Osprey 40
Brushless Permanent Magnet Motor Drive

As part of Nidec’s diverse lineup of Ultra Low Voltage drives, the Osprey 40 features an innovative stacked PCB design. This unique layout optimizes the board for a smaller footprint without sacrificing functionality.

**Input Voltage:** 10 Vdc – 55 Vdc  
**Continuous Current:** 20 Amps  
**Peak Current:** Up to 40 Amps  
**Motor Speed:** Up to 10,000 rpm  
**Warranty:** One year limited warranty

**Motor Options**
- Trapezoidal or sinusoidal commutation  
- Designed for Brushless Permanent Magnet motors  
- Compatible with 4, 6, 8, 10, 12, or 14 pole motors  
- Multiple I/O interface configurations  
- Hall effect sensors  
- Incremental A/B encoder with index  
- Brake option (open drain FET, 24V 1.0A output)

**Communication Interfaces and I/O**
- CANopen - DS301 and DS402  
- 5V supply output: 150mA  
- PWM  
- Digital I/O: 3 inputs/3 outputs (5V non-isolated)  
- Analog I/O: 1 single ended input (0-5V)  
- Dynamic braking/chopper resistor support

**Safety Features**
- STO - SIL3/PLe  
- Overcurrent protection  
- Reverse polarity protection (with adapter board)  
- Internal thermal protection  
- External NTC connection  
- i2t protection  
- Over speed protection  
- Encoder fault protection  
- Under/over voltage protection

**Operating Modes**
- Homing  
- Profile velocity  
- Velocity  
- Profile position  
- Position  
- Torque

**Environment Ratings**
- Storage: -40°C to 85°C  
- Operating temperature: -30°C to 50°C  
- Withstands 95% relative humidity (non-condensing)

**Agency Approvals**
- IEC/UL 61800-5-1  
- IEC/UL 61800-5-2

**Dimensions and Weight**
- Length: 40 mm  
- Width: 55 mm  
- Height: 38 mm (with interface board)  
- Weight: 157g (5.5 oz) [.35 lb]

**Programming and Indicators**
- Field programmable firmware  
- Power indicator  
- Status indicator  
- Nidec Motion Control Studio - setup and commission tool