

EL-TAG

EL-TAG BRANCH CIRCUIT MONITOR

Multifunction Meter | Demand Monitor | Import Export | Harmonics | Power Quality

HIGH-END BRANCH CIRCUIT MONITOR FOR COMPREHENSIVE ENERGY MANAGEMENT!

Features of PN 8700M

- High / Low recording VLL, VLN, A, Hz, W, VA, PF, VAR value storage with time stamp
- Accuracy Class 1, 0.5s optional
- Voltage measurement up to 600 VLL
- Display Basic, Power, Energy, Demand for both Import and Export parameters
- Simultaneous sampling of Voltage and Current,
- Programmable PT & CT ratio
- User programmable Password Protection
- Measures THD and Individual harmonics up to 63rd order with a sampling rate of 512 samples / cycle
- Captures and measures power quality events: K factor, Crest factor, Sag / Swell, Interruption and Unbalance in accordance with EN 50160
- Representation of waveforms for instantaneous V, I, Sag / Swell, Voltage and current harmonics histogram for PN 8700
- Records events such as Sag / Swell for voltage with the time stamp in 1s duration
- CO2 emission, ON Hrs, Power Interruptions
- Max demand 4 high / 4 low, 12am snapshot, 31st day snapshot
- Demand update every second to forecast VA, W & VAR accurately
- Programmable starting current in % of 5A secondary. Default 10mA
- Programmable Auto scrolling time - 1 sec. to 10 sec. (Default 5 sec.)
- Programmable Energy format - Counter based or Resolution based
- Phase wise Voltage Sag & Swell Wave Forms
- LCD 8 parameter display at a time, 8 Digits energy
- Power save mode with Enable/Disable option
- Byte order option - Field Programmable Float / Little Endian / Big Endian data format
- High / Low recording VLL, VLN, A, Hz, W, VA, PF, VAR value storage with time stamp
- Energy resetting at 99999999 kVAh x MF.
- OLD register to store previously cleared Energy & Load hours

Features of EL-Tag

- True RMS measurements
- Simultaneous sampling of Volts & Amps
- User programmable password protection
- Supports both with Display and without display (ET5730 and ET5030)
- Multi-channel data collection
- Accuracy class 1.0
- Compact 193x39x27mm (LxWxH) dimension
- Direct measurement up to 63A Pass through
- Attachable to any MCB (for same Brand MCB)
- Stand alone with Din rail Mounting and RS 485
- Neutral current Measurements and configurable phase selection through RS485
- Auto learning of Phases or Neutral. (CT polarity to be maintained).
- Measures VLL, VLN, A, W, VA, PF and Wh
- Displays Basic, Power and Energy parameters for all channels
- THD voltage & current measurement for all channels
- 3 Phase, 3 channels or Single phase 9 channels
- Pluggable up to 12 making 3 phase 36 channels or single phase 108 channels
- Space saving of one MCB width, 1/4th MCB length per channel
- Space saving compact design for easy installation into existing panel boards
- Installation of 10 sec per channels
- Energy resetting @ 99999999 kVAh x MF.
- Dual source sensing (ET 5720)

Applications :

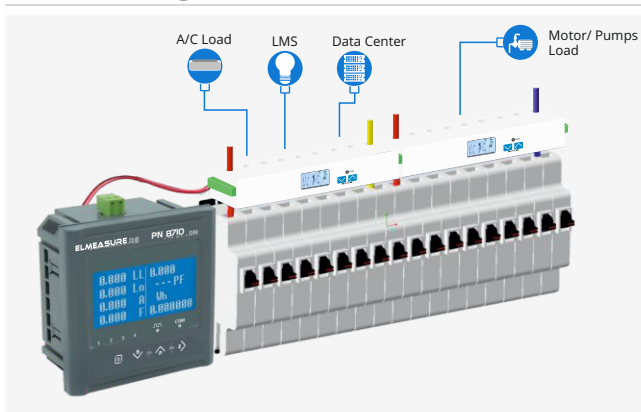
- For remote reading and control, the Eltag is supported by ELNet Software, designed for remote setup and data viewing and analysis
- Building Management System: With the open modbus protocol, the Eltag can interface any system, such as building management, HMI etc
- Compact : Ideal for Data Center
- Ideal for apartments / commercial complexes billing and load pattern study on individual phase
- Individual phase kWh measurement provides user flexibility of measuring 3 phase 3 channels or single phase 9 channels
- Primary current can be independently configured making it ideal for any kind of industry or upgradation

