



Electric part-turn actuator SP MIKRO

Industry use: **Energy, Water, Industry**

Enclosure protection: **IP 65**

Switching-off torque: **8 Nm**

Operating time: **120 s/90°**

Operating angle: **60 to 120 °**

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SD-1001 Series

Type: Weatherproof Stayput Quarter-Turn Electric Actuator

- **Torque Output:** Up to 500 Nm
- **Supply Voltage:**(Single / Three Phase)

Duty Modes: On-Off / Inching / Modulating

Degree of Protection: IP65, IP66, IP67, and IP68 ratings available on request

SD-1001 Series – Single/Three Phase Quarter-Turn Weatherproof Electrical Actuators

The **SD-1001 Series** from **SDTORK Controls Pvt. Ltd.** is a high-performance electric actuator designed for **precise and reliable valve and damper automation**. Engineered to perform under **tough industrial conditions**, it combines **rugged mechanical design**, **advanced safety features**, and **exceptional operational endurance**.

Specially developed for **quarter-turn applications** such as **Ball Valves, Butterfly Valves, Plug Valves, and Dampers**, the SD-1001 Series delivers smooth operation, high torque output, and long service life. It is ideally suited for **heavy-duty environments** involving vibration, dust, and extreme temperatures.

The actuator's **spur and planetary gear train** ensures efficient torque transmission, while its **worm reduction mechanism** provides manual control and a **self-locking function**, maintaining position stability even when power is off.

With its superior design, weatherproof construction, and proven reliability, the **SD-1001-WP** variant has earned industry-wide recognition for its **durability, performance, and unmatched functionality**.

Technical Overview

- **Type:** Weatherproof Stayput Quarter-Turn Electric Actuator (Single / Three Phase)
 - **Body Material:** Aluminium Alloy – durable and corrosion-resistant
 - **Torque Output:** Up to 500 Nm
 - **Motor Type:** Squirrel Cage Induction Motor – fully enclosed, compact, high-torque design with thermal protection
 - **Duty Modes:** On-Off / Inching / Modulating
 - **Hand Lever:** Non-rotating wheel type with worm reduction, enabling manual control when de-energized
 - **Degree of Protection:** IP65, IP66, IP67, and IP68 ratings available on request
 - **Mounting Standard:** F07 / F10 / F12
 - **Supply Voltage:**
 - Three Phase: AC 380V / 415V $\pm 10\%$
 - Single Phase: AC 110V / 230V $\pm 10\%$
 - **Frequency:** 50Hz / 60Hz $\pm 5\%$ (Other voltages available on request)
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Applications & Industries

Industrial Applications

- **Oil & Gas:** Control valves and dampers in refineries and distribution networks
- **Water & Wastewater:** Pumping stations, treatment plants, and process pipelines
- **Chemical & Petrochemical:** Safe automation in corrosive and hazardous environments
- **Power Generation:** Steam, gas, and cooling systems requiring reliable flow control
- **HVAC & Building Automation:** Ventilation, air handling, and flow regulation
- **Food & Beverage Processing:** Hygienic and efficient process automation

Commercial & Infrastructure Projects

- **Airports:** Airflow and fire damper control in HVAC systems
- **Shopping Malls:** Automated ventilation and climate management
- **Hotels & Resorts:** Temperature regulation and air handling systems

Valve & Damper Compatibility

- **Ball Valves:** Precision shut-off and flow control
- **Butterfly Valves:** Efficient quarter-turn actuation
- **Dampers:** Accurate airflow management and process regulation

Key Benefits

- High-efficiency gear train for smooth torque transmission
- Over-torque protection safeguards motor and gear system
- Self-locking design prevents back-drive and ensures stability
- Compact, low-maintenance, and long-life operation
- Designed for heavy-duty use in both industrial and commercial sectors

✓ Why Choose SDTORK SD-1001 Series

- Proven reliability in demanding operating conditions
- Advanced protection and performance features
- Easy installation with ISO standard mounting
- Backed by SDTORK's global expertise and after-sales support

SD-1001 Series Model:- Weatherproof

1. SD-1001-12.5
2. SD-1001-25
3. SD-1001-40
4. SD-1001-50

SD-1001-12.5

1. **Industry Use:** Energy, Water, Process Industry
2. **Rated Torque:** 125 Nm
3. **Operating Angle:** 90° (Quarter-Turn)
4. **Operating Time:** 40 Sec / 90° rotation
5. **Protection Class:** IP65 / IP67 – Weatherproof & Dustproof

