

Additional benefits – free of charge!

In the field of gas metering there are a number of metering systems on offer. Some of these offer a variety of different features which often extend well beyond the realms of pure gas metering. Normally, these extra options also bring about extra costs, which can sometimes be quite significant. When a new plant is being planned, these costs can quite easily be taken into account. It is much more difficult when it comes to extending or upgrading an existing system, particularly when this has to be done with a minimum of time, effort and cost. In this article, we would like to put forward two options which could be of great advantage to certain systems and would cause no extra costs.

The most compact versions of an ELSTER metering system comprise a gas metering device (turbine meter, rotary meter or industrial diaphragm meter) and volume corrector (EK210, EK230 and EK260), which is more often than not mounted directly onto the metering device. This unit is not only very compact but can also be quite easily adapted to suit the metering tasks at hand. For example, remote data transfer, which has frequently been discussed in past issues of ELSTER PROFILES.

There is never any doubt about the reliability of the transmission of low-frequency pulses from the pulser (reed switch) to the volume corrector

Fig. 1: Pulse comparison of two LF pulsers

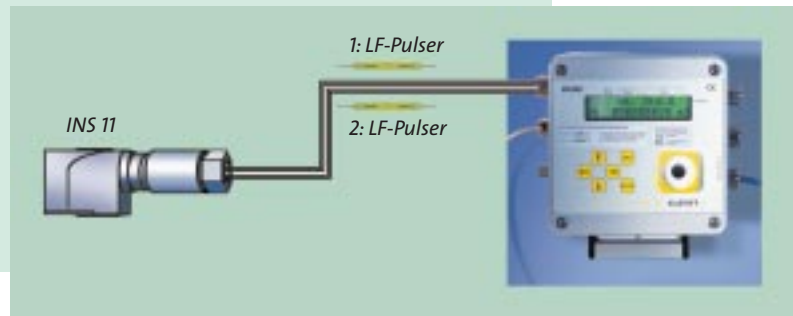




Fig. 2: A line break or line cut generates a malfunction warning

and this is a good thing because it is an absolute prerequisite. This is an indication of the reliability of the reed switches themselves, which can be used a million times over to great effect. Nevertheless, there are occasions, albeit rather seldom, when a reed switch bounces (then they generate too many pulses) or they stick together (then some pulses are missing). Determining a fault in the case of a reed switch is difficult if you do not fully know or are not able to use the possibilities available with an ELSTER system. The ELSTER gas metering devices always have two reed switches and one tamper protection switch (PCM) in the totalizer heads S1, S1D and S1V. The EK series of volume correctors can be programmed in such a way that they permanently compare the number of incoming pulses from the two reed switches (Fig. 1) and if there is a deviation of, say, only 3 pulses, they send out a warning. What's more, the volume correctors with a built-in data logger (EK230 and EK260) can also be programmed to enter any temporary differences in the incoming pulses in an archive together with the corresponding date and time as well as the time the error was detected and when the warning was lifted. With the aid of the ELSTER evaluation software it is then easy to monitor the error-free operation of the device.

Another useful feature is the automatic control of the low-frequency signal line between the ELSTER gas meter and the volume corrector. The third input on the volume corrector is used as a status input and is connected to the PCM switch on the meter. The PCM switch functions like the reverse of a reed switch, i.e. its normal position is closed and it only opens in the presence of a strong magnetic field. When the operation is normal, the status input of the volume corrector is permanently connected to the PCM with a low resistance. An interruption of the signal (either unintentionally or as a result of manipulation, Fig. 2) leads to a warning or an alarm, which is then once again archived in the data logger together with the date and time.

Both options can be easily loaded in the volume corrector with the help of the WinPADS software and thereby increase the control possibilities with a view to improving error-free operation. Fig. 3 shows a display with the WinVIEW evaluation software. At ELSTER a system is always worth more than the sum of the individual parts. The functions described above are a perfect example of this and constitute a considerable benefit for the user.

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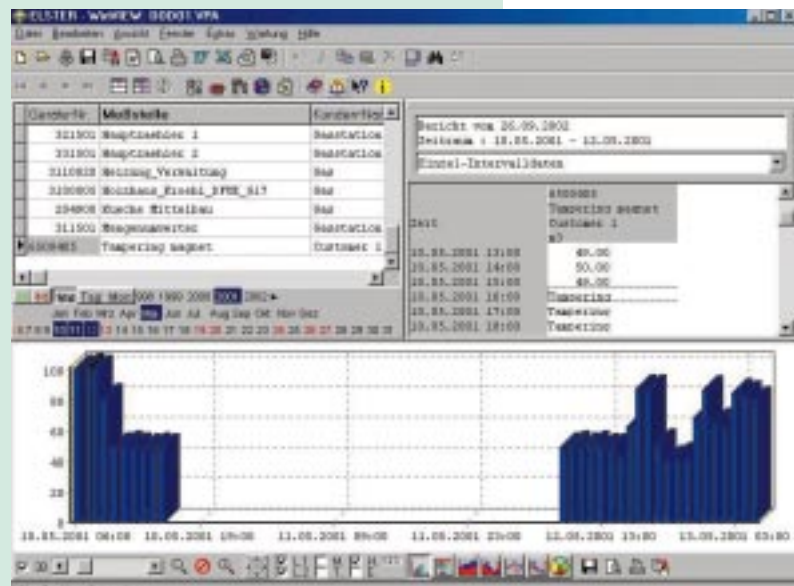


Fig 3: Temporary tampering – visualized