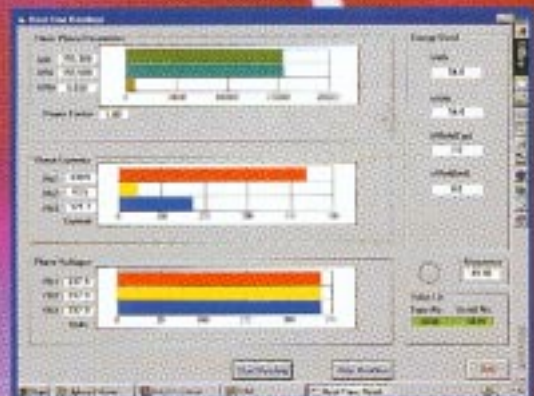
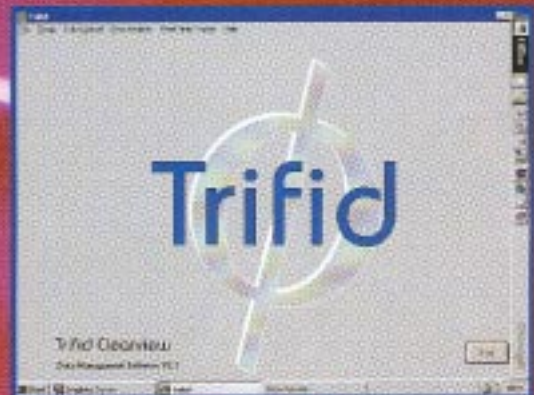
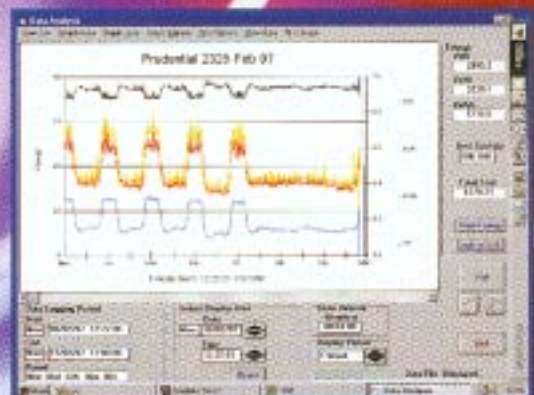




# Portable Power Monitoring System



To control and reduce your energy cost, you must analyse your load and highlight waste. All will be revealed with a Trifid survey. Measure rms amps, rms volts each phase, kW, kWh, kVA, kVAh, kVAR, kVArh Energy, Power Factor and Frequency.



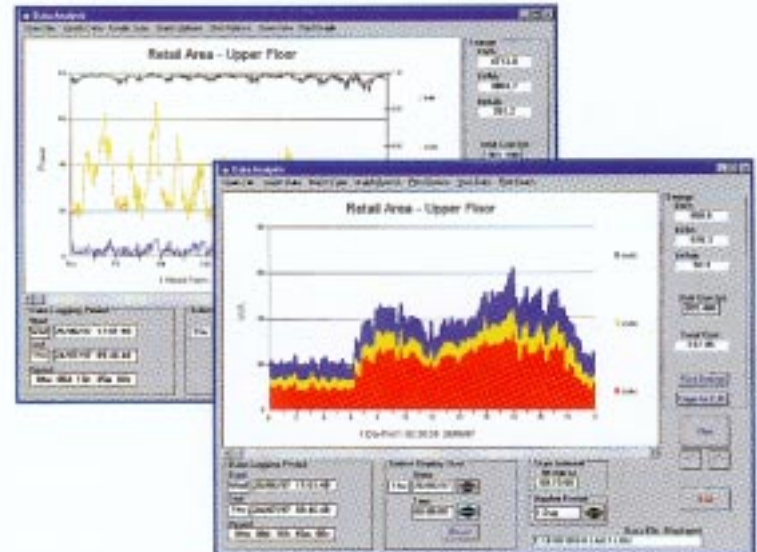


# Electrical energy monitoring made easy - Trifid includes all the hardware and software you need.

Trifid is a Power Monitor & Data Logger suitable for measurement on single phase & 3 phase 3 or 4 wire loads. Current and voltage ratios are programmable to allow measurement on medium or high voltage loads.

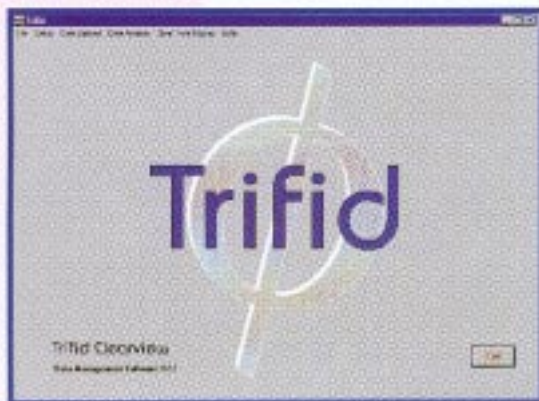
Current inputs feature 'AUTOROTATE' to sense direction, which removes the need to consider current transformer rotation.

