

# The AEL6 series

smart electric actuator



*First for Steam Solutions*

EXPERTISE | SOLUTIONS | SUSTAINABILITY

**spirax**  
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# AEL6 series

## Our newly launched smart electric actuator

The AEL6 series of smart electric linear actuators are suitable for fitting to our range of Spira-Trol™ and QL control valves. This new series of actuator features positioning speeds of up to 4.5 mm per second, which means that this actuator is now fast enough to be used on applications where previously only pneumatic actuation was suitable.

With increasing pressure on companies to reduce carbon emissions, we are seeing an increased demand for electrically actuated valves as they consume less energy and produce fewer carbon emissions over their lifetime when compared to a pneumatic actuator.

### Benefits:

- Reduced lifetime cost – as energy consumption is lower.
- Reduced carbon emissions.
- Reduced plant downtime, through quick, easy installation and commissioning.
- Ability to develop preventative maintenance schedules.



## Who should use an AEL6 electronic actuator?

This range of electric actuators is ideal if your company needs to control steam and other industrial fluids without the use of pneumatics.

Traditionally, applications that require fast response from control valves and a high thrust fail-safe function have had to use pneumatic actuators, as electric actuators were previously unable to match the specification required. Our upgraded AEL6 range can include, features that enable it to meet the fast response and fail-safe requirements of typical steam heat exchanger applications.



## Technical data table

|                                   | AEL6221-                                                                                                                                                                | AEL6321- | AEL6323- | AEL6421- | AEL6422- | AEL6532- | AEL6631- |
|-----------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|----------|----------|----------|----------|----------|
| Supply voltage                    | 230 Vac, 115 Vac, 24 Vac or 24 Vdc                                                                                                                                      |          |          |          |          |          |          |
| Frequency                         | 50 / 60 Hz                                                                                                                                                              |          |          |          |          |          |          |
| Maximum power consumption (VA)    | 30                                                                                                                                                                      | 30       | 93       | 30       | 93       | 93       | 135      |
| Enclosure rating                  | IP65 (for outdoor installations provide adequate shelter)                                                                                                               |          |          |          |          |          |          |
| Actuator speed mm/s               | 0.9                                                                                                                                                                     | 0.9      | 4.5      | 0.7      | 1.7      | 1.3      | 0.4      |
| Actuator trust kN                 | 2.3                                                                                                                                                                     | 4.5      | 4.5      | 8        | 8        | 14       | 25       |
| Actuator stroke (mm)              | 50                                                                                                                                                                      | 50       | 50       | 50       | 50       | 65       | 60       |
| Ambient limits                    | -20°C to +60°C                                                                                                                                                          |          |          |          |          |          |          |
| Analogue position set valve input | Adjustable 0/4 - 20 mA 0/2 - 10 Vdc                                                                                                                                     |          |          |          |          |          |          |
| Positioner function               | Dead-band adjustable 0.5 – 5% of set value range, maximum resolution 0.1 mA or 0.05 V at 50 mm stroke                                                                   |          |          |          |          |          |          |
| Active valve position feedback    | Adjustable 0/4 - 20 mA 0/2 - 10 Vdc                                                                                                                                     |          |          |          |          |          |          |
| Automatic commissioning           | Drives to torque-dependant stop(s) and moves through the whole valve travel. Auto scale of set value and feedback in accordance to valve travel                         |          |          |          |          |          |          |
| Characteristic curve correction   | Up to 16 interpolation points, input accuracy 1%                                                                                                                        |          |          |          |          |          |          |
| Torque increase                   | Adjustable up to 150% torque for up to 2.5 s to break away a valve in the end position                                                                                  |          |          |          |          |          |          |
| Status indication                 | Two LED's under the actuator cover                                                                                                                                      |          |          |          |          |          |          |
| Internal fault monitoring         | Torque, position set value, temperature of the electronic board, positioning deviation                                                                                  |          |          |          |          |          |          |
| Diagnostics function              | Stores cumulated operation data (motor and total running time, number of motor starts) and data sets of current values (set value, feedback value, torque, temperature) |          |          |          |          |          |          |

## Design features

The AEL6 series has been developed from the proven EL5600 (now the AEL5) actuator range and is available for various voltages and mounting to most types and sizes of valves.

### Speed-controlled actuation

The output is controlled by electronics via pulse width modulation, consequently the actuators can be operated at variable speed.

The standard AEL6 comes complete with a positioner and active feedback function, automatic commissioning as well as comprehensive diagnostics functions.

### Mechanical design

All AEL6 electronic actuators are built with field-proven components, including robust spur gears with trapezoidal threads and are lubricated for life to be maintenance-free.

### Electrical design

The device is easily connected directly to terminal blocks in the integrated terminal box.

Enhanced electronics with an embedded micro-controller with flash memory control to monitor the entire actuator function.





Some of the products may not be available in certain markets.

## Additional features available to you

The AEL6 series delivers an innovative range of key features that adds to Spirax Sarco's proven and comprehensive actuator range.



### Fail-safe unit

The optional fail-safe device uses supercapacitors, so that a safety position - in case of loss of power supply or control signal - can be freely defined without any mechanical alterations to the actuator.



### Local control

Most of the actuator-specific values can be set onsite using the optional/additional lockable local control panel.

