

# Electric actuator

**KE001 released**

## Contents

Model code

Performance Specification  
ISO5211&stem

Dimension

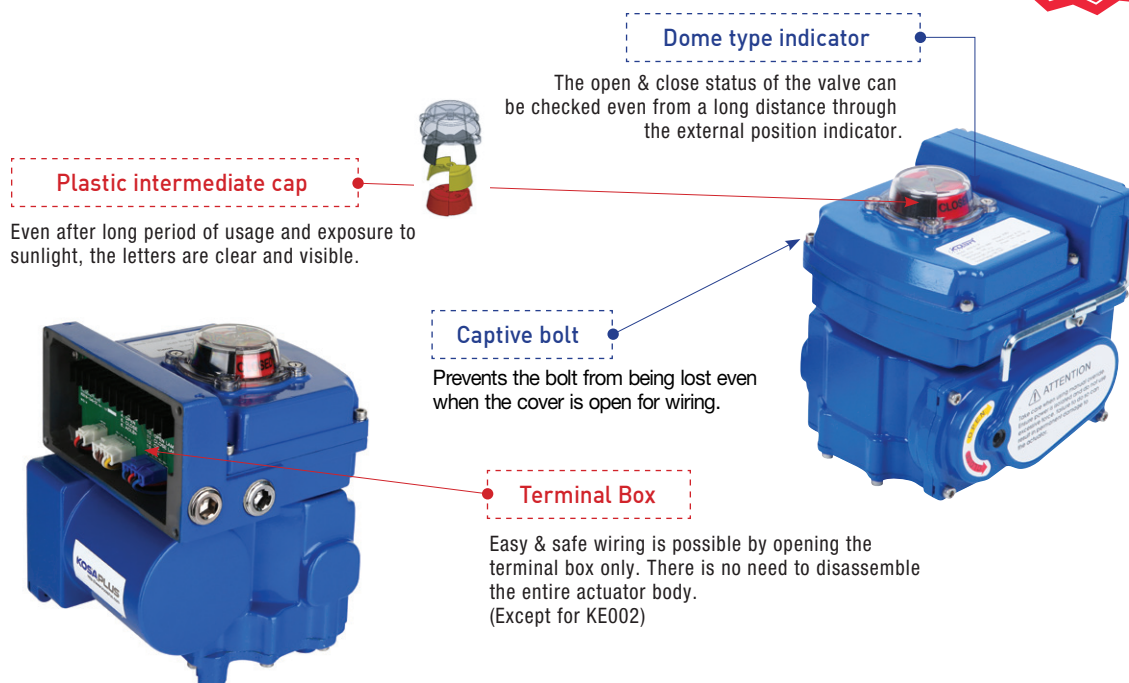
Wiring

Option table  
Modulating Control

DC control board  
2 wire/3 wire

Local control

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                      | 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                           |

- 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>

**KOSA PLUS**

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## ► Model code

# Q5N20-2AL357C14-0P

| (a)              | (b)                                                                              | (c)                                                      | (d)                                | (e)                                                       | (f)                                | (g)                             | (h)                               |
|------------------|----------------------------------------------------------------------------------|----------------------------------------------------------|------------------------------------|-----------------------------------------------------------|------------------------------------|---------------------------------|-----------------------------------|
| <b>Mechanism</b> | <b>Model</b>                                                                     |                                                          |                                    | <b>Color</b>                                              | <b>ISO5211</b>                     | <b>STEM</b>                     | <b>Option</b>                     |
| Q : Quarter turn | 2 : KE002<br>4 : KE004<br>5 : KE005<br>6 : KE006<br>8 : KE008<br>10 : KE010<br>: |                                                          |                                    | *L : Blue<br>K : Black<br>R : Red<br>G : Grey<br>M : Mint | 3 : F03<br>5 : F05<br>7 : F07<br>: | C11 : 11*11<br>C14 : 14*14<br>: | Refer to option table<br>(Page 8) |
|                  |                                                                                  | <b>Option torque</b><br>Low torque/Faster operating time |                                    |                                                           |                                    |                                 |                                   |
|                  |                                                                                  | Refer to performance table (page 3)                      |                                    |                                                           |                                    |                                 |                                   |
|                  |                                                                                  | *Blank : Standard<br>N20 : 20Nm<br>N100 : 100Nm<br>:     |                                    |                                                           |                                    |                                 |                                   |
|                  |                                                                                  |                                                          | <b>Voltage</b>                     |                                                           |                                    |                                 |                                   |
|                  |                                                                                  |                                                          | 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

