## DK-REA SERİSİ / DK-REA SERIES

I

## DK-MTD SERİSİ / DK-MTD SERIES – RS485 MODBUS

MTD-01B Intelligent Bus | MTD-02B Intelligent Bus | MTD-05B Intelligent Bus | MTD-08B Intelligent Bus | MTD-11B Intelligent Bus | MTD-20B Intelligent Bus | MTD-40B Intelligent Bus

### Intelligent Bus MTD-0XB

| Model | MTD-01B | MTD-02B | MTD-05B | MTD-08B | MTD-11B | MTD-20B | MTD-40B |
|---|---|---|---|---|---|---|---|
| Voltage | AC/DC24V AC/DC95-265V | AC/DC24V AC/DC95-265V | AC/DC24V AC/DC95-265V | AC/DC24V AC/DC95-265V | AC/DC24V AC/DC95-265V | AC/DC24V AC/DC95-265V | AC/DC24V AC/DC95-265V |
| Torque | 10Nm | 20Nm | 50Nm | 80Nm | 110Nm | 200Nm | 400Nm |
| Power | 12W | 15W | 25W | 60W | 100W | 50W | 80W |
| Wiring | RS485 CANbus2.0B | RS485 CANbus2.0B | RS485 CANbus2.0B | RS485 CANbus2.0B | RS485 CANbus2.0B | RS485 CANbus2.0B | RS485 CANbus2.0B |
| Time | 5s | 10s | 12s | 10s | 10s | 25s | 25s |
| Manual override *4 | Hexagon spanner /button | Hexagon spanner /button | Hexagon spanner /button | Hexagon spanner /button | Hexagon spanner /button | Clutch Hexagon spanner /button | Clutch Hexagon spanner /button |
| Housing material | ABS | ABS/Die casting aluminium | ABS/Die casting aluminium | ABS/Die casting aluminium | ABS/Die casting aluminium | PC+PET | PC+PET |
| Output shaft | Female octagon or male square | Female octagon or male square | Female octagon | Female octagon | Female octagon | Female octagon | Female octagon |

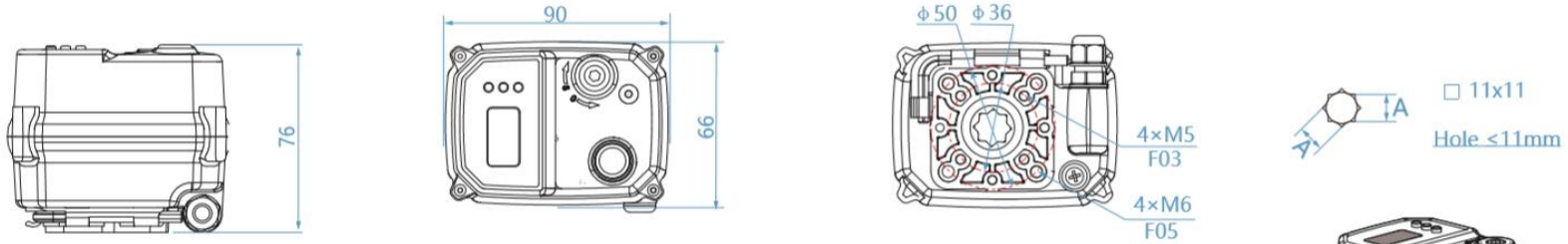
I

## TEKNİK ÖLÇÜLER / TECHNICAL DIMENSION

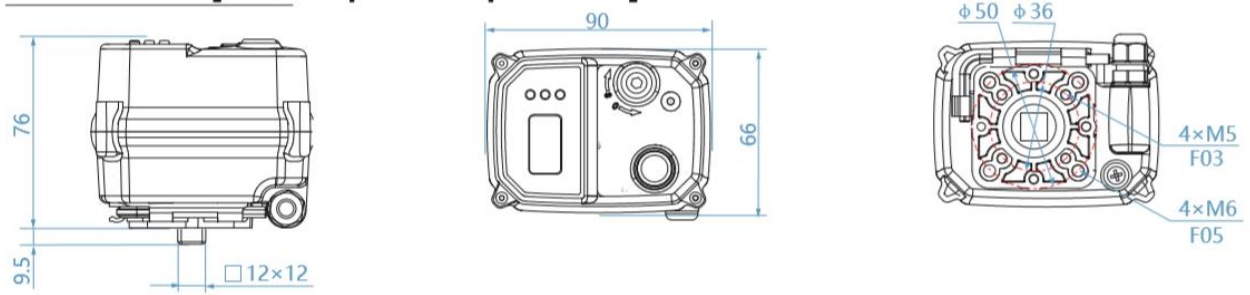
### MTD-01 Series Dimensions

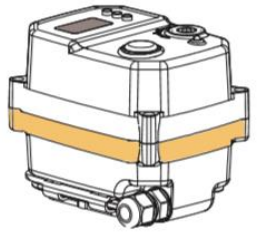
Unit: mm

**Direct mount[Female octagonOutput shaft]**




**With bracket [ male squareOutput shaft]**



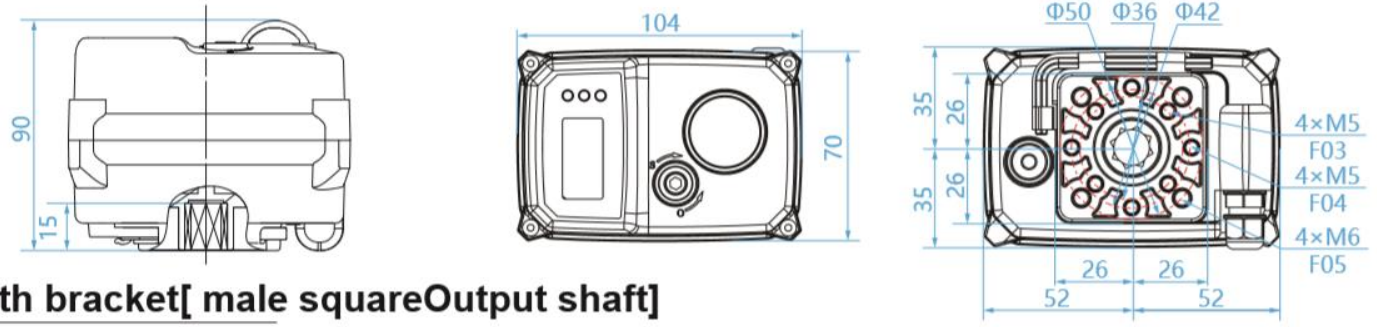



## TEKNİK ÖLÇÜLER / TECHNICAL DIMENSION

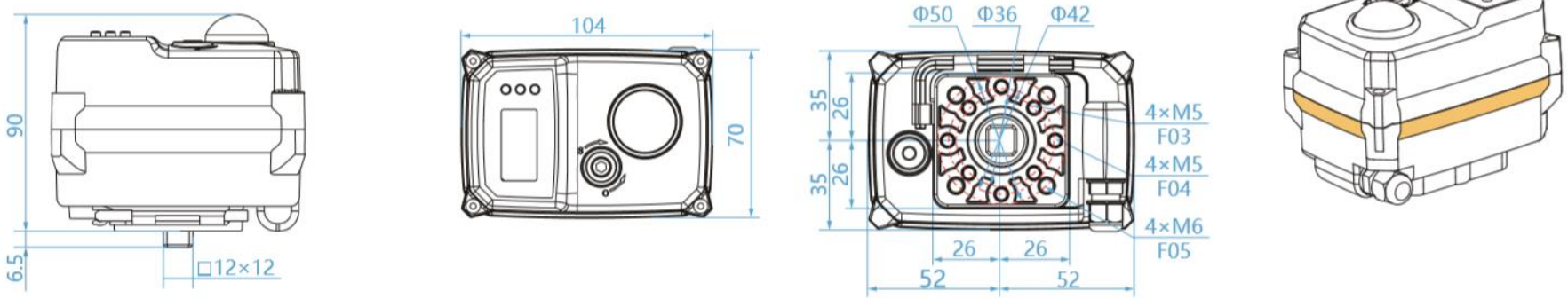
### MTD-02 Series Dimensions

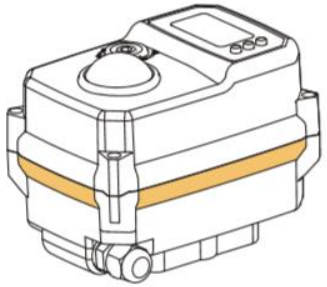
Unit: mm

**Direct mount[Female octagonOutput shaft]**




**With bracket[ male squareOutput shaft]**



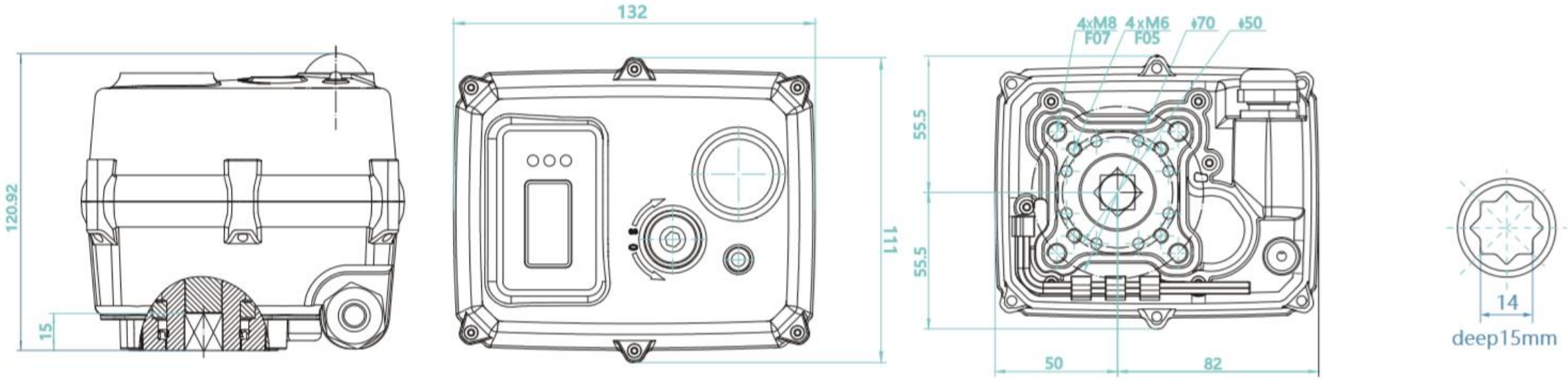


## TEKNİK ÖLÇÜLER / TECHNICAL DIMENSION

# MTD-05 Series Dimensions

Unit: mm

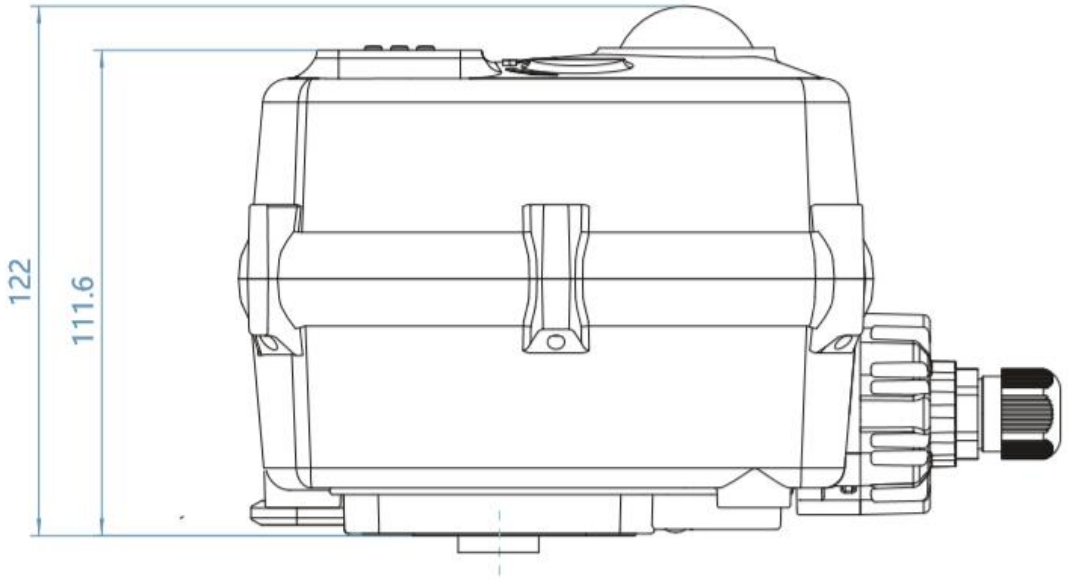
**Direct mount[Female octagonOutput shaft]**

