# Actuator SAM 1P/SAM 2P

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## CHARACTERISTICS

- Actuator SAM 1P/SAM 2P is driven by a synchronous motor, which can accurately control the rotary movement between 0° and 90°. The maximum torque of SAM 1P is 3 N·m, and the maximum torque of SAM 2P is 20 N·m.

- Two-point step signal control, three-point step signal control and 4～20 mA l continuous signal control is optional. And the opening time of full stroke has three options: 3 s, 30 s and 60 s.

- The open position and closed position can be precisely restricted by adjusting the cams inside actuator.

- For three-point step signal control, a high-precision 4-20 mA current feedback signal is optional, which can check the valve position in real time.

## APPLICATIONS

The actuator SAM 1P/SAM 2P is mostly used in conjunction with butterfly valve SKA/HTB/SKR, SKG or automatic linear flow control AKV and other control valves to realize the control of combustion air of gas.

# SPECIFICATION

## Technical parameters

### Control model

- Two-point mode: With a 220 V AC signal, open when receive the signal and closed when lost the signal.

- Three-point mode: With two 220 V AC signals, open or closed when receive the two different signals separately, stop when no signal received.

- 4～20 mA continuous mode: 4～20 mA current signal corresponds to valve opening angle 0°～90°, and running time is 30 s/60 s (optional).
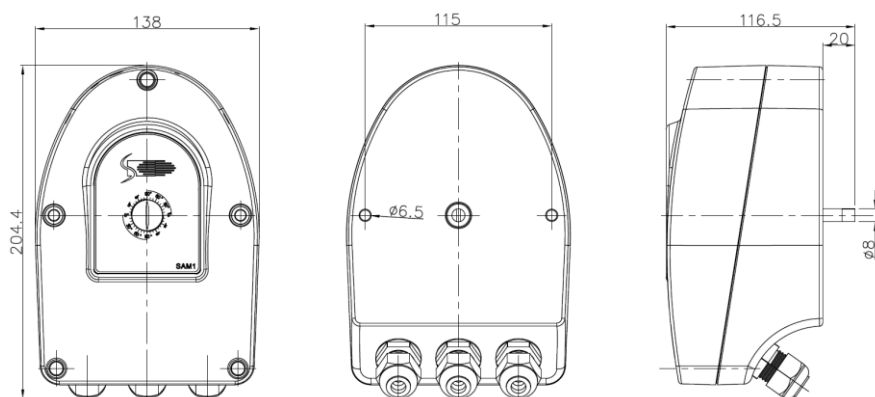
### Output torque

| Running time (s/90°) | SAM 1 (N·m) | SAM 2 (N·m) |
|---|---|---|
| 3 | 1.2 | 3.7 |
| 30 | 3 | 20 |
| 60 | 3 | 20 |

## Type table

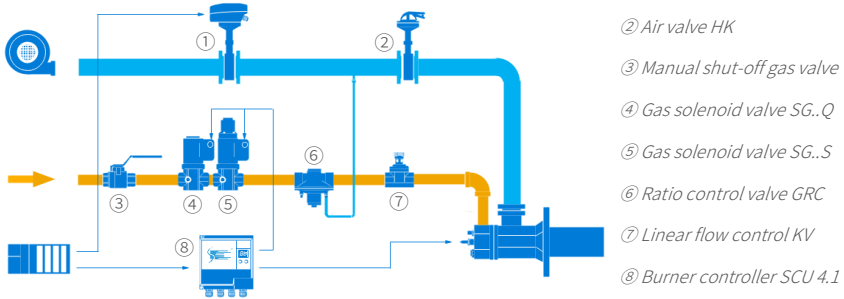| Type | | | SAM | 1P | -03 | /2 | A |
|---|---|---|---|---|---|---|---|
| Specification | 1P: Max. torque 3 N·m | 2P: Max. torque 20 N·m | | | | | |
| Running time | 03: 3 s/90°    30: 30 s/90°    60: 60 s/90° | | | | | | |
| Control model | 2: two-point step signal<br>3: three-point step signal<br>I: 4～20 mA continuous signal | | | | | | |
| Feedback | A: 4～20 mA current feedback signal, only for three-point step signal | | | | | | |

