

5-Phase Stepper Motor

Ordering Information

Application model: Standard shaft type, Hollow shaft type, Shaft type+Brake built-in type

A		8K	-	M	5	6	6		-		B		
											Brake built-in type		
											No-mark	Standard type	
											B ^{*1}	Brake built-in type	
											Wire connection	No-mark	Pentagon
												S ^{*2}	Standard
											Shaft type	No-mark ^{*1}	Single shaft
											Motor length	W	Dual shaft
												3	30.5mm
												5	46.5mm
												3	33mm
												4	39mm
												5	47mm
												4	48.5mm
												6	59.5mm
												9	89mm
												6	68mm
												9	98mm
												13	128mm
												5	5 phase
												S	0.75 A/Phase
												M	1.4 A/Phase
												G	2.8 A/Phase
												Square	kgf·cm (Refer to motor specifications)
												No-mark	Shaft type
												H	Hollow shaft type
													Autonics motor

※1: Brake built-in type provides single shaft type only.

※2: Standard wiring is optional. (Except □24 motor model, A4K-G564(W), A8K-G566(W))

Application model: Geared built-in type, Geared+Brake built-in type, Rotary actuator type, Rotary actuator+Brake built-in type

A		-	M	5					-					
											Gear ratio			
											5	1 : 5		
											7.2	1 : 7.2		
											10	1 : 10		
											G	Geared built-in type		
											GB ^{*1}	Geared+Brake built-in type		
											R	Rotary actuator type		
											RB ^{*1}	Rotary actuator+Brake built-in type		
											No-mark ^{*1}	Single shaft		
											W	Dual shaft		
											5	47mm		
											6	59.5mm		
											9	98mm		
											4	□42 (42mm×42mm)		
											6	□60 (60mm×60mm)		
											9	□85 (85mm×85mm)		
											5	5 Phase		
											S	0.75 A/Phase		
											M	1.4 A/Phase		
											G	2.8 A/Phase		
											10	10kgf·cm	50	50kgf·cm
											15	15kgf·cm	140	140kgf·cm
											35	35kgf·cm	200	200kgf·cm
											40	40kgf·cm		
														Autonics motor

※1: Brake built-in type provides single shaft type only.

