



Award Winning Design: The FS+ flow sensor (left) and the PS+ pressure sensor combine a high degree of robustness with innovative operation and are easy to install – the TS+ temperature sensor will soon be added to Turck's fluid platform

Generation Plus

Turck is putting its fluid portfolio on a standard technology platform and is presenting with the FS+ flow sensor the latest member of the series

Unmistakably similar and yet equipped with individual strengths – the members of Turck's fluid sensor series. In April the PS+ pressure sensor had already set high standards with its award-winning design, robustness and an innovative operating concept. This will now also be the benchmark for the FS+ – a compact fluid sensor for monitoring fluid media, which also measures

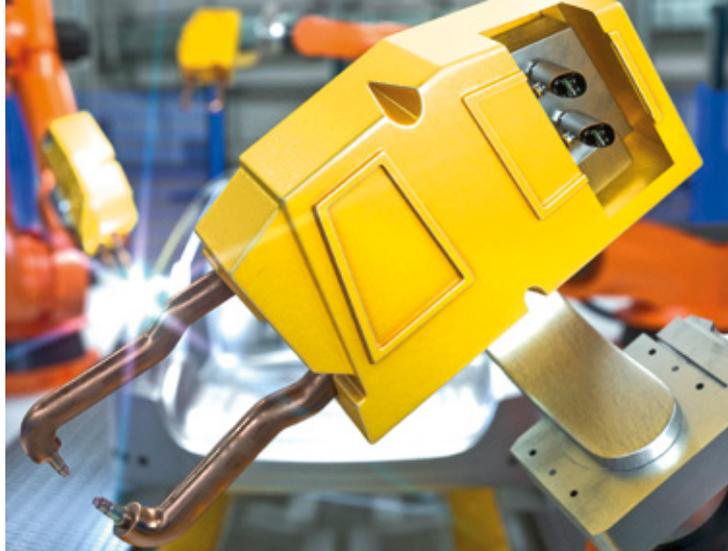
temperature, supports IO-Link and considerably simplifies commissioning.

Innovative design concept

The devices don't just have a similar appearance or carry the plus sign in their name. In future Turck will be putting its entire fluid portfolio on a standard

QUICK READ

Turck is developing a platform concept with the new product portfolio in the fluid sensors. The devices offer a wide range of variants and combinations while having common key features at the same time. The compact FS+ flow sensor with IO-Link now follows the April market launch of the PS+ pressure sensor. This monitors both flow as well as temperature and features practical Teach functions.



Double protection: The FS+ not only monitors the flow of coolant on the welding robot but also detects any impending overheating of the cooling circuit

technology platform. Sensor users will therefore find many of the same product features and the standard handling concept in the entire series. The modular and freely configurable mechanical concept, shorter delivery times and easier stock management are additional benefits.

The sensor head is the characteristic feature of the compact sensors. This consists of a stainless steel housing and a single-piece translucent front cap. Thanks to the reduced sealing area, humidity and dust cannot penetrate inside the devices, while UV and salt spray resistant materials offer special protection in outdoor applications. The sealing concept enables protection types IP6K6K, IP6K7 as well as IP6K9K, since the sensors no longer have any mechanical operating elements. Instead, users navigate functions like on a smartphone via wear-free, capacitive touchpads.

One sensor for two queries

The new FS+ incorporates the proven technical design. It monitors fluid media according to the calorimetric principle and therefore offers the possibility to constantly measure the media temperature as well as the flow rate. This means that a single sensor can handle two tasks at the same time. Typical application fields include for example cooling circuits in welding applications or cleaning processes, in which the process sequence is controlled.

In the FS100 product series users first have the choice between two different output functions: Either analog (4...20 mA) or as a transistor with automatic PNP/NPN detection and communication via IO-Link 1.1. The switching behavior can be set between "normally open" (NO) and "normally closed" (NC). LED indication that is visible from all sides indicates the state of the outputs, while a bicolour LED strip on the user interface indicates either flow or temperature values.

The FS+ is likewise easy to mount and operate. The probe tip can thus be aligned as required in the medium, and the sensor will operate within its specifications nevertheless. Irrespective of this, the sensor housing can also be rotated around 340 degrees to align the display and electrical connection to a convenient position.

Setting reference values with Quick Teach

The FS+ offers some practical handling features such as a lock mechanism or the ability to reset the sensor to

the previous settings (Undo function) as well as to the factory settings. Two modes are provided for teaching switch points: The Quick Teach function enables users to define a reference flow rate in only a few minutes and set the monitoring of deviations directly on the sensor. Alternatively, maximum and minimum values can also be defined in the application. The innovative Delta Flow monitoring function, which only activates all teach functions if a constant flow has been reached, provides significant assistance. The internal compensation function means changes in media temperature have no effect on the flow measurement.

Outlook

The fluid sensor portfolio will expand even further in future. Based on the platform concept, compact sensors for temperature and level measurement will follow in the generation of plus sensors – easy to integrate, robust and with a functional design.

Author | Dr. Bruno Gries is director product management fluid sensors at Turck
Webcode | more21971e

Further information: www.turck.com/fs



»Flow Sensors for Liquid Media«

FOR REMOTE MONITORING

At the same time as the Plus devices, Turck is presenting the next development level of the FP100 remote flow sensors, which reliably monitor fluid media with the new FM-IM...FX flow modules. This serves applications requiring the use, for example, of sensors with separate electronics due to the restricted space. Thanks to Delta Flow monitoring, the FP100 sensors offers some major benefits for the teaching of reference values. The sensor probe in the medium also operates irrespective of its alignment. The portfolio consists of several process connections and different probe lengths.