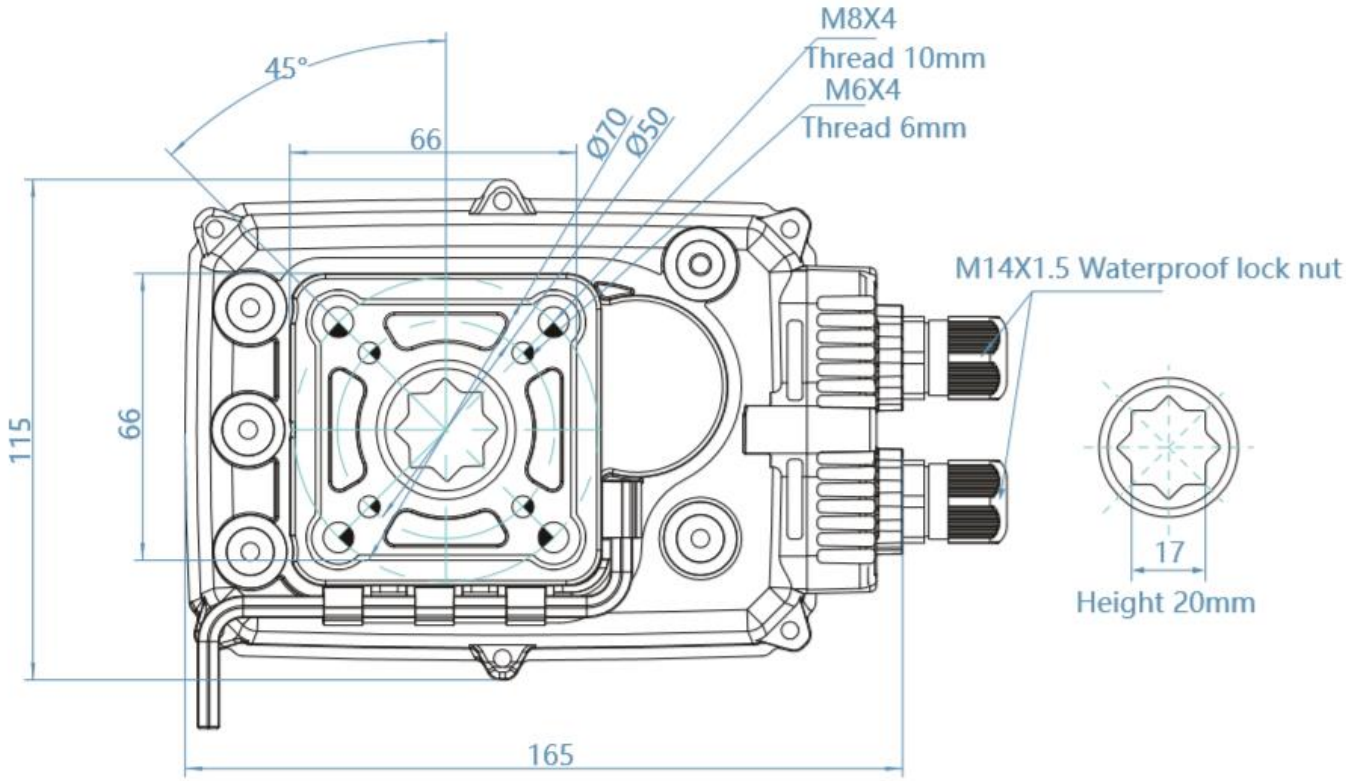


## TEKNİK ÖLÇÜLER / TECHNICAL DIMENSION

## MTD-08/11 Series Dimensions

Unit: mm



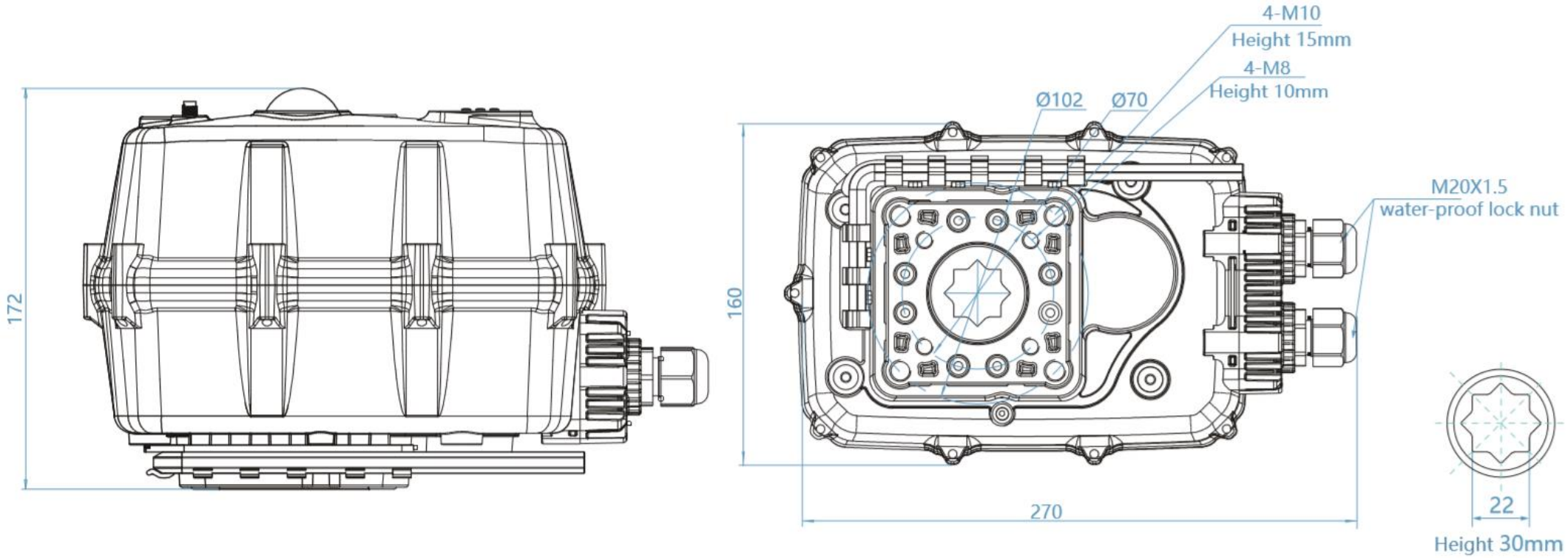





## TEKNİK ÖLÇÜLER / TECHNICAL DIMENSION

### MTD-20/40 Series Dimensions

Unit: mm

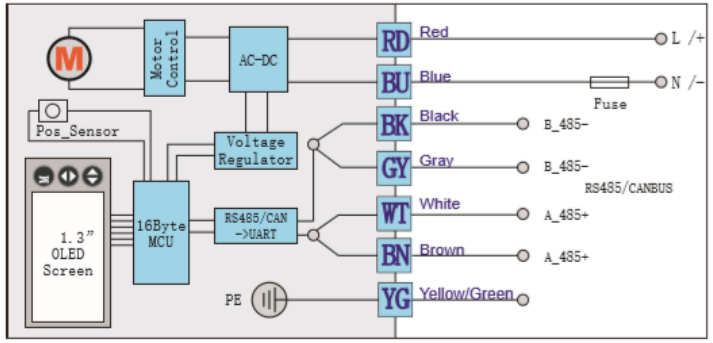


I

## KABLO BİLGİLERİ / WIRING DIAGRAM

### Intelligent Bus model -Wiring Diagram【MTD/MTD-02B】

**RS485/CANBUS【02B-KT】**



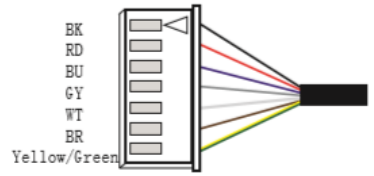
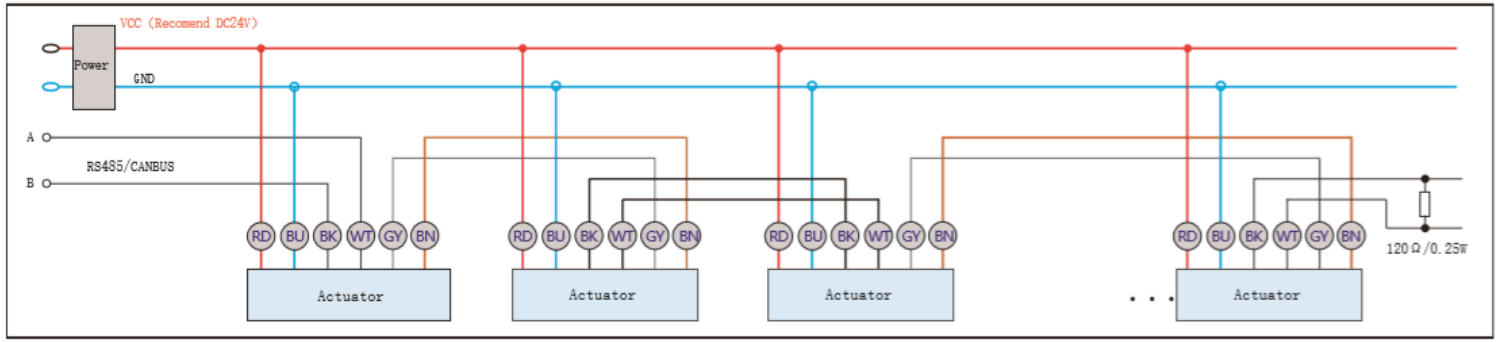




Diagram 1( MTD/MTD 02 series wiring connector diagram )