Voltage inputs are via fused safety probes or a link to the Trifid mains supply.



**GRAPHICAL DISPLAYS**

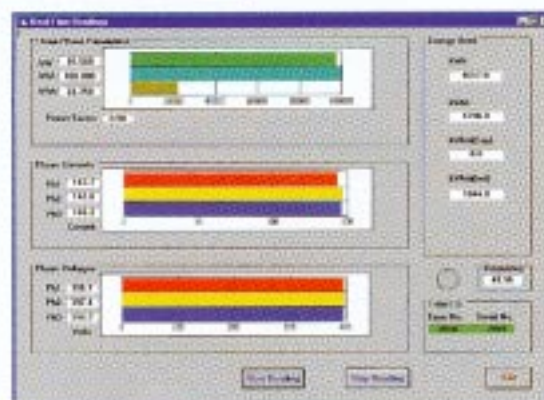
**SPREADSHEET RESULTS**



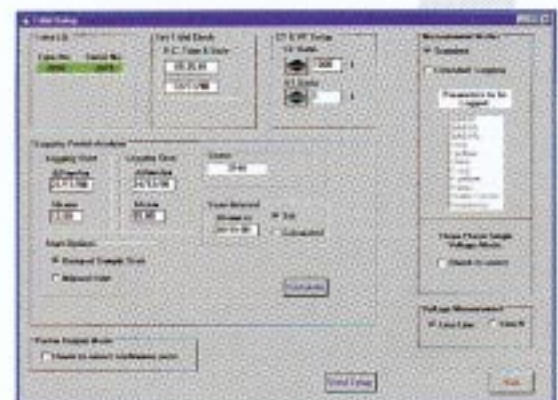
The Trifid Clearview software provided with the instrument is easy to install and compatible with Windows 3.1, 95, 98 and NT. Logged data downloaded to the PC can be printed in spreadsheet or graphical format or exported to other Windows applications. The RS232 connection can drive a serial printer directly, printing kW, Power Factor and Time while logging.

The instrument can be configured via the front panel or a PC. Up to 7850 scans can be recorded at intervals of 1 second upwards with the option of timed or manual start. The chosen scan interval, automatically calculates the total logging period and for example 4 minutes will log all parameters for one week.

The "Log all parameters" mode logs each phase volts, amps, kW, kWh, kVA, kVAh, kVAh, kVAh, Power Factor and Frequency.

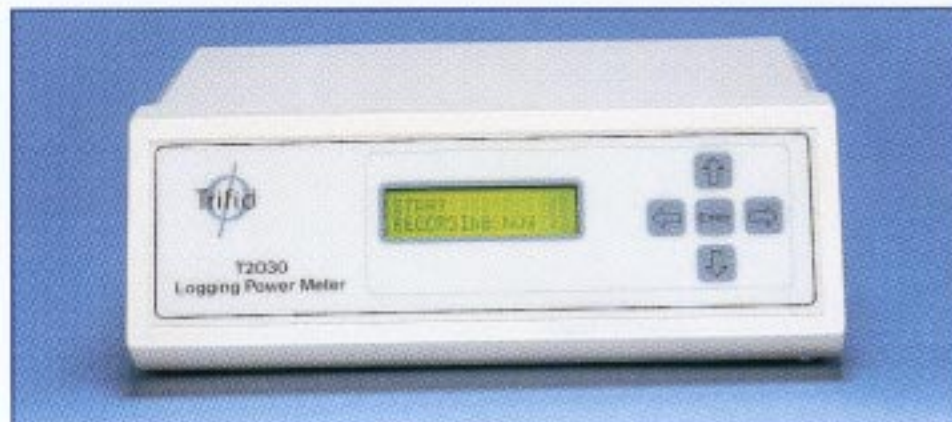


**REAL TIME DISPLAY**



**TRIFID SETUP**





Simple key push operation and clear backlit LCD provides easy access to all measurements and logging parameters.....

#### MEASUREMENT

274.5 kw  
814.0 kWh

280.5 kVA  
833.0 kVAh

57.60 kVAR  
0.000 kVARh C

57.60 kVAR  
174.0 kVARh I

0.98 P.F.  
49.96 Hz

248.6 U ph1  
140.6 A ph1

249.6 U ph2  
839.9 A ph2

250.0 U ph3  
143.3 A ph3

#### STATUS

RECORDING

START 21/02/98  
TIME 01:00:00

DATE:- 21/02/98  
TIME:- 02:48:30

SCANS RECORDED  
336

TIME FROM START  
0dy 2hr 48mn

SCAN INTERVAL  
00:00:30

1/3 PHASE USING  
VOLTAGE INPUTS

#### ON-SITE SETUP

LEAVE SETUP?  
NO (YES)

START MODE  
TIMED

START TIME  
01:00:00

START DATE  
21/02/98

SCAN INTERVAL  
00:00:30

RECORDING TIME  
1Dy 2Hr 10Mn

LOGGING MODE  
LOG ALL READINGS

CT MULTIPLIER  
1000.0

UT MULTIPLIER  
1.0

VOLTAGE I/P  
1/3Ph VIA U1, 2, 3

U DISPLAY  
PHASE TO NEUTRAL

CURRENT TIME  
02:48:30

CURRENT DATE  
21/02/98

PRINTER O/P  
ON



#### YOUR SYSTEM INCLUDES . . . .

The instrument is supplied in an alloy clad case with space for Trifid and all accessories. No extras are required except current transformers with 1 amp secondaries chosen from the extensive range available to suit your application.

