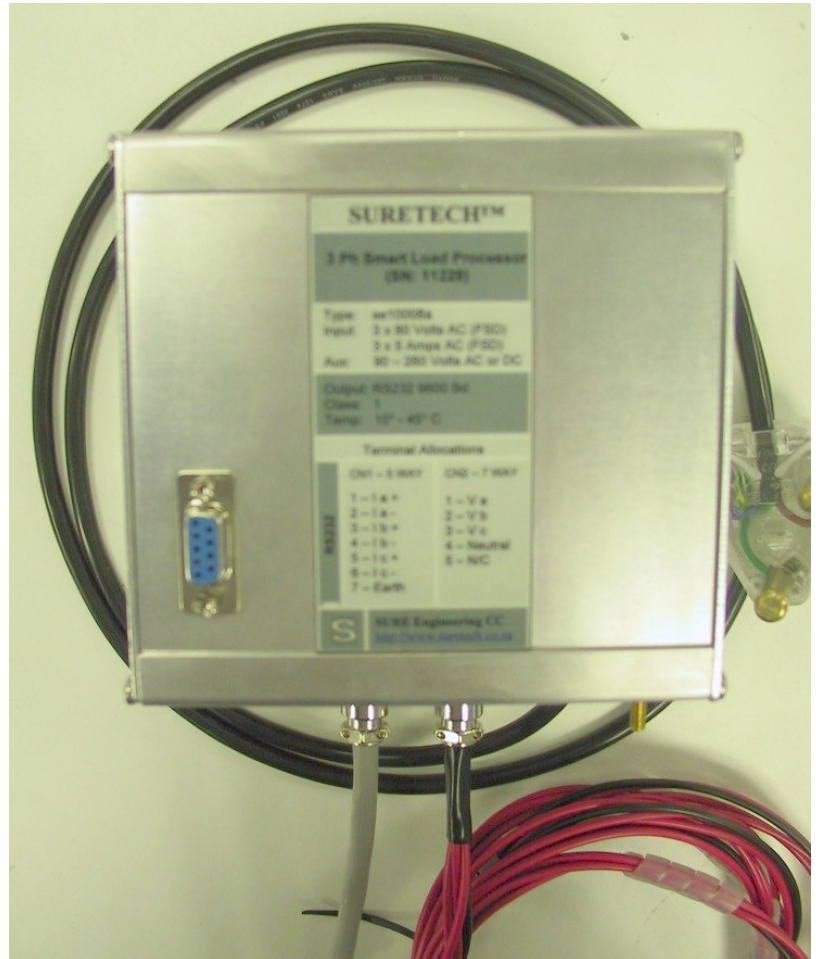


Everyone needs instruments for measuring electrical parameters.

SURETECH

Smart Load Processor for 3 phase **Current, Voltage, Phase, kW, kVA, kVAR (etc) logging**



The SURETECH Smart Load Processor (SLP) for three phase, measures ALL electrical parameters in one instrument. Load flow analyses can be quickly and efficiently performed. The SLP logs and outputs: Voltage, Current, kW, kVA, kVARs, Power Factor, Phase angle, kWh, kVAh, kVARh and others if required. All of these parameters are downloaded to your computer directly into the RS232 port. Any of these parameters could (if ordered) also be sent to an analog output that feeds 4-20mA, or 0-5mA etc. The SURETECH SLP is THE most cost-effective method to measure ALL electrical parameters at the same time. A battery enables the SLP to keep track of real time in the event of power outage.

The built-in data logger provided uses a 1Mbyte Data Flash memory. Each logging record uses 66bytes, so if for example: a ten minute sample was selected by the user, a download would only be needed after 3 months. Other means of data recovery are also available such as telephone modem, GPRS wireless modem etc. Data can be imported into Excel spreadsheet, and manipulated by the user, or us.

