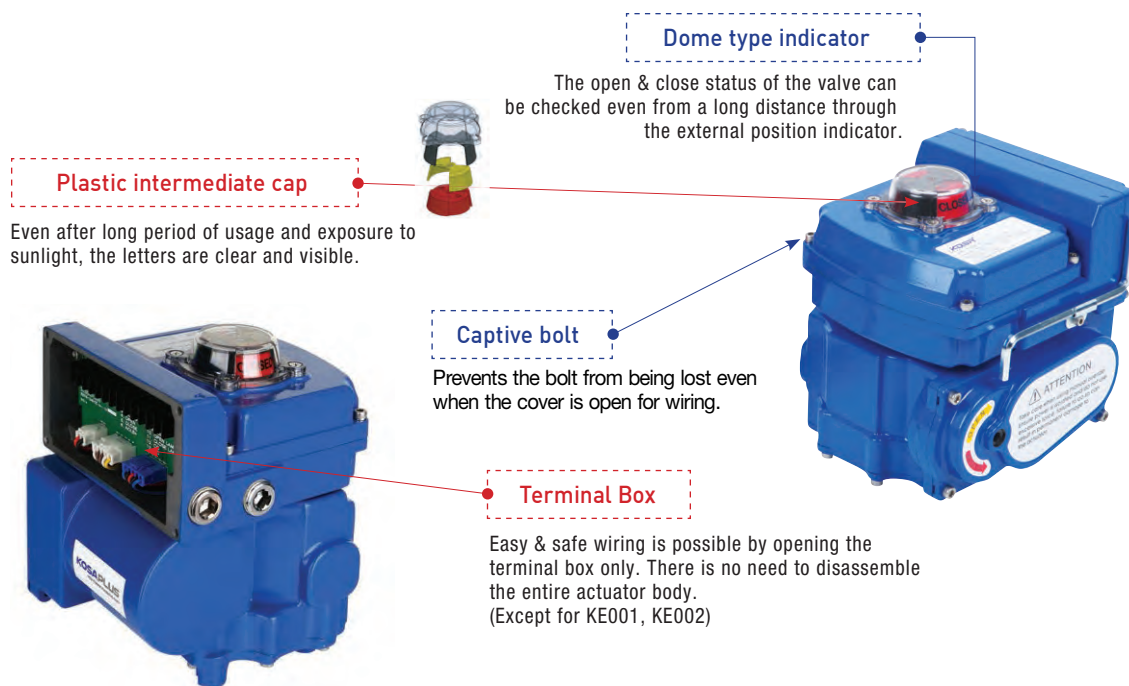


Electric actuator



► Selection guide

Valve Size		Ball Valve [2way/10K/#150]	Butterfly Valve [2way/10K/#150]
1/2"	15A	KE001/ KE002	
3/4"	20A	KE004	
1"	25A		
1-1/4"	32A	KE005	
1-1/2"	40A	KE006	KE002
2"	50A	KE008	KE004
2-1/2"	65A	KE010	
3"	80A	KE016	
4"	100A	KE028	KE005/KE006
5"	125A	KE040	KE008/KE010
6"	150A	KE050/KE080	KE016
8"	200A	KE080/KE120	KE028
10"	250A		KE040/KE050
12"	300A		KE080
14"	350A		KE080/KE120
16"	400A		KE120

Contents

Model code

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Modulating Control

DC control board
2 wire/3 wire

Explosion proof

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Option table Modulating Control

DC control board 2 wire/3 wire

Explosion proof

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► Model code

Q5N20-2AL-357C14-0P

(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)
Mechanism	Model			Color	ISO5211	STEM	Option
Q : Quarter turn	2 : KE002 4 : KE004 5 : KE005 6 : KE006 8 : KE008 10 : KE010 :			*L : Blue K : Black R : Red G : Grey M : Mint	3 : F03 5 : F05 7 : F07 :	C11 : 11*11 C14 : 14*14 :	Refer to option table (Page 8)
		Option torque Low torque/Faster operating time					
		Refer to performance table (page 3)					
		*Blank : Standard N20 : 20Nm N100 : 100Nm :					
			Voltage				
			1A : 110V AC (KE002-KE120)				
			*2A : 220V AC (KE002-KE120)				
			3A : 380V AC (KE016-KE120)				
			4A : 440V AC (KE016-KE120)				
			2D : 24V DC (KE002-KE040)				
			1M : 100-250V AC (KE005)				
			2M : 24V AC/DC (KE005/KE016-KE040)				
			※ Maximum range ±10%				

*Standard

KE001

► Performance

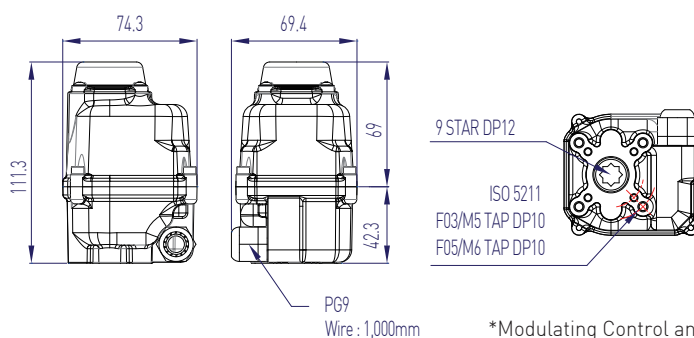
MODEL	MAX TORQUE (Nm)	OP. TIME 50/60Hz(sec)	RATED CURRENT(A)		DUTY- CYCLE	MOTOR CLASS/ OUTPUT
			AC(1PH) 50/60Hz			
			110V	220V		
KE001	8	14.5/12	0.1/0.09	0.07/0.06	40%	E/2W
KE001-4N	4	7/6	0.1/0.09	0.07/0.06	40%	E/2W



► Standard specification

MAIN POWER	110V/220V AC 1PH	CABLE ENTRIES	WIRE TYPE
DUTY CYCLE	40%	AMBIENT TEMPERATURE	-20°C~+60°C
INDICATOR	DOME TYPE MECHANICAL INDICATOR (Option : Flat side indicator)	EXTERNAL COATING	POWDER COATING
MANUAL OPERATION	N/A	INSIDE HEATER	1PH 220V/110 2W (Only AC)
TRAVEL ANGLE	90°		

► Drawing



► SIDE INDICATOR OPTION



*Modulating Control and Aux.limit switch are released.

