

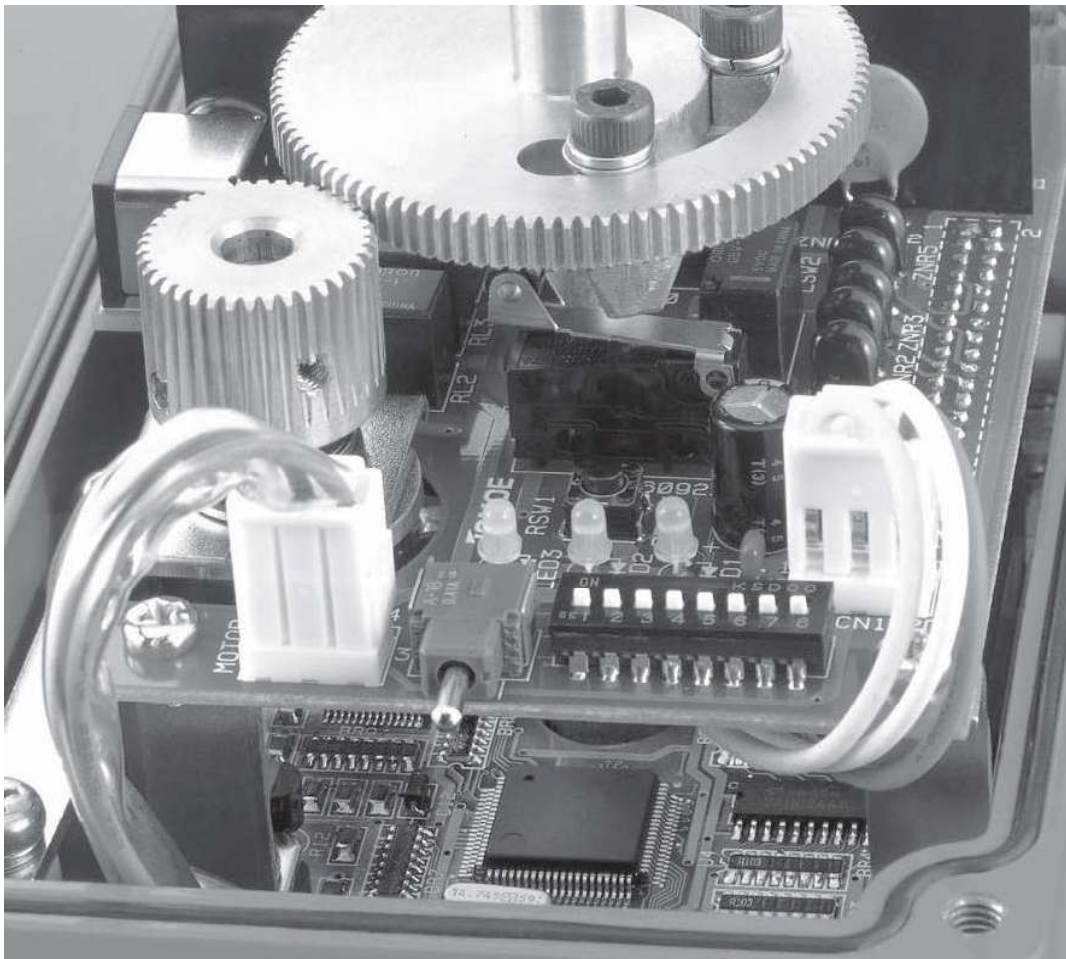
New MICOM ELMY III

The New MICOM ELMY III offers highly accurate controllability, and its various functions are easily set via communication with a personal computer.