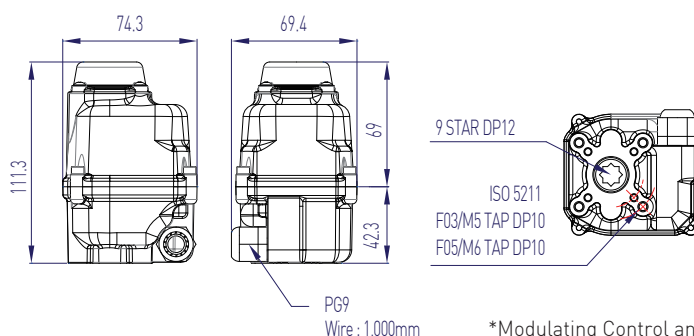
| MODEL    | MAX<br>TORQUE<br>(Nm) | OP. TIME<br>50/60Hz(sec) | RATED CURRENT(A) |           | DUTY-<br>CYCLE | MOTOR<br>CLASS/<br>OUTPUT |
|----------|-----------------------|--------------------------|------------------|-----------|----------------|---------------------------|
|          |                       |                          | 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<br>MECHANICAL INDICATOR<br>(Option : Flat side indicator) | EXTERNAL COATING    | POWDER COATING               |
| MANUAL OPERATION | N/A                                                                 | INSIDE HEATER       | 1PH 220V/110 2W<br>(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<br>50/60Hz<br>[sec] | RATED CURRENT (A) |           |            |           |     | MOTOR INSULATION<br>/OUTPUT(AC-DC) | MANUAL<br>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) |
|-------|------------------|------------------|---------|
| 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 ANGLE              | 90°+5°                                                                                                                              |                                      |
| INTERNAL HEATER (Only AC) | (KE002, KE004, KE006, KE008) N/A<br>(KE005, KE008-KE120) 1PH 220/110V AC                                                            |                                      |
| CABLE ENTRY               | (KE002) Cable wire {1000mm, 6000mm in option}<br>(KE004/KE006) Terminal box {1-PF1/2}<br>(KE005/KE008-KE120) Terminal box {2-PF1/2} |                                      |

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DC control board  
2 wire/3 wire

Local control

Explosion proof

## ► Dimension

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ISO5211&stem

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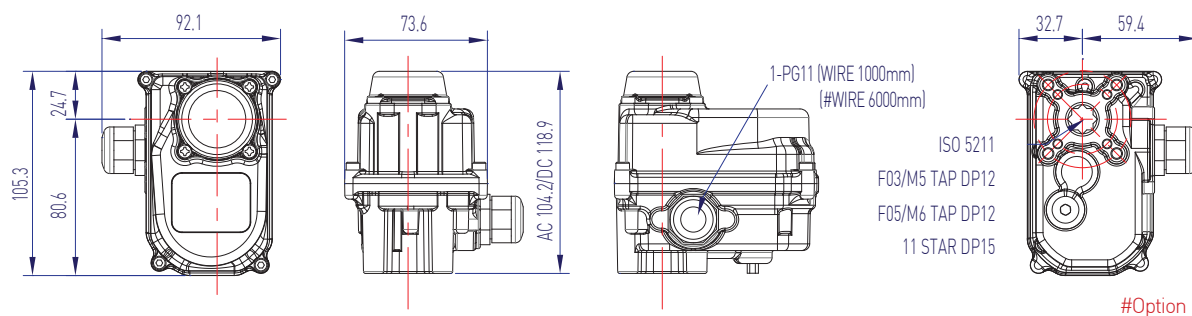
Option table  
Modulating Control

