

Measuring and  
billing service

## Radio system data III

**Techem radio system data III:  
the best meter-reader cannot be seen.**

### Product description

The radio system data III serves the collection, saving, and technical radio transmission for all data entry equipment required for consumption-dependent measuring devices. The devices consist of intelligent modules, each with their own battery. The radio transmitters which are integrated in the individual measuring devices work in the 868 MHz frequency band and create no electro-magnetic load due to their low transmitting power and minimal transmission period. The radio system data III devices record the consumption and save it in the device in the middle of the month, at the end of the month and on the reference date. The devices transmit radio telegrams with the reference date data, the mid-month and monthend values for the billing cycle. Firstly this data is encoded in order to guarantee the linetapping and manipulation safety when transmitting. A CRC process also helps to avoid other transmission errors. After the reference date, the meter reader transfers the radio telegrams with the consumption data from the meter to a Pocket PC via a mobile transmitter. The available consumption data for the billing cycle which is then available in a half-monthly grid is then made available to the account settlement system. Therefore it is possible to take an intermediate reading calculated back up to 12 months from the reference date.

### Performance features

- Comfortable, time-saving and easily definable costs
- Good legal security when rendering accounts for consumption costs
- Excellent billing quality because the data is automatically taken over from the device all the way into the accounting system
- Meter reader service without having to make appointments, entering the flat is no longer necessary
- Protection against manipulation by sealing the devices, software-supported manipulation recognition, disassembly recognition and data encoding
- Easy to upgrade the radio heat cost allocators from Techem's electronic heat cost allocator heat conductors
- Discontinuation of intermediate meter reading because all mid-month and month-end values for the billing cycle are transmitted in the radio telegram
- Reduction of the administrative work, no problems with flats which are not accessible, meter reading values are always available early for preparation of the accounts
- Optimum control of the billing amounts for the user because the individual heating figures can be checked on the heat cost allocator in the radio heat cost allocator's display



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### System components

Radio heat cost allocator data III, Radio measuring capsule water meter data III, Radio measuring capsule heat meter compact V data III, Pulse radio interface data III which supports other pulse meters such as heat, water, electricity and gas meters in the system and handheld and mobile receivers for meter reading.

#### 1 | Radio heat cost allocator data III

Battery-operated electronic two sensor heat cost allocator with an integrated radio transmitter.

#### 2 | Radio measuring capsule water meter data III

The measuring capsule water meter with a radio module can be used with a wide range of accessories in the surface-mounting and flush-mounting areas and also as a valve meter. The radio module can also be retrofitted on the measuring capsule water meter vario S.

#### TZ data III

In order to re-equip old hot water cost allocators, the TZ data III can be mounted on venturi T-pieces.

#### 3 | Radio measuring capsule heat meter compact V data III

The measuring capsule meter is a counter, radio module, volume measurement unit and a temperature sensor all-in-one. The multiplejet principle guarantees high measurement accuracy and measurement stability.

#### 4 | Pulse radio interface data III

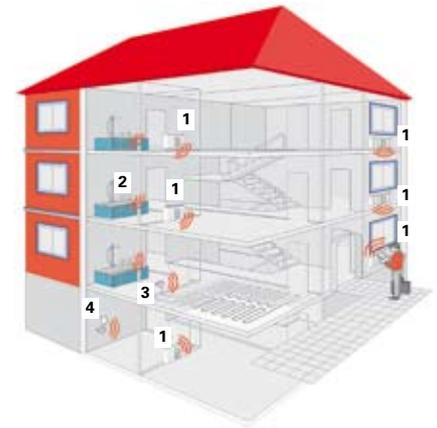
The additional module makes it possible to integrate consumption recording devices with switch pulse outputs such as water meters, heat meters, electricity and gas meters which do not have their own radio module into the radio system.

### Electromagnetic environmental compatibility

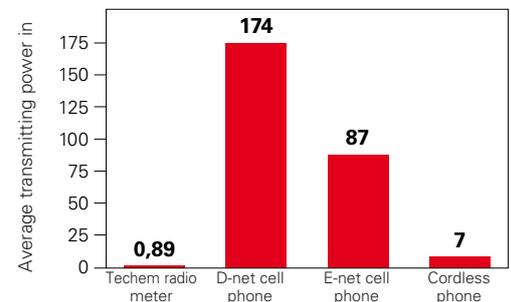
Techem commissioned the research centre for electromagnetic environmental compatibility at the RWTH [Technical University] in Aachen (abbreviated as FEMU) to examine the electromagnetic environmental compatibility of the radio system data III. The basic measurements were made by T-Mobile in Darmstadt and by the Senton EMV-Prüfzentrum [testing centre] in Straubing.

#### Results:

According to the current standard of knowledge, no signs whatsoever of either impairment or endangerment to health could be deduced from the radio waves from Techem's radio system data III. Even if the latest standard of knowledge is taken into account, no reservations whatsoever exist from the viewpoint of its electromagnetic environmental compatibility to use the radio system data III in both living spaces and in public or job areas.



Average transmitting power of various radio transmitters compared to Techem radio heat cost allocator



Assumption: average one minute per day

If we view the transmitting energy emitted during the course of one year in an average flat which is equipped with the radio system data III, this is more or less identical to the transmitting energy released during one 5 – 6 minute-long telephone call using a mobile phone.