6. **Duty Modes:** On-Off / Inching / Modulating
7. **Motor Type:** Synchronous Stall Duty
8. **Mounting Standard:** ISO 5211 – F07 & F10 (Maximum Dia Ø28, Depth 35)
9. **Weight:** 17 Kgs
10. **Ambient Temperature:** 45°C
11. **Supply Voltage:** Available in 230VAC / 110VAC ±10%, 50Hz / 60Hz ±5%
12. **Hand Wheel:** Provided with engage/disengage facility (Clockwise to Open & Anti-Clockwise to Close). Optional speed available on demand – consult SDTORK. Actuators can be supplied for 60Hz frequency on demand – consult SDTORK.
13. **Paint:** Standard RAL 5021

Optional Accessories (On Request)

- **Potentiometer Feedback:** 100–235Ω / 0–500Ω / 0–1000Ω
 - **Position Controller:** Field-mounted or integrated; accepts 4–20mA or 0–10V DC signals
 - **Position Transmitter Feedback:** 4–20mA output (actuator-mounted)
 - **Local Control Station:** Enables both local and remote operation
 - **Foot-Mounted Arrangement:** Provides stable base installation for floors or platforms
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Applications

The **SD-1001-12.5 actuator** is engineered for **versatile industrial use** and is ideal for:

- **Water & Wastewater:** Pipeline networks, pumping stations, treatment plants, and distribution systems
- **Energy & Power Plants:** Conventional thermal, nuclear, and renewable power generation
- **Process Industries:** Chemical, petrochemical, pharmaceutical, and food & beverage processing
- **Oil & Gas:** Refineries, pipeline automation, distribution networks, and storage terminals

- **HVAC Systems:** Control of dampers and valves in heating, ventilation, and air conditioning systems
 - **Manufacturing & Automation:** Industrial process control, assembly lines, and automated production systems
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Why Choose SD-1001-12.5?

- **Reliable Performance:** Designed for continuous operation in harsh industrial environments
- **Precision Control:** Accurate quarter-turn operation with optional feedback systems
- **Flexible Installation:** Compatible with multiple mounting standards and manual override facility
- **Customizable Options:** Adaptable for various speed, voltage, and control requirements
- **Durable & Robust:** Weatherproof, dustproof, and corrosion-resistant design

Single Phase Quarter-Turn Electrical Actuator – SD-1001-12.5

The **SD-1001-12.5** from **SDTORK Controls Pvt. Ltd.** is a robust single-phase quarter-turn actuator engineered for reliable valve and damper automation in energy, water, and process industries. Designed for durability and long-term performance, it provides precise control, high torque, and smooth operation under harsh environmental conditions.

SD-1001-12.5 – Key Specifications

Industry Applications: Energy, Water & Wastewater, Oil & Gas, Power Generation, Process Industries

Rated Torque: 125 Nm

Operating Angle: 90° (Quarter-Turn)

Operating Time: 40 sec per 90° rotation

Protection Class: IP65 / IP67 – Weatherproof & Dustproof

Duty Modes: On-Off / Inching / Modulating

Motor Type: Single Phase Synchronous Stall Duty Motor

Mounting Standard: ISO 5211 – Flange F07 / F10 (Max Ø28, Depth 35)

Weight: 17 kg

Ambient Temperature Range: 0°C to 45°C

Supply Voltage: Single Phase 230 VAC / 110 VAC ±10%, 50Hz / 60Hz ±5%

Handwheel: Engage/disengage type (Clockwise to Open, Anti-Clockwise to Close)

Paint: Standard RAL 5021

Optional speed and 60Hz versions available on request – consult SDTORK.

Optional Accessories (On Request)

- **Feedback Potentiometer:** 100–235 Ω / 0–500 Ω / 0–1000 Ω
- **Position Controller Unit (PCU):** Field/panel mounted; input 4–20 mA / 0–10 V DC
- **Position Transmitter:** 4–20 mA proportional output (actuator-mounted)
- **Remote Position Indicator:** Digital 0–100% valve/damper position display
- **Space Heater:** Prevents internal condensation
- **Local Control Station:** Local/remote operation with selector switch

✓ Applications & Industries

- **Water & Wastewater:** Pumping stations, treatment plants

- **Energy & Power Plants:** Thermal and renewable systems
 - **Process Automation:** Chemical, food, and pharmaceutical
 - **Oil & Gas:** Pipelines, terminals, and refineries
 - **HVAC & Manufacturing:** Ventilation and industrial control
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Single Phase Quarter-Turn Electrical Actuator – SD-1001-25

The **SD-1001-25** offers increased torque and reliable automation performance for mid-range valves and dampers. Compact, efficient, and built for industrial-grade applications, it ensures consistent operation across multiple environments.