Note: Additional error of 0.1% of full scale, for meter input current below 500mA for 5A setting

Benefits

- Reduce Your Panel size by 50%
- Save upto 30% cost
- Retrofit made simple
- Installation by 1/10th of conventional method
- Self /Auto configuration by single click for all 108 device
- Built in Data storage for one month

Schematic Diagram



Product Selection:

	PN 8700M	ET 5030	ET 5730	ET 5720
	Graphical LCD	No Display	With Display	DS With Display
ACCURACY OPTION				
CLASS 1.0	■	■	■	■
Class 0.5S / Class0.2S	□	□	□	□
BASIC PARAMETERS				
V12, V23, V31	■	■*	■*	■*
V, V1, V2, V3	■	■*	■	■
A, A1 ,A2, A3	■	■*	■	■
Hz	■	■*	■	■
Angle V & A, RPM	■			
Unbalance V & A	■			
POWER PARAMETERS				
W, W1, W2, W3	■	■*	■	■
VA, VA1,VA2,VA3	■	■*	■*	■*
PF, PF1,PF2,PF3	■	■*	■	■
VAR, VAR1,VAR2,VAR3	■			
POWER QUALITY PARAMETERS				
THD - Voltage and Current upto	■ 63rd	■* 15th	■ 15th	■ 15th
Individual Harmonics upto 63rd	■			
K Factor, Crest Factor	■			
High Low - Instantaneous	■			
High Low - Last Minute	■*			
Voltage Sag, Swell & Interruptions	□			
Power cycles	■			
TEHD and TOHD	■			
Power THD and TDD	■			
INTEGRATED PARAMETERS				
Wh	■	■*	■	■
Vah	■	■*	■*	■*
VARh -Ind	■			
VARh-Cap	■			
Load Hours	■	■*	■*	■*
Phase Energy and Load hours	■*	■*	■*	■*
RD(IE)	■			
Wh- Total and Net	■			
VAh- Total and Net	■			
VARh - Total and Net	■			
ON hours	■			
CO2 Emission	■			
Bar graph (% Load)				
Volt squared hours	■			
Amp squared hours	■			
TOD PARAMETERS				
TOD Demand - Import	□			
TOD Energy - Import and Export	□			
DEMAND PARAMETERS				
Rising Demand (Sliding/Block - Programmable)	□			
Forecast demand	□			
Maximum demand	□			
Demand Profile 4High & 4 Low	□*			
ADDITIONAL FEATURES				
12am & 31st day snap shot	■*			
Data Logger - 1MB	□*			
Load Efficiency	■*			
Energy Trends	■*			
Dynamic communication	■*			
Dual Source				■*
COMMUNICATION				
RS485 (MODBUS)	■	■	■	■

Note:

■ Default

■* Default -
in communication only

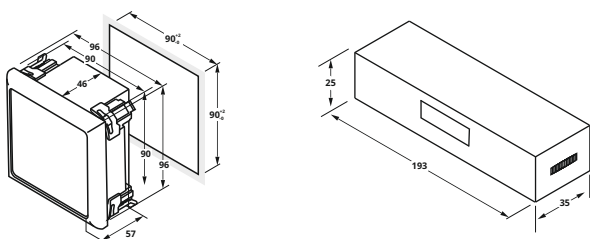
□ Optional

□* Optional -
in communication only

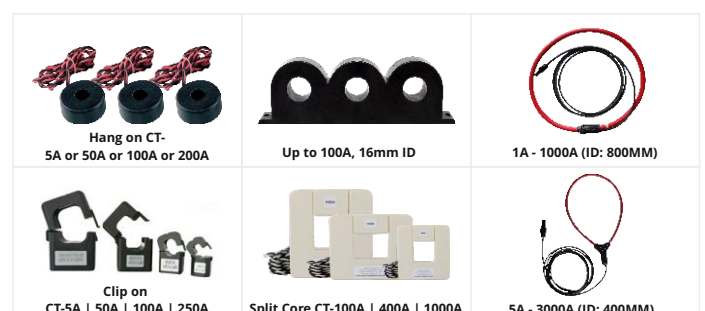
Technical Specification:

