

ATTENTION TO DETAIL

Sensors and technology are slowly but surely making their presence felt in fire suppression, TLX Technologies has its say on the matter

Some of the latest developments include our explosion proof actuator for fire suppression systems in hazardous locations and our electronic liquid level sensor. Our patented explosion proof actuator is UL HazLoc, ATEX, and IECEx certified and meets the NFPA requirements for supervision (NFPA 2001, Sec. 4.3.4.1). In addition, TLX designed the explosion proof actuator with two particularly interesting innovations. First, the actuator acts as its own enclosure, eliminating the need for additional components. Second, its top-mounted linear design means the actuator does not act as a pressure vessel on the discharge valve, reducing the number of potential leak points in the system.

Our electronic liquid level sensor with digital display measures the content of a fire suppression cylinder. TLX's solution takes much of the guesswork out of the manual solutions currently being offered in the industry. The liquid level sensor automatically provides a high resolution, thermally compensated weight reading of the

contents of each cylinder and provides feedback on site or remotely through IoT functionality.

TLX Technologies' R&D team has several other products in development that we plan to introduce to the market by Q1 of 2023 or sooner.

E-valve technology and partnerships

In terms of partnerships and joint projects to develop products, the relationship between Dana and TLX has been ongoing for a few years and continues to expand. The primary focus is the development of thermal management solutions for vehicle systems. Dana and TLX Technologies brought their collective expertise in hydraulics and fluid controls together to develop and produce customised on-off and proportional fluid-routing e-Valves for electric vehicle and fuel cell applications. As the electric vehicle market continues to develop and expand, we look forward to our continued partnership in developing

and producing dynamic e-Valves for the industry.

E-Valves are not a new technology; however, with the acceleration of vehicle electrification, their popularity is skyrocketing. To maintain optimal fluid temperatures, electrified vehicles will require thermal management system valves with dynamic control and faster response times than wax-motor flow controls offer. Keeping the battery pack at its optimal operating temperature is critical for maximizing range and battery life. Additionally, conserving energy usage wherever possible is crucial for extending the range of electrified vehicles. To achieve this, the most effective e-Valves do not require power to hold position. In a time when electric vehicles are becoming more popular, fires associated with them are also increasing. While the e-Valves do not prevent fires, they can play a vital role in keeping the systems under tight thermal control.

TLX Technologies continues to work with customers throughout the world to provide high-quality actuation solutions and integrated technologies



for their systems. To help us better meet the needs and challenges facing the fire suppression industry, TLX Technologies formed a new division: TLX Fire & Security. We also recently launched a new website dedicated to the fire protection industry. The website features improved functionality and more robust tools so that visitors will be able to communicate their product needs and goals directly to our technical design team.

How has remote monitoring made its way into the fire suppression industry, and what is TLX Technologies' take on its future?

While the idea of remote monitoring is still a new concept for the fire suppression industry, companies are finding they need to reevaluate how they handle regular maintenance and system checks. Not only is this due to the recent Covid-19 pandemic and its effect on how, where, and when people work, it is also because of the difficulties many businesses are having with finding and retaining employees to do these necessary tasks. To meet these challenges, the fire suppression industry is now examining the adoption of IoT technologies to provide better system uptime and minimize maintenance costs by identifying and correcting issues more quickly and efficiently. Considering the bi-annual requirement of normal maintenance for each fire suppression system, IoT functionality can deliver a system's status more frequently, allowing



personnel to easily identify and provide service only when necessary.

Digital transformation and IoT

The industry needs better visibility about "events" that can cause system problems or failures. With that information being available, system maintenance can be performed as faults occur rather than as a function of routine checks that currently only detect a fault in the system when the personnel show up at a scheduled time. In the current state, the fault could have been occurring for months without being noticed, based on the regular maintenance interval. Multiple regulatory groups are looking at remote monitoring and IoT

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functionality to help increase system visibility and uptime.

Other trends in fire suppression

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