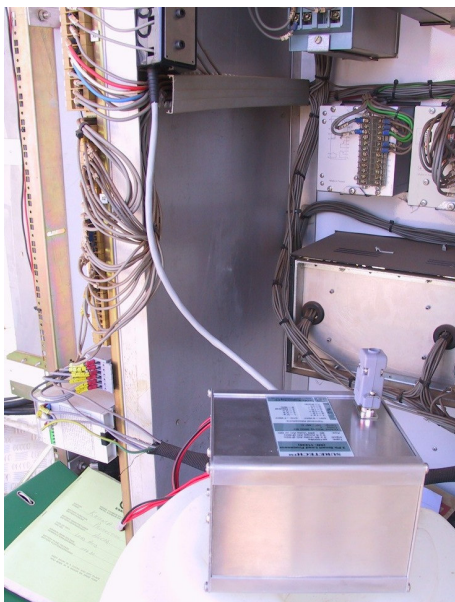
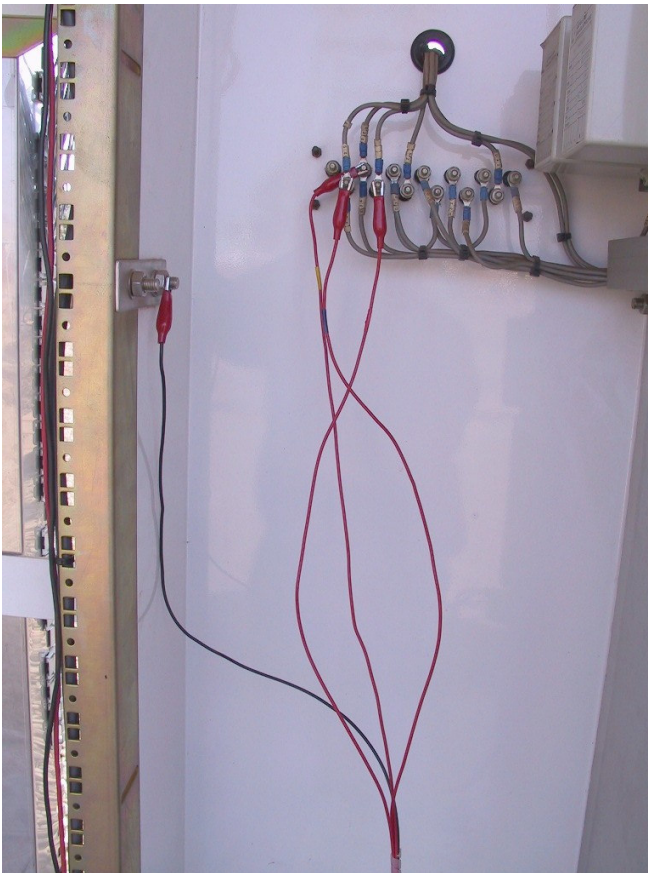
The unique SURETECH CT-Pod is a three phase, split core Current Transformer that can measure 5A CT secondaries directly without breaking into the protection or metering wiring of a sub-station; the CT-Pod can also measure up to 100A directly. This split-core CT-Pod results in the fastest, and most flexible installation. Voltage interface is also extremely simple using standard crocodile clips; other connection methods are also available.

Volume requirements can be met by rental OR instrument purchases.

General Features:

- ✓ Voltage input can be taken from 110Vac, 220Vac, or directly from our SURETECH Voltage Sensors to measure 1kVac to hundreds of kVac
- ✓ Current sensing is by means of the unique SURETECH split-core CT-Pod for ultra fast installations, requiring NO-BREAK in existing CT wiring
- ✓ RS-232 output is isolated from measuring circuits, feeds directly into a PC (Personal Computer)
- ✓ RS232 interface provides user with easy connection to Windows Hyperterminal for no-cost software
- ✓ Auxiliary Power Supply options available (90V to 260V is standard); 10V to 40V ac/dc also available
- ✓ Higher current inputs can also be sensed with SURETECH Rogowski sensors (air-cored technology)
- ✓ Separate SURETECH sensors are available to measure above 250Vac for MV applications
- ✓ Transient suppression on inputs and outputs, with galvanically isolated
- ✓ Backup to provide support for design, application, installation, and maintenance information

