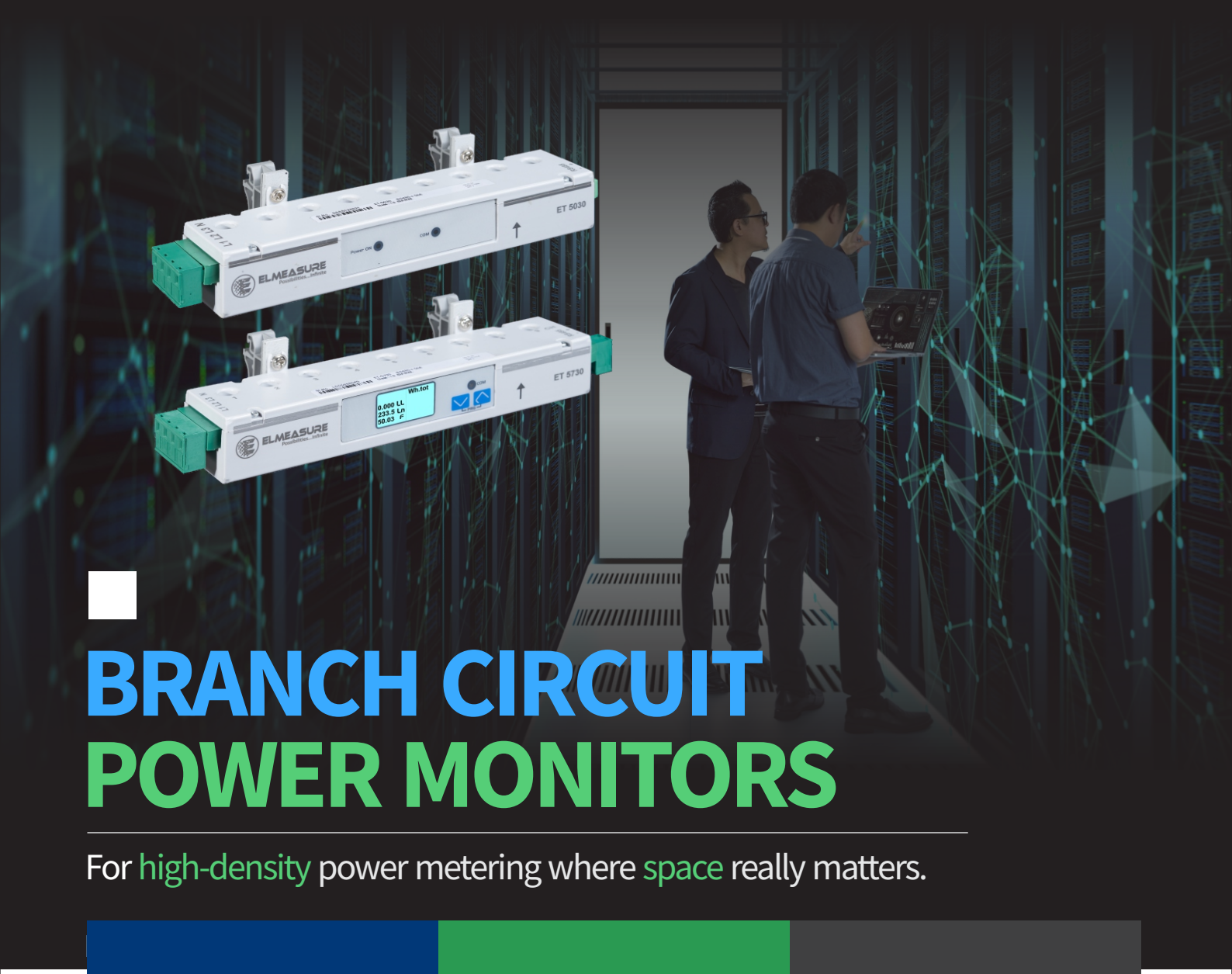


BRANCH CIRCUIT POWER MONITORS

For high-density power metering where space really matters.

IDEAL FOR SMALLER OR CROWEDED ELECTRICAL PANELS.

