

VOLTECH NOTES

A MONTHLY PUBLICATION FROM THE MANUFACTURER OF THE WORLD'S MOST POPULAR POWER ANALYZERS AND TRANSFORMER TESTERS

ISSUE 2

The drive for change.

A growing industrial and domestic demand for electronic products continues to fuel a rapid change in the field of electrical power. As world power consumption rises, the drive for products with greater efficiency produces a need for new power conversion technology and the greater use of modern techniques in everyday devices. With this change, comes a need in development, production, testing and certification for measurement instruments that are designed to operate with much more complex signals. Voltech's focus in the field of power electronics and our ongoing development of innovative measurement techniques ensure that we continue to meet this ever changing need.

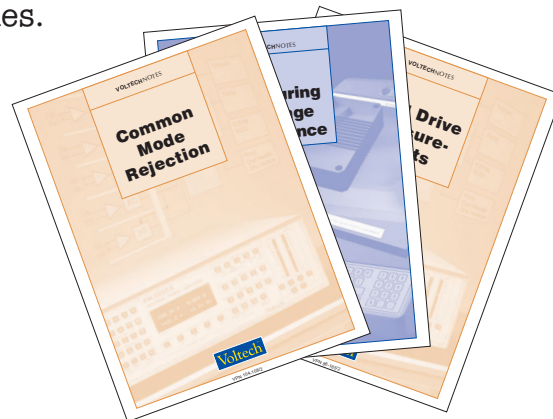
Impact on wound components.

From the development of electrical and electronic product technology, it follows that component designs must also change. Transformers, a key component in almost all electrical and electronic devices, are a great example of this, where the reduction in size, increase in frequency of operation or simply the need for better reliability, require changes in design, production techniques and test.

In this edition of Voltech Notes, we introduce more technical articles covering both power measurement and wound component issues.

We hope that you will find them interesting.

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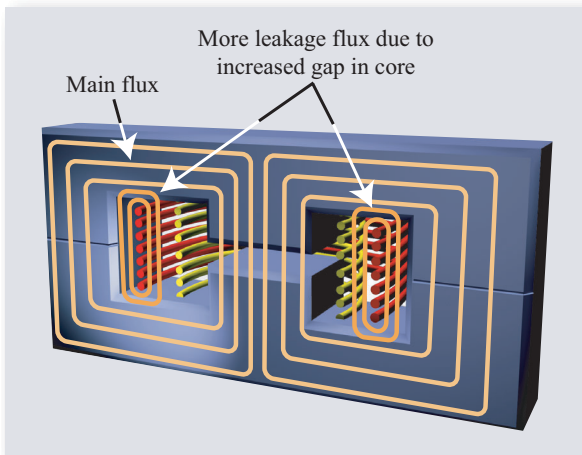
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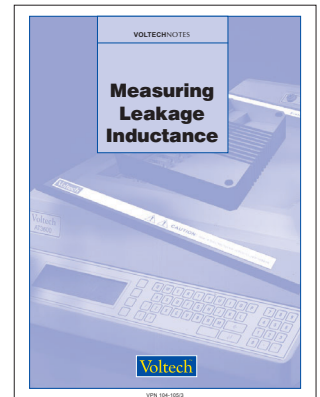
MEASURING LEAKAGE INDUCTANCE

Whether it is critical to the operation of a circuit or an undesirable byproduct of manufacturing errors, the leakage inductance of a transformer presents production and test engineers with a difficult measurement problem.

The ratio of flux that does not link the primary winding to the secondary winding will therefore increase relative to the flux that links both windings.



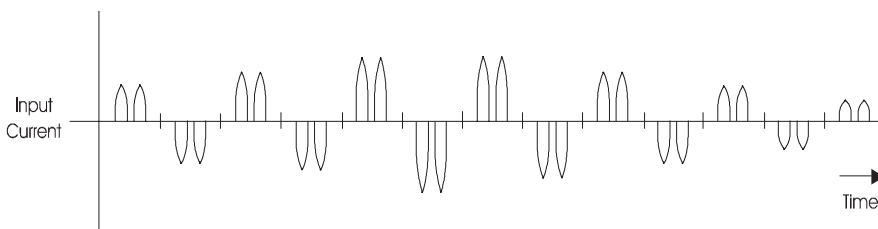
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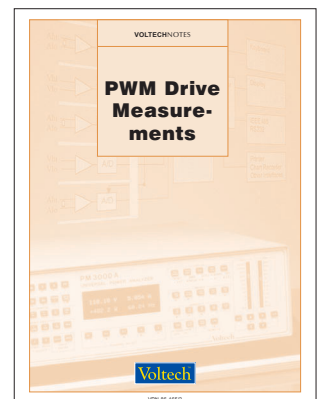
MAKING MEASUREMENTS ON PWM DRIVES

As pulse width modulated drives extend beyond industrial and commercial applications to an increasing number of domestic products, we review the basic principles and some specific measurement issues.

