

# SMART BASIC METERS / TRANSDUCERS/DC ENERGY

ALPHA PLUS / PRO |  $\mu$ ALPHA PLUS | OMEGA | DC ENERGY

Cost Effective | User Friendly | Field Programmable



**Measure, Monitor and Control**  
Current, Voltage, Frequency and Relay Output



## Benefits

Multiple options like relay output for tripping.  
RS 485 for communication.



## Technology

Advanced circuitry for accurate measurements.

## Applications

AC & DC measurement, equipment monitoring,  
Genset, Solar and UPS applications etc.



**ELNET** Energy Management System



Contact for certification details

[www.elmeasure.com](http://www.elmeasure.com)



## Common Features:

- True RMS.
- Four digit resolution with auto scaling.
- Field programmable Star (Wye) or Delta or Single Phase configuration.
- Average & Phase wise information.

## Additional Features:

- Universal auxiliary input 80 - 300V AC (Optional: 40-300V DC, 80-300V AC/DC).
- Auto-scrolling.
- Available in single row Dinrail version (Alpha+D VAF, Alpha+D V/3V, Alpha+D A/3A, Alpha+D Hz).
- Minimum order quantity apply.
- Optional direct measurement upto 20A, 60A or 100A max. using Hanging CT.
- Available in 0.8 inch display (4 digit) - optional (for Alpha+ series only). Minimum order quantity apply.

## Optional Features:

- 2 digital output programmable for threshold upto 6 parameters (Under/Over).
- Programmable tripping time upto 180 secs. with Hysteresis of 1%.
- Analog transducer output 0-20mA / 4-20mA or 0-1V, Accuracy of 1% FS.
- Optically isolated RS 485 / RS 232 serial interface (Alpha+ and Omega only).
- ETL version for Alpha+ and Omega with and without RS485.



**OMEGA 1300**

Displays more than 13 basic parameters i.e., VLL, VLN, A (Average & Phase wise), F, ON Hours.

Programmable Relay Output (upto 2) {VLL, A, F (under, over)}.



### ALPHA+ / $\mu$ A+ 3A/A

Displays Amps for Alpha+ A and Amps (Avg & PW) for Alpha+ 3A.

Field programmable CT primary and secondary.

Models: Alpha+ 3A &  $\mu$ Alpha+ 3A (3 Phase); Alpha+ A &  $\mu$ Alpha+ A (single phase).

Optional programmable relay output (upto 2) for threshold Amp (under or over).

Optional transducer output (0 to 20mA / 4 to 20mA or 0 to 1V DC) for average Amps (for Alpha+ series only) Accuracy 1% of FS.



### ALPHA+ / $\mu$ A+ 3V/V

Displays VLL, VLN (Avg & PW), F, for Alpha+ 3V & UA+ 3V. VLL for Alpha+ V & uA+ V

Field programmable PT primary and secondary.

Models: Alpha+ 3V &  $\mu$ Alpha+ 3V (3 phase measurement); Alpha+ V &  $\mu$ Alpha+ V (Single Phase).

Optional programmable Relay output (upto 2) for any threshold VLL, Hz (under or over) for A+ 3V & only VLN (under or over) for A+ V.

Optional transducer output (0 to 20mA / 4 to 20mA or 0 to 1V DC) for Average VLL, VLN and F (for Alpha+ series only) Accuracy 1% of FS.



### ALPHA+ VAF/3VAF, $\mu$ A+ VAF

Displays Line to Line Voltage -Average and phase wise, Amps - Average and phase wise & Frequency (External selector switch to be used for  $\mu$ Alpha+ VAF).

Field programmable PT and CT primary and secondary.

Optional programmable relay output (upto 2) for any threshold VLL avg, A, Hz (under or over).

Optional transducer output (0 to 20mA / 4 to 20mA or 0 to 1V DC) for average VLL, VLN, Amps and F (for Alpha+ series only) Accuracy 1% FS.



### ALPHA+ / $\mu$ A+ ADC/VDC

DC Vin - 75mV or 100mV or 10V or 100V or 500V.

0-20 mA / 4-20 mA input options. 4 digit resolution for ADC.

DC auxiliary from 80-300V option available for Alpha+ and Dinrail version.

Field programmable full scale or offset value.



### ALPHA+ / $\mu$ A+ Hz

Displays wider range of frequency 35 - 70 Hz.

Higher accuracy class 0.2.

Optional programmable relay output (upto 2) for threshold Hz (under or over).

Optional transducer output (0 to 20mA / 4 to 20mA or 0 to 1V DC) for Hz (Range 45 to 65Hz) (for Alpha+ series only) Accuracy 1% of FS



### ALPHA+ / $\mu$ A+ RPM/MPM

DC Vin - 75mV or 100mV or 10V or 100V or 500V.

0-20 mA / 4-20 mA input options. 4 digit resolution for RPM.

DC auxiliary supply option of 40 to 300V available.

Field programmable full scale or offset value.