► Performance

MODEL	MAX TORQUE (Nm)	OP. TIME 50/60Hz[sec]	RATED CURRENT(A)			MOTOR INSULATION /OUTPUT(AC-DC)	MANUAL TURNS	
			AC(1PH) 50/60Hz		DC			
			110V	220V	24V			
KE002	20	17.5/14.5	0.29/0.25	0.12/0.1	1.5	E-B/10W-10W	3	
#KE002-10N	10	7/6	0.29/0.25	0.12/0.1	1.5	E-B/10W-10W	3	
KE004	40	12/10	0.67/0.6	0.23/0.2	2	E-B/10W-10W	3	
#KE004-15N	15	8.5/7	0.67/0.6	0.23/0.2	2	E-B/10W-10W	3	
KE005	50	13	(100~250V AC) 0.1~0.25			2	B-B/10W-10W	18
#KE005-20N	20	6	(100~250V AC) 0.1~0.25			2	B-B/10W-10W	18
KE006	60	18/15	0.67/0.6	0.23/0.2	2	E-B/10W-10W	3	
#KE006-25N	25	8/6.5	0.67/0.6	0.23/0.2	2	E-B/10W-10W	3	
KE008	80	17/14	0.53/0.50	0.33/0.29	2.5	F-B/10W-10W	20	
#KE008-40N	40	8/6	0.53/0.50	0.33/0.29	2.5	F-B/10W-10W	20	

MODEL	MAX TORQUE (Nm)			OP. TIME 50/60Hz [sec]	RATED CURRENT (A)					MOTOR INSULATION /OUTPUT(AC-DC)	MANUAL TURNS
	0°	45°	90°		AC(1PHASE)		AC(3PHASE)		DC		
					110V	220V	380V	440V	24V		
KE010	100	65	100	22/18	0.82/0.75	0.42/0.40	N/A	N/A	2.5	F-B/10W-15W	15
#KE010-80N	80	50	80	18/14	0.82/0.75	0.42/0.40	N/A	N/A	2.5	F-B/10W-15W	11
#KE010-60N	60	40	60	11/14	0.82/0.75	0.42/0.40	N/A	N/A	2.5	F-B/10W-15W	9
KE016	160	107	160	28/23	0.94/0.85	0.50/0.46	0.47/0.37	0.62/0.49	4	F-B/15W-15W	19
#KE160-130N	130	85	130	22/18	0.94/0.85	0.50/0.46	0.47/0.37	0.62/0.49	4	F-B/15W-15W	16
#KE160-100N	100	65	100	18/14	0.94/0.85	0.50/0.46	0.47/0.37	0.62/0.49	4	F-B/15W-15W	13
KE028	280	190	280	40/33	0.94/0.85	0.50/0.46	0.47/0.37	0.62/0.49	4	F-B/15W-15W	23
#KE028-240N	240	160	240	30/25	0.94/0.85	0.50/0.46	0.47/0.37	0.62/0.49	4	F-B/15W-15W	19
#KE028-190N	190	125	190	24/20	0.94/0.85	0.50/0.46	0.47/0.37	0.62/0.49	4	F-B/15W-15W	15
KE040	400	270	400	40/33	1.09/1.23	0.54/0.58	0.16/0.15	0.18/0.16	5.5	F-B/25W-40W	23
#KE040-350N	350	240	350	30/25	1.09/1.23	0.54/0.58	0.16/0.15	0.18/0.16	5.5	F-B/25W-40W	19
#KE040-300N	300	220	300	24/20	1.09/1.23	0.54/0.58	0.16/0.15	0.18/0.16	5.5	F-B/25W-40W	15
KE050	500	350	500	40/33	1.55/1.75	0.72/0.90	0.30/0.28	0.40/0.30	N/A	F/40W	23
#KE050-450N	450	310	450	30/25	1.55/1.75	0.72/0.90	0.30/0.28	0.40/0.30	N/A	F/40W	19
#KE050-400N	400	280	400	24/20	1.55/1.75	0.72/0.90	0.30/0.28	0.40/0.30	N/A	F/40W	15
KE080	800	540	800	51/42	1.97/2.83	1.09/1.46	0.5/0.54	0.57/0.55	N/A	F/60W	77
KE120	1200	800	1200	51/42	1.97/2.83	1.09/1.46	0.5/0.54	0.57/0.55	N/A	F/90W	77

*Maximum current can be +30% from rated current.

#Option

► ISO5211 & stem

	Standard	Option	Wt (Kg)
KE001	F03/05, 9*9		0.7
KE002	F03/05, 11*11		0.9
KE004	F03/05/07, 11*11	14*14	1.5
KE005	F03/05/07, 14*14	11*11	1.3
KE006	F03/05/07, 14*14		1.9
KE008	F03/05/07, 14*14	F05/07, 17*17	2.6
KE010	F05/07, 14*14	17*17	3.0
KE016	F05/07/10, 17*17		6.2
KE028	F07/10, 22*22	F07/10/12, 27*27	8.9
KE040	F07/10, 22*22	F07/10/12, 27*27	9.4
KE050	F07/10, 22*22	F07/10/12, 27*27	9.4
KE080	F10/12, 36*36	F10/14, 36*36	26.0
KE120	F10/12, 36*36	F10/14, 36*36	26.0