# Trifid T2030 Specification

## Voltage Inputs

Type	-	3 Phase, 3 or 4 wire
Nominal Value $U_n$	-	415V Line, 240V Phase (60Vph @ reduced accuracy)
Operating Range	-	0.5 to 1.2 x Nominal
Maximum Overload	-	2 x $U_n$ for 2 Seconds
Voltage to Ground	-	300V AC Max
Maximum Burden	-	350uA Per Phase
Frequency Range	-	45-65Hz Fundamental
Harmonic Content	-	20th Harmonic Max

## Current Inputs

Type	-	Current transformer
Nominal Value	-	1A Per phase (secondary into instrument)
Operating Range	-	0.05 to 1.2 x nominal
Maximum Overload	-	6 x nominal for 2 seconds
Voltage to Ground	-	0V - Pin1 (Black S2 Lead) is Connected to Earth
Maximum Burden	-	0.01VA Per Phase Max
Frequency Range	-	45-65Hz Fundamental
Harmonic Content	-	20th Harmonic Max
Starting Current	-	0.2% of nominal

## Accuracy

Test Conditions	-	Temperature 23C
	-	Voltage 50% to 120% of $U_n$
	-	Current 5% to 120% of nominal 1A
	-	Power Factor +/-0.5, +/-0.8, 1.0
	-	Warm up time 1 Hour
Instantaneous W	-	Class 1 (IEC 1036)
Instantaneous VAr	-	Class 2
Accumulated kWh display	-	Class 1 (IEC 1036)
Accumulated kVAh display	-	Class 2
Instantaneous V	-	+/-1.0%, +/-2 Digits
Instantaneous I	-	+/-1.0%, +/-2 Digits
Instantaneous P.F.	-	0.2 Deg.
Frequency	-	+/-0.02Hz +/- 1 Digit

## Logging

Parameters Logged	-	Power kW
	-	Apparent Power kVA
	-	Reactive Power kVAh
	-	Power Factor (Calculated)
	-	Energy Totals kWh, kVAh, kVAh
	-	Frequency
	-	Individual Phase Voltages V1,V2,V3 (Not logged in Extended Mode)
	-	Individual Phase Currents I1,I2,I3 (Not logged in Extended Mode)
Scan Interval	-	2 Seconds to 18 Hours in 1 Sec Steps
Data Storage	-	Standard mode 3140 Scans (34540 Readings)
	-	Extended mode 7850 Scans (39250 Readings)
Typical Recording Time	-	66 Days (@ 1/2h logging, Standard Mode)
	-	166 Days (@ 1/2h logging, Extended Mode)
Minimum Period	-	1 Hour 45 mins (@ 2sec logging, Standard Mode)
Maximum Period	-	1 Year
Data Retention	-	10 Years (Lithium battery backed RAM + Set-up in FRAM)
Start Modes	-	Instantaneous - Via instruments front panel buttons
	-	Timed Start - Delay up to 1 Year Max

## Display

Type	-	16 Character 2 Row Supertwist LCD
Visibility	-	Bright sunlight to Total darkness (LED Backlit)
Parameters Displayed	-	Real Time display of all measurements
	-	Operating Status
	-	Time and Date
	-	Dynamically updated Logging Parameters
	-	Instrument Set-up (Alterable by the user)

## General

Temperature	-	Operating 0 to 50C
	-	Storage -25 to 70C
Humidity	-	Operating <75% Non Condensing
	-	Storage <85% Non Condensing
Standard Instrument	-	
Dimensions	-	235 x 210 x 85mm
Outer Case	-	Material - High-Impact Polystyrene (UL 94 HB)
Weight	-	2.4Kg

## Mains Supply to Instrument

Type	-	Single Phase, 45 to 65Hz
Voltage	-	230V (120V optional)
Power	-	10W Max
Isolation	-	3.25kV (Inputs)
	-	1.5kV (Supply L&N to E)

### Note on 3 phase accuracy when using only one voltage input -

Accuracy may be reduced when the 'V1 Input Link' is used instead of the voltage probes. This is due to the following factors. The voltage on phases two and three are assumed to be the same as phase one. The system power factor is derived from phase one voltage only.

## Warranty

Covers any defect in material or manufacturing for two years. Our policy is to continuously improve our products and we reserve our right to change our specification.