



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

Item # ARM98AC-H100, 3.54 in. (90 mm) AR Series Closed Loop Harmonic Gear Stepper Motor (Gear Ratio: 100:1) (AC Input)



αSTEP Hybrid Step-Servo

The AR Series stepper motor adopts our αSTEP technology closed loop control so the motor does not lose synchronism even when subjected to abrupt load fluctuation or acceleration. Requires αSTEP AR Series (AC Input) Driver.

- Driver sold separately
- Designed for continuous operation
- Lower heat generation

- Low vibration
- High response
- No hunting
- No gain tuning

Web Price

\$1,549.00

*Connection Cables required (sold separately)



[Specifications](#) | [Dimensions](#) | [Speed-Torque](#) | [Rotation](#) | [System](#)

Specifications

Lead Time¹

Up to 5 pcs as of 6:30am EST Estimated Ship: 02/19/2026
This Item cannot be cancelled or returned.

Return Policy

This product cannot be cancelled or returned once the order has been processed.

Motor Type

Closed Loop

Frame Size

3.54 in

Motor Length

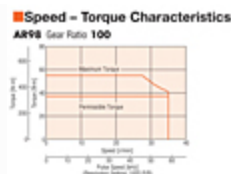
6.44 in.

Driver Voltage Input Power

AC



Speed-Torque Characteristics



Speed - Torque Characteristics

Holding Torque	7788 oz-in
Shaft/Gear Type	Harmonic Gear
Gear Ratio (X:1)	100 :1
Lost Motion	1.5 arc min (max.)
Shaft	Single
Electromagnetic Brake	Not Equipped
Resolution (Resolution Setting: 1000 P/R)	0.0036 °/Pulse
Permissible Speed Range (r/min)	0 ~ 35
Rotor Inertia	7.1 oz-in ²
Stop Position Accuracy	±4 arc minutes (±0.067°)
Shaft Runout	0.05 mm (0.002 in.) T.I.R.
Concentricity	0.075 mm (0.003 in.) T.I.R.
Perpendicularity	0.075 mm (0.003 in.) T.I.R.
Permissible Overhung Load	0 in. from Shaft End = 240 lb 0.2 in. from Shaft End = 250 lb 0.39 in. from Shaft End = 270 lb 0.59 in. from Shaft End = 290 lb 0.79 in. from Shaft End = 310 lb
Permissible Thrust Load	290 lb
RoHS Compliant	These products do not contain substances that exceed the regulation values in the RoHS Directive.
Safety Standards	UL CSA EN CE
CE Marking	Low Voltage Directives EMC Directives
⚠ CA WARNING	

California Proposition 65	<p>Cancer risk from exposure to Nickel. See www.P65Warnings.ca.gov</p> <p>Risk of reproductive harm from exposure to Di-n-hexyl phthalate (DnHP). See www.P65Warnings.ca.gov</p> <p>Risk of cancer and reproductive harm from exposure to Di(2-ethylhexyl phthalate (DEHP). See www.P65Warnings.ca.gov</p> <p>See "?" or copy/paste www.P65Warnings.ca.gov in your browser.</p>
Insulation Class	Class B [130°C (266°F)]
Insulation Resistance	<p>100 MΩ or more when 500 VDC megger is applied between the following places:</p> <p>Case - Motor and sensor windings</p>
Dielectric Strength	<p>Sufficient to withstand the following for 1 minute:</p> <p>Case - Motor and sensor windings 1.5 kVAC 50 Hz or 60 Hz</p>
Ambient Temperature	<p>0 ~ 40°C (32 ~ 104°F) (non-freezing)</p> <p>(when a heat sink of a capacity at least equivalent to an aluminum plate with a size of 9.84 x 9.84 in., 0.24 in. thick is installed.)</p>
Ambient Humidity	85% or less (Non-condensing)
Operating Atmosphere	No corrosive gases, dust water or oil
Degree of Protection	IP65 (excluding the mounting surface and connector)

