

SERVICE



Contents

Our service	3
Technical support and project planning	4
System installation	5
Commissioning	6
Inspection and maintenance	7
Troubleshooting, repair and maintenance	8
Spare parts supply	9
Product modification and function enhancement	10
Feature retrofitting and equipment upgrades	11
Inspection and overhaul service	12
Product and maintenance training	14
SIPOS training system	15

Complete product support

Our service

SIPOS actuators are used widely throughout industry in operations where liquid, gas, powder or dust flows are being controlled. In many of these applications, high levels of operational safety are imperative. Each open/close cycle or modulation, whether of simple butterfly, gate and ball valve or highly complex valve system, has to be performed reliably and under precise control.

To maintain this high degree of operational integrity, SIPOS Service provides support in planning, installation, upgrades and system improvements. SIPOS Service can also train your personnel, either on-site or at our facilities, to ensure our actuators always operate at peak performance.



Gerhard Loos
After Sales Manager

Worldwide service, accessible round the clock



SIPOS Service technicians are available worldwide 24/7. You can reach us directly via our service hotline:

Phone: +49-9187-9227-5214

E-mail: service@sipos.de

or via one of our service partners:

www.sipos.de

Our service specialists are well acquainted with plant used in power generation, water and wastewater handling as well as general industrial manufacturing. Each technician has long-term service experience with actuators and has extensive training across the full product range. Our service personnel are also SCC-certified and authorized to work in nuclear power plants. This recognition of our service capability endorses why customers have complete confidence in the SIPOS Service guarantee.

**Quality service
from experienced
technicians**

This brochure details the complete range of SIPOS actuator service support packages. Individual services can be selected or bespoke packages tailored to suit individual customer needs. Please contact your SIPOS Service representative for more details

**The service offer –
our commitment**

For optimum solutions **Technical support and project planning**



Our goal is to offer customers the best solution for their application. This starts at the planning stage and continues through to commissioning and post installation support. Our teams of mechanical, electronics and software engineers are experts in developing complete system solutions beyond just the electrical and mechanical requirements of the actuator.

Services in detail

Actuator sizing

Our technical experts can recommend actuators matched perfectly to the operational needs of the valve using data such as valve type, positioning time, torque or force requirements. We can even specify suitable actuators to replace obsolete products or those from other manufacturers.

Control system integration

Definition of the actuator to control system interface. Clarification of control modes, feedback signals and their interpretation and selection of the required actuator functions plus electrical connections.

Customer-specific software solutions

Individual customer needs, which extend beyond the wide range of current SIPOS 5 Flash actuators, are satisfied using tailor made solutions e.g. customer-specific software programming.

Fieldbus application advice

Advice and proposals on all aspects of fieldbus including redundancy, use of peripheral components, transfer mode system and communication technology.

Obsolete Siemens actuators – spare parts and advice

SIPOS can provide spare parts and, where required, recommend suitable replacement actuators. Specification and quotations for product modifications can also be provided.

In addition

On-site inspection and survey

We offer full site survey reports detailing device specification, plant condition and possible system failure modes.

Process control system retrofitting support

Customer support extends to the selection of new actuators and connection to new control systems.



Used worldwide

Competence from the beginning

System installation



Mounting in any position

Many system failures and breakdowns occur due to poor installation of the actuators on site, especially the electrical connections. Additionally failures also arise from insufficient regard to, or a lack of appreciation of, the severity of local ambient conditions.

SIPOS technical support goes beyond planning and on-time delivery. SIPOS provides complete customer support throughout the installation phase to ensure rapid start-up and long term trouble-free actuator operation.

Key installation considerations

- » Assessment of ambient conditions such as temperature, vibration or humidity both during installation and operational life. For certain applications, consideration should be given to remote installation of the electronic control module separate from the gear unit.
- » Actuator mounting position and orientation which allows sufficient access for installation and maintenance.
- » Correct selection and assembly of cable glands.
- » Power supply and signal cable routing and connection.



