

## Specifications

Item	Description
<b>Operation mode</b> (fixed according to model No.)	ON-OFF, position proportioning or open/close override function
<b>Input signal</b> (fixed according to model No.)	Relay contact, 4 to 20 mA DC, potentiometer (nominal 135Ω)
<b>Angular stroke</b> (fixed according to model No.)	90° or 160°
<b>Motor timing</b> (for relay contact, standard model)	39/33 s (relay contact, angular stroke 90° motor, no-load, 50/60Hz) 69/58 s (relay contact, angular stroke 160° motor, no-load, 50/60Hz)
<b>Output torque</b>	12.5N·m (high-speed motor type: 6N·m)
<b>Power rated voltage</b> (fixed according to model No.)	24 V AC/100 V AC/200 V AC/85 to 264 V AC, 50/60Hz
<b>Power consumption</b> (during operation)	9 VA (relay contact, potentiometer, 4 to 20 mA types), 11 VA (open/close override, 4 to 20mA, 24 V AC types), 14 W (4 to 20 mA DC, 85 to 264 V AC types), 15 W (open/close override, 4 to 20 mA, 85 to 264 V AC types), 14 VA (high-speed motor type)

Item	Description
<b>Reference operating conditions</b>	23±2°C, 50±10% RH
<b>Allowable temperature</b>	-20 to +60°C
<b>Allowable humidity</b>	5 to 95% RH (without condensation)
<b>Auxiliary switches (optional)</b>	2 or 4
<b>Auxiliary switches contact rating</b>	Standard model: 250 V AC/30 V DC, 100 mA to 5 A Low-current model: 250 V AC/30 V DC, 1 to 100 mA*1
<b>Auxiliary switch position at factory setting</b>	Closed : 9°±5° Open : 81°±5°
<b>Auxiliary switch settable range</b>	Within output opening range of 5 to 95%
<b>Open/close override function</b>	Signals: CCW/CW/CONT/S. No-voltage contact. Contact rating: 30Vdc min., 100mA min. Contact resistance: 10Ω (1mA <sub>dc</sub> )
<b>Protection</b>	Splash-proof structure, IP54 or equivalent
<b>Material</b>	Case: Die-cast aluminum Bracket: Steel Cover: Polycarbonate resin with GF
<b>Mass</b>	Approx. 3kg
<b>Standards compliance</b>	EN55011, EN61000-6-2, UL61010-1, GB30439.8

\*1. For the DC ratings of low-current models, see User's Manual.

## Model Selection Guide

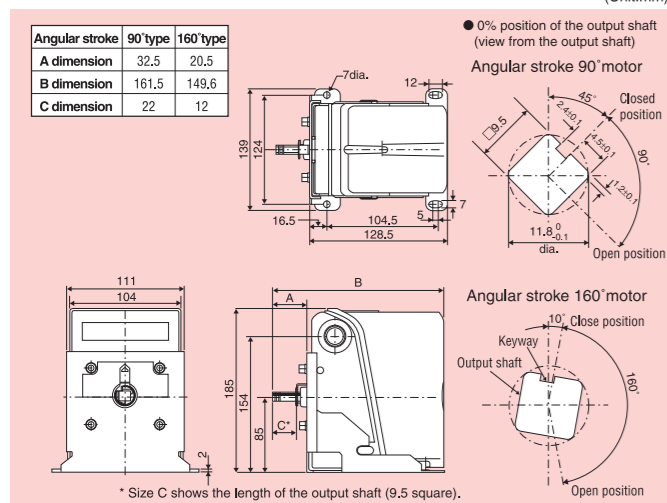
Model No.	Supply power	Input signal	Angle of rotation	Motor timing		Output torque	Notes	UL marking*1*3	CE marking*1						
				50 Hz	60 Hz										
ECM3000D01	24 V AC	Relay contact	90°	39 s	33 s	12.5 N·m	ON/OFF action	✓	✓						
ECM3000D11	100 V AC							—	—						
ECM3000D21	200 V AC							—	—						
ECM3000E01	24 V AC	Potentiometer		90°	39 s	33 s	12.5 N·m	Position proportional action	✓	✓					
ECM3000F01	24 V AC								—	—					
ECM3000F11	100 V AC								—	—					
ECM3000F21	200 V AC	Relay contact	160°		69 s	58 s	12.5 N·m	Position proportional action	✓	✓					
ECM3000G01	24 V AC								—	—					
ECM3000G91	85-264 V AC								—	—					
ECM3000F03	24 V AC	Relay contact		160°	20 s	16 s	6 N·m	Position proportional action (high-speed motor model)	—	✓					
ECM3000D020	24 V AC								Potentiometer	69 s	58 s	12.5 N·m	ON/OFF action	✓	✓
ECM3000E020														—	—
ECM3000F020		—	—												
ECM3000F120	100 V AC	Relay contact	160°		72 s	29 s	6 N·m	Position proportional action (high-speed motor model)	—	—					
ECM3000F220	200 V AC								—	—					
ECM3000G02	24 V AC			—					—						
ECM3000G92	85-264 V AC	4-20 mA DC		160°	72 s	29 s	6 N·m	Position proportional action (high-speed motor model)	—	—					
ECM3000F040	24 V AC								—	—					
ECM3000G04	24 V AC								—	—					