Pictures: Top left – Voltage connections; top right – CT-Pod showing NO-BREAK connections
bottom left – SLP; bottom right: large quantity SLPs available



Smart Load Processor Performance & characteristics:

Measurand	Determined By	Analog Accuracy	Digital Accuracy	Class
Current	<ul style="list-style-type: none"> Signal is conditioned, precision rectified, integrated with 200mS time constant (other TCs are available) Signal is A to D converted 	<ul style="list-style-type: none"> Pre calibrated using 1% components 	<ul style="list-style-type: none"> Error 12bit Software calibrate-able to 0.05% 	0.5
Voltage	<ul style="list-style-type: none"> Signal is conditioned, precision rectified, integrated with 200mS time constant (other TCs are available) Signal is A to D converted 	<ul style="list-style-type: none"> Pre calibrated using 1% components 	<ul style="list-style-type: none"> Error 12bit Software calibrate-able to 0.05% 	0.5
Phase Angle	<ul style="list-style-type: none"> V & I are derived from VT and CT and signal conditioned Signals are fed to μProcessor, phase & period are measured to res of 2μS Out of range phase and period checking eliminates noise Phase error compensation improves accuracy if necessary 	<ul style="list-style-type: none"> CT & VT Calibration error $\pm 20\mu$S 	<ul style="list-style-type: none"> μProcessor crystal accuracy ± 20ppm ± 20ppm per $^{\circ}$C (others are available) Measurement uncertainty $\pm 20\mu$S 	
kW kVAR kVA Power Factor	<ul style="list-style-type: none"> V & I samples are multiplied in μProcessor with very low error Sine(angle) and Cosine(angle) are calculated with maximum error contribution from software of 0.01% 	<ul style="list-style-type: none"> No additional error 	<ul style="list-style-type: none"> No additional error for kVA Software error contribution <0.01% for kW, kVAR, and PF 	
Frequency	<ul style="list-style-type: none"> Voltage periods are measured to measure power system frequency Errors are due to μProcessor crystal 	<ul style="list-style-type: none"> No additional error 	<ul style="list-style-type: none"> Crystal: 2 parts in 10^5 Measurement uncertainty $\pm 20 \mu$S 	

Smart Load Processor Configuration options (can be User Specified):

Feature	Range	Description
Standard SLP (3 ph)	<ul style="list-style-type: none"> US ratios for CT and VT 	<ul style="list-style-type: none"> AI modular enclosure
Current Inputs: (CT-Pod)	<ul style="list-style-type: none"> 0-1 Amp AC 0-5 Amp AC 0-100Amp AC 	<ul style="list-style-type: none"> Split core GOSS CT Others available
Voltage Inputs	<ul style="list-style-type: none"> 0-80 V ac (ph voltage) 0-150 V ac 0-260 V ac 0-1kV to hundreds of kV ac 	<ul style="list-style-type: none"> Ultra-linear HV resistive front end input Dielectric voltage sensor also available
Outputs	<ul style="list-style-type: none"> RS 232 RS485 multi-drop IR window 4-20mA 	<ul style="list-style-type: none"> 9600Bd Excel compatible
Aux PSU	<ul style="list-style-type: none"> 10-40V ac/dc 90V-260V ac/dc 	<ul style="list-style-type: none"> battery / mains voltage



SURE Engineering CC
 PO Box 63, Steenberg, Cape Town 7947
 South Africa
 Reg CK 87/11172/23

Website: <http://www.suretech.co.za>
 email: info@suretech.co.za
 Tel:+27-21-701-8529 Fax:+27-21-701-9183
 Cell: +27-83-555-0149