Mounting under 'difficult' conditions

A safe start **Commissioning**



Effective commissioning is the final phase of any installation and is essential to ensure correct actuator operation and long-term reliability, reducing unnecessary future component failures and plant downtime.

The SIPOS Service team commissions actuators at installations around the globe. A wealth of application experience, combined with detailed knowledge on precise tuning of actuators to particular process requirements, ensures rapid and trouble free on-site commissioning.

Service provided	Customer benefit
» Site environmental assessment	» Potential failure modes identified and preventative measures initiated
» Actuator end-position setting optimization	» Reduced on-site adjustment work
» Actuator set-up and programming	» Reduced commissioning time and efficient plant operation from start-up
» Variable speed actuator special functions activation	» Process optimization is possible
» Data recording e.g. setting values or torque curves	» Data is readily available and stored for future reference avoiding the need to re-survey
» Documentation preparation	» Saves customer administration time and information is presented in a user friendly format

Product training To ensure customers obtain the maximum benefit from SIPOS actuators, a standard product training course 'An introduction to operational service' or bespoke product training can be provided, either during or after commissioning.



Setting from head to head

Ongoing reliability

Inspection and maintenance

Regular inspection and preventative maintenance increases operational safety, reduces the risk of failures and enables early detection of damage/potential system problems. Skilled SIPOS technicians perform maintenance and inspection work both efficiently and safely to ensure minimum plant down-time.



Inspection in fine detail

Individual service plans customized to suit the requirements of the application and product servicing needs guarantee maximum operational safety of the actuators.

Service agreements adapted to customer requirements

SIPOS will draw up individual schedules for the inspection and maintenance of actuators, according to site location, to ensure maximum efficiency of inspection and maintenance work. This also reduces planned down-time and keeps ongoing support costs to a minimum.

SIPOS Service agreements are customized to customer requirements to deliver these benefits.

An example of a typical service checklist

Checklist	Site/ location	Proper function
Actuator: _____	Last serviced: _____	
Special features: _____		
Test		
• Actuator components checked for external visible defects?	<input type="checkbox"/> YES	NO: Action
• All parts complete and undamaged (e.g. crank handles, mounting parts, stem protection tube etc.)?	<input type="checkbox"/> YES	NO: Action
• Status of gear units and wear parts including electronic components?	<input type="checkbox"/> YES	NO: Action
• All components within wear limits?	<input type="checkbox"/> YES	NO: Action
• Sounds, vibrations etc. within the defined range?	<input type="checkbox"/> YES	NO: Action
• Valve mounting parts, mounting brackets etc. operable?	<input type="checkbox"/> YES	NO: Action
• Cable entries and cable lead integrity?	<input type="checkbox"/> YES	NO: Action
• Check function unit for leakages?	<input type="checkbox"/> YES	NO: Action
• Covers and hood integrity?	<input type="checkbox"/> YES	NO: Action
• Name plates complete and legible?	<input type="checkbox"/> YES	NO: Action
• Test run of actuator "LOCAL" and, if applicable, "REMOTE" fault-free?	<input type="checkbox"/> YES	NO: Action
• Push button functionality check?	<input type="checkbox"/> YES	NO: Action
• Manual operation check?	<input type="checkbox"/> YES	NO: Action
• Lubrication check?	<input type="checkbox"/> YES	NO: Action

With competence and experience **Troubleshooting, repair and maintenance**

The SIPOS Service organization has been tailored to meet the needs of the most demanding customer applications and planned maintenance schedules have been created to minimize unplanned down-time. However, in the unlikely event of actuator failure, damage or breakdown, SIPOS Service specialists are available to quickly rectify problems on site. All work is performed using state-of-the-art diagnostic tools and technology. SIPOS engineers are regularly updated with information from the company's development team and knowledge gained in the field.

In addition to on-site service, customers are also supported by a network of regional service centers and the SIPOS factory, where the actuators can be extensively tested, serviced or rebuilt as required. All work is documented and customer reports provided.