Example: ECM3000D01

- 0 (zero) : not GB-compliant, C: GB-compliant
- 0 (zero) : Without options
- 3 : 4 built-in auxiliary switches (contact current is 100 mA to 5 A for standard model)
- 4 : 2 built-in auxiliary switches (contact current is 100 mA to 5 A for standard model), with forced opening/closing function \*4
- 5 : 4 built-in auxiliary switches (contact current is 1 to 100 mA for low-current model)
- 6 : 2 built-in auxiliary switches (contact current is 1 to 100 mA for low-current model), with forced opening/closing function \*4

- \*1. GB-compliant models are not compliant with UL or CE standards.
- \*2. Direct/reverse operation can be switched and zero point, span, and deadband can be adjusted.
- \*3. UL-compliant models cannot be retrofitted with auxiliary switches after shipment, and auxiliary switches cannot be replaced when they fail. Select models with built-in auxiliary switches as required.
- \*4. Selectable only for model ECM3000G01, ECM3000G91, ECM3000G02, and ECM3000G92.
- \*5. 4 built-in auxiliary switches models can not be selected.

## Dimensions



## Optional parts

Part No.	Name
N-3128	Crank arm
J-26026G-ARM	Damper arm
Q455C, D	Valve linkage
Q605A, D, E	Damper linkage
83165292-001	Bracket for V51E
83174065-	Auxiliary switches (4 switches built-in)*2
83165272-001	Auxiliary potentiometer for 90° type
83165272-002	Auxiliary potentiometer for 160° type

- \*1. Only one type of extension unit can be mounted on a model without internal auxiliary switch.
- \*2. For details, contact the azbil Group.

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**Azbil Corporation**  
 Advanced Automation Company