SD-1001-25 – Key Specifications

Industry Applications: Water, Energy, Process Industry, Oil & Gas, HVAC

Rated Torque: 250 Nm

Operating Angle: 90° (Quarter-Turn)

Operating Time: 45 sec per 90° rotation

Protection Class: IP65 / IP67 – Weatherproof & Dustproof

Duty Modes: On-Off / Inching / Modulating

Motor Type: Single Phase Synchronous Stall Duty Motor

Mounting Standard: ISO 5211 – Flange F07 / F10 (Max Ø28, Depth 35)

Weight: 20 kg

Ambient Temperature Range: 0°C to 45°C

Supply Voltage: Single Phase 230 VAC / 110 VAC ±10%, 50Hz / 60Hz ±5%

Handwheel: Engage/disengage type

Paint: Standard RAL 5021

Optional speed and 60Hz versions available on request – consult SDTORK.

Optional Accessories (On Request)

Same as SD-1001-12.5

✓ Applications & Industries

- **Water & Wastewater:** Valve control automation
- **Energy Sector:** Plant and turbine systems
- **Oil & Gas:** Distribution, terminals, refineries

- **HVAC:** Air flow control systems
 - **Industrial Automation:** Packaging, production, and assembly processes
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Single Phase Quarter-Turn Electrical Actuator – SD-1001-40

The **SD-1001-40** is designed for high-performance valve automation in demanding environments. With its precision gear mechanism and strong housing, it delivers exceptional torque, efficiency, and control accuracy in continuous duty operations.

SD-1001-40 – Key Specifications

Industry Applications: Power Generation, Process Industry, Oil & Gas, HVAC

Rated Torque: 400 Nm

Operating Angle: 90° (Quarter-Turn)

Operating Time: 50 sec per 90° rotation

Protection Class: IP65 / IP67 – Weatherproof & Dustproof

Duty Modes: On-Off / Inching / Modulating

Motor Type: Single Phase Synchronous Stall Duty Motor

Mounting Standard: ISO 5211 – Flange F12 (Max Ø45, Depth 40)

Weight: 23 kg

Ambient Temperature Range: 0°C to 45°C

Supply Voltage: Single Phase 230 VAC / 110 VAC ±10%, 50Hz / 60Hz ±5%

Handwheel: Engage/disengage type

Paint: Standard RAL 5021

Optional speed and 60Hz versions available on request – consult SDTORK.

Optional Accessories (On Request)

Same as SD-1001-12.5

✔ Applications & Industries

- **Energy & Power Plants:** High-torque valve actuation
- **Process Control:** Chemical, paper, and food industries
- **Oil & Gas:** Heavy-duty pipeline and storage automation
- **Water & Wastewater:** Large valve control systems
- **HVAC Systems:** Air handling units and dampers

Single Phase Quarter-Turn Electrical Actuator – SD-1001-50

The **SD-1001-50** represents the top-end model of SDTORK's single-phase SD-1001 series, delivering up to 500 Nm torque. Ideal for large valves and heavy industrial duty, it ensures precision, safety, and reliability even under extreme operating conditions.

SD-1001-50 – Key Specifications

Industry Applications: Energy, Oil & Gas, Water, Power Generation, Process Industry

Rated Torque: 500 Nm

Operating Angle: 90° (Quarter-Turn)

Operating Time: 55 sec per 90° rotation

Protection Class: IP65 / IP67 – Weatherproof & Dustproof

Duty Modes: On-Off / Inching / Modulating

Motor Type: Single Phase Synchronous Stall Duty Motor

Mounting Standard: ISO 5211 – Flange F12 (Max Ø45, Depth 40)

Weight: 26 kg

Ambient Temperature Range: 0°C to 45°C

Supply Voltage: Single Phase 230 VAC / 110 VAC ±10%, 50Hz / 60Hz ±5%

Handwheel: Engage/disengage type

Paint: Standard RAL 5021

Optional speed and 60Hz versions available on request – consult SDTORK.

Optional Accessories (On Request)

Same as SD-1001-12.5

✓ Applications & Industries

- **Energy & Power:** Heavy valve automation
- **Oil & Gas:** Refineries, terminals, and pipeline control
- **Water & Wastewater:** Large flow and damper control
- **Process Industries:** High-torque process automation
- **HVAC & Industrial Systems:** Air, gas, and flow regulation