



TEST EQUIPMENT RENTAL SERVICES

When you rent Test Equipment from TDC, we want you to know that you will have a dedicated personal service from start to finish. Our Customer Service team is here to support you throughout your rental period.

TDC are independent specialists promoting all high quality manufacturers and instrument types. Equipment can be delivered Next Day or Same Day to suit your requirements.

When you are finished, simply contact us to arrange your equipment collection or alternatively you can despatch it back to us – we make it easy.

RENTING FROM TDC JUST MAKES SENSE

By using TDC Test Equipment Rental Solutions, you benefit from our extensive rental inventory that is second to none. We constantly refresh our equipment range with branded equipment manufacturers such as Megger, FLUKE, Chauvin Arnoux, OMICRON, FLIR, b2 HVA, Agilent Technologies, Dranetz BMI, Fujikura, JDSU, Ametek Jofra, GE DRUCK, RAE Systems, TSI Airflow, Rohde & Schwarz, NORBAR, PANAMETRICS, Tektronix and many more.

You can utilise our rental equipment to suit your own requirements, from one week to as many months as you need. You only pay for what you use down to the day. Renting with TDC is straightforward and easy. Our expert Sales and Applications Engineers will find the best solution to suit your application.

Delivery & Collection is arranged by us - we make it hassle free and easy.

TDC 6 POINT RENTAL GUARANTEE - OUR REPUTATION MATTERS



1 SAME DAY DISPATCH

Many of our customers operate to very strict deadlines. Providing the order is placed and confirmed before 3pm, your equipment will be despatched the same day.



2 QUALITY

All Equipment is checked prior to dispatch to ensure it is servicable and in safe working order. Certification checks are standard.



3 SUPPORT

We will provide you with enough information to make an informed choice of the correct equipment required for your application.



4 PRICE

We offer a simple price match promise. We'll match any genuine competitor quote.



5 CUSTOMER SERVICE

We can promise that throughout your rental period, we will do our utmost to provide you with the best customer service. All information we provide is in good faith and free of charge. We will provide a quote for any consultancy or professional advice that may be required.



6 REPUTATION

We know we are only as good as our last job. We don't just want regular customers - we want to build loyal customers.



For all enquiries, please contact: Gordon Thow (Test Equipment Rental Manager)

t: +44 (0)1224 710077 | e: gordon.thow@tdcaberdeen.co.uk | w: www.TDCaberdeen.co.uk

a: TDC Aberdeen Ltd | Bankhead Industrial Estate | Bankhead Avenue | Bucksburn | Aberdeen | AB21 9ET