Repair in any location



**Troubleshooting with
COM-SIPOS software**

What counts in the event of breakdown

- » Service hotline availability
- » Competent 'first point of contact' personnel
- » Fast reaction time
- » Availability of qualified service support personnel
- » Rapid on-site service
- » Spare part availability

- » Direct contact, short communication channels
- » Short repair and maintenance times
- » Availability of spares and trained specialists
- » Updated technology
- » Complete documentation
- » Good cost / performance ratio

The SIPOS guarantee

If customers choose to carry out repairs themselves, SIPOS provides the following support:

- » Technical phone advice
- » Express spare part delivery service

Service hotline

Quick and reliable Spare parts supply

When plant comes to a standstill as a result of component breakdown, awaiting spare parts can be agonizing. Down-time costs can rapidly mount even over just a few hours. It is therefore good practice to keep a basic inventory of spare parts locally accessible. One of the benefits of the SIPOS 5 flash actuator design is that only a small range of spare parts need to be held, thus keeping inventory costs and storage space to a minimum. Design features are explained in more detail below:

Modular design: all types of actuators (rotary, part-turn, linear actuators) are based on a single basic actuator type. The core actuator module can be combined with a variety of other gearboxes such as planetary gears, bevel gearboxes and spur gearboxes.

A minimum number of components: the use of converter technology and intelligent software in SIPOS actuators results in reduced numbers of mechanical and electrical components compared to conventional actuator designs.

Fast component replacement: good design ensures that component parts can be readily replaced and re-commissioning is not required after replacing the electronic sub-assembly.

Application knowledge: SIPOS can supply, on request, a recommended spare parts inventory list which supports the actuator application.

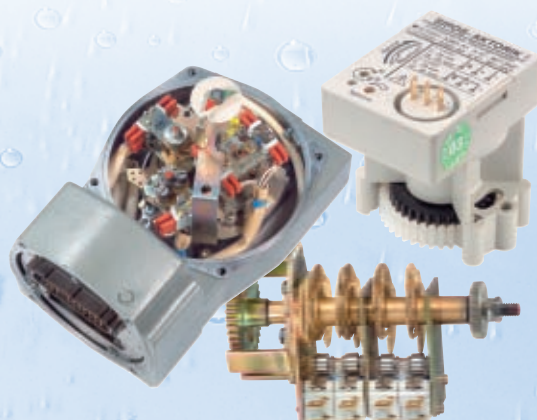


- » Service hotline
- » Express order and delivery service
- » Spare part kits
- » Certified spare parts for actuators in nuclear power plants (types SIWI and SIWI AS) with manufacturer's inspection certificate
- » Replacement spare parts for old Siemens actuators

SIPOS spare parts service



Spare parts can be supplied for old Siemens actuators



Spare parts for actuators in nuclear power plants

When the requirements change Product modification and function enhancement

Changing plant requirements may necessitate modifying system controls and actuator functionality. The SIPOS 5 flash actuator is ideal in this scenario as it is extremely versatile and can be readily adapted to meet new requirements or process improvements. The innovative product design ensures that changes and modifications can be easily carried out. In many cases, changes can be implemented during routine maintenance and inspection work, thus further reducing process downtime.

Actuator modifications and enhancements are agreed with the customer in advance and all changes are fully documented and copies provided.



Process improvement on site

Product versatility

SIPOS 5 Flash actuators incorporate the following design features making them suitable for many different applications:

- » Variable output speed and torque
- » A range of programmable parameters

Without changing the electronics unit, it is easy to modify the standard inputs and outputs thus ensuring control system interface flexibility:

- » Bus communication
- » Fibre optic interface
- » Relay board
- » Galvanic separation of the analog input and output

Some of the currently available product options:

Product options

- » Environmental upgrade to enclosure protection rating IP 68
- » Separate mounting of the electronics unit from the actuator drive
- » Vibration resistance upgrade
- » Customer-specific software solutions

All SIPOS 5 Flash software options can be activated post-installation for enhanced functionality or to suit process improvements without the need to change actuator parts. Here are some examples:

Process improvement and enhanced functionality

- » Adaptive positioner
- » Stroke-output speed curve
- » Analog speed setpoint
- » Stroke-operating time function
- » Process controller
- » Proportional / Split range function

Future-proofed Feature retrofitting and equipment upgrades

Process control developments can require the renewal of actuator technology, even if available pipelines and valves still meet current requirements. SIPOS is committed to following customer focused product development strategies ensuring that actuators can be readily enhanced and upgraded rather than replaced.



