Electric Actuator HQ Series

HQ Series







PERFORMANCE

TYPE (MODEL)	Maximum output torque	Operating time(sec.) 60/50Hz	Maximum bore size	Motor class F Model & frame size	Rated current(A) 60Hz				Duty cycle IEC 34-1	Number of handle turn	Weight
					1 Phase		3 Phase				
	Kg-m	90°	mm	M * F	110V	220V	380V	440V	S4(%)	N	Kg
HQ-008	8	13/16	ϕ20	15 * 70	0.96/0.97	0.47/0.46	N/A	N/A	70	10	7.4
HQ-010	10	16/20	ϕ20	15 * 70	0.96/0.97	0.47/0.46	N/A	N/A	70	10	7.4
HQ-015	15	21/25	ϕ22	40 * 80	1.51/1.62	0.72/0.84	0.35/0.27	0.55/0.34	70	11	16.6
HQ-020	20	21/25	ϕ22	40 * 80	1.51/1.62	0.72/0.84	0.35/0.27	0.55/0.34	70	11	16.6
HQ-030	30	26/31	ϕ35	40 * 90	1.37/1.67	0.68/0.81	0.33/0.27	0.43/0.30	70	13.5	22
HQ-050	50	26/31	ϕ35	90 * 90	4.27/3.56	1.37/1.27	0.51/0.42	0.66/0.46	70	13.5	23
HQ-060	60	26/31	ϕ35	90 * 90	4.27/3.56	1.37/1.27	0.51/0.42	0.66/0.46	70	13.5	23
HQ-080	80	31/37	ϕ45	180 * 90	3.47/4.45	1.81/2.32	0.83/0.61	1.10/0.73	70	16.5	29
HQ-120	120	31/37	ϕ45	180 * 90	3.47/4.45	1.81/2.32	0.83/0.61	1.10/0.73	70	16.5	29
HQ-200	200	93/112	ϕ65	180 * 90	3.47/4.45	1.81/2.32	0.83/0.61	1.10/0.73	70	49.5	75
HQ-300	300	93/112	ϕ65	180 * 90	3.47/4.45	1.81/2.32	0.83/0.61	1.10/0.73	70	49.5	75

STANDARD SPECIFICATION

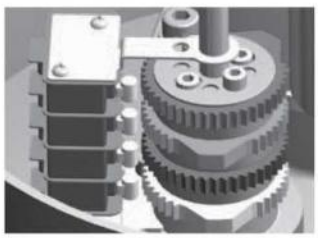
Enclosure	Weatherproof enclosure IP67, NEMA 4 and 6
Power supply	110 / 220V AC 1PH, 380 / 440V AC 3PH 50 / 60Hz, ±10%
Control power supply	110 / 220V AC 1PH, 50 / 60Hz, ±10%
Duty cycle(on-off)	S2, 100% Max 30Min
Duty cycle(modulating)	S4, 70% Max 300~1600 start/hour
Motor	Induction motor (Reversibe motor)
Limit switches	Open / close, SPDT, 250V AC 16A rating
Additional limit switches	Open / close, SPDT, 250V AC 16A rating
Torque switches	Open / close, SPDT, 250V AC 16A rating (exept HQ-008)
Stall protection/operating temp'	Built-in thermal protection, open 150℃±5℃ / close 97℃±15℃
Travel angle	90° ±10° (0°~110°)
Indicator	Continuous position indicator
Manual override	Declutching mechanism
Self locking	Provided by double worm gearing
Mechanical stopper	2× external adjustable screws
Space heater	10W(110/220V AC) Anti-condensation
Cable entries	Three PF3/4" tap (standard type only)
Lubrication	Grease moly (EP type)
Terminal block	Spring loaded lever push type
Materials	Steel, Aluminium alloy, Al bronze, Polycarbonate
Ambient temperature	-20℃~+70℃ (except option electronic board)
Ambient humidity	90% RH Max.(non-condensing)
Anti vibration	X Y Z 10g, 0.2~34Hz, 30minute
External coating	Anodizing treatment before dry powder, Polyester, Munsell no. 5R 3.5/12