(A) Photoelectric Sensors

(B) Fiber Optic Sensors

(C) Door/Area Sensors

(D) Proximity Sensors

(E) Pressure Sensors

(F) Rotary Encoders

(G) Connectors/ Sockets

(H) Temperature Controllers

(I) SSRs / Power Controllers

(J) Counters

(K) Timers

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(N) Display Units

(O) Sensor Controllers

(P) Switching Mode Power Supplies

(Q) Stepper Motors & Drivers & Controllers

(R) Graphic/ Logic Panels

(S) Field Network Devices

(T) Software

5-Phase Stepper Motor

■ Specifications

Type	Model	Rated current (A/Phase)	Max. holding torque (kgf·cm)	Max. allowable torque (kgf·cm)	Moment of rotor inertia (g·cm ²)	Winding resistance (Ω)	Motor length (mm)	
□24	Standard shaft type	02K-S523 (W)	0.75	0.18	—	4.2	30.5	
		04K-S525 (W)	0.75	0.28	—	8.2	46.5	
□42	Standard shaft type / Shaft + Brake built-in type	A1K-S543 (W)-B	0.75	1.3	—	35	33/56	
		A2K-S544 (W)-B	0.75	1.8	—	54	39/62	
		A2K-M544 (W)	1.4	1.8	—	54	39	
		A3K-S545 (W)-B	0.75	2.4	—	68	47/70	
	Hollow shaft type	AH1K-S543	0.75	1.3	—	35	1.7	33
		AH2K-S544	0.75	1.8	—	54	2.2	39
		AH3K-S545	0.75	2.4	—	68	2.2	47
	Geared built-in type	A10K-S545 (W)-G5	0.75	—	10	68	2.2	74.5
		A15K-S545 (W)-G7.2	0.75	—	15	68	2.2	74.5
		A15K-S545 (W)-G10	0.75	—	15	68	2.2	74.5
	Geared + Brake built-in type	A10K-S545-GB5	0.75	—	10	68	2.2	97.5
		A15K-S545-GB7.2	0.75	—	15	68	2.2	97.5
A15K-S545-GB10		0.75	—	15	68	2.2	97.5	
□60	Standard shaft type / Shaft + Brake built-in type	A4K-S564 (W)-B	0.75	4.2	—	175	2.6	48.5/75
		A4K-M564 (W)-B	1.4	4.2	—	175	0.8	48.5/75
		A4K-G564 (W)	2.8	4.2	—	175	0.26	48.5
		A8K-S566 (W)-B	0.75	8.3	—	280	4.0	59.5/86
		A8K-M566 (W)-B	1.4	8.3	—	280	1.1	59.5/86
		A8K-G566 (W)	2.8	8.3	—	280	0.35	59.5
		A16K-M569 (W)-B	1.4	16.6	—	560	1.8	89/115.5
		A16K-G569 (W)-B	2.8	16.6	—	560	0.56	89/115.5
	Hollow shaft type	AH4K-S564 (W)	0.75	4.2	—	175	2.6	48.5
		AH4K-M564 (W)	1.4	4.2	—	175	0.8	48.5
		AH8K-S566 (W)	0.75	8.3	—	280	4.0	59.5
		AH8K-M566 (W)	1.4	8.3	—	280	1.1	59.5
		AH16K-M569 (W)	1.4	16.6	—	560	1.8	89
		AH16K-G569 (W)	2.8	16.6	—	560	0.56	89
	Geared built-in type	A35K-M566 (W)-G5	1.4	—	35	280	1.1	94.5
		A40K-M566 (W)-G7.2	1.4	—	40	280	1.1	94.5
		A50K-M566 (W)-G10	1.4	—	50	280	1.1	94.5
	Geared + Brake built-in type	A35K-M566-GB5	1.4	—	35	280	1.1	121
		A40K-M566-GB7.2	1.4	—	40	280	1.1	121
		A50K-M566-GB10	1.4	—	50	280	1.1	121
	Rotary actuator type	A35K-M566 (W)-R5	1.4	—	35	280	1.1	93.5
		A40K-M566 (W)-R7.2	1.4	—	40	280	1.1	93.5
		A50K-M566 (W)-R10	1.4	—	50	280	1.1	93.5
	Rotary actuator + Brake built-in type	A35K-M566-RB5	1.4	—	35	280	1.1	120
A40K-M566-RB7.2		1.4	—	40	280	1.1	120	
A50K-M566-RB10		1.4	—	50	280	1.1	120	
□85	Standard shaft type / Shaft + Brake built-in type	A21K-M596 (W)-B	1.4	21	—	1400	1.76	68/103
		A21K-G596 (W)-B	2.8	21	—	1400	0.4	68/103
		A41K-M599 (W)-B	1.4	41	—	2700	2.6	98/133
		A41K-G599 (W)-B	2.8	41	—	2700	0.58	98/133
		A63K-M5913 (W)-B	1.4	63	—	4000	3.92	128/163
		A63K-G5913 (W)-B	2.8	63	—	4000	0.86	128/163
	Hollow shaft type	AH21K-M596 (W)	1.4	21	—	1400	1.76	68
		AH21K-G596 (W)	2.8	21	—	1400	0.4	68
		AH41K-M599 (W)	1.4	41	—	2700	2.6	98
		AH41K-G599 (W)	2.8	41	—	2700	0.58	98
		AH63K-M5913 (W)	1.4	63	—	4000	3.92	128
		AH63K-G5913 (W)	2.8	63	—	4000	0.86	128
	Geared built-in type	A140K-M599 (W)-G5	1.4	—	140	2700	2.6	145
		A140K-G599 (W)-G5	2.8	—	140	2700	0.58	145
		A200K-M599 (W)-G7.2	1.4	—	200	2700	2.6	145
		A200K-G599 (W)-G7.2	2.8	—	200	2700	0.58	145
		A200K-M599 (W)-G10	1.4	—	200	2700	2.6	145
		A200K-G599 (W)-G10	2.8	—	200	2700	0.58	145
	Geared + Brake built-in type	A140K-M599-GB5	1.4	—	140	2700	2.6	180
		A140K-G599-GB5	2.8	—	140	2700	0.58	180
		A200K-M599-GB7.2	1.4	—	200	2700	2.6	180
		A200K-G599-GB7.2	2.8	—	200	2700	0.58	180
		A200K-M599-GB10	1.4	—	200	2700	2.6	180
		A200K-G599-GB10	2.8	—	200	2700	0.58	180

※(W) stands for dual shaft of motor. (The brake built-in type provides single shaft type only)

※Motor length is measured without shaft.