TEST EQUIPMENT RENTAL SERVICES

CT Analyzer

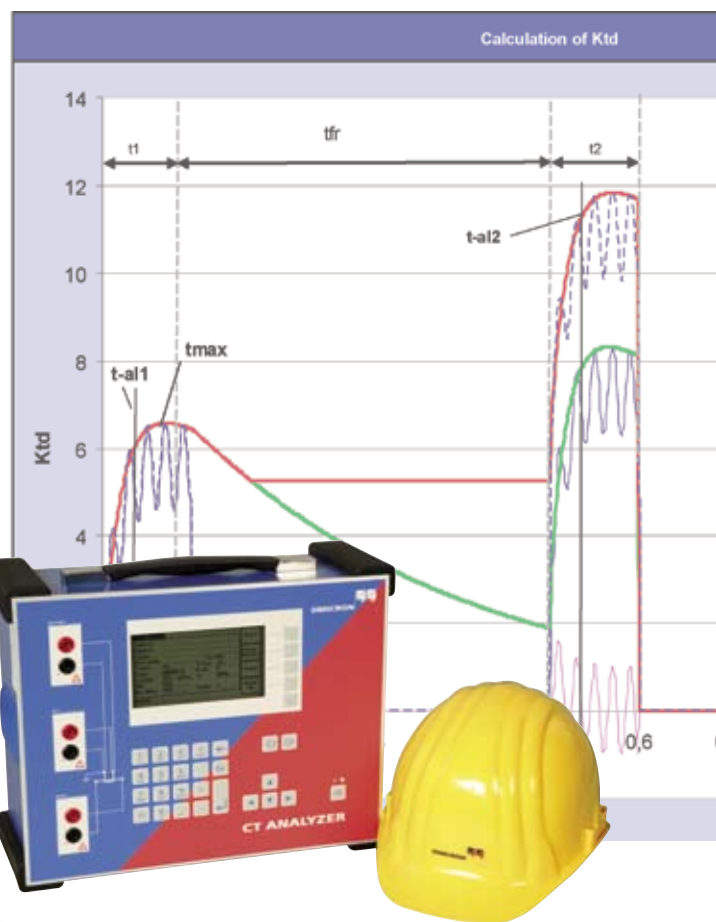
Datasheet

OMICRON



CT ANALYZER

The Revolution in
Current Transformer Testing



The Unique Solution

OMICRON's CT Analyzer is a unique lightweight electronic multifunctional instrument designed to meet the highest standards for performing excitation, ratio, polarity and winding resistance tests on current transformers (CTs) as well as burden-impedance measurement.

The equipment provides automatic testing and calibration for all types of low leakage flux current transformers both on-site in the power system as well in the controlled environment of CT and switchgear manufacturers.

The CT Analyzer allows an automatic assessment of test results clearly indicating whether the parameters of the CT under test match its specification. It is the only known device able to test and assess CTs build according IEC60044-6 with defined transient performance (TPS, TPX, TPY and TPZ).

Because of the patented (EP 1 398 644 A1) low voltage test method it is possible to test CTs with a knee point voltage up to 15 kV without stressing the insulation of the CT (max. 120 V test voltage).

Testing of current transformers can be carried out to an extremely high level of accuracy. The accuracy level (0.02 % / 1 min.) makes the CT Analyzer the ideal tool for calibration and verification, not only for protection CTs but also for class 0.1 CTs for metering.

A wide range of measurement functionalities can be provided:

- Burden measurement
- CT Winding resistance measurement
- CT Excitation characteristic recording
- CT transient behavior measurement (IEC60044-6)
- CT ratio measurement with consideration of connected burden
- CT phase and polarity measurement
- Determination of accuracy limiting factor (ALF), instrument security factor (FS), secondary time constant (Ts), remanence factor (Kr), transient dimensioning factor (Ktd), knee point voltage/current, class, saturated and non saturated inductance
- Assessment according to defined standards: IEC60044-1, IEC60044-6, IEEE C57.13-1993

The extremely small and lightweight (< 8 kg / 17 lb) hardware is particularly beneficial for on-site testing.

In the final step, the "CT-Object" card shows the measured values for rated primary and secondary current, the CT class and the CT designation; "M" for a measurement CT or "P" for a protection CT; VA (nominal burden), Burden (operating Burden) and CosPhi. All results are stored on the Compact Flash card and can be easily transferred to a PC.

CT-Object	Resi...	Exci...
Ident:	.....	.....
Manuf:	.....	.....
Type:	.....	.....
Serial#:	.....	.....
I-pn:	2000.0A	.....
Std:	60044-1	.....
Class:	0.1 FS5	.....
VA:	12.50VA	.....
Burden:	12.50VA	.....
Ready		

The "Phase Table" shows the phase error at nominal burden and at different currents and at 25 %, 50 % and 100 % of rated power.

CT...	Resi...	Exci...	Ratio	Asse...	Co...
Power			Phase displacement in minutes at % of rated current		
VA/Cosφ			100	120	
15.00/0.800			0.05	0.06	
7.50/0.800			0.16	0.13	
3.75/0.800			0.21	0.18	
0.00/1.000			0.25	0.23	
Ready					

The "Ratio Table" shows ratio error at nominal burden and at different currents and at 25 %, 50 % and 100 % of the rated power.

CT...	Resi...	Exci...	Ratio	Asse...	Co...
Power			Current ratio error in % at % of rated current		
VA/Cosφ			100	120	
15.00/0.800			-0.01	-0.01	
7.50/0.800			-0.01	-0.01	
3.75/0.800			0.00	0.00	
0.00/1.000			0.00	0.00	
Ready					

The ratio error, phase error and composite error for the operating burden can now be measured and displayed.

