



# KLIK MULTI FUNCTION CLIP-ON KWh METER and CT's

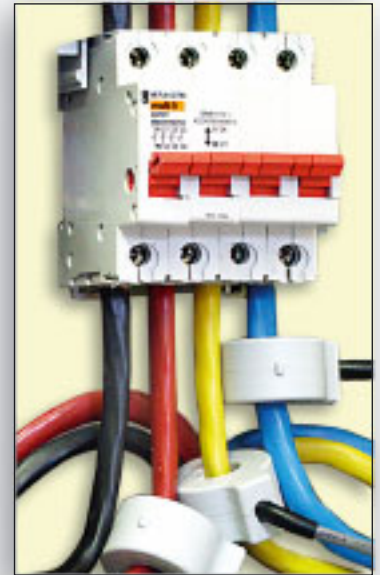
DIN RAIL MOUNT CASE  
WITH PLUG IN CONNECTIONS



FLEXeCLAMP CT's



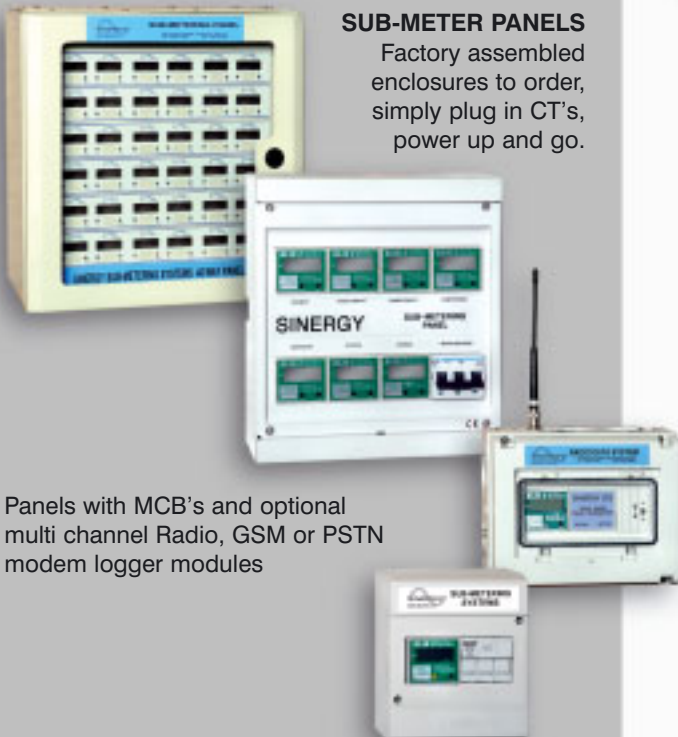
HINGED  
CLIP-ON CT's



BOBBIN CT's

### SUB-METER PANELS

Factory assembled enclosures to order, simply plug in CT's, power up and go.



Panels with MCB's and optional multi channel Radio, GSM or PSTN modem logger modules

### SUPER EFFICIENT INSTALLATION

SINERGY clip-on metering components bite deeply into the actual cost of installation or expansion of sub-metering systems.

Fitting is easy, supplies do not need to be isolated or cables disconnected. Separate cubicles, panel cutouts, CT mounting kits are all unnecessary. Bobbin CT's can even piggy back onto the 5 amp (1A) secondaries of existing CT's or ammeter switch wiring.

Distributed energy sub-metering systems are the most cost effective means of initiating & maintaining cost reductions.

A regular energy bill forces cost centre managers into frugal habits, energy use declines as waste is minimised.

Energy profile detail can be collected by BMS outstations or data loggers or both. KLIK meter pulses can be wired through buildings or transmitted across site by Sinergy's LP radio, across country by modem logger or to a web site by GSM



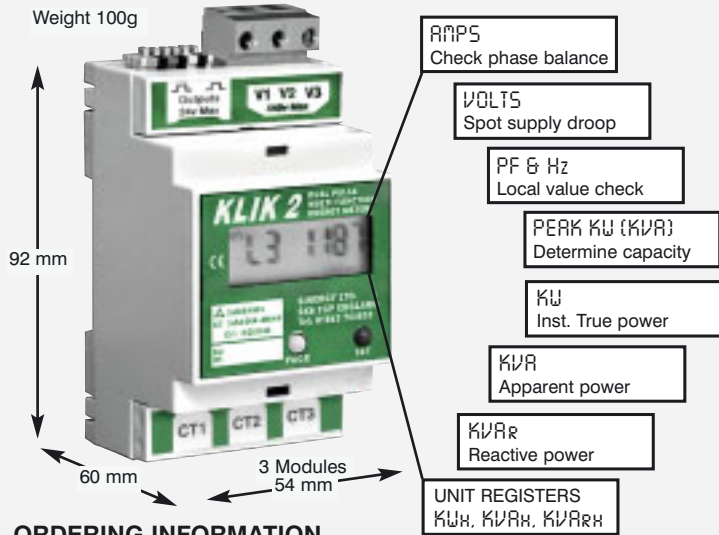
### ENERGY METERING AND MONITORING EQUIPMENT Sinergy Ltd

Station Road, Strines, Stockport, Cheshire. SK6 7GP England  
Tel: 01 663 764 833 Fax: 01 663 765 885

e.mail: info@sinergy-meters.com web: www.sinergy-meters.com

# OPERATIONAL SPECIFICATIONS

# Meter and CT's tested together Class 1 accuracy, true RMS metering



## ORDERING INFORMATION

### MODULE SELECTION

- KLIK 1** Display of KW Demand & KWh register, one pulse relay (KWh)
- KLIK 2** All parameter display as pictured above, two pulse relays;  
R1 = KWh, R2 = KWh or KVAh or KVAh (user selectable)
- KLIK 2 MD** As KLIK2 plus Peak Demand alarm relay, moving window prediction.