OPTION SPECIFICATION

EXA	Explosionproof enclosure actuator (Eexd II B T4)	HQ-series
WTA	Watertight enclosure actuator (IP68 10M 72HR)	HQ-series
PIU	Potentiometer unit (0~1㏀)	HQ-series
PCU	Proportional control unit (input, output 0~10V DC, 4~20mA DC)	HQ-series
ATS	Additional torque switches (SPDT x 2EA 250V AC 10A Rating)	except HQ-008/010
SICU	Semi-Integral control unit (LCU + IMS + phase protect indicator)	except HQ-008/010
ICU	Intelligent digital control unit (LCU + IMS + auto phase discriminator)	except HQ-008/010
CPT	Current position transmitter (output 4~20mA DC)	HQ-series
EXT	Extension 120°, 180°, 270° turn	except HQ-200, 300
RBP	Rechargeable battery backup	HQ-008, 015, 020, 030
DCM	DC motor (24V DC)	HQ-008, 015, 020, 030
ADCM	Multi AC/DC 24V(integral)	HQ-008, 015, 020, 030
LPA	Lever plate actuator	except HQ-008/010
SLU	Signal lamp unit (white-power on, red-open, green-close, yellow-over torque)	except HQ-008/010
FPA1	Fire Proofing Actuator 1050 ±5℃ / 50min	Engineering consult in advance
FPA2	Fire Proofing Actuator 250 ±5℃ / 150min	Engineering consult in advance



(Standard cam)

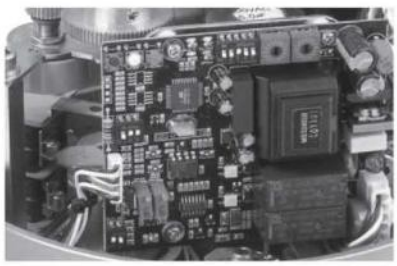


(Cam block)



(D-Type cam)

- 2 travel limit switches for operation
- 2 auxiliary limit switches as dry contect for customer usage
- Easy setting from upside by two screws for tight lockup
- Each cam be set independently



Proportional Control Unit (PCU)

- Input signal range : 0~10VDC, 1~5VDC, 4~20mA, 20~4mA
- Output signal range : 4~20mA, 0~10VDC
- Adjustable range : Zero 8mA, Open 16mA
- Position conversion accuracy :
  ±0.5~1.5%(depends on installation)



Potentiometer Kit (PIU)

