

DL240 Data Logger

A Data Collection Device Combined with a Volume Corrector

The DL240 provides the user with not only the basic registration of volumes but also a number of additional functions which make it possible to carry out a wide range of different tasks within a metering station.



The basis for these numerous application possibilities was laid with the definition of the hardware and the concept of the memory.

To achieve this, it is, on the one hand, necessary to have a certain flexibility when it comes to the digital inputs and on the other hand, status changes have to be interpreted in a sensible way in order to activate the appropriate actions inside the device (storage and/or messages). The memory concept is based on the event-triggered storage of meter readings in one set of data.

In this configuration, the V_b pulse from the meter is registered as well as the pulses from the volume corrector. This enables the control centre to check if the volume corrector has actually picked up all of the V_b pulses from the meter.

Given that a volume corrector stores disturbed and undisturbed readings, which depend on the operational status, it makes sense to represent these volumes in their actual form in the data logger. This is normally done via the digital outputs in the volume corrector but this means that for a complete registration of all of the data (V_b and V_n) all four data logger inputs and four volume corrector outputs are in use, which, in turn, means that it is no longer possible to register the pulses from the meter.

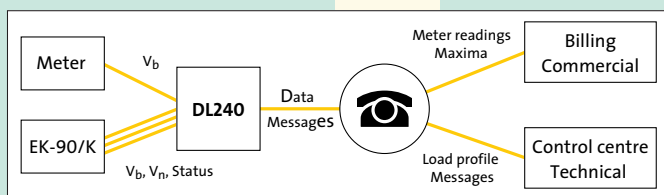
Archive for input 1
Number of data sets: 10

Date;	Time	V1	V1.NT;	St.E1;	S.AEN
1999-08-05	09:46:39	00003288	00000000	14	05:3.1
1999-08-05	09:00:00	00002987	00000000	14	05:3.1
1999-08-05	08:00:00	00002510	00000000	14	05:3.1
1999-08-05	07:44:44	00002357	00000000	14	02:4.0
1999-08-05	07:44:43	00002355	00000000	14	02:4.1
1999-08-05	07:00:00	00001958	00000000	0	05:3.1
1999-08-05	06:00:00	00001515	00000000	0	05:3.1
1999-08-05	05:00:00	00001302	00000000	0	05:3.1
1999-08-05	04:00:00	00001151	00000000	0	05:3.1

Typical compact volume correctors and older systems do not have so many digital outputs so, in these cases, the concept cannot be implemented.

Alongside the time stamp, there are two counters, V1 and V1.NT, which make it possible to separate the data from one pulse input according to a certain status.

With the DL240, all of the signals shown in the diagram are registered. The undisturbed and disturbed volumes are simultaneously stored in the archives for actual volume and standard volume respectively. In order to make the interpretation of the data as clear as possible, the user can also change the displayed abbreviations (e. g. from "V1" to "Vn" and "V1.NT" to "Vn.St").



Since the status information from the volume corrector is always available, the user can then transmit a message via the public telephone network to the control centre should the status for any reason change.

The diagram above gives a brief overview but, in fact, if we go into detail, we will find that the device hides a number of further, until now undiscovered possibilities.

Except for the telecommunication part, the complete system operates without any mains power and, therefore, the data collection is permanent.

FROM FRANK MICHELS,
ELSTER GERMANY

michels@elster.com