

LITTLE GENIUS PLUS / MICRO GENIUS PLUS

Cost Effective Load Managers



SMART

- Accuracy class 1.0 IEC 61036 / CBIP 88 (0.5 option)
- True RMS measurement
- Simultaneous sampling of Volts & Amps
- Energy display programmable-counter based or resolution based. Energy resetting at 999999 K * multiplication factor
- Positive energy accumulation even with CT polarity reversal, reverse lock programmable
- User programmable password protection
- Auto scrolling
- Auto-scaling of Kilo, Mega, Giga and Decimal point
- Low PT, CT burden
- Front LED pulse 2500 imp/kWh of secondary input
- Programmable PT, CT ratio upto 2000 MVA
- Programmable kWh or kVAh (default kWh) for meters with energy.

Optional
DIN rail mounting
type module for direct
current measurement
up to 60 Amps
hanging CT

INTELLIGENT

- Clearance and creepage distance meets safety standard
- Finger touch proof terminals to voltage and current connections
- Parameter name & value displaying using 7 seg LEDs
- 6 digits display on each row for better readability
- Available in LED (3 row, 2 row and 1 row), LCD/Dinrail (1 row)
- Field programmable Star (Wye) or Delta or single phase configuration

OPTIONAL FEATURES

- Communication with PCs, PLCs, DCS through optional optically isolated RS 485/ RS 232 serial Interface
- Pulse output - programmable pulse width of 50 mS to 500 mS (for LG plus models only)

 **ElMeasure**[®]
Accurate Measurements

Supported By: **ELNet**
Elmeasure's
Energy Management Software

www.elmeasure.com

Master Pack

LG⁺ 5310



3 Row Display - 96×96×50mm

- Displays more than 25 parameters basic, power and energy
- Quick and easy navigation and programming
- 'OLD' register to store the previously cleared energy value

◀ Displays basic (VLL, VLN, A, Hz); power (W, VA, PF); Energy Wh, Load Hrs. & ON time (non resettable)

Optional - Programmable relay output (upto 2) for any threshold of V, A, Hz, W, VA, PF, Wh, Phase missing. Programmable tripping time up to 180 sec. with hysteresis of 1%

Displays basic (VLL, VLN, A, Hz); Power (W, VA, PF) & Energy Wh

μG⁺ 5110



Single Row Display - 96×48×45mm

LG⁺ 5110L



1 Row Display - 96×96×50mm

- Energy is programmable to Wh or VAh with 7 digit resolution (LCD), 6 digit resolution (LED) and 4 digit resolution for instantaneous
- 80 to 300 V AC/DC auxiliary supply. Optional 48V DC (40V to 300V operation)
- Displays Basic (VLL, VLN, A, F), W, PF, VA, kWh (Programmable to kWh or kVAh)

LG⁺ 5110



LG⁺ 5110D



Single Row Display - 90×90×50mm

Flexi Pack

LG⁺ 3399



3 Row Display - 96×96×50mm

- Displays more than 15 parameters
- 3 row LED display with 6 digits each
- kWh and user selectable parameters from Basic (VLL, VLN, A, Hz) or W or VA or PF (any 2)
- Positive energy accumulation / reverse lock programmable
- 'OLD' register to store the previously cleared energy value

Note: No up-gradations and no optional features except RS 485

Dual Energy Pack

LG⁺ 3220



2 Row Display - 96×96×50mm

COMMON FEATURES

- 2 Row display with 6 digits each. Simultaneous display of current and energy for EB/DG (or) energy of EB and DG in single page
- 'OLD' registers to store the previously cleared energy values
- Automatic switching of display based on input source

◀ Displays Watts Total and Phasewise, PF Average and Phasewise and Wh (EB and DG)

LG⁺ 5220



2 Row Display - 96×96×50mm

- Load hours and ON hours for both sources
- Displays basic (VLL, VLN, A, Hz), W Total, PF Average Phasewise and Wh
- Separate programmable relay tripping for EB & DG

Optional - Programmable relay output (upto 2) for any threshold V, A, Hz, W, PF, Wh, Phase missing. Programmable tripping time up to 180 sec. with hysteresis of 1%

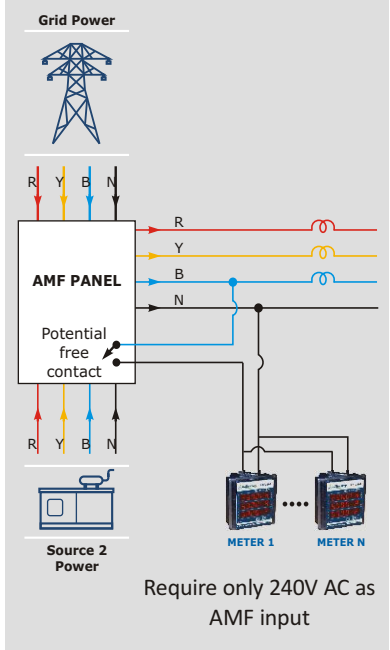
LG⁺ 5120L



1 Row Display - 96×96×50mm

- Energy is programmable to Wh or VAh with 7 digit resolution and 4 digit resolution for instantaneous
- 2 Digital output separately programmable for EB and DG
- Displays Basic (VLL, VLN, A, F), W, PF, kWh (EB and DG) (Programmable to kWh or kVAh)

TYPICAL CONNECTION SCHEME for Dual Energy Meter



Note: Customisation on parameter can be done based on volume in LG+ 3121 single row (LED version).