- 0~1K ohm(±0.5%), high resolution



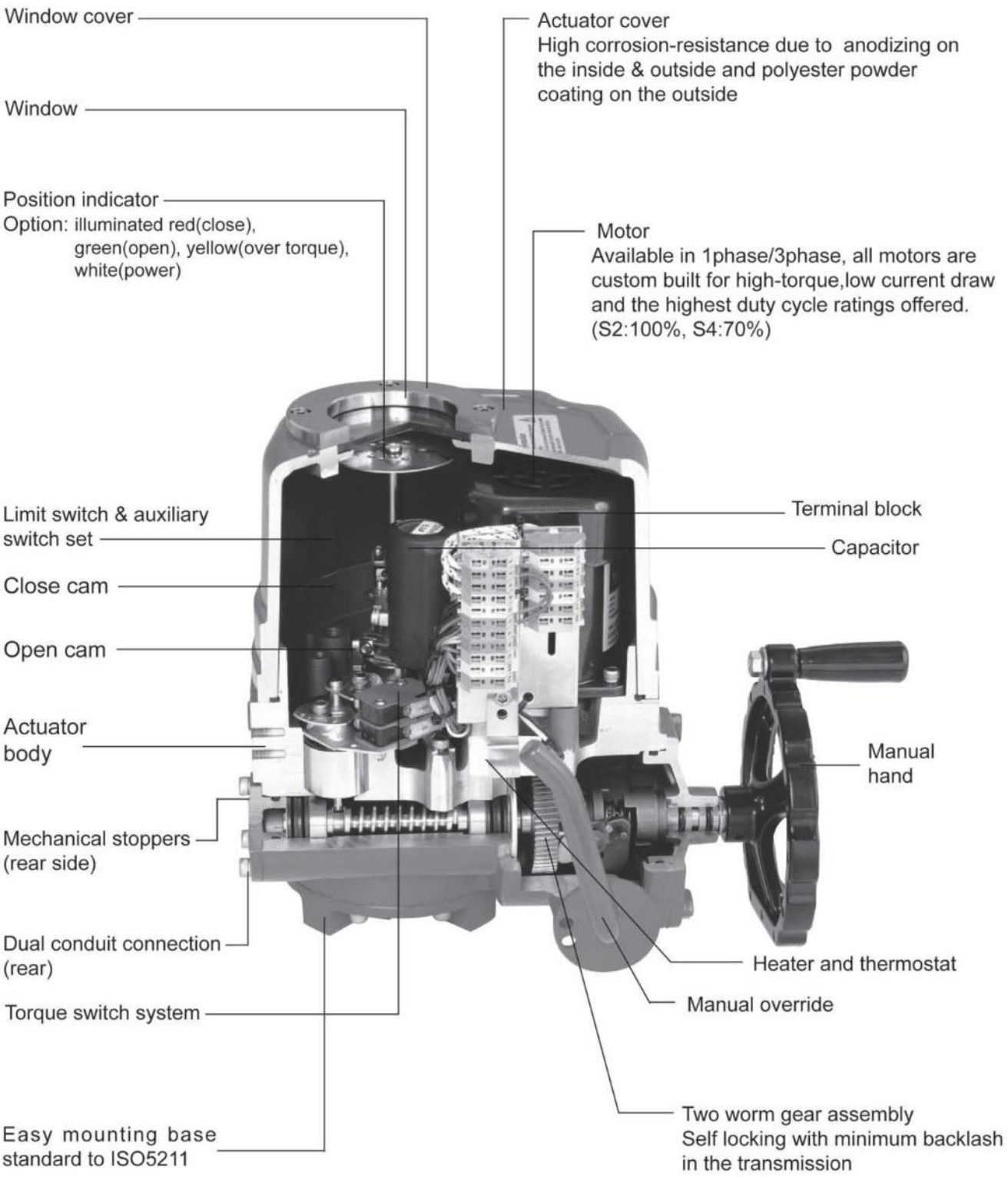


Fire Proofing Actuator (FPA)



Rechargeable Battary Backup

CONSTRUCTION





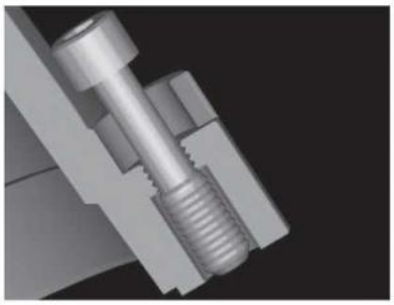
Terminal block

- Enough number of terminal strips for customer's convenience
- Proven reliability and tight wiring connection.
- Stripped length: 8-9 mm / 0.33 in(2.5mm²)
- Terminal dimensions: 10×22×32mm



Heater

- Ceramic housing with thermostat to prevent over heat comparing with set temperature.
- No risk of electricity leakage.



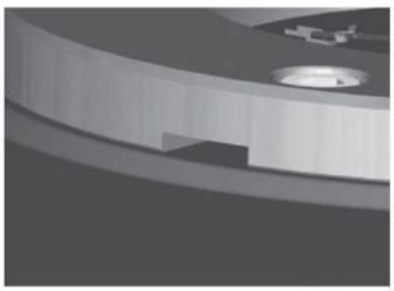
Captive cover bolt

- Cover bolts are specially designed to prevent loosing it during maintenance or installation.
- All external bolts are stainless steel for rust prevention.



Indicator sustained by spring

- Direction of visual indicator is set by factory.
- In case of changing it's direction, just grip the indicator plate and change the position.
- Spring beneath indicator plate sustains the set position unchanged.
- No need to loose screw and tight it again at all !

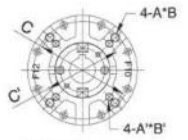


Slot on window cover for draining rainwater

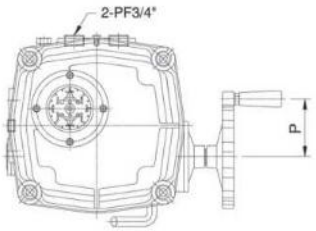
- Rainwater inside of window cover may affect the sealing of window.
- To prevent this, drain slut is useful to prevent this effect.

