

## RS485 Bus Energy Meter Concentrator F3Z14D



**Only skilled electricians may install this electrical equipment otherwise there is the risk of fire or electric shock!**

Temperature at mounting location:

-20°C up to +50°C.

Storage temperature: -25°C up to +70°C.

Relative humidity:

annual average value <75%.

Wireless energy meter concentrator for 3 SO interfaces and/or 3 AFZ scanners, standby loss only 0.1 watt.

DIN rail mounted devices for fitting on DIN-EN 60715 TH35 mounting rails.

1 pitch unit = 18mm wide, 58mm deep.

**Connection to Eltako RS485 bus.**

**Cross-wired bus and power supply with jumper.**

**In order to transmit meter readings and powers over the bus and the Eltako Wireless Building System, the wireless antenna module FAM14 must issue a device address and the FAM14 must be operated in Position 2 or 5.**

This energy meter concentrator can concentrate the data of up to three energy meters and route them to the RS485 bus, either for transfer to an external computer or for transmission to the Wireless Building System.

Hook-up is either by connection to the SO interface of the meters or by use of an AFZ scanner on each Ferraris meter. The scanner is bonded above the rotary disc of the meter and hooked up by its connecting wire to one of the SO1-SO3/GND terminals. The F3Z14D detects automatically whether an SO interface or an AFZ is connected.

The meter reading is entered into the display by two buttons. This also applies to the impulse rate (number of impulses or rotations per kilowatt hour). The settings can be locked.

Meter readings can be entered and read out using the **PCT14 PC Tool**. In addition, impulse rates can be entered. The default display is selectable and operation of the device is locked.

The display is divided into three fields.

### Field 1:

The default display is the unit of the meter reading currently displayed in Field 3, either in kilowatt hours kWh (display KWH) or megawatt hours MWh (display MWH).

### Field 2:

The current energy consumption value (active power) in watts (W) or kilowatts (KW). The arrow on the left in display field 1 indicates automatic switchover from 0 - 99W to 0.1 to 65kW. The power reading is dependent on the number of meter impulses. The displayed minimum load is e.g. 10 watts at 2000 impulses per KWH and 2000 watts at 10 impulses per KWH.

### Field 3:

The meter reading is the default display. Every 4 seconds, the display alternates between 3 integer numbers and 1 decimal point (from 0 to 999.9 KWH) and an additional 1 or to 3 integer numbers (from 0 to 999 MWH).

### Select meter shown in display:

Press MODE and then press MODE again to select the **ANZ function**. Press SET to select the meter number to be displayed as default. Press MODE to confirm.

**All Eltako energy meters are fitted with an SO interface and can therefore be connected to the F3Z14D Energy Meter Concentrator. Only devices FWZ14-65A, DSZ14DRS-3x65A and DSZ14WDRS-3x5A are directly connected to the bus.**

### Set meter reading:

Press MODE then press SET to search for the **Z1 function**. Press MODE to select. MWH flashes. Press SET to change the meter reading from 0 to 999 in Field 3. Tip SET to increment by 1. Hold down SET to increment rapidly. Press SET a second time to reverse the direction. Confirm by pressing MODE even if nothing was entered. KWH flashes and SET changes the meter reading from 0 to 999.9 in Field 3, as before with MWH. Also confirm the correct entry by pressing MODE. The default view reappears. Proceed in the same way for Z2 and Z3.

### Set SO impulses:

The meter constant (impulses/kWh or U/kWh) is printed on the meter sticker. Press MODE then press SET to search for the **SO1 function**. Press MODE to select. SO1 flashes. Press SET to change the number of SO impulses per KWH from 1 to 9999 in Field 3. Tip SET to increment by 1. Hold down SET to increment rapidly. Press SET a second time to reverse the direction. Also press MODE to confirm the correct entry. The default view reappears. Proceed in the same way for **SO2** and **SO3**.

The display switches back to default view automatically 20 seconds after the last button was operated.