**Recommened circuit of several actuators connect in parallel**



DUYAR KONTROL

## DK-MTD SERİSİ – ON – OFF :

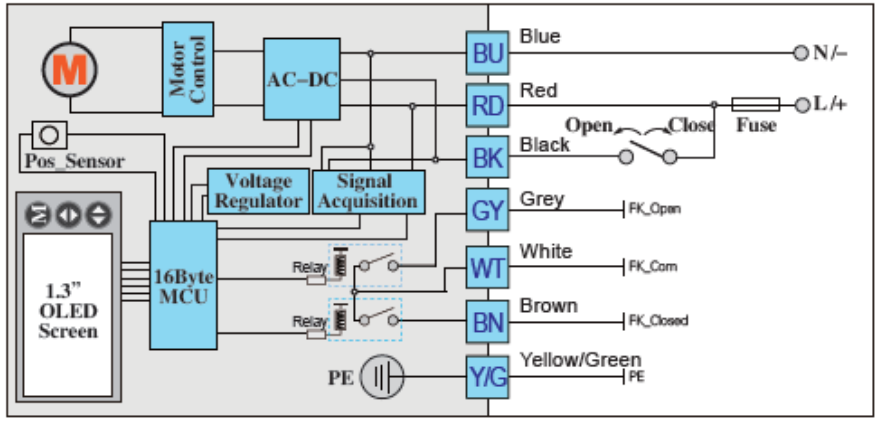
1

| Model | MTD-01N | MTD-02N | MTD-05N | MTD-08N | MTD-11N | MTD-20N | MTD-40N |
|---|---|---|---|---|---|---|---|
| Voltage | DC12V<br>DC24V<br>AC/DC24V<br>AC/DC95-265V<br>AC24V<br>AC110V<br>AC230V | DC12V<br>DC24V<br>AC/DC24V<br>AC/DC95-265V<br>AC24V<br>AC110V<br>AC230V | DC12V<br>AC/DC24V<br>AC/DC95-265V<br>AC24V<br>AC110V<br>AC230V | DC12V<br>DC24V<br>AC/DC24V<br>AC/DC95-265V<br>AC24V<br>AC110V<br>AC230V | DC12V<br>AC/DC24V<br>AC/DC95-265V<br>AC24V<br>AC110V<br>AC230V | AC/DC24V<br>AC/DC95-265V | AC/DC24V<br>AC/DC95-265V |
| Torque | **10Nm** | **20Nm**<br>**15Nm(DC12V)** | **50Nm** | **80Nm** | **110Nm** | **200Nm** | **400Nm** |
| Power | 12W | 15W | 25W<br>40W(AC series) | 60W | 100W | 50W | 80W |
| Wiring | B2、B3、BD3 | B2、B3、BD3 | B3、BD3 | B2、B3、BD3 | B3、BD3 | B3、BD3 | B3、BD3 |
| Time | 5s<br>10s(AC series) *5 | 10s<br>15s(DC12V/AC series) | 12s<br>20s(AC series) | 10s<br>20s(AC series) | 10s<br>20s(AC series) | 25s | 25s |
| Manual override *4 | Hexagon spanner | Hexagon spanner | Hexagon spanner | Hexagon spanner | Hexagon spanner | Clutch<br>Hexagon spanner<br>button | Clutch<br>Hexagon spanner<br>button |
| Housing material | ABS | ABS/Die casting aluminium | ABS/Die casting aluminium | ABS/Die casting aluminium | ABS/Die casting aluminium | PC+PET | PC+PET |
| Output shaft | Female octagon or male square | Female octagon or male square | Female octagon | Female octagon | Female octagon | Female octagon | Female octagon |

DUYAR KONTROL

# DK-MTD SERİSİ – ON – OFF :

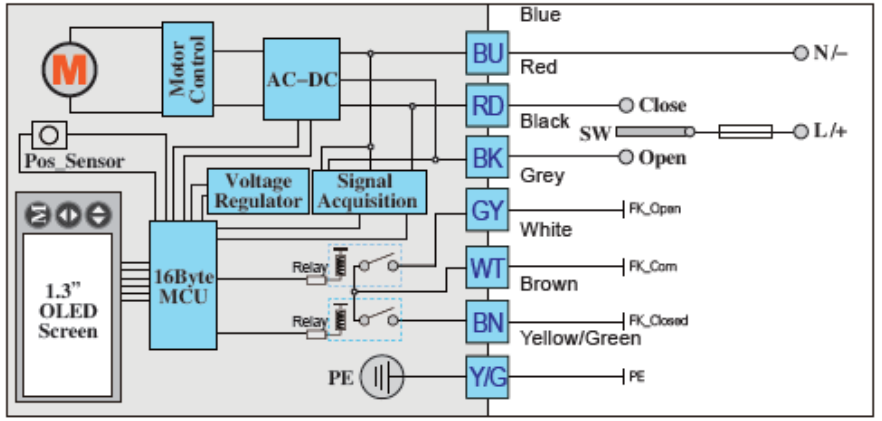
## BD3J




Control instructions:【7-core】

- ☐ If SW is disconnected,the actuator will drive valve close clockwise. When the valve is closed completely, WT is connected with BN ,send signal of full close.
- ☐ If SW is connected,the actuator will drive valve open anticlockwise. When the valve is open completely, WT is connected with GY ,send signal of full open .
- ※ Note 1: WT is not connected with GY BN ,when the actuator is operating.
- ※ Note 2:After power cut,the feedback and fault signal will disappear, WT is not connected with GY and BN .

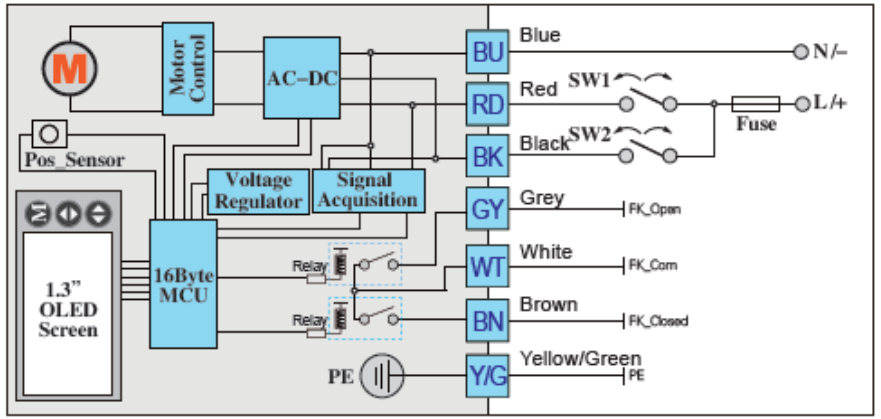
## B3J




Control instructions:【7-core】

- ☐ SW is connected with RD ,the actuator will rotate clockwise . When the valve is closed, WT is connect with BN ,send signal of full close.
- ☐ SW is connected with BK ,the actuator will rotate anticlockwise . When the valve is open, WT is connect with GY ,send signal of full open.
- ※ Note 1: WT is not connected with GY and BN ,when the actuator is operating.
- ※ Note 2:After power cut,the feedback and fault signal will disappear, WT is not connected with GY and BN .

## B33J

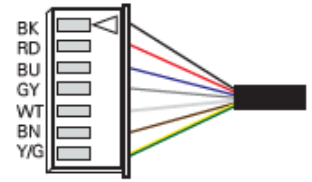



Control instructions:【7-core】

| SW1 | SW2 | Flow direction | Feedback signal |
|---|---|---|---|
| connect | disconnect | 0° | WT connect with BN |
| disconnect | connect | 90° | WT connect with GY |
| connect | connect | 180°(could be free set by menu) | WT connect with GY BN |

## Test terminal for the cable end_wiring instruction

1.Fuse:please refer to manual for more parameters.
2.SW switching capability:please refer to manual for more parameters.
3.Feedback signal contact load capacity:0.1A/250VAC 0.5A/30VDC.
4.Please make sure actuator connect ground reliably
5. Some products adopt wiring box ,user could wiring according to the order of number.




(User could cut out the cable terminal as it is only used for factory test)

Cable terminal for test(7pin )

# ROTARY ACTUATOR

SPECIFICATION DATA

## General

The OM series is equipped with standard On-Off or modulating (4~20mA, 1~5V, or 0(2) ~10V select by DIP-switch) control quarter-turn electric actuator.

The OM series can also provide feedback output signal:
Dry contact for On-Off version;
0~5V, 0~10V, 4~20mA (selected by DIP- switch) for modulating version, Auxiliary Switch is optional.

## FEATURES

- For On-Off or Modulating Control
- Manual override non-clutch design. Manual operation can be operated without any lever, clutch or brake upon power voltage.
- Irreversible worm gear.
- Visual mechanical position indicator for accurate visual reference of valve position.
- Anti-condensation heater and 2 aux. limit switches on standard model
- Enclosure IP67

## SPECIFICATIONS

| | |
|---|---|
| Power Supply | 220Vac, 50/60 Hz |
| Running time | See table (1) |
| Travel Angle | $90^{o} \pm 5^{o}$ |
| Input (Modulating) | 4~20mA, 1~5V, or 0(2)~10V select by DIP-switch |
| Feedback (Modulating) | 4~20mA or 0(2)~10V select by DIP-switch |
| Enclosure | IP67 Waterproof |
| Ambient Temperature | -30℃ to +65℃ |
| Indicator | Continuous Position Indicator |
| Manual Override | Non-clutch design |
| Worm Gear | Permanently lubricated and self locking |
| Space Heater | 15W 220V Anti-condensation |
| Material | Aluminum Alloy |
| External Coating | Dry powder coating |
| Stall Protection | Built-in thermal protection |
| | Cut off at 125 ± 5℃ |
| | Reset at 95 ± 5℃ |

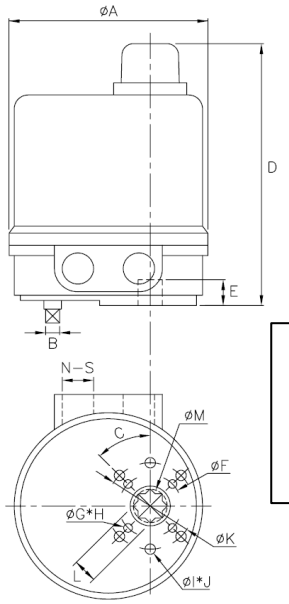
Table (1) Actuator Data

| OS# On-Off | OS# Modulating | Max Torque (Nm) | Run Time at 60Hz (sec) | Power Consumption (Watts) | Manual Override | Weight (Kg) |
|---|---|---|---|---|---|---|
| OM-1 | OM-P1 | 35 | 12 | 10 | | 2 |
| OM-2 | OM-P2 | 90 | 15 | 40 | Hand-wheel | 11 |
| OM-3 | OM-P3 | 150 | 22 | 40 | Hand-wheel | 11 |
| OM-4 | OM-P4 | 400 | 16 | 120 | Hand-wheel | 22 |
| OM-5 | OM-P5 | 500 | 22 | 120 | Hand-wheel | 22 |
| OM-6 | OM-P6 | 650 | 28 | 120 | Hand-wheel | 22 |
| OM-7 | OM-P7 | 1000 | 46 | 180 | Hand-wheel | 36 |
| OM-8 | OM-P8 | 1500 | 46 | 220 | Hand-wheel | 36 |
| OM-9 | OM-P9 | 2000 | 58 | 180 | Hand-wheel | 56 |
| OM-10 | OM-P10 | 2500 | 58 | 220 | Hand-wheel | 56 |
| OM-11 | OM-P11 | 3000 | 58 | 250 | Hand-wheel | 56 |
| OM-12 | OM-P12 | 3500 | 58 | 300 | Hand-wheel | 56 |

