FELLBACH®

Series **8280**

Quarter Turn Electrical Actuator (Motorise Valve)

USER INTERACTION INTERFACE
Intelligent type is equipped with brand new UI control interface, with the specialized remote control, achieves a variety of functions of the actuator configuration operation. Supports multi-language, satisfies all kinds of demands from the customer. It can also be customized based on special requirements.

ENERGY EFFICIENCY
Single-phase and DC power supply is optional, ultra-low energy consumption, suitable for solar and wind powered applications.

PATENT MECHANIC DESIGN PAVING THE WAY FOR FUTURE TREND
8280 Series of electric actuators are equipped with manual / electric automatic switching function. No clutch design thus enables the hand wheel to be rotated while the machine is running; this is to ensure the safety of the operator.
Such design will be the mainstream trend in the future.

PROFESSIONAL GEAR DESIGN
The adoption of the planetary gear design achieved a combination of manual and electric control without the need of the clutch which ensures the operator's safety. Above all, the unique solar planetary gear design has gotten the national patent.

INTERCHANGEABLE SPLINE SLEEVE
Depending on the spindle of the valve, the output sleeve of the actuator is designed in spline form. The inner holes can be replaced into square holes and keyways and other different sizes. Fast debugging and replacing makes the operation more flexible.

INTERCHANGEABLE CONNECTING FLANGE
The base connecting holes are in accordance with ISO 5211 standard, also with various connecting flange sizes. It can be replaced and rotated for the same type of actuators in order to achieve with different hole positions and angles of the valve flange connection purposes.

360° POSITION INDICATOR
Adopts high strength, anti-sunlight and RoHS-compliant plastic 3D window indicator. Users are able to observe the stroke position of the actuator within the 360° visual angle as there's no dead angles.

NON-INVASIVE CONTROL
Non-through-the-shaft magnetic switch design, it is controlled by the Hall switch inside the actuator. Equipped with local control / remote control / disable knob, and on / off / stop button (knob), accommodating with the indicator light and LCD screen to achieve non-invasive field control operations.

INFRARED REMOTE CONTROL
The intelligent type actuator is able to provide different remote control sets based on different application requirements. Such as portable infrared remote control in general places, and explosion-proof remote control for hazardous locations.

PLANETARY GEARS
Using high strength alloy steel for the planetary gear set, more compact and efficient, achieving greater output for the same volume. At the same time, having differential input for motor drive and hand wheel operation, we are therefore able to operate electrically and manually at the same time.

SPROCKET OPERATION
Based on the features of operating manually and electrically without clutch mechanism, sprocket operation is more convenient to operate the valve at higher positions.

Quarter Turn Electrical Actuator (Motorise Valve)

OVERLOAD PROTECTION
The power will automatically shut off when the valve jam occurs. Thus preventing further damage to the valve and actuator.

OPERATIONAL SAFETY
F grade insulation motor. The motor winding has a temperature control switch to sense the temperature of the motor to protect the overheating issues, thus ensures the operational safety of the motor. (H grade optional).

MOISTURE RESISTANCE
Installed with heater inside the actuator used to remove the internal condensation which cause damages to electrical parts.

PHASE SEQUENCE CONTROL
Phase detection and correction functions avoid the actuator being damaged by connecting to the wrong power supply.

VOLTAGE PROTECTION
Protection against the high and low voltage situations.

ANTI-CORROSION PROTECTION:
Epoxy resin enclosure meets NEMA 4X, customer-special painting is available.

INGRESS PROTECTION:
IP67 is standard, IP68 is optional.
The definition of IP68 is: Depth of water: Maximum 15 m under water level.
Duration of continuous immersion in water: Max.(72 hours).

FIREPROOFING GRADE:
High temperature fireproof enclosure meets requirements in different situation.
It can be customized according to special needs.

EXPLOSION-PROOF RATING:
Ex d IIC T6 design and IECEx, ATEX certifications which satisfy the reqirements in hazardous locations.

AMBIENT TEMPERATURE:
Temperature range is from -30°C to 70°C (-22°F to +158°F).

