

# ULV Drives

## Ultra Low Voltage Drives 10-55 Vdc

Nidec brings you the latest in ULV Drive technology with five power ranges. Supporting EtherCAT & CANopen protocols and the latest features in servo motor control.

**Amp Range (Continuous):** 10 – 85 Amps

**Amp Range (Peak):** 20 – 150 Amps

**Speed Range:** Up to 10,000 RPM

**Mounting:** Chassis

**Rated Voltages:** 10Vdc – 55Vdc

**Power:** Up to 8,250 Watts

**Warranty:** One year limited warranty



### Product Features

- EtherCat, CANopen, USB
- Trapezoidal or Sinusoidal Commutation Options
- Hall Effect and Encoder Feedback
- Safety Torque Off (STO)
- SIL3/PLe compliant
- CANopen - DS301 and DS402
- Closed Loop Current, Closed Loop Position, Trajectory

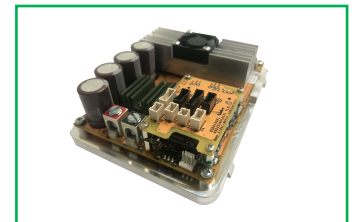
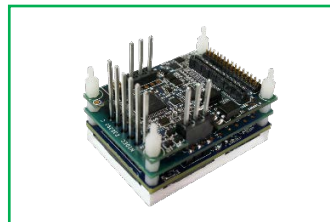
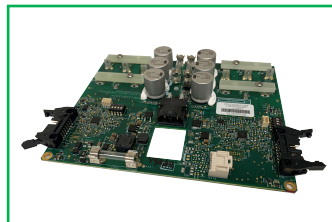
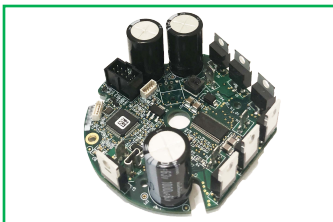
### Product Overview and Options

#### Nidec ULV Drives are designed to provide:

- Maximum application flexibility
- Increased reliability
- Compact
- 4 quadrant closed loop or 2 quadrant open loop
- Operates in speed or torque mode
- Affordable Servo Control

#### Typical Applications:

- AGV applications
- Robotics
- Medical analyzers
- Pumps
- Indexing and positioning
- Mail processing and sorter
- General purpose equipment



# Ratings and Specifications

		Drive Model				
		Green Drive II	Osprey 40	Eagle 50 Dual Motor	Hawk 100	Falcon 150
Inputs	Voltage	10-55V DC	10-55V DC	35-55V DC	20-55V DC	20-55V DC
	Separate Logic Voltage	-	-	24V DC	-	-
Output	Peak Current	25A	40A	50A (each motor)	100A	150A
	Continuous Current	12A	20A	40A (each motor)	60A	85A
	5V Supply Output	150mA	150mA	-	100mA	100mA
Motor Options	Commutation	Trapezoidal or Sinusoidal	Trapezoidal or Sinusoidal	Sinusoidal	Trapezoidal or Sinusoidal	Trapezoidal or Sinusoidal
	Type	Brushless PM	Brushless PM	Brushless PM	Brushless PM	Brushless PM
	Poles	6,8,10	4-14	4-14	4-14	4-14
	Hall Effect Sensor	Push-Pull	Differential Push-Pull Open Collector	Differential	Differential Push-Pull Open Collector	Differential Push-Pull Open Collector
	Encoder Options	Incremental A/B Push-Pull	Incremental A/B w/index Differential Push-Pull	Incremental A/B w/index Differential	Incremental A/B w/index Differential Push-Pull	Incremental A/B w/index Differential Push-Pull
	Mounting Type	Motor Mount	Cabinet Mount	Cabinet Mount	Cabinet Mount	Cabinet Mount
	External Brake Support	Yes	Yes	Yes (each channel)	Yes	Yes
Operating Modes	Homing	Yes	Yes	-	Yes	Yes
	Profile Velocity	Yes	Yes	-	Yes	Yes
	Profile Position	Yes	Yes	-	Yes	Yes
	Position	Yes	Yes	-	Yes	Yes
	Velocity	Yes	Yes	Yes	Yes	Yes
	Cyclic Torque	-	-	Yes	-	-
	Torque	Yes	Yes	-	Yes	Yes
Communication Interface	CANopen (DS402)	Yes	Yes	Yes	Yes	Yes
	Analog 0-5V	Yes	Yes	-	Yes	Yes
	PWM	Yes	Yes	-	Yes	Yes
Safety Features	Safe Torque Off (STO)	-	SIL3	-	SIL3	SIL3
	$i^2t$	Yes	Yes	-	Yes	Yes
	Over Current Protection	Yes	Yes	Yes	Yes	Yes
	Over Speed Protection	Yes	Yes	Yes	Yes	Yes
	Over Voltage Protection	Yes	Yes	Yes	Yes	Yes
	Low Voltage Protection	Yes	Yes	Yes	Yes	Yes
	Reverse Polarity Protection	Yes	Yes (with adapter board)	-	Yes	Yes
	Internal Thermal Protection	Yes	Yes	Yes	Yes	Yes
	External NTC Connection	Yes	Yes	Yes	Yes	Yes
Encoder Fault	Yes	Yes	Yes	Yes	Yes	
Environment Rating	Storage Temperature	-40C to 85C	-40C to 85C	-40C to 85C	-40C to 85C	-40C to 85C
	Operating Temperature	-30C to 50C	-30C to 50C	-30C to 50C	-30C to 50C	-30C to 50C
	Humidity	95% RH Non Condensing				
Dimensions and Weight	Length	-	40 mm	140 mm	105 mm	105 mm
	Width	-	55 mm	175 mm	145 mm	145 mm
	Height	38mm	38 mm	35 mm	57.15 mm	57.15 mm
	Diameter	79.75mm	-	-	-	-
	Weight	68g (2.4oz) [1.5 lb]	157g (5.5 oz) [.35 lb]	320g (11.28oz) [.71lb]	700g (24.7oz) [1.5lb]	700g (24.7oz) [1.5lb]
Agency Approvals	IEC/UL 61800-5-1	Yes	Yes	Yes	Yes	Yes
	IEC/UL 61800-5-2	-	Yes	Yes	Yes	Yes
Programming	Field Programmable Firmware	Yes	Yes	Yes	Yes	Yes
	Nidec Motion PC Tools	Yes	Yes	-	Yes	Yes



**MOTION CONTROL**

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