New actuator on existing valve



Upgrade required

In close co-operation with plant operators, SIPOS can implement retrofit and upgrade projects, from planning through to installation and recommissioning. SIPOS product and application expertise ensures the work is completed efficiently with minimum plant down-time.

A systematic approach

To ensure smooth upgrade project implementation, the following procedure is adopted:

- » On-site inspection and recording of system / actuator status
- » Project planning and quotation preparation including:
 - Performance data recording
 - Specification of appropriate actuators or add-on kits
 - Clarification of electrical and communication interfaces
- » In addition for automation:
 - Preparing and implementing fieldbus concepts
 - Application of SIMA actuator control system (master station)
- » Disassembly and removal of existing products
- » Installation and commissioning of new actuators

Detailed project planning ensures professional implementation of the retrofitting and upgrade process. Customer advantages include:

- » Safe integration of the actuators to a new and modern control system (DCS)
- » Scheduled project implementation
- » Low down-time costs due to short actuator changeover times
- » Increased up-time as new actuator technology can be installed and commissioned during plant operation
- » Minimum customer administration as detailed change documentation is supplied by SIPOS
- » Simplified customer liaison - a single point of contact is allocated to each project

... for a superior result

A specialist business **Inspection and overhaul service**



Actuators play a vital role in the safe and efficient operation of many process plants. For these installations actuator failure can cause complete plant shut-down or result in safety related incidents. With some installations using in excess of a thousand actuators, component failure must be avoided. Consequently routine scheduled inspections and planned maintenance are stipulated.

SIPOS has extensive experience in the setup and implementation of scheduled inspection and planned maintenance schemes, which are individually tailored to meet the needs of specific plants. Whether it be in conventional or nuclear plants, three-shift operation or weekend work, SIPOS technical expertise and competence guarantees the highest level of quality and reliability to provide the plant operator with complete peace of mind.

Our services

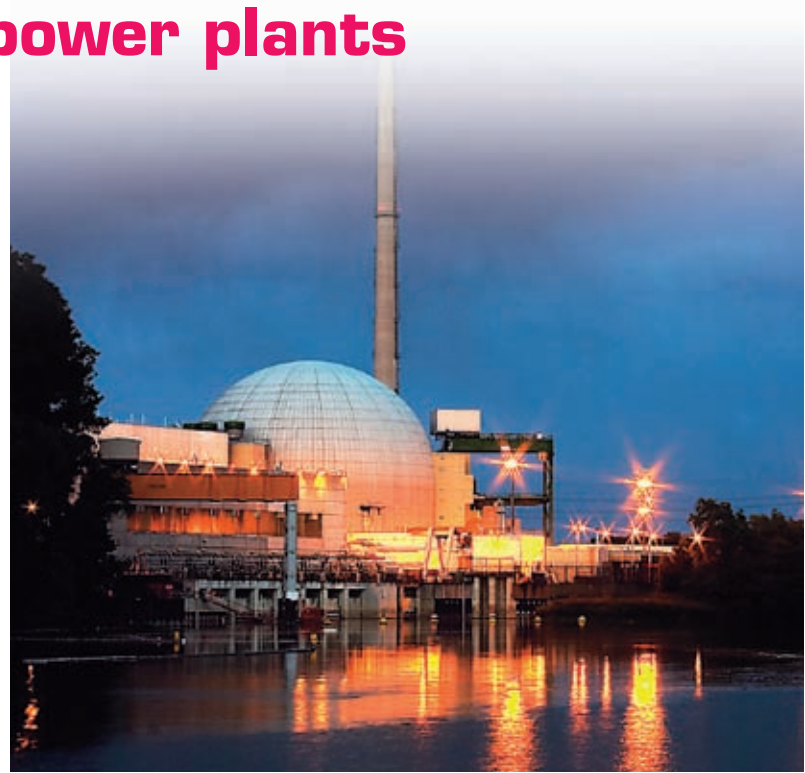
- » On-site advice and expertise
- » Bespoke scheme planning and preparation
- » Determination of the time quantity framework
- » Spare part provisioning
- » Scheduling of the service personnel
- » Implementation of the inspection and overhaul work on the actuators
- » Full documentation provided



