NEW: DL210 DATA LOGGER WITH ABSOLUTE-ENCODER INTERFACE

The easy choice ...

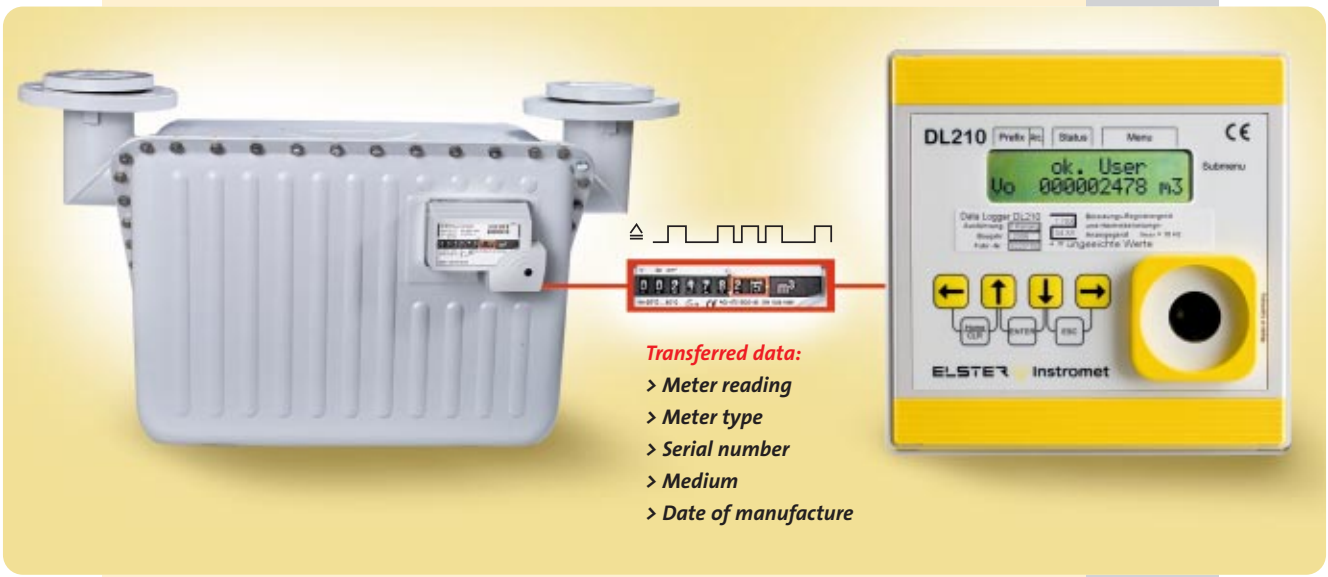
The liberalisation of the energy markets is currently in the implementation phase. European guidelines must be incorporated into national law. In this context, new laws and regulations will be passed. In Germany, this is in the form of the new energy law (EnWG) and the new regulations concerning the use of gas networks (GasNZV). As is often the case, the new paragraphs leave sufficient room for interpretation and will almost certainly lead to controversy in the future.

What is certain, however, is that the liberalisation of the gas market continues to have a significant effect on metering technology as well as data acquisition and transmission technology. In concrete terms, this means that, even in the case of small volumes, it will be necessary to measure the consumption more frequently and data will have to be readily available in short cycles.

Elster-Instromet has taken up this challenge and found a solution in its new DL210 data logger. The DL 210 meets these high requirements and will continue to prove itself in the future, too.

battery operated. A further digital input can be used for the purpose of monitoring station activities or any attempts at manipulation.

The electrical installation of the data logger in the station consists only of connecting the pulse generator or the Absolute-ENCODER index and, if necessary, an external power supply. A GSM/GPRS modem including an antenna is already integrated into the device. If, however, the reception conditions on site are not good enough, it is also possible to plug in an external antenna. The reception strength and the status of the modem can both



DL210 for a 'plug and play' connection to an ENCODER index

In addition to the traditional pulse interface, the DL210 data logger also supports the innovative Absolute-ENCODER interface. This guarantees the safe, clear and comprehensible transmission of meter readings from primary mechanical metering devices, which forms the basis of the billing process. Gas meters with an Absolute-ENCODER index in accordance with Namur specifications (S1 Index) or SCR specifications (Z6 Index) can be connected. The reliable and complete acquisition of data is top priority and this is guaranteed by the Absolute-ENCODER index, even when it is

be displayed and monitored directly on the device. This all means that is possible to set up the device at the metering point without the need for a laptop or any special tools.

All current values and parameters can be clearly shown on the display including the corresponding unit of measurement and, if required, the data can be changed. The most important data needed for everyday operation is summarised in a configurable user list. The scope of the display can be limited to the contents of this list thus ensuring user-friendly operation on site. With only a few

keystrokes you can check the current meter reading, the peak load, the remaining battery life and the status of the device. As a result, the customer can very easily monitor all of the values necessary for the billing process without having to use any additional tools.

