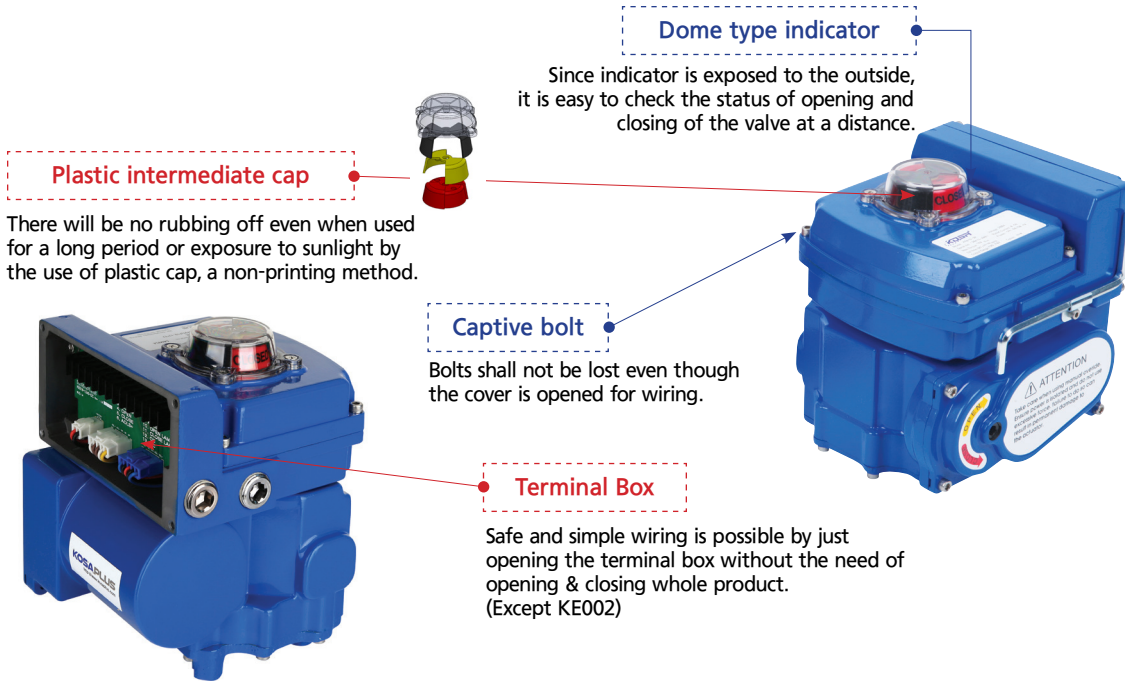


Electric actuator



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Explosion proof

► Selection guide

Valve Size		Ball Valve (2way/10K/#150)	Butterfly Valve (2way/10K/#150)
1/2"	15A	KE002	
3/4"	20A	KE004	
1"	25A		
1-1/4"	32A	KE005	
1-1/2"	40A	KE006	KE002
2"	50A	KE008	
2-1/2"	65A	KE010	KE004
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

- Data contained in the Catalog may be subject to change without advance notice for improvement of performance&safety of Product.
- Contact us for the most recent product and technical information. Visit our website for more details : <http://www.kosaplus.com>

► Model code

Q5N20-2AL357C14-OP

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 : 100-240V AC (KE005)
2M : 24V AC/DC (KE005/KE016-KE040)
※ maximum range ±10%

*Standard



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► 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			
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			
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

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DC control board 2 wire/3 wire

Local control

Explosion proof

► ISO5211 & stem

	Standard	Option	Wt (Kg)
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	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 ANGEL	90° ± 5°	
INSIDE 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)	