## TRANSDUCER OUTPUT

ElMeasure transducers are programmable transducers (cum display), which converts various applicable electrical parameters like voltage, current, frequency, active power, apparent power, power factor into DC current 0-20mA or 4-20mA (Programmable) or voltage 0-1V DC output.

Applications are various: electrical, chemical, thermal power plants, etc., to monitor processed data either locally or remotely using scada system by ElMeasure or the third party.

- Accuracy : Class 1.0FS
- Maximum overload: 120% (Equivalent of 24mA)
- Number of output: One (0 to 20mA / 4 to 20mA or 0-1V DC)

## Features & Benefits :

Programmable primary / secondary voltage or current making wider range of operations  
- Stocking becomes simple

Programmable transducer output either 0-20mA or 4-20mA. (Maximum load resistance: 75 ohms.)

0-1V DC optional

DC current signal or DC voltage signal directly proportional to the change of input.

Fully protected against open and short circuited output.

## Technical Specification :

ALPHA + ,  $\mu$ A + & OMEGA

**Accuracy:** Class 1.0 (Default) Class 0.5 (Option).

**Sensing/M Measurement:** True RMS, 1 Sec update time.

**Input voltage:** 4 Voltage inputs (VR, VY, VB, VN); Programmable 110 or 415V LL Nominal (Range 80-550V 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, 40-70Hz  
for Omega 80-300V AC/DC  
Burden: 4VA Max

**Display:** 4digits display with 14 mm height for Alpha Plus, 10 mm height for OMEGA series,  $\mu$ Alpha Plus series & DinRail

**Communication:** RS485 serial channel connection, Industry standard Modbus RTU protocol (RS232 optional). Zigbee communication.

**Baud rate:** 4800 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

ECO Friendly Lead Free

18 Months Warranty

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

## Transducer Output Programmable :

Sl No	Transducer Models	Any One Output Programmable						Output Range Options
		V	A	Hz	W	VA	PF	
1	Alpha+ 3VAF	V	A	Hz				<ul style="list-style-type: none"> <li>● 0-20mA / 4-20mA</li> <li>● 0-1V DC</li> </ul>
2	Alpha+ 3V	V		Hz				<ul style="list-style-type: none"> <li>● 0-20mA / 4-20mA</li> <li>● 0-1V DC</li> </ul>
3	Alpha+ 3A		A					<ul style="list-style-type: none"> <li>● 0-20mA / 4-20mA</li> <li>● 0-1V DC</li> </ul>
4	Alpha+ Hz			Hz				<ul style="list-style-type: none"> <li>● 0-20mA / 4-20mA</li> <li>● 0-1V DC</li> </ul>
5	LG+ 5110	V	A	Hz	W	VA	PF	<ul style="list-style-type: none"> <li>● 0-20mA / 4-20mA</li> <li>● 0-1V DC</li> <li>● 0-5V DC</li> <li>● 0-10V DC</li> </ul>

## Product Selection :

96x96x50mm	Dinrail* (90 x 90 x 50mm)	Transducer	96 x 48 x 45mm	Parameters
OM 1300	<input type="checkbox"/>	<input type="checkbox"/>		VLL, VLN, AMP, Hz, ON Hrs.
ALPHA+ 3VAF	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		VLL, VLN, AMP, Hz
ALPHA+ VAF	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	$\mu$ ALPHA+ VAF	VLN, AMP, Hz (Single Phase)
ALPHA+ 3A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	$\mu$ ALPHA+ 3A	AMP-Avg, AR, AY, AB
ALPHA+ 3V	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	$\mu$ ALPHA+ 3V	VLL, VLN, Avg & Phase wise, Hz
ALPHA+ A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	$\mu$ ALPHA+ A	AMP A
ALPHA+ V	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	$\mu$ ALPHA+ V	VOLT V
ALPHA+ ADC	<input type="checkbox"/>	<input type="checkbox"/>	$\mu$ ALPHA+ ADC	AMP DC
ALPHA+ VDC	<input type="checkbox"/>	<input type="checkbox"/>	$\mu$ ALPHA+ VDC	VOLTS DC
ALPHA+ Hz	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	$\mu$ ALPHA+ Hz	Frequency (Hz)
ALPHA+ RPM	<input type="checkbox"/>	<input checked="" type="checkbox"/>	$\mu$ ALPHA+ RPM	RPM

\* Dinrail available as per minimum order quantity basis.

Note : DC measurement Accuracy Class 1.0FS, Class 0.5FS (optional)

# MULTI CHANNEL DC ENERGY METER

## Common Features :

- Single meter measures Multiple channels and True RMS measurements.
- Differential current input for all the current channels.
- Voltage Full scale programmable.
- Current full scale programmable independently.
- Reverse lock option for not accumulating the reverse current energy. This can be used for the better study of charging and discharging circuit.
- Programmable shunt secondary 50mV to 75mV.
- Energy display programmable-counter based or resolution based.
- Energy resetting at 999999K\* multiplication factor.
- Auto scaling of kilo and mega decimal point.
- Optional programmable relay output maximum 2 (upto 6 threshold parameters) and tripping time upto 180 seconds.