RELATIVE HUMIDITY:
≤ 95% (at 25°C / 275°F).

Quarter Turn Electrical Actuator (Motorise Valve) Basic ON/OFF Type

GENERAL PARAMETERS

Torque Range	■ 35 - 20000 N.m
Switch Time	■ 11 - 155 s
Ambient Temperature	■ -25°C … 70°C (Optional: -40°C … 60°C)
Anti-vibration Level	■ JB/T8219
Noise Level	■ Less than 75dB within 1m
Electrical Interface	■ Two PG13.5 (<100N.m) Two PG16 (≥100N.m)
Ingress Protection	■ IP67 (Optional: IP68) *The definition of IP68 is:Depth of water: Maximum 15 m under water level.Duration of continuous immersion in water: Max.(72 hours).*
Connection size	■ ISO-5211

MECHANICAL PARAMETERS

Motor Specifications	■ Class F, with thermal protector up to +135°C (Optional: Class H)
Working System	■ On-off Type: S2 ~ 15min, no more than 600 times per hour start
Applicable Voltage	■ 3 phase: AC (±10%); Hz (±5%) 50 Hz (220, 240, 380, 400, 460, 500, 525 & 550 Volts) 60 Hz (208, 220, 230, 240, 380, 440, 460, 480, Volts) ■ DC：24 V (±10 %) ** EFM series is for 1 phase only (For special inquire, please contact Flowinn)*
Bus	■ N/A

► On/off Type Signal

Input	■ Built-in contacts for 5A @ 250Vac (depending on the control box)
Signal Feedback	■ Opening stroke limit, closing stroke limit ■ Opening over torque, closing over torque (Optional: Semi-modulating type - position feedback potentiometer) (Optional: 4 ~ 20 mA to send)
Malfunction Feedback	■ Integrated fault alarm: Motor overheating, over torque and such contacts (Optional: Undercurrent protection contact)

► Modulating Type Signal

Input	■ N/A
Output	■ N/A
Signal Reverse	■ N/A
Loss Signal Mode Setting	■ N/A
Dead Zone	■ N/A
Time Lag	■ N/A

CONTROL MODE

Indication	■ 3D opening indicator
Operation Settings	■ N/A
Local Control	■ N/A

OTHERS

Intelligently Analyze Data Records	■ N/A
Other Function	■ Moisture-resistant heaters (anti-moisture device) ■ Torque protection ■ Motor overheat protection

Series 8280 050

Series 8280 100
Series 8280 200
Series 8280 300
Series 8280 400
Series 8280 600
Series 8280 800
Series 8280 1000
Series 8280 1300
Series 8280 1700
Series 8280 2000

Quarter Turn Electrical Actuator (Motorise Valve) Integral (4 ~ 20mA)

GENERAL PARAMETERS

Torque Range	■	10 - 20000 N.m
Switch Time	■	11 - 155 s
Ambient Temperature	■	-25°C … 70°C
Anti-vibration Level	■	JB/T8219
Noise Level	■	Less than 75dB within 1m
Electrical Interface	■	Two PG13.5 (<100N.m) Two PG16 (≥100N.m)
Ingress Protection	■	IP67 (Optional: IP68) *The definition of IP68 is:Depth of water: Maximum 15 m under water level.Duration of continuous immersion in water: Max.(72 hours).*
Connection size	■	ISO-5211

MECHANICAL PARAMETERS

Motor Specifications	■	Class F, with thermal protector up to +135°C (Optional: Class H)
Working System	■	On-off Type: S2 ~ 15min, no more than 600 times per hour start
	■	Modulating type: S4~50% up to 600 triggers per hour (Optional: 1200 times per hour)
Applicable Voltage	■	1 phase: Voltage (±10 %); Hz (±5 %) 50 Hz (24, 220, 230, 240 Volts) 60 Hz (24, 110, 120, 220, 230, 240 Volts)
	■	3 phase: Voltage (±10 %); Hz (±5 %) 50 Hz (220, 240, 380, 400, 460, 500, 525, 550 Volts) 60 Hz (208, 220, 230, 240, 380, 440, 460, 480, Volts)
	■	DC：24 V (±10 %) ** 8280 series is for 1 phase only (For special inquire, please contact Flowinn)*
Bus	■	N/A

