

## E-T-A's ESX10 and ESX10-T Now Have ATEX Explosion Proof Approval for Mining and Process Control Applications

E-T-A Circuit Breakers Ltd. announces that a special ATEX version for EX zone 2 has now been designed to expand the product range of E-T-A's electronic circuit protectors ESX10 and ESX10-T intended for Process Control in the chemical, petroleum and gas industry. This is in addition to the Class 1, Div 2 approvals already in place.

This approval pertains to equipment group I for mining and equipment group II for all areas that could hold an explosion risk through gas or dust. The ESX10 and ESX10-T of product category 3G are meant for use in Ex zone 2. This is an area where, under normal operating conditions, a hazardous potentially explosive atmosphere with a mixture of air and flammable gas, vapour or mist will normally not occur or will occur or will occur for a short period of time.

The space-saving design of ESX10-T is available for DC 12 V or DC 24 V applications and provide the best possible protection of loads (controls, sensors, transformers, solenoid valves etc.), which are fed by switch-mode power supplies or battery-buffered power supplies. Despite a width of only 12.5 mm, the ESX10-T offers a sophisticated busbar concept. Line entry and load connection to the protected plus pole and neutral line are by means of a screw terminal up to 10 mm<sup>2</sup> directly on the devices. The screw terminal consists of a high-strength copper alloy and has been designed according to the patented Reakdyn principle which ensures a reliable and safe cable connection.

### **Reliable selective load protection**

The selective load protection of the ESX10-T with fixed current ratings of 0.5 A through 12 A exclusively disconnects the faulty path in the event of an overload or short circuit in the load circuit without any repercussions to the DC supply. In the event of a fault in a single circuit, it is ensured that there is no voltage dip which would cause all loads connected to the switch-mode power supply to fail and even cause a system stoppage. The ESX10-T limits the short circuit current to be 1.3 to 1.8 times the selected rated current and disconnects the faulty circuit after 100 ms. Inrush peaks are tolerated so that capacitive loads of 20,000 µF plus do not present a problem. In the event of an overload the ESX10-T will already disconnect at 1.1 times rated current after 3 sec which is not possible with conventional branch protectors (MCBs) and long cable lengths.