DC control board  
2 wire/3 wire

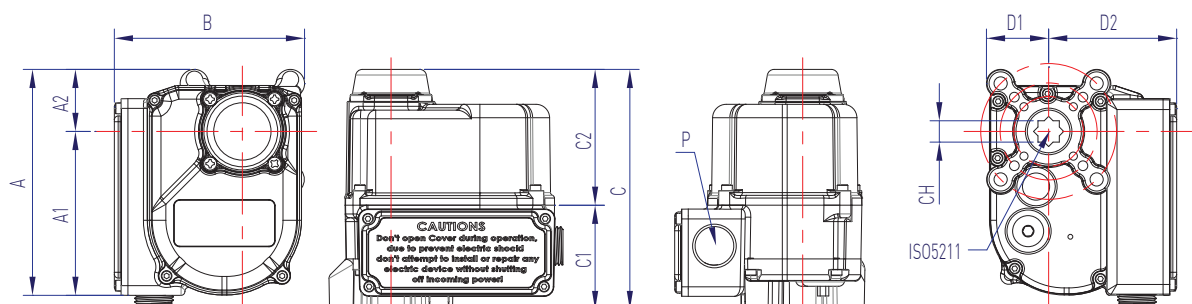
Local control

Explosion proof

### KE002



### KE004 / KE006 / KE008

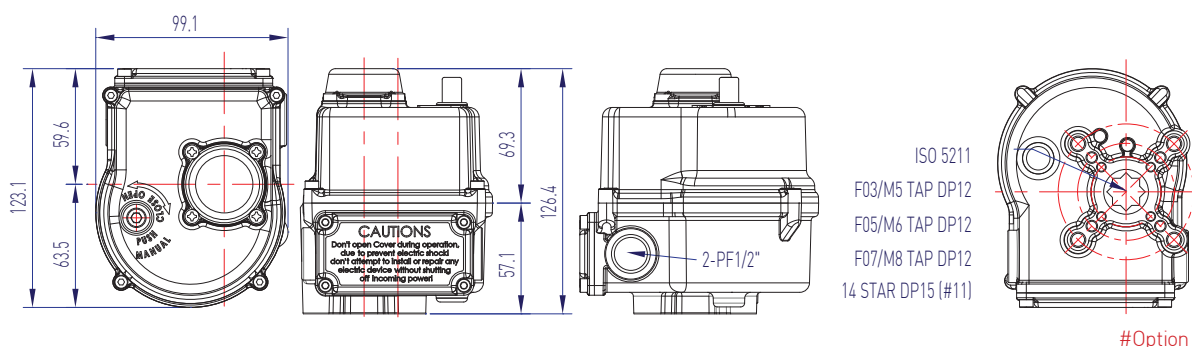


| MODEL | A     | A1   | A2   | B     | C     | C1   | C2   | D1   | D2   | ISO5211                   | P.C.D    | N-M        | CH     | DTH | P       |
|-------|-------|------|------|-------|-------|------|------|------|------|---------------------------|----------|------------|--------|-----|---------|
| 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   | <sup>1)</sup> F03/F05/F07 | 36/50/70 | 4-M5/M6/M8 | 14*14  | 16  | 2-PF1/2 |
|       |       |      |      |       |       |      |      |      |      | <sup>1)</sup> #F05/07     | 50/70    |            |        |     |         |

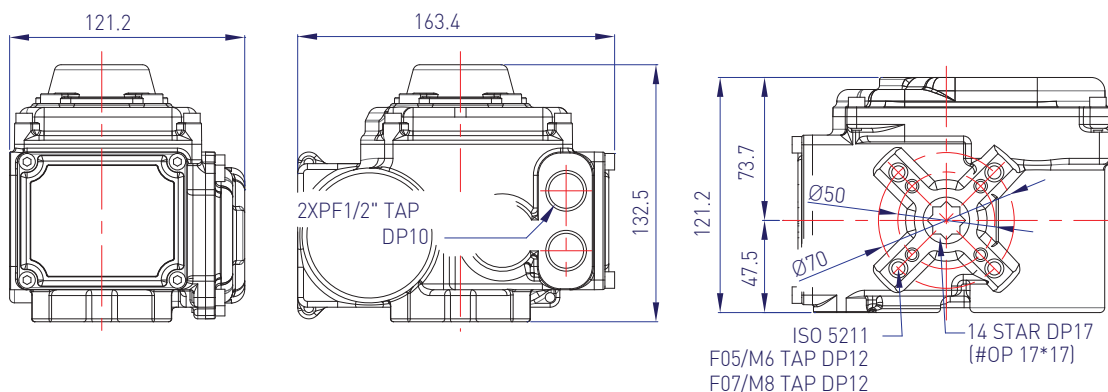
<sup>1)</sup>You can choose only F03/F05/F07 with 14\*14 or F05/F07 with 17\*17.