► Standard specification

AMBIENT TEMPERATURE	-20℃~+60℃	
MOTOR CONDITION	Duty 40%	
INDICATOR	Dome type mechanical indicator	
AUX. LIMIT SWITCHES	KE001, KE002	N/A (in option)
	KE004-KE120	2 each for Open and Close 250VAC/5A
MANUAL OPERATION	KE002, KE004, KE006	By Spanner 5mm
	KE005, KE008	By Wrench 5mm
	KE010, KE016	By Wrench 6mm (Hand wheel in option)
	KE028, KE040, KE050	By Wrench 8mm (Hand wheel in option)
	KE080, KE120	By clutchless Hand Wheel
TRAVEL ANGLE	90°+5°	
INTERNAL HEATER (Only AC)	[KE002,KE004,KE006,KE008] N/A [KE005,KE008-KE120] 1PH 220/110V AC	
CABLE ENTRY	[KE002] Cable wire (1000mm,6000mm in option)	
	[KE004/KE006] Terminal box (1-PF1/2)	
	[KE005/KE008-KE120] Terminal box (2-PF1/2)	

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DC control board
2 wire/3 wire

Explosion proof

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► Dimension

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Specification
ISO5211&stem

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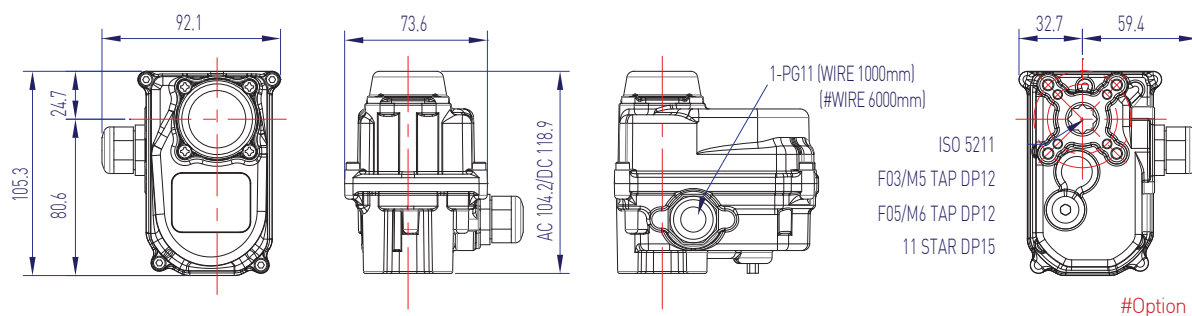
Option table
Modulating Control

DC control board
2 wire/3 wire

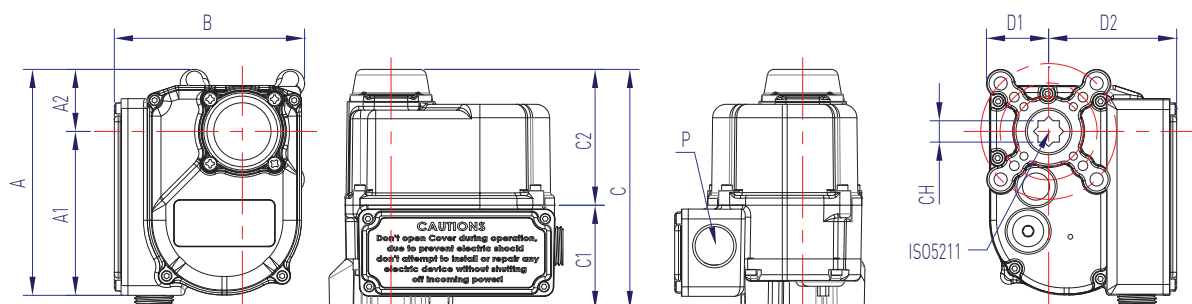
Explosion proof

Product List

KE002



KE004 / KE006 / KE008

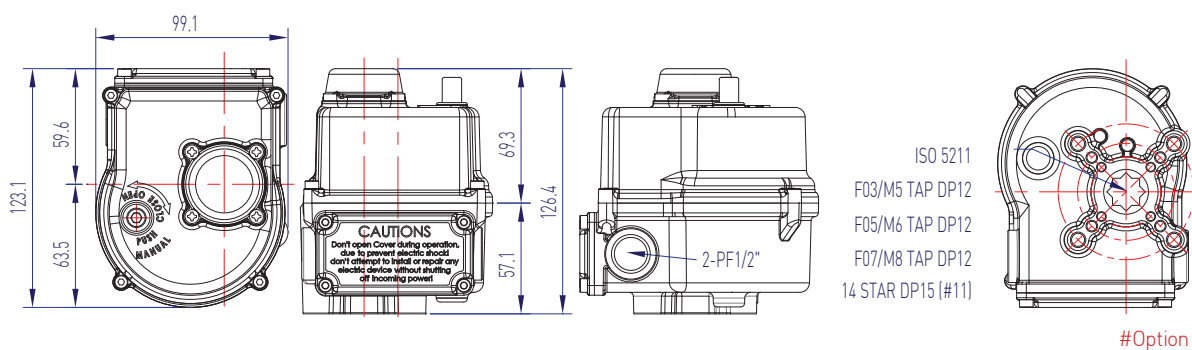


MODEL	A	A1	A2	B	C	C1	C2	D1	D2	ISO5211	P.C.D	N-M	CH	DTH	P
KE004	116.5	32	84.5	98.1	123.8	53.8	70	32	66	F03/F05/F07	36/50/70	4-M5/M6/M8	11*11	15	1-PF1/2
													#14*14	16	
KE006	122	34.2	97.9	111.3	134.5	59	75.5	39	72.3	F03/F05/F07	36/50/70	4-M5/M6/M8	14*14	16	1-PF1/2
KE008	125.3	33.7	91.6	122.3	155.5	81.5	74	42.3	80	¹⁾ F03/F05/F07	36/50/70	4-M5/M6/M8	14*14	16	2-PF1/2
										¹⁾ #F05/07	50/70				

