

BUTTERFLY VALVE WITH ELECTRICAL ACTUATOR (WAFER TYPE), PN16

Impact Motorized Butterfly Valves (Wafer Type)

SALIENT FEATURES

- Design Standard IS 13095 / BS EN 593 (BS 5155) Wafer Type
- Electrical Acuator Operated
- ON/FF and Modulating type actuation control Cast Iron / Ductile Iron construction.
- Ductile Iron/Stainless Steel (SS304) Disc
- Compatible with B.M.S (Building Management System)
- IP 67 protection available for outdoor application
- Anti-condensation space heater available in the actuator
- Input Voltage – 230+/-10% VAC 50/60 Hz power supply
- Till size 200mm Liner will be renewable & above 200mm Body molded rubber (EPDM)
- Compatible to sandwich between flanges as per ISO7005-1 (GB/T 9113) /IS 1538 (B16.5#150)1092-2

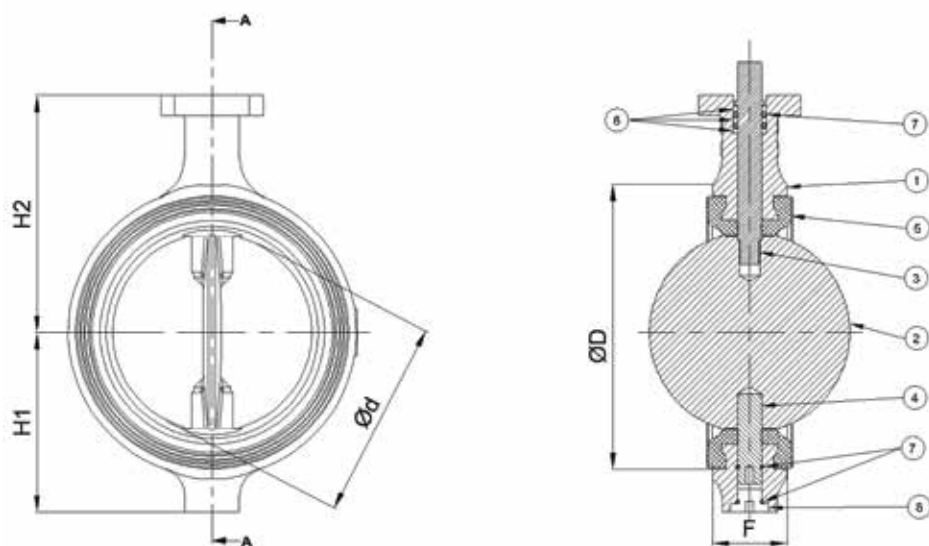


SPECIFICATIONS

| VALVE | |
|------------------|----------------|
| Size Range | DN50 - DN600 |
| Suitable for | Water |
| Medium Temp. | -10°C to 110°C |
| Nominal Pressure | PN16 |

| ACTUATOR | |
|---------------------|--|
| Power Supply | 220Vac, 50/60 Hz |
| Travel Angle | 90° ± 5° |
| Feedback | 2 Aux Switches |
| Enclosure | IP67 Waterproof |
| Ambient Temperature | -10°C to +65°C |
| Indicator | Continuous Position Indicator with manual override |
| Worm Gear | Permanently lubricated and self-locking |
| Material | Aluminum Alloy |
| External Coating | Dry Powder Coating |

| Test Pressure (Hydrostatic) | |
|-----------------------------|----------|
| Shell Test | 24 Bar |
| Seat Test | 17.6 Bar |

