

AC Induction Motors

AC24

Benefits

- Compact (4 kW per liter)
- Lightweight (38 kg)
- Water tight automotive design
- Regenerative braking
- Eliminates need for multi-speed transmission
- “Drop in” integration into vehicle using an AT1200 Gearbox
- Air cooled for simplicity of vehicle design
- Connection of the factory assembled cables to the DMOC controller is fast and easy.

Overview

The Azure Dynamics AC24 is a single output, 43kW peak, 3-phase AC induction motor with 4.5k rpm nominal speed and 12k rpm maximum speed. The AC24 features a splined-shaft designed specifically for use with the Azure Dynamics AT1200 motor reduction gearboxes (sold separately). The AC24 can provide enough torque and power to drive vehicles in the 1,000 to 1,300 kg weight-range, such as a subcompact car.

Applications

- Traction motor for EVs, HEVs, and FCEVs
- Auxiliary drive for large vehicles
- Generator for small hybrid APUs

Features

- High-efficiency brushless design
- Sealed motor casing
- Air cooled
- Compact, lightweight construction
- Low rotating losses
- Low electrical resistance
- Cost effectiveness and high reliability
- When used in conjunction with an Azure Dynamics DMOC, the motor functions as an “electronic transmission,” eliminating the need for a multi-speed gearbox. It also can directly drive a vehicle’s wheels with a fixed ratio.

Connectivity

- Power is connected via factory assembled, three-conductor, shielded, lugged, power cable ready for attachment to DMOC lugs
- Feedback is connected via factory assembled multi-conductor, shielded, cable with DMOC connector attached

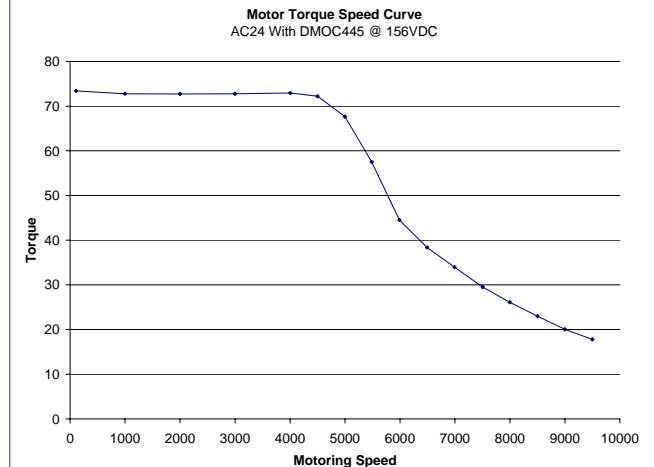
Safety Features

- Motor over-temperature protection
- Over-speed torque limit
- Touch-safe cast aluminum termination box
- PTFE Insulated stator windings

Specifications

Specifications		AC24
Peak Torque	Nm	74
Continuous Torque	Nm	30
Nominal Speed	rpm	4500
Maximum Speed	rpm	12000
Maximum Current	A rms	250
Continuous Power	kW	14
	At a Voltage of Vdc	156
Peak Efficiency	%	83
Peak Electrical Power	kW	43
	At a Voltage of Vdc	156
Maximum Current	A rms	180
	At a Voltage of Vdc	288
Weight	kg	38
Diameter AC24	mm	240
Length AC24	mm	395
Min. Nominal Battery Voltage	Vdc	144
Max. Nominal Battery Voltage	Vdc	336
Min. Operational Voltage	Vdc	120
Max. Operational Voltage	Vdc	400
Min./Max. Operating Temps	°C	-40 to 80

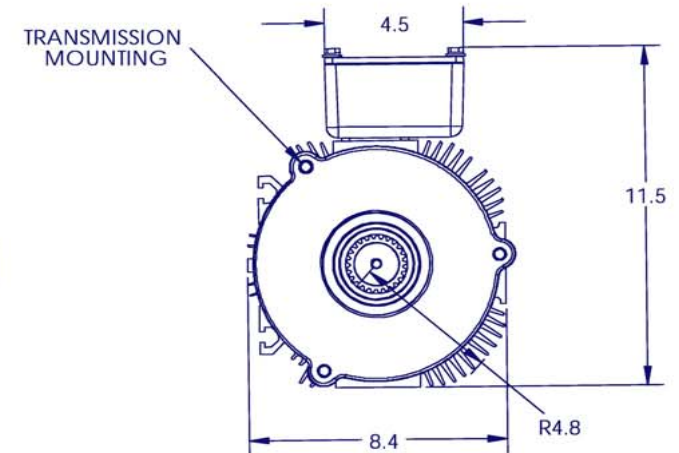
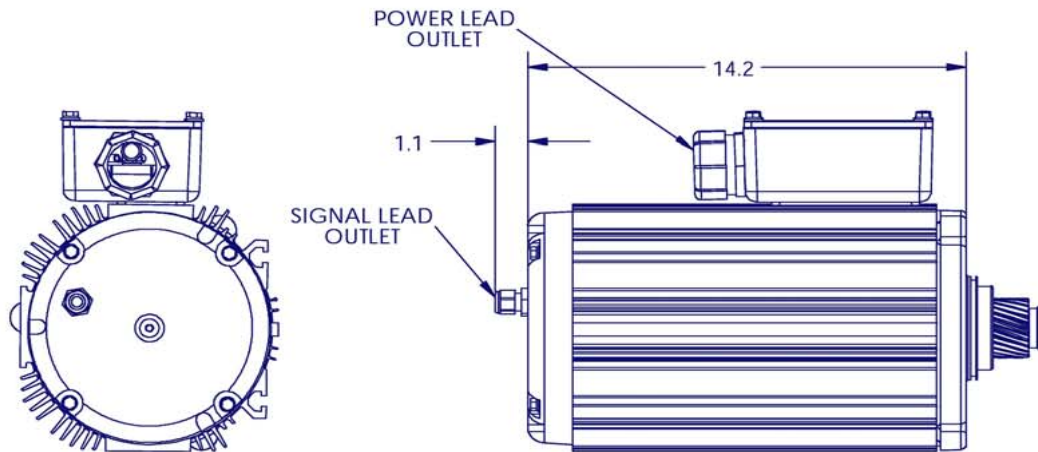
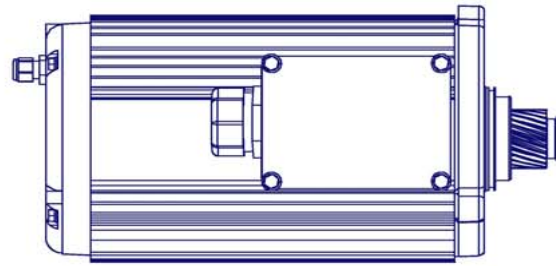
Testing Performed @ 30°C Ambient



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SEE SEPARATE PARTS LIST (BOM)

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
TOLERANCES ARE:

DECIMALS		ANGLES
.X ± .1	.XX ± .01	± 1
.XXX ± .005	.XXXX ± .0010	

MATERIAL:

FINISH:

SCALE:

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FINAL'NG		

Part Name:

AC24 AIR COOLED

Azure Dynamics

9 FORBES ROAD
WOBURN, MA 01801

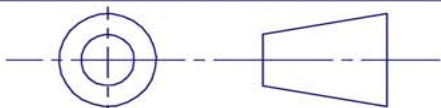
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Reference Workmanship Standard 04-03-07

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Third Angle Projection