Controller features

- Flow characteristics can be set at work site with PC.
- High reliability
- Adjustable operating speed
- Multiple functions
- Compact



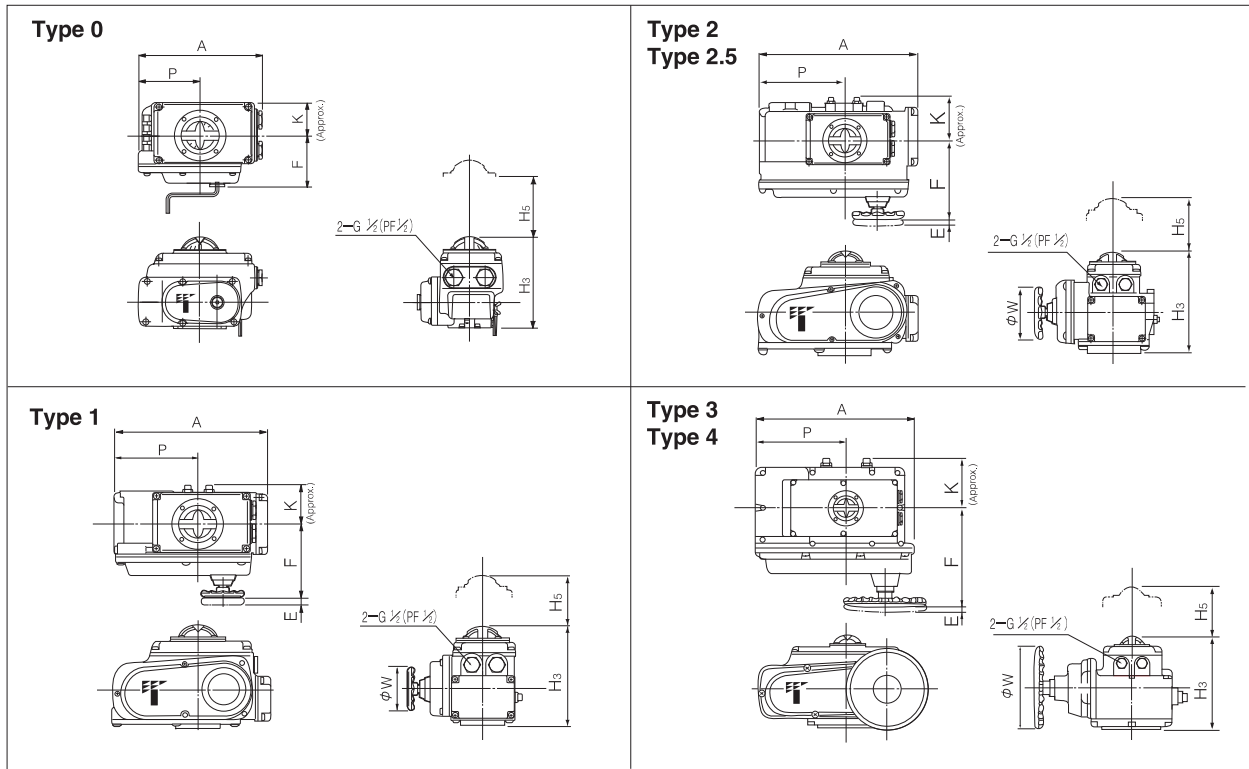
New MICOM ELMY III Specifications (Controller)	
Model	New MICOM ELMY II
Input signal	4 to 20 mA DC (Internal impedance 250Ω) or 1-5V DC. 0-5V, 0-10V, 1-10V, input to the potentiometer (option)
Non-voltage contact input	Open/close signal (a contact)
Output signal	4 to 20mA DC (load resistance 300 Ω)
Non-voltage contact output	Open/close contact signal (Capacity AC220V-0.3A, DC24V-1A) Alarm output for hunching and thermal rising (Capacity AC220V-0.3A, DC24V-1A) Power off output for excessive torque and thermal rising (Capacity AC220V-0.3A, DC24V-1A)
Hunting interval setting function	When high frequency operation is detected, the operation is avoided through automatic input signal hysteresis adjustment. 2 hours later, the input signal hysteresis is automatically restored to the value at the time of shipment.
Positioning accuracy	± 1% (For operation range of 90 degrees, input signal amplitude of 16mA during linear operation.)
Resolution	1/200 (For operation range of 90 degrees, input signal amplitude of 16mA during linear operation.)
Flow characteristic variation	- CV linear characteristic settings CV linear data for concentric valve (The data is built into the main body.) CV linear data for control valve (The data is built into the main body.) CV linear data for three-way valve (The data is built into the main body.) - Flow linear characteristic data (Configurable with the setting program.)
Input signal mode	Direct, reverse
Input signal failure mode	Enters when DC is 1 mA or less for 5 seconds Movement to full-close position, movement to full-open position (Selectable with the main body dip switch) Movement to specified opening (Configurable with the setting program)
Output signal mode	Direct, reverse
Analog input signal hysteresis adjustment	4% (±0.2%) Configurable from 1% (±0.5%) to 8% (±4.0%) in increments of 0.5% using the rotary switch on the circuit board.
Opening/Closing speed adjustment	Configuration of control range and opening/closing speed (5 levels) is available. (Configurable with the setting program)
Protection function	Mechanical stopper: Full-close/Full-open adjusting bolt system
Ambient temperature/humidity	-10°C to 50°C / 95%RH (Without air frost)
Storage temperature/Humidity	-20°C to 60°C / 95%RH (Without air frost)
Vibration environment	Vibration frequency: Less than 70Hz The acceleration should be 2G or less. Vibration frequency: 70Hz - 120Hz The acceleration should be 1.5G or less.