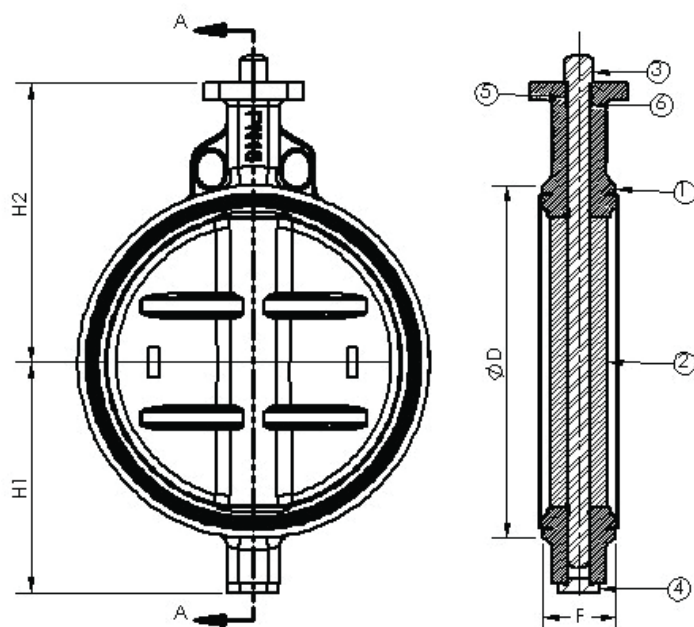


PART DESCRIPTIONS

| SR. NO. | PART NAME | MATERIAL | SPECIFICATION | QTY. |
|---------|------------------|--------------------------|----------------------------|------|
| 1 | BODY | CAST IRON | IS:210 Gr. FG200 | 1 |
| 2 | DISC | Ductile Iron / SS | IS 1865 Gr. 400/15 / SS304 | 1 |
| 3 | UPPER STEM | STAINLESS STEEL | ASTM A276 Gr, SS 410 | 1 |
| 4 | LOWER STEM | STAINLESS STEEL | ASTM A276 Gr, SS 410 | 1 |
| 5 | SEAT BODY LINING | RUBBER | EPDM | 1 |
| 6 | BODY BUSH | PTFE | PTFE | 3 |
| 7 | O-RINGS | RUBBER | EPDM | 3 |
| 8 | BOTTOM PLUG | MILD STEEL (ZINC PLATED) | ----- | 1 |

OUTSIDE DIMENSIONS DN SIZES IN MM

| SIZE MM (INCH) | A | F | ØD | Ød | H1 | H2 |
|----------------|-------|------|-----|-------|-----|-----|
| 50 (2") | 47 | 41.5 | 97 | 52 | 67 | 110 |
| 65 (2-1/2") | 62 | 44.5 | 111 | 66 | 74 | 118 |
| 80 (3") | 75.5 | 44.5 | 128 | 80.5 | 85 | 127 |
| 100 (4") | 96 | 50.5 | 160 | 100 | 101 | 145 |
| 125 (5") | 117.5 | 54.5 | 192 | 122.5 | 120 | 162 |
| 150 (6") | 142.9 | 54.5 | 213 | 146.9 | 134 | 174 |
| 200 (8") | 238 | 59 | 271 | 198 | 162 | 221 |
| 250 (10") | 248.8 | 66.5 | 325 | 252.6 | 216 | 285 |



PART DESCRIPTIONS

| SR. NO. | PART NAME | MATERIAL | SPECIFICATION | QTY. |
|---------|-------------|--------------------------|--------------------------|------|
| 1 | BODY | DUCTILE IRON | IS 1865 Gr. 400/15 | 1 |
| 2 | DISC | DUCTILE IRON/S.S. | IS 1865 Gr. 400/15 SS304 | 1 |
| 3 | UPPER STEM | STAINLESS STEEL | ASTM A276 Gr. SS 410 | 1 |
| 4 | BOTTOM PLUG | MILD STEEL (ZINC PLATED) | ----- | 1 |
| 5 | O-RINGS | RUBBER | EPDM | 3 |
| 6 | BODY BUSH | PTFE | PTFE | 3 |

OUTSIDE DIMENSIONS DN SIZES IN MM

| SIZE MM (INCH) | A | F | ØD | H1 | H2 |
|----------------|-------|-------|-------|-----|-----|
| 300 (12") | 296.7 | 76.5 | 376 | 229 | 315 |
| 350 (14") | 325.5 | 90.5 | 330.7 | 282 | 373 |
| 400 (16") | 397.5 | 101.5 | 402.7 | 315 | 417 |
| 450 (18") | 443 | 112.5 | 447.5 | 346 | 427 |
| 500 (20") | 498 | 125.5 | 504 | 375 | 475 |
| 600 (24") | 597 | 152.5 | 604 | 443 | 555 |