Dimension

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Wiring

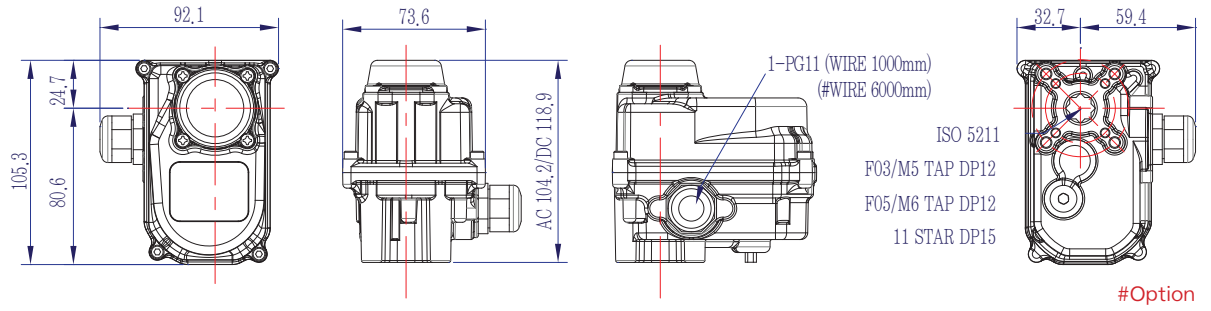
Option table Modulating Control

DC control board 2 wire/3 wire

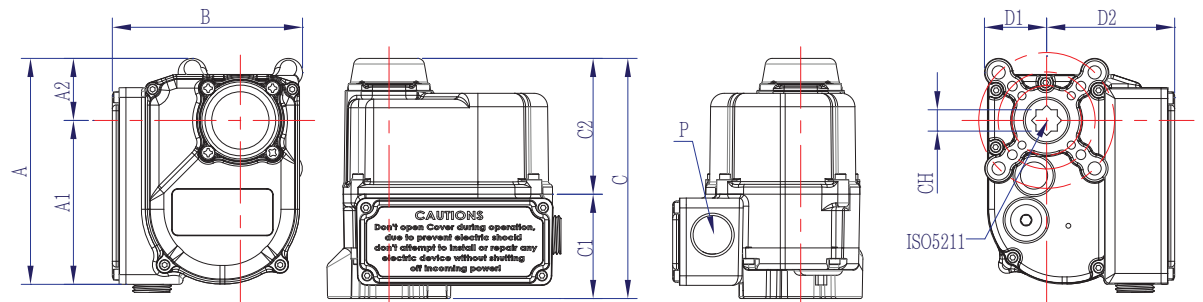
Local control

Explosion proof

KE002



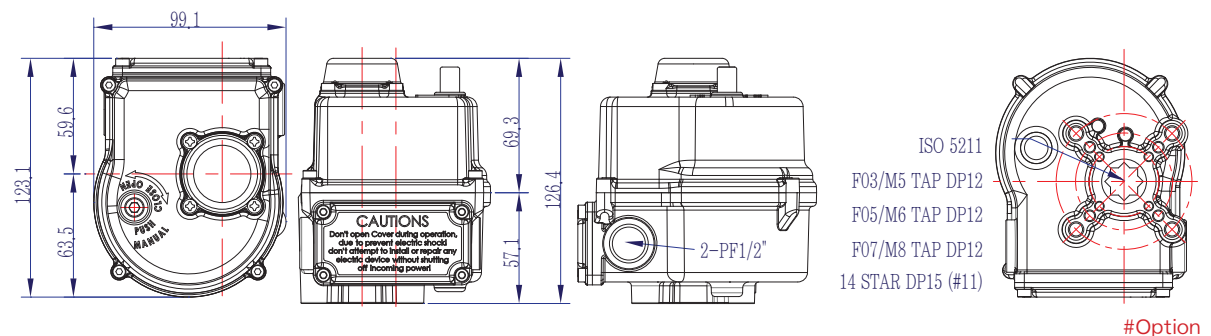
KE004 / KE006 / KE008



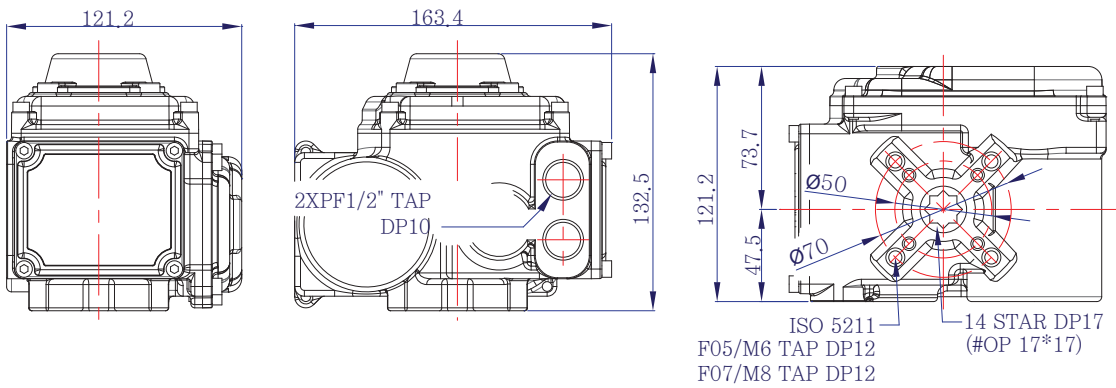
MODEL	A	A1	A2	B	C	C1	C2	ISO5211	P.C.D	N-M	CH	DTH	P
KE004	116.5	32	84.5	98.1	123.8	53.8	70	F03/F05/F07	36/50/70	4-M5/M6/M8	11*11	15	1-PF1/2
											#14*14	16	
KE006	122	34.2	97.9	111.3	134.5	59	75.5	F03/F05/F07	36/50/70	4-M5/M6/M8	14*14	16	1-PF1/2
KE008	125.3	33.7	91.6	122.3	155.5	81.5	74	F03/F05/F07	36/50/70	4-M5/M6/M8	14*14	16	2-PF1/2
								#F05/07	50/70	4-M6/M8	17*17	19	