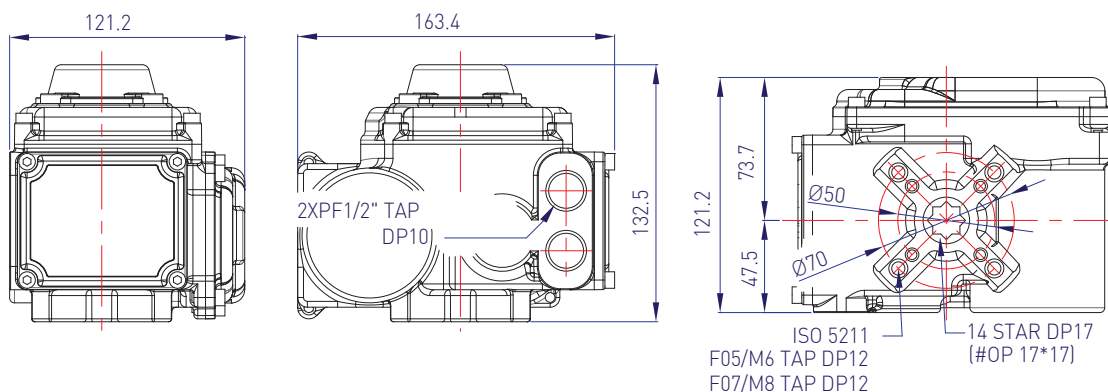
¹⁾You can choose only F03/F05/F07 with 14*14 or F05/F07 with 17*17.

#Option

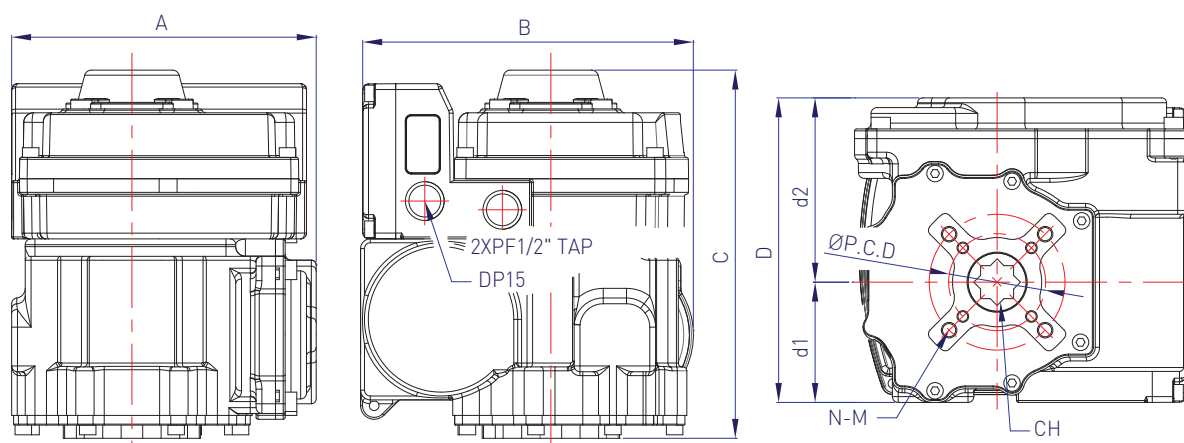
KE005



KE010



KE016 / KE028 / KE040 / KE050

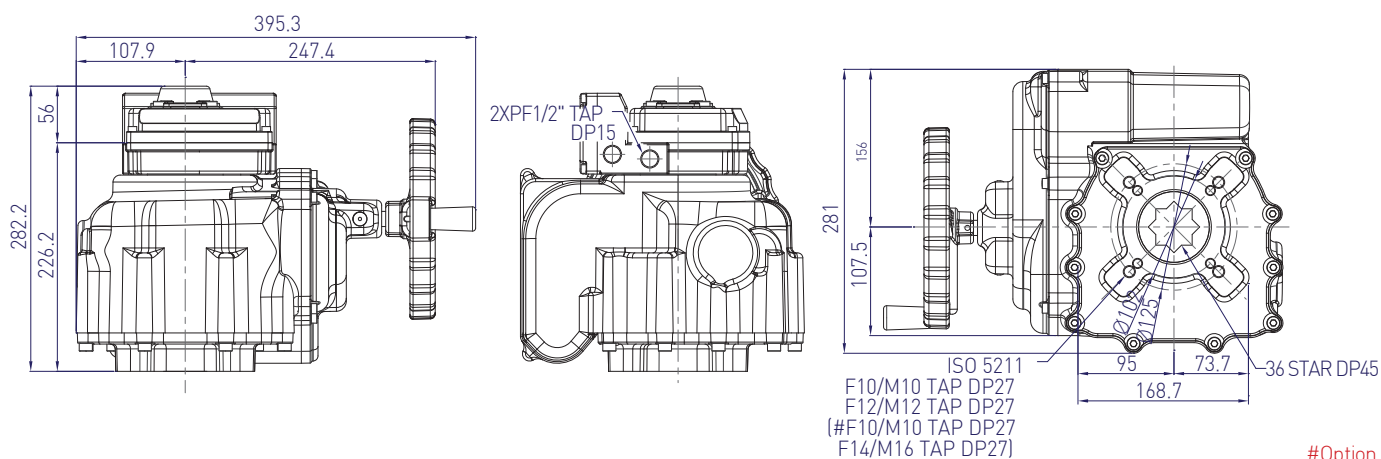


MODEL	A	B	C	D	d1	d2	ISO	P.C.D	N-M	CH	DTH
KE016	157.0	170.5	189.8	157	62	95	F05/F07/F10	50/70/102	4-M6/M8/M10	17x17	19
KE028	181.9	208.9	209.0	181.9	73.7	108.2	¹⁾ F07/F10	70/102	4-M8/M10	22x22	24
KE040							¹⁾ #F07/F10/F12	#70/102/125	4-M8/M10/M12	#27x27	29
KE050											

You can choose only F07/F10 with 22*22 or F07/F10/F12 with 27*27.

