



ORIENTAL MOTOR U.S.A. Corp.
570 Alaska Avenue
Torrance, CA 90503
1-800-468-3982

Item # BLV640NM100F, 400 W (1/2 HP) Brushless DC Motor Speed Control System



The BLV Series R Type is the replacement Series. This part number has been discontinued. Please contact technical support for the details.

Specifications

Lead Time¹	This product is scheduled to be discontinued, please contact your local sales office for more information.
Return Policy	This product cannot be cancelled or returned once the order has been processed.
Motor Type	Brushless DC Motor
Motor Frame Size	4.09 in.
Output Power	400 W (1/2 HP)
Power Supply	48 VDC
Shaft/Gear Type	Hollow Shaft Flat Gearhead
Gear Ratio (X:1)	100 :1
Output Shaft Diameter	25 mm

Rated Torque	970 lb-in
Electromagnetic Brake	Equipped
Brake Type	Power off activated type, automatically controlled by the driver.
Static Friction Torque	184 oz-in
Variable Speed Range (r/min)	1 ~ 40
Permissible Load Inertia	98000 oz-in ² *When instantaneous stop or instantaneous bi-directional operation is performed = 27000 oz-in ²
Permissible Overhung Load	0.39 in. from gearhead mounting surface = 450 lb 0.79 in. from gearhead mounting surface = 400 lb
Permissible Thrust Load	180 lb
Type	Cable
Speed Control Method (Select one of the following)	Internal potentiometer External DC voltage External potentiometer (20kΩ, 1/4W)
Number of Speed Settings	2 Standard / 8 with MEXE02 Software or OPX-2A Controller
Instantaneous Stop	Yes
Multi-Axes Control	Yes
Alarm Output	Yes
Power Input	DC
Max. Extension Length (m)	3.5
Communication Protocol	Modbus Protocol (Modbus RTU mode)
Electrical Characteristics	Complies with EIA-485 The maximum total length of communication cable is 50 m when using twisted-pair wire (TIA/EIA-568B CAT5e or better recommended)
Transmission/Reception Mode	Half duplex
Baud Rate	625000 bps
Physical Layer	Start-stop synchronization (data: 8 bits, stop bit: 1 bit, parity: none)

Components	BLVD40NM [Driver] BLVM640NM-GFS [Motor] GFS6G100FR [Gearhead]
RoHS Compliant	Yes
Safety Standards	CE
CE Marking	EMC Directives
California Proposition 65	⚠ CA WARNING Cancer risk from exposure to Nickel. See www.P65Warnings.ca.gov Risk of reproductive harm from exposure to Di-n-hexyl phthalate (DnHP). See www.P65Warnings.ca.gov Risk of cancer and reproductive harm from exposure to Di(2-ethylhexyl phthalate (DEHP). See www.P65Warnings.ca.gov See "?" or copy/paste www.P65Warnings.ca.gov in your browser.
Insulation Class	[Motor] EN: Class E [120°C (248°F)]
Insulation Resistance (Motor)	100 MΩ or more when 500 VDC megger is applied between the windings and the frame after continuous operation under normal ambient temperature and humidity.
Insulation Resistance (Driver)	100 M Ω or more when 500 VDC megger is applied between the power supply terminal and heat radiation plate after continuous operation under normal ambient temperature and humidity.
Dielectric Strength (Motor)	Sufficient to withstand 0.5 kVAC at 50Hz applied between the windings and the frame for 1 minute after continuous operation under normal ambient temperature and humidity.
Dielectric Strength (Driver)	Sufficient to withstand 0.5 kVAC at 50Hz applied between the power supply terminal and the heat radiation plate for 1 minute after continuous operation under normal ambient temperature and humidity.
Ambient Temperature Range	0°C ~ +40°C (+32°F ~ +104°F) (nonfreezing)
Ambient Humidity	85% max. (noncondensing)
Operating Atmosphere	No corrosive gases or dust. Cannot be used in radioactive area, magnetic field, vacuum or other special environment.
Degree of Protection	[Motor] IP40 [Driver] IP20
Degree of Protection (Motor)	IP40

