

SM-RI TURBINE METER

Now available for SM-RI, the Absolute-ENCODER

In order to make full use of the advantages of the ENCODER technology for all turbine meters, ELSTER-Instromet is now offering the ENCODER index with the SM-RI turbine meter.

The starting point of any data chain is always the actual volume registered by the gas meter. This volume is displayed on the mechanical index and is transferred via pulses to downstream devices like volume correctors or flow computers. Transfer of pulses means that the actual meter reading has to be reconstructed.

The transmission of the pulses can be negatively influenced by a number of things:

- > power failure
- > swinging movement of the turbine wheel
- > pulsations in the flow
- > compensation processes in the pipe network
- > when the reed switches stick
- > when the reed switches bounce
- > external electromagnetic influences

This can lead to discrepancies between the original meter reading and the reconstructed reading in the supplementary device.

These discrepancies can then cause arguments between contract partners, which in turn means that the original meter reading often has to be read out manually. The unique technology of the Absolute-ENCODER not only makes a distance reading possible, it also avoids reading conflicts. The unique technology of the S1 Absolute ENCODER helps to prevent such problems.



Optical detection principle of the ENCODER



S1 ENCODER mounted on an SM-RI turbine meter



S1 ENCODER add-on, mounted on SM-RI

ENCODER principle

The S1 Absolute-ENCODER index is an ideal combination of the advantages to be found in both mechanical and electronic indexes. In this new system, the individual drums of the mechanical index are scanned opto-electronically so that the real meter reading at any time can be transferred to the supplementary device without any error.

One of the main features of the Absolute-ENCODER index is that it does not require its own power supply, simply because it is a normal mechanical index. The supplementary device (e.g. volume corrector) or the electrical interface provides the electrical energy necessary during the readout process.

Interfaces

In order to guarantee the highest degree of flexibility as far as the interface is concerned, the hardware is arranged on a separate circuit board thus enabling individual applications. At the moment NAMUR (ATEX approved), SCR and M-Bus available.

ENCODER for all meters	On-site retrofit	Remarks	Interface ¹	Type
TRZ, TRZ-FIS, TRZ2	Yes, under pressure		SCR/N/M	Encoder S1
SM-RI	Yes, pressureless		SCR/N/M	Encoder S1
Quantometer Q	Yes, under pressure		SCR/N/M	Encoder S1
RVG	Yes, under pressure	From G40 Double index available	SCR/N/M	Encoder S1D (double)
Mechanical instrument drive ²	Yes, under pressure	25H7 DIN33800 interfacing	SCR/N/M	Encoder Add on S1
Diaphragm meters	No		SCR/M	Encoder Z6

¹ SCR = System for communication and readout of meters, N= Namur, M= M-bus

² Turbine meters which are fitted with a mechanical instrument drive can be retrofitted on site with an ENCODER add-on

Compatibility

The following ELSTER-Instromet devices support the S1 Absolute ENCODER protocol:

EK260 volume corrector, Z0/Z1/F1 flow computers, FC2000 and DL210 data loggers. Of course, there are products from other manufacturers which are also compatible. Elster-Instromet's ENCODER technology guarantees an error-free data chain.

ENCODER technology – a strong link in the total data chain.