CT...	Resi...	Exci...	Rat...
I-pn:	2000.0A	I-	
f:	50Hz		
Burden:	12.50VA	Co	
Ratio:	2000:0.9998		
Pol.:	OK		
Phase:	-0.08min		
N:	2000.08		
Δ-Comp:	Ratio 1		
I-P:	2000.0A		
Ready			



The results in seconds - even if the nominal CT data is unknown

The CT Analyzer performs an automatic parameter search and CT test - using the "Name plate guesser" function. For standard current transformers it allows the user to do a test with minimal training and no knowledge of the CT to be tested.

All that is needed is to follow these steps:

CT-Object	Res...	Exc...	R...	Ass...	Co...
Ident:					
Manuf:					
Type:					
Serial#:					
I-pn:	1.0A				
Std:	60044-1				
Class:	?				
UA:	?				
Burden:	?				
Cosφ:	0.800				

CT-Object	Res...	Exc...	R...	Ass...	Co...
Ident:					
Manuf:					
Type:					
Serial#:					
I-pn:	1.0A				
Std:	60044-1				
Class:	?				
UA:	?				
Burden:	?				
Cosφ:	0.800				

Connect the CT as indicated on the CT Analyzer front panel, activate the CT-object card on the user interface and start a CT test with default settings.

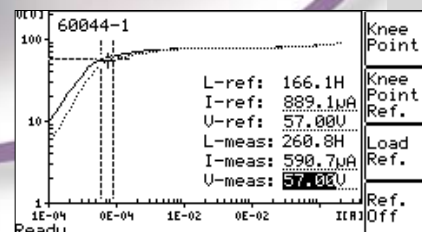
CT...	Resistance	Exc...	R...	Ass...	Co...
I-test:	1.000A				
I-DC:	0.984A				
T-meas:	25.0°C				
T-ref:	75.0°C				
U-DC:	10.123				
R-meas:	10.29Ω				
R-ref:	12.31Ω				

The device applies a 1A DC current to the secondary terminals of the CT and runs the fully automated test procedure - no settings are necessary. The Resistance Card displays the measured resistance (R_{ct}).

CT...	Res...	Excitation	R...	Ass...	Co...
I-pn:	2000.0A				
Std:	60044-1				
UA:	12.50VA				
U-kn:	57.00V				
FS:	3.87				
Ls:	9.0mH				
Ts:	18.66s				
Kr:	82%				
I-sn:	1.0A				
f:	50Hz				
Cosφ:	0.800				
I-kr:	0.59mA				
FSi:	3.64				
Lu:	385.6H				

The CT Analyzer measures the excitation curve and determines the knee point and other important CT data. Depending on the value of the knee point voltage the CT Analyzer identifies the test object as either a measurement CT or a protection CT and determines the nominal burden if not defined in the object page.

CT-Object	Res...	Exc...	R...	Ass...	Co...
Ident:					
Manuf:					
Type:					
Serial#:					
I-pn:	1.0A				
Std:	60044-1				
Class:	?				
UA:	?				
Burden:	?				
Cosφ:	0.800				



The excitation curve derived from the test is displayed on the unit. This curve can be compared with the result of a previous test loaded from a Compact Flash card.

CT Analyzer Functionality

CT-Object	Res...	Exc...	R...	Ass...	Co...
Ident:	Omicron Test				
Manuf:	Ritz Marchtrenk OOE				
Type:	KSD 1811				
Serial#:	5596719	Core#:	1		
I-pn:	2000.0A	I-sn:	1.0A		
Std:	60044-6	P/M:	P		
Class:	TPX more	f:	50Hz		
VA:	2.50VA				
Burden:	2.50VA	Cosφ:	1.000		
settings.xml					

Completely edited CT-Object card

CT-Object	Res...	Exc...	R...	Ass...	Co...
Standard 60044-6 / Class TPY					
Kssc:	5.00	Ts:	23.97s		
Ktd:	6.42	Tp:	0.020s		
Seq:	C-t1-0-tfr-C-t2-0				
t-al1:	0.040s	t1:	0.100s		
t-al2:	0.040s	t2:	0.100s		
Rct:	10.66Ω	tfr:	1.500s		
settings.xml					

Extended CT-Object page

CT...	Burden	Res...	Exc...	R...	Ass...	Co...
I-sn:	1.0A					
I-test:	1.0A	f:	50Hz			