Table (1a) Actuator Dimensions (mm)

OM-1

| OS# | A | B | C | D | E | F | G | H | I | J | K | L max | M | N | S | Flange Type |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| OM-1 | 114 | 8 | 45° | 155 | 15 | 36 | m5 | 4 | m6 | 6 | 50 | 14 | 19 | 2 | ½ PS | F03/ F05 |




- Option: (1) L=11, M=15
  (2) L=9, M=12
- With Modulating Card D=185
- No mechanical stops

Table (1b) Actuator Dimensions (mm)

OM-2 to OM-6

| OS# | A | B | C | D | E | F | G Max | H | I | M | N | S | Flange Type |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| OM-2&3 | 203 | 326 | 180 | 255 | 30 | 123 | 22 | 70 | m8 | 4 | 2 | ½ PS | F07 |
| OM-4,5,6 | 290 | 394 | 217 | 317 | 40 | 194 | 35 | 102 | m10 | 4 | 2 | ½ PS | F10 |

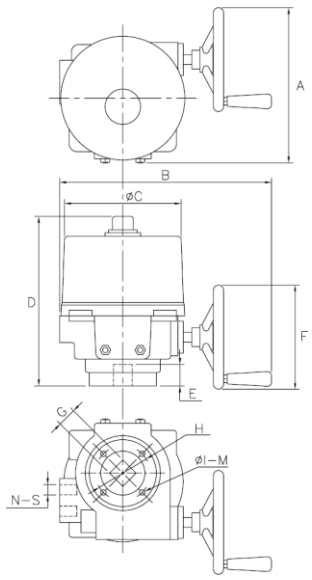


Table (1c) Actuator Dimensions (mm)

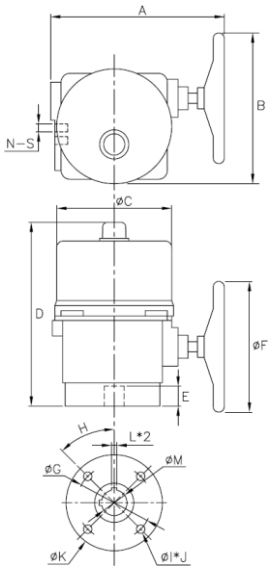
OM-7 to OM-8

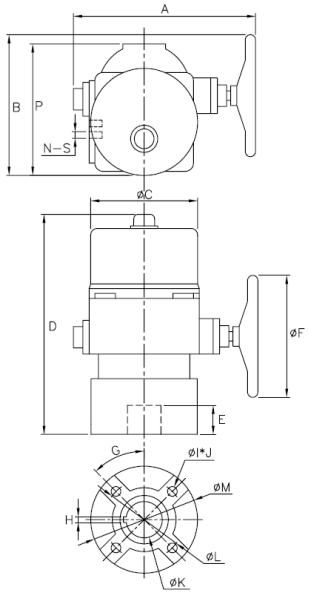
| OS# | A | B | C | D | E | F | G | H | I | J | K | L*2 | M max | N | S | Flange Type |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| OM-7 OM-8 | 385 | 340 | 217 | 420 | 60 | 295 | 140 | 45° | m16 | 4 | 180 | 10 | 35 | 2 | ½ PS | F14 |

Table (1d) Actuator Dimensions (mm)

OM-9 to OM-12

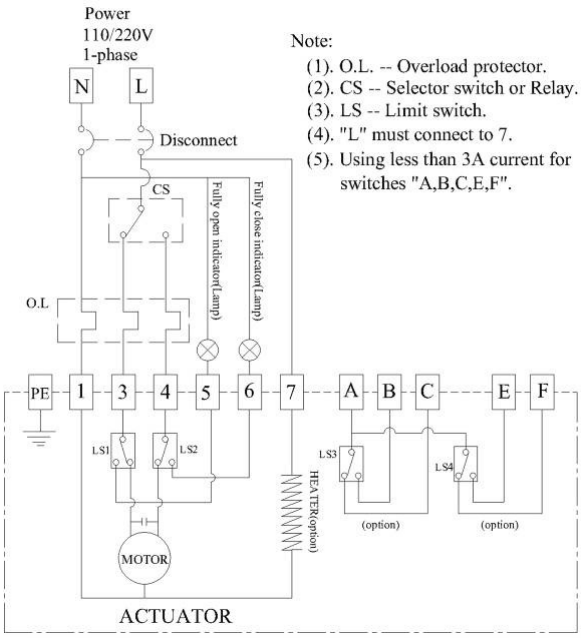
| OS# | A | B | C | D | E | F | G | H | I | J | K | L | M | P | N | S | Flange Type |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| OM-9 to OM-12 | 470 | 350 | 260 | 590 | 100 | 395 | 45° | 12 | m20 | 4 | 75 | 165 | 221 | 360 | 2 | ½ PS | F16 |



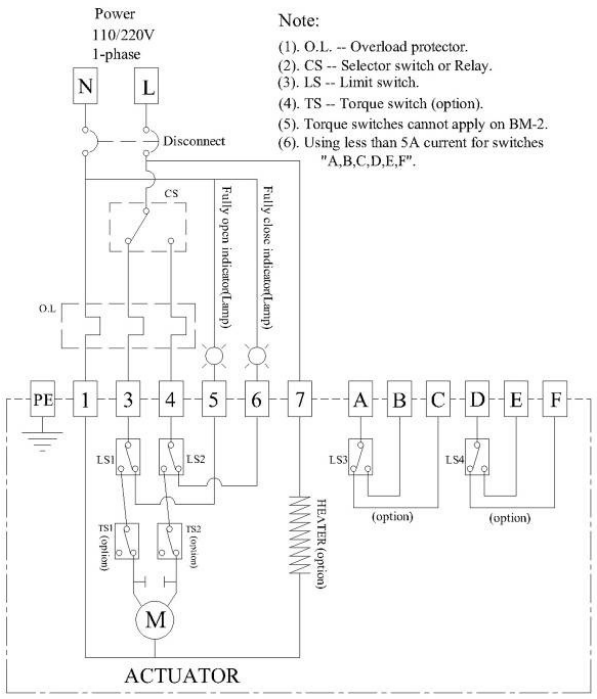




# WIRING DIAGRAM FOR ON/OFF

**[ OM-1 & OM-A 110V / 220V AC 1-PH ]**




**[ BM-2,OM-2 ~ OM-12 110V / 220V AC 1-PH ]**



## TROUBLE SHOOTING

| Conditions | Possibilities | Solution |
|---|---|---|
| Motor does not operate | 1. Is the supplied power and voltage correct? | 1. Check by meter. |
| | 2. Any blisters on the capacitor? | 2. If so, replace. |
| | 3. Are the gear train free? | 3. Remove motor and check. |
| Motor stops running | 1. Is the power supply short circuited? | 1. Check wiring. |
| | 2. Any foreign objects in flow stream? | 2. Check for obstructions. |
| Unable to fully open/close | 1. Loose/Misalign cam? | 1. Adjust/Tighten using spanner. |
| | 2. Bent valve stem? | 2. Replace valve stem. |
| | 3. Mechanical stop adjustment incorrect? | 3. Check position of stops. |
| Abnormal control for operating two or more actuators simultaneously. | Controlling circuit connects in tandem or parallel. | Refer to the wiring diagram. |
| Motor overheats | 1. Is the voltage correct? | 1. Check by meter. |
| | 2. Is valve too tight to operate? | 2. Replace valve. |
| | 3. High duty working frequency? | 3. Check duty cycle. |
| | 4. Is motor stem bearing or blinding? | 4. Replace the blinding parts. |
| Occasional on/off actuator failure. | Simultaneous input power on/off. | Check if the selectable switch is normal. |

## INSTALLATION

*Remove power before the cover is dismantled!*
*The actuator must be handled with the utmost care when the cover is removed and the power connected!*

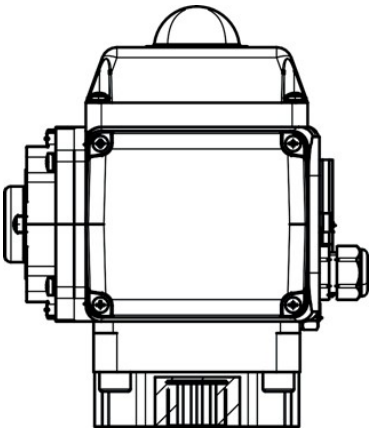
## ELECTRIC WIRING

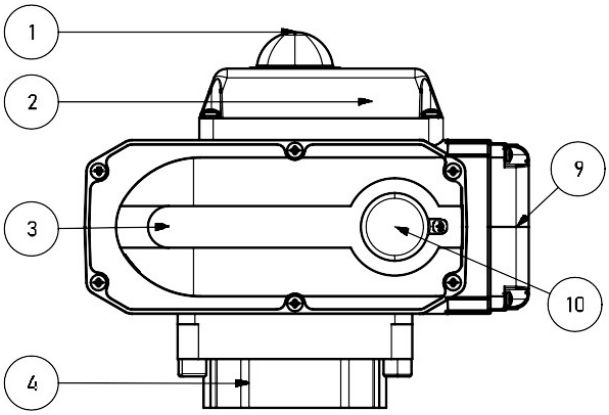
*Note:*

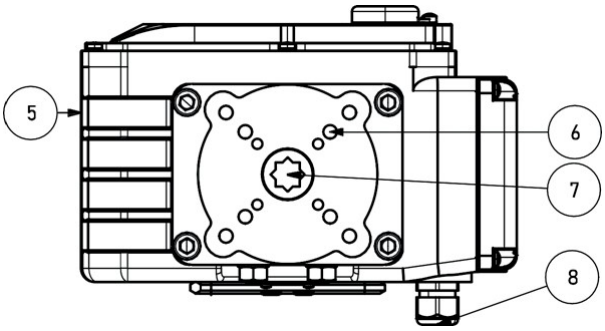
*Electric wiring must be carried out by qualified personnel only!*