Resolution is set at 1/100 at the time of shipment. If any other resolution is required, please contact us.

New MICOM ELMY III Specifications (Actuator)						
Type	Type 0	Type 1	Type 2	Type 2.5	Type 3	Type 4
Output torque (N·m)	70	98	196	333	981	2000
Power source (V)	AC 100V, 200V, 220V (Voltage regulation ±10%) Single phase 50/60Hz					
Motor capacity (W)	8W	20W	30W		90W	
Operating range	0 to 90 degrees					
Travel time (50/60Hz) (sec)	25/20 sec (0 to 90 degrees)			37/30 sec (0 to 90 degrees)	55/50 sec (0 to 90 degrees)	125/105 sec (0 to 90 degrees)
Insulation	Class E					
Enclosure	JIS C 0920 (IP 65), Class 5, dust and water-jet proof type					
Motor protection	Thermal protector					
Conduit connections	G1/2 (PF1/2) 2 port					
Manual operation	Detachable handle	Declutchable handwheel				
Motor protection	Built-in thermal protector					
Mechanical stopper	End of travel positioning bolt					
Paint finish	Epoxy-melanin baked (Tomoe green)					

Actuator
New ELMY 4I
New MICOM ELMY II 4I
PMK-SRF 4K
SRJ 4J
LTKD 4L
New T-DYNAMO 7E/7F/7G
TGA 3A
TG-S 3K/3U
3C
Diaphragm 6X/6W/6Z/6A/6B
Hydraulic cylinder 3H
Manual Actuators 17/1J/2U/2I/2S/2G/2R

