Ziegler

Redefine Innovative Metering

Technical Datasheet

ZAM LC

ENERGY METER LC10 | LC30

ZAM LC

ENERGY METER LC10 | LC30

ZAM LCXX series is a series of Energy meters that measures important electrical parameters in 3 phase and single phase network. It measures electrical parameters like Active / Reactive / Apparent energy , power as per models. The instrument has 2 configurable optional outputs as pulse output for energy measurement or limit output for control & indication purpose.

Product Features

- **True RMS measurement :** Measures distorted waveform up to 15th Harmonic
- **Energy as per IEC 62053 :**
  - Independent Import and Export Energy counter. Active energy (kWh), Reactive energy (kVArh), Apparent energy (kVAh) measurement
  - Accuracy as per IEC 62053-21,IEC62053-23
- **THD Measurement :** The instrument measures THD per phase voltage & current up to 15th Harmonic
- **On-site programmable :**
  - On-site Programmable System Configuration 3PH4W / 3PH3W / 1PH2W.
  - On-site Programmable CT ratios and PT ratios
- **Direct remote access (Optional) :**
  - Remote configuration of the Instrument via MODBUS
  - Remote access of measured parameters. Programmable baud rates up to 38.4kbps
- **Limit (Alarm) or Pulse Relay Output(Optional) :** Potential free, very fast acting relay contact. Configurable as pulse output which can be used to drive an external counter for energy measurement. Configurable as limit (alarm) switch
- **Low back depth :** The instrument has very low back depth (behind the panel) of less than 35 mm
- **User Configurable Features :** User can select any five or ten measurement screens which will be shown on display. Also back light of display can be programmed to switched on or off
- **Parameter Screen recall :** In case of power failure, the instrument memorizes the last displayed screen
- **Run Hour, ON Hour, Number of Interruptions :** Run Hour records the number of hours load is connected. ON Hour is the period for which the auxiliary supply is ON. Number of Interruptions indicates the number of times the Auxiliary Supply was interrupted

Technical Specifications

Input Voltage		
Nominal input voltage(ACRMS)	Phaseto Neutral	Phase to Phase
	57.7VL-N	100VL-L
	290VL-N	500VL-L
System PTprimaryvalues	100V LL to 1200kVLL programmable onsite.	
Maxcontinuousinputvoltage	120% of nominal value	
Input Current		
Nominalinputcurrent	1A/5A AC RMS	
System CTprimaryvalues	From 1A to 9999A	
Maxcontinuousinputcurrent	120% of nominalvalue	
OverloadIndication	"-OL-", >121% of Nominal value (for voltage andcurrent)	
Auxiliary Supply		
ExternalHigherAux	60 V – 300V AC/DC (± 5% approx)	
Higher AuxNominalValue	230 V AC/DC 50/60 Hz for ACAux	
ExternalLowerAux	20V – 60 V DC / 20V – 40 VAC	
Lower AuxNominalValue	48 V DC / 24 V AC50/60 Hz for ACAux	
AuxSupplyfrequency	45 to 65 Hzrange	
VA Burden		
Nominalinputvoltageburden	< 0.3 VA approx. perphase	
Nominalinputcurrentburden	< 0.3 VA approx. perphase	
Auxiliary Supplyburden WithAdd-oncard WithoutAdd-oncard	 <6VAapprox <4VAapprox	
Operating Measuring Ranges		
Current(EnergyMeasurement) (As perIEC62053-21)	Starting current : 2mA for 1A & 10mA for 5A Range: 20mA to 1.2A for1A 100mAto6Afor5A	
Voltage	50... 120% of nominalvalue	
PowerFactor	0.5 Lag….1….0.8Lead	
Frequency	50Hz /60Hz	
TotalHarmonicDistortion	0…….50%	
Accuracy		
ReferenceConditions(As per IEC 62053 -21)	23°C +/- 2°C	
ActiveEnergy	Class 1 as per IEC 62053 –21	
ReactiveEnergy	Class 2 as per IEC 62053 –23	
ApparentEnergy	Class1	
ActivePower	±0.5%ofnominalvalueatcosø=1	
Re-ActivePower	±0.5%ofnominalvalueatsin ø=1	
ApparentPower	±0.5% of nominalvalue	
PowerFactor/PhaseAngle	±3°	
Voltage	±0.5%ofnominalvalue	
Current	±0.5%ofnominalvalue	
Frequency	± 0.2% of midfrequency	
THD (Voltage/Current)	±2.0%	