Series 8280 050M

► On/off Type Signal

Input	■	AC/DC 24 input control or AC 110/220 V input control
Signal Feedback	■	Close the valve contact ■ Open the valve contact *(contact capacity: 5 A @ 250 Vac)* (Optional: Opening torque signal contact) Closing torque signal contact Local/remote contacts Integrated fault contact 4 ~ 20 mA to send
Malfunction Feedback	■	Integrated fault alarm: Power off, motor over heat-ing, lack of phase, over torque, signal off

► Modulating Type Signal

Input	■	Input signal：4 - 20 mA; 0 - 10 V; 2 - 10 V
	■	Input impedance：250 Ω (4 - 20 mA)
Output	■	Output signal：4 - 20 mA;0 - 10 V; 2 - 10 V
	■	Output impedance：≤ 750 Ω (4 - 20 mA) *(Repeatability and linearity within ± 1 % of full valve stroke)*
Signal Reverse	■	Support
Loss Signal Mode Setting	■	Support
Dead Zone	■	≤ 2.5 %
Time Lag	■	N/A

Series 8280 100M
Series 8280 200M
Series 8280 300M
Series 8280 400M
Series 8280 600M
Series 8280 800M
Series 8280 1000M
Series 8280 1300M
Series 8280 1700M
Series 8280 2000M

CONTROL MODE

Indication	■	3D opening indicator
Operation Settings	■	N/A
Local Control	■	N/A

OTHERS

Intelligently Analyze Data Records	■	N/A
Other Function	■	Phase correction(3-phase power supply only)
	■	Torque protection ■ Motor overheat protection
	■	Moisture-resistant heaters (anti-moisture device)

Quarter Turn Electrical Actuator (Explosion-Proof Specification)

BASIC (B) & INTEGRAL (M)

ATEX Certified

- ATEX (94/9/EC) II 2 GD c. EN 60079-0, EN 60079-1, EN 60079-31
- Ex d IIB T4 ─ T6 Gb T4
- Ex tb IIIC T85°C / T100°C / T135°C Db T4, IP66
- Temperature range: -20°C to +65°C
  (Optional: -40°C to +60°C)
  (Optional: IP67 / IP68 EN60529)
- Ex d IIC T4 ─ T6 Gb
- Ex tb IIIC T85°C / T100°C / T135°C Db T4, IP66

  Temperature range: -20°C to +65°C
  (Optional: -40°C to +60°C)
  (Optional: IP67 / IP68 EN60529)

Explosion-Proof Housing

IECEx Certified

- IECEx. IEC 60079-0 & IEC 600679-1
- Ex d IIC T4 ─ T6 Gb
- Ex tb IIIC T85°C - T135°C Db T4, IP66
- Temperature range: -20°C to +65°C
  (Optional: -40°C to +65°C)
  (Optional: IP67 / IP68 IEC 60529)

CSA Certified

- CSA Explosionproof to CSA 60079-0-11, CSA 600679-1-11, CSA 60079-31-12, UL 60079-0-11, UL 600679-1-11, IAS 60079-31-13
- Ex d IIB T4 ─ T6 Gb
- Ex tb IIIC T4 ─ T6 Db IP66
- Temperature range: -20°C to +65°C
  (Optional: IP67 / IP68 EN 60529)
- Ex d IIC T4 ─ T6 Gb
- Ex tb IIIC T4 ─ T6 Db IP66
- Temperature range: -25°C to +65°C
  (Optional: IP67 / IP68 EN60529)