#Option

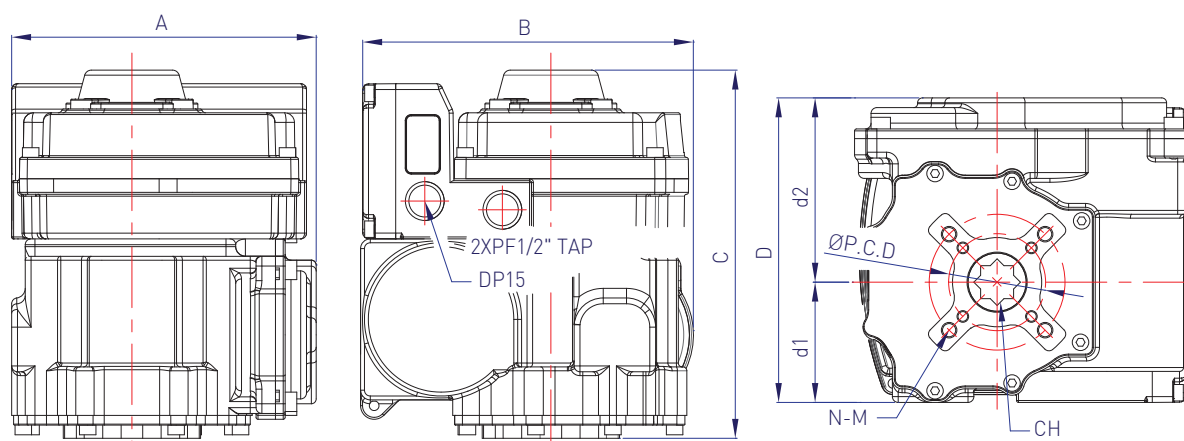
### KE005



## KE010



## KE016 / KE028 / KE040 / KE050

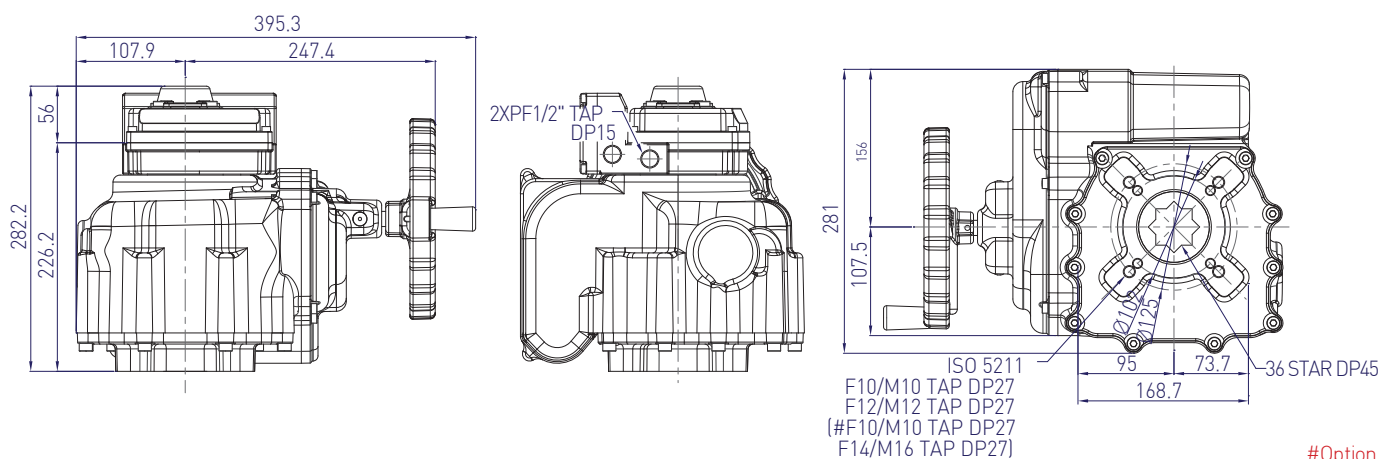


| MODEL | A     | B     | C     | D     | d1   | d2    | ISO                        | P.C.D       | N-M          | CH     | DTH |
|-------|-------|-------|-------|-------|------|-------|----------------------------|-------------|--------------|--------|-----|
| KE016 | 157.0 | 170.5 | 189.8 | 157   | 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 | <sup>1)</sup> F07/F10      | 70/102      | 4-M8/M10     | 22x22  | 24  |
| KE040 |       |       |       |       |      |       | <sup>1)</sup> #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

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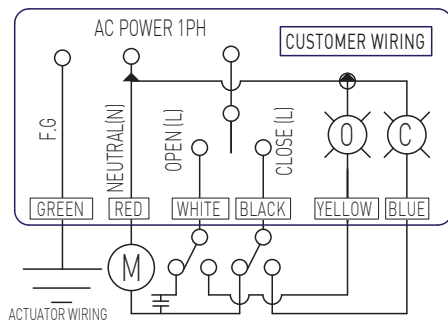
Explosion proof

## Wiring

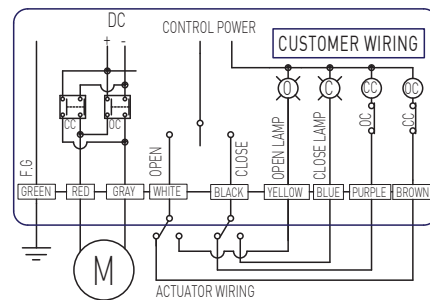
- 1) If two or more electric actuators are operated, there must be individual relays for each actuator.
- 2) Each actuator should have two relays (a relay for OPEN and a relay for CLOSE) respectively.

KE002

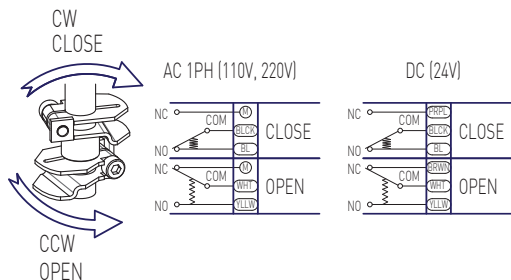
### AC 1PH



### DC 24V



### SWITCH WIRING (POSITION : FULL CLOSE)

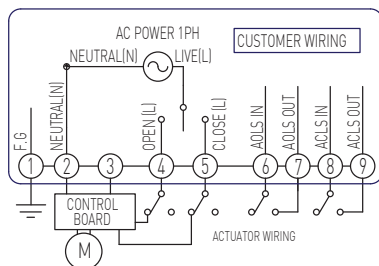


### LIMIT SWITCH OPERATION

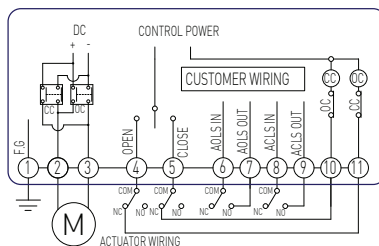
| SWITCH     | CLOSE | ← INTERMEDIATE → | OPEN |
|------------|-------|------------------|------|
| CLS COM-NC |       |                  |      |
| CLS COM-NO |       |                  |      |
| OLS COM-NC |       |                  |      |
| OLS COM-NO |       |                  |      |

