor Series](#)

Alternate ESC: [KDE Direct XF UAS 55A+ HVC Multi-Rotor Series](#)

Recommended Propeller: [KDE Direct 15.5" x 5.3 Triple-Propeller Blades](#)

The new KDE Direct 4012XF-400 (D5) Multi-Rotor Brushless Motor is an extremely efficient and powerful motor for numerous multi-rotor and sUAS heavy-lift applications, and was designed to bring high-quality and vibration-free motors to the market. The motors are designed with performance and durability in-mind, with features unseen in the current market: (1) high-grade, 240°C continuous (340°C maximum) high-temperature solid-core copper windings for failure-free operation in extreme-climates, (2) Japanese-built, 0.2 mm silicon-steel stator laminations and Kevlar tie-wraps for high-efficiency performance, and (3) triple-bearing supported, ABEC-7 bearings for maintenance-free and worry-free flying for hundreds of hours. These are just a few of the advantages built-in to these motors, and every detail of the motors was scrutinized to produce the absolute best available; for a wide-range of flight applications.

Motor includes 200°C, 15 AWG, 760mm silicone-wire leads and 3.5mm 24k Bullet Connectors (pre-soldered to the motor leads and ESC female bullets included).

SPECIFICATIONS

Material : Neodymium N45UH, 400Kv

Models : Universal mounting pattern provides simple installation for a wide-range of multi-rotor and sUAS applications: M3 x ? 25mm, M4 x ? 25mm, M3 x ? 32mm (DJI S1000/S900/S800 EVO), M2.5 x ? 32mm (DJI S800).

Includes :

- One (1) KDE Direct XF UAS M6 Propeller Adapter Assembly ([KDEXF-PA617-RH](#))
- One (1) KDE Direct XF UAS M6/M8 Propeller Adapter Collar (35XX/40XX/42XX Edition)
- One (1) KDE Direct XF UAS Motor Adapter Plate Assembly (35XX/40XX/42XX Edition)
- One (1) KDE Direct XF UAS Propeller Bracket Assembly (Clear Edition)
- One (1) KDE Direct XF UAS Propeller Bracket Adapter (?4.0 x ?6.0 x 2.5mm)
- Three (3) KDE Direct XF ? 3.5mm 24K Bullet Connectors (Female)
- Four (4) M4 x 0.7 x 8 mm Flat Head Phillips Head Machine Screws (Class 12.9)
- Two (2) M3 x 0.5 x 10 mm Socket Head Cap Screws (Class 12.9)
- Three (3) M3 x 0.5 x 8 mm Socket Head Cap Screws (Class 12.9)

Finish :

- Clear anodize, mirror-polish CNC gloss endbells
- Black electro-plate, CNC gloss central core (flux ring)

Full Specifications :

Kv	400 RPM/V
Maximum Continuous Current*	32+ A (180 s)
Maximum Continuous Power*	945+ W (180 s)
Maximum Efficiency	> 91%
Voltage Range	14.8 V (4S) - 33.6 V (8S)
I _o (@10V)	0.5 A
R _m (Wind Resistance)	0.085 ?
Stator Poles	18 (18S24P)
Magnetic Poles	24 (18S24P)
Bearings	Triple, 685ZZ/625ZZ
Mount Pattern	M4/3 x ? 25 mm, M3/2.5 x ? 32 mm
Stator Class	4012, 0.2 mm Japanese
Shaft Diameter	?4 mm (? 5 mm Internal)
Shaft Length	5.5 mm
Motor Diameter	?46.5 mm
Motor Length	30 mm
Motor Weight	145 g (200 g with Wires/Bullets)
Propeller Blade Size	Up to 18.5"-TP (15.5"-DP Maximum on 8S)
Motor Timing	22◊ - 30◊
ESC PWM Rate	16 - 32 kHz (600 Hz)

*: Brushless motor requires consistent open airflow (5 mph or greater) across the windings to maintain maximum continuous current and power ratings during operation. Performance figures are provided as guidelines for normal conditions and operation; environmental factors, such as air temperature and humidity, can significantly alter the maximum performance limits of the motor.

TECHNICAL MEDIA

- [KDE4012XF-400 \(D5\) Performance Testing Data Sheet \(KDE Direct Propellers\) \(PDF\)](#)
- [KDE4012XF-400 \(D5\) Performance Testing Data Sheet \(PDF\)](#)
- [KDE4012XF-400 \(D5\) Design Geometry Dimensions Specification Sheet \(PDF\)](#)
- [KDE4012XF-400 \(D5\) Universal Mounting Pattern Specification Sheet \(PDF\)](#)
- [KDE4012XF-400 \(D5\) Components and Hardware Specification Sheet \(PDF\)](#)
- [KDE4012XF-400 \(D5\) Motor Adapter Plate Specification Sheet \(PDF\)](#)
- [XF Multi-Rotor Brushless Motor Series Technology Review \(PDF\)](#)
- [KDE Direct Design Engineering - Episode VIII: XF M-R Brushless Motors \(YouTube\)](#)
- [Performance Flight Video \(YouTube\)](#)

PERFORMANCE DATA

[Performance data for KDE4012XF-400 Brushless Motor for Heavy-Lift Electric Multi-Rotor \(sUAS\) Series](#)

(Click to enlarge)



WE ALSO RECOMMEND

Product rendering

KDE8218XF-120 Brushless Motor for Heavy-Lift Electric Multi-Rotor (UAS) Series



Product rendering

KDE7215XF-135 Brushless Motor for Heavy-Lift Electric Multi-Rotor (UAS) Series



Product rendering

KDE7208XF-110 Brushless Motor for Heavy-Lift Electric Multi-Rotor (UAS) Series

Product rendering

KDE7208XF-135 Brushless Motor for Heavy-Lift Electric Multi-Rotor (UAS) Series

Product rendering

KDE6213XF-185 Brushless Motor for Heavy-Lift Electric Multi-Rotor
(UAS) Series

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