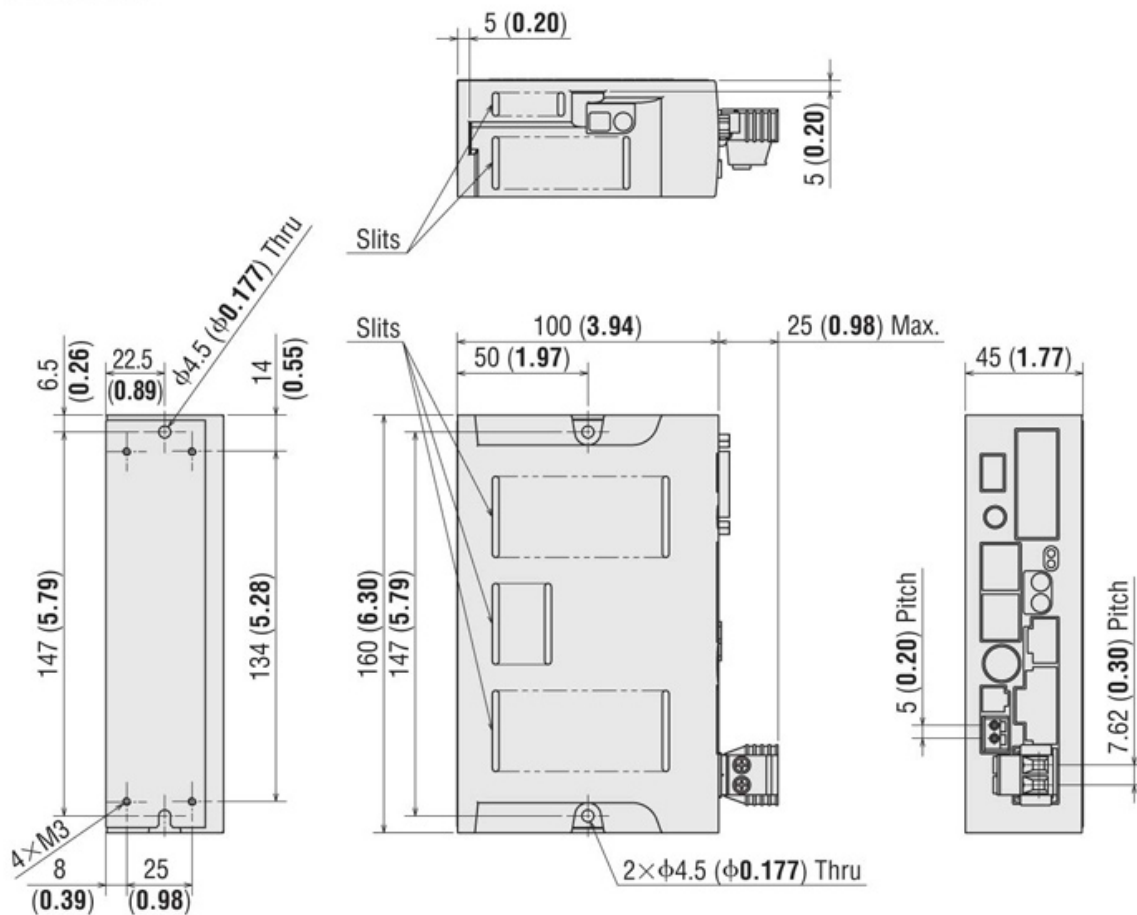
Dimensions

● Driver

BLVD10KM, BLVD20KM, BLVD40NM

Mass: 0.6 kg (1.32 lb.)

DXF A1138



■ Dimensions Unit = mm (in.)

● Mounting screws are included with the combination type.