#Option

KE080 / KE120



#Option

Contents

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DC control board
2 wire/3 wire

Explosion proof

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Wiring

- 1) If two or more electric actuators are operated, there must be individual relays for each actuator.
- 2) Each actuator should have two relays (a relay for OPEN and a relay for CLOSE) respectively.

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Modulating Control

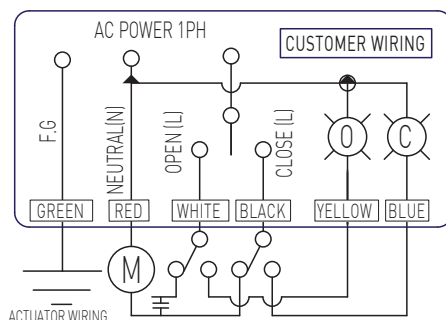
DC control board
2 wire/3 wire

Explosion proof

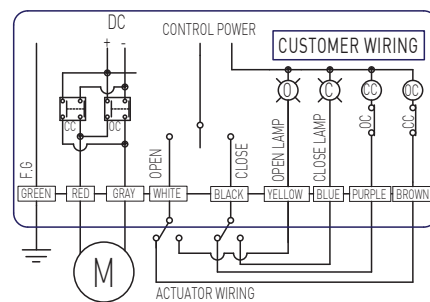
Product List

KE002

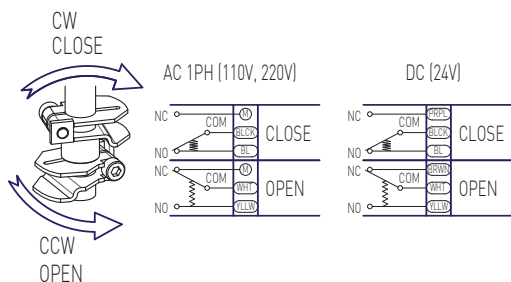
AC 1PH



DC 24V



SWITCH WIRING (POSITION : FULL CLOSE)

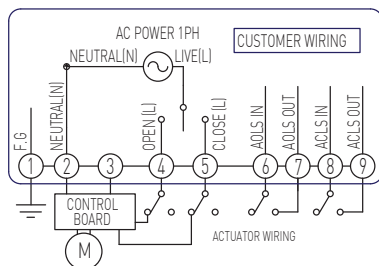


LIMIT SWITCH OPERATION

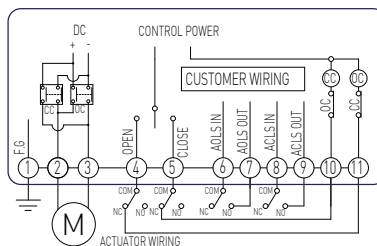
SWITCH	CLOSE	← INTERMEDIATE →	OPEN
CLS COM-NC			
CLS COM-NO			
OLS COM-NC			
OLS COM-NO			

KE004 / KE005 / KE006

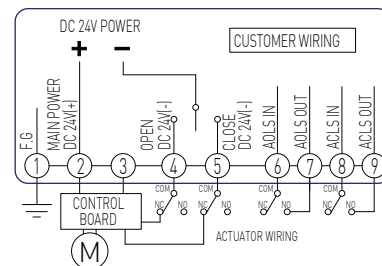
AC 1PH



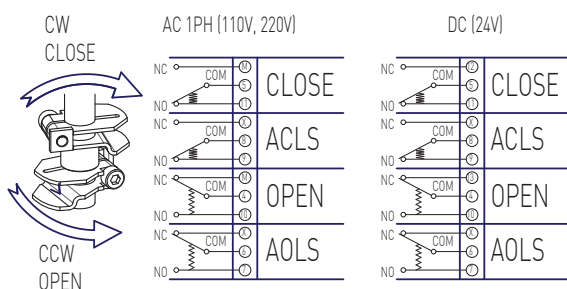
DC 24V (KE004/KE006)



DC 24V (KE005)



SWITCH WIRING (POSITION : FULL CLOSE)

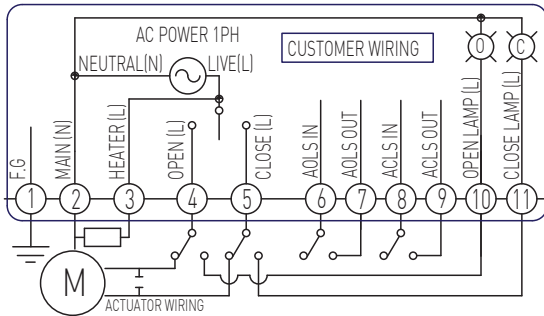


LIMIT SWITCH OPERATION

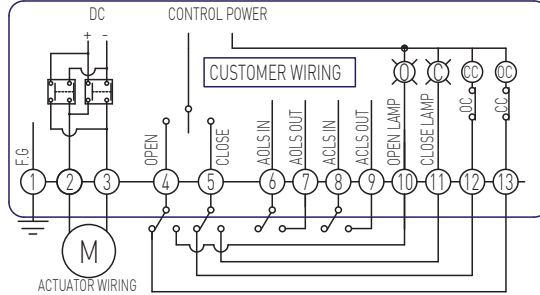
SWITCH	CLOSE	← INTERMEDIATE →	OPEN
CLS COM-NC			
CLS COM-NO			
ACLS COM-NC			
ACLS COM-NO			
OLS COM-NC			
OLS COM-NO			
AOLS COM-NC			
AOLS COM-NO			

KE008 ~ KE120

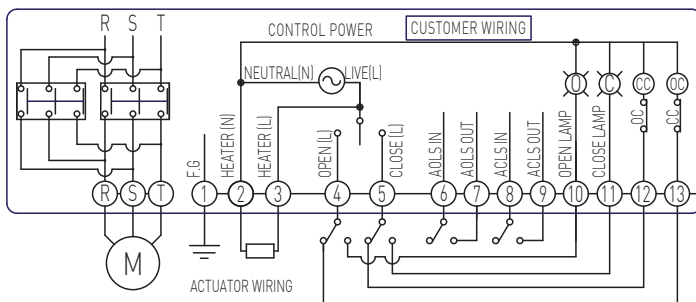
► AC 1PH



► DC 24V (KE008~KE040)