Energy Pack

LG⁺ 3100



1 Row Display - 96×96×50mm

- Displays more than 10 parameters
- **Watts & VA Total and Phasewise, PF Average and Phasewise + Wh**
- Positive energy accumulation / reverse lock programmable
- 'OLD' register to store the previously cleared energy value

Optional - Programmable relay output (upto 2) for any threshold of W, VA, PF, Wh, Phase missing. Programmable tripping time up to 180 sec. with hysteresis of 1%

μG⁺ 3100



Single Row Display - 96×48×45mm

LG⁺ 1129



3 Row Display - 96×96×50mm

LG⁺ 1129L



- Displays programmed parameter name and value for instantaneous parameters
- Reduces complexity of stocking as this can be used for multiple measurement applications
- Cost effective multifunction meter
- Field programmable Basic or W or VA or PF or Wh (any two parameter). Factory configured : Wh, PF

Note: 1. No up-gradations and no optional features except RS 485
2. Also available in dinrail version

μG⁺ 1129



Single Row Display - 96×48×45mm

LG⁺ 1119



3 Row Display - 96×96×50mm

LG⁺ 1119L



- Displays programmed parameter name and value for instantaneous parameters
- Reduces complexity of stocking as this can be used for multiple measurement applications
- Cost effective multifunction meter
- Field programmable W or VA or PF or Wh (any one parameter). Factory configured : Wh

Note: Also available in dinrail version

μG⁺ 1119



Single Row Display - 96×48×45mm

Note: LG+5110, 3100, 1129, 1119, 1100 are available with UL certified option

Models Available

MODEL NO.	BASIC				POWER			ENERGY			ACC CLASS 1.0/0.5	OPTIONAL FEATURE		
	VLL RYB	VLN RYB	AMP RYB	Hz	W RYB	PF RYB	VA RYB	kWh/* kVAh	Load Hrs/ ON Hrs	OLD ENERGY		RS485 /232	PULSE O/P	DIGITAL O/P
LG+ 5310/5110	VLL	VLN	AMP	Hz	W	PF	VA	Wh	LH	OLD	✓	✓	✓	2
LG+ 3399	●	●	●	●	●	●	●	Wh		OLD	✓	✓		
LG+ 5220 (DS)	VLL	VLN	AMP	Hz	W	PF		Wh	LH & OH	OLD	✓	✓		2
LG+ 3220 (DS)					W	PF		Wh		OLD	✓	✓		2
LG+ 3100					W	PF	VA	Wh		OLD	✓	✓	✓	1
LG+ 1119					●	●	●	●		OLD	✓	✓		
LG+ 1129	●	●	●	●	●	●	●	●		OLD	✓	✓		
LG+ 1100	VLL	VLN	AMP	Hz							✓	✓		2
μG+ 5110	VLL	VLN	AMP	Hz	W	PF	VA	Wh	LH	OLD	✓	RS485		
μG+ 3100					W	PF	VA	Wh		OLD	✓	RS485		
μG+ 1119					●	●	●	●		OLD	✓	RS485		
μG+ 1129	●	●	●	●	●	●	●	●		OLD	✓	RS485		
μG+ 1100	VLL	VLN	AMP	Hz							✓	RS485		

LCD / DinRail Version

LG+ 5110L/D	VLL	VLN	AMP	Hz	W	PF	VA	Wh	LH	OLD	✓	✓	✓	2
LG+ 5120L/D	VLL	VLN	AMP	Hz	W	PF		Wh	LH	OLD	✓	✓		2
LG+ 1119L/D					●	●	●	●		OLD	✓	✓		
LG+ 1129L/D	●	●	●	●	●	●	●	●		OLD	✓	✓		

- LG+ 3399: Wh and any two parameters [Basic (VLL,VLN,AMP,Hz) or W or PF or VA] programmable
- LG+/μG+ 1119/L/D: Any one parameter [W or PF or VA or Wh] programmable
- LG+/μG+ 1129/L/D: Any two parameters [Basic (VLL,VLN,AMP,Hz) or W or PF or VA or Wh] programmable

* kWh / kVAh Programmable at site.

Application Information

LG plus series has optically isolated RS485 or pulse output, which can be integrated into a process through a PLC/DCS for online energy management (Optional and except dual energy models).

For pulse output, if the DCS/PCS has a self excited 12V or 24V, external 24V DC supply is not required.