◆ Motor/Hollow Shaft Flat Gearhead

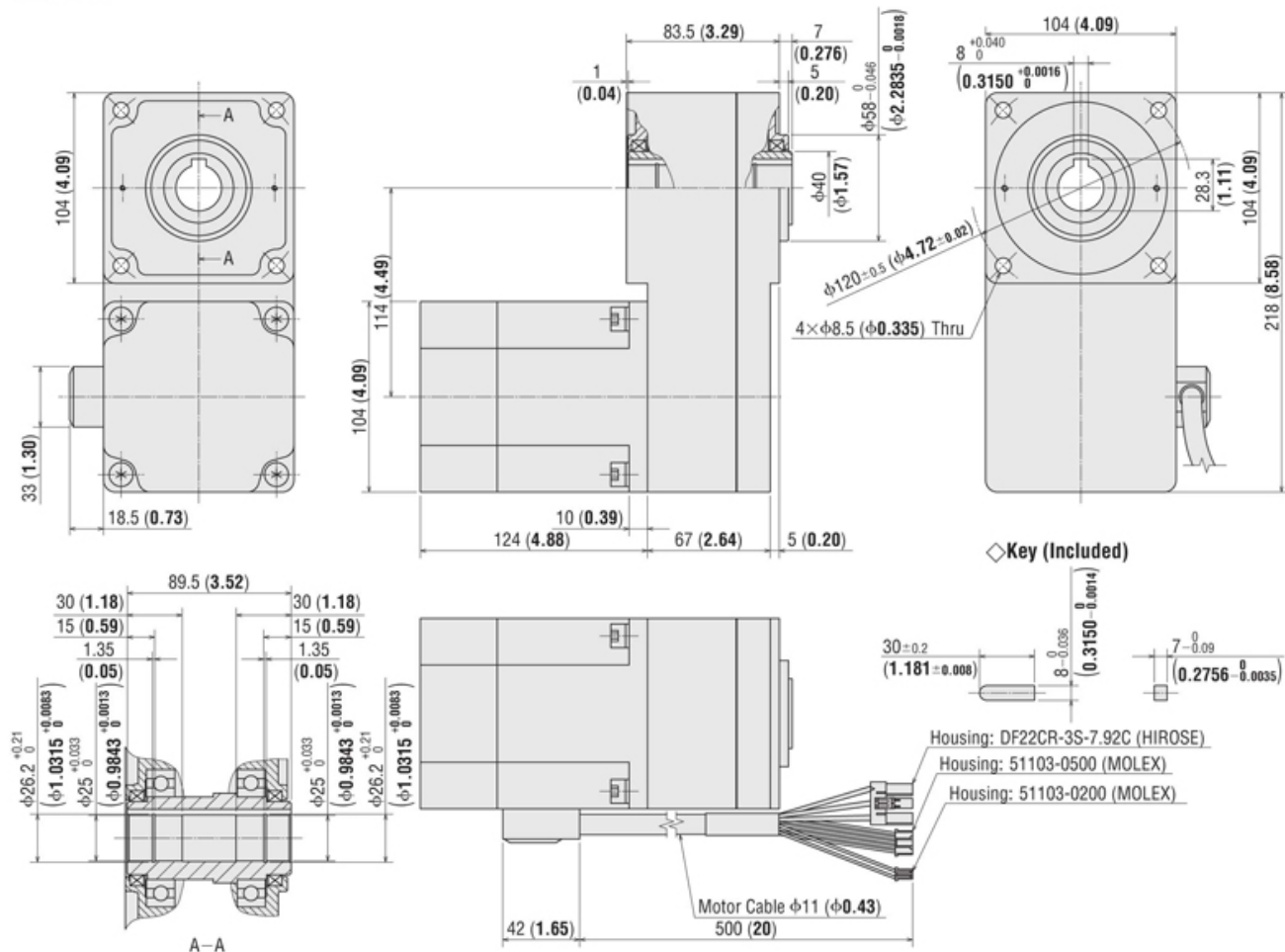
BLV620KM□F-◇, BLV640NM□F-◇

Motor: BLVM620KM-GFS, BLVM640NM-GFS

Gearhead: GFS6G□FR

Mass: 8.2 kg (18.0 lb.) (Including gearhead)

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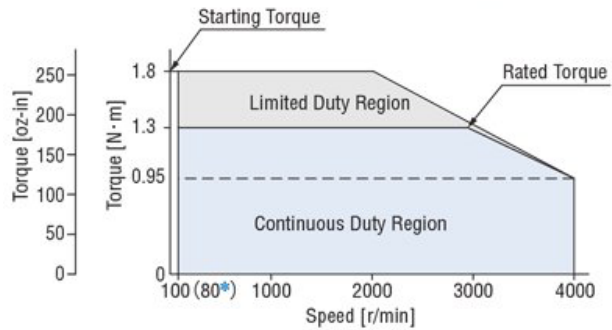
Speed – Torque Characteristics

Continuous Duty Region: Continuous operation is possible in this region.

Limited Duty Region : This region is used primarily when accelerating. When a load that exceeds the rated torque is applied continuously for approximately five seconds, overload protection is activated and the motor coasts to a stop.

BLV640N□S-◇/BLV640N□F-◇/BLV640NA-◇

BLV640NM□S-◇/BLV640NM□F-◇/BLV640NMA-◇



*Values in parentheses indicate specifications that apply when a separately sold control module (**OPX-2A**) or communication is used.

● For the combination types, the values apply to the motor only.

System Configuration

An example of a single-axis system configuration using I/O control is shown below.

*1 Parts sold separately.