► AC 3PH (KE016~KE120)

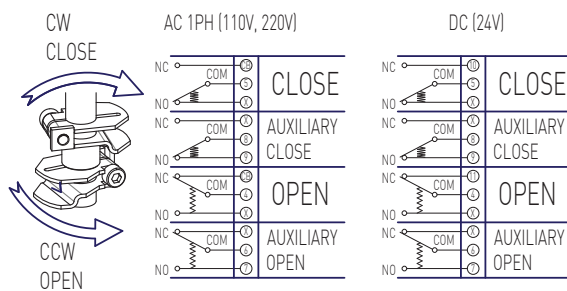


► LIMIT SWITCH OPERATION

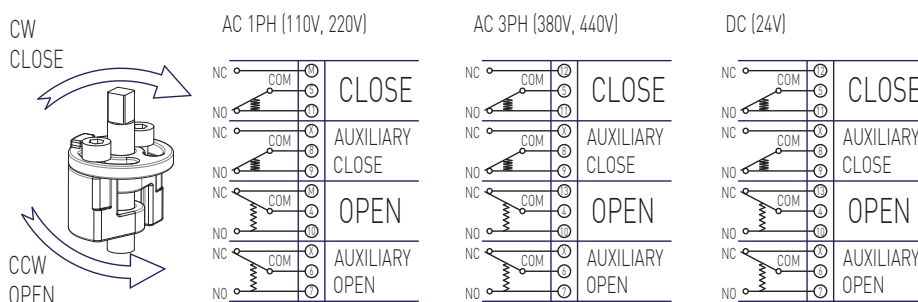
SWITCH	CLOSE	← INTERMEDIATE →	OPEN
CLS COM-NC			
CLS COM-NO			
ACLS COM-NC			
ACLS COM-NO			
OLS COM-NC			
OLS COM-NO			
AOLS COM-NC			
AOLS COM-NO			

► SWITCH WIRING (POSITION : FULL CLOSE)

► KE008



► KE010 ~ KE120



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DC control board
2 wire/3 wire

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► Option table

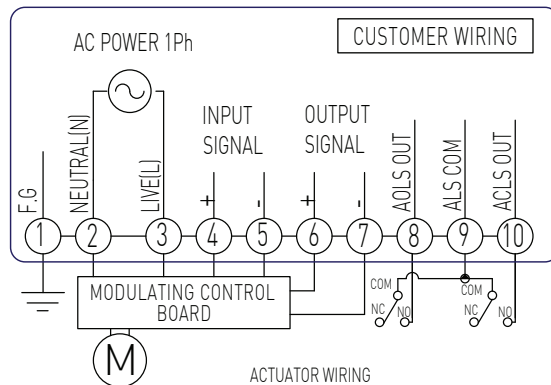
Option	Description		Model											
			KE002	KE004	KE005	KE006	KE008	KE010	KE016	KE028	KE040	KE050	KE080	KE120
WT	Watertight (IP68 5m 120hr)		○	○	○	○	○	○	○	○	○	○	○	○
TS	Electric Torque switches								○	○	○	○	○	○
MC	Modulating Control (4~20mA)	1ph	○	○	○	○	○	○	○	○	○	○	○	○
SM	Modulating cotrol (4~20mA,0~10V,2~10V,0~5V,1~5V)	1ph	○	○	○	○	○	○	○	○	○	○	○	○
		24v dc	○	○	○	○	○	○	○	○	○			
LC	Local Control (Electric torque switch included)	1ph							○	○	○	○	○	○
		3ph							○	○	○	○	○	○
LM	Local and Modulating control (Electric torque switch included)	1ph							○	○	○	○	○	○
		3ph							○	○	○	○	○	○
C2	24V DC Control board (2 Wire)		○	○		○	○	○						
C3	24V DC Control board (3 Wire)		○	○	Standard Included	○			○	○	○			
TP	Thermal Protection								(Only AC) Standard Included					
HT	Heater		○	○	(Only AC) Standard Included	○			(Only AC) Standard Included					
TH	Thermal Protection and Heater			○		○								

► Wiring

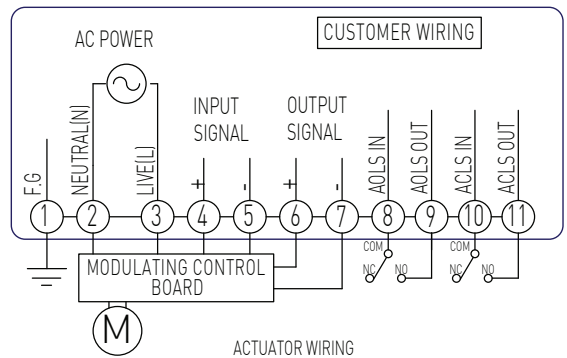
MC&SM (Modulating Control)

*Wiring for MC and SM are the same.

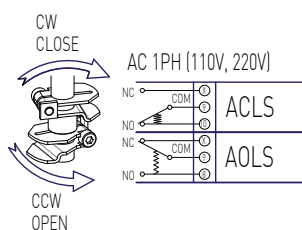
► AC 1PH (KE002~KE006)



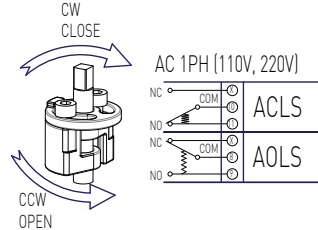
► AC 1PH (KE008~KE120)