*Wiring diagram is also shown on the label of top cover.*

## Genel Görüm ve Aktüatör Parça Listesi / General View and Part of Actuator List:



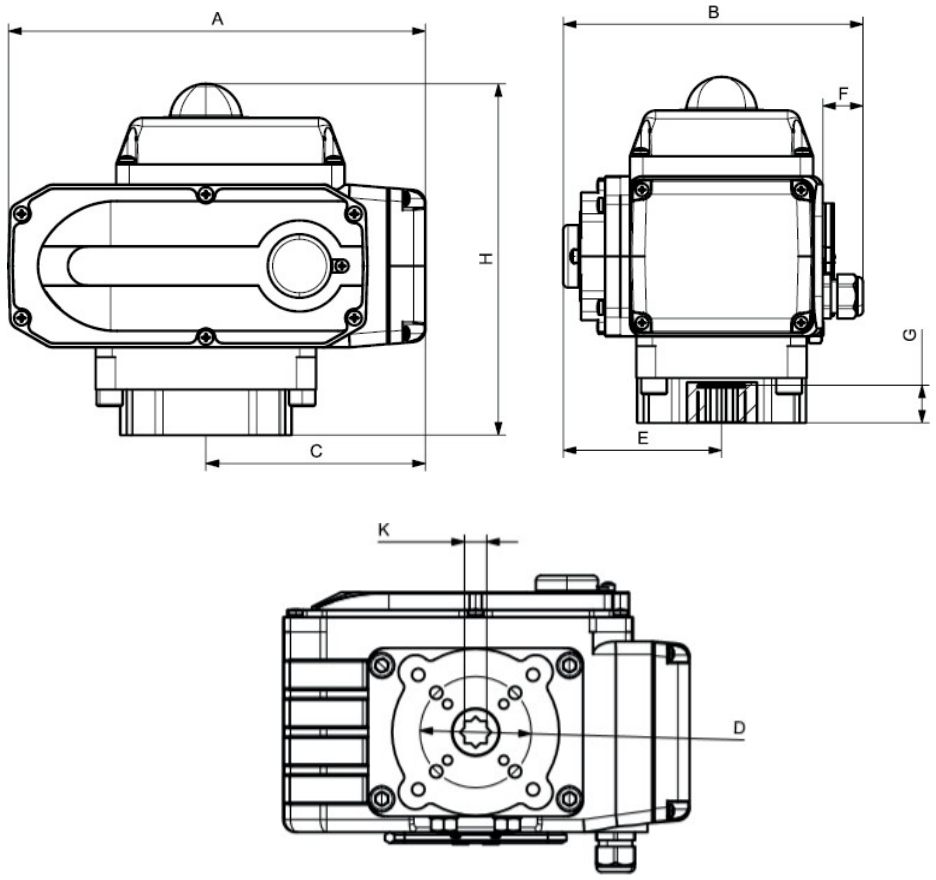



| No | Parça / Part | Malzeme / Material |
|---|---|---|
| 1 | Gösterge / Indicator | ABS |
| 2 | Elektrik Kapağı / Electric Connection Cover | Alüminyum Alaşım Döküm / Aluminium Alloy Cast |
| 3 | Dişli Kutusu Kapağı / Gear Box Cover | Alüminyum Alaşım Döküm / Aluminium Alloy Cast |
| 4 | Bağlantı Braketi / Connecting Bracket | Alüminyum Alaşım Döküm / Aluminium Alloy Cast |
| 5 | Gövde / Body | Alüminyum Alaşım Döküm / Aluminium Alloy Cast |
| 6 | Adaptör / Adapter | Alüminyum Alaşım Döküm / Aluminium Alloy Cast |
| 7 | Mil Bağlantısı / Shaft Connection | Bronz / Bronze |
| 8 | Kablo Girişi / Cable Input | M18x1,5 Rakor / M18x1,5 Gland |
| 9 | Kablo Kapağı / Cable Connection Cover | Alüminyum Alaşım Döküm / Aluminium Alloy Cast |
| 10 | Manuel Müdahale Kapağı / Manual Override Cover | EPDM |

**Tablo(A) : Parça ve Malzeme Listesi / Table(A): Actuator Parts and List of Material.**

## Genel Görünüm ve Aktüatör Boyutları / General View and Dimensions of Actuator :




| Model | Ölçü Etiketi / Dimension Label | Serie 0050 | Serie 0100 | Serie 0200 | Serie 0600 | Serie 1000 | Serie 2000 |
|---|---|---|---|---|---|---|---|
| DE XX (On/Off) | A | 162 | 208 | 258 | 258 | 280 | 280 |
| | B | 135 | 144 | 170 | 170 | 180 | 180 |
| | H | 139 | 156 | 196 | 196 | 240 | 240 |
| | C | 79,5 | 110 | 134 | 134 | 152 | 152 |
| | E | 64 | 68 | 86 | 86 | 95 | 95 |
| | F | 20 | 22 | 22 | 22 | 24 | 24 |
| | G | Height ≤19 / ≤32 | Height≤32 | Height≤44 | Height ≤44 | Height≤47 | Height≤47 |
| | D | F03<br>F05<br>F07 | F05<br>F07 | F07<br>F10 | F07<br>F10 | F10<br>F12 | F10<br>F12 |
| | K | ☐ 9x9<br>☐ 11x11<br>☐ 14x14 | ☐ 9x9<br>☐ 11x11<br>☐ 14x14<br>☐ 17x17 | ☐ 14x14<br>☐ 17x17<br>☐ 22x22<br>☐ 27x27 | ☐ 14x14<br>☐ 17x17<br>☐ 22x22<br>☐ 27x27 | ☐ 27x27 | ☐ 27x27 |

**Tablo(B) : Aktüatör Teknik Çizimi ve Ölçütleri / Table(B): Technical Drawings of DERA Actuator Series**

## Teknik Data / Technical Data

### Aktüatör / Actuator

| Model | | DE XX 0050 |
|---|---|---|
| **Besleme Gerilimi(Power supply)** | V - A | 220 [VAC] – 0.25[A] / 24[VDC] – 2[A] |
| Frekans (Frequency (AC)) | Hz | 50/60 |
| **Kontrol Girişi (Control Input)** | | On - Off |
| Devre Kontrolü / Circuit Check | | B-S-D Tipi/Type |
| **Tork(Torque)** | Nm | 50 |
| Ortam Sıcaklığı(Ambient temperature) | °C | -30 ... +70 |
| **Koruma Sınıfı(Grade of enclosure)** | | IP67 |
| Gövde Malzemesi (Body Material) | | Alüminyum Döküm (Aluminium casting) |
| **Ağırlık(Weight)** | Kg | 2.2 |
| Hareket Zamanı(Moving Time) | Sn(sec) | 30-60s(220VAC) , 6s(24VDC) |
| **Motor Gücü (Motor Power)** | Watt | 10 |
| Dönme Açısı(Angle of Rotation) | ° | 0-90°(*)-180° - 270° -360° |
| **Flanş Tipi (Flange Type)** | | F03 – F05 – F07 |
| İç Kare ( inner square ) | | 9x9 \| 11x11 \| 14x14 |

| Model | | DE XX 0100 |
|---|---|---|
| **Besleme Gerilimi(Power supply)** | V - A | 220 [VAC] – 0.32[A] / 24[VDC] – 2.4[A] |
| Frekans (Frequency (AC)) | Hz | 50/60 |
| **Kontrol Girişi (Control Input)** | | On - Off |
| Devre Kontrolü / Circuit Check | | B-S-D Tipi/Type |
| **Tork(Torque)** | Nm | 100 |
| Ortam Sıcaklığı(Ambient temperature) | °C | -30 ... +70 |
| **Koruma Sınıfı(Grade of enclosure)** | | IP67 |
| Gövde Malzemesi (Body Material) | | Alüminyum Döküm (Aluminium casting) |
| **Ağırlık(Weight)** | Kg | 4 |
| Hareket Zamanı(Moving Time) | Sn(sec) | 30-60s(220VAC) / 10s(24V DC) |
| **Motor Gücü (Motor Power)** | Watt | 23 |
| Dönme Açısı(Angle of Rotation) | ° | 0-90°(*)-180° - 270° -360° |
| **Flanş Tipi (Flange Type)** | | F05 – F07 |
| İç Kare ( inner square ) | | 9x9 \| 11x11 \| 14x14 \| 17x17 |

## Teknik Detaylar Tablo(A) ve Tablo(B) de Gösterilmiştir. / Technical Details are Shown in Table(A) and Table(B)

| Model | | DE XX 0200 |
|---|---|---|
| **Besleme Gerilimi(Power supply)** | V - A | 220 [VAC] – 0.48[A] / 24[VDC] – 8.5[A] |
| Frekans (Frequency (AC)) | Hz | 50/60 |
| **Kontrol Girişi (Control Input)** | | On - Off |
| Devre Kontrolü / Circuit Check | | B-S-D Tipi/Type |
| **Tork(Torque)** | Nm | 200 |
| Ortam Sıcaklığı(Ambient temperature) | °C | -30 ... +70 |
| **Koruma Sınıfı(Grade of enclosure)** | | IP67 |
| Gövde Malzemesi (Body Material) | | Alüminyum Döküm (Aluminium casting) |
| **Ağırlık(Weight)** | Kg | 7 |
| Hareket Zamanı(Moving Time) | Sn(sec) | 30-60s(220VAC) / 10s(24V DC) |
| **Motor Gücü (Motor Power)** | Watt | 40 |
| Dönme Açısı(Angle of Rotation) | ° | 0-90°(*)-180° - 270° -360° |
| **Flanş Tipi (Flange Type)** | | F07 – F10 |
| İç Kare ( inner square ) | | 14x14 \| 17x17 \| 22x22 \| 27x27 |

| Model | | DE XX 0600 |
|---|---|---|
| **Besleme Gerilimi(Power supply)** | V - A | 220 [VAC] – 0.92[A] / 24[VDC] – 8.5[A] |
| Frekans (Frequency (AC)) | Hz | 50/60 |
| **Kontrol Girişi (Control Input)** | | On - Off |
| Devre Kontrolü / Circuit Check | | B-S-D Tipi/Type |
| **Tork(Torque)** | Nm | 600 |
| Ortam Sıcaklığı(Ambient temperature) | °C | -30 ... +70 |
| **Koruma Sınıfı(Grade of enclosure)** | | IP67 |
| Gövde Malzemesi (Body Material) | | Alüminyum Döküm (Aluminium casting) |
| **Ağırlık(Weight)** | Kg | 7.8 |
| Hareket Zamanı(Moving Time) | Sn(sec) | 30-60s(220VAC) / 13s(24V DC) |
| **Motor Gücü (Motor Power)** | Watt | 90 |
| Dönme Açısı(Angle of Rotation) | ° | 0-90°(*)-180° - 270° -360° |
| **Flanş Tipi (Flange Type)** | | F07 – F10 |
| İç Kare ( inner square ) | | 14x14 \| 17x17 \| 22x22 \| 27x27 |