Overhaul: Checking right down to the last detail

... in nuclear power plants

The safety critical nature of nuclear installations requires the highest level of servicing integrity. In these plants the implementation of planned maintenance on SIPOS/Siemens actuators is performed using actuator-specific maintenance instructions. This guarantees high quality and consistent inspection/maintenance work on each actuator, including the preparation of all relevant documentation. Additional plant specific work and documentation can also be carried out at the request of the customer.



SIPOS is authorized to carry out inspections and planned maintenance in nuclear power plants

- » Short inspection and revision times
- » Shift team activities effectively co-ordinated
- » Competence with different actuators/applications
- » Extensive knowledge due to continuous product training
- » Long-term international experience in nuclear power plants
- » Express spare parts delivery
- » Good liaison between technical and maintenance departments

Safety and reliability based on experience and competence



SIWI AS actuators in operation

Disseminating know-how and experience

Product and maintenance training

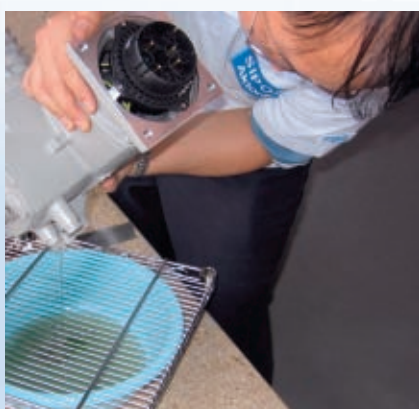


Extensive field experience has made SIPOS familiar with the questions and problems customers face when using actuators in their own applications. In addition to training at SIPOS facilities, the company also offers on-site support and training to cover actual devices and systems installed on customers' own plant.

A detailed knowledge of actuators including construction, application, installation, commissioning and servicing is a primary requisite for safe operation and long term product reliability. SIPOS is an expert in the field of actuator applications and is well placed to provide customers with in-depth knowledge and training. This training not only covers breakdown scenarios but also how to identify possible failure modes and therefore prevent failures from occurring in the first place.



On-site training



Detailed product training

SIPOS offers a range of standard training courses, however the content of these courses can be modified depending on the prior knowledge and training needs of the individuals attending.

Standard or customized training

Alternatively, customers can define their own training program based on the standard training modules.

Where variations of the standard training courses do not meet customer requirements a bespoke training plan can be devised to more closely reflect specific topics and customer needs.

Standard or customized SIPOS training system

Modular training system

SIPOS training modules	Contents
Repair	Practical lessons
Modification / retrofitting	Practical lessons
Process control system	PROFIBUS, MODBUS, connection, communication
Component exchange	Practical lessons
Troubleshooting faults	Practical lessons
Maintenance	Time limits, intervals, measures
COM-SIPOS	Application customization and operation program, firmware update
Commissioning	End position setting, potentiometer adjustment, signaling gear, torque curves
Programming	Menu guidance, operation level, customized programming, functions, options
Applications	Typical application and function examples
Technology	Modular design, function and mode of operation, components, interfaces, electronic versions
Product range	Type ranges, versions, spare parts, accessories, software, actuator controls

Individual modules can be selected as required

Basic Advanced Expert
SIPOS standard training courses

Training to meet different customer requirements

Supervised 'on the job' training

SIPOS can provide practical 'hands on' training to ensure personnel are best equipped to cope with emergency situations. SIPOS Service technicians can accompany customer personnel on site, for example

during commissioning, to brief them in troubleshooting and specific problem solving solutions and supervise during remedial repair activities.

SIPOS worldwide Sales and Service



○ SIPOS Aktorik Germany

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