KE004 / KE005 / KE006

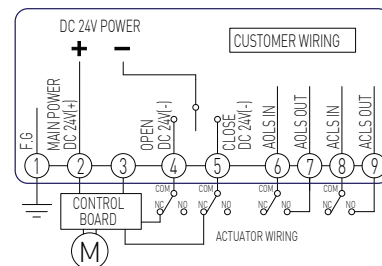
### AC 1PH



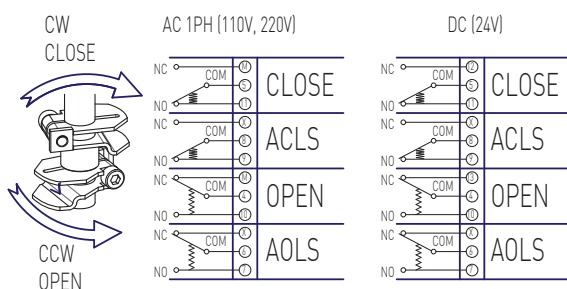
### DC 24V (KE004/KE006)



### DC 24V (KE005)



### SWITCH WIRING (POSITION : FULL CLOSE)

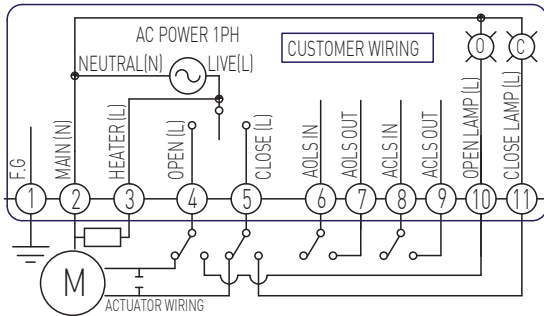


### LIMIT SWITCH OPERATION

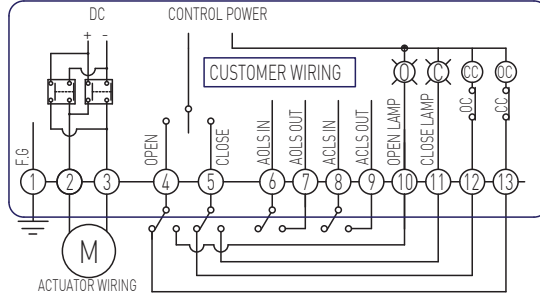
| SWITCH      | CLOSE | ← INTERMEDIATE → | OPEN |
|-------------|-------|------------------|------|
| CLS COM-NC  |       |                  |      |
| CLS COM-NO  |       |                  |      |
| ACLS COM-NC |       |                  |      |
| ACLS COM-NO |       |                  |      |
|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

## KE008 ~ KE120

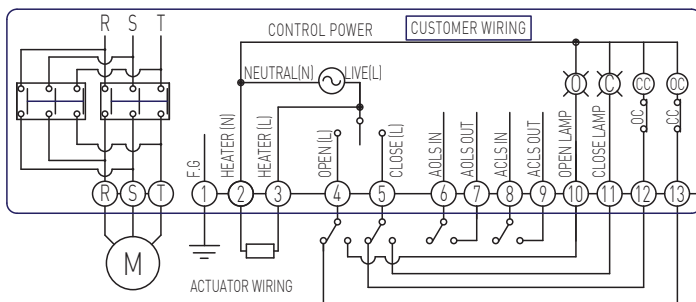
### ▶ AC 1PH



### ▶ DC 24V (KE008~KE040)



### ▶ AC 3PH (KE016~KE120)

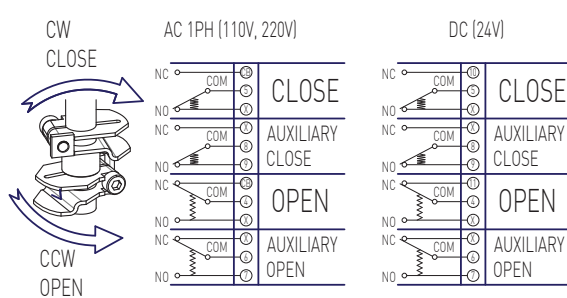


### ▶ LIMIT SWITCH OPERATION

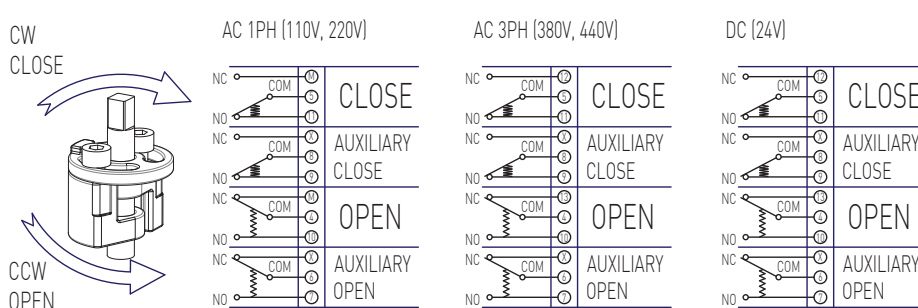
| SWITCH      | CLOSE | ← INTERMEDIATE | → OPEN |
|-------------|-------|----------------|--------|
| CLS COM-NC  |       |                |        |
| CLS COM-NO  |       |                |        |
| ACLS COM-NC |       |                |        |
| ACLS COM-NO |       |                |        |
|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

