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GMST 5939/1, 4 (07.08)

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1. Congratulations

Many thanks that you have decided for the purchase of an integrated electrical position indicator to the butterfly valve type 567 / 568 from Georg Fischer Piping Systems.
Please take some time to read carefully this Instruction Manual. It contains important information and useful tips.

2. List of Abbreviation and Explanation of the Signs

Abbreviation	Explanation
BV	Butterfly Valve
Type 567/568	Butterfly Valve Type 567/568
DN	Nominal diameter
IER	Integrated electrical feedback
PNP / NPN	Inductive switch
PT-screw	Screw for plastic parts

3. Safety informations

Each person, who is user of the product responsible for the assembly, disassembly, reassembly, Start-up, operation and maintenance (inspection, maintenance, repair) of this integrated electrical unit must have particularly read and understand the complete operating instructions and this section of safety references. It is recommended to the user to be able to be confirmed this in writing in each case. Therefore:

→ Mount the IER only in technically perfect, functional condition and these safety references are to be considered.
→ Only qualified and authorized personnel installs, operates, services and repairs the integrated electrical feedback
→ According to the machine guideline 98/37/EG (before times 89/392/EWG) this IER applies not as a machine, but can be built however into an installation valid as machine.

These topics are subject to the responsibility of the planer/installateur of the piping systems and of the operator of these plants, in which the armatures are built in.

3.1 Explanations of the warning symbols

Hazard notices are used in this instruction manual to warn you of possible injuries or damages to property. Please read and abide by these warnings at all times!

STOP

Imminent acute danger!
Failure to comply could result in death or extremely serious injury.

!

Possible acute danger!
Failure to comply could result serious injury

Hand

Dangerous situation!
Failure to comply could lead to injury or damage to property.

3.2 Requirements placed on the user and operator's due care

It is subject to responsibility of the planer/istallateur of piping systems and the operator of plants, into which the butterfly valve is built in, to assure that:

- the butterfly valve is only used according to the specifications for which it has been intended (see next Paragraph),
- the piping system is installed by professionals and its functionality checked regularly
- instruction of the employees is being held on a regular basis in all the aspects of work safety and environmental protection – in particular those to pressure-bearing piping,
- these employees are familiar with the instruction manual and adheres to the instructions contained there in.

3.3 Intended use

The integrated electrical unit serves after the installation on the butterfly valve for:

→ Indication of CLOSE- or OPEN position of the armature by means of an electrical signal to a user control
→ as assembly interface when the assembling of an electrical or pneumatic control drive

Hand

Please be aware that the indicated electrical data such als voltage and current load are in accordance to the specified values.

For others, than the types of use specified here, the position indicator is not intended.
With not considering the references contained in this guidance expires the adhesion of the manufacturer for the products specified above.

3.4 CE-Label

According to the pressure equipment directive 97/23/EC complete valves are certified according to DN 25 CE.

According to the machinery directive 98/37/EC position indicators with or without actuators are not machines in the sense of the machinery directive, they may, however, be built into an installation being a machine in the sense of the directive.

Hand

Individual components, parts and complete valves DN 25 may not be labelled with the CE label. Individual parts and replacements must be inspected by the customer after assembly.

3.5 Special hazards

STOP

Under normal conditions the position indicator may be operated only with closed cover. Work on the IER with removed cover may be carried out only after disconnecting the supply and control voltage. Adjustments which must be made under tension are to be carried out with specially isolated tools.

In addition, the instruction manual of the hand operated valves (see point 8) is also be observed. It forms an integrated part of this instruction manual.

Faulty connections, in particular wrong operating voltage, will damage the switches. Displays failing to show the position of the valve may cause severe damage to the plant to which the valve is mounted in. The IER must be protected against mechanical influences. It is forbidden to use the butterfly valve, with or without installed IER or actuator, as inserted limit switches are damaged and a missing announcement of the appropriate armature position can lead to substantial damage of the plant. The integrated electrical unit is to be protected against mechanical influences.

The IER must not be permanently exposed to strongly aggressive media.

4. Transport and storage

The position indicator must be handled, transported and stored with care: Please note the following points:

- The IER should be transported and stored in its original packaging.
- If the IER needs to be stored before installation, it must be protected from harmful influences such as dirt, dust, humidity, and especially heat and UV radiation.
- The connecting ends of the IER in particular may not be damaged mechanically or in any other way.

Manufacturer's Declaration

The manufacturer, Georg Fischer Piping Systems Ltd, CH-8201 Schaffhausen (Switzerland) declares that the electrical actuator EA11 is not a ready-to use machine in the sense of the EC Machine Directive and cannot therefore meet all the requirements of this directive.

Operation of these actuators is prohibited until conformity of the entire system into which the valve and the actuator have been installed is established according to the EC Directive listed below.