VALVE-ACTUATOR COMPATIBILITY

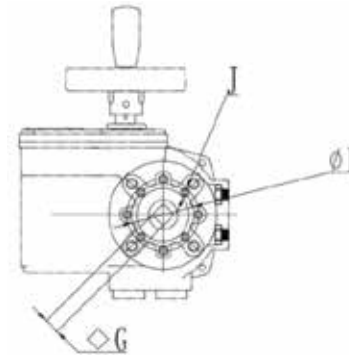
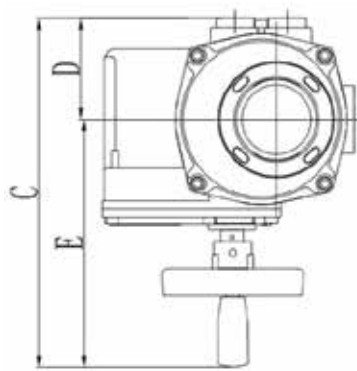
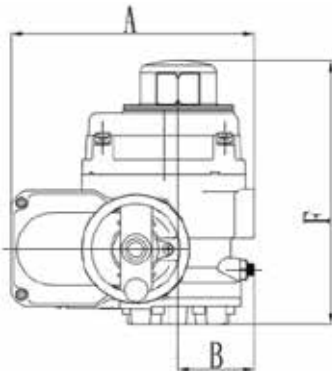
| VALVE SIZE MM (INCH) | ACTUATOR | | MAX TORQUE (NM) | | RUN TIME (SEC) | | KVS (M3 /H) |
|-------------------------|------------|-------------|-----------------|------------|----------------|------------|-------------|
| | ON-OFF | MODULATING | ON-OFF | MODULATING | ON-OFF | MODULATING | |
| 50 (2") | NOM16H0050 | NOM16H0050P | 50 | 50 | 20 | 20 | 109 |
| 65 (2-1/2") | NOM16H0050 | NOM16H0050P | 50 | 50 | 20 | 20 | 177 |
| 80 (3") | NOM16H0050 | NOM16H0050P | 50 | 50 | 20 | 20 | 243 |
| 100 (4") | NOM16H0050 | NOM16H0050P | 50 | 50 | 20 | 20 | 483 |
| 125 (5") | NOM16H0080 | NOM16H0080P | 80 | 80 | 30 | 30 | 822 |
| 150 (6") | NOM16H0080 | NOM16H0080P | 80 | 80 | 30 | 30 | 1,270 |
| 200 (8") | EM-0150 | NOM16H0200P | 150 | 200 | 20 | 30 | 2,550 |
| 250 (10") | EM-0400 | NOM16H0400P | 400 | 400 | 26 | 30 | 4,342 |
| 300 (12") | EM-0400 | NOM16H0400P | 400 | 400 | 26 | 30 | 6,708 |
| 350 (14") | EM-1000 | NOM16H1000P | 1000 | 1000 | 26 | 54 | 9,793 |
| 400 (16") | EM-1500 | NOM16H2000P | 1500 | 2000 | 90 | 70 | 13,467 |
| 450 (18") | EM-2000 | NOM16H2000P | 2000 | 2000 | 90 | 70 | 17,836 |
| 500 (20") | EM-2500 | NOM16H4000P | 2500 | 4000 | 90 | 140 | 22,933 |
| 600 (24") | NOM16H4000 | NOM16H4000P | 4000 | 4000 | 140 | 140 | 35,431 |

VALVE DIMENSIONS (MM)

| SIZE | A | B | C | ØD | L | H | ØK | ØE | N-ØD | |
|------|------|-----|-----|-----|-------|----|----|-----|------|------|
| MM | INCH | | | | | | | | | |
| 50 | 2" | 110 | 67 | 43 | 50.5 | 15 | 11 | 65 | 50 | 4-7 |
| 65 | 2.5" | 118 | 75 | 46 | 65 | 15 | 11 | 65 | 50 | 4-7 |
| 80 | 3" | 130 | 82 | 46 | 80 | 15 | 11 | 65 | 50 | 4-7 |
| 100 | 4" | 145 | 100 | 52 | 100 | 15 | 11 | 65 | 50 | 4-7 |
| 125 | 5" | 156 | 114 | 56 | 123 | 29 | 14 | 90 | 70 | 4-10 |
| 150 | 6" | 176 | 135 | 56 | 149.5 | 29 | 14 | 90 | 70 | 4-10 |
| 200 | 8" | 220 | 161 | 60 | 197 | 29 | 17 | 90 | 70 | 4-10 |
| 250 | 10" | 280 | 220 | 68 | 250.5 | 39 | 22 | 125 | 102 | 4-12 |
| 300 | 12" | 305 | 230 | 78 | 299.5 | 39 | 22 | 125 | 140 | 4-12 |
| 350 | 14" | 370 | 280 | 92 | 351 | 45 | 22 | 175 | 140 | 4-18 |
| 400 | 16" | 412 | 315 | 102 | 403 | 45 | 27 | 175 | 165 | 4-18 |
| 450 | 18" | 425 | 348 | 114 | 453 | 45 | 27 | 210 | 165 | 4-22 |
| 500 | 20" | 470 | 380 | 127 | 503 | 45 | 36 | 210 | 165 | 4-22 |
| 600 | 24" | 550 | 445 | 154 | 603 | 45 | 36 | 210 | 70 | 4-22 |