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

KE005



KE010



Contents

Model code

Performance Specification
ISO5211&stem

Dimension

Wiring

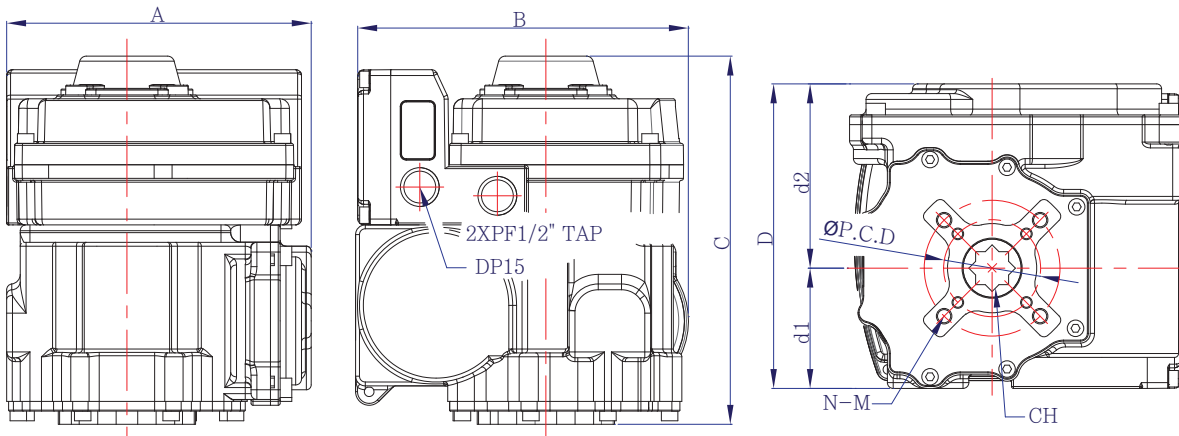
Option table
Modulating Control

DC control board
2 wire/3 wire

Local control

Explosion proof

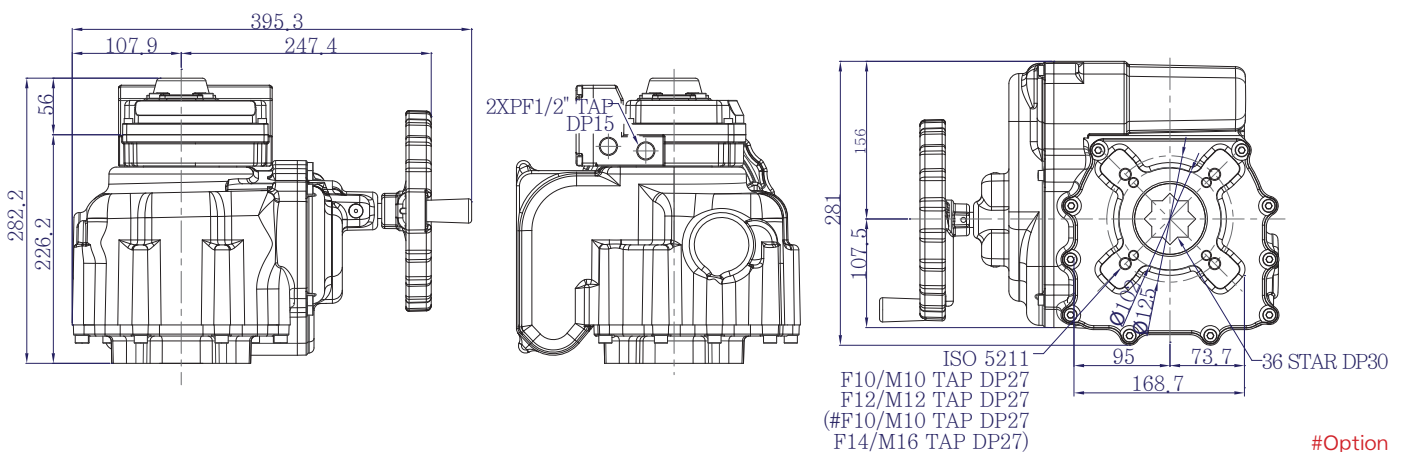
KE016 / KE028 / KE040 / KE050



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



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

Contents

Model code

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Option table Modulating Control