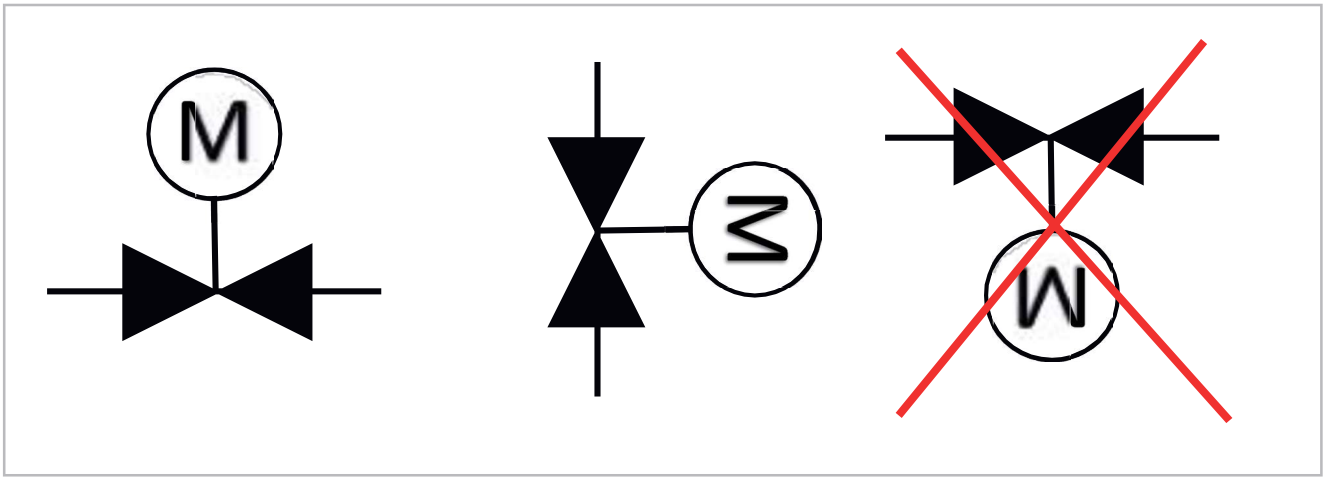
## Teknik Detaylar Tablo(A) ve Tablo(B) de Gösterilmiştir. / Technical Details are Shown in Table(A) and Table(B)

| Model | | DE XX 1000 |
|---|---|---|
| **Besleme Gerilimi(Power supply)** | V - A | 220 [VAC] – 1.2[A] / 24[VDC] – 9[A] |
| Frekans (Frequency (AC)) | Hz | 50/60 |
| **Kontrol Girişi (Control Input)** | | On - Off |
| Devre Kontrolü / Circuit Check | | B-S-D Tipi/Type |
| **Tork(Torque)** | Nm | 1000 |
| Ortam Sıcaklığı(Ambient temperature) | °C | -30 ... +70 |
| **Koruma Sınıfı(Grade of enclosure)** | | IP68 |
| Gövde Malzemesi (Body Material) | | Alüminyum Döküm (Aluminium casting) |
| **Ağırlık(Weight)** | Kg | 11.2 |
| Hareket Zamanı(Moving Time) | Sn(sec) | 30-50s |
| **Motor Gücü (Motor Power)** | Watt | 100 |
| Dönme Açısı(Angle of Rotation) | ° | 0-90°(*) -180° - 270° -360° |
| **Flanş Tipi (Flange Type)** | | F07 – F10 |
| İç Kare ( inner square ) | | 14x14 \| 17x17 \| 22x22 \| 27x27 |

| Model | | DE XX 2000 |
|---|---|---|
| **Besleme Gerilimi(Power supply)** | V - A | 220 [VAC] – 1.2[A] / 24[VDC] – 9[A] |
| Frekans (Frequency (AC)) | Hz | 50/60 |
| **Kontrol Girişi (Control Input)** | | On - Off |
| Devre Kontrolü / Circuit Check | | B-S-D- Tipi/Type |
| **Tork(Torque)** | Nm | 2000 |
| Ortam Sıcaklığı(Ambient temperature) | °C | -30 ... +70 |
| **Koruma Sınıfı(Grade of enclosure)** | | IP68 |
| Gövde Malzemesi (Body Material) | | Alüminyum Döküm (Aluminium casting) |
| **Ağırlık(Weight)** | Kg | 11.8 |
| Hareket Zamanı(Moving Time) | Sn(sec) | 100s |
| **Motor Gücü (Motor Power)** | Watt | 100 |
| Dönme Açısı(Angle of Rotation) | ° | 0-90°(*) -180° - 270° -360° |
| **Flanş Tipi (Flange Type)** | | F07 – F10 |
| İç Kare ( inner square ) | | 14x14 \| 17x17 \| 22x22 \| 27x27 |

## Teknik Detaylar Tablo(A) ve Tablo(B) de Gösterilmiştir. / Technical Details are Shown in Table(A) and Table(B)

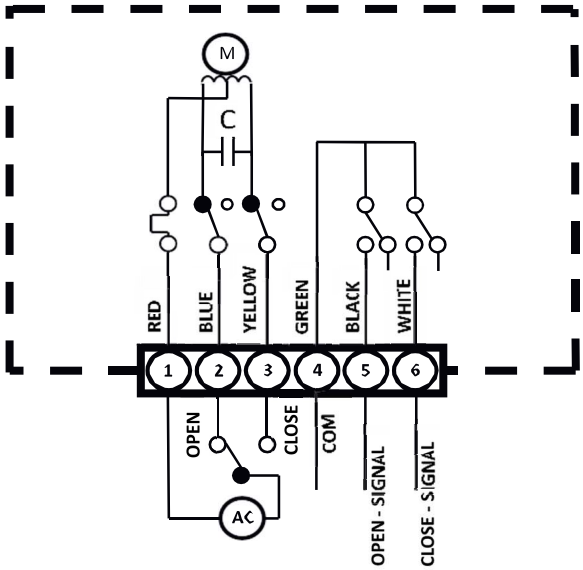
## Örnek Ürün ile Kurulum Pozisyonları / Installation Positions With A Sample Product




| Tavsiye Edilir | Uygundur | Tavsiye Edilmez |
|---|---|---|
| Recommended | Possible | Not Recommended |

## Kablo Bağlantısı (S) Pasif (Kuru) Kontak Tip / Wiring Diagram (Passive Contact Type) (S)

220V AC




Bağlantı Şeması A / Wiring Diagram A

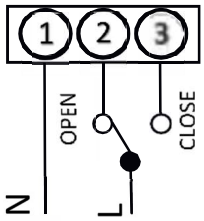
## Kablo Bağlantısı / Wiring Diagram

220V AC

Tanım / Description

| Klemens | Kontak |
|---|---|
| 1 | Nötr(Neutral) |
| 2 | Açık(Open) |
| 3 | Kapalı(Close) |

**ON/OFF Mode**




**Terminal Bilgileri**
(Terminal Information)


**Kablolama** (Wiring Instruction / Installation Notes)

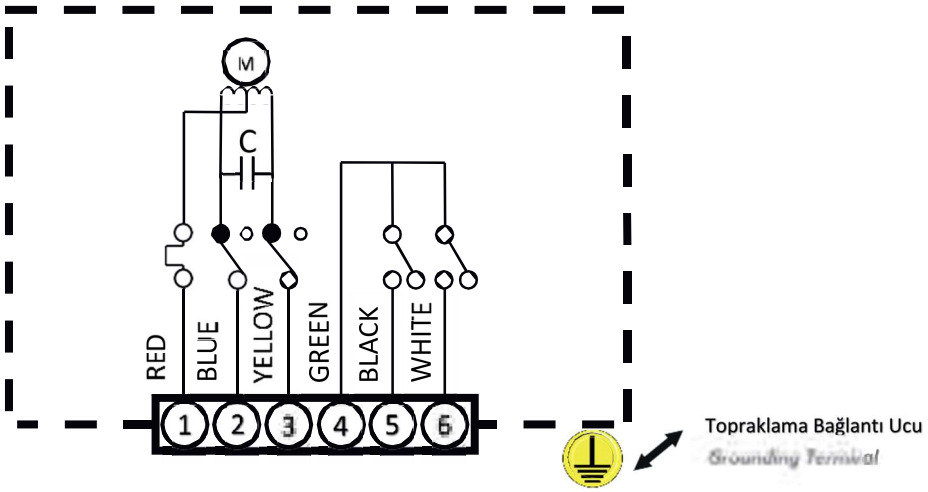
1. (1) numaralı terminale, AC gerilimin **Nötr** Ucunu Bağlayın (Connect terminal 1 with **neutral line**.)
2. (2) numaralı terminale 220 VAC **faz** uygulandığında aktüatör açılma yönünde limit şalteri aktif edene dek hareketini sürdürür.(When the terminal of 2 is connected with **phase line**, it indicates ***Opening*** is in operation.)
3. (3) numaralı terminale 220VAC **faz** uygulandığında aktüatör kapanma yönünde limit şalteri aktif edene dek hareketini sürdürür.(When the terminal of 2 is connected with **phase line**, it indicates ***Closing*** is in operation.)
4. (4) numaralı terminal **kuru kontak** ucu olmaktadır.( The terminal 4 is the **passive contact common port**.)
5. (5) numaralı terminal, açma işlemi tamamlandığında kısa devre olur ve ***Açık Sinyali*** gönderir.(When the Opening operation is completed, the terminal 5 will give a signal of Fully – Open feedback signal to the user.)
6. (6) numaralı terminal, kapama işlemi tamamlandığında kısa devre olur ve ***Kapalı Sinyali*** gönderir.( When the Closing operation is completed, the terminal 6 will give a signal of Fully – Close feedback signal to the user.)

**Not: Vana aç, kapa komutları ile 0 – 1 şalter kullanılarak yapılmaktadır. Açılma ve kapanma işlemi tamamlandığında kuru kontaklar aktif olarak , vana pozisyonunu belirler.**

*Note: Valve can be controlled to open and close by the on-off circuit and the circuit will output a group of passive position signal to indicate the valve is in full close or full open position.*

## Topraklama Bağlantı Bilgisi / Grounding Information

220V AC

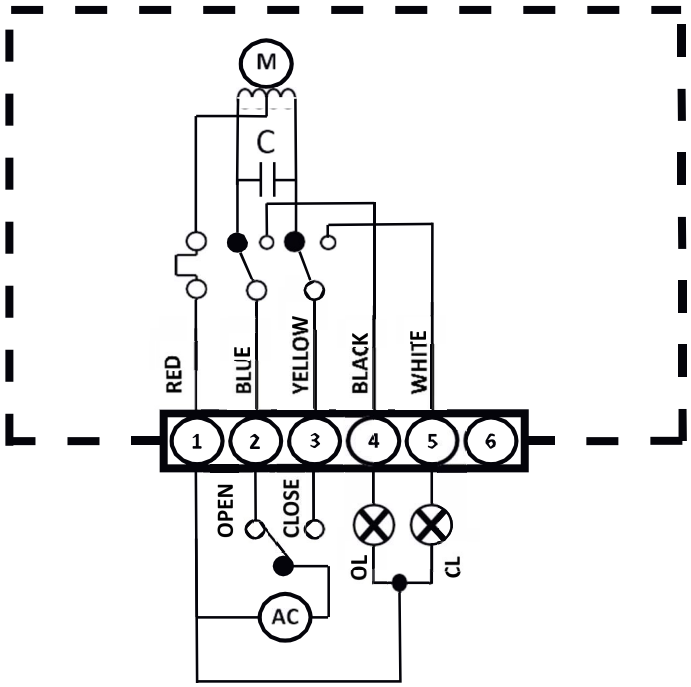



Topraklama Bağlantı Ucu, Aktüatör Gövde Montajlıdır. ( Grounding Terminal is Actuator Body Mounted ).