Overload Withstand	
Voltage	2xratedvaluefor1second,repeated10times at 10 secondintervals
Current	20x I_{max} for0.5sec
Display update rate	
Responsetimetostepinput	1 secapprox.
Applicable standards	
EMC	IEC 61326 - 1 :2005
Immunity	IEC61000-4-3.10V/mmin–Level3industrial Low level
Safety	IEC 61010-1-2010 , Permanently connecteduse
IP for water&dust	IEC60529
Pollutiondegree	2
Installationcategory:	III
Isolation : ProtectiveClass	2
High Voltage Test Input+AuxVsSurface Input VsRemainingCircuit	 4kV RMS, 50Hz,1min 2kVRMS,50Hz,1min
Environmental	
Operatingtemperature	-10 to+55°C
Storagetemperature	-20 to+65°C
Relativehumidity	0…….90%RH (non condensing)
Warmuptime	Minimum 3 minute
Shock (AsperIEC60068-2-27)	Halfsinewave,Peakacceleration 30gn(300m/s^2),duration18ms.
Vibration	10... 150…10 Hz, 0.15mmamplitude
Number ofSweepcycles	10 peraxis
Enclosure	IP 50 (front faceonly)
Interfaces	
ImpulseLed	For Energy Calibration atfront
Relay(Optional)	240VAC,5A(Configuredaslimitorpulseoutput)
Modbus(Optional)	RS485,max.1200m Baud rate : 4.8k,9.6k,19.2k,38.4k bps

Note : Variation due to influence Quantity is 100% of class index for all other parameters except Energy.

Input connections are made directly to screw-type terminals with indirect wire pressure. Numbering is clearly marked on the connector . Choice of cable should meet local regulations. Terminal for both Current and Voltage inputs will accept up to 4mm^2 (12AWG) solid or 2.5 mm^2 standard cable.

Note: It is recommended to use wire with lug for connection with meter.

Parameter Measurement

Sr No	Displayed Parameters	3 Phase 4Wire	3Phase 3Wire	1Phase 2Wire
1.	Import Active Energy (kWh)	✓	✓	✓
2.	Export Active Energy (kWh)	✓	✓	✓
3.	Inductive Reactive Energy (kVArh)	✓	✓	✓
4.	Capacitive Reactive Energy (kVArh)	✓	✓	✓
5.	Apparent Energy (kVAh)	✓	✓	✓
6.	System Active Power (kW)	✓	✓	✓
7.	Active Power L1 (kW)	✓	×	×
8.	Active Power L2 (kW)	✓	×	×
9.	Active Power L3 (kW)	✓	×	×
10.	System Re-active Power (kVAr)	✓	✓	✓
11.	Re-active Power L1 (kVAr)	✓	×	×
12.	Re-active Power L2 (kVAr)	✓	×	×
13.	Re-active Power L3 (kVAr)	✓	×	×
14.	System Apparent Power (kVA)	✓	✓	✓
15.	Apparent Power L1 (kVA)	✓	×	×
16.	Apparent Power L2 (kVA)	✓	×	×
17.	Apparent Power L3 (kVA)	✓	×	×
18.	System Power Factor	✓	✓	✓
19.	Power Factor L1	✓	×	×
20.	Power Factor L2	✓	×	×
21.	Power Factor L3	✓	×	×
22.	System Phase Angle	✓	✓	✓
23.	Phase Angle L1	✓	×	×
24.	Phase Angle L2	✓	×	×
25.	Phase Angle L3	✓	×	×
26.	Current Demand	✓	✓	✓
27.	kVA Demand	✓	✓	✓
28.	Import kW Demand	✓	✓	✓
29.	Export kW Demand	✓	✓	✓
30.	Max Current Demand	✓	✓	✓
31.	Max kVA Demand	✓	✓	✓

