

# Dual Source Energy Meter: EM 6438 & EM 6436 Dual

- Digital & Analog display
- Compact
- Smart

Two Energy Registers (U and G) separately record consumption based on a Control Signal for Dual Source energy billing.



New Class of accuracy  
Cl 0.2S

**Warranty3**  
3 Year Enhanced Warranty Period

### Features & Benefits

- G.Sense indication glows when the generator source is detected by G Smart Sensor
- Auto Scaling kWh, MWh
- Unique 8 segment 3 line LED display  
Tenant can pay accurate energy bill as per G usage instead of monthly maintenance,
- %A Full scale Load bar
  - Color coded Analog indication
  - Track generator overloading, eg Shopping malls
- Smart Keys. One Touch U & G Energy  
Simple - auto scrolling
- True RMS, Accurate on distorted and unbalanced loads
- Built In RS 485  
Optimizing room allocations, reduction/monitor in energy misuse during OFF Hours, eg Hotels
- G Smart Sensor
  - 18 to 60 Vdc / 80 to 300 Vac Universal (Noise filter. Eg. spikes, neutral to earth voltage)
  - Supports Multiple generator paralleling & bus coupler islanding schemes
  - In case of load sharing entire consumption is directed to 'G' register. For separate monitoring of each source consumption, EM 6436 for each source with common EBS software is recommended
- Password protection for setup parameters
- Low PT, CT Burden
- Site Programmable CT, PT ratio (Pri & Sec) - easy ordering & Logistics
- User Selectable Default Display Page
- CT reversal: auto-correction for Energy Integration in star (Wye) mode

### Rugged Construction

- Emission : CISPR22
- Fast Transient : 4kV, IEC61000-4-4
- Burst : IEEE62.41:1991
- Surge withstand : IEEE C37.90.1:2002
- ESD : IEC61000-4-2
- Impulse Voltage : 6kV, IEC 60060, 1.2/50 µsec
- Safety Construction : Self extinguishable V0 plastic
- Touch Safe terminals
- Sealed dust proof construction

### Parameters

Product Version v03.03

Parameter	Characteristic
V V1 V2 V3 V12 V23 V31	Voltage: phase wise & average
A A1 A2 A3	Current: phase wise & average
F	Frequency
RMS % A FS Analog colour coded load bar	Estimate & View - load from distance without operating any keys
W W1 W2 W3	Detects the CT polarity
PF PF1 PF2 PF3	Power factor
INTG U & G	Wh.U & Wh.G Run h.U & G On.U & On.G Indicates Active Energy Indicates the duration of U & G RUN Indicates the duration of U & G ON
INTG tot	Wh.U & Wh.G Run h.U & G On.U & On.G Indicates total Active Energy, Run hours & ON hours
OLD U & G	Wh.U & Wh.G Run h.U & G On.U & On.G View the last Cleared reading
OLD tot	Wh.U & Wh.G Run h.U & G On.U & On.G View the last Cleared reading

Note: Voltage, Current, frequency and PF are available only in EM 6436 Dual

EM 6438 Dual Source Energy meter can be used for the following applications:

	GEN	TARIFF	INDUSTRIAL
U	Utility	Usual (OFF Peak Load)	Ungated (Idle Load)
G	Generator	Greater (Peak Load)	Gated (ON Load)

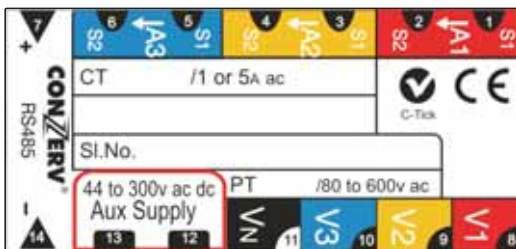
- VAh option, instead of Wh billing (User Selectable)
  - 3D VAh billing takes into account poor PF, Unbalance, Distortion
- CLR option thru software (ConPAD)
  - Wh readings retained
- Compatible with eLAN based EBS software for e Billing
- Any installation which requires split energy monitoring for two conditions eg: Running and idle