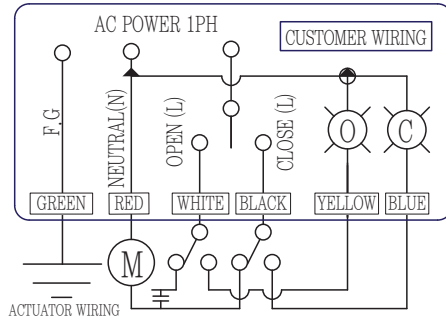
DC control board 2 wire/3 wire

Local control

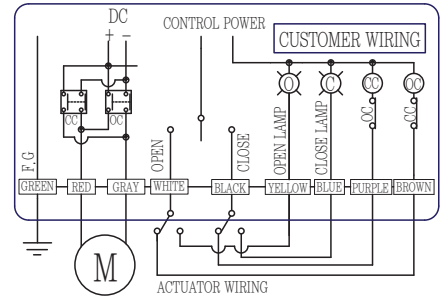
Explosion proof

KE002

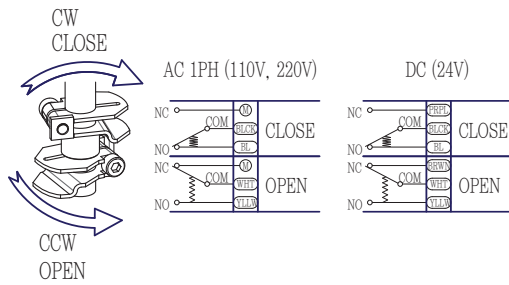
AC 1PH



DC 24V



SWITCH WIRING (POSITION : FULL CLOSE)

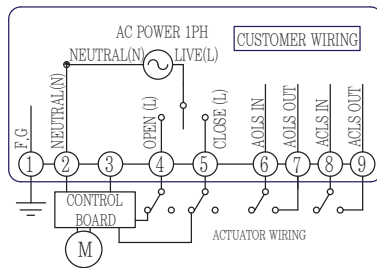


LIMIT SWITCH OPERATION

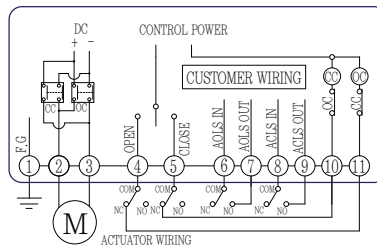
SWITCH	CLOSE	← INTERMEDIATE →	OPEN
CLS COM-NC		█	
CLS COM-NO	█		
OLS COM-NC	█		
OLS COM-NO			█

KE004 / KE005 / KE006

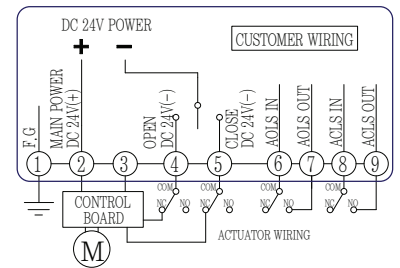
AC 1PH



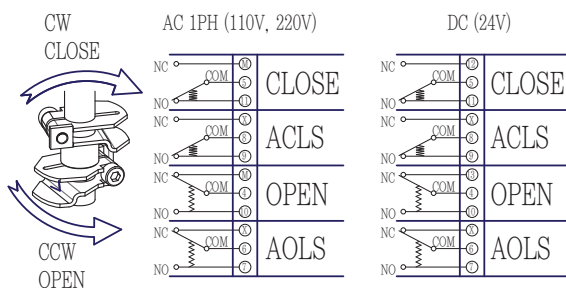
DC 24V (KE004/KE006)



DC 24V (KE005)



SWITCH WIRING (POSITION : FULL CLOSE)