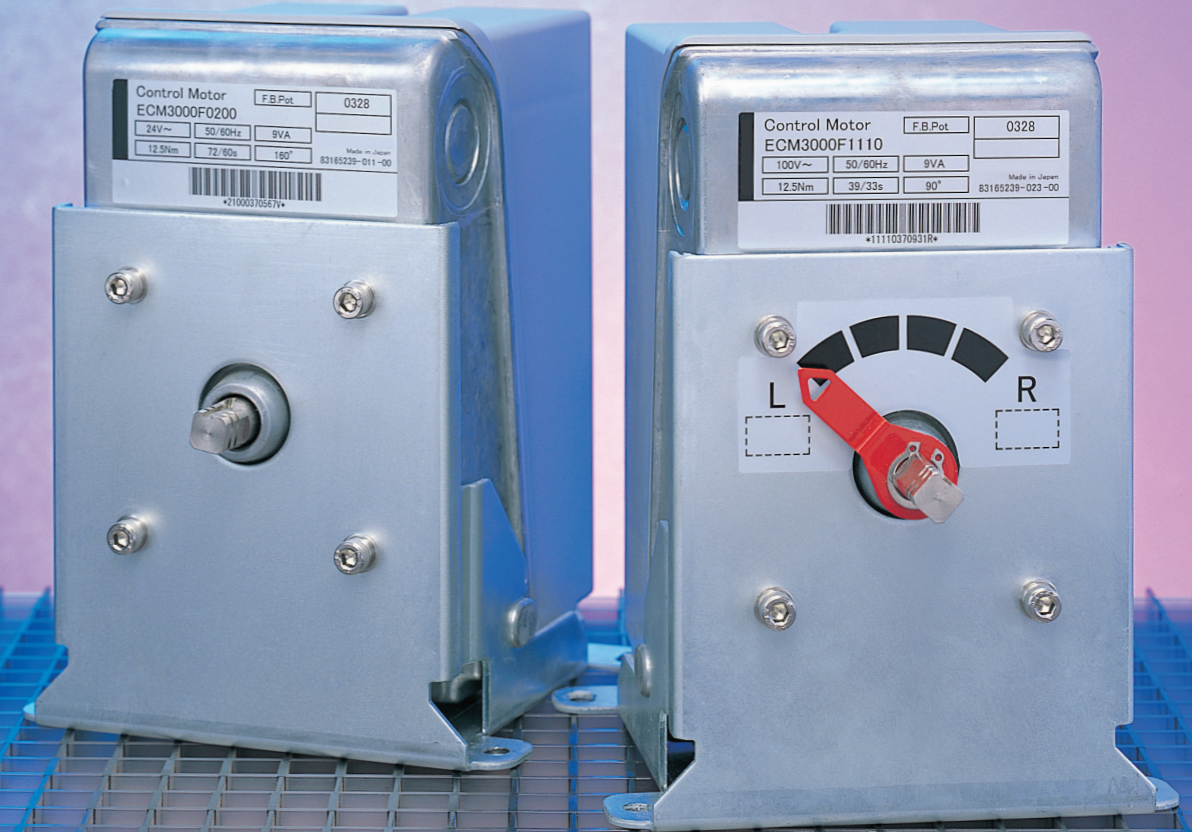
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# azbil

# Electric Control Motor Model ECM3000

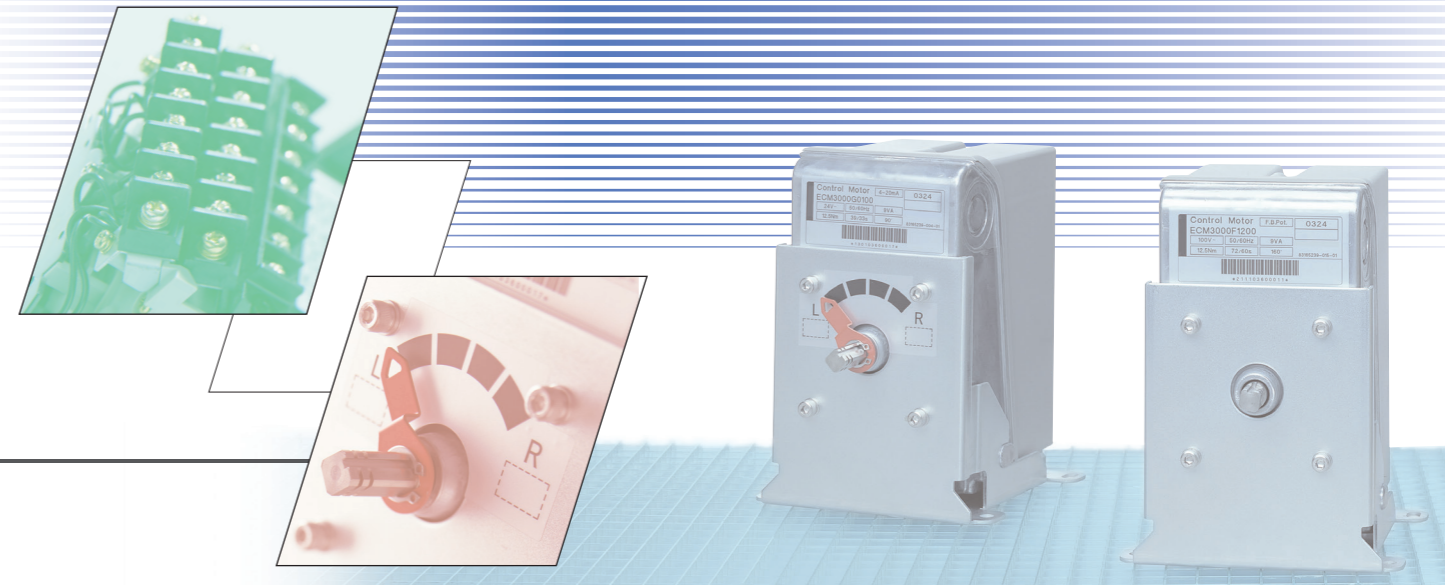
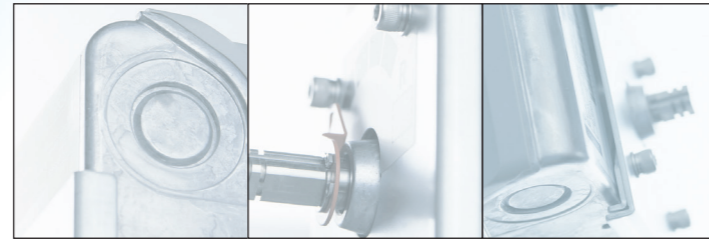
## Versatile Functionality for a Wide Variety of Industrial Applications