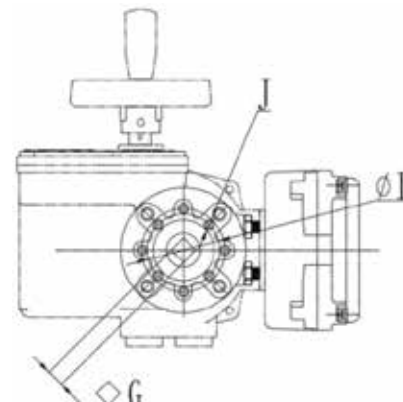
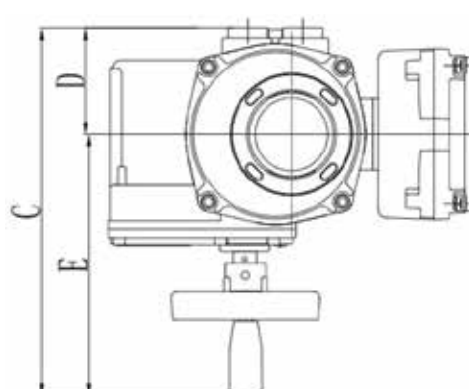
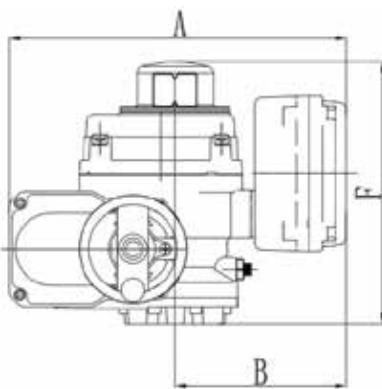
ACTUATOR DIMENSIONS