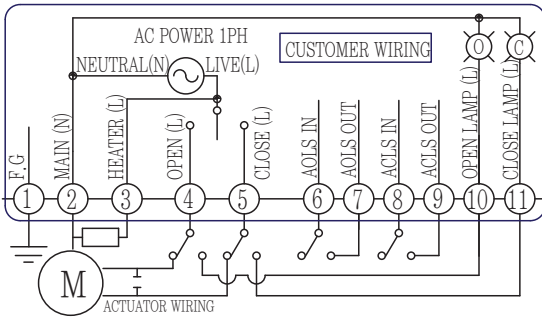


LIMIT SWITCH OPERATION

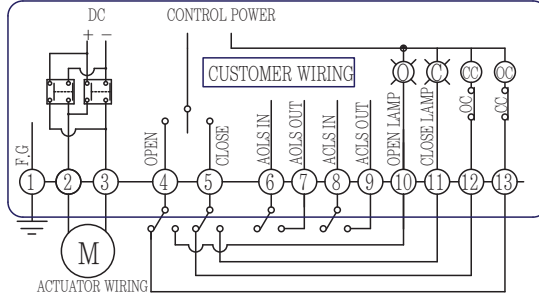
SWITCH	CLOSE	← INTERMEDIATE →	OPEN
CLS COM-NC		█	
CLS COM-NO	█		
ACLS COM-NC		█	
ACLS COM-NO	█		
OLS COM-NC	█		
OLS COM-NO			█
AOLS COM-NC	█		
AOLS COM-NO			█

KE008 ~ KE120

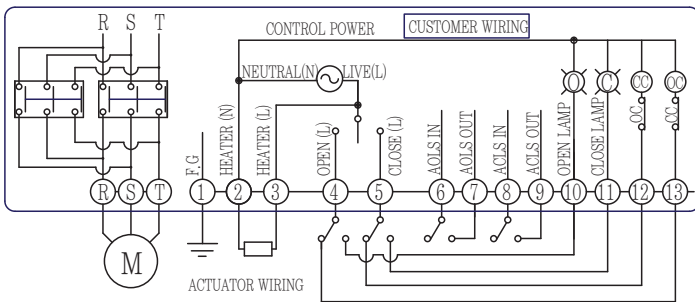
▶ AC 1PH



▶ DC 24V (KE008~KE040)



▶ AC 3PH (KE016~KE120)

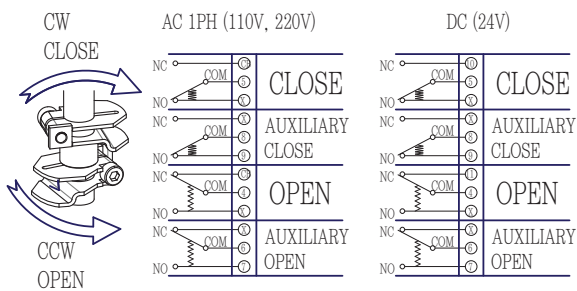


▶ LIMIT SWITCH OPERATION

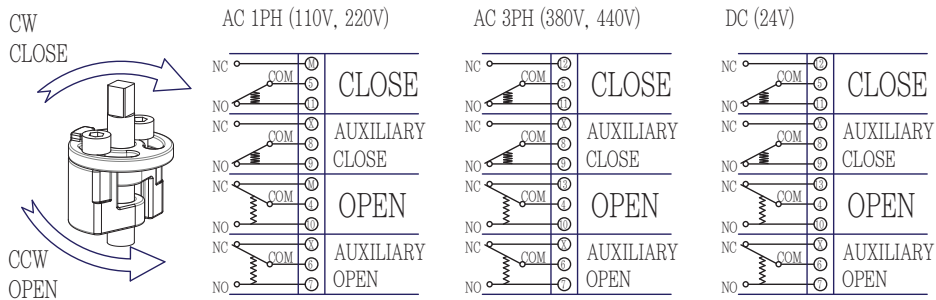
SWITCH	CLOSE ← INTERMEDIATE → OPEN
CLS COM-NC	█
CLS COM-NO	█
ACLS COM-NC	█
ACLS COM-NO	█
OLS COM-NC	█
OLS COM-NO	█
AOLS COM-NC	█
AOLS COM-NO	█

▶ SWITCH WIRING (POSITION : FULL CLOSE)

▶ KE008



▶ KE010 ~ KE120



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► Option table

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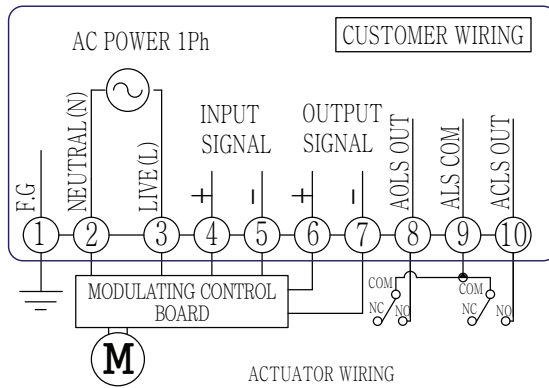
Option	Description	Model											
		KE002	KE004	KE005	KE006	KE008	KE010	KE016	KE028	KE040	KE050	KE080	KE120
WT	Watertight (IP68 5m 120hr)	○	○	○	○	○	○	○	○	○	○	○	○
TS	Electric Torque switches								○	○	○	○	○
MC	Modulating Control (4~20mA)	1ph	○	○	○	○	○	○	○	○	○	○	○
SM	Modulating cotrol (4~20mA,0~1V,2~10V,0~5V,1~5V)	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 Protect											(Only AC) Standard Included	
HT	Heater			(Only AC) Standard Included								(Only AC) Standard Included	
TH	Thermal protect and Heater	○	○		○								