※Hollow shaft type with standard wiring is Optional. (Except for □24)

5-Phase Stepper Motor

■ Specifications

● □24

Model	02K-S523 (W)	04K-S525 (W)
Max. Holding torque	0.18kgf·cm (0.018N·m)	0.28kgf·cm (0.027N·m)
Rotor moment of inertia	4.2g·cm ² (4.2×10 ⁻⁷ kg·m ²)	8.2g·cm ² (8.2×10 ⁻⁷ kg·m ²)
Rated current	0.75A/Phase	
Standard step angle	0.72°/ 0.36° (Full/Half step)	
Insulation class	B type (130°C)	
Insulation resistance	Over. 100MΩ (at 500VDC megger) between motor coil-case	
Dielectric strength	0.5kVAC 50/60Hz for 1minute between Motor coil-case	
Environment	Ambient temperature	-10 to 50°C, storage: -25 to 85°C
	Ambient humidity	35 to 85%RH, storage: 35 to 85%RH
Protection structure	IP30 (IEC34-5 standard)	
Weight ^{※1}	Approx. 0.10kg (approx. 0.08kg)	Approx. 0.16kg (approx. 0.12kg)
Reference	Q-32 to 35	

※1: The weight includes packaging. The weight in parentheses is for unit only.

※Environment resistance is rated at no freezing or condensation.

● □42

Model	Standard shaft type	A1K-S543 (W)	A2K-S544 (W)	A2K-M544 (W)	A3K-S545 (W)	—	—	—
	Hollow shaft type	AH1K-S543	AH2K-S544	—	AH3K-S545	—	—	—
	Shaft type + Brake built-in type	A1K-S543-B	A2K-S544-B	—	A3K-S545-B	—	—	—
	Shaft type+ Geared built-in type	—	—	—	—	A10K-S545 (W)-G5	A15K-S545 (W)-G7.2	A15K-S545 (W)-G10
	Geared + Brake built-in type	—	—	—	—	A10K-S545-GB5	A15K-S545-GB7.2	A15K-S545-GB10
	Max. allowable torque	—	—	—	—	10kgf·cm (1.0 N·m)	15kgf·cm (1.5 N·m)	15kgf·cm (1.5 N·m)
Max. Holding torque	1.3kgf·cm (0.13 N·m)	1.8kgf·cm (0.18 N·m)	—	2.4kgf·cm (0.24 N·m)	—	—	—	
Rotor moment of inertia	35g·cm ² (35×10 ⁻⁷ kg·m ²)	54g·cm ² (54×10 ⁻⁷ kg·m ²)	—	68g·cm ² (68×10 ⁻⁷ kg·m ²)	68g·cm ² (68×10 ⁻⁷ kg·m ²)	—	—	
Rated current	0.75A/Phase		1.4A/Phase	0.75A/Phase		—	—	
Standard step angle	0.72°/ 0.36° (Full/Half step)				0.144°/ 0.072° (Full/Half step)	0.1°/ 0.05° (Full/Half step)	0.072°/ 0.036° (Full/Half step)	
Gear ratio	—				1:5	1: 7.2	1:10	
Allowable speed range	—				0 to 360rpm	0 to 250rpm	0 to 180rpm	
Backlash[min]	—				±35' (0.58°)			
Electromagnetic brake	Rated excitation voltage	24VDC ±10% (non-polarity)						
	Rated excitation current	0.2A						
	Static friction torque	1.8kgf·cm						
	Rotation part inertia moment	3.0×10 ⁻⁷ kg·cm ²						
	Operating time	Max. 25ms						
	Releasing time	Max. 15ms						
Insulation class	B type (130°C)							
Insulation resistance	Over. 100MΩ (at 500VDC megger) between motor coil-case							
Dielectric strength	1kVAC (at 0.75 A/Phase is 0.5kVAC) 50/60Hz for 1minute between Motor coil-case							
Environment	Ambient temperature	-10 to 50°C, storage: -25 to 85°C						
	Ambient humidity	35 to 85%RH, storage: 35 to 85%RH						
Protection structure	IP30 (IEC34-5 standard)							
Weight ^{※1}	Standard shaft type: Approx. 0.34kg (approx. 0.25kg), Hollow shaft type: Approx. 0.35kg (approx. 0.25kg), Brake built-in type: Approx. 0.44kg (approx. 0.39kg)	Standard shaft type: Approx. 0.39kg (approx. 0.3kg), Hollow shaft type: Approx. 0.4kg (approx. 0.3kg), Brake built-in type: Approx. 0.49kg (approx. 0.44kg)	—	Standard shaft type: Approx. 0.49kg (approx. 0.4kg) Hollow shaft type: Approx. 0.5kg (approx. 0.4kg), Brake built-in type: Approx. 0.59kg (approx. 0.54kg)	Geared built-in type: Approx. 0.68kg (approx. 0.58kg), Geared +Brake built-in type: Approx. 0.78kg (approx. 0.72kg)			
	Reference	Q-32 to 42						