VO	*original meter reading*
V1	*main meter*
V1ML	*interval maximum last month*
DATE	*of interval maximum last month*
TIME	*of interval maximum last month*
V1TL	*daily maximum last month*
DATE	*of daily maximum last month*
TIME	*of daily maximum last month*
Sreg	*total status register*
StM	*modem status*
Bat.R	*remaining battery time*
TIME	*current date and time*
Menu	*change user interface*

Reduced amount of display possibilities ensures user-friendly operation on site

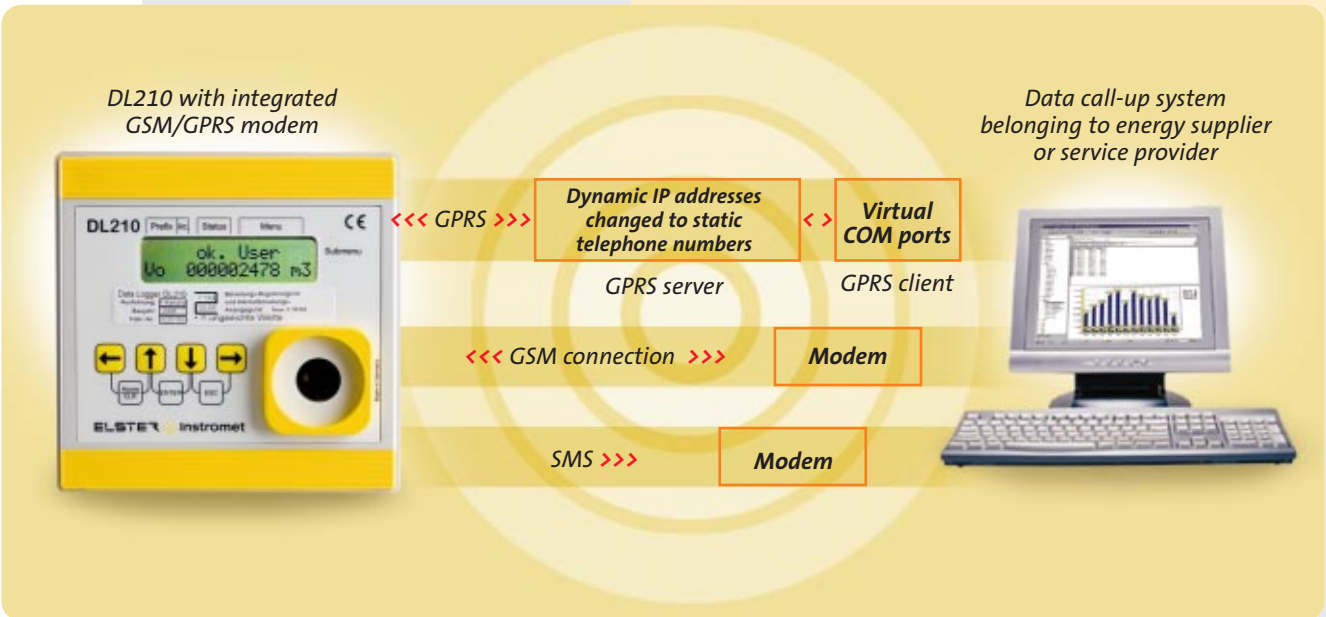
The meter readings are stored in three independent archives:
> Monthly archive
> Daily archive
> Metering period archive

On top of the actual data registration functions, there is also a logbook which records any special events or changes in status. This information is also archived together with a time stamp so that any event from the past can easily be traced.

This event logbook stores the last 250 events which occurred outside the regular operation. These could include error messages or status changes, e.g. a failure in the external power supply. The last 200 changes made to the settings are recorded in the change logbook, also known as the Audit Trail. This records the time of the change as well as the old and new parameter settings.

The calibration logbook, however, is the most important. Here it is possible to store up to 50 changes made to values or parameters relevant for official purposes such as meter readings or Cp values and this can be done without breaking the official seal.

The integrated GSM/GPRS modem enables data transmission on the basis of several different transmission methods in either the GSM or GPRS networks. The data can also be called up when the device is purely on battery supply. To do this, the power supply of the modem is controlled via two time windows. The GPRS technology makes it possible to carry out even the shortest of readout



Various possibilities of data transfer based on GSM/GPRS technology

In the monthly archive, the meter readings are stored together with the data concerning the maximum daily and metering period values including the corresponding time stamps, all of which is relevant for billing purposes. The recording interval and the time the day is to begin are flexible and can be set by the user.

cycles, e.g. hourly, in an economical manner. For this purpose, the GSM-/GPRS modem is used in combination with the software system TAINY Switching Center. This software system changes the dynamic IP addresses, which are issued by the telecommunication service provider and are needed to call up the various devices, into static telephone numbers. Using this system, already existing call-up systems can identify the devices

without the need for any software changes and can then read out the data via GPRS. You can find more information on this topic in Profiles 2-2005: 'Remote Data Transmission with GPRS Technology' or you can read more about it in our website.

Reading out the archives is only one thing. It is also possible to send a text message (SMS) to transmit meter readings and load profiles or to signal any special events. These might include, for example, when predefined consumption limits have been exceeded, the external power supply has failed or there is a signal from the second input.

The transmission protocol and the archive structure are identical to those in the DL220 and DL240 data loggers, which means that the DL210 can also be read out via control centres in many other companies.

When it comes to the power supply of the device, we have taken all of the varying conditions at the metering points into consideration. In the version with an 'external power supply', the power is provided by connecting a direct current source between 9 and 24 VDC (e.g. a mains power pack or a solar power supply). For safety reasons, the device always includes a lithium battery, which guarantees the data acquisition and storage functions for at least six months in the event of a network power failure. Optionally, the data communication can be safeguarded by using additional batteries.

If there is no power supply available at the metering point, then the data logger is powered by two batteries. The batteries in the device supply the power for the data logger (for metering and archiving) and the modem battery covers the independent energy requirements for the GSM modem. By separating the power supplies, the basic function of the data logger is guaranteed for the duration of a period of 8 years. The standard battery provided with the GSM modem has an operational life of approximately 4 years given that the data is called up within a time frame of one hour per week. If a second modem battery is used, the availability is nearly doubled under the same operating conditions.

The variety of functions and applications described here can naturally also be used in the field of energy and water supply.

No matter whether you want the Absolute-ENCODER interface or the pulse generator interface, whether you want to transmit data via GSM or GPRS, whether you want a battery or mains-powered device, you have an easy choice – the DL210 data logger from Elster-Instromet!

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