---

## Kablo Bağlantısı (B) Standart Kontak Tipi / Wiring Diagram (Standard Switch Type) (B)

220V AC

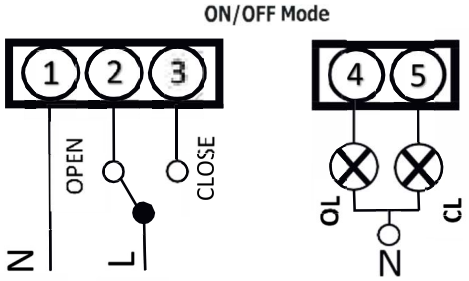



Bağlantı Şeması B / Wiring Diagram B

## Kablo Bağlantısı / Wiring Diagram

Tanım / Description

| Klemens | Kontak |
|---|---|
| 1 | Nötr(Neutral) |
| 2 | Açık(Open) |
| 3 | Kapalı(Close) |
| 4 | Açık Lamba(Open Lamp Indicator) |
| 5 | Kapalı Lamba(Close Lamp Indicator) |




Terminal Bilgileri
(Terminal Information)


**Kablolama** (Wiring Instruction/Installation Notes)

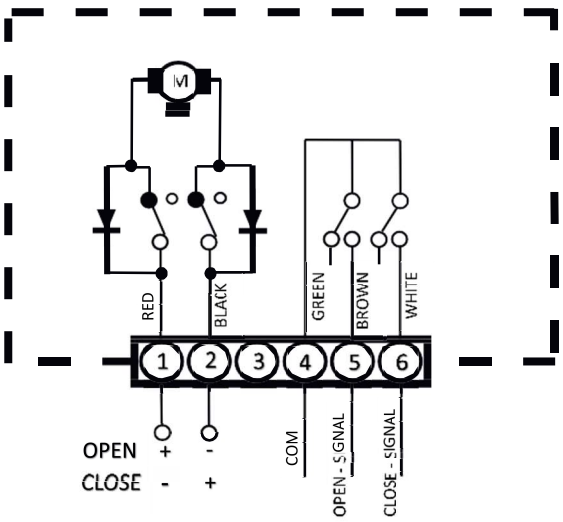
1. (1) numaralı terminale, AC gerilimin **Nötr** Ucunu Bağlayın (Connect terminal 1 with **neutral line**.)
2. (2) numaralı terminale 220 VAC **faz** uygulandığında aktüatör açılma yönünde limit şalteri aktif edene dek hareketini sürdürür.(When the terminal of 2 is connected with **phase line**, it indicates *Opening* is in operation.)
3. (3) numaralı terminale 220VAC **faz** uygulandığında aktüatör kapanma yönünde limit şalteri aktif edene dek hareketini sürdürür.(When the terminal of 2 is connected with **phase line**, it indicates *Closing* is in operation.)
4. (4) Açılma tamamlandığında 220VAC- Faz, (4) numaralı terminalden çıkar ve **AÇIK** lambasını aktif eder. (When the **Opening** operation is completed, the signal lamp that is connected with terminal 4 will be on).
5. (5) Kapanma tamamlandığında 220VAC- Faz, (5) numaralı terminalden çıkar ve **KAPALI** lambasını aktif eder.(When the **Closing** operation is completed, the signal lamp that is connected with terminal 5 will be on).

**Not: Vana aç, kapa komutları ile 0 – 1 şalter kullanılarak yapılmaktadır. Açılma ve kapanma işlemi tamamlandığında 220VAC Lambalar aktif olarak , vana pozisyonunu belirlemektedir.**

*Note: Valve can be controlled to open and close by the on-off circuit and the circuit will output a group of active position signal to indicate(the indicator are lamps.) the valve is in full close or full open position.*

## Kablo Bağlantısı (D) DC AÇ–KAPA TİP / DC ON- OFF TYPE WIRING DIAGRAM (D)

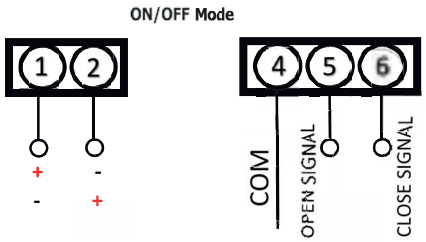
**DC 24V**



## Bağlantı Şeması D/ Wiring Diagram D

Tanım / Description

| Klemens | Kontak |
|---|---|
| 1 | Açma Yönü Hareketi (Open Direction Movement) →1(+) , 2(-) |
| 2 | Kapama Yönü Hareketi (Close Direction Movement) → 1(-) , 2(+) |
| 4 | Ortak Uç (Com) |
| 5 | Vana Açık Sinyali (Valve Open Signal) |
| 6 | Vana Kapalı Sinyali (Valve Close Signal) |




Terminal Bilgileri (Terminal Information)


Kablolama (Wiring Instruction/Installation Notes)

1. (1) numaralı terminale (+) ve (2) numaralı terminale (-) DC kutuplar uygulandığında Aktüatör **Açma** yönüne hareket sağlayacaktır. **Kutupların yer değişimi** ile **açma-kapama yönü belirlenmektedir**. (1) ve (2) numaralı terminaller doğrudan DC Motora bağlıdır. ( Valve will open when terminal 1 is connected with positive pole and terminal 2 with negative pole, when the terminal reverse polarited , valve will be moved towards to the closing direction).
2. (4)(**Com**) numaralı terminal kuru (**pasif**) kontak ortak ucudur.( **Terminal (4)** is the passive contact common end.)
3. Vana açıldığında **(5)** nolu klemens açıldı sinyali vermektedir.(When then opening operation is completed, the terminal **(5)** will give a feedback signal as, **Fully Open Signal**).
4. Vana Kapandığında (6) nolu terminal kapandı sinyali göndermektedir.(When the closing operation is completed, terminal (6)will give a feedback signal as, **Fully Close Signal**).

**Not: DC Motorlar İçin Elektrik Bağlantı Şeması Şema C de Gösterilmiştir. 1(+) ve 2(-) kutupların yer değişimi ile açma ve kapama yönü belirlenmektedir. 4(com) ortak uçtur. (5) vana açık kuru kontak sinyali göndermektedir.(6) vana Kapalı kuru kontak sinyali göndermektedir.**

**Note: Electrical Wiring Diagram For DC Motors is Shown in Diagram C. The Opening and Closing Direction is Determined By the Displacement Of the 1(+) and 2(-) poles. 4(com) is the common end terminal. (5) is the valve fully open signal feedback contact. (6) is the valve fully closed signal feedback contact**

***Open and Closing direction operation of valve can be determined by switching the positive and negative poles by applying the defined DC current. Hence, a bunch of passive contact signal will be able to give a feedback open or close signal.***

Uyarı! Elektrik Bileşenleri !

Bu ürünün kurulumu, testi , servisi ve sorun giderme esnasında elektrik bileşenleri ile çalışmak gerektirebilir. Bu görevleri elektrik konuları ile ilgili eğitim almış, elektrikli ekipman kurulum yapan ilgili kişilere yaptırılması gereklidir. Aksi takdirde canlı elektrikli bileşenlere maruz kalındığında ve tüm elektrik güvenlik önlemlerine uyulmadığı takdirde, ölüme veya ciddi yaralanmalara neden olabilir.

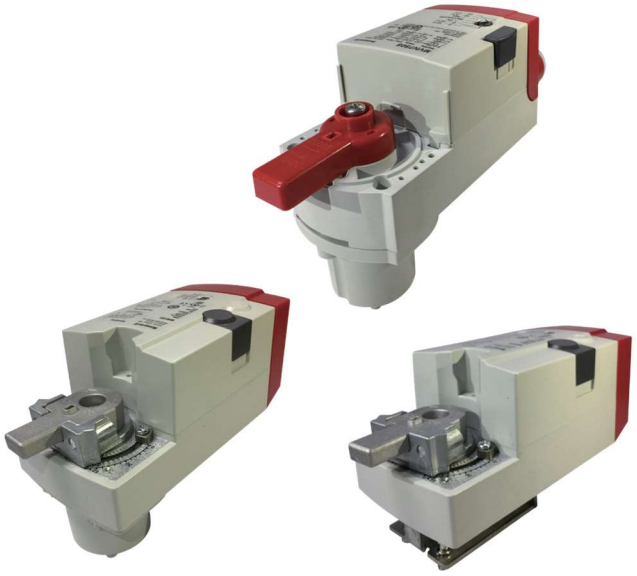
Warning! Live Electrical Components!

During installation, testing, servicing and troubleshooting of this product, it may be necessary to work with live electrical components. Have a qualified licensed electirician or other individiualwho has been properly trained in handling live electrical components perform these tasks. Failure to follow all electrical safety precautions when exposed to live electrical components could result in death or serious injury.

# MVN-Series Ball Valve Actuator

## Features

- Designed to be used with VBA16P and VBA16F Series Ball Valves
- Mounting bracket included and pre-installed for easy field installation
- Can connect to external auxiliary switch
- Overload protection



## Technical parameters

- Direction of rotation — Adjustable
- Level of protection — IP54
- Working conditions — operating temperature -20~60 °C; storage temperature -30~80 °C
- CE — MVN75../72../61..

| Model | Torque (Nm) | Control signal | Working power supply | Control mode | Running time | Power consumption | Internal auxiliary switch | Weight (Kg) |
|---|---|---|---|---|---|---|---|---|
| MVN6105 | 5 | On-Off | 24Vac/dc | Floating/On-Off | 90s | 5VA | | 0.51 |
| MVN6105-A | 5 | On-Off | 24Vac/dc | Floating/On-Off | 90s | 5VA | 2 pcs (fixed) | 0.52 |
| MVN4605 | 5 | On-Off | 230V ac | On-Off | 65s-110s | 23VA | | 0.51 |
| MVN7505 | 5 | 0(2)~10V | 24Vac/dc | Modulating/Floating/On-Off | 110s | 5VA | | 0.51 |
| MVN6110 | 10 | On-Off | 24Vac/dc | Floating/On-Off | 90s | 5VA | | 0.51 |
| MVN6110-A | 10 | On-Off | 24Vac/dc | Floating/On-Off | 90s | 5VA | 2 pcs (fixed) | 0.52 |
| MVN4610 | 10 | On-Off | 230V ac | On-Off | 65s-110s | 23VA | | 0.51 |
| MVN7510 | 10 | 0(2)~10V | 24Vac/dc | Modulating/Floating/On-Off | 110s | 5VA | | 0.51 |
| MVN6120 | 20 | On-Off | 24Vac/dc | Floating/On-Off | 95s~110s | 8VA | | 1.45 |
| MVN4620 | 20 | On-Off | 230V ac | Floating/On-Off | 95s~110s | 10VA | | 1.45 |
| MVN7220 | 20 | 0(2)~10V | 24Vac/dc | Modulating/Floating/On-Off | 95s~110s | 8VA | | 1.45 |
| MVN6134 | 34 | On-Off | 24Vac/dc | Floating/On-Off | 95s~110s | 10VA | | 1.59 |
| MVN4634 | 34 | On-Off | 230V ac | Floating/On-Off | 95s~110s | 13VA | | 1.59 |
| MVN7234 | 34 | 0(2)~10V | 24Vac/dc | Modulating/Floating/On-Off | 95s~110s | 10VA | | 1.59 |

