

# Street lighting as an alternative to solar energy

## Come rain, shine or snow

The reading frequency of data loggers and volume correctors has continuously increased in recent years. Registration equipment from small C&I stations is often read on a daily basis. The communication devices therefore require a permanent energy supply.

Retrospective connection of smaller gas stations and gas metering and control systems to the public mains supply – only for data communication purposes – is only rarely carried out for economic reasons. Either batteries or solar energy are therefore used in such stations. Whereas batteries need to be changed frequently, solar modules carry the high risk of vandalism or theft. Moreover, these systems must be designed to also deliver

has realised a concept and developed a solution in combination with Elster’s communication modules that could set a precedent.

The idea is simple. Where the infrastructure makes it possible to do so, the street lighting is “tapped” for a gas station’s energy supply (Fig. 1). But that only brings us half way there, covering only the hours during the night. For this reason, a rechargeable battery and a charge controller are used as well. In the example illustrated, the 12/24 V DC version of the industrial modem EM260 (connected to the volume corrector EK260) is powered in this way (Fig. 2). In addition to this, a

freeze protector is installed that ensures operational safety in winter, when the outside temperature is below 0°C. The electrical installation is accommodated in a separate control cabinet (Fig. 3). If necessary, the energy consumption could also additionally be recorded with an electricity meter.

In comparison to solar power supply, this solution guarantees the modems’ energy supply at all times, because the energy required during the night for data communication and for charging the batteries can be calculated exactly, regardless of whether there is sun, rain or snow.



Fig. 1: Gas station in direct proximity to a street lamp

sufficient energy during longer periods of days where there is little sun, and when it snows, in order to ensure data communication at all times. As seen in practice, this is not always the case. Our German customer (Hechingen public utilities)



Fig. 2 and 3: Separate control cabinet with rechargeable battery, charge controller and freeze protector for the energy supply of modem and volume corrector



Devices suitable for supply with a direct voltage source		
Device	Input voltage	ATEX approval as associated equipment
DL210	9 – 24 VDC	No
DL240	12/24 VDC	Yes
EM260	12/24 VDC	No
FE260	10 – 30 VDC	Yes

In addition, all devices designed to be connected to the 230 V network are also available in different versions so that you can use them with DC supplies (Table 1), perhaps soon in one of your systems?