The large LCD display includes a full text display of actual position, messages and parameters of the actuator.

### Non-intrusive setting of parameters

Valve-specific details are easy to adjust using an external digital LCD display without the need to open the actuator cover and expose the device to levels of dust, moisture or other contaminants where ingress may cause damage.

Thrust and speed settings can be changed, alerts configured, and freely programmable valve curve corrections made via the communication software.

## The benefits to your company of installing an AEL6 actuator

For pro-active maintenance, the actual values can be graphically displayed and analysed using the LCD monitor function. Parameters can also be uploaded to the actuator via the LCD or remotely from a computer.

### Diagnostics function

The following counting values/operational parameters can all be retrieved from the diagnostics function through a direct connection between the actuator and a computer:

- Operating hours.
- Number of start-ups.
- Motor running time.

The following sets of running parameters can also be retrieved:

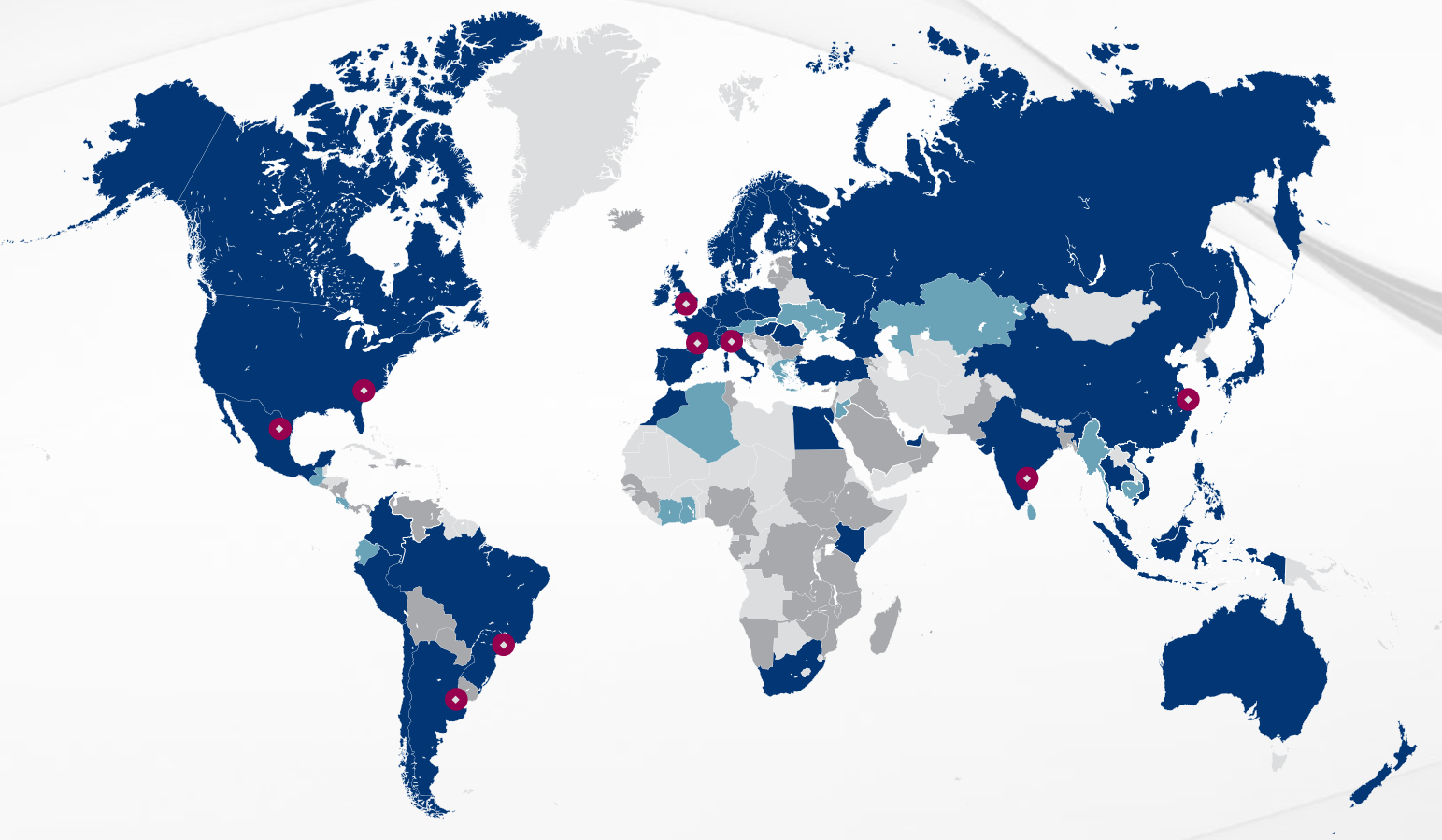
- The analogue set value input.
- Actual position value.
- Currently required motor torque.
- Inside temperature of the actuator.

### Status indication and automatic commissioning

All operating conditions or fault functions are now uniquely signalled by specific optical LED sequences and can be automatically adjusted via the LCD or remotely from a computer.



For further information about our AEL6 range, please visit [spiraxsarco.com](http://spiraxsarco.com)



Operating Companies

Manufacturing Sites

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