► Wiring

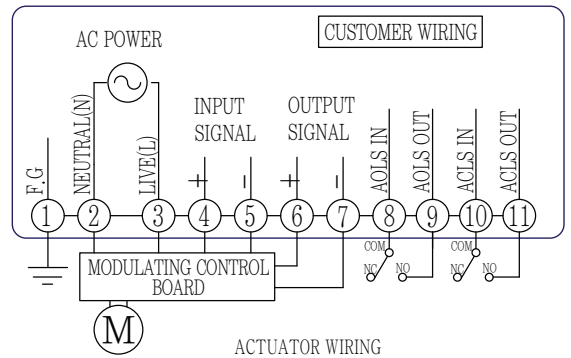
MC&SM (Modulating Control)

*MC and SM are the same wiring.

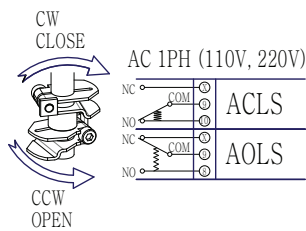
► AC 1PH (KE002~KE006)



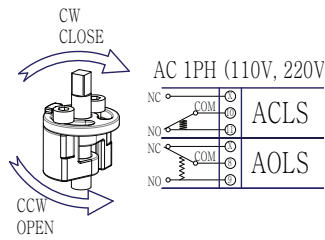
► AC 1PH (KE008~KE120)



► KE008



► KE010~KE120



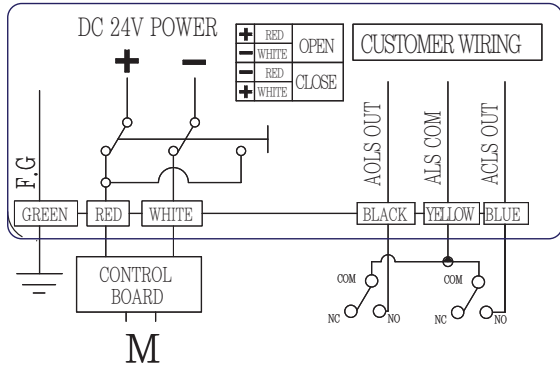
► LIMIT SWITCH OPERATION

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	■	■	■

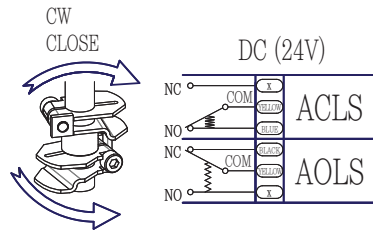
* MC option model's dimension is different with standard.
(KE002, KE004, KE006, KE010~KE120)

C2 (24V DC Control board 2 Wire)

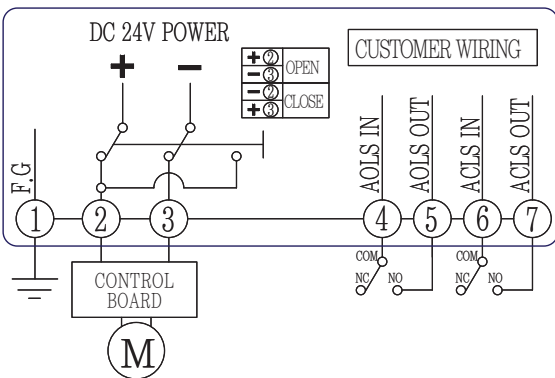
▶ KE002



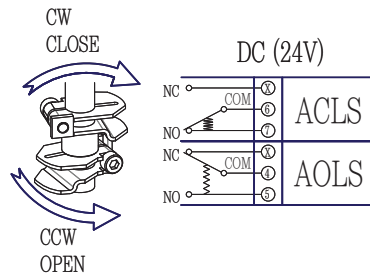
▶ SWITCH WIRING (POSITION : FULL CLOSE)



▶ KE004/KE006/KE008

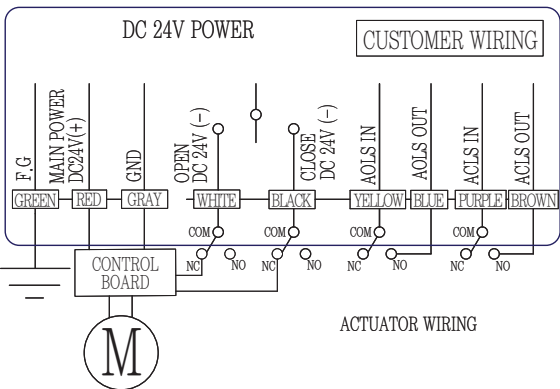


▶ SWITCH WIRING (POSITION : FULL CLOSE)