Dimensions

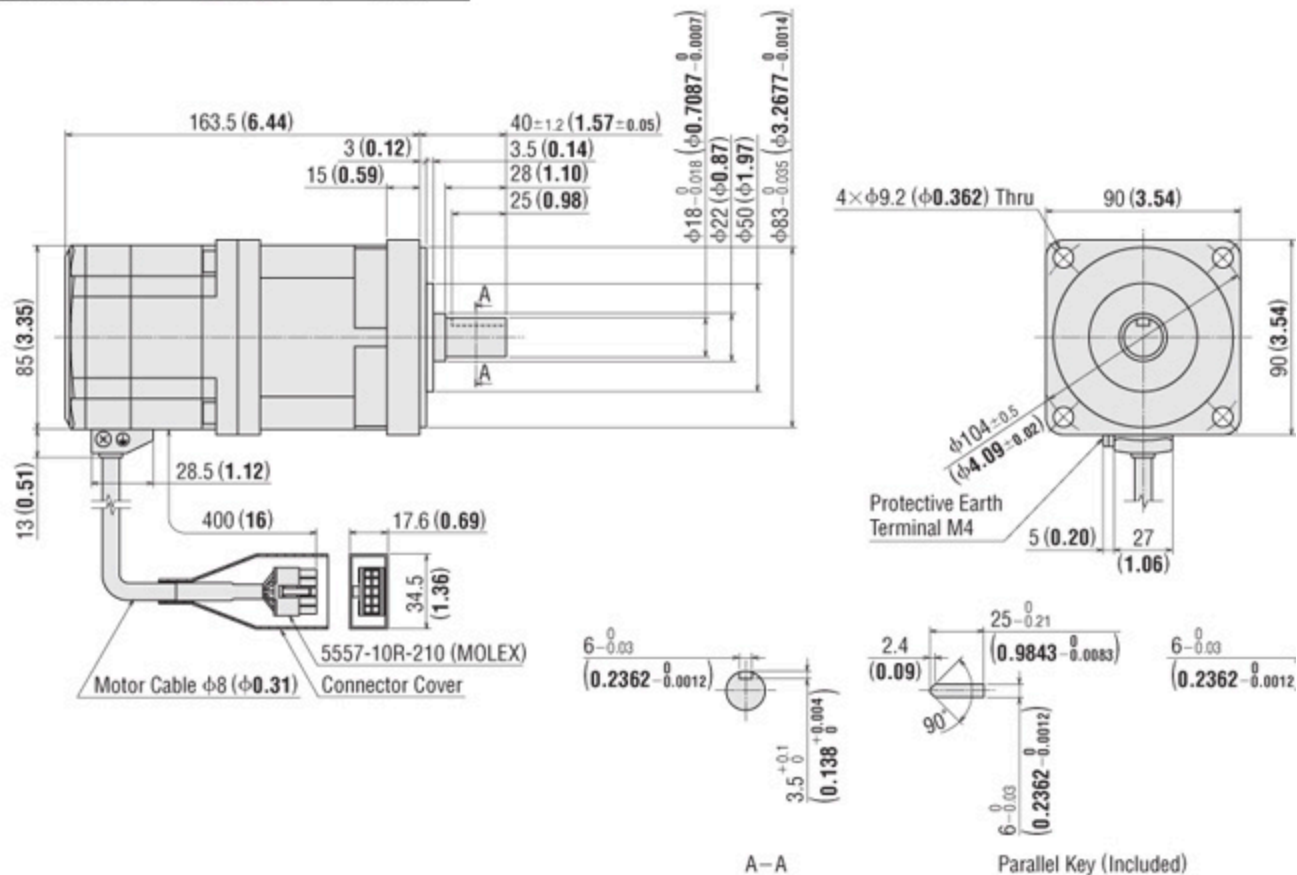
Dimensions Unit = mm (inch)

Motor

Harmonic Geared Type

21 □90 mm (□3.54 in.)