## Technical Specifications

Sensing/Measurements	True RMS, 1 sec update time 4 quadrant power and 2 quadrant energy
Accuracy	Class 1.0 as per IEC 62052-11 and IEC 62053-21 Class 0.5S (optional) as per IEC 62052-11, 62053-22 <b>Class 0.2S (optional) as per IEC 62052-11 and IEC 62053-22 <i>New!</i></b>
Input Voltage	4 voltage inputs (V1, V2, V3, Vn) 110 or 415VL-L nominal (Range 80 to 600VL-L)
Auxiliary Supply (Control Power)	44 to 300 Vac / dc
Input Current	Current inputs (A1, A2, A3) 5mA (Starting) to 6A * 5A Class 0.2S: 5mA (Starting) to 6A 1A Class 0.2S: 1mA (Starting) to 1.2A
Gen Smart Sensing	18 to 60 Vdc / 80 to 300 Vac
Overload	10A max continuous 50A max for 3 seconds
Burden	Voltage input < 0.2VA per phase Current input < 0.2VA per phase 3VA max in Aux Supply (Control Power)
Frequency	45 to 65 Hz
Resolution	RMS 4 digit, Integ 8 digit
Isolation	2k Vac isolation for one min between all isolated circuits including communication port
Safety	Measurement category III, Pollution Degree 2, Protection against shock by double insulation at user accessible area Operating Temperature - 10°C to +60°C (14°F to 140°F)
Environmental	Storage Temperature -25°C to +70°C (-13°F to +158°F) Humidity 5% to 95% non condensing
Weight	400 gms approx. Unpacked 500 gms approx. Shipping
Warranty	<b>3 Years from date of invoice <i>New!</i></b>

**Note:** Additional error of 0.05% of full scale, for meter input current below 100 mA

## Colour Coded Label



Terminals are numbered, coloured and grouped such that defect free wiring is ensured.

## Digital Communication

RS 485 standard, communication capability using Modbus RTU protocol. The meters can be multi-dropped using RS 485 twisted pair. The baud rate can be adjusted from 1200 bps to 19200bps. (Preferred setting is 9600 bps)

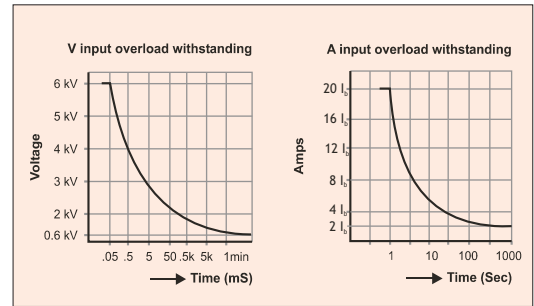
## BMS Compatible

Access of either single (individual) parameter or block of parameters through RS 485 communication port. Integrates with Honeywell, Siemens Building Technologies and other BMS packages.z

