

FAQ	MAVOWATT 20-270 Mismatch Message
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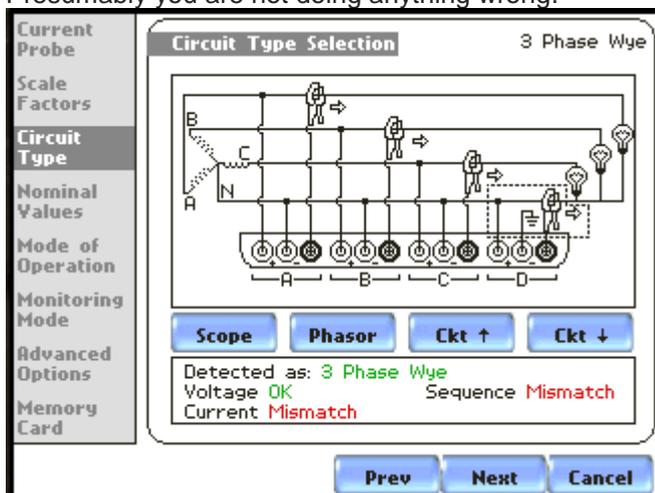
Product Group	PQ: PQ Analyzers
Product	MAVOWATT 20/30/40/70/230/240/270
Subject/Application	Message „Mismatch“ for Wiring Configuration
Users	all

Question:

While parameterizing the MAVOWATT PQ Analyzer, the device reports "Mismatch" for Sequence and Current when selecting the wiring configuration, although I am sure that I have connected all measuring inputs correctly. What am I doing wrong?

Answer

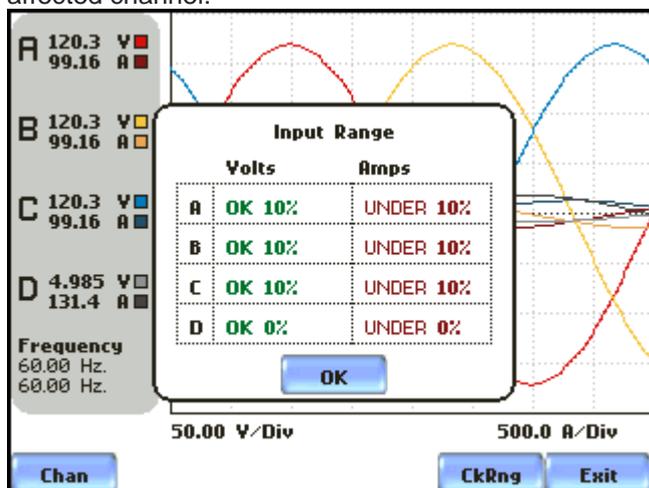
Presumably you are not doing anything wrong.



The message "Mismatch" for current and/or phase sequence usually has the following causes:

- **Present current magnitude is very low**
 At least at one of the phases A, B, C the actual current reading is below 10% of the nominal measuring range of the selected current probes. At such low magnitude, many clamp current sensors already show significant phase angle errors. A high degree of accuracy of the measured variables dependent thereon (active power W, reactive power VAR, power factor TPF, displacement power factor DPF (cos phi), current harmonics, etc.) is therefore no longer given. Of course, measurements are possible but you should be aware of this fact or consider if a lower measuring range can be used.

In the **Scope** view, the **CkRng** button can be used to check the range utilization level and to detect the affected channel:



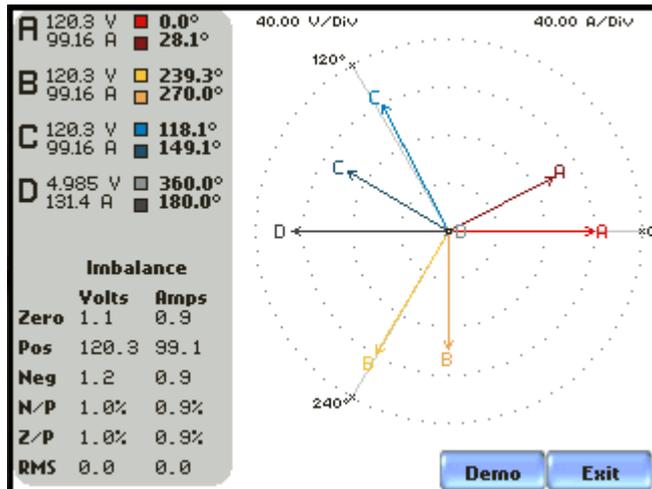
Notes:

- The pure current reading is usually already quite accurate for currents above 3% of the measuring range .
- Channel D is not included in the assessment.

- **Present phase shift angle phi is very high**

At least at one of the phases A, B, C, the phase shift angle between the phase-to-neutral voltage and the associated phase current is greater than approximately 25° (corresponds to $\cos \phi < 0.9$).

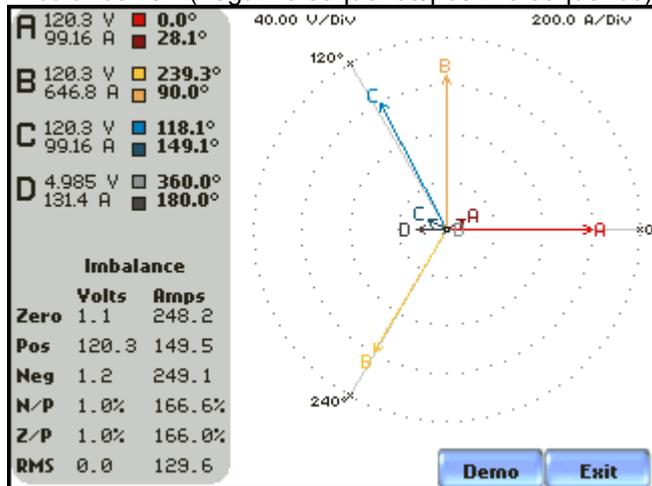
In supply networks, such high phase shift angles are usually uncommon. The reason for this can also be a wrong connection of the current probes: reversed polarity (current flow direction) or reversed phases (for example, current probe of channel A is on phase B and probe from channel B is on phase A). Such causes can be easily recognized by the vector view:



Note: For measurements on individual consumers, however, phase shift angles >25° may be normal.

- **Present current imbalance is very high (@ 3-phase connections)**

One of the three currently measured phase currents is much higher/lower than the other two; the current imbalance N/P (negative sequence/positive sequence) is greater approx. 45%:



This condition would be quite unusual in the supply network. But this can also be caused by: Not completely closed current clamp jaws or weak/empty battery with active current probes or wrongly selected measuring range of the current probe. To test this, you can try to put all the current probes around the same phase conductor and compare their measured values.

The message "Mismatch" is therefore to be understood as a request to check for yourself whether the connection and the measured values are correct, because the device is not able to clearly recognize this due to the described circumstances.