## Dimensions

### SAM 1P



### SAM 2P
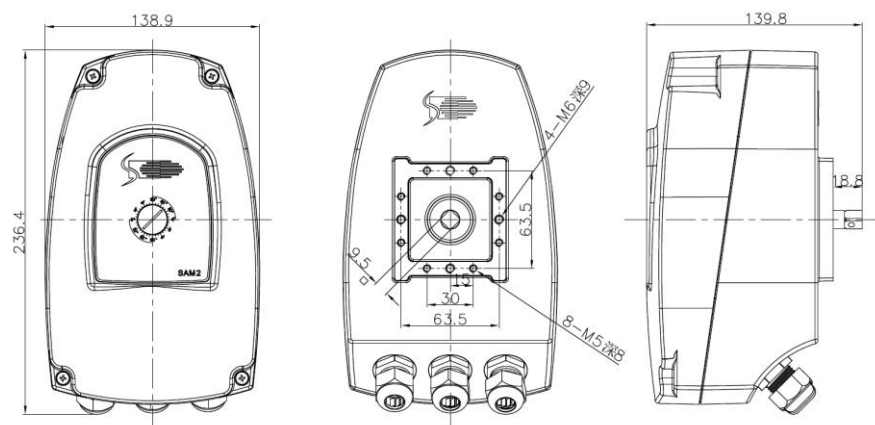


*Unit: mm*

# SOLUTIONS

## Air-gas ratio control

① Air valve SAM2P+HTB

② Air valve HK

③ Manual shut-off gas valve

④ Gas solenoid valve SG..Q

⑤ Gas solenoid valve SG..S

⑥ Ratio control valve GRC

⑦ Linear flow control KV

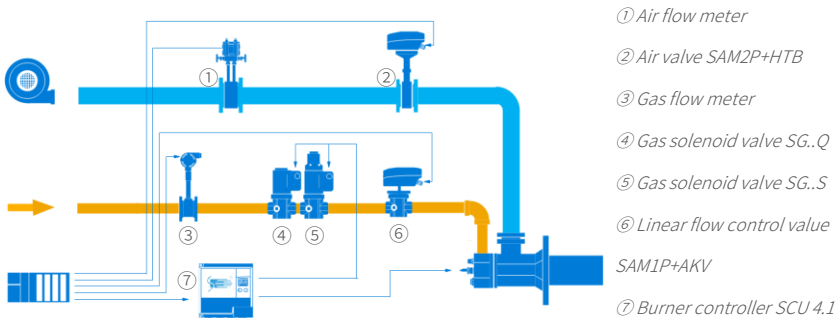⑧ Burner controller SCU 4.1

- In continuously controlled combustion system with air-gas ratio control, SAM is used to drive HTB to adjust air flow, and the change of air flow drives the proportional valve to adjust the gas flow, so as to realize the adjustment of the burner capacity.

- In high/low pulse control system, the high/low control of burner is realized by the on/off control between low and high valve positions of actuator.

## Flow control

① Air flow meter

② Air valve SAM2P+HTB

③ Gas flow meter

④ Gas solenoid valve SG..Q

⑤ Gas solenoid valve SG..S

⑥ Linear flow control value

SAM1P+AKV

⑦ Burner controller SCU 4.1

- In the gas pipeline in front of burner, an automatic linear flow control valve is used in conjunction with a flow meter to achieve the precise control of gas flow.

- It can also be used in double-cross limit flow control system as an automatic control valve for gas or air main pipelines in different temperature-controlling zones.

# INSTALLATION

- SAM 1P/2P is generally used in conjunction with butterfly valve HTB\SKA\SKG or linear flow control valve AKV.

- When matched with butterfly valve, a heat deflector should be installed, and the maximum applicable medium temperature is 450 ℃.

*Heat deflector*



- Installed facing outwards or upwards, and reserving enough space for operating and wiring.

- Ambient temperature: -15～60 ℃; enclosure: IP 54.
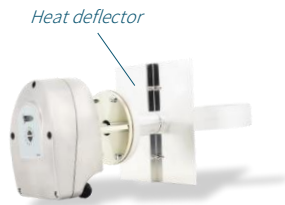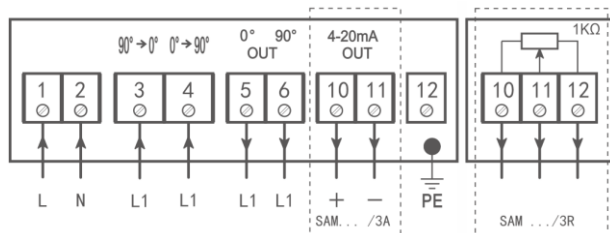
## Wiring

### SAM.. / 2
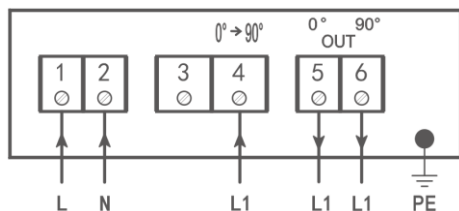


*Terminal 1, 2 is the power input, 220 V AC.*

*Terminal 4 is control signal input.*

*Terminal 5, 6 corresponds to the position feedback cams, output signal: 220 V AC.*

### SAM.. / 3



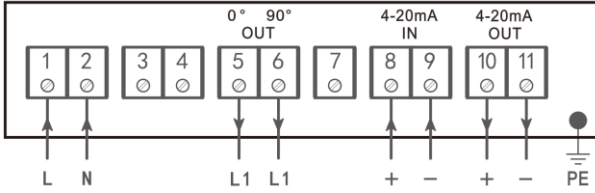*Terminal 1, 2 is the power input, 220 V AC.*

*Terminal 3 is close signal input.*

*Terminal 4 is open signal input.*

*Terminal 5, 6 corresponds to the position feedback cams, output signal: 220 V AC.*

*SAM..3A: terminal 10, 11 is 4～20mA current signal feedback.*

*SAM..3R: terminal 10, 11, 12 is 1kΩ resistance signal feedback.*

SAM.. / I



Terminal 1, 2 is the power input, 220 V AC.

Terminal 5, 6 corresponds to the position feedback cam, output signal 220 V AC.

Terminal 8, 9 is control signal input.

Terminal 10, 11 is 4～20 mA current signal feedback.