## RS 485 Multi-Point Communication Modbus

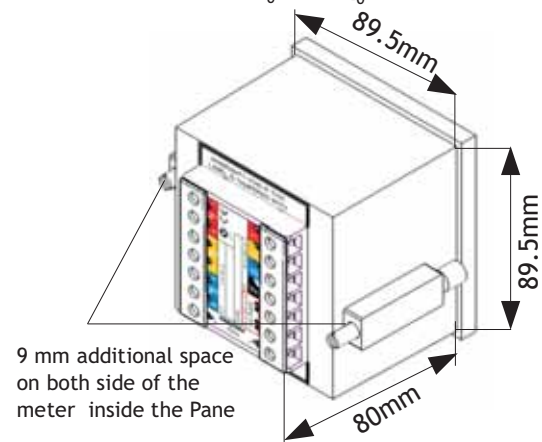


## Overload

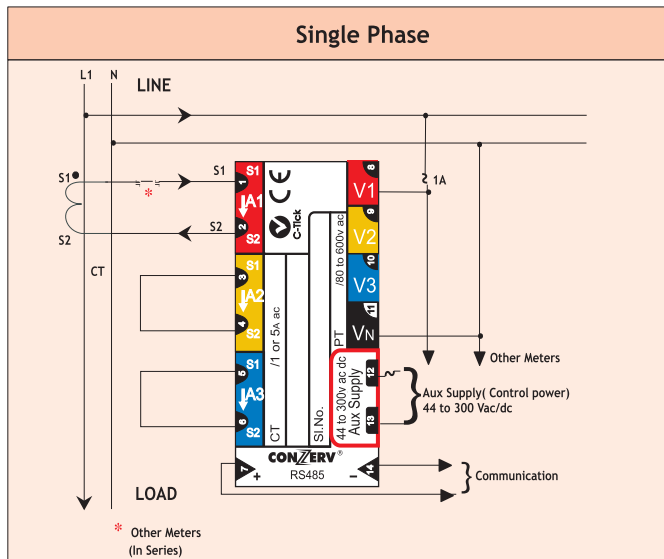
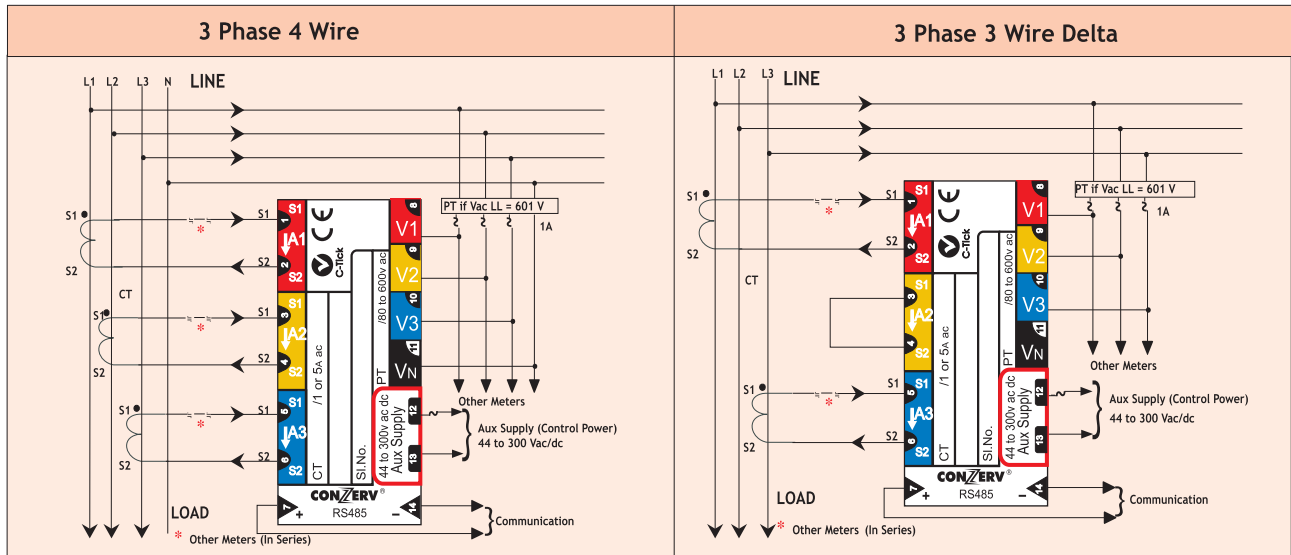
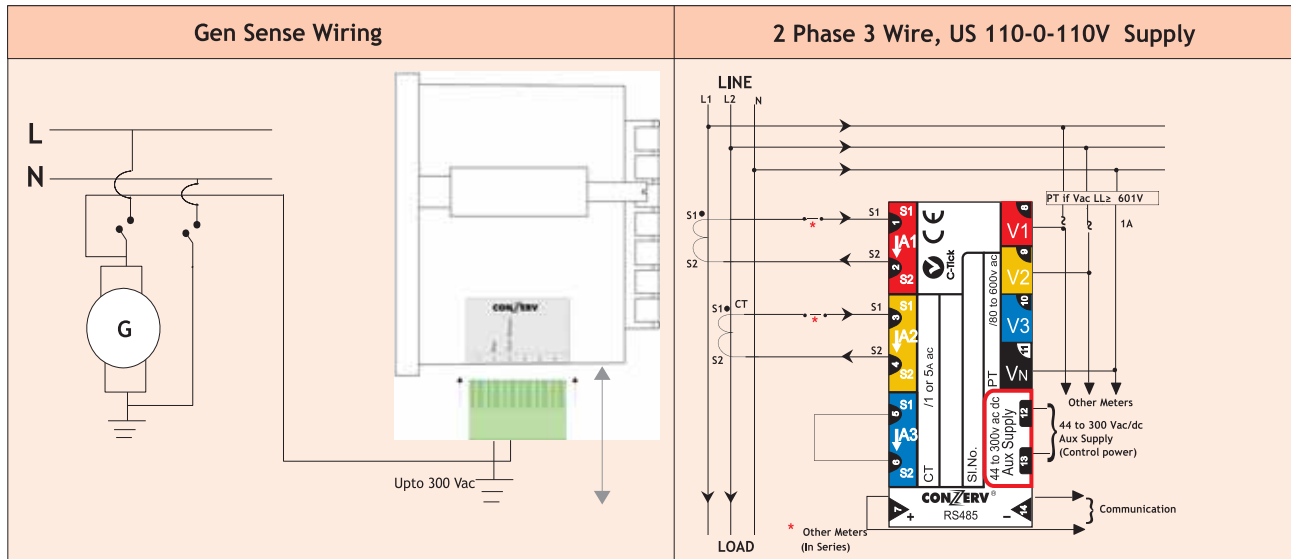


## Dimensions

Bezel : 96 x 96 mm  
Depth : 80 mm behind  
Panel cutout :  $92^{+0.5}_{-0} \times 92^{+0.5}_{-0}$  mm



# Wiring Diagram



## Ordering Information

Model No.	Input Current	Accuracy	RS 485*
<input type="checkbox"/> EM 6438	<input type="checkbox"/> 5A Universal	<input type="checkbox"/> C11.0 <input type="checkbox"/> C10.5	<input type="checkbox"/>
	<input type="checkbox"/> EM 6436 Dual	<input type="checkbox"/> 5A	
<input type="checkbox"/> 1A		<input type="checkbox"/> C10.5S <input type="checkbox"/> C10.2S	

\* RS 485 - Ordering option for EM 6436 Dual