※1: The weight includes packaging. The weight in parentheses is for unit only.

※Environment resistance is rated at no freezing or condensation.

(A) Photoelectric Sensors

(B) Fiber Optic Sensors

(C) Door/Area Sensors

(D) Proximity Sensors

(E) Pressure Sensors

(F) Rotary Encoders

(G) Connectors/ Sockets

(H) Temperature Controllers

(I) SSRs / Power Controllers

(J) Counters

(K) Timers

(L) Panel Meters

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(N) Display Units

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(P) Switching Mode Power Supplies

(Q) Stepper Motors & Drivers & Controllers

(R) Graphic/ Logic Panels

(S) Field Network Devices

(T) Software

5-Phase Stepper Motor

■ Specifications

● □60

Model	Standard shaft type	A4K-S564 (W)	A4K-M564 (W)	A4K-G564 (W)	A8K-S566 (W)	A8K-M566 (W)	A8K-G566 (W)	A16K-M569 (W)	A16K-G569 (W)	
	Hollow shaft type	AH4K-S564 (W)	AH4K-M564 (W)	—	AH8K-S566 (W)	AH8K-M566 (W)	—	AH16K-M569 (W)	AH16K-G569 (W)	
	Shaft type+ Brake built-in type	A4K-S564-B	A4K-M564-B	—	A8K-S566-B	A8K-M566-B	—	A16K-M569-B	A16K-G569-B	
	Max. Holding torque	4.2kgf·cm (0.41N·m)			8.3kgf·cm (0.81N·m)			16.6kgf·cm (1.63N·m)		
	Rotor moment of inertia	175g·cm ² (175×10 ⁻⁷ kg·m ²)			280g·cm ² (280×10 ⁻⁷ kg·m ²)			560g·cm ² (560×10 ⁻⁷ kg·m ²)		
	Rated current	0.75A/Phase	1.4A/Phase	2.8A/Phase	0.75A/Phase	1.4A/Phase	2.8A/Phase	1.4A/Phase	2.8A/Phase	
	Standard step angle	0.72°/0.36° (Full/Half step)								
Electromagnetic brake	Rated excitation voltage	24VDC ±10% (non-polarity)								
	Rated excitation current	0.33A								
	Static friction torque	8kgf·cm								
	Rotation part inertia moment	29×10 ⁻⁷ kg·cm ²								
	Operating time	Max. 25ms								
	Releasing time	Max. 20ms								
	Insulation class	B type (130°C)								
	Insulation resistance	Over. 100MΩ (at 500VDC megger) between motor coil-case								
	Dielectric strength	1kVAC (at 0.75 A/Phase is 0.5kVAC) 50/60Hz for 1minute between Motor coil-case								
Environment	Ambient temperature	-10 to 50°C, storage: -25 to 85°C								
	Ambient humidity	35 to 85%RH, storage: 35 to 85%RH								
	Protection structure	IP30 (IEC34-5 standard)								
Weight ^{※1}		Standard type: Approx. 0.85kg (approx. 0.6kg), Hollow shaft type: Approx. 0.87kg (approx. 0.6kg), Brake built-in type: Approx. 1.03kg (approx. 0.95kg)			Standard type: Approx. 1.05kg (approx. 0.8kg), Hollow shaft type: Approx. 1.07kg (approx. 0.8kg), Brake built-in type: Approx. 1.33kg (approx. 1.25kg)			Standard type: Approx. 1.55kg (approx. 1.3kg), Hollow shaft type: Approx. 1.57kg (approx. 1.3kg), Brake built-in type: Approx. 1.73kg (approx. 1.65kg)		
		Reference								
		Q-32 to 38								

※1: The weight includes packaging. The weight in parentheses is for unit only.

