# E-FOC DRIVE SERIES

# Revolutionize Your Motor Control with **Enhanced Precision and Efficiency**



Illustrative image only. The actual product may vary according to the model.

### What is e-FOC?

#### **Enhanced Field Oriented Control (e-FOC) offers:**

- Superior TPA (Torque per Ampere) compared to traditional FOC<sup>1</sup>
- Significant reduction in copper loss<sup>2</sup>
- Significant torque ripple reduction when compared to square wave current
- Enhanced precision in motor control
- Increased efficiency across various applications



<sup>1</sup> Achieve up to 21% higher TPA with 120° trapezoidal BEMF compared to equivalent amplitude sinusoidal BEMF

<sup>2</sup> Reduce copper loss by up to 30% with 120° trapezoidal BEMF compared to equivalent amplitude sinusoidal BEMF and same resistance.

### e-FOC

#### **Tailored for Your Needs**

The e-FOC Drive optimizes performance for all three-phase SMPMSM with trapezoidal Bemf, delivering unparalleled precision and efficiency.

Trapezoidal BEMF flat area span can be customized according to your motor, e.g., 150°, 120°, 90°, etc.







#### **Seamless Setup**

With USB 2.0, the e-FOC Driver is easy to configure using BFCoreIDE (Windows only).







#### **Key features**

BF72SHES-DC General Purpose BField e-FOC Drive with DC Voltage Input Supply

#### **Power Input:**

12~72Vdc + PE Reverse Polarity Protection (RPP)

**USB 2.0 Type C** Communication and Setup

> DB-25: 4 Digital I/O (isolated) 1 Analog Input (3v3) 5v, 3v3 and GND





#### **Brake Chopper Input:**

Internal and External

#### Motor Output: U, V, W

#### **DB-15:**

Digital Hall Input (A, B, C) (5V) Line Driver Encoder (5V) 5v and GND

Illustrative image only. The actual product may vary according to the model.

#### **Key features**

BF240SHES-AC General Purpose BField e-FOC Drive with AC Voltage Input Supply



#### **200uF DC Link Capacitor**



**Ready for Heatsink** 



#### **Technical Features**

General Purpose BField e-FOC Drive

#### Input Voltage Range Max. Current Max. Power

**Sensored Operation** 

#### **Sensorless Operation**

Board Temperature Monitoring DC Link current and voltage Monitoring Programable Brake Chopper USB-C 2.0

#### **BF72SHES-DC**

12 ~ 72VDC 14A 1kW

#### **BF240SHES-AC**

100 ~ 240VAC 4,5A

Digital Hall (5V) Line Driver (5V)

Luenberger Observer ZCD BEMF

Communication/Operation Setup

> BFIELD e-FOC Traditional FOC Square wave Current

#### **Control Operation**

## BEERELD Motors and drives

For more information, contact us

info@bfieldmotors.com www.bfieldmotors.com www.linkedin.com/company/bfield-motors-and-drives www.instagram.com/bfieldmotors