I-meas:	993.6mA	0.00°				
V-meas:	3.450V	0.03°				
Burden:	3.47VA	Cosφ:	1.000			
Z:	3.472Ω					
Ready						

Results of the burden measurement

CT...	B...	Resistance	Ex...	R...	As...	C...
I-test: 1.000A						

I-DC:	0.429A	V-DC:	4.445V			
T-meas:	25.0°C	R-meas:	10.36Ω			
T-ref:	75.0°C	R-ref:	12.39Ω			
Ready						

Results of the CT winding resistance measurement

CT-Object

The CT-Object card is the central element within the user interface which contains all of the necessary test settings for a CT test. Data is provided in the following fields:

- I-pn / I-sn: Rated primary / secondary current
- Std: Standard to which the test is to be performed
- P / M: CT type definition: protection or measurement
- Class / Freq: Class and rated frequency of CT
- VA: Rated burden
- Burden / cos φ: Operating burden and cos φ
- more: extended parameter page for IEC 60044-6 and IEC60044-1 class PX CTs

Extended Object Page

The extended object page is used to enter class dependent parameters for assessment or for the calculation of the transient behavior according IEC60044-6.

Following parameters can be found on this page:

- Kssc: rated symmetrical short circuit current factor
- Ktd: transient dimensioning factor
- Vkn: knee-point voltage according to IEC 60044-6
- Ikn: knee-point current according to IEC 60044-6
- Ts, Tp (secondary and primary time constant)
- Seq (duty of the protection)
- tal1, tal2, t1, t2, tfr (timing parameters for duty)
- Rct (expected winding resistance)
- Ek/Ual, Ie, Ial (accuracy limiting voltage and current)

Burden Test

The Burden Test Card allows the measurement of a current transformer's secondary burden by injecting AC current into the load (up to 5 A). The results of the burden test are shown on the display as follows:

- I-meas / V-meas: Current and voltage measured during the test
- Burden / cos φ / Z: Calculated values

Resistance Test

The CT winding resistance is needed for several calculations in the excitation and ratio test. During the test a DC current is applied to the CT until saturation is reached. The following results are shown on the Resistance card:

- I-DC / V-DC: Measurement current and voltage
- R-meas: Measured resistance
- R-ref: Temperature compensated resistance



Excitation Test

The Excitation test measures and displays the excitation curve of the current transformer and determines a wide range of other parameters of the CT using a current of up to 15 A peak. Parameters are calculated for nominal burden and operating burden.

According to the selected standard, terminal voltage, emf voltage, rms current or peak current is shown on the excitation graph.

Depending on the selected standard the corresponding results are:

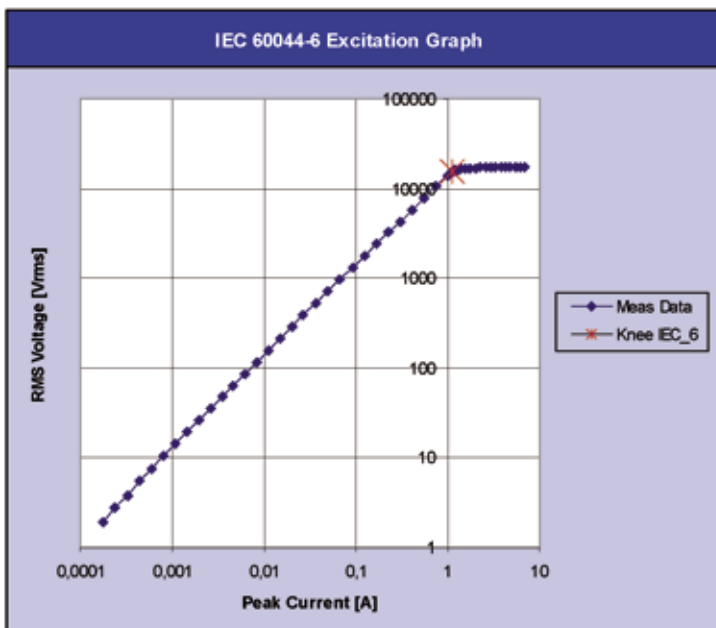
- V-kn / I-kn: Knee point voltage and current
- FS / ALF: Instrument Security Factor or Accuracy Limiting Factor according IEC60044-1 direct measurement method
- FSi / ALFi: Instrument Security Factor or Accuracy Limiting Factor according IEC60044-1 indirect measurement method
- Kssc, Ktd: Symmetrical short circuit current and transient dimensioning factor
- Ls / Lu: Saturated and non saturated inductivity
- Ts: Secondary time constant
- Kr: Remanence factor
- Val/lal accuracy limiting voltage / current
- ϵ^{\wedge} peak instantaneous error at $I_{pn} * Kssc * Ktd$
- E-max: Maximum e.m.f.