ON-OFF Type

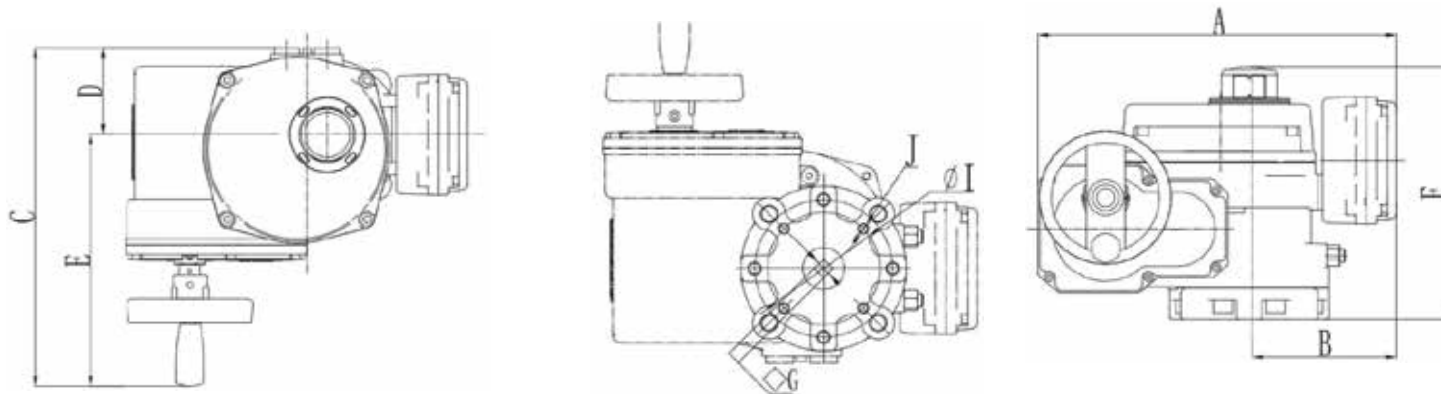


NOM16H0050/NOM16H0080

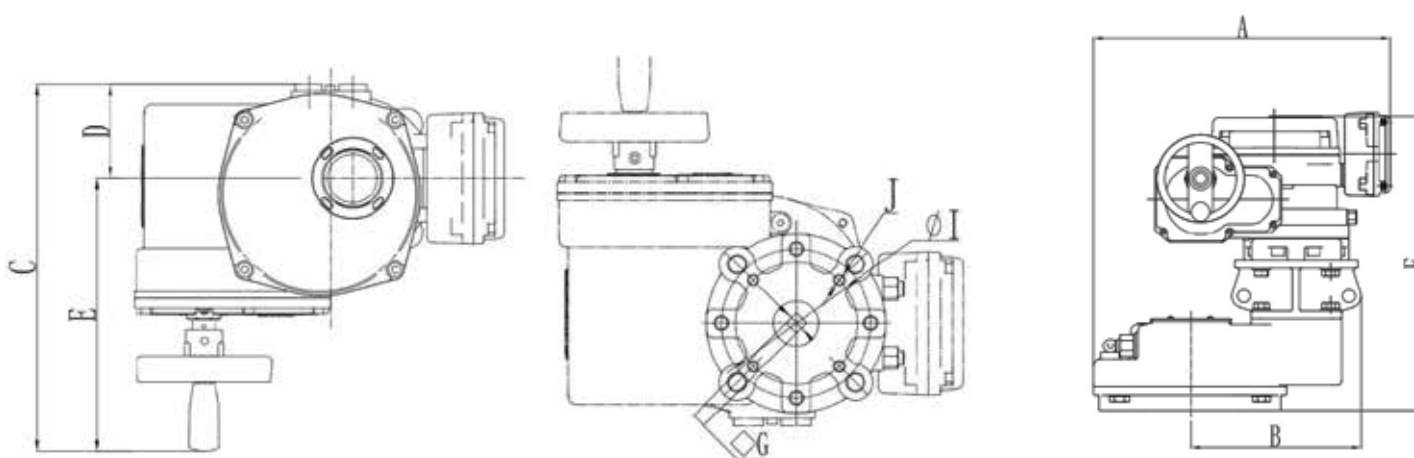
Modulating Type



NOM16H0050P/NOM16H0080P



NOM16H0200P/NOM16H0400P/NOM16H0600P/NOM16H0800P/NOM16H1000P



NOM16H2000P(B)/NOM16H4000P/NOM16H5000P

DIMENSION (MM)

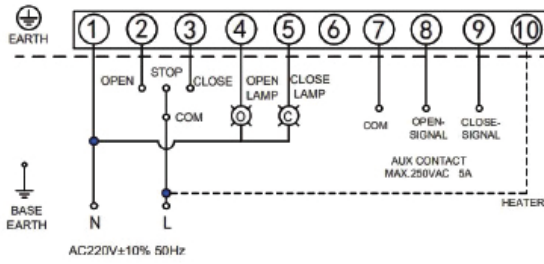
| MODEL | A | B | C | D | E | F | WEIGHT (KG) |
|--------------|-----|-----|-----|-----|-----|-----|-------------|
| NOM16H0050 | 166 | 52 | 236 | 66 | 170 | 180 | 3.3 |
| NOM16H0080 | 166 | 52 | 236 | 66 | 170 | 180 | 3.3 |
| NOM16H0050P | 234 | 121 | 236 | 66 | 170 | 180 | 4.5 |
| NOM16H0080P | 234 | 121 | 236 | 66 | 170 | 180 | 4.7 |
| NOM16H0200P | 303 | 132 | 342 | 82 | 260 | 214 | 11.2 |
| NOM16H0400P | 303 | 132 | 342 | 82 | 260 | 214 | 11.7 |
| NOM16H0600P | 303 | 132 | 342 | 82 | 260 | 214 | 12.2 |
| NOM16H0800P | 343 | 143 | 355 | 86 | 269 | 239 | 16.7 |
| NOM16H1000PB | 343 | 143 | 355 | 86 | 269 | 239 | 17.2 |
| NOM16H2000PB | 420 | 241 | 406 | 137 | 269 | 425 | 53.2 |
| NOM16H4000PB | 420 | 241 | 406 | 137 | 269 | 425 | 56.2 |
| NOM16H5000P | 420 | 241 | 406 | 137 | 269 | 425 | 58.2 |