### Lock settings:

Tip MODE and SET together and press SET at LCK to lock. This is indicated by an arrow next to the lock symbol.

### Unlock settings:

Press MODE and SET together for 2 seconds and press SET at UNL to unlock.

**The power display in Field 2** depends on the number of SO pulses per kWh of the meter. The minimum load displayable is 10 watts at 2000 impulses per KWH and 2000 watts at 10 imp./KWH.

### Wireless telegrams:

A power telegram is transmitted every 180 seconds and the display is updated. Otherwise a telegram is sent within 20 seconds if the power changes by minimum 10% and the meter reading changes. A full telegram comprising meter readings and the powers of Z1, Z2 and Z3 are transmitted 10 seconds after the power supply is switched on and then every 10 minutes.

### Send teach-in telegram:

Turn rotary switch on FAM14 to Position 9. Press MODE on F3Z14D, then press SET to search for the **LRN function**. Press MODE to select LRN. Z1 flashes. After you press MODE to confirm, LRN+ flashes in the display. Press SET to send the teach-in telegram for Z1. After tipping MODE, Z1 flashes again. Press SET to select Z2 and press MODE to confirm. LRN+ flashes.

Press SET to send the teach-in telegram for Z2. After tipping MODE, Z2 flashes again. Press SET to select Z3 and press MODE to confirm. LRN+ flashes. Press SET to send the teach-in telegram for Z3. You can only exit teach-in mode by pressing and holding down the MODE button for longer than 2 s. The default display then reappears. Finally, turn rotary switch on FAM14 to Position 2 or 5.

#### Issue device address for F3Z14D:

Turn rotary switch on FAM14 to Position 1. The LED lights up red. Press MODE on F3Z14D, then press SET to search for **LRN function**. Press MODE to select LRN. Z1 flashes. After FAM14 issues an address, its LED lights up green for 5 seconds and the default display appears on F3Z14D. Finally, turn rotary switch on FAM14 to Position 2 or 5.

#### Delete device address:

Press MODE, then press SET to search for the **GA function**. Select by pressing MODE. Press SET to change between device address and 000. When you press MODE to confirm 000, the device address is deleted and the default display appears.

#### Configure F3Z14D:

The following functions can be configured using the PC Tool PCT14:

- Enter meter reading
- Read out meter readings
- Enter S0 impulses
- Select default display
- Lock/unlock operation on device

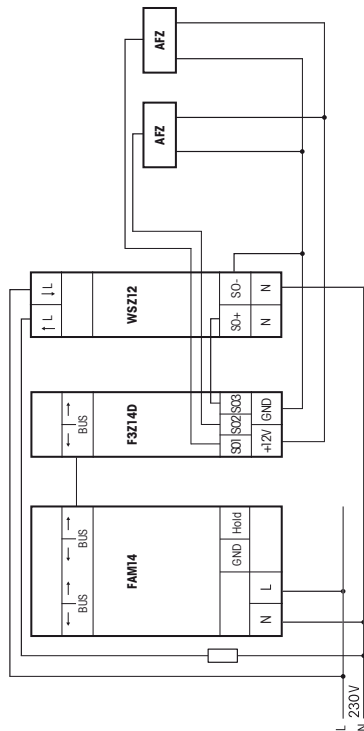
**Caution! Do not forget to press 'Disconnect link to FAM' in the PC-Tool PCT14. While the PCT14 PC Tool remains connected to the FAM14, no wireless commands can be executed.**

#### Technical specifications

Standby power loss 0,1 W

A power loss of 0.1W must be taken into account for each AFZ connected.

#### Wiring example



When an actuator is ready for teach-in (the LED flashes at a low rate), the next incoming signal is taught-in. Therefore, make absolutely sure you do not activate any other sensors during the teach-in phase.

#### Must be kept for later use!

We recommend the housing for operating instructions GBA14.

#### Eltako GmbH

D-70736 Fellbach  
 ☎ +49 711 94350000  
 www.eltako.com