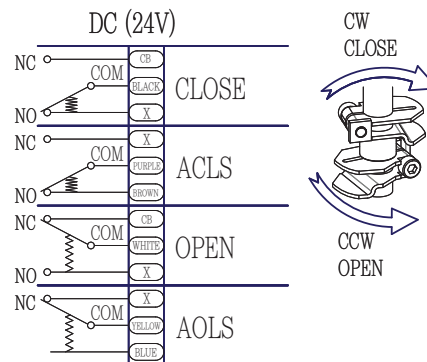


C3 (24V DC Control board 3 Wire)

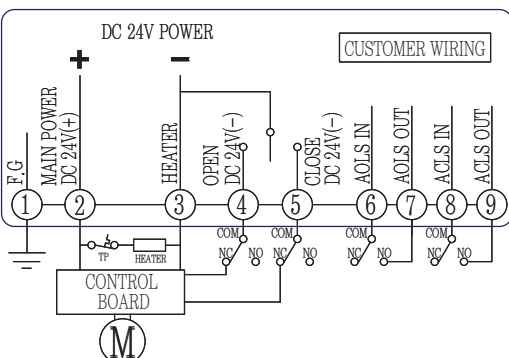
▶ KE002



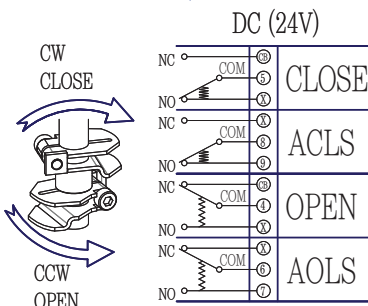
▶ SWITCH WIRING (POSITION : FULL CLOSE)



▶ KE004/KE006



▶ SWITCH WIRING (POSITION : FULL CLOSE)



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2 wire/3 wire

Local control

Explosion proof

LC (Local Control)

Contents

Model code

Performance Specification ISO5211&stem

Dimension

Wiring

Option table Modulating Control

DC control board 2 wire/3 wire

Local control

Explosion proof

MODEL RANGE	<ul style="list-style-type: none"> ·1ph Local control ·3ph Local control ·1ph Local control with Modulating control (Torque switch is included) ·3ph Local control with Modulating control (Torque switch is included) 	
AMBIENT TEMPERATURE INDICATOR	-20°C~+60°C	
LIMIT SWITCHES	2 Each for Open and Close 250VAC/5A	
MANUAL OPERATION	KE016	By Spanner 6mm
	KE028, KE040, KE050	By Spanner 8mm
	KE080, KE120	BY Hand wheel
TRAVEL ANGLE	90°+5	
CABLE ENTRIES	3-PF1/2	

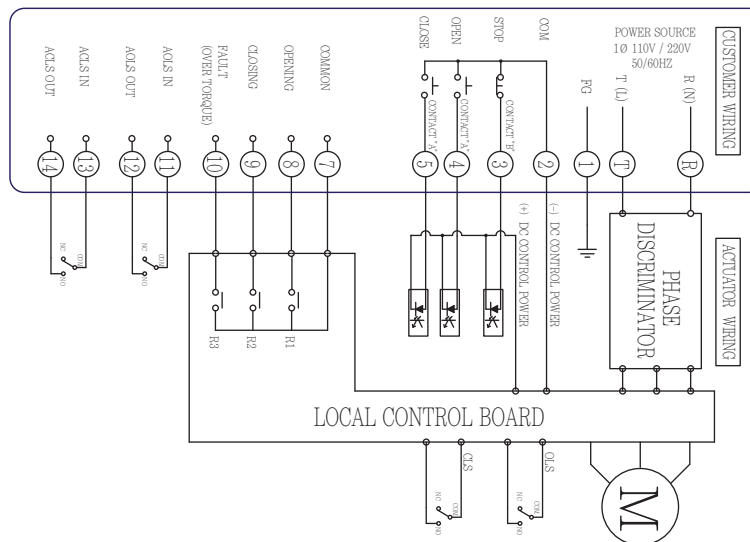


▶ Performance

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 24V		
					110V	220V	380V	440V			
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

▶ Wiring • 1PH LC (KE016, KE028, KE040, KE050, KE080, KE120)