CT...	Res...	Excitation R...	Ass...	Co...	
I-pn: 2000.0A	I-sn: 1.0A				Main
Std: 60044-1	f: 50Hz				Excit. Graph
UA: 5.00VA	Cosφ: 0.800				Result with Nom. UA
U-kn: 57.08V	I-kn: 0.59mA				Result with Burden
ALF: 5.47	ALFi: 5.32				
Ls: 8.8mH	Lu: 378.2H				
Ts: 25.80s					
Kr: 79%					

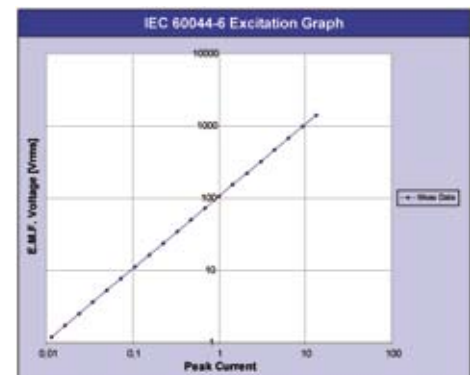
CT...	Res...	Excitation R...	Ass...	Co...	
I-pn: 1200.0A	I-sn: 1.0A				Main
Std: 60044-6	f: 50Hz				Excit. Graph
UA: 5.00VA	Cosφ: 1.000				Result with Nom. UA
U-kn: 52.02V	I-kn: 0.65mA				Result with Burden
Kssc: 0.39	Ktd: 13.21				
Ls: 9.0mH	Lu: 375.3H				
Ts: 23.97s					
Kr: 79%	ϵ^{\wedge} : >77.25%				
	E-max: 1034.30V				
U-al: 59.01V	I-al: 1.16mA				

Excitation curve from 1 mV up to 17 kV

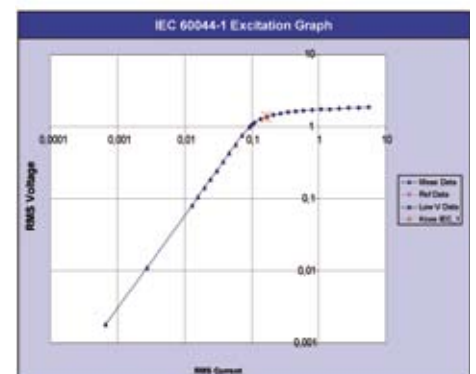
Test of CT's with a knee point voltage up to 15 kV. Only with our patented low frequency test principle it is possible to test such CTs without overstressing the insulation.



Excitation test up to 15 kV



Excitation test up to 12.7 kVA on TPZ



Excitation curve down to 1 mV

CT-...	Resi...	Exci...	Ratio Asse...	Co...	
I-pn: 2000.0A	I-sn: 1.0A				Main
f: 50Hz					
Burden: 15.00VA	Cosp: 1.000				Ratio
Ratio: 2000:0.9998	-0.022%				Table
Pol.: OK	ϵ_c : 0.024%				
Phase: 0.13min					Phase
N: 2000					
Δ -Comp: Rati					
I-p: 2000					
settings.xml					