※Environment resistance is rated at no freezing or condensation.

● □60

Model	Shaft type+ Geared built-in type	A35K-M566 (W)-G5	A40K-M566 (W)-G7.2	A50K-M566 (W)-G10
	Geared type+ Brake built-in type	A35K-M566-GB5	A40K-M566-GB7.2	A50K-M566-GB10
	Rotary actuator type	A35K-M566 (W)-R5	A40K-M566 (W)-R7.2	A50K-M566 (W)-R10
	Rotary actuator+ Brake built-in type	A35K-M566-RB5	A40K-M566-RB7.2	A50K-M566-RB10
	Max. Holding torque	35kgf·cm (3.4N·m)	40kgf·cm (3.9N·m)	50kgf·cm (4.9N·m)
	Rotor moment of inertia	280g·cm ² (280×10 ⁻⁷ kg·m ²)		
	Rated current	1.4A/Phase		
	Standard step angle	0.144°/0.072° (Full/Half step)	0.1°/0.05° (Full/Half step)	0.072°/0.036° (Full/Half step)
	Gear ratio	1:5	1:7.2	1:10
	Allowable speed range	0 to 360rpm	0 to 250rpm	0 to 180rpm
	Backlash[min]	±20' (0.33°)		
Electromagnetic brake	Rated excitation voltage	24VDC ±10% (non-polarity)		
	Rated excitation current	0.33A		
	Static friction torque	Min. 8kgf·cm		
	Rotation part inertia moment	2.9×10 ⁻⁶ kgf·cm ²		
	Operating time	Max. 20ms		
	Releasing time	Max. 25ms		
	Absolute position error ^{※1}	±20 minute (0.33°)		
	Lost motion ^{※1}	±20 minute (0.33°)		
	Insulation class	B type (130°C)		
	Insulation resistance	Over. 100MΩ (at 500VDC megger) between motor coil-case		
	Dielectric strength	1kVAC 50/60Hz for 1minute between Motor coil-case		
Environment	Ambient temperature	-10 to 50°C, storage: -25 to 85°C		
	Ambient humidity	35 to 85%RH, storage: 35 to 85%RH		
	Protection structure	IP30 (IEC34-5 standard)		
	Weight ^{※2}	Geared built-in type: Approx. 1.57kg (approx. 1.3kg), Geared+Brake built-in type: Approx. 1.65kg (approx. 1.57kg), Rotary actuator type: Approx. 1.4kg (approx. 1.3kg), Rotary actuator+Brake built-in type: Approx. 1.7kg (approx.1.6kg)		
	Reference	Q-39 to 42		

※1: It is only available for rotary actuator type.

※2: The weight includes packaging. The weight in parentheses is for unit only.

※Environment resistance is rated at no freezing or condensation.

5-Phase Stepper Motor

Specifications

● 85

Model	Standard shaft type	A21K-M596 (W)	A21K-G596 (W)	A41K-M599 (W)	A41K-G599 (W)	A63K-M5913 (W)	A63K-G5913 (W)
	Hollow shaft type	AH21K-M596 (W)	AH21K-G596 (W)	AH41K-M599 (W)	AH41K-G599 (W)	AH63K-M5913 (W)	AH63K-G5913 (W)
	Shaft type+ Brake built-in type	A21K-M596-B	A21K-G596-B	A41K-M599-B	A41K-G599-B	A63K-M5913-B	A63K-G5913-B
Max. Holding torque		21kgf·cm (2.1N·m)		41kgf·cm (4.0N·m)		63kgf·cm (6.2N·m)	
Rotor moment of inertia		1400g·cm ² (1400×10 ⁻⁷ kg·m ²)		2700g·cm ² (2700×10 ⁻⁷ kg·m ²)		4000g·cm ² (4000×10 ⁻⁷ kg·m ²)	
Rated current		1.4A/Phase	2.8A/Phase	1.4A/Phase	2.8A/Phase	1.4A/Phase	2.8A/Phase
Standard step angle		0.72°/ 0.36° (Full/Half step)					
Electromagnetic brake	Rated excitation voltage	24VDC ±10% (non-polarity)					
	Rated excitation current	0.62A					
	Static friction torque	40kgf·cm					
	Rotation part inertia moment	153×10 ⁻⁷ kg·cm ²					
	Operating time	Max. 60ms					
Releasing time	Max. 15ms						
Insulation class		B type (130°C)					
Insulation resistance		Over. 100MΩ (at 500VDC megger) between motor coil-case					
Dielectric strength		1kVAC 50/60Hz for 1minute between Motor coil-case					
Environ- ment	Ambient temperature	-10 to 50°C, storage: -25 to 85°C					
	Ambient humidity	35 to 85%RH, storage: 35 to 85%RH					
Protection structure		IP30 (IEC34-5 standard)					
Weight ^{*1}		Standard shaft type: Approx. 2.15kg (approx. 1.7kg), Hollow shaft type: Approx. 2.18kg (approx. 1.7kg), Brake built-in type: Approx. 2.74kg (approx. 2.64kg)		Standard shaft type: Approx. 3.25kg (approx. 2.8kg), Hollow shaft type: Approx. 3.28kg (approx. 2.8kg), Brake built-in type: Approx. 3.84kg (approx. 3.74kg)		Standard shaft type: Approx. 4.25kg (approx. 3.8kg), Hollow shaft type: Approx. 4.28kg (approx. 3.8kg), Brake built-in type: Approx. 4.84kg (approx. 4.74kg)	
Reference		Q-32 to 38					