### ▶ SWITCH WIRING (POSITION : FULL CLOSE)

#### ▶ KE008



#### ▶ KE010 ~ KE120



## Contents

Model code

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Specification  
ISO5211&stem

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Modulating Control

DC control board  
2 wire/3 wire

Local control

Explosion proof

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Model code

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Specification  
ISO5211&stem

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Modulating Control

DC control board  
2 wire/3 wire

Local control

Explosion proof

## ► Option table

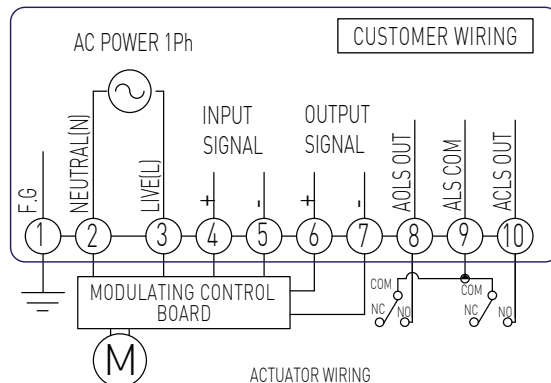
| Option | Description                                                       |        | Model |       |                                   |       |       |       |       |                             |       |       |       |       |
|--------|-------------------------------------------------------------------|--------|-------|-------|-----------------------------------|-------|-------|-------|-------|-----------------------------|-------|-------|-------|-------|
|        |                                                                   |        | 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<br>(4~20mA,0~1V,2~10V,0~5V,1~5V)                | 1ph    | ○     | ○     | ○                                 | ○     |       |       | ○     | ○                           | ○     | ○     | ○     | ○     |
|        |                                                                   | 24v dc | ○     | ○     | ○                                 | ○     | ○     | ○     | ○     | ○                           | ○     |       |       |       |
| LC     | Local Control<br>(Electric torque switch included)                | 1ph    |       |       |                                   |       |       |       | ○     | ○                           | ○     | ○     | ○     | ○     |
|        |                                                                   | 3ph    |       |       |                                   |       |       |       | ○     | ○                           | ○     | ○     | ○     | ○     |
| LM     | Local and Modulating control<br>(Electric torque switch included) | 1ph    |       |       |                                   |       |       |       | ○     | ○                           | ○     | ○     | ○     | ○     |
|        |                                                                   | 3ph    |       |       |                                   |       |       |       | ○     | ○                           | ○     | ○     | ○     | ○     |
| C2     | 24V DC Control board (2 Wire)                                     |        | ○     | ○     |                                   | ○     |       |       |       |                             |       |       |       |       |
| C3     | 24V DC Control board (3 Wire)                                     |        | ○     | ○     | Standard<br>Included              | ○     |       |       |       |                             |       |       |       |       |
| TP     | Thermal Protection                                                |        |       |       |                                   |       |       |       |       | (Only AC) Standard Included |       |       |       |       |
| HT     | Heater                                                            |        |       |       | (Only AC)<br>Standard<br>Included |       |       |       |       | (Only AC) Standard Included |       |       |       |       |
| TH     | Thermal Protection and Heater                                     |        | ○     | ○     |                                   | ○     |       |       |       |                             |       |       |       |       |

## ► Wiring

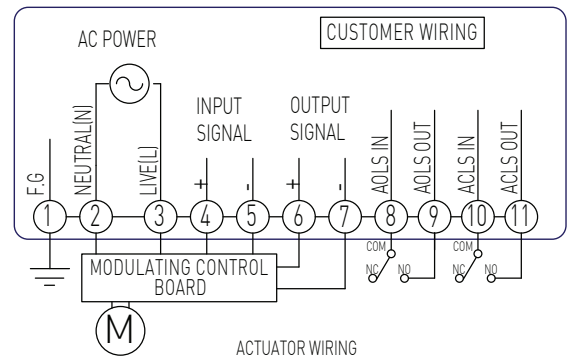
### MC&SM (Modulating Control)

\*Wiring for MC and SM are the same.