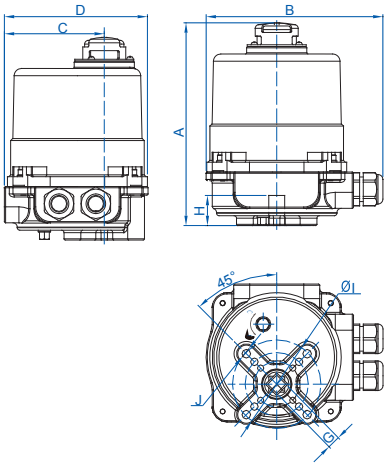
Explosion-Proof Housing

Technical Parameter Chart

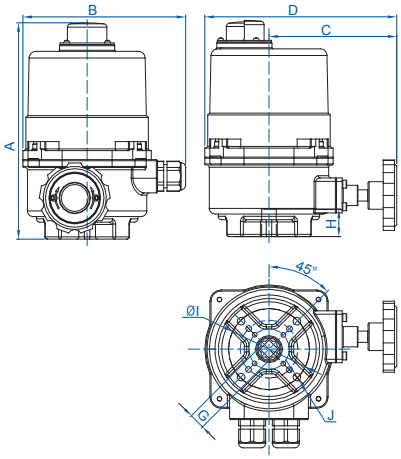
Model	Power (W)	Max Output Torque (N.m)		Max Output Torque (lbf.in)		Running time (Sec)				ISO-5211	Remarks
		AC 110 V AC 220 V AC/DC 24 V	AC 220 V AC 380 V 3 phase	AC 110 V AC 220 V AC/DC 24 V	AC 220 V AC 380 V 3 phase	50 Hz AC 110 V AC 220 V	50 Hz AC 380 V 3 phase	AC/DC 24 V	Fail-safe		
8280 050	10	10	N/A	443	N/A	15	N/A	10		F03 / F05 / F07	Manual Wrench
8280 100	40	100		885		19		14		F05 F07 F10 F12	Handwheel operation, planetary gear mechanism
8280 200	40	200		1770		39		28			
8280 300	40	300		2655		39		28			
8280 400	90	400		3540		29		21		F10 F12 F14 F12	
8280 600	90	600		5310		39		28			
8280 800	90	800		7080		47		34			
8280 1000	120	1000		8850		47		34			
8280 1300	120	1300		11505		47		34			
8280 1700	120	1700		15045		34		25		F12 F14 F16	
8280 2000	120	2000		17700		34		25	N/A		

Note: Standard configuration.
1. Rated torque is 75% of the max torque. 2. Motor insulation is class F. class H is optional. 3. The running time of 60 Hz is 5/6 of that of 50 Hz. The max output torque is the same as above.

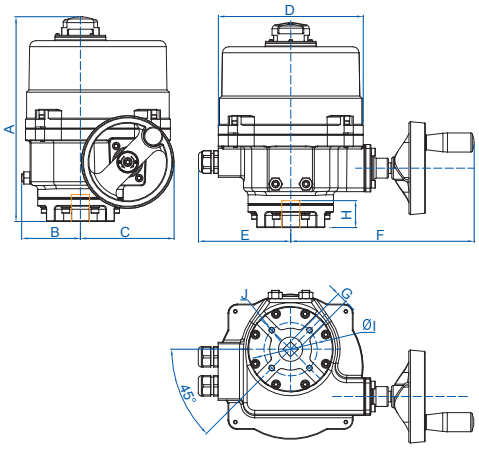
8280 050



8280 050H



8280 100 ~ 8280 2000



Dimension: mm

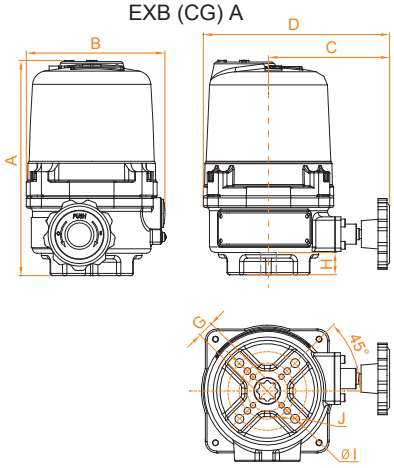
Model	A	B	C	D	E	F	G	H	Ø I	J	Weight (kg)
8280 050	165	165	82	118	-	-	14 x 14	20	36, 50, 70	4-M5, 4-M6 4-M8	3
8280 050M	185	185	82	118	-	-	14 x 14	20	36, 50, 70	4-M5, 4-M6 4-M8	3.2
8280 100, 200, 300	268	77	123	216	121	240	17 x 17	35	70, 102	4-M8 4-M10	11
8280 400, 600	327	103	187	266	150	297	22 x 22	55	102	4-M10	22
8280 800, 1000, 1300	327	103	187	266	150	297	27 x 27	55	102, 125	4-M10 4-M12	22
8280 1700, 2000	380	127	242	293	161	333	27 x 27	65	125	4-M12	36