	PN8700M	EL-Tag
GENERAL CHARACTERISTICS		
Display type	LCD 4 row, 7/8 Parameter	
Instantaneous Digits		5 / no display
Integrated Digits	4	
Sensing / Measurement	True RMS, 1 Sec update time, 4 Quadrant Power & Energy	True RMS, 1 Sec update time. 2 Quadrant Power & Energy.
Rated voltage	50-600 VLL	
Rated current	10mA - 6A	10mA-6A, 50mA – 32A, 100mA – 63A
Frequency	45 - 65Hz	
Poles description	1P + N, 3P, 3P + N	3 phase 3 channel
Sampling rate	512 samples / cycle	64 samples / cycle
Measured Accuracy Class	Class 1 as per IEC 62053-21 / Class 0.5 / Class 0.2S as per IEC 62053-22 (Optional).	Class 1: IEC 62053-21 (Default) Class 0.5: IEC 62053-22 (Optional).
Programmable Setting	110 or 415V LL Nominal & Primary Programmable up to 999 kV. Burden: 0.2VA Max. per phase	
Permissible overload	120%, Burden: 0.2VA per phase	
External Fuse Rating	200mA	No fuse
CT PT Ratio Max	2000MVA Programmable	
Auxiliary supply	80-300V AC / DC	Self Powered
Power consumption	4VA nominal	
Data update rate	1 Sec.	
COMMUNICATION		
Device ID & Parity	1 to 247 & Odd, Even, None (Preferred Even)	
Protocol & Interface	Modbus. RTU, RS 485, TCP/IP (Optional Wifi)	RS 485 for stand alone
Baud rate	9600 bps to 38400 bps (Preferred 9600 bps)	
Isolation	2000 volts AC isolation for 1 minute between communication & other circuits	
ENVIRONMENTAL CHARACTERISTICS		
Operating temperature	-10°C to + 55°C (14°F - 131°F)	
Storage temperature	-25°C to +70°C (-13°F - 158°F)	
Humidity	5% to 95% non-condensing	
Altitude	Below 2000mts	
Measurement Category	CAT III	
Pollution degree	2 (As per IEC 61010)	
PROTECTION CLASS		
Ingress protection	IP 51 (IP 54 front facia optional) & Double Insulation (As per IEC 61010-1)	
ELECTROMAGNETIC COMPATIBILITY		
Electrostatic discharge	IEC 61000-4-2	
Immunity to Electromagnetic RF Fields	IEC 61000-4-3	
Conducted Immunity	IEC 61000-4-6	
Immunity to Magnetic Fields	IEC 61000-4-8	
Immunity to voltage dips and interruptions	IEC 61000-4-11	
Fast transient	IEC 61000-4-4	
Immunity to surge waves	IEC 61000-4-5	
Conducted and Radiated emissions	CISPR- 22	
SAFETY AND STANDARDS		
Construction	IEC/EN 61010-1 ed.3, CAT III, 300 V LN / 600 V LL , Protection class II.	
Standards	UL 61010-1, IEC/EN 62052-11	
MECHANICAL CHARACTERISTICS		
Weight	Unpacked 350 gms. Packed 450 gms. (It may vary based on optional features)	200 gms
Torque	1 N-m (For 5A)	0.4 N-m
Wire gauge	11 AWG (For 5A)	26 - 10AWG (4.0mm2) – Voltage and Communication

Mechanical Specification:



Current Transformers:





BM

BRANCH CIRCUIT MONITOR

Multi Channel Load Manager | Power Distribution Unit/System

COMPACT DEVICE TO ENROUTE MULTIPLE CHANNELS!