► KE008



► KE010~KE120



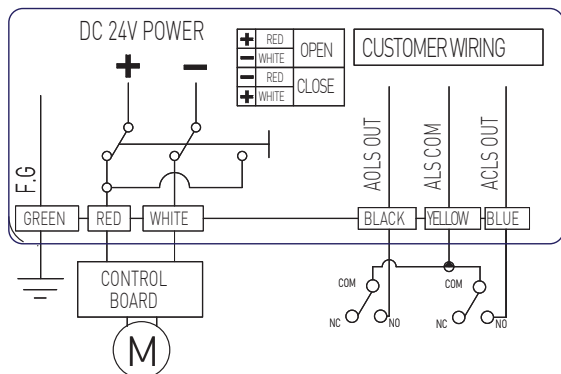
► LIMIT SWITCH OPERATION

SWITCH	CLOSE	← INTERMEDIATE	→ OPEN
CLS COM-NC			
CLS COM-NO			
ACLS COM-NC			
ACLS COM-NO			
OLS COM-NC			
OLS COM-NO			
AOLS COM-NC			
AOLS COM-NO			

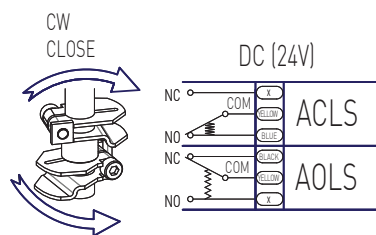
* Dimensions for models with MC option are different from standard.
(KE001, KE002, KE004, KE006, KE010~KE120)

C2 [24V DC Control board 2 Wire]

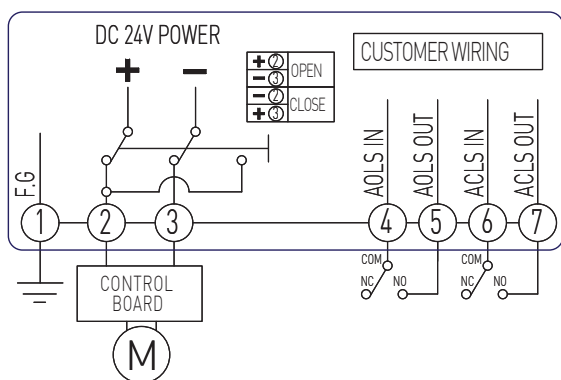
► KE002



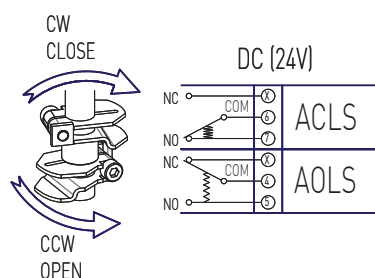
► SWITCH WIRING (POSITION : FULL CLOSE)



► KE004/KE006/KE008

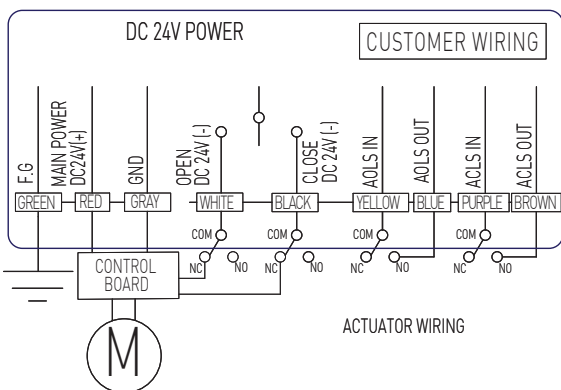


► SWITCH WIRING (POSITION : FULL CLOSE)

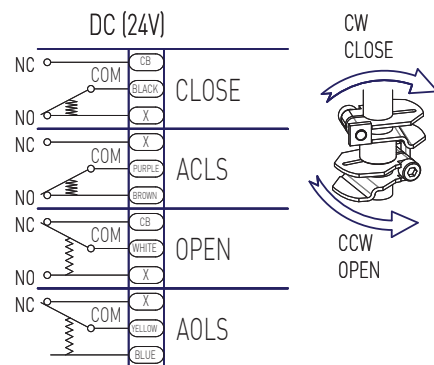


C3 [24V DC Control board 3 Wire]

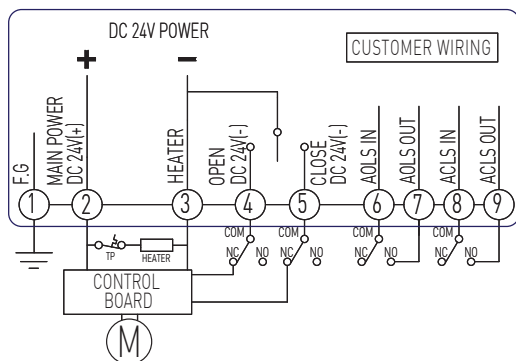
► KE002



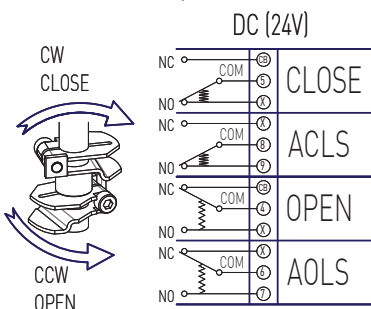
► SWITCH WIRING (POSITION : FULL CLOSE)



► KE004/KE006



► SWITCH WIRING (POSITION : FULL CLOSE)



Contents

Model code

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DC control board
2 wire/3 wire

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Product List

Explosion proof

► Standard specification

	KPxyyy (y=002,006,008,010)	KPxzzz (z=016,028,040,050)
ENCLOSURE	Ex d IIB T4 IP67	Ex db IIB T4 Gb IP67
AMBIENT TEMPERATURE	-20°C~70°C	-20°C~60°C
INDICATOR	KPF-Flat type, KPD-Dome type	
LIMIT SWITCHES	2 Each for Open and Close 250VAC/5A	
MANUAL OPERATION	By Spanner 5mm	By Declutch handwheel
TRAVEL ANGLE	90°±5°	
CABLE ENTRY	2-PF1/2	3-PF1/2