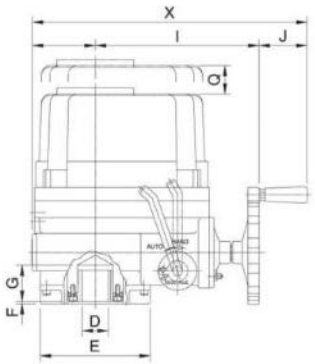
DIMENSIONAL DRAWING

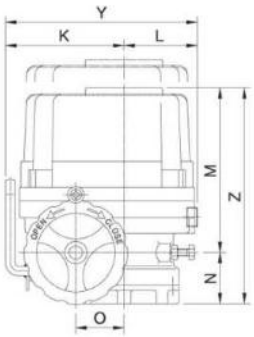
HQ008, HQ010, HQ015, HQ020, HQ030, HQ050, HQ060, HQ080, HQ120



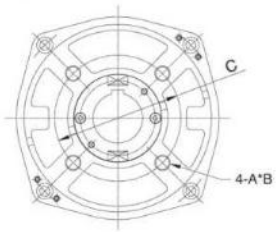
BASE ISO5211



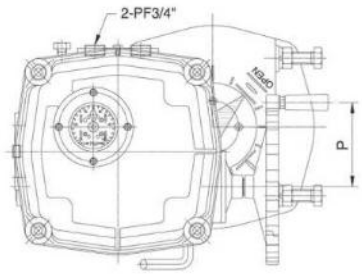


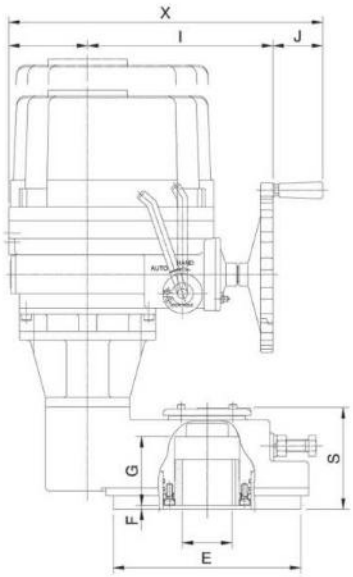


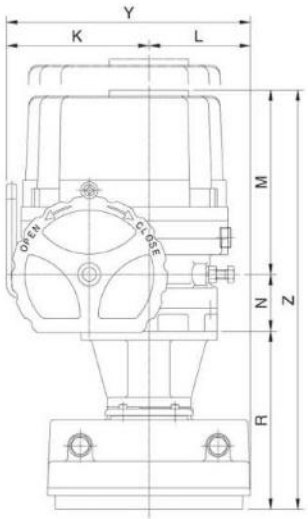
HQ200, HQ300



BASE ISO5211







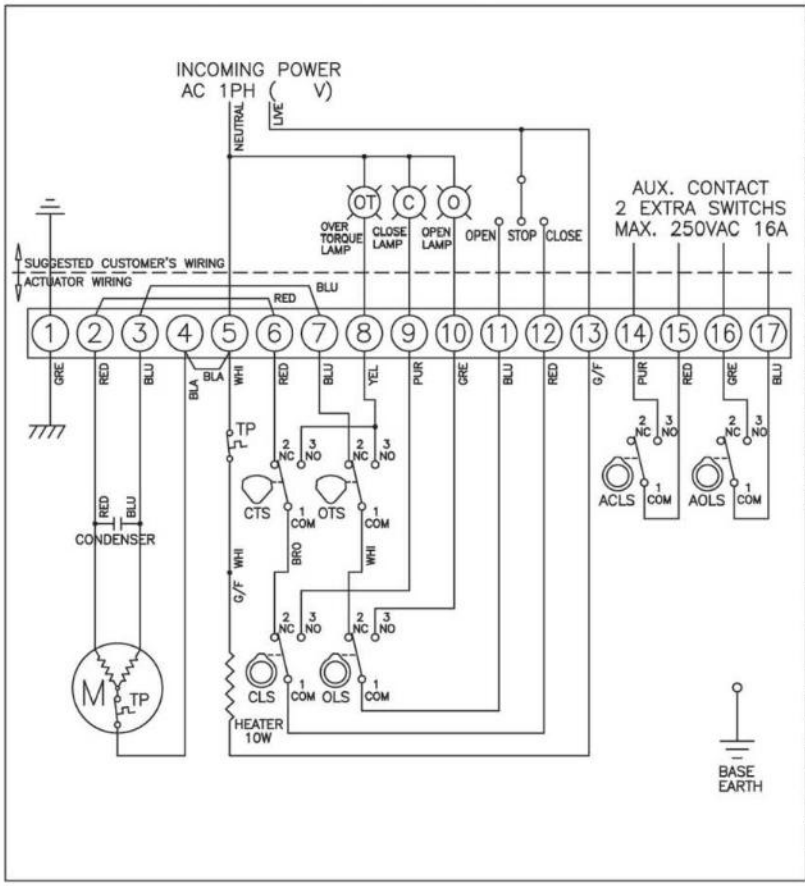
DIMENSION

unit(mm)

Model	Base ISO 5211	A	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	X	Y	Z
	ϕC	B	(max)																		
HQ008	F07	M8	20	88	3	32	50	157	51	100	70	182	53	40	60	120	–	–	258	170	235
	ϕ70	12																			
HQ010	F07	M8	20	88	3	32	50	157	51	100	70	182	53	40	60	120	–	–	258	170	235
	ϕ70	12																			
HQ015	F07/F10	M8/M10	22	125	3	42	73	200	65	142	87	200	68	54	78	160	–	–	338	229	268
	ϕ70 ϕ102	12/15																			
HQ020	F07/F10	M8/M10	22	125	3	42	73	200	65	142	87	200	68	54	78	160	–	–	338	229	268
	ϕ70 ϕ102	12/15																			
HQ030	F10/F12	M10/M12	35	148	3	49	82	221	65	160	99	235	69	65	78	180	–	–	368	259	304
	ϕ102 ϕ125	15/18																			
HQ050	F10/F12	M10/M12	35	148	3	49	82	221	65	160	99	235	69	65	78	180	–	–	368	259	304