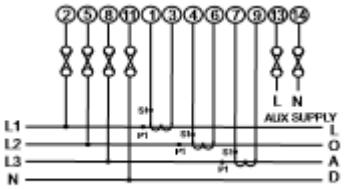
32.	Max Import kW Demand	✓	✓	✓
33.	Max Export kW Demand	✓	✓	✓
34.	Run Hour	✓	✓	✓
35.	On Hour	✓	✓	✓
36.	Number of Interruptions	✓	✓	✓
37.	System Voltage	✓	✓	✓
38.	Voltage L1	✓	×	×
39.	Voltage L2	✓	×	×
40.	Voltage L3	✓	×	×
41.	Voltage L12	✓	✓	×
42.	Voltage L23	✓	✓	×
43.	Voltage L31	✓	✓	×
44.	System Voltage THD	✓	✓	✓
45.	Voltage L1 THD	✓	✓	×
46.	Voltage L2 THD	✓	✓	×
47.	Voltage L3 THD	✓	✓	×
48.	System Current	✓	✓	✓
49.	Current L1	✓	✓	×
50.	Current L2	✓	✓	×
51.	Current L3	✓	✓	×
52.	System Current THD	✓	✓	✓
53.	Current L1 THD	✓	✓	×
54.	Current L2 THD	✓	✓	×
55.	Current L3 THD	✓	✓	×
56.	Neutral Current	✓	×	×
57.	Frequency	✓	✓	✓
58.	RPM	✓	✓	✓
59.	Phase Reversal Indication	✓	✓	×
60.	Current Reversal Indication	✓	✓	✓
61.	Phase Absent Indication	✓	✓	×
62.	Old Import Active Energy (kWh)	✓	✓	✓
63.	Old Export Active Energy (kWh)	✓	✓	✓
64.	Old Inductive Reactive Energy (kVArh)	✓	✓	✓
65.	Old Capacitive Reactive Energy (kVArh)	✓	✓	✓
66.	Old Apparent Energy (kVAh)	✓	✓	✓
67.	Old Run Hour	✓	✓	✓
68.	Old On Hour	✓	✓	✓
69.	Old Number of Interruptions	✓	✓	✓

Measured parameter model wise

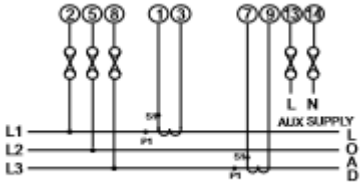
Sr. No	Parameters	ZAM LC10		ZAM LC30	
		On Display	On Modbus	On Display	On Modbus
1.	Import Active Energy (kWh)	✓	✓	✓	✓
2.	Export Active Energy (kWh)	✓	✓	✓	✓
3.	Inductive Reactive Energy (kVArh)	×	✓	✓	✓
4.	Capacitive Reactive Energy (kVArh)	×	✓	✓	✓
5.	Apparent Energy (kVAh)	×	✓	✓	✓
6.	System Active Power (kW)	×	✓	✓	✓
7.	Active Power L1 (kW)	×	✓	✓	✓
8.	Active Power L2 (kW)	×	✓	✓	✓
9.	Active Power L3 (kW)	×	✓	✓	✓
10.	System Re-active Power (kVAr)	×	✓	✓	✓
11.	Re-active Power L1 (kVAr)	×	✓	✓	✓
12.	Re-active Power L2 (kVAr)	×	✓	✓	✓
13.	Re-active Power L3 (kVAr)	×	✓	✓	✓
14.	System Apparent Power (kVA)	×	✓	✓	✓
15.	Apparent Power L1 (kVA)	×	✓	✓	✓
16.	Apparent Power L2 (kVA)	×	✓	✓	✓
17.	Apparent Power L3 (kVA)	×	✓	✓	✓
18.	System Power Factor	×	✓	✓	✓
19.	Power Factor L1	×	✓	✓	✓
20.	Power Factor L2	×	✓	✓	✓
21.	Power Factor L3	×	✓	✓	✓
22.	SystemPhaseAngle	×	✓	✓	✓
23.	PhaseAngleL1	×	✓	✓	✓
24.	PhaseAngleL2	×	✓	✓	✓
25.	PhaseAngleL3	×	✓	✓	✓
26.	CurrentDemand	×	✓	✓	✓
27.	kVADemand	×	✓	✓	✓
28.	ImportkWDemand	×	✓	✓	✓
29.	ExportkWDemand	×	✓	✓	✓
30.	MaxCurrentDemand	×	✓	✓	✓
31	MaxkVADemand	×	✓	✓	✓
32	Max ImportkWDemand	×	✓	✓	✓