Features :

- Multi-channel data collection
- 3 Phase, 4 channels or Single phase 12 channels
- Displays Basic, Power and Energy parameters
- Optional Pluggable Ethernet (Default RS 485)
- Space saving compact design for easy installation into existing panel boards
- True RMS measurements
- Simultaneous sampling of Volts & Amps
- Accuracy class 1.0 as per IEC 62053-21, Class 0.5 as per IEC 62053-22.
- User programmable password protection
- Energy resetting @ 999999 KVAh × Transformer ratio
- Displays more than 25 parameters - Basic [VLL, VLn, A (Average & Phasewise), F], Power [W, PF, VA (Total & Phasewise)] and Energy [Wh, LH]

Note: Customization can be done for other parameters provided volume justify

Applications :

- For remote reading and control, the BM is supported by ELNet Software, designed for remote setup and data viewing and analysis
- Building Management System: With the open modbus protocol, the BM can interface any system, such as building management, HMI etc
- Compact : Ideal for Data Center
- Ideal for apartments / commercial complexes billing and load pattern study on individual phase
- Individual phase kWh measurement provides user flexibility of measuring 3 phase 3 channels or single phase 9 channels
- Primary current can be independently configured making it ideal for any kind of industry or upgradation

Note: Additional error of 0.1% of full scale, for meter input current below 500mA for 5A setting

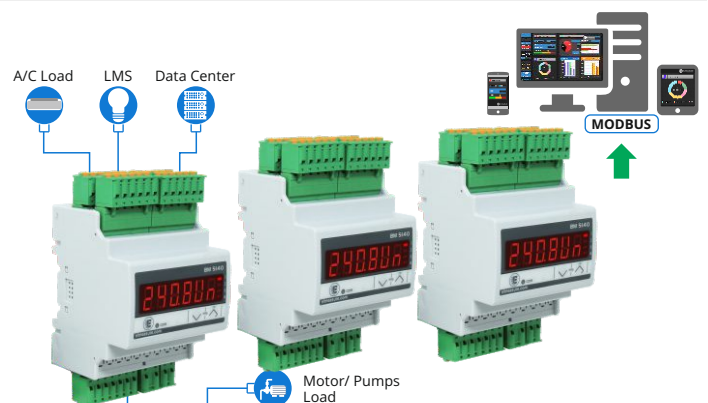
Current Transformers :



Technical Specification:

Specification	Description
Accuracy:	Class 1.0 (Default) as per IEC 62053-21, Class 0.5 as per IEC 62053-22 (Optional).
Sensing/ Measurement:	1:600
Sensing/ Measurement:	True RMS, 1 Sec update time; 4 Quadrant Power & Energy
Input Voltage:	4 Voltage inputs (V1 V2 V3 Vn) Programmable 110 or 415V LL Nominal (Range 80 to 550V LL) Primary Programmable up to 999 kV. <i>Burden:</i> 0.2VA Max. per phase.
Input Frequency:	45 - 65 Hz
Input Current:	Current inputs (A1 A2 A3) - Each channel is independently configurable. Primary Programmable up to 99 kA. <i>CT output :</i> Can be upto 1000 mV or 100 mA from Split core CT or Hanging CTs - Manufacturing option.
Aux-Supply	80 - 300V AC / DC, 40-70Hz. <i>Burden:</i> 4VA Max.
Display resolution:	1 row 6 Digit for Integrated, 4 Digits for Instantaneous
CT PT Ratio Max:	2000 MVA Programmable.
Communication RS485 interface:	<i>Parity:</i> Odd, Even, None (Preferred Even) <i>Baud rate:</i> 4800 bps to 19200 bps. (Preferred 9600 bps). <i>Isolation:</i> 2000 volts AC isolation for 1 minute between communication and other circuits.
Weight:	<i>Unpacked:</i> 275 gms <i>Packed:</i> 350 gms (weight of CT excluded)

Schematic Diagram



Mechanical Specification