| MODEL | A1 | A2 | A3 | B | B1 | D | D1 | E | H1 | H2 | L | L1 | L2 |
|---------|------|------|----|-----|------|-----|-----|------|-----|-----|-----|-----|-----|
| EM-0150 | 49.5 | 22.5 | 30 | 85 | 77.5 | 200 | 200 | 27.5 | 64 | 263 | 190 | 85 | 76 |
| EM-0400 | 60 | 33 | 35 | 100 | 77 | 200 | 220 | 27.5 | 70 | 304 | 205 | 88 | 76 |
| EM-1000 | 70 | 43 | 38 | 115 | 92 | 250 | 260 | 27.5 | 78 | 342 | 228 | 106 | 110 |
| EM1500 | 70 | 43 | 38 | 165 | 92 | 250 | 260 | 27.5 | 185 | 450 | 228 | 106 | 110 |
| EM2000 | 70 | 43 | 38 | 165 | 92 | 250 | 260 | 27.5 | 185 | 450 | 228 | 106 | 110 |
| EM2500 | 70 | 43 | 38 | 165 | 92 | 250 | 260 | 27.5 | 185 | 450 | 228 | 106 | 110 |

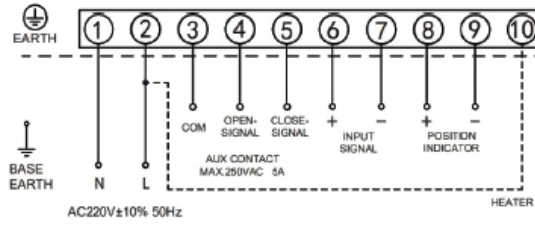
WIRING DIAGRAMS

NOM Actuators

ON-OFF Type



Modulating Type

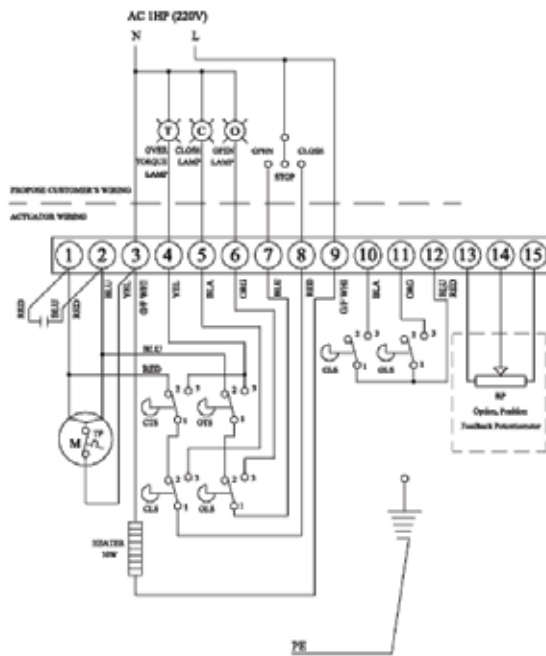


EM Actuators

Wiring - EM-0150 -EM2500

| | | |
|------------------------------------|---------|--|
| CLS:CLOSE LIMIT SWITCH (250VAC 6A) | CLS 1-2 | |
| OLS:OPEN LIMIT SWITCH (250 VAC 6A) | CLS 1-3 | |
| CTS:CLOSE TORQUE SWITCH(250VAC 6A) | CLS 1-2 | |
| OTS:OPEN TORQUE SWITCH:(250VAC 6A) | CLS 1-3 | |
| TP :THERMAL PROTECTOR (250VAC) | CTS 1-3 | |
| | OTS 1-3 | |

CLS 1-2: CLOSING TORQUE SWITCH BY TORQUE CONTROL, IF MECHANICAL OVERLOAD-NO-TIME DELAYED CONTROL
CLS 1-3: OPENING TORQUE SWITCH BY TORQUE CONTROL, IF MECHANICAL OVERLOAD-NO-TIME DELAYED CONTROL



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