33	Max ExportkWDemand	×	✓	✓	✓
34	RunHour	×	✓	✓	✓
35	OnHour	×	✓	✓	✓
36	NumberofInterruptions	×	✓	✓	✓
37	SystemVoltage	×	✓	✓	✓
38	VoltageL1	×	✓	✓	✓
39	VoltageL2	×	✓	✓	✓
40	VoltageL3	×	✓	✓	✓
41	VoltageL12	×	✓	✓	✓
42	VoltageL23	×	✓	✓	✓
43	VoltageL31	×	✓	✓	✓
44	SystemVoltageTHD	×	×	✓	✓
45	VoltageL1THD	×	×	✓	✓
46	VoltageL2THD	×	×	✓	✓
47	VoltageL3THD	×	×	✓	✓
48	SystemCurrent	×	✓	✓	✓
49	CurrentL1	×	✓	✓	✓
50	CurrentL2	×	✓	✓	✓
51	CurrentL3	×	✓	✓	✓
52	SystemCurrentTHD	×	×	✓	✓
53	CurrentL1THD	×	×	✓	✓
54	CurrentL2THD	×	×	✓	✓
55	CurrentL3THD	×	×	✓	✓
56	NeutralCurrent	×	✓	✓	✓
57	Frequency	×	✓	✓	✓
58	RPM	×	✓	✓	✓
59	PhaseReversalIndication	✓	×	✓	×
60	CurrentReversalIndication	✓	×	✓	×
61	PhaseAbsentIndication	✓	×	✓	×
62	OldImportActiveEnergy(kWh)	×	✓	✓	✓
63	OldExportActiveEnergy(kWh)	×	✓	✓	✓
64	Old Inductive Reactive Energy (kVArh)	×	✓	✓	✓
65	Old Capacitive Reactive Energy (kVArh)	×	✓	✓	✓
66	Old Apparent Energy (kVAh)	×	✓	✓	✓
67	Old Run Hour	×	✓	✓	✓
68	OldOnHour	×	✓	✓	✓
69	OldNumberofInterruptions	×	✓	✓	✓

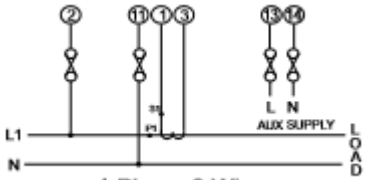
Connection Diagram and Installation



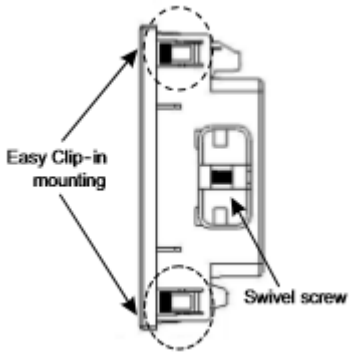
3 Phase 4 wire Unbalanced load

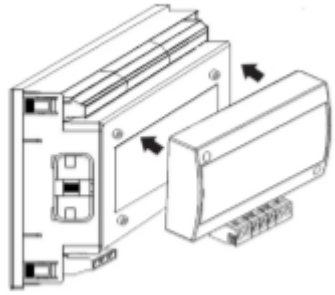


3 Phase 3 wire Unbalanced load



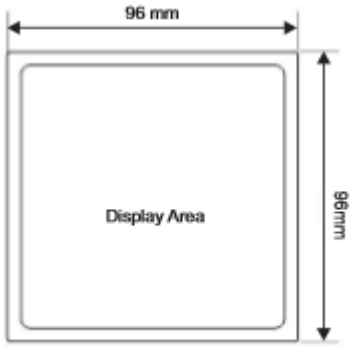
1 Phase 2 Wire



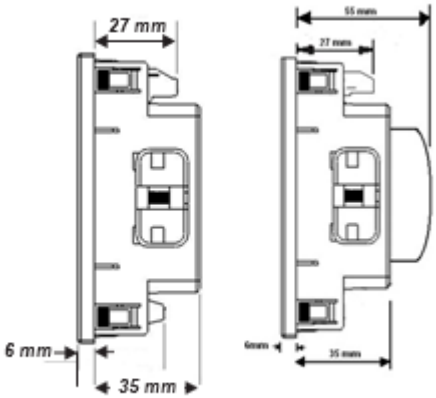


Optional Modbus/Pulse output pluggable module.