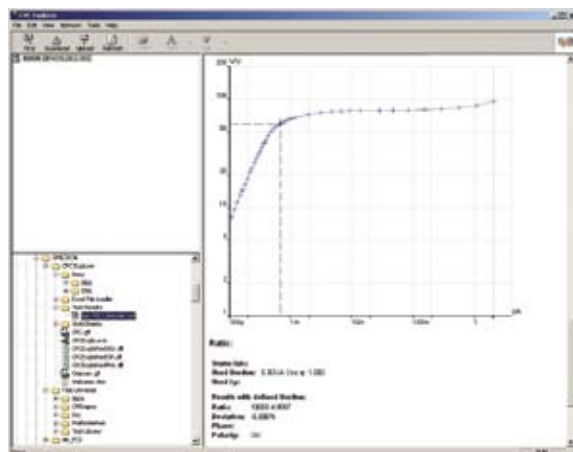
Results with defined Power:									
VA / Cos ϕ	Current ratio error in % at % of rated current								
	1.6	5.0	10	20	50	100	120	200	
250 / 1.000	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
125 / 1.000	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
63 / 1.000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
0.00 / 1.000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	

VA / Cos ϕ	Phase displacement in minutes at % of rated current								
	1.6	5.0	10	20	50	100	120	200	
250 / 1.000	0.90	0.78	0.65	0.57	0.40	0.25	0.24	0.18	
125 / 1.000	0.90	0.72	0.64	0.51	0.37	0.20	0.24	0.17	
63 / 1.000	0.94	0.68	0.60	0.40	0.36	0.26	0.23	0.17	
0.00 / 1.000	0.75	0.64	0.66	0.47	0.35	0.25	0.23	0.16	

Results shown
on the
Ratio Card

CT...	Res...	Exc...	R...	Assessment	Co...	
Assessments for 60044-1						OK
Parameter	Auto	Manual				NOK
FS	OK	?				
Class	OK	?				
RCT	n/a	OK				
Ts	n/a	OK				
Kr	n/a	OK				
Ready						

Results shown on the Assessment Card



Abstract of the test report viewed within the CPC Explorer

Ratio Test

The ratio test measures the current ratio of the CT with consideration of the external burden or the rated power. No external burden is necessary, burden is part of modeling therefore a recalculation of current error with different burden is also possible after the test. The results from the ratio test are displayed on the screen in different cards:

- The Ratio card shows the polarity, the turns ratio error, composite error, current ratio error and the phase displacement dependent on primary current and operating burden (defined in the CT-Object card).
- The Ratio table shows the current ratio error dependent on current and the nominal burden
- The Phase table shows the phase displacement dependent on current and nominal burden.

After the measurement is completed, the Ratio card allows the burden and / or primary current (I-p) to be changed to allow the effect on the ratio and / or phase error to be observed. Possibility to compensate the ratio error of a CT used within a delta connected Transformer. All results that are visible on the screen will be stored automatically in the test result file

Assessment

The Assessment card shows the automatic and manual assessment of the CT as a result of the testing.

The automatic assessments are based on a comparison of the measured values to the requirements of the selected standard and the selected parameters on the CT-Object card. Additionally a manual assessment can be done.

Comprehensive Test Reports

All measured results can be saved as a standard XML file on a removable Compact Flash card. This card can be read by a Windows™ PC allowing the test report to be easily imported into Microsoft Office™ software for further processing (e.g. Microsoft Excel™, Microsoft Word™, Microsoft HTML).

The Compact Flash card can also be used for any future software updates that may be required for the CT Analyzer. This can be carried out by downloading the latest firmware updates from OMICRON's website and transferring it to the device.

With the reomote control interface it's possible to fully control the device from PC and to up and download test reports to the CT Analyzer.

CT Analyzer Benefits

OMICRON's CT Analyzer delivers a unique capability for the fast comprehensive testing and calibration of current transformers, for protection and metering engineers as well as CT and switchgear manufacturers.

Unique Features

- Very small and lightweight (< 8kg/17lb), particularly beneficial for on-site testing.
- First portable device that can test CTs built according to IEC 60044-6 with defined transient behaviour.
- Reduced commissioning time due to fully automatic testing according to IEC 60044-1, IEC 60044-6 and IEEE C57.13 within seconds.
- Safe operation due to a maximum output voltage of 120 V.
- Automatic analysis of CTs with unknown data ("guesser" function patent pending).
- Test of CTs with very high knee point voltages (up to 15 kV)
- Precise measurement of ratio error and phase displacement up to x-times the rated current and for all burden values without the need to connect burden hardware, independent of the application (e.g. bushings and GIS).
- Automatic demagnetization of the CT after the test.
- Data storage on a removable Compact Flash (CF) card, which can be read by any standard memory card reader.