## External auxiliary switch

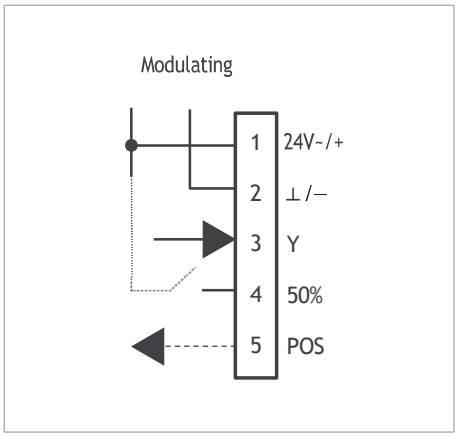
- SW2-CN/SSW2-CN

## Parameters

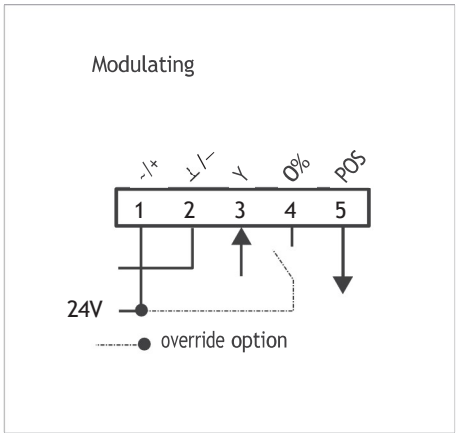
- SSW2-CN: 2*SPDT, AC110V/230V, and 5A (resistive)/3A (inductive) are applied to the MVN Series 5 Nm and 10 Nm torque actuators
- SW2-CN: 2*SPDT, AC110/230V, and 5A (resistive)/3A (inductive) are applied to the MVN Series 20 Nm and 34 Nm torque actuators

# Wiring Diagram

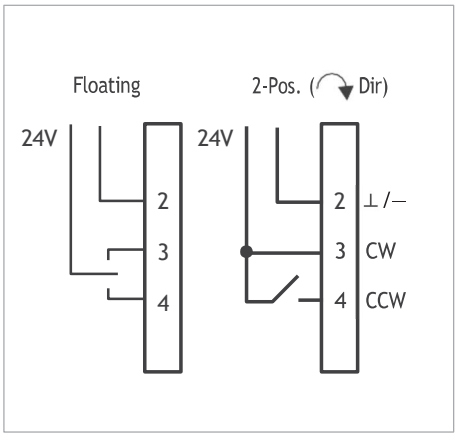
**MVN7505/ MVN7510**



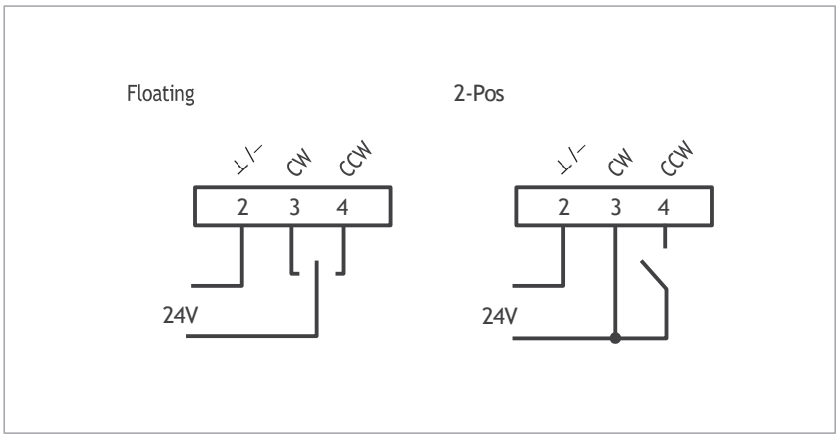

**MVN7220/MVN7234**



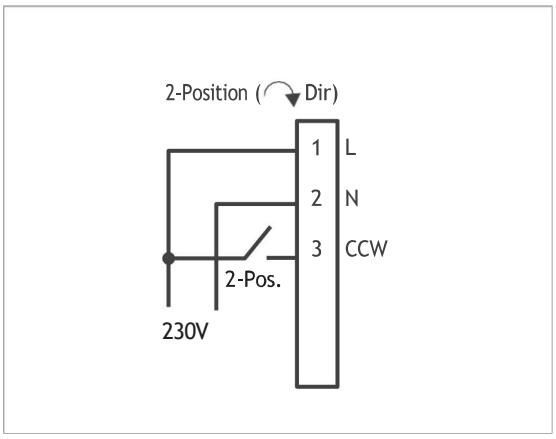

**MVN6105../MVN6110..**



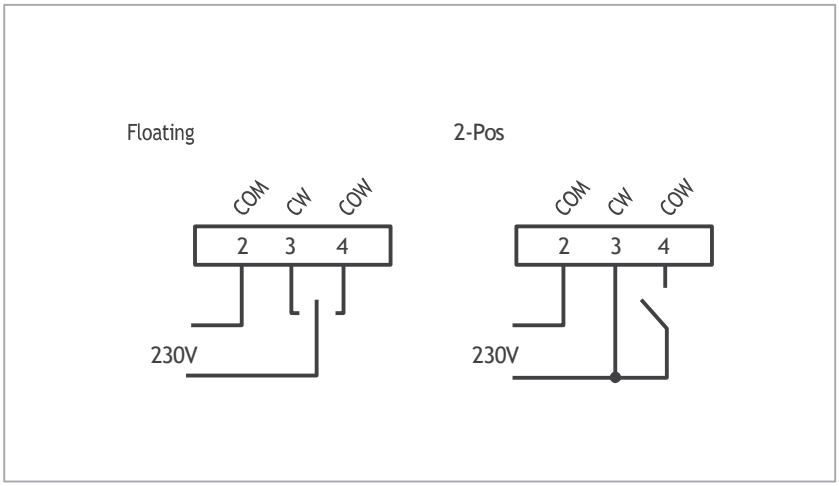

**MVN6120/MVN6134**



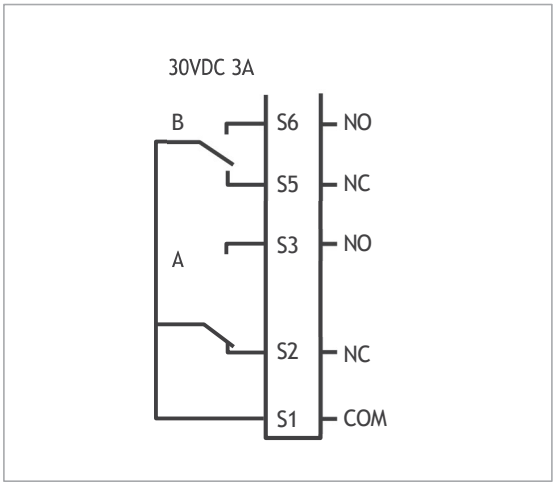

**MVN4605../MVN4610..**




**MVN4620/MVN4634**

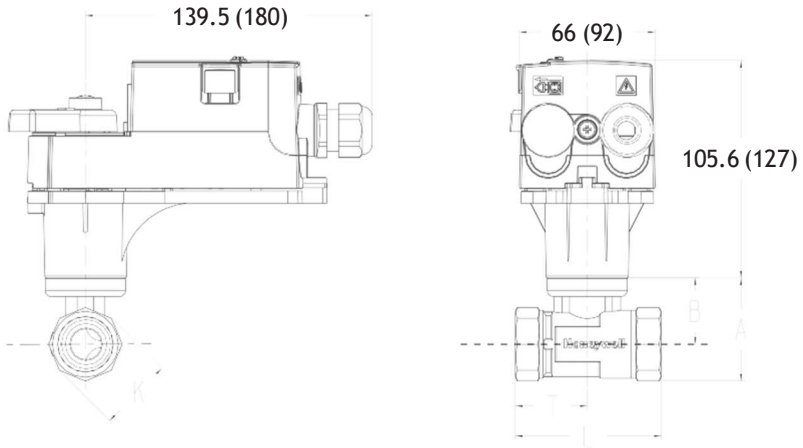



**Auxiliary switch (..-A)**



# Dimensions (mm)

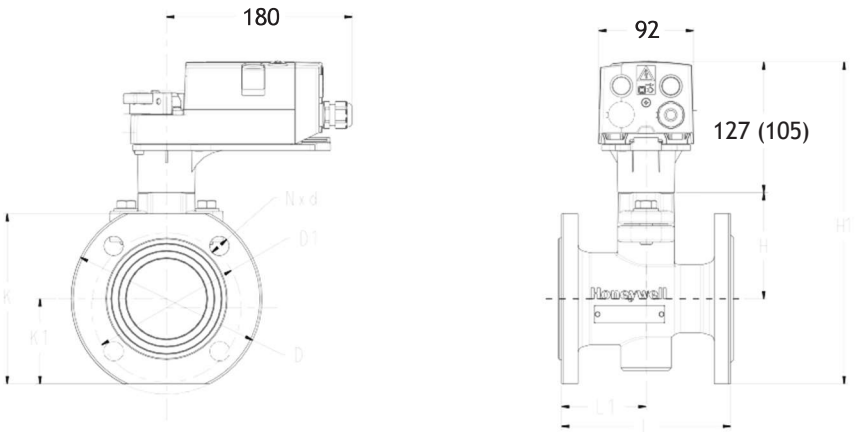
VBA16P-Series




Description:
The numbers in brackets are the sizes of the 20Nm actuator.

| Model# | DN | | L | T | K | B | A | Weight (Kg) |
|---|---|---|---|---|---|---|---|---|
| | mm | In | | | | | | |
| VBA16P020 | 20 | ¾ | 71 | 35.5 | 35.7 | 32.2 | 50 | 0.39 |
| VBA16P025 | 25 | 1 | 78 | 39 | 45 | 34 | 56.5 | 0.56 |
| VBA16P032 | 32 | 1 ¼ | 88 | 44 | 53 | 38.5 | 65 | 0.74 |
| VBA16P040 | 40 | 1 ½ | 104 | 52 | 60 | 49 | 79 | 1.18 |
| VBA16P050 | 50 | 2 | 120 | 60 | 75 | 52.5 | 90 | 1.96 |
| VBA16P065 | 65 | 2 ½ | 115 | 63.5 | 91.5 | 63.8 | 109.5 | 2.08 |
| VBA16P080 | 80 | 3 | 130 | 85 | 107 | 73 | 126.5 | 3.19 |

VBA16F-Series




Description:
The numbers in brackets are the sizes of the 34Nm actuator.

| Model | DN | | L | L1 | K | K1 | D | D1 | H | H1 | N* Ø E | Weight (Kg) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | mm | In | | | | | | | | | | |
| VBA16F065 | 65 | 2-1/2 | 170 | 85 | 165 | 82.5 | 185 | 145 | 103 | 312.5 | 4*19 | 11 |
| VBA16F080 | 80 | 3 | 180 | 90 | 182 | 91 | 200 | 160 | 118 | 336 | 8*19 | 12.5 |
| VBA16F100 | 100 | 4 | 190 | 95 | 200 | 100 | 220 | 180 | 130 | 357 | 8*19 | 15.5 |
| VBA16F125 | 125 | 5 | 200 | 120 | 230 | 115 | 250 | 210 | 145 | 365 | 8*19 | 20.5 |
| VBA16F150 | 150 | 6 | 210 | 130 | 265 | 132.5 | 285 | 240 | 163 | 400.5 | 8*23 | 26 |