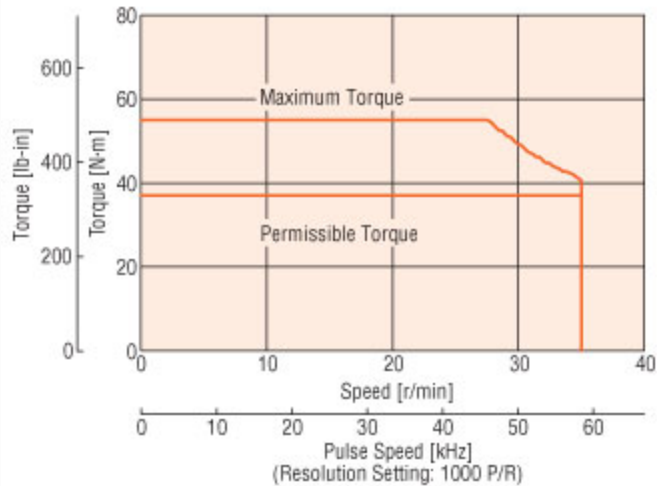
Model	Motor Model	Gear Ratio	Mass kg (lb.)
AR98A-H-3	ARM98AC-H	50, 100	4.0 (8.8)



Speed-Torque

Speed – Torque Characteristics

AR98 Gear Ratio 100



Rotation

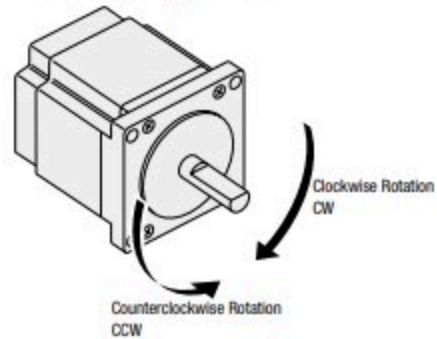
Rotation Direction

This indicates the rotation direction as viewed from the output shaft side of the motor (factory setting).

The rotation direction of the output gear shaft relative to the standard type motor output shaft varies depending on the gear type and gear ratio. Please check the following table.

Type	Gear Ratio	Rotation direction Relative to Motor Output Shaft
TS Geared	3.6, 7.2, 10	Same direction
	20, 30	Opposite direction
SH Geared Frame Size 28 mm (1.10 in.)	7.2, 36	Same direction
	9, 10, 18	Opposite direction
SH Geared Frame Size 42 mm (1.62 in.), 60 mm (2.36 in.)	3.6, 7.2, 9, 10	Same direction
	18, 36	Opposite direction
PS Geared	All gear ratios	Same direction
PLE Geared	All gear ratios	Opposite direction
FC Geared	All gear ratios	Same direction
Harmonic Geared	All gear ratios	Opposite direction

