Network interface for volume correctors and data loggers

Cutting edge – yet not new for Elster

In the second edition of the 2002 Elster Profiles magazine – that's right, seven years ago! – the possibility of reading volume correctors and data loggers via a network interface was presented. This was in the context of an industrial project, in which an existing network structure could be used to transfer data. Seven years ago, this was but a distant dream for gas stations where even an analogue telephone connection for remote data readout was not a given. But times change. The number of stations with a network connection is increasing all the time. The necessary cables are simply installed at the same time as new supply lines. DSL connections are replacing leased lines and the like. Reason enough to utilise the advantageous technical possibilities.

Data can be transferred via a network using the TCP/IP protocol, often also known as the internet protocol because of its significance for the web. Both private (intranet) and public (internet) networks are suitable as transfer mediums. An Ethernet interface is usually used to physically connect devices to this network. The typical plug connector with the technical designation "RJ45" has become well known. The gas-net device family in Series 2 (e.g. Z0n/Z1n/F1n/EnCal 3000 and M1n) already offer this interface as an option (Fig. 1). An appropriate network adapter is available for the data logger DL240 and the volume corrector EK260 (in conjunction with FE260 or EM260). The units are then addressed by a fixed IP address, rather than a telephone number, which is permanently assigned to the unit or to the network adapter for the connected device. Using this address, the connected device can, for instance, be read directly by a remote meter reading system or EDM system, as long as it supports the TCP/IP protocol. Furthermore, other network-based protocols can be used, e.g. Modbus TCP, depending on the device type. Using this technology offers several advantages:

Fig. 1: gas-net series – Ethernet interface on the back of the appliance (option) for RJ45 plug

- No telephone modems are required, either in the station or in the processing centre.

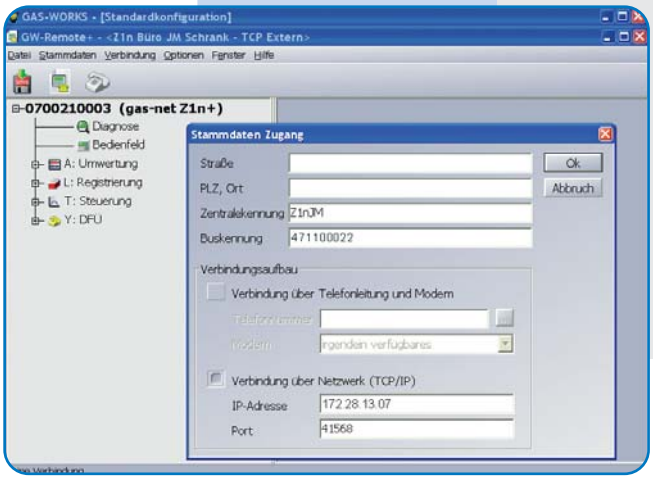

Fig. 2: GW-Remote – connection establishment over TCP/IP

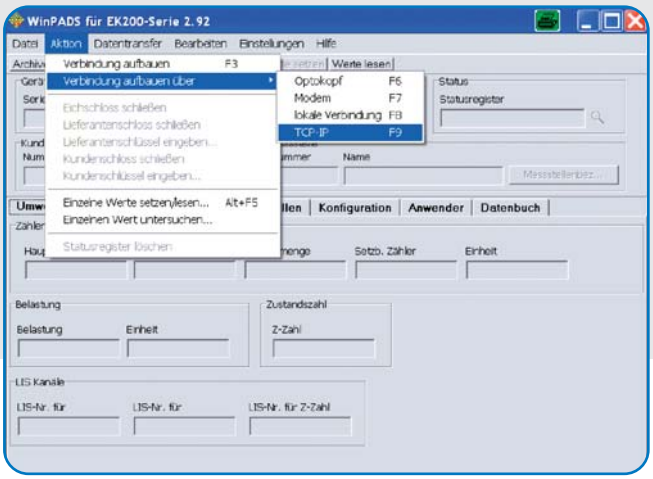

Fig. 3: WinPADS – connection establishment over TCP/IP

- Higher transfer rates are possible.
- The time usually needed to establish a modem connection is saved, i.e. the devices are constantly and immediately accessible.
- The data transfer is free within private networks, and far cheaper in public networks in comparison to circuit-switched data transfer via the telephone connection.

Application of this technology is easy, in principle. The IT department is only required to help configure and set up network access for a station. The IT colleagues ensure that, among other things, the IP addresses allocated in the network are "unique". Additional security aspects are to be observed when using public networks. I.e. certain settings in firewalls or VPNs (Virtual Private Networks) are required.

Take advantage of the potential available and convert to network technology!

Rüdiger Pfeil ruediger.pfeil@elster.com