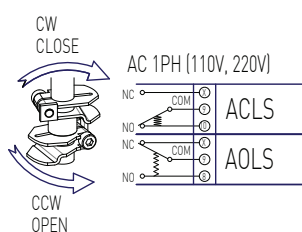
#### ► AC 1PH (KE002~KE006)



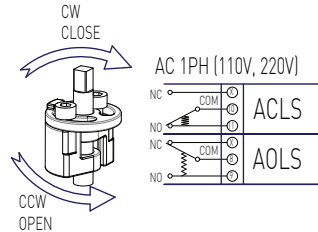
#### ► AC 1PH (KE008~KE120)



#### ► KE008



#### ► KE010~KE120



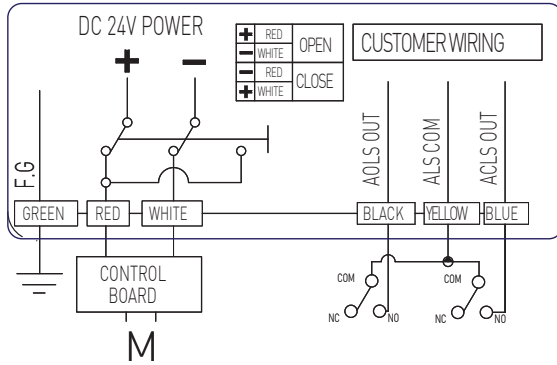
#### ► LIMIT SWITCH OPERATION

| 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 |       |                |        |

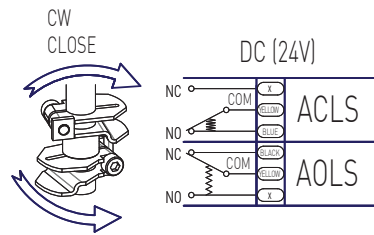
\* Dimensions for models with MC option are different from standard.  
(KE001, KE002, KE004, KE006, KE010~KE120)

## C2 [24V DC Control board 2 Wire]

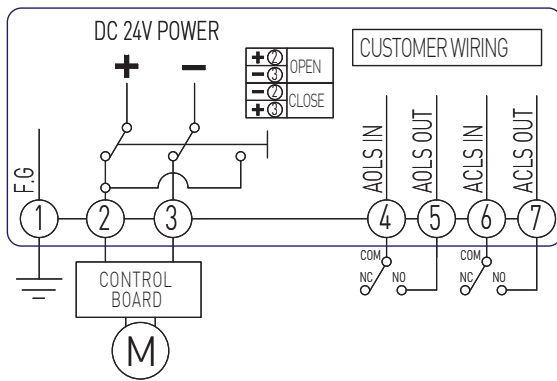
### ► KE002



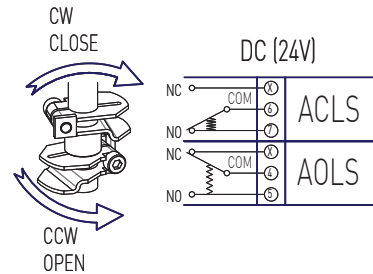
### ► SWITCH WIRING (POSITION : FULL CLOSE)



### ► KE004/KE006/KE008

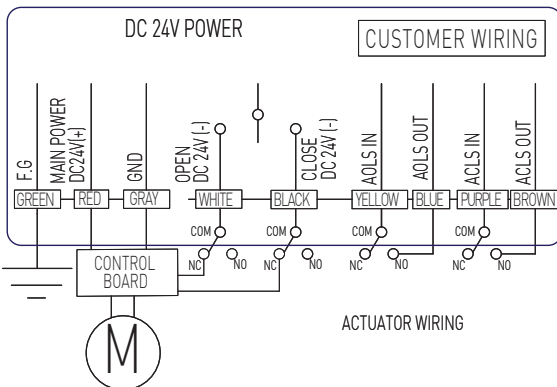


### ► SWITCH WIRING (POSITION : FULL CLOSE)

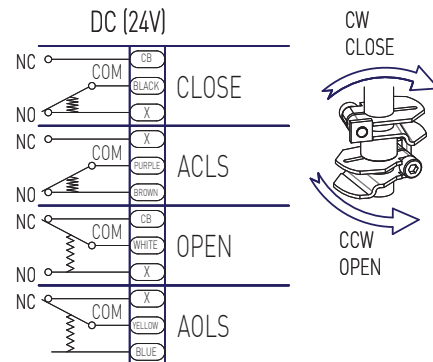


## C3 [24V DC Control board 3 Wire]

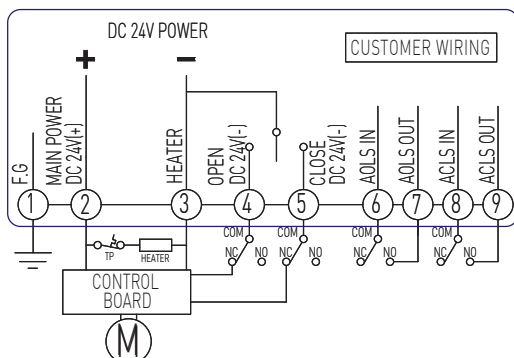
### ► KE002



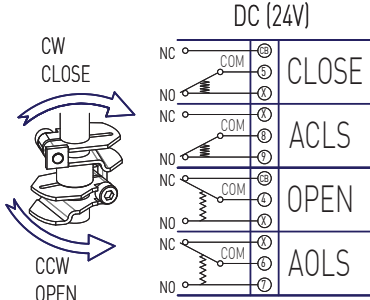
### ► SWITCH WIRING (POSITION : FULL CLOSE)