New MICOM ELMY III Dimensions diagram

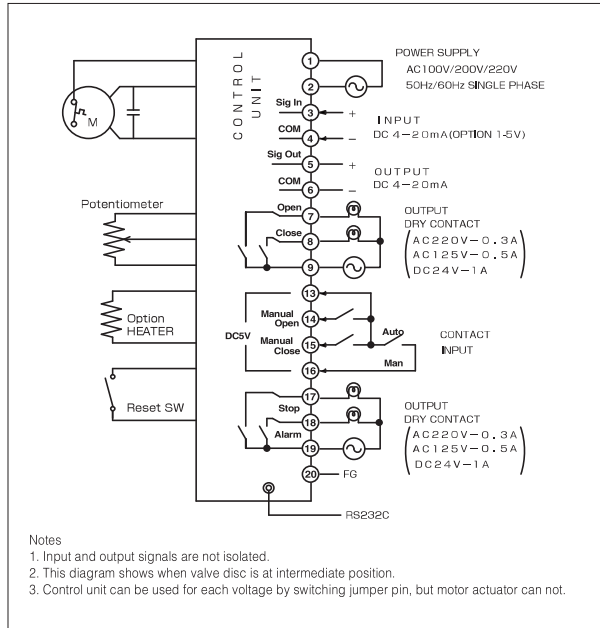


New MICOM ELMY III Dimensions

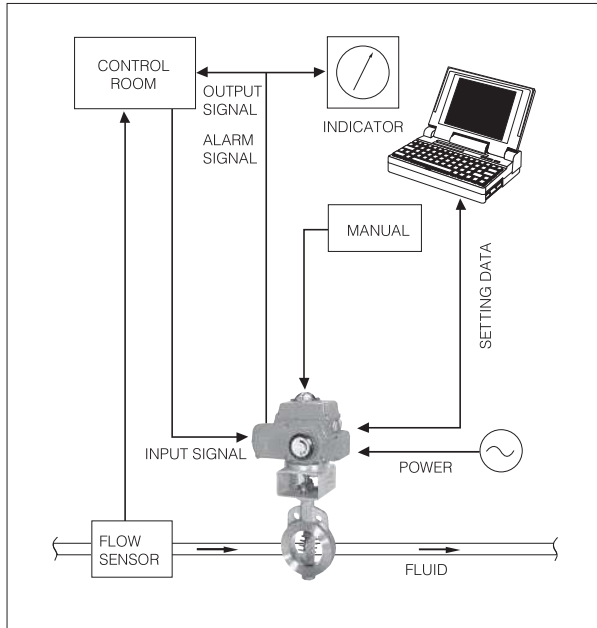
Motor type	Dimensions (mm)								Approx. Mass (kg)
	H ₃	H ₅	P	A	E	F	K	φW	
Type 0	185	100	100	202	43	85	54	—	4.2
Type 1	191(193)	100	138	252	12	126	65	70	6.4
Type 2	224(227)	100	167	310	14	154	85	100	11.2
Type 2.5	224(227)	100	167	310	14	154	85	100	12.8
Type 3	255(258)	100	223	388	23	246	136	200	23.2
Type 4	255(258)	100	223	388	23	246	136	280	28.3

() shows non-ISO top dimension
 The figure in () is for other than 700G.

New MICOM ELMY III Wiring diagram



New MICOM ELMY III Operation



New MICOM ELMY III Control functions

Setting function	Setting Method		Standard Factory Settings
	PC Software	Main Body DIP Switch	
Valve opening zero-span setting	×	○	0 to 90 or 0 to 70 degrees
Analog input signal zero-span setting	×	○	4-20 mA
Analog output signal zero-span setting	×	○	4-20 mA
Analog input signal off operation designation (Action at the time of abnormal situation)	Setting of any given opening		Emergency stop
Signal off setting value change	○	×	1mA or less continues for 5 seconds
Angle processing hysteresis setting	○	×	1% (±0.5%)
Flow correction setting	○	Signal linear, CV linear for concentric valve, CV linear for eccentric valve, CV linear for special use	No correction (Signal linear)
High frequency operation condition	○	×	Time for judgement: 180 seconds Frequency of operation: 70 Operation angle range: 1% to 10%
High frequency operation avoidance condition	○	×	Signal hysteresis transition 1% (±0.5%) Interval limit hysteresis 8% (±4%) Automatically returns to input signal hysteresis specified with the rotary dip switch after 2 hours
High frequency operation judgment condition	○	×	When signal hysteresis exceeds 8% (±4%) for hunting interval
Abnormal output shaft judgment condition	○	×	90 seconds
Temperature monitoring judgment condition	○	×	Alarm 50°C
Logging data transmittance	○	×	—
Display of setting data	○	×	—

New MICOM ELMY III Initial setting mode at the time of shipment

Input signal	Reverse action
Output signal	Reverse action
Flow rate adjustment	No adjustment
Action at the time of abnormal situation	Emergency stop
Analog input signal hysteresis adjustment	4% (±2%)

New MICOM ELMY III Operating system

Usage environment	RS232C interface (Connector: D-sub 9-pin) PC that can run Windows XP, Vista, Windows 7
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Actuator