However, a PWM drive does not always present a constant load and, therefore, the current taken from the supply will be modulated by components of the output frequency.

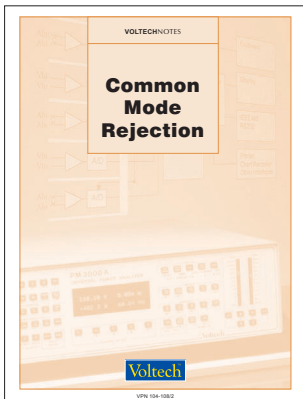


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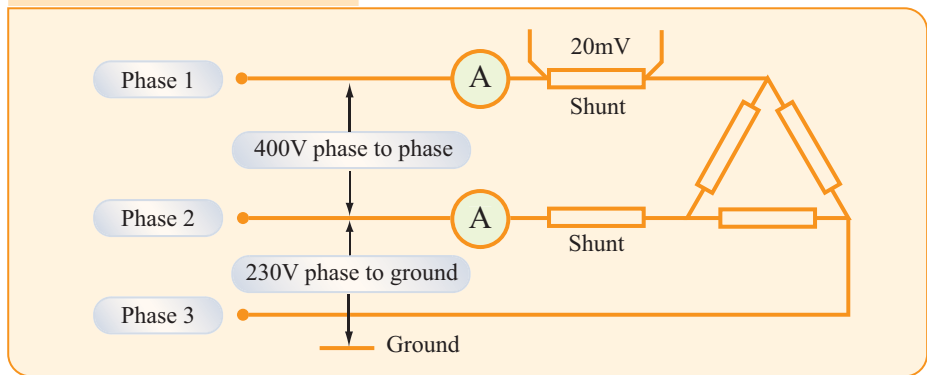
COMMON MODE REJECTION

Can you be sure that a power analyzer will meet the measurement needs of a noisy application from the brochure specification of common mode rejection? Here, we look at the subject of real-world noise rejection.



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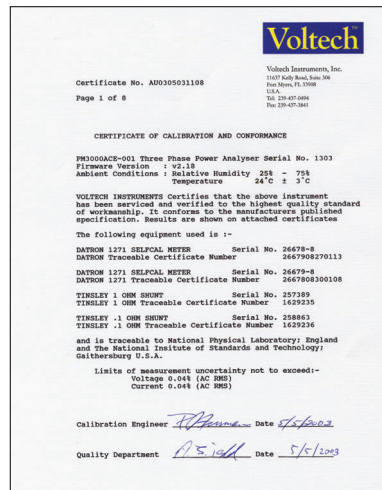
Taking account of 3-phase CMRR



DID YOU KNOW?

In addition to repair and calibration traceable to NIST and NPL of all our products, Voltech now offers pre-calibration data on the AT3600, ATi, PM3000ACE, PM100 and PM300?

For more information, contact your nearest Voltech service center at +44 (0)1235-861173 or +1 (239) 437-0494.



Channel	Assumed	Reading	Conversion	Pass/Fail
1	214.220V	214.220V	-14.220V	PASSED
2	214.220V	214.220V	-14.220V	PASSED
3	214.220V	214.220V	-14.220V	PASSED
4	214.220V	214.220V	-14.220V	PASSED
5	214.220V	214.220V	-14.220V	PASSED
6	214.220V	214.220V	-14.220V	PASSED
7	214.220V	214.220V	-14.220V	PASSED
8	214.220V	214.220V	-14.220V	PASSED
9	214.220V	214.220V	-14.220V	PASSED
10	214.220V	214.220V	-14.220V	PASSED
11	214.220V	214.220V	-14.220V	PASSED
12	214.220V	214.220V	-14.220V	PASSED

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FREE TECHNICAL ARTICLES AND APPLICATION NOTES FROM VOLTECH. SEE INSIDE FOR DETAILS.

Please indicate your area(s) of interest below and fax back to Voltech at +1 (239) 437-3841 or +44 (0)1235-835016.

- | | |
|---|--|
| <input type="checkbox"/> Measuring Leakage Inductance
(Item # 104-105) | <input type="checkbox"/> Common Mode Rejection
(Item # 104-108) |
| <input type="checkbox"/> Making Measurements on PWM Drives
(Item # 86-165) | |

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