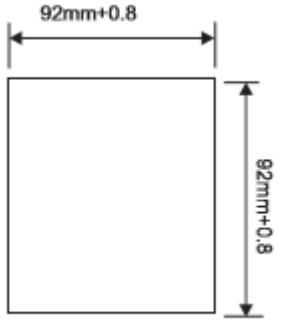
Dimensions



Front View



Side View



Panel Cutout

Ordering Information

Ordering information	(✓)
Model	
ZAM LC10	
ZAM LC30	
System Type (Connection network)	
3 Phase (onsite programmable to 3PH4W,3PH3W and 1PH2W)	
Input Voltage For 3 Phase	
100 VL-L to 500 VL-L (57.7 VL-N to 290 VL-N)	
Input Current	
5 Amps / 1 Amps	
Auxiliary Supply Voltage	
60 - 300 V AC DC	
20 - 60 V DC / 20 - 40 V AC	
Optional:	
MODBUS (RS485) output	
MODBUS Option not used	
Optional: Pulse/Limit Output	
With 1 Pulse/Limit output	
With 2 Pulse/Limit output	
Without Pulse/Limit output	

ZAMLCXX (Energy Meters) :

i.e ZAMLC30, 3 Phase, 100 VL-L to 500 VL-L (57.7 VL-N to 290 VL-N), 5 Amps / 1 Amps Input current, 60 - 300 V AC DC Auxiliary Supply,MODBUS (RS485) output

Ziegler

Redefine Innovative Metering

Ziegler Instrumentation UK Ltd.

Central Buildings, Woodland close old woods Trading Estate, Torquay Devon, TQ2 7BB, United Kingdom

+441803 616 800 | info@ziegler-instrument.com | ziegler-instrument.com

Ziegler

Redefine Innovative Metering

Technical Datasheet

ZAM LC40

ENERGY METER FOR DUAL SOURCE APPLICATIONS

ZAM LC40

ENERGY METER FOR DUAL SOURCE APPLICATIONS

ZAM LC40is a Dual Source Energy Meter whichmeasures important electrical parameters of Electrical supply received from Utility and a back-up source of supply the Diesel Generator in 3 phase and 1 phase network & replaces the need of multiple analog panel meters. It measures electrical parameters like Active / Reactive / Apparent energy and power. The instrument has 2 configurable optional outputs as pulse output for energy measurement or limit output.

Product Features

- Dual Source Energy Measurement as per IEC 62053:
  - Independent Energy counter for Generator and Utility
  - Generator sense signal (10 to 60VDC/20 to 300VAC) to measure Active energy (kWh), Reactive energy (kVArh), Apparent energy (kVAh) measurement
- THD Measurement : The instrument measures THD per phase voltage & current up to 15th Harmonic.
- On-site programmable:
  - On-site Programmable System Configuration 3PH4W / 3PH3W / 1PH2W.
  - On-site Programmable CT ratios and PT ratios
- Low back depth : The instrument has very low back depth (behind the panel) of less than 35 mm.
- User Configurable Features : User can select any five or ten measurement screens which will be shown on display. Also back lit can be programmed to switched on or off.

- LCD Display with Back lit : LCD shows 3 Parameters at a glance.
- Parameter Screen recall : In case of power failure, the instrument memorizes the last displayed screen.
- Run Hour, ON Hour, Number of Interruptions: Run Hour records the number of hours load is connected. ON Hour is the period for which the auxiliary supply is ON. Number of Interruptions indicates the number of times the Auxiliary Supply was interrupted.
- Limit (Alarm) or Pulse Relay Output (Optional) :
  - Potential free, very fast acting relay contact
  - Configurable as pulse output which can be used to drive an external counter for energy measurement
  - Configurable as limit (alarm) switch
- Direct remote access via MODBUS with programmable baud rates up to 38.4kbps
- On-site selection of Auto scroll / Fixed Screen
- Enclosure Protection for dust and water : Conforms to IP 50 (front face) as per IEC60529
- Compliance to International Safety standards : Compliance to International Safety standard IEC 61