	ϕ102 ϕ125	15/18																			
HQ060	F10/F12	M10/M12	35	148	3	49	82	221	65	160	99	235	69	65	78	180	–	–	368	259	304
	ϕ102/ϕ125	15/18																			
HQ080	F12/F14	M12/M16	45	178	3	57	103	242	65	186	111	256	74	78	110	210	–	–	410	297	330
	ϕ125*/ϕ140	18/24																			
HQ120	F12/F14	M12/M16	45	178	3	57	103	242	65	186	111	256	74	78	110	210	–	–	410	297	330
	ϕ125/ϕ140	18/24																			
HQ200	F14*/F16	M16*/M20	65	245	5	90	103	242	65	186	133	256	74	78	110	210	233	133	410	319	563
	ϕ140*/ϕ165	24*/30																			
HQ300	F14*/F16	M16*/M20	65	245	5	90	103	242	65	186	133	256	74	78	110	210	233	133	410	319	563
	ϕ140*/ϕ165	24*/30																			

Specification is subject to change without prior notice

Standard Type (1- phase, 50/60Hz)



TORQUE AND LIMIT SWITCH OPERATION		
SWITCH	CLOSE ◄— INTERMEDIATE —► OPEN	
CLS 1–2		
CLS 1–3		
OLS 1–2		
OLS 1–3		
ACLS1–2		
ACLS1–3		
AOLS1–2		
AOLS1–3		
CTS 1–3	* CLOSING TORQUE SWITCH INTERRUPTS CONTROL IF MECHANICAL OVERLOAD OCCURS DURING CLOSING CYCLE	
OTS 1–3	* OPENING TORQUE SWITCH INTERRUPTS CONTROL IF MECHANICAL OVERLOAD OCCURS DURING OPENING CYCLE	