*1: The weight includes packaging. The weight in parentheses is for unit only.

※Environment resistance is rated at no freezing or condensation.

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Model	Shaft type+ Geared built-in type	A140K-M599 (W)-G5	A140K-G599 (W)-G5	A200K-M599 (W)-G7.2	A200K-G599 (W)-G7.2	A200K-M599 (W)-G10	A200K-G599 (W)-G10
	Geared+ Brake built-in type	A140K-M599-GB5	A140K-G599-GB5	A200K-M599-GB7.2	A200K-G599-GB7.2	A200K-M599-GB10	A200K-G599-GB10
Max. Holding torque		140kgf·cm (13.7N·m)		200kgf·cm (19.6N·m)		200kgf·cm (19.6N·m)	
Rotor moment of inertia		2700g·cm ² (270×10 ⁻⁷ kg·m ²)					
Rated current		1.4A/Phase	2.8A/Phase	1.4A/Phase	2.8A/Phase	1.4A/Phase	2.8A/Phase
Standard step angle		0.144°/ 0.072° (Full/Half step)		0.1°/ 0.05° (Full/Half step)		0.072°/ 0.036° (Full/Half step)	
Gear ratio		1:5		1: 7.2		1:10	
Allowable speed range		0 to 360rpm		0 to 250rpm		0 to 180rpm	
Backlash[min]		±15' (0.25°)					
Electromagnetic brake	Rated excitation voltage	24VDC ±10% (non-polarity)					
	Rated excitation current	0.62A					
	Static friction torque	40kgf·cm					
	Rotation part inertia moment	15.3×10 ⁻⁶ kgf·cm ²					
	Operating time	Max. 15ms					
Releasing time	Max. 60ms						
Insulation class		B type (130°C)					
Insulation resistance		Over. 100MΩ (at 500VDC megger) between motor coil-case					
Dielectric strength		1kVAC 50/60Hz for 1minute between Motor coil-case					
Environ- ment	Ambient temperature	-10 to 50°C, storage: -25 to 85°C					
	Ambient humidity	35 to 85%RH, storage: 35 to 85%RH					
Protection structure		IP30 (IEC34-5 standard)					
Weight ^{*1}		Geared built-in type: Approx. 4.88kg (approx. 4.4kg), Geared+Brake built-in type: Approx. 5.5kg (approx. 5.2kg)					
Reference		Q-39 to 42					

*1: The weight includes packaging. The weight in parentheses is for unit only.

※Environment resistance is rated at no freezing or condensation.

(A) Photoelectric Sensors

(B) Fiber Optic Sensors

(C) Door/Area Sensors

(D) Proximity Sensors

(E) Pressure Sensors

(F) Rotary Encoders

(G) Connectors/ Sockets

(H) Temperature Controllers

(I) SSRs / Power Controllers

(J) Counters

(K) Timers

(L) Panel Meters

(M) Tacho / Speed / Pulse Meters

(N) Display Units

(O) Sensor Controllers

(P) Switching Mode Power Supplies

(Q) Stepper Motors & Drivers & Controllers

(R) Graphic/ Logic Panels

(S) Field Network Devices

(T) Software