Energy Display programmable for counter based or resolution based

Multiplication factor for counter based energy mode

• Full Scale kW $\sqrt{3}$ V Pri LL x A Pri / 1000	0.4 to 4.0	4.01 to 40	40.1 to 400	400.1 to 4,000	4Mega to 40 M	40 M to 400 M	400 M to 4000 M
• Multiplication Factor:	0.01	0.1	1.0	10	100	1000	10000
• Unit of display	KWH			MWH			GWH

Energy Reset : 999999 kVAh × Multiplication Factor

Safety and Environment Specifications

Safety

- Designed to meet protection class III, pollution degree 2.
- Protection against shock by double insulation.
- Clearance and creepage meets safety standard.
- Finger touch proof terminals to voltage and current connections.

Environment

- Operating temperature -10°C to +55°C (14°F to 131°F)
- Storage temperature -25°C to +70°C (-13°F to 158°F)
- Humidity 5% to 95% non condensing.

- Protection index IP 51 (IP 54 front option)
- Recommended connecting wire 12 to 14 SWG with U type lug of 6.75 mm width max.

ECO Friendly
Lead Free

Standards Applicable

Test of insulation properties	IEC 60060-1
Test of Accuracy requirements	IEC 62052-11
Test of electrical requirements	IEC 62052-11
Radio interference suppression	CISPR 22
Fast transient burst test	IEC 61000-4.4
Damped oscillatory waves immunity test	IEC 61000-4.12
Test of immunity to electromagnetic RF fields	IEC 61000-4.3
Test of immunity to conducted disturbances, induced by radio-frequency fields	IEC 61000-4.6
Test of immunity to electrostatic discharges	IEC 61000-4.2
Surge immunity test	IEC 61000-4.5
Test of the effect of the climatic environments	IEC 60068-2
Mechanical tests	IEC 60068-2
Test of protection against penetration of dust and water	IEC 60529
Test of resistance to heat and fire	IEC 60695-2



ELECON MEASUREMENTS PVT LTD

Empowers You to Manage Power

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Sales Offices: BANGALORE | CHENNAI | MUMBAI | DELHI | HYDERABAD | USA | UAE | MALAYSIA

Range of Products: EMS, Demand Controller, Multi-function Meters, Load Manager, Electronic Energy Meters, Dual Energy Meter, Digital Panel Meters, Power Factor Controller, Intelligent Earth Leakage Relay, Power Distribution Unit, Power & Energy Transducers, RS485 to RS232/Ethernet/Optic Fiber Converter, RF Modem and GSM Modem

Technical Specification

18 Months
Warranty

Accuracy: Class 1 (Default) IEC 61036, IS 13779, CBIP 88
Class 0.5 (Option)

Sensing/M Measurement: True RMS, 1 Sec update time.
4 Quadrant Power & Energy

Input voltage: 4 Voltage inputs (VR, VY, VB, VN)

Programmable 110 or 415V LL Nominal
(Range 80 to 550V LL)

Primary Programmable up to 999 kV.

Burden: 0.2VA Max. per phase

Input current: Current inputs (AR, AY, AB) 50mA - 6A
(Field configurable 1A or 5A).

Primary programmable up to 99 kA.

Overload: 10A max continuous, 50A max for 3 Sec

Burden: 0.2VA Max. per phase.

Aux-Supply (Control Power)

80 - 300V AC/DC, 40-70Hz

Burden: 4VA Max

Display Type:

LG+/μG+: 10mm height bright red LED display
LCD: 10mm height bright LCD graphical display

Display Resolution: 4 digits for instantaneous,
Integrated: 6 digits

CT PT Ratio Max: 2000 MVA programmable

Communication:

RS485 serial channel connection, Industry standard
Modbus RTU protocol (RS232 optional).

Baud rate: 2400 bps to 19200 bps. (Preferred 9600 bps)

Isolation: 2000 volts AC isolation for 1 minute between
communication and other circuits.

Weight:

Unpacked: 300 gms

Packed: 400 gms

Note: Additional error of 0.05% of full scale,
for meter input current below 500mA

Mechanical Specification

Dimension Bezel:

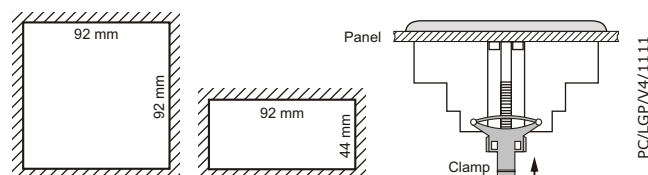
96 x 96 mm (Depth 50mm behind Bezel)

96 x 48 mm (Depth 45mm behind Bezel)

Panel Cutout:

92⁺⁰₋₂ x 92⁺⁰₋₂ mm

92⁺⁰₋₂ x 44⁺⁰₋₂ mm



PC/LGP/V4/1111