Azbil Corporation

# Powerful, Superior Control

## Electric Control Motor Model ECM3000

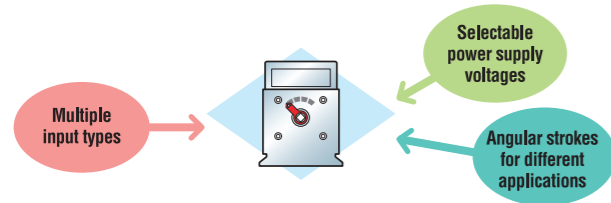


### Advantages

Multiple functions for multiple applications.

#### Wide variety of models

The model ECM3000 provides a wide variety of models for different input signals, power supply voltages, angular strokes, and many other application needs.



#### Easy replacement of Azbil Corporation's previous models

Using the provided bracket, replacement of Azbil Corporation's previous motors with the model ECM3000 is easy.



#### Long-life design

Long-life parts are adopted for various internal components of the motor. This ensures long service and dependability.

**LONG LIFE**



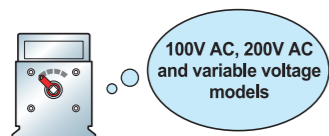
#### Rugged design is superior for tough environments

The protective structure of the model ECM3000 is IP54 or equivalent. It can endure difficult environmental conditions, even splashing water.



#### Models that run on 100V AC, 200V AC and variable voltage are available

The model ECM3000 supports 100V AC and 200V AC power supply voltages. A variable voltage model is also available for the 4–20mA DC type.





#### Model with 4 optional auxiliary switches

Models with 4 auxiliary switches are available for the 90° angular stroke motor model. The valve position signal can be output to an external device. Additionally, for the 4–20mA input type, models with open/close override function plus 2 auxiliary switches are available.



### Selection Guide

A variety of models to meet your application needs.

Appearance	 							
	90° type		160° type		90° type		160° type	
Model No.	ECM3000D		ECM3000E		ECM3000F		ECM3000G	
Input signal	Relay contact		Potentiometer		Relay contact		4 to 20mA DC	
Operation mode	ON-OFF		Position proportioning		Position proportioning		Position proportioning	
Power supply	24V AC		●		●		●	
	100V AC		●		—		—	
	200V AC		●		●		—	
	85 to 264V AC		—		—		●	
Output torque	12.5N·m		12.5N·m		12.5N·m or 6N·m <sup>*1</sup>		12.5N·m	
Angular stroke	90°	160°	90°	160°	90°	160°	90°	160°
Stroke timing (50/60Hz)	39s/33s	69s/58s	39s/33s	69s/58s	39s/33s	69s/58s	39s/33s	69s/58s
	20s/16s <sup>*2</sup>	35s/29s <sup>*2</sup>	39s <sup>*4</sup>	72s <sup>*4</sup>	—	—	—	—
Auxiliary switches (4) <sup>*3</sup>	●	—	●	—	●	—	● <sup>*5</sup>	—

<sup>\*1</sup> See the model selection guide table on the next page.  
<sup>\*2</sup> The torque of the high-speed motor type is 6N·m.  
<sup>\*3</sup> Auxiliary switches (4) are optional.  
<sup>\*4</sup> For the 85 to 264Vac power supply type.  
<sup>\*5</sup> On models with the open/close override function there are 2 auxiliary switches.