Standard Type Motor

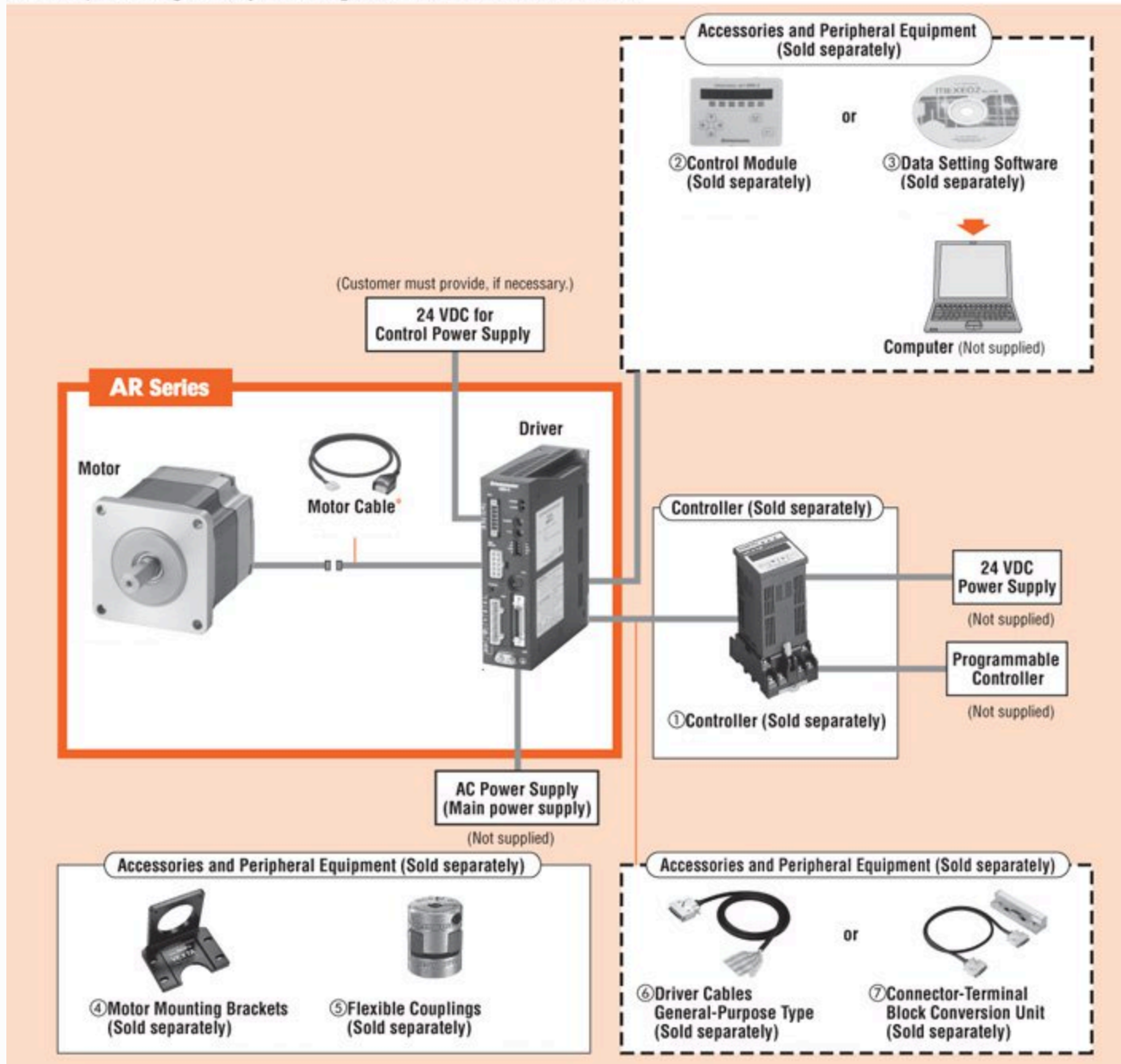


System

System Configuration

Standard Type

An example of a single-axis system configuration with the **SG8030J** controller.



