Radio Data Transmission Modules DFM 433

Practical data transmission via radio network

The radio devices of the DFM family (DFM 433, DFM-E 433, DFM-EA 433) allow an easy setup of radio paths for the connection of measuring spots to a central data acquisition. They can also be used as a cost efficient alternative instead of a complicated cable setting for example in between the sensor and the data collection station (e.g. water level station).

Features and advantages

- Setup of autonomous radio networks
- No radio allowance necessary
- Plug & Play - direct connection of the sensors to DFM
- Replacement for cable - input, transmission and output of analogue or digital measuring signals
- Serial data transmission without additional effort for protocol
- Minimal energy consumption - optimal for solar powered energy supply
- Mechanically compact and energy autonomous radio solution - also optimal as upgrade

Fields of application

As a replacement for cables, the DFM can do the transmission of the measuring data for example of a water level or a discharge measurement from the bridge to the switch cabinet. Similarly the measuring data of wind speed and direction of a wind sensor on a supporting mast of a ski lift can be transmitted to the bottom station. Another example would be the radio data transmission from several automatic weather stations spread over an area to the central data acquisition. For even farther measuring stations, or when unsuitable landforms (mountains) interfere, the measuring data are transmitted over existing stations to the central station (repeater mode). Therefore, the establishment of whole radio networks is possible.

Implementation

With the analogue, digital and serial inputs and outputs the DFM radio devices are highly flexible when it comes to data transmission. For uncomplicated data transmission via serial interface the DFM operates in the transparent radio mode. The data input over the serial interface is received without additional effort for the protocol or command. A solar power panel mostly supplies sensor and radio device, the DFM is usually installed on a top-hat rail in a switch cabinet.

Technical details

DFM 433

- **Input** 1 x serial interface RS 232
- **Output** 1 x serial interface RS 232

DFM-E 433

- **Input**
- 1 x serial interface RS 232
- 3 x analogue interface 4 ... 20 mA, 0 ... 2.5 V
- 1 x digital interface frequency 1 ... 1000 Hz
- 1 x digital interface: counter, state on/off
- **Output**
- 1 x serial interface RS 232
- 1 x analogue interface 4 ... 20 mA, 0 ... 2.5 V
- 1 x digital interface: switch

DFM-EA 433

- **Input**
- 1 x serial interface RS 232
- 3 x analogue interface 4 ... 20 mA, 0 ... 2.5 V
- 1 x digital interface frequency 1 ... 1000 Hz
- 1 x digital interface: counter, state on/off
- **Output**
- 1 x serial interface RS 232
- 4 x analogue interface 4 ... 20 mA, 0 ... 2.5 V
- 1 x digital interface: switch