Applicable EC Directives:

72/23 EEC EC Low Voltage Directive
89/336 EEC EC Directive on Electromagnetic Compatibility

Modifications to the actuator which have an effect on the technical data given in this instruction manual and its intended use, i. e. significantly alter the actuator, render this manufacturer's declaration null and void. Additional information is contained in the «Georg Fischer Planning Fundamentals» (see paragraph 8).

Schaffhausen, 01.10.2005

U. B. B.

Managing Director
Industrial Systems

M. Beyer

Authorized Quality
Management Agent

Instruction manuals on parts and units for additional functions for type 567 / 568:	
Instruction Manual	GMST-number
Butterfly Valve Type 567 / 568	5906/1, 4
Integrated Electric Feedback	5939/1, 4
Intermediate Element for BUW 567/568	5918/1, 4
Electric Actuator Unit	5886/1, 4
Pneumatic Actuator Unit PA30-PA90	5377/1, 2, 4d

5. Installation of electric position feedback to butterfly valve type 567/568

Check the IER for transport damage prior to installation. It is recommended to unpack electrical position feedback immediately before installation. Do not install damaged parts. The electrical position feedback unit is fitted at factory with respective switches and tested for proper function.

 If you have the version butterfly valve with hand lever, you must remove in general the cable outlet on the opposite side of the hand lever rafter. To remove the cable outlet you have to use a suitable tool. Please observe that you do not damage the upper part of the cable outlet.

Break off assembly windows with suitable tool

5.1 Exploding drawing with all parts of the integrated electrical feedback (for typelimit switches with gold contact)

5.1.1 Detail indexation

During the assembly of the switch ring (167 483 450, 167 483 451, 167 483 452) pay attention to the correct orientation of the markings. Markings on the switch ring, the shaft and the mechanical end stop serve as assembly aids. They indicated the position of the disc and the body and must show in the same direction.

In addition, the switch ring as well as the shaft, are provided on one side with a chamfer ensuring correct assembly.

5.1.2 Differentiation between limit switch open / limit switch closed

Importantly when assembling of the micro switches: The switches must be installed in such a way that the cable outlets are **on the same side** to be as the PT screw

5.1.3 Assembly detail „mechanical limit“

The limit switch is plugged from one side on the pin. The switch is secured with a PT screw in the open drilling.

5.1.4 Detail assembly PNP/NPN switch

1 Closed
2 Opened

The PNP/NPN switch is screwed with the countersunk screw on the assembly panel.

The countersunk screw is to be secured with **Loctite 241** (●).

Plug the pre-assembled PNP/NPN switching in the given assembly support.

5.1.5 Detail assembly Namur switch

1 Closed
2 Opened

The Namur switch (161.484 257) is to be assembled with - out any further preparation to the drillings provided.

5.1.6. Adjustment cable plug

The cable plug can be mounted with the orientation to the left or to the right. If a manual lever is supplied, please make sure that cable outlet points in the same direction as the lever.

5.1.7. Safety device switch cover

After completion of assembly the switch cover is put in place and fixed on the designated points with adhesive tape.

Individual parts position indicator

- Housing
- Device plug
- Sealing
- Micro switch „CLOSED“
- Screws
- Jumper ring / Water
- Micro switch „OPEN“

Electric position feedback can be mounted in open or closed position.
Note: Groove on valve shaft indicates disc position.

6. Technical details

Functions

→ Position indicator in combination with actuators
→ as well as for hand armatures as for hand gear

Allocation of the position indicator to Butterfly Valve Type 567 / 568

Axle	Dimension
1 11 mm	DN 50 to DN 80
2 14 mm	DN 100 to DN 125
3 17 mm	DN 150 to DN 200

Structure incl. switch

7. General technical data of the position indicator

Protection class with DIN-unit plug (2): IP 65
Protection class with cable penetration: IP 67
Ambient temperature: -10°C bis +50°C

Type of switch	Capacity	Code-Nr	Connection diagram
Micro switch [Ag Ni]	250 V = 6 A	161.486.859 DN50-80 161.486.305 DN100-125 161.486.010 DN150-200	
Micro switch with gold contacts [Au]	4-30 V = 1 ~ 100mA	161.486.304 DN100-125 161.486.009 DN150-200	

Type of switch	Capacity	Code-Nr	Connection diagram
Inductive switch NPN	5 – 30V = 0,1 A	161.486.857 DN50-80 161.486.303 DN100-125 161.486.008 DN150-200	
Inductive switch PNP	5 – 30V = 0,1 A	161.486.856 DN50-80 161.486.302 DN100-125 161.486.007 DN150-200	

Type of switch	Capacity	Code-Nr	Connection diagram
Inductive switch Namur	8V =	161.486.855 DN50-80 161.486.301 DN100-125 161.486.006 DN150-200	

8. Additional information
The above mentioned Planning Fundamentals may be obtained from the Georg Fischer sales company responsible for your country or from the internet at: www.piping.georgfischer.com/ce

The technical data are not binding.
They are not expressly warranted characteristics of the goods and are subject to change. Please consult our General Conditions of Supply.