New ELMY 41

New MICOM ELMY III 41

PMK-SRF 4K

SRJ 4J

LTKD 4L

New T-DYNAMO 7E/7F/7G

TGA 3A

TG-S 3K/3U

3C

Diaphragm 6X/6W/6Z/6A/6B

Hydraulic cylinder 3H

Manual Actuators 17/1J/2U/2I/2S/2G/2R

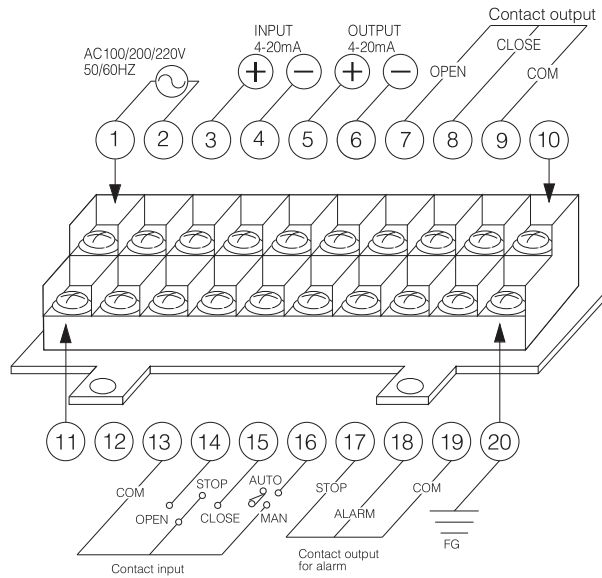
New MICOM ELMY III Terminal board

Notes

1. Input and output signals are not insulated.
2. Use FG terminal for earth.
3. At insulation test, note that a varistor is mounted on the control circuit board.

Terminal block screw size: M3 (with washer)

Wiring diagram



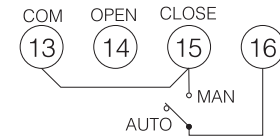
New MICOM ELMY III Contacts

Terminals

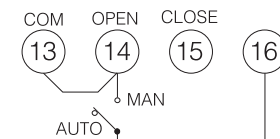
	Terminal No.	Purpose	Capacity
Contact output	No. 7 (OPEN)	Outputs at full open position	AC220V-0.3A DC125V-0.5A DC24V-1A
	No. 8 (CLOSE)	Outputs at full closed position	
	No. 9 (COM)	COM for No. 7 and 8 terminals	
	No. 17 (STOP)	Outputs when abnormally stopped ¹	
	No. 18 (ALARM)	Outputs when alarm signal transmitted ²	
	No. 19 (COM)	COM for No. 17 and 18 terminals	
Contact input	No. 13 (COM)	COM for No. 14, 15 and 16 terminals	
	No. 14 (OPEN)	Connect No. 13 when valve moves toward open direction	
	No. 15 (CLOSE)	Connect No. 13 when valve moves toward closed direction	
	No. 16 (AUTO/MAN)	Switching of auto and manual operation.	

¹1: No. 17 works during signal failure, abnormal torque or temperature increase.
²2: No. 18 works during hunting or abnormal temperature increase.

Wiring diagram example for combination of auto and manual
 Operation by 4-20 mA signal.
 Closed during manual operation.



Operation by 4-20 mA signal.
 Open during manual operation.



New MICOM ELMY III Function and dip switch position

Setting item	Setting of dip switch							
	SW1	SW2	SW3	SW4	SW5	SW6	SW7	SW8
Input signal								
Reverse action	OFF						OFF	OFF
Direct action	ON						OFF	OFF
Output (feedback) signal								
Reverse action		OFF					OFF	OFF
Direct action		ON					OFF	OFF
Opening degree adjustment								
None(Linear in accordance with signal)			OFF	OFF			OFF	OFF
Cv linear for concentric valve			OFF	ON			OFF	OFF
Cv linear for eccentric valve			ON	OFF			OFF	OFF
For customer use			ON	ON			OFF	OFF
Signal failure mode								
Stop					OFF	OFF	OFF	OFF
Fully open					ON	OFF	OFF	OFF
Fully close					OFF	ON	OFF	OFF
Memorized opening degree					ON	ON	OFF	OFF

