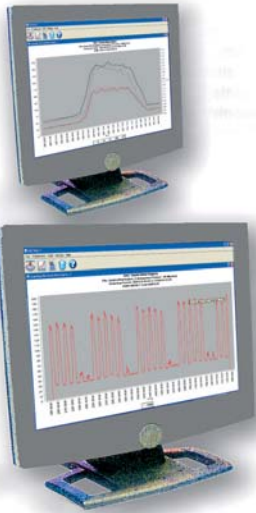


k-Wattch Portable kWh Metering & Recording

k-Wattch precision instruments represent the best value in electrical demand recording. Useable as a clip-on multi parameter meter to display all line currents and kVA demand, alternatively connect to a single phase socket for 1Ø or 3Ø measurements of voltage, current, PF, KW & KVA with optional storage to a plug-in memory stick.



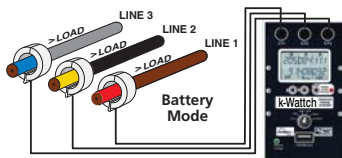
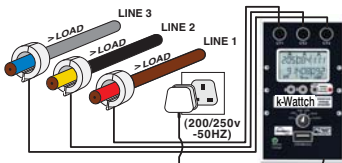
- ❑ High Efficiency Demand Analysis
- ❑ Fast Safe Installation, Auto Set-Up
- ❑ Memory Stick Data, CRC compatible
- ❑ 3Ø/1Ø Mains or Battery Operation
- ❑ Magnetic Back for Safe, Secure Fixing
- ❑ Deltrax 5 Energy Use & Cost Software



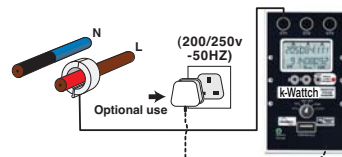
Connection Modes

V-Trac 3Ø VOLTAGE REFERENCE FROM 1Ø SOCKET

k-Wattch Clip-On CT's have sensors capable of identifying the phase of each unarmoured cable. This enables all three voltage vectors to be used in calculation of accurate values of 3 phase kW, PF and kWh, safe and simple installation, no 415v. connection required.



BATTERY Mode: Auto selected when no voltage is connected. The k-Wattch internal battery provides for up to 7 days of operation. KVA is calculated from preset nominal voltage with PF at unity. An invaluable tool for phase balance, demand excursion and other preventive maintenance investigations.



1Ø APPLICATIONS: Sensed by the connection of 1 CT only k-Wattch may be used with a direct voltage connection or in battery mode using 240v as a nominal voltage reference value

Note: k-Wattch is not designed for 2Ø use or 2 wire T circuits.



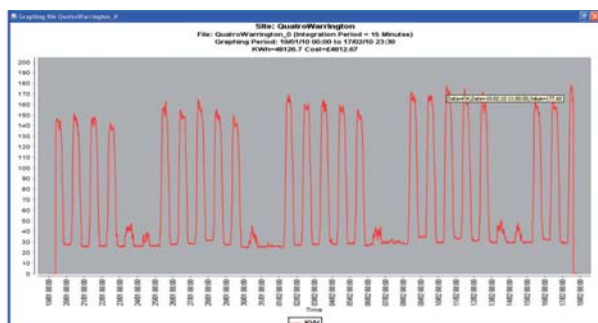
RECORD ONTO MEMORY STICK

k-Wattch can be used with or without a USB Memory. When the Memory Stick is inserted and initiated, data samples initially measured at a rate of 1000/sec. will be condensed into 15 min. integration period values for analysis purposes



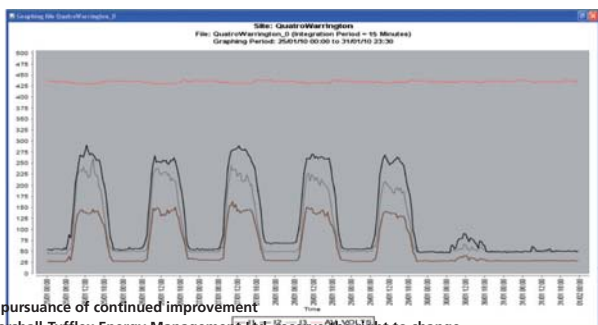
k-Wattch
Full standard kit

k-Watch & Deltrax 5 Memory stick recordings can be graphically displayed on a monthly, weekly or daily basis or alternatively processed in EXCEL format