## Technical Specification :

EDC

- Accuracy:** Class 1.0 FS, Class 0.5 FS (optional)
- Display Resolution:** 4Row 6Digits for EDC4400, 1Row 6Digits for EDC4100 and EDC1100.
- Input voltage:** One Input Voltage (48VDC Factory Default). Varieties of range in Voltage like 48VDC, 100VDC, 150VDC, 300VDC,600VDC, 800VDC (factory settable). Primary Programmable range: 0.100 to 999.9kV .
- Input current:** One/ four Input Current (50mV, 75mV Shunt type). Individually Programmable primary current. Range: 0.100 999.9k .
- Aux-Supply:** 80 - 300V AC/DC, 40-70Hz (48V DC Optional). Burden: 4VA Nominal.
- Note :** for Alpha Series A, V, Hz, 180V - 300VAC
- Communication:** RS485 interface Industry Standard Modbus RTU protocol (RS232 optional).
- Baud rate:** 4800 bps to 19200 bps. (Preferred 9600 bps).
- Isolation:** 2000 volts AC isolation for 1 minute between communication and other circuits.
- Weight (Approx):** Unpacked - 300 gms, Shipping - 400 gms.
- Operating Temperature:** -10°C to +55°C (14°F to 131°F).
- Storage Temperature:** -25°C to +75°C (-13°F to 581°F).
- Humidity:** 5% to 95% non condensing.
- Protection index:** IP 51 (IP 54 front option).
- Recommended connection wire:** 12 to 14 SWG.

ECO Friendly Lead Free

18 Months Warranty

## Applicable Standards:

- DIN 40050 | Degrees of protection provided by enclosure for electrical equipment against ingress of solid foreign objects.
- EN 60529
- DIN / IEC 688-1 | Electrical measuring transducers for converting AC electrical quantities into DC electrical quantities.
- IS 12784 | Electrical measuring transducers for converting AC electrical quantities into DC electrical quantities.

**Range of Products:** | Building Energy Management System (BEMS) | EMS | Demand Controller | Multi function Meters | Load Manager | Electronic Energy Meters | Dual Energy Meter | Digital Panel Meters | ACCL | Net Metering | Smart Metering | Power Factor Controller | Intelligent Earth Leakage Relay | Aggregator | MCLM | SIO | Smart Plug | Power Distribution Unit | Control Relay Unit for PDU | Transducers | Power & Energy Transducers | RS485 to RS232/Ethernet/Optic Fiber Converter | RF Modem | GSM Modem |



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



## Additional features for EDC 1100

- Displays V, 1 channel current, 1 channel Watt and 1 channel energy in the bright single row 6 digits.
- Optional RS485 communication.
- Optional single digital output with the programmable delay.

## Additional features for EDC 4100

- Displays V, 4 channels Current, 4 channel Watts and energy in the bright single row 6 digits.
- Optional RS485 communication.
- Optional single digital output with the programmable delay.

## Additional features for EDC 4400

- Displays V, 4 channels Current, Watts and Energy.
- Optional Load Hours (LH) and Amps hours (Ah).
- Optional RS485 communication.
- Optional two digital output with the programmable delay.

## Additional features for EDC 4100D

- LCD display, 7 digit, Din rail version only
- Hall effect CT (100A) Option

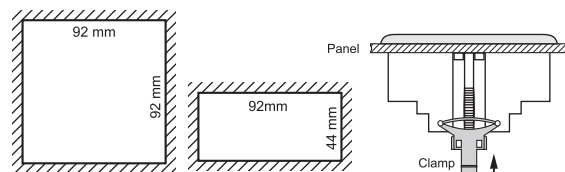
## Safety and Environmental Specification:

**Safety:** Designed to meet protection class III, pollution degree 2. Protection against shock by double insulation. Clearance and creepage meets as per UL 61010 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 wire gauge 12 to 14 SWG.

## Mechanical Specification:

- Dimension Bezel: 96 x 96 mm (Depth 50mm behind Bezel)
- Panel Cutout: 92<sup>+0</sup>/<sub>-2</sub> x 92<sup>+0</sup>/<sub>-2</sub> mm
- 96 x 48 mm (Depth 45mm behind Bezel)
- 92<sup>+0</sup>/<sub>-2</sub> x 44<sup>+0</sup>/<sub>-2</sub> mm



## Elecon Measurements

A group of **ELMEASURE India Private Limited**

### HO & Unit-I

Plot No.:47-P, Bengaluru Hardware Park, Huvinayakanahalli, Jala hobli, Bengaluru North, Yelahanka Taluk, Bengaluru District, Karnataka.

### Unit-II:

Goutham Garden, No. 4, Veerapandi, Coimbatore - 641019 INDIA  
T : 0422 2697200. TF : 0422 2695200 E : contactctbe@elmeasure.com

### Unit-III

764, 4th Phase, 707, Yelahanka New Town, Bengaluru - 560 064. INDIA  
T : +91 80 2846 1777/744 F : +91 80 41272461  
CS : +91 80 3290 4489 E : contactblr@elmeasure.com

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