- For remote reading and control, the Eltag is supported by 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.
- Installation time can be reduced by more than half
- Auto learning of phase protection, including neutral current

EFFICIENT USE OF AVAILABLE SPACE AND RESOURCES.

- 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

EASY ENERGY MANAGEMENT AND ENERGY BILLING SERVICES.

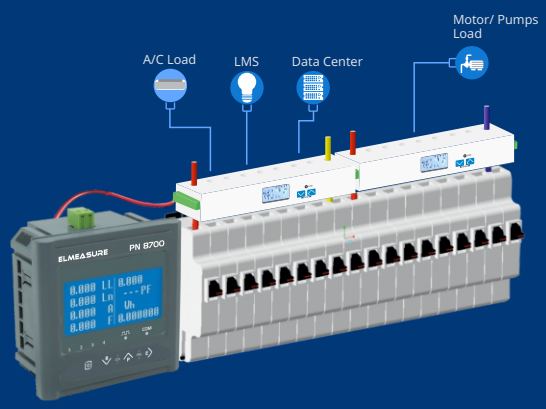
- Pass-through wiring: No separate spacing requirements for CT and CT cabling as EL-Tag offers direct pass through features (32A, 50A).
- A highly compact device: EL-Tag occupies only an area of 165mm x 25mm (compared to the conventional 3 metering devices (3 phase) and 9 metering devices (1 phase), thus reducing the space requirement by more than 80% compared to the other devices.

SPACE SAVING
Extremely slim design

MODULAR
For high scalability

UPTO 108 CHANNELS
Load circuit monitoring

HIGH END BRANCH CIRCUIT MONITOR FOR COMPREHENSIVE ENERGY MANAGEMENT



Digital Multifunction Meter

Master Meter for Branch Circuit Monitor

- **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

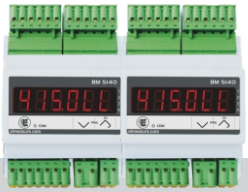
EL-Tag

Branch Circuit Monitor

- 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
- **Direct measurement up to 63A Pass through**
- Attachable to any MCB (for same Brand MCB)
- **Stand alone with Din rail** Mounting and RS 485
- Configurable phase selection through RS 485
- **Auto learning of Phases or Neutral** (CT polarity to be maintained)
- **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
- Installation time reduces to 1/5th
- Energy resetting @ 999999 kWh x TR

BM Series

DIN-Rail Meters



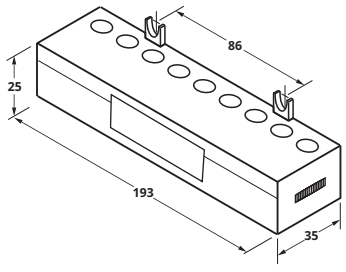
- Multi-channel data collection
- 3 Phase, 4 channels or Single phase 12 channels
- Displays Basic, Power and Energy parameters
- Default RS 485
- Space saving compact design for easy installation into existing panel boards
- True RMS measurements
- Simultaneous sampling of Volts & Amps
- Accuracy class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

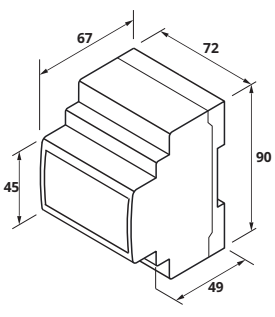
Product Selection

Parameters	PN8700M Graphical LCD	ET 5030 No Display	ET 5730 With Display (MOQ)	ET 5720 With Display (MOQ)	BM 5140 LED
ACCURACY OPTION					
CLASS 1.0	✓	✓	✓	✓	✓
CLASS 0.5S / CLASS 0.2S	[✓]	[✓]	[✓]	[✓]	[✓]
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	✓	✓*	✓*	✓*	
ENERGY - IMPORT					
THD - Voltage and Current	✓	✓*	✓	✓	
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	✓				
ON Hours	✓				
Co2 Emission	✓				
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 - 4 high and 4 low	[✓]*				
ADDITIONAL FEATURES					
12AM & 31st day snap shot	✓*				
Data Logger - 1MB	[✓]*				
Load Efficiency	✓*				
Energy Trends	✓*				
Dynamic Communication	✓*				
Dual Source				✓*	
COMMUNICATION					
RS485 (MODBUS)	✓	✓	✓	✓	✓