Calibration and Assessment

- Calibration of measuring transformers: A typical accuracy of 0.02 % / 1' enables field calibration and verification of class 0.1 CTs for metering.
- Assessment of protection transformers: Automatic result assessment according to the defined standard (IEC 60044-1, IEC 60044-6 or IEEE C57.13-1993) using implemented expert knowledge (regarding standards, etc.) even for CTs defined according to IEC 60044-6 with defined transient performance (TPS, TPX, TPY, TPZ).

Reporting

- Automatic test report generation. Viewing and printing of test reports on a PC using the CPC Explorer or Excel File Loader.

Advantage of Simulation

- Existing test reports can be loaded at any time to recalculate the test results for different burden values and primary currents. This way, no further on-site measurements are necessary to verify whether a changed burden influences the behavior of a CT. The recalculation of the test results can be easily performed in the laboratory using the existing measurement data either on the CT-Analyzer, within Excel File Loader or by using the remote control interface.

Remote Control and Test Automation

- Remote interface to integrate CT-Analyzer into an automatic production process. CT-Analyzer can fully be controlled over the remote interface. All parameters can be read from the device or from a test report with a simple to use software interface.
- Possibility to create user defined test reports using the Excel File Loader by adaptation of sample software running under visual basic or C++.
- The "CTA Quick Test" enables a large variety of measurements by using the CT Analyzer as Multimeter with integrated current/voltage source (e.g. measurement of Burden, L, C, ratio, polarity).

CT ANALYZER
The unique analyzing solution
for current transformers.
[European Patent EP 1 398 644 A1]



Measurement of CT parameters

General

- L_s (saturated inductance)
- L_u (unsaturated inductance)
- K_r (remanence flux)
- T_s (secondary time constant)
- R_{ct} (winding resistance)
- current ratio error and phase error for all measurement points defined in the standard
- Ratio up to 50 000 : 1
- Primary current up to 999 000 A

IEC 60044-1

- ALF/ALFI (accuracy limiting factor according direct / indirect measurement method)
- FS/FSI (instrument security factor according direct / indirect measurement methode)
- K_x (dimensioning factor according to class PX)
- E_k / I_e (accuracy limiting voltage/current according to class PX)
- N (turns ratio according to class PX)
- $\varepsilon_t, \varepsilon_c$ (turns ratio and composite error)
- V_{kn} / I_{kn} (knee-point voltage/current according to IEC 60044-1)

IEC 60044-6

- K_{ssc} (rated symmetrical short-circuit current factor)
- K_{td} (transient dimensioning factor)
- N (turns ratio according to class TPS)
- ε_t (turns ratio error according to class TPS)
- ε^{\wedge} (peak instantaneous error)
- E_{max} (maximum emf voltage incl. the transient component)
- V_{kn} / I_{kn} (knee-point voltage/current according to IEC 60044-6)

IEEE C57.13 (ANSI)

- V_b (secondary terminal voltage rating according to IEEE C57.13)
- V_{kn} / I_{kn} (knee-point voltage/current according to IEEE C57.13 (30° and 45° tangent))



Technical Data

OMICRON's CT Analyzer hardware includes:

- Galvanically insulated electronic generator output
- Two galvanically insulated voltage measurement inputs
- Internal current measurement
- Compact flash card to store test results and update the device software

The CT Analyzer conforms to CE and fulfills the requirements of IEC in terms of EMC and safety standards.

Hardware Specifications

Generator / amplifier section

Output current	0 ... 5 A rms (15 A peak)
Output voltage	0 ... 120 V
Output power	0 ... 400 VA (1500 VA peak)

Ratio accuracy

For 0 VA up to rated power

ratio 1 ... 2000	0.02 %
ratio 2000 ... 5000	0.03 %
ratio 5000 ... 10000	0.05 %

Phase measurement

Resolution	0.1 min
Accuracy	1 min (for $\cos \varphi$ 0.8 ... 1)

User interface

Display readable in bright sunlight.
Numerical keyboard and function keys for operation.

Data transfer

Compact flash card to store test results and for transfer of data to a PC. Data can be read with a standard PC and the CPC explorer. Remote interface to read/write data from PC and to fully control the device with the PC.