STOP : REMOTE MODE ACTUATOR STOP
 OPEN : REMOTE MODE OPEN RUNNING
 CLOSE : REMOTE MODE CLOSE RUNNING
 R1 : OPENING MONITOR RELAY
 R2 : CLOSING MONITOR RELAY
 R3 : FAULT RELAY
 OLS : OPEN LIMIT SWITCH
 CLS : CLOSE LIMIT SWITCH

Explosion proof

► Standard specification

ENCLOSURE	Ex d IIB T4 IP67
AMBIENT TEMPERATURE	-20°C~+70°C
INDICATOR	Flat type mechanical indicator (Dome type in option)
LIMIT SWITCHES	2 Each for Open and Close 250VAC/5A
MANUAL OPERATION	By Spanner 5mm
TRAVEL ANGLE	90° +5°
CABLE ENTRIES	2-PF1/2



Contents

Model code

Performance Specification ISO5211&stem

Dimension

Wiring

Option table Modulating Control

DC control board 2 wire/3 wire

Local control

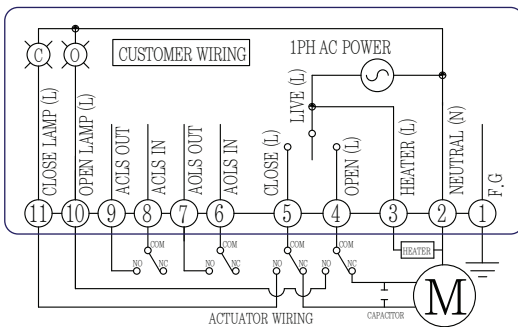
Explosion proof

► Performance

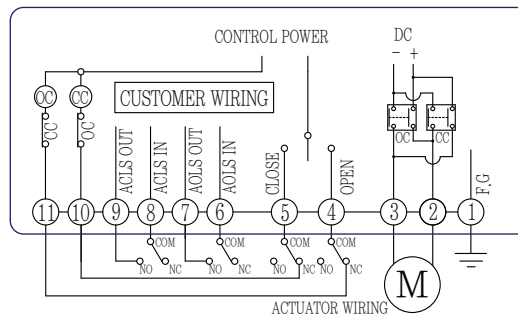
MODEL	MAX TORQUE (Nm)	OPERATING TIME 50Hz/60Hz(sec)	RATED CURRENT (A)			MOTOR CLASS/OUTPUT (AC·DC)	MANUAL TURNS
			AC (1PH) 50/60Hz		DC		
			110V	220V			
KP010-5G	25	8 / 6.5	0.67/0.6	0.23/0.2	2	E·B/10W·10W	6
KP010-6G	60	18 / 15	0.67/0.6	0.23/0.2	2	E·B/10W·10W	6
KP010-7G	80	34 / 28	0.67/0.6	0.23/0.2	2	E·B/10W·10W	6
KP010-8G	100	42 / 35	0.67/0.6	0.23/0.2	2	E·B/10W·10W	6

► Drawing

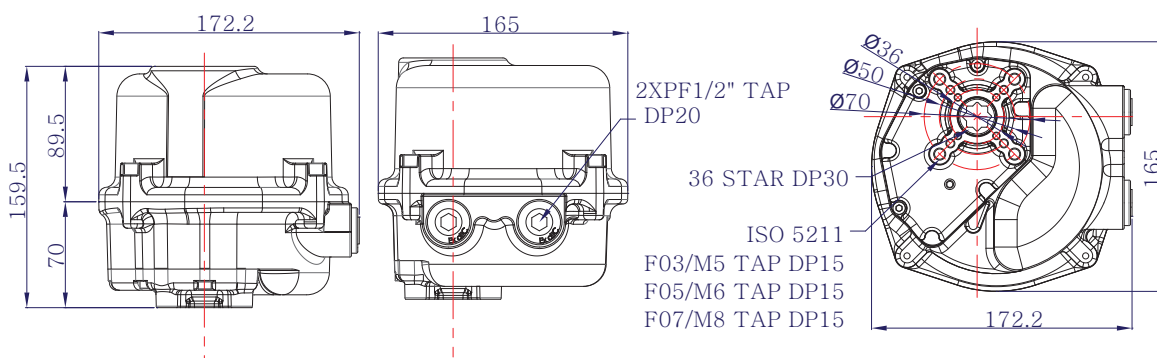
► AC 1PH



► DC 24V



► Dimension table



► ISO5211 & stem

	Standard	Option	Wt (Kg)
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

► 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 control (4~20mA,0~1V,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 Protect												(Only AC) Standard Included
HT	Heater			(Only AC) Standard Included									(Only AC) Standard Included
TH	Thermal protect and Heater	○	○		○								

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