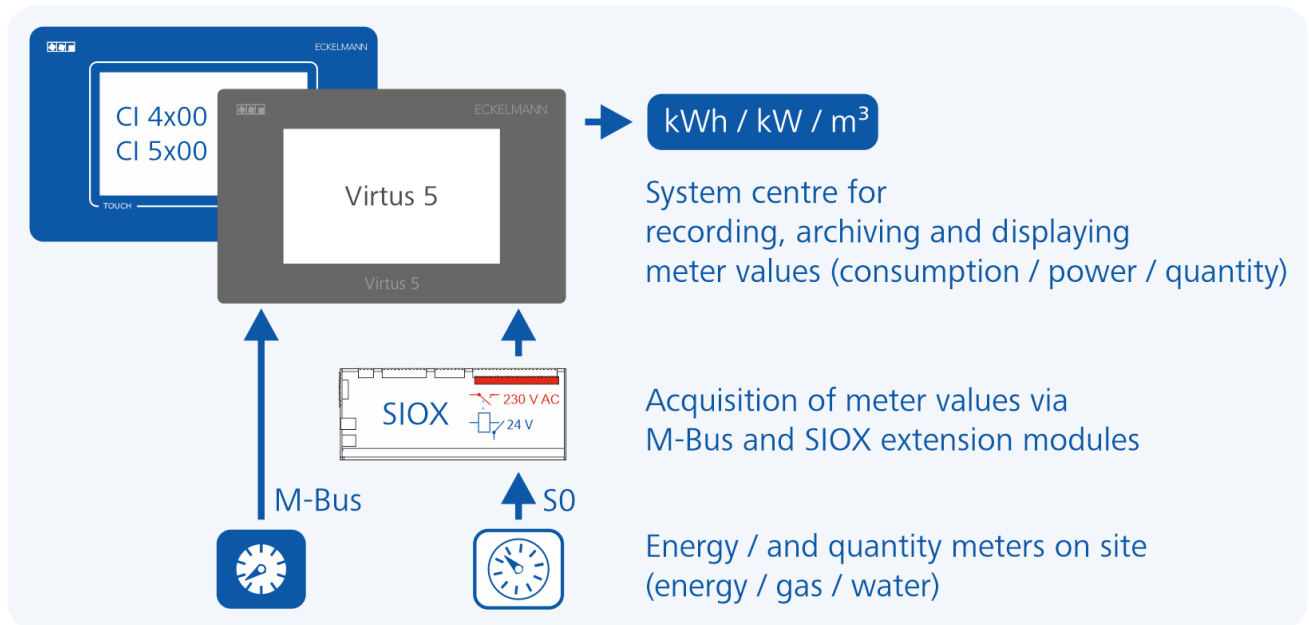


Eckelmann

E*LDS Calculation of consumption and power from meter values/pulses with system centre



Schematic diagram for recording meter values in the E*LDS system

Settings

The meter constant and transformer constant can be set in the devices to calculate consumption and power using meter pulses from energy and quantity meters:

System Centre CI 4x00 / CI 5x00 / Virtus 5 see menu 4-1-6

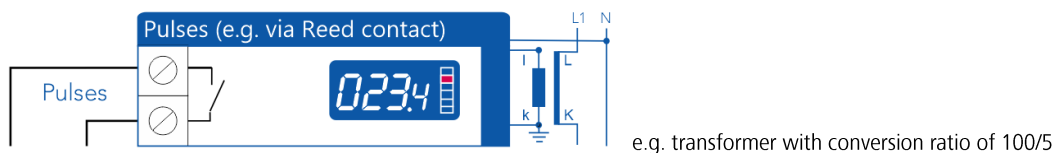
a) Meter Constant

Used for recording the amount of energy (consumption). The number of pulses per kWh is determined.

Unit: Pulses/kWh

Transformer constant Corresponds to the conversion ratio of the current transformer, i.e. the relationship of the current through the consumer (K/L) to the measuring current (k/l).

Unit: none



Note: The transformer constant **must** only be considered if the meter at the pulse output does take account of the transformer constant! If the transformer constant has already been taken into account for the pulse output of the meter, a **1** **must** be entered for this in the system centre / store computer.

Note: Depending on the model and configuration, pulses at the meter output can differ from the consumption displayed in the meter display.

The calculation bases for determining consumption and power are explained in more detail on the following page using an example.

Example

Meter constant:	1000 pulses/kWh
Transformer constant:	20 (corresponds to the conversion ratio 100/5 of the current transformer)
Number of measured pulses:	e.g. 600 pulses
Period of pulse counting:	e.g. 15 minutes = ¼ h = 0.25 h

Calculation of the consumption*

$$\text{Example} \Rightarrow \text{Consumption} = \frac{\text{Meter constant}}{\text{Meter constant}} * \text{Transformer constant} = \frac{600 \text{ pulses} * \text{kWh}}{1.000 \text{ pulses}} * 20 = 12 \text{ kWh}$$

For the period of 15 minutes, consumption of 12 kWh has been determined.

Calculation of power*

$$\text{Example} \Rightarrow \text{Power} = \frac{\text{Number of pulses}}{\text{Meter constant}} * \frac{\text{Transformer constant}}{\text{Period of pulse counting}} = \frac{600 \text{ pulses} * \text{kWh}}{1.000 \text{ pulses}} * \frac{20}{0,25 \text{ h}} = 48 \text{ kW}$$

For the period of 15 minutes, power consumption of 48 kW has been determined.

* An analogous calculation method is used for the consumption or flow rate of **gas** or **water** (then in m³ or litres).

The following link / QR code takes you to the recommended M-Bus meters for the E*LDS system:

https://edp.eckelmann.de/edp/lids/_dGFHqz89xb

or