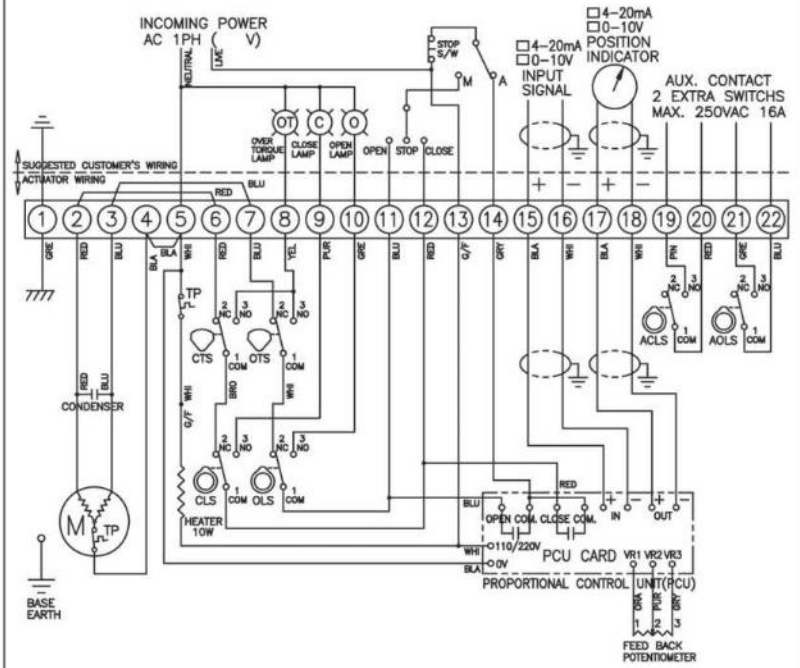
SYMBOL	DESCRIPTION	RATING
CLS	CLOSE LIMIT SWITCH	250VAC 10A
OLS	OPEN LIMIT SWITCH	250VAC 10A
CTS	CLOSE TORQUE SWITCH	250VAC 10A
OTS	OPEN TORQUE SWITCH	250VAC 10A
ACLS	AUX. CLOSE LIMIT SWITCH	250VAC 16A
AOLS	AUX. OPEN LIMIT SWITCH	250VAC 16A
TP	THERMAL PROTECTOR	250VAC 15A

*EACH ACTUATOR SHOULD BE POWERED THROUGH IT'S OWN INDIVIDUAL SWITCH OR RELAY CONTACTS TO PREVENT CROSS FEED BETWEEN TWO OR MORE ACTUATORS.

DRAW	P.S. KIM	CHECK	
DESIGN	S.M. HAN	APPR.	

	PART NAME 1PH WIRING DIAGRAM STANDARD
	DWG. NO HQ–11000–A
HQ–200	
HQ–080	ISSU. DEPT. HADR / DATE 2001.05.10
HQ–030	
HQ–015	HKC
APPLICATION	HK CONTROMATIC CO., LTD.

Proportional Type (1- phase, 50/60Hz)



TORQUE AND LIMIT SWITCH OPERATION		
SWITCH	CLOSE ◄— INTERMEDIATE —► OPEN	
CLS 1–2		
CLS 1–3		
OLS 1–2		
OLS 1–3		
ACLS1–2		
ACLS1–3		
AOLS1–2		
AOLS1–3		
CTS 1–3	* CLOSING TORQUE SWITCH INTERRUPTS CONTROL IF MECHANICAL OVERLOAD OCCURS DURING CLOSING CYCLE	
OTS 1–3	* OPENING TORQUE SWITCH INTERRUPTS CONTROL IF MECHANICAL OVERLOAD OCCURS DURING OPENING CYCLE	

SYMBOL	DESCRIPTION	RATING
CLS	CLOSE LIMIT SWITCH	250VAC 10A
OLS	OPEN LIMIT SWITCH	250VAC 10A
CTS	CLOSE TORQUE SWITCH	250VAC 10A
OTS	OPEN TORQUE SWITCH	250VAC 10A
ACLS	AUX. CLOSE LIMIT SWITCH	250VAC 16A
AOLS	AUX. OPEN LIMIT SWITCH	250VAC 16A
TP	THERMAL PROTECTOR	250VAC 15A

*EACH ACTUATOR SHOULD BE POWERED THROUGH IT'S OWN INDIVIDUAL SWITCH OR RELAY CONTACTS TO PREVENT CROSS FEED BETWEEN TWO OR MORE ACTUATORS.

DRAW	P.S. KIM	CHECK	
DESIGN	S.M. HAN	APPR.	

	PART NAME 1PH WIRING DIAGRAM PCU
HQ–300	
HQ–200	DWG. NO HQ–15000–A
HQ–080	ISSU. DEPT. HADR / DATE 2001.05.10
HQ–030	
HQ–015	HKC
APPLICATION	HK CONTROMATIC CO., LTD.

※ Wiring drawings are provided upon request.