Truly smart flow measurement

Expanded ABB Coriolis mass flowmeter family includes a new electronics platform that features self-configuration, integrated accuracy verification, built-in valve control and many other smart tools – Measurement made easy

Nuremberg, xx.xx.2015 – At this year’s SPS trade fair ABB presents the latest expansion of the proven Coriolis flow meter series, the FCB400.

The devices of the FCB400 series are based on a new standard electronics platform. This platform offers the user the free choice of up to five, freely configurable communication outputs. The entirely digital, internal communication ensures maximum accuracy for compact and remote devices without requiring special cabling.

Using the innovative sensor and application technology "SensorApplicationMemory", FCB400 saves not only all calibration data but also all measuring point parameters and totalizers, which are linked to the sensor in a non-detachable way. This includes an automatic self-configuration function, which synchronizes the configuration data in the sensor and the transmitter after power has been switched on. The "SensorApplicationMemory" duplicates the configuration data storing it in a permanent memory and ensures safe data synchronization during maintenance, i.e. when the transmitter is replaced.

Application-specific software packages expand the range of uses of FCB400 considerably. In filling processes the "FillMass" function directly controls the downstream valve via a special digital output. By means of predefined characteristics e.g. for alcohols, sugar solutions or starch "DensiMass" enables the precise determination of the concentrations of liquid mixtures through high-precision density measurement. Moreover, the "net mass or volume flow rate" can be determined, too.

Another novelty is the integrated verification function "VeriMass". Using this function FCB400 carries out a self-diagnosis and can test, whether the device is still operating within the specified range. Thus, the user can detect possible erosions or deposits inside the sensor without interrupting the measurement and without removing the device. This ensures the permanent monitoring of the metering tube loop, reduced measuring accuracy can be detected, test cycles can be optimized and critical conditions can be prevented at an early stage. Hence plant availability and safety increase.

The proven, common and intuitive operation concept of all ABB meters enables great ease of use and commissioning. The robust design expands usability at ambient temperatures of -40°C to +70°C and desensitizes the device to excessive vibrations.

The device features an exceptionally low pressure loss and an extremely compact design. It is therefore about 50 % lighter and smaller than many similar devices on the market. The compact metering tube and device design sets new standards for device dimensions and weights solving the space constraints of the process industry. Of course, all relevant Namur recommendations are fulfilled as well as the SIL2 requirements.

FCB400 is optionally available in hygienic design, named FCH400, for applications in the food and beverage industry.

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For further information contact:

ABB BU Measurement Products & Analytics
Martin Ottosson
Phone: +46 21342151
E-Mail: martin.ottosson@se.abb.com