### ► KE004/KE006



### ► SWITCH WIRING (POSITION : FULL CLOSE)



## Contents

Model code

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2 wire/3 wire

Local control

Explosion proof

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DC control board  
2 wire/3 wire

Local control

Explosion proof

## LC (Local Control)

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



## ► Performance

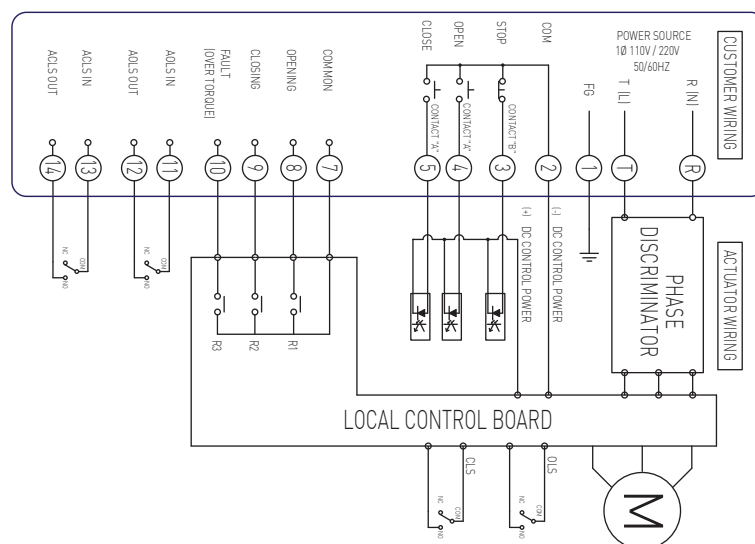
| MODEL       | MAX TORQUE<br>(Nm) |     |      | OP. TIME<br>50/60Hz<br>[sec] | RATED CURRENT (A) |           |            |           |     | MOTOR INSULATION<br>/OUTPUT(AC-DC) | MANUAL<br>TURNS |
|-------------|--------------------|-----|------|------------------------------|-------------------|-----------|------------|-----------|-----|------------------------------------|-----------------|
|             |                    |     |      |                              | AC(1PHASE)        |           | AC(3PHASE) |           | DC  |                                    |                 |
|             | 0°                 | 45° | 90°  |                              | 110V              | 220V      | 380V       | 440V      | 24V |                                    |                 |
| 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

|                     | 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                    |

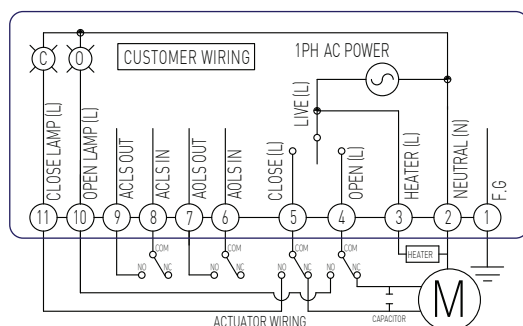


### ► Performance

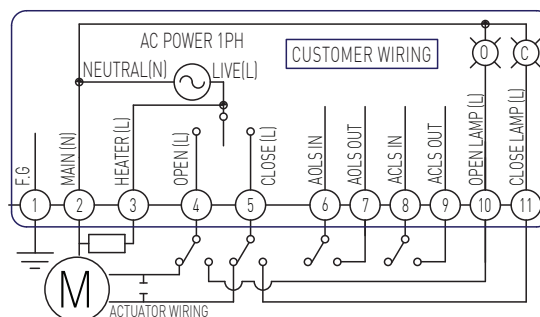
| MODEL  | MAX TORQUE (Nm) |     |     | OPERATING TIME<br>50Hz/60Hz (sec) | RATED CURRENT (A) |           |                  |           | MOTER CLASS/OUTPUT (AC · DC) | MANUAL TURNS    |     |
|--------|-----------------|-----|-----|-----------------------------------|-------------------|-----------|------------------|-----------|------------------------------|-----------------|-----|
|        |                 |     |     |                                   | 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)



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Model code

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ISO5211&stem

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Modulating Control

DC control board  
2 wire/3 wire

Local control

Explosion proof

## ► IS05211 & 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 cotrol<br>(4~20mA, 0~1V, 2~10V, 0~5V, 1~5V)            | 1ph    | ○     | ○     | ○                           | ○     | ○                           | ○     | ○     | ○     | ○     | ○     | ○     | ○     |
|        |                                                                   | 24v dc | ○     | ○     | ○                           | ○     | ○                           | ○     | ○     | ○     | ○     |       |       |       |
| LC     | Local Control<br>(Electric torque switch included)                | 1ph    |       |       |                             |       |                             |       | ○     | ○     | ○     | ○     | ○     | ○     |
|        |                                                                   | 3ph    |       |       |                             |       |                             |       | ○     | ○     | ○     | ○     | ○     | ○     |
| LM     | Local and Modulating control<br>(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                                     |        | ○     | ○     |                             | ○     |                             |       |       |       |       |       |       |       |

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Catalog version : 5.2 (May. 2022)

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