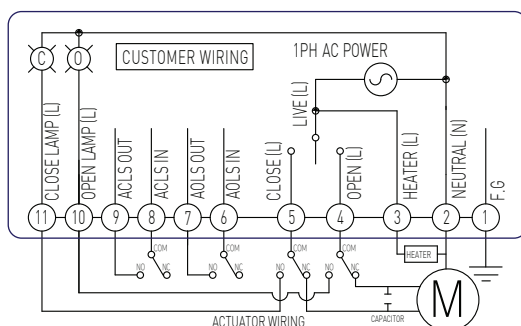


► Performance

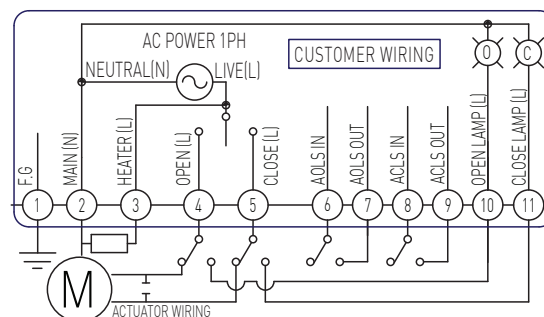
MODEL	MAX TORQUE (Nm)			OPERATING TIME 50Hz/60Hz (sec)	RATED CURRENT [A]					MOTER CLASS/OUTPUT (AC · DC)	MANUAL TURNS
					AC (1PH) 50/60Hz		AC (3PH) 50/60Hz		DC		
	0°	45°	90°		110V	220V	380V	440V	24V		
KPx002	25			8/6.5	0.67/0.6	0.23/0.2			2	E · B/10W · 10W	6
KPx006	60			18/15	0.67/0.6	0.23/0.2			2	E · B/10W · 10W	6
KPx008	80			34/28	0.67/0.6	0.23/0.2			2	E · B/10W · 10W	6
KPx010	100			42/35	0.67/0.6	0.23/0.2			2	E · B/10W · 10W	6
KPx016	160	107	160	28/23	0.94/0.85	0.50/0.46	0.47/0.37	0.62/0.49	4	F · B/25W · 40W	19
KPx028	280	190	280	40/33	0.94/0.85	0.50/0.46	0.47/0.37	0.62/0.49	4	F · B/25W · 40W	23
KPx040	400	270	400	40/33	1.09/1.23	0.54/0.58	0.16/0.15	0.18/0.16	5.5	F · B/25W · 40W	23
KPx050	500	350	500	40/33	1.55/1.75	0.72/0.90	0.30/0.28	0.40/0.30		F40W	23

► Drawing

► AC 1PH
KPxyyy (y=002, 006, 008, 010)



► AC 1PH
KPxzzz (z=016, 028, 040, 050)



Product List

► Pneumatic actuator

Scotch yoke

(Double acting/Spring return) ~10,000Nm

► A50/A65/A80/A100/A125/A140/A160/A185/A210/A250/A300/A350

Rack pinion

(Double acting/Spring return) 4Nm~

► R32/R40/R50/R65/R80/R90/R100/R115/R125/R140/R160/R185/R210

► Electric actuator

Quarter turn	Explosion proof	Quick operating time	Safe-return
8Nm~2,000Nm	25Nm~500Nm	10Nm~25Nm	20Nm~60Nm
► Spur gear KE001/KE002/KE004/ KE005/KE006/KE008 ► TR gear(scotch yoke) KE010/KE016/KE028/ KE040/KE050/KE080/ KE120/KE200	KP002/KP006/KP008/ KP010/KP016/KP028/ KP040/KP050	KS001(1second 10Nm) KS002(3seconds 25Nm)	KR002 KR004 KR005 KR006

► Valve position indicator

- Weather proof KLS1x
- Explosion proof KLS2x



*in development

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► ISO5211 & stem

	Standard	Option	Wt (Kg)
KE001	F03/05, 9*9		0.7
KE002	F03/05, 11*11		0.9
KE004	F03/05/07, 11*11	14*14	1.5
KE005	F03/05/07, 14*14	11*11	1.3
KE006	F03/05/07, 14*14		1.9
KE008	F03/05/07, 14*14	F05/07, 17*17	2.6
KE010	F05/07, 14*14	17*17	3.0
KE016	F05/07/10, 17*17		6.2
KE028	F07/10, 22*22	F07/10/12, 27*27	8.9
KE040	F07/10, 22*22	F07/10/12, 27*27	9.4
KE050	F07/10, 22*22	F07/10/12, 27*27	9.4
KE080	F10/12, 36*36	F10/14, 36*36	26.0
KE120	F10/12, 36*36	F10/14, 36*36	26.0
KP010	F03/05/07, 14*14		6.3
KP050	F05/07/12, 27*27		14.9

► Option table

Option	Description		Model											
			KE002	KE004	KE005	KE006	KE008	KE010	KE016	KE028	KE040	KE050	KE080	KE120
WT	Watertight (IP68 5m 120hr)		○	○	○	○	○	○	○	○	○	○	○	○
TS	Electric Torque switches								○	○	○	○	○	○
MC	Modulating Control (4-20mA)	1ph	○	○	○	○	○	○	○	○	○	○	○	○
SM	Modulating cotrol (4-20mA,0-10V,2-10V,0-5V,1-5V)	1ph	○	○	○	○	○	○	○	○	○	○	○	○
		24v dc	○	○	○	○	○	○	○	○	○			
LC	Local Control (Electric torque switch included)	1ph							○	○	○	○	○	○
		3ph							○	○	○	○	○	○
LM	Local and Modulating control (Electric torque switch included)	1ph							○	○	○	○	○	○
		3ph							○	○	○	○	○	○
C2	24V DC Control board (2 Wire)		○	○		○	○	○						
C3	24V DC Control board (3 Wire)		○	○	Standard Included	○			○	○	○			
TP	Thermal Protection						(Only AC) Standard Included							
HT	Heater		○	○	(Only AC) Standard Included	○	(Only AC) Standard Included							
TH	Thermal Protection and Heater			○		○								