### VOLTAGE SELECTION (Neutral only required for single phase units)

- Single Ø Types** L - N 220v (180-250) or 120v (60Hz)
- Three Ø Types** L - L 400v (380-450) or 208v (60Hz)
- HV Types** L - L from VT (PT) 110v, 100v or 120v/60Hz. 2 or 3 element

## CT SELECTION

Sinergy Clip-On and Flexclamp CT's utilise a precision wound air cored inductor integrally coupled to a hybrid integrator module to provide an ac voltage output directly proportional to the ac current being measured. These enhanced Rogowski current transducers do not display the eddy current, hysteresis or saturation errors common to iron cored CT's. They are light and fully insulated for safety. Since they can be secured with a tie wrap, mounting hardware is not required.

## ELECTRICAL

- Current Input Bobbin, Hinged Clip-On or Flexclamp CT's; 400mV.FSD
- Current Range Ip 5A – 3000A
- Voltage See Voltage Selection. No auxiliary supply required
- Fusing Recommended: 3Ø 2A HRC, 1Ø 3A
- Consumption 0.5 VA max
- Insulation 2.5kV for 1 minute
- Connection Wireable voltage plug, CT 2m lead length plug terminated.
- Extension Leads CT's to 15m., . Pulse to 100m . (For extra lengths call factory)

## DISPLAY

- Type Hi-contrast custom LCD, 7 digits 8 x 4mm.
- Page change By key or auto scroll, 5 sec. display value refresh.
- Indication Displayed unit title. Secure prompted set up routine.
- Volatility Non volatile, auto restart after power outage.

## PULSE OUTPUTS

- Compatible with BMS Outstation 'digital' inputs
- Pulse relays Optically Isolated Volt Free N.O. contacts 24v/100mA
- Pulse Duration/Rate 120ms., Max rate 3 pulses per sec. 2secs to order.
- Pulse value (KWh) Ip dependant, for <80A-0.01, 100-800A-0.1, >900A-1.0

## ALARM

- Output SPNO relay 24v/100mA. contacts to external circuitry.
- Prediction Moving 15 or 30min averaging window calculation.
- Reset Automatic where average falls to set point.

## CONSTRUCTION

- Materials HDPS, SE87 Si Rubber
- Climatic Oper.Temp -10° -+55°C. 95%RH
- Protection Module IP20, Enclosure IP55.

## STANDARDS

- Calibration IEC 1036
- Safety IEC6 1010-1
- EMC EN55022/50082

Bobbin CT's use a special high permeability toroidal core to provide a high linearity voltage output particularly at very low currents. They are the smallest CT's available and will fit comfortably on 0-5A wires to an existing KWh meter or ammeter switch. The split core version is essential for HV monitoring where 1A or 5A circuits cannot normally be temporarily disconnected.

CT Style	CT Type	size ID	mm OD	Nominal Ip Amps range	Accuracy PF - 0.6 Lag-1 25°C. 50/60Hz	Clip-On Capacity mm Nominal	Outlines
Hinged Clip-On	C16	16	54	4 – 200	1.0	16 x 16 16	
	C32	32	72	4 – 500	1.0	32 x 18 32	
	C47	47	84	6 – 1000	1.0	42 x 25 47	
	C60	60	90	8 – 1600	1.0	58 x 25 60	
Flexclamp Clip round	F30	30 cm length		10 – 800	2.0	20 x 85 75	
	F40	40	10 – 1600	2.0	60 x 130 12		
	F50	50	20 – 2000	2.0	70 x 150 140		
	F60	60	20 – 3000	2.0	70 x 200 165		
	F75	75	20 – 3000	2.0	70 x 265 200		
Bobbin Thread On	B5	10	31	50mA – 5A	0.5	10	
	B10/30	10	31	50mA – 10/30A	1.0	10	
	B60	15	36	50mA – 60A	1.0	15	
	B120	16	36	50mA – 120A	1.0	16	
Clip-On	SB5/SB50	9	30	50mA – 5/50A	1.0	9	

**Note** Air cored CT's are electronically calibrated and cannot saturate. The tabulated Ip vales are nominal and represent the typical current carrying capacity of a cable or conductor that will fit the ID or aperture of the CT. Non standard ratings generally may be specified between 20% and 300% of the listed Ip ratings above.

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Tel: 01 663 764 833 Fax: 01 663 765 885 e.mail: info@sinergy-meters.com web: www.sinergy-meters.com

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