



WMC

Wind Mill Controller rev 5 – 7

Setup and adjustments

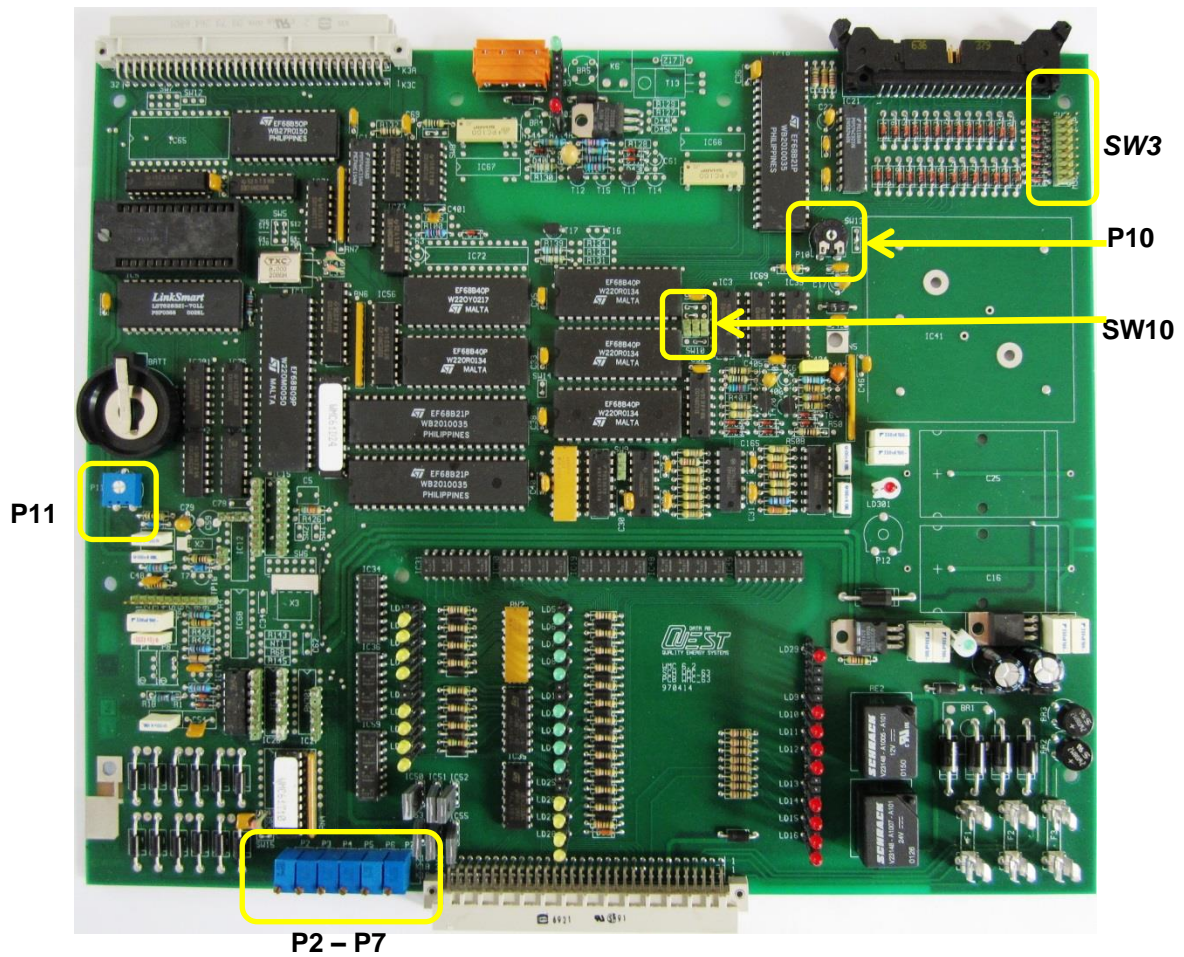


Figure shows WMC rev 6.2 card

Setup and calibration

General

At first installation or after changes in the installation the WMC main CPU board may have to be setup or calibrated.

Identity (SW3)

When communicating outside the wind turbine the WMC board must have a unique identity.

The identity can be 1-256 and is setup using 8 binary jumpers.

SW3

| | |
|-----|-----------|
| ■—■ | bit 1 LSB |
| ■—■ | bit 2 |
| □ □ | bit 3 |
| □ □ | bit 4 |
| □ □ | bit 5 |
| □ □ | bit 6 |
| □ □ | bit 7 |
| □ □ | bit 8 MSB |

The example shows Id = 3

Number of restarts (SW10)

The WMC has an onboard security system called watchdog. If the computer operation fails the watchdog reacts and sets all outputs to OFF and resets the microprocessor. This will stop the turbine and restart the program in stopped mode. If the watchdog still reacts it makes another reset. It is possible to setup the number of restarts before the microprocessor stops permanent. If the system is powered down the restart counter is reset. If no jumper it restarts only once

SW10

| | | |
|---|---|---|
| ■ | □ | □ |
| | | |
| ■ | □ | □ |

2 4 8 no of restarts

Voltage and current calibration

The VMC CPU board measure the voltage and current in 3 phases. The input voltage and current to the WMC card is approx. +10 V. The grid voltage and generator current is connected to another card called PWC (power board). The PWC has transformers to reduce the grid voltage to the +10 V and resistor bridges to convert the current to voltage. The VMC card may have to be recalibrated together with the power board.

There are 6 screw potentiometers to calibrate voltage and current. L1U = Phase L1 Voltage, L3I = Phase L3 Current.

Increase (ccw) ← **adjust** → Decrease (cw)

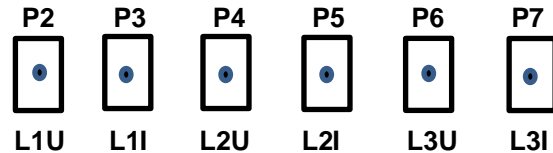


Figure shows the 6 screw potentiometers and their functions

Voltage calibration. P2, P4, P6

Measure the incoming voltage to the power board on terminal P5, with a standard multimeter.

Watch the voltage in the display and adjust the corresponding potentiometer.

The WMC system normally measures and displays the voltage Phase – Neutral. If there are no neutral attached to the power board, it has an onboard star transformer making a neutral reference (available on P5-2).

Power board (PWC) Voltage input:

- P5 - 1 Earth
- P5 - 2 Neutral
- P5 - 3 Phase L1
- P5 - 4 Phase L2
- P5 - 5 Phase L3

Current calibration, P3, P5, P7

In order to make the current calibration, current through the current transformers (CT's) is needed. This can be done when the turbine is stopped and by manually operate (electric) the contactor for the capacitors to close. The capacitors then connect to the grid and cause a current to flow through the CT's.

Measure the current in the corresponding power cable (goes through the CT) with a current clamp meter.

Watch the current in the display and adjust the corresponding potentiometer.

Display adjustments, P10

When installing a new display it maybe necessary to adjust the brightness voltage to the display. Start up the system and adjust the P11 unit you can clearly read the display.