



Direct monitoring

Machinery current consumption measuring

Direct monitoring:

Is used for measuring the current consumption of machinery that consumes a maximum of 63A (3-phase 400V).

The installation of the measuring component is done by rerouting the main supply through a miniature circuit breaker (MCB) and the energy meter so that it is installed in series with the machine, and the meter measures directly the current and voltage levels.



Installation must only be carried out by qualified personnel who are familiar with the safety regulations and precautions.



Hardware required for the installation:

- 1 x 3-phase MCB (Miniature Circuit Breaker) **32A. We'll provide Siemens 5SL6332-7**
- 1 x 3-phase energy meter. We'll provide Siemens **7KT1671**
- 1 x signal cable (energy meter to data collector), M8 connector cable
- 1 x data collector i.e. Factbird Duo / Factbird Omron NX1
- 1 x power supply, Factbird 24V power supply



Electrician material list (not provided by Blackbird):

- DIN rails - if needed
- DIN terminal blocks – if needed
- Cable marking labels
- Cable Lugs
- Various cables/wires to connect the components

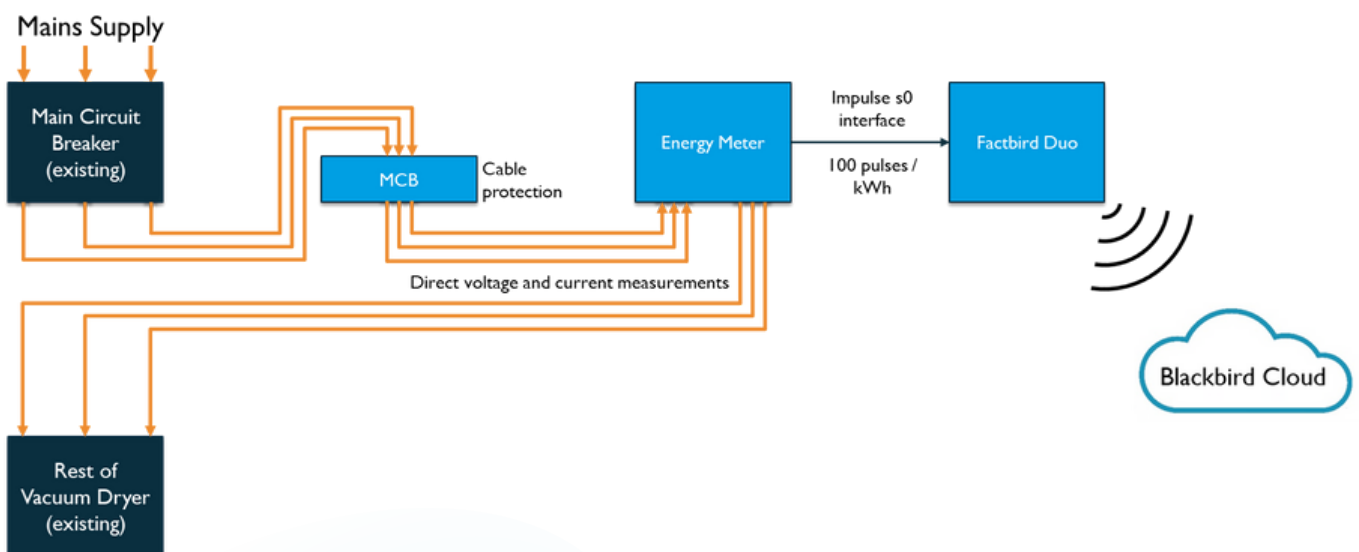


Installation Overview

Please use the steps below as a guideline for installing the hardware.

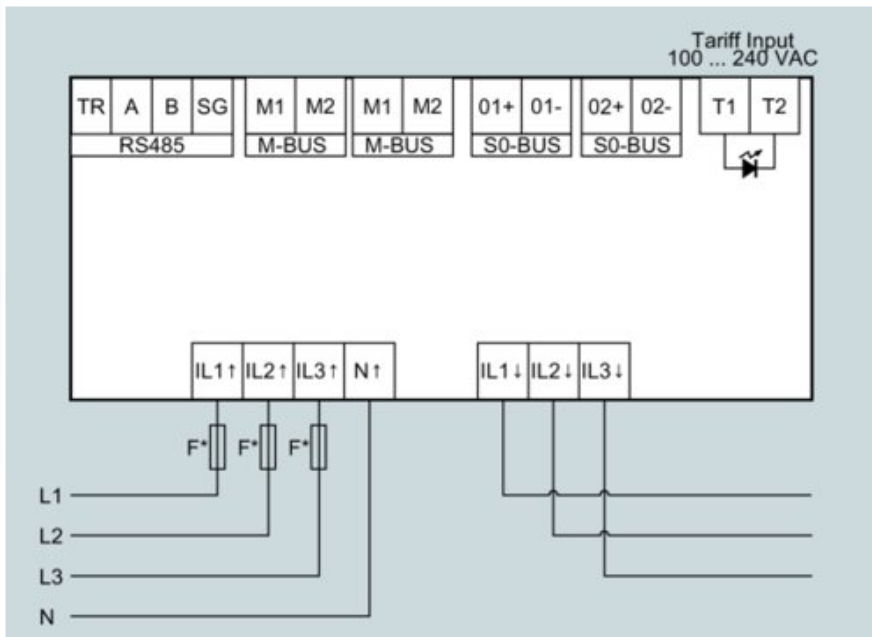
1. Mount the MCB and Energy Meter in a suitable place in the control cabinet.
2. Disconnect the main supply between the main circuit breaker and the machine.
3. Connect the main circuit breaker to the MCB.
4. Connect the MCB to the Energy Meter.
5. Connect the Energy Meter to the machine.
6. Lastly connect the Energy Meter to the data collecting device e.g., the Factbird Duo, using the M8 connector cable (01+ to black and 01- to blue).

When the setup is completed and the data collecting device has been connected to its dedicated power supply, the physical installation process is completed. For reference see illustration below:





Direct monitoring 7KT1671 energy meter circuit diagram (outputs depend on device type)



Sensor configuration

Parameterization – setting values for relevant parameters

Energy meter 7KT1671 (direct monitoring)

1. Press and hold up and down arrow keys simultaneously (5 seconds).
2. Press down until “setup” is displayed, then press the right arrow to enter the menu.
3. Press down until you get to “P2-01” (Function of output 1) and press the right arrow.
4. Adjust the value to “100PUL” (100 pulses per kWh) and press the right arrow to confirm.