Monthly kW & kVA plot

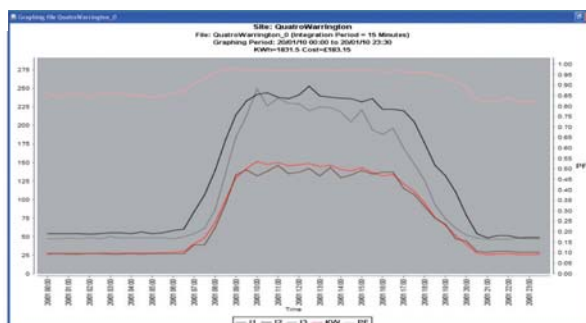
A typical recording profile of month may be matched to Utility billing dates. It will show any repeating pattern of demand excursions and base load variations. The kWh total influences the energy saving targets.



In pursuance of continued improvement Marshall-Tuffex Energy Management Ltd. reserve the right to change the design or specifications of its products without notification.

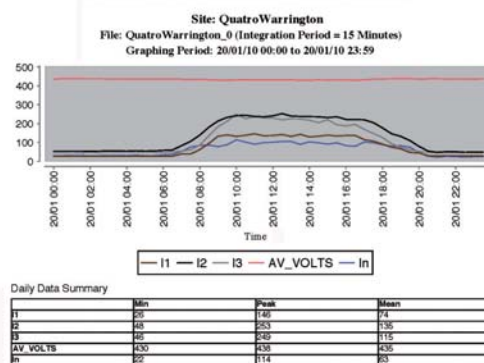
Weekly Parameter plot

Rogue demands, line current imbalance, wasteful night and weekend base loads are easily highlighted. Check for potential benefits from any kWh tariff change.



Daily Multi-plot

Plot all or any Line Current, kW, kVA, system Voltage or PF parameters plus a tabulation of integration period values essential for maintenance and task profiling.



Report Preparation plot

This facility condenses the month, weekly or daily profile on to 1 or 2 pages with a tabulation of timed values for peak and mean demand and kWh consumption values

SPECIFICATIONS & Facilities

Electrical

Current Input	Clip-on hinged CT's type KW32. plug terminated leads
CT Input lead	Dual colour coded 1.5m screened lead length
CT Amps Range	CT range selectable to 100, 200, 500, 1000A Ip.
CT Jaw Capacity	32mm ID, for use on non-armoured phase cables .
CT Insulation	2.5kV for 1 minute
Voltage Input	1Ø 200/250v 50 Hz., for both 1Ø & 3Ø (V-Trac) operation.
Voltage lead	1Ø 240v, 3Ø 415v auto selected V.Ref.in Battery Mode
Consumption	Operation and trickle charge 3W max, fusing 3A
Battery	Rechargeable 6v nickel metal hydride.
Battery life	1 week operation without any mains or external charge
Charge source	Integral trickle charge when mains lead connected.
External charge	12vdc charger, extends battery mode operation indefinitely.
Charge rate	4 hours to full charge with external charger.
Charge Indication	Battery Mode only: External charger – Red/Green LED Symbolic LCD display on switch on

STANDARDS

Calibration, Safety	IEC 1036 and IEC 61010-1, 300v CAPIII
EMC	EN55022: 1994. EN50082 Pt.1 1992

Memory

USB Memory Stick
Integration Period
Synchronisation
Data Transfer
Auto Data Stack

Approved type 2GB capacity, excess of 1 year recording span
Sampling rate 1k/sec., fixed 15min. integration (averaging)
Auto Sync on hour and quarter hour via internal clock
Direct upload via any USB port on PC running Deltrax 5.
New date and time stamped data stacked on end of any previously uploaded data for the same recording exercise

Display

Instantaneous
Cumulative

Page1: Phase Currents, System Volts and PF and kW
Page2: kWh consumption, Peak and Mean kVA.

Accuracy

Clip-on CT's
VTrac
Instrument

At 25°C for PF -0.7 – unity
Calibration $\leq \pm 1\%$ of reading at 10% IP & 100% Ip
Calibration $\leq \pm 1\%$; voltage amplitude balance $\leq 4v$.
Typical $\pm 2\%$ of reading over 10%-100% of range.

CONSTRUCTION

Material	ABS case, Neoprene boot with panel fixture magnet
Climatic	Operation -10°C - +50°C, 95% (nc) IP 30 protection
k-Watch Dimensions	210x115x60mm. Case 345x292x120mm. Weight 3kg

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