Standards

Safety	EN60950 and EN61010
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Calibration

It is possible to buy a calibration CT certified from a national test institute with a ratio accuracy of 0.02 %. With this calibration CT a permanent check of the CT-Analyzer accuracy is possible. The device must not be sent back for calibration, only the calibration CT.

Mechanical Data

Weight	8 kg / 17.4 lb (without accessories)
Dimensions (W x H x D)	360 x 285 x 145 mm / 9.2 x 7.2 x 3.7 in.

Supply voltage

Nominal voltage	110 V – 240 V ± 10 % 50 / 60 Hz (500 VA)
Permissible range	85 V – 265 V

Ambient temperature	-10 ... 50 °C / 14 ... 122 °F
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Ordering Information

CT Analyzer CT1 incl. accessories

CT Analyzer standard package
Accessories set for CT Analyzer

VE000652

VE000650
VEHK0650

CT Analyzer standard package

CT Analyzer hardware
Compact Flash card 128 MB (memory space for at least 416 test reports)
USB 2.0 Compact Flash card reader
USB - RS232 Converter and Cable
RS232 Nullmodem Cable 3m
Power cord (country-dependent)
User Manual
CT Analyzer PC Toolset software for CT Analyzer with remote control software, CTA Quick Test,
CT Excel File Loader and other tools.
CPC Explorer software, PC software for visualization and handling of test reports

VE000650

VEGG0650
VEHZ0653
VEHZ0655
VEHZ0014
VEHK0032

VESD0605

VESM0800
VESD6004

Accessories set for the CT Analyzer VEHK0650

Coax measurement cable set with banana plugs, 2 x 3 m, 1 x 10 m
Battery clamp set with 4mm banana sockets for primary side connection, consisting of one red
and one black battery clamp
Crocodile clamp set (2 x red, 2 x black), 20 mm opening width
Grounding (PE) cable (gn/ye), 1 x 6 m, 6 mm², used for protective earth connection
Flexible terminal adapters with 4 mm banana socket (6 x)
Carry bag for the CT Analyzer

VEHK0651

VEHZ0652
VEHZ0656
VEHK0615
none
VEHP0018

Additional Accessories for CT Analyzer

Coax measurement cable with banana plugs, 3 m
Coax measurement cable with banana plugs, 6 m
Coax measurement cable with banana plugs, 10 m
Coax measurement cable with banana plugs, 15 m
Coax measurement cable with banana plugs, 100 m
Crocodile clamp for secondary side connection with 4 mm banana socket (1 black and 1 red clamp)
Transport case for the CT Analyzer with wheels
Calibration CT, 2000:1 / 2000:5, class 0.02
CT Analyzer Add-On Manual

VEHK0654
VEHK0652
VEHK0653
VEHK0655
E0521400
VEHZ0651
VEHP0068
VEHZ0649
VESD0607

OMICRON is an international company providing innovative power system testing solutions. With sales in more than 120 countries, offices in Europe, the North America, and Asia, and a worldwide network of sales partners, OMICRON has established a reputation as a supplier of leading edge technology.

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OMICRON Sales Service Centers

Europe, Middle East, Africa OMICRON electronics GmbH

Oberes Ried 1
A-6833 Klaus, Austria
Phone: +43 5523 507-0
Fax: +43 5523 507-999
info@omicron.at
www.omicron.at

North and South America OMICRON electronics Corp. USA

12 Greenway Plaza, Suite 1510
Houston, TX 77046, USA
Phone: +1 713 830-4660
1 800-OMICRON
Fax: +1 713 830-4661
info@omicronusa.com
www.omicronusa.com

Asia, Pacific OMICRON electronics Asia Limited

Suite 2006, 20/F, Tower 2
The Gateway, Harbour City
Kowloon, Hong Kong S.A.R.
Phone: +852 2634 0377
Fax: +852 2634 0390
info@asia.omicron.at
www.omicron.at



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t: +44 (0)1224 710077 | **e:** info@tdcaberdeen.co.uk | **w:** www.TDCaberdeen.co.uk

a: TDC Aberdeen Ltd | Bankhead Industrial Estate | Bankhead Avenue | Bucksburn | Aberdeen | AB21 9ET