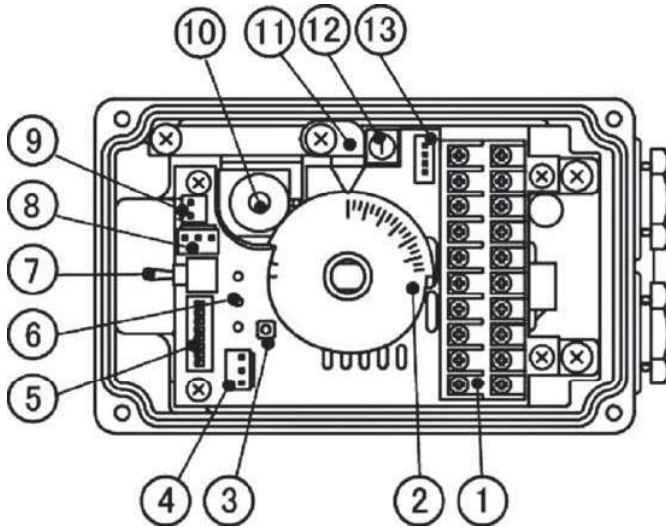
Notes

- Reset is necessary after switching.
- An asterisk means all setting data (such as valve opening degree, input signal, zero span of output single, etc.) will be initialized.
- Input signal: Reverse action: signal increase open
Direct action: signal increase close
- Output signal: Reverse action: valve open signal increase
Direct action: valve close signal increase
- Shaded areas mean initial setting mode at the time of shipment.

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New MICOM ELMY III Parts list

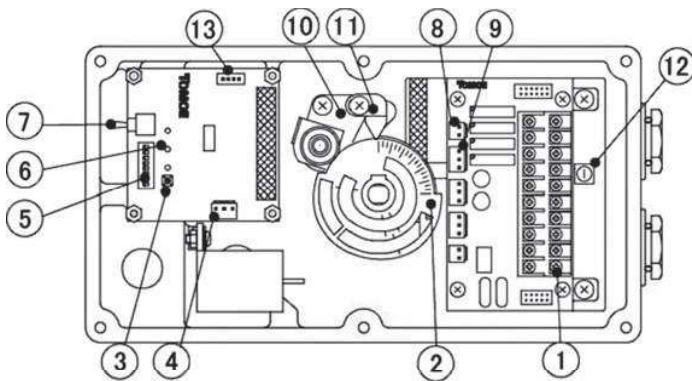
Types 0, 1, 2 and 2.5



1	Terminal
2	Limit switch cam
3	Reset switch
4	Connector for potentiometer
5	Dip switch
6	LED
7	Toggle switch
8	Connector for motor
9	Connector for motor capacitor
10	Potentiometer
11	Sub-indicator
12	Rotary dip switch
13	Connector for interface

New MICOM ELMY III Parts list

Types 3 and 4



1	Terminal
2	Limit switch cam
3	Reset switch
4	Connector for potentiometer
5	Dip switch
6	LED
7	Toggle switch
8	Connector for motor
9	Connector for motor capacitor
10	Potentiometer
11	Sub-indicator
12	Rotary dip switch
13	Connector for interface

New MICOM ELMY III Recommended fuse and non-fuse breaker

Type	Power source and frequency	Recommended capacity for fuse	Recommended capacity for non-fuse breaker
0, 1	100V/110V (50Hz/60Hz)	3A	3A
	200V/220V (50Hz/60Hz)	2A	2A
2, 2.5	100V/110V (50Hz/60Hz)	5A	5A
	200V/220V (50Hz/60Hz)	3A	3A
3, 4	100V/110V (50Hz/60Hz)	10A	10A
	200V/220V (50Hz/60Hz)	7A	7A

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