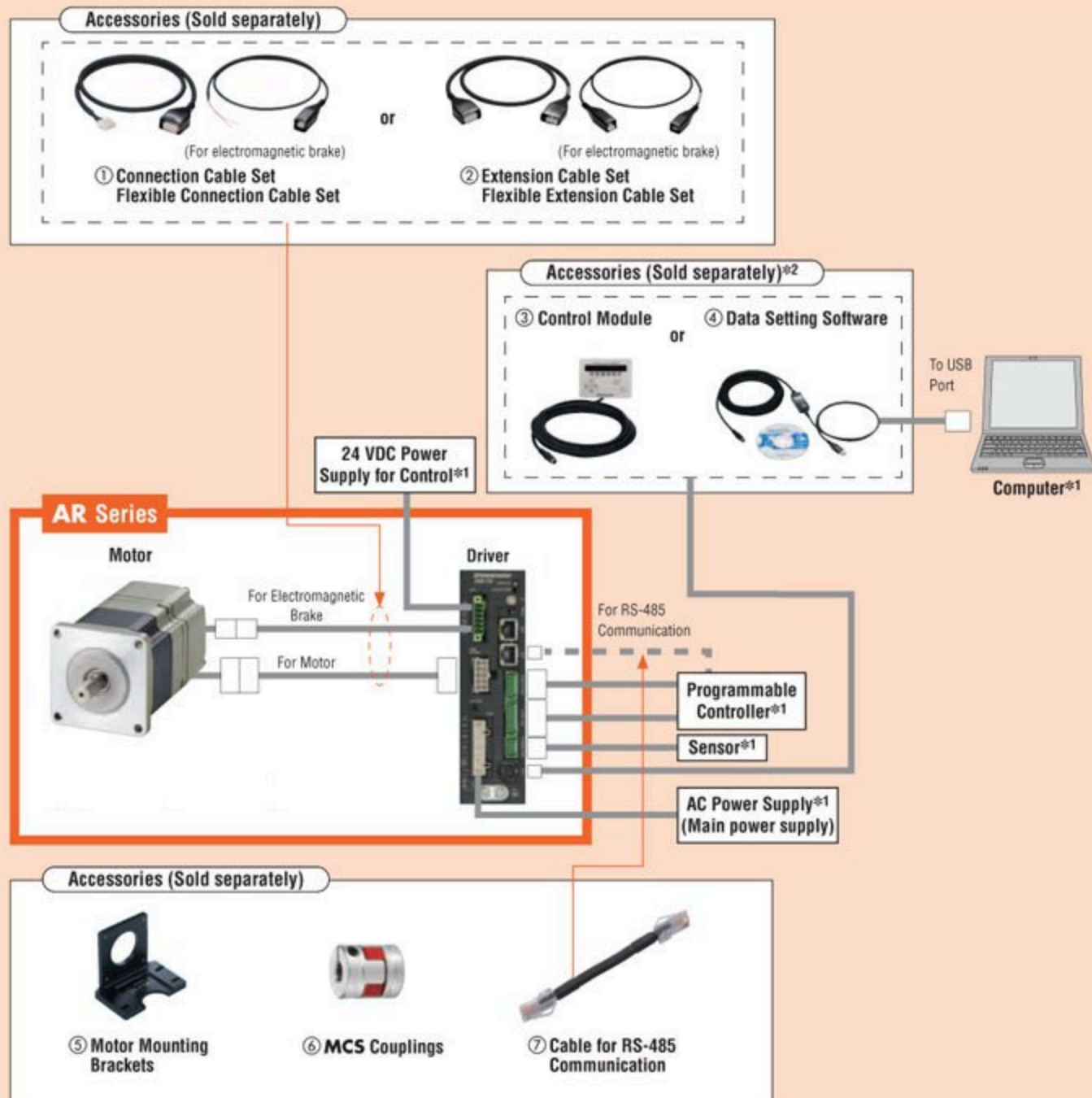
System Configuration

Built-In Controller Package Standard Type with Electromagnetic Brake

An example of a system configuration when used with either I/O control or RS-485 communication.

*1 Not supplied

*2 To be provided as necessary



Number	Name	Overview
①	Connection Cable Sets Flexible Connection Cable Sets	These cable sets are used to connect the motor and driver without using the included cables.
②	Extension Cable Sets Flexible Extension Cable Sets	These cable sets are used to extend the wiring distance between the motor and driver using the included cables.
③	Control Module	This control module lets you set (edit, monitor, operate) various data and enables extended functions. Comes with a communication cable (5 m).
④	Data Setting Software	This data setting software lets you set (edit, monitor, operate) various data and enables extended functions. Comes with a PC interface cable (5 m) and a USB cable (0.5 m).
⑤	Motor Mounting Brackets	Dedicated mounting bracket for the motor.
⑥	MCS Couplings	Coupling that connects the motor shaft to the driven shaft.
⑦	Cable for RS-485 Communication	These cables are used to link drivers when a built-in controller type is being operated in a multi-drop manner.

¹ Quoted Ship Date for orders placed before 12:00 pm PST. Quantities may affect Shipping Date.

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