✓ Default * Through communication [✓] Optional

Mechanical Specification





Current Transformers

Hang on CT-
5A or 50A or 100A or 200A

Up to 100A, 16mm ID

Clip on
CT-5A | 50A | 100A | 250A

Split Core CT-100A | 400A | 1000A

Technical Specification

Specification	**PN8700M** (Master Meter)	**EL-TAG**	**BM Series**
GENERAL CHARACTERISTICS			
Display type:	LCD 4 row, 7/8 parameter, Integrated 4	Without display LCD display (optional)	1 row 6 digit for integrated, 4 digit for instantaneous
Sensing / Measurement:	True RMS, 1 sec. update time, 4 quadrant power and energy.	True RMS, 1 sec. update time, 2 quadrant power and energy.	True RMS, 1 sec. update time, 4 quadrant power and energy.
Rated Voltage:	50-600 VLL		
Rated Current:	10mA - 6A	10mA-6A, 50mA-32A, 100mA-63A	Optional through external CT
Frequency:	45 - 65Hz		
Poles Description:	1P + N, 3P, 3P + N	3 phase, 3 channel	3 phase, 4 channel
Sampling Rate:	512 samples / cycle	128 samples / cycle	
Measured Accuracy Class:	Class 1.0 as per IEC 62053-21 / Class 0.5 / Class 0.2S as per IEC 62053-22 (Optional)	Class 1.0: 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	NA	
CT PT Ratio Max.:	2000MVA programmable		
Auxiliary Supply:	80-300V AC/DC Burden: 4VA Max.	Self Powered	80-300V AC/DC, 40-70Hz Burden: 4VA Max.
Power Consumption:	4VA nominal		
Data Update Rate:	1 sec.		
COMMUNICATION			
Device ID & Parity: Protocol & Interface Baud Rate: Isolation:	1 to 247 & Odd, Even, None (Preferred Even) MODBUS, RTU, RS485, 9600 bps to 38400 bps (Preferred 9600 bps) 2000 volts AC isolation for 1 minute between communication & other circuits.	RS485 for stand alone.	1 to 247 & Odd, Even, None RS485 Interface 4800 bps to 19200bps. 2000 volt AC isolation for 1 minute between communication and other circuits
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		
Immunity to surge waves:	IEC 61000-4-5		
Fast transient:	IEC 61000-4-4		
Conducted and radiated emission:	CISPR - 22		
SAFETY AND STANDARDS			
Construction:	IEC/EN 61010-1 edition 3, CAT III, 300V LN / 600V LL, Protection class II		
Standards:	UL 61010-1, IEC/EN 62052-11		
MECHANICAL CHARACTERISTICS			
Weight	Unpacked: 350g, Packed: 450g. It may vary based on optional features.	200g	Unpacked: 275g, Packed: 350g. Weight of the CT's excluded.
Torque:	1 N-m (for 5A)	0.4 N-m	1 N-m
Wire Gauge:	11 AWG (for 5A)	26-10AWG (4.0mm2) Voltage and communication	11 AWG

ENVIRONMENTAL CHARACTERISTICS	
Operating Temperature:	-10°C to +55°C (14°F - 131°C)
Storage temperature:	-25°C to +70°C (-13°F - 158°F)
Humidity:	5% to 95% non-contensing
Altitude:	Below 2000mts
Measurement Category:	CAT III
Pollution Degree:	2 (As per IEC 61010)

WiFi Communication (Optional)	
WiFi Protocol:	802.11 b/g/n (Network protocol: Ipv4, TCP)
Frequency:	2.4 Ghz - 2.5 Ghz
Security:	WP/WPA2, WPA-PSK/WPA2-PSK
Encryption:	WEP/TKIP/AES
Minimum sensing range:	20%
Receive Sensitivity:	-83 dBm Typical