

Introducing the latest control module for the FieldQ Integrated Actuator Family: The QC4x Explosion Proof Control Module

The New Innovations for FieldQ:

With the new FieldQ design, Emerson offers an innovative solution for valve automation.

Integrated functions

The FieldQ QC4x range of Ex d explosion proof control modules is a new step in the integration of the control and feedback functions for a Rack & Pinion valve actuator. The robust housing protects pilot valves, feedback switches and pneumatic amplifier against the most demanding process environments.

Explosion proof housing

Both the control and feedback functions are now placed in one explosion proof housing, which comes with a FM, CSA, ATEX or IECEx hazardous area approval for use up to Zone 1 or Class I, Div. 1.

“Non-Intrusive” switch adjustment

FieldQ’s unique “Non-Intrusive” switch point setting allows adjustment without opening the unit – in safe areas, as well as potential explosive areas.

Replaceable “Cartridges”

Most functions are designed as replaceable “cartridges” which allows for the simple exchange of switches, pneumatic amplifier or pilot valve, for easier maintenance.

The Product:

The FieldQ Ex d module helps to **increase safety** in potential explosive environments. The FieldQ actuator itself complies with ATEX 94/9/EC, the PED 97/23/EC and the Machinery Directive 2006/42/EC, Appendix IIb.

The basic functionality of the FieldQ module for potential explosive environment (Ex d) is to drive / operate the actuator by means of the integrated solenoid and to provide position feedback of the valve (open or close) to the system in combination with the Ex d explosion proof protection.

The FieldQ Ex d module offers the customer an explosion proof method of explosion protection. The external enclosure of the explosion proof equipment is designed to withstand an internal explosion. The module is designed to offer a solution to customers who have selected Ex d as their standard protection method.

FieldQ Ex d modules are available with a range of different switches and pilot valves. The same range of switches and pilot valves are available as for the current module range.

Emerson provides 3 module types of the Ex d FieldQ version. It concerns the following modules:

- QC41 for 24 VDC (Volt Direct Current)
- QC42 for 115 VAC (Volt Alternating Current)
- QC43 for 230 VAC (Volt Alternating Current)

The product data sheets, installation manuals and sales flyers can be found via the following links:

[Product Data Sheet](#)

[Installation Guide](#)

[FieldQ Explosion Proof Flyer](#)



The Market:

The markets for ATEX Ex d equipment are those industries that are subject to the ATEX 137 directive (EC 1999/92/EC). It concerns industries where an explosive atmosphere can occur.

Since the FieldQ actuator can provide relatively low torques, compared to a scotch yoke actuator, the FieldQ actuator with Ex d module are mainly used in the process industry (chemical, pharmaceutical, etc.).

In the USA the XP (Explosion proof) norm is applicable. The ATEX Ex d protection method is comparable to US XP protection methods.

Based on the market intelligence obtained for the European market* we know that on average approximately 50% of the European industry is subjected to Hazardous Areas according to ATEX. Approximately 25% of the industry, subjected to ATEX, is related to Oil and Gas where scotch yoke is the standard actuator.

The percentage of companies in the process industry subjected to Hazardous Areas according to ATEX is approximately 33%. In the European market the methods used for explosion safety are:

- Ex i
- A combination of Ex m solenoid and Ex e switch box
- A combination of Ex d solenoid and Ex i switch box and Ex d

Approximately 7% of our customers in Europe use Ex d as the protection method for hazardous areas.

The FieldQ actuator with the Ex d module can best be positioned in projects (via Emerson).

Additional Marketing Tools

Basic training which describes the background of the Ex d concept and the basics of the product together with a product flyer are available on request. Please send an [email](#) if you want to receive either.