Technical Parameter Chart (Explosion-Proof)

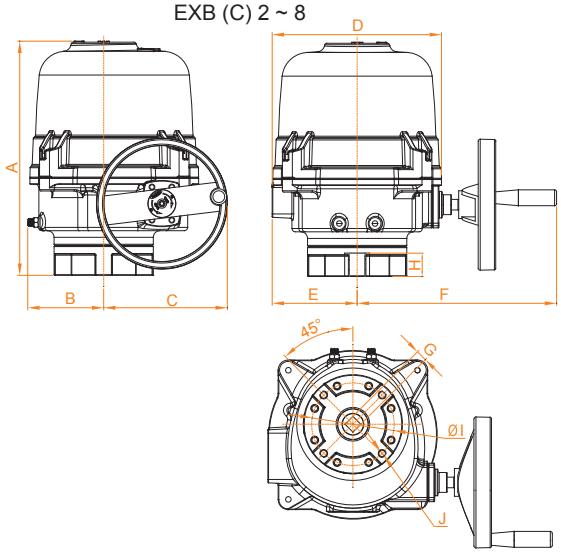
Model	Power (W)	Max Output Torque (N.m)		Max Output Torque (lbf.in)		Running time (Sec)				ISO-5211	Remarks
		AC 110 V AC 220 V AC/DC 24 V	AC 220 V AC 380 V 3 phase	AC 110 V AC 220 V AC/DC 24 V	AC 220 V AC 380 V 3 phase	50 Hz AC 110 V AC 220 V	50 Hz AC 380 V 3 phase	AC/DC 24 V	Fail-safe		
EXC (CG) A	10	10	N/A	443	N/A	15	N/A	10		F03 / F05 / F07	Manual Wrench
EXB (C) 2	40	100		885		19		14		F05 F07 F10 F12	Handwheel operation, planetary gear mechanism
EXB (C) 3	40	200		1770		39		28			
EXB (C) 3A	40	300		2655		39		28			
EXB (C) 4	90	400		3540		29		21		F10 F12 F14 F12	
EXB (C) 5	90	600		5310		39		28			
EXB (C) 6	90	800		7080		47		34			
EXB (C) 7	120	1000		8850		47		34			
EXB (C) 7A	120	1300		11505		47		34			
EXB (C) 8	200	1700		15045		34		25		F12 F14 F16	
EXB (C) 8A	200	2000		17700		34		25	N/A		

Note: Standard configuration.
1. Rated torque is 75% of the max torque. 2. Motor insulation is class F. class H is optional. 3. The running time of 60 Hz is 5/6 of that of 50 Hz. The max output torque is the same as above.

EXB (CG) A



EXB (C) 2 ~ 8



Dimension: mm

Model	A	B	C	D	E	F	G	H	Ø I	J	Weight (kg)
EXC (CG) A (On/Off)	192	121	108	167	-	-	14 x 14	20	36, 50, 70	4-M5, 4-M6 4-M8	3.2
EXC (CG) A (Modulating)	212	121	108	167	-	-	14 x 14	20	36, 50, 70	4-M5, 4-M6 4-M8	3.6
EXB (C) 2, 3, 3A	286	83	126	209	108	242	17 x 17	35	70, 102	4-M8 4-M10	11
EXB (C) 4	354	115	187	256	129	302	22 x 22	55	102	4-M10	22
EXB (C) 5, 6, 7	354	115	187	256	129	302	27 x 27	55	125	4-M12	22
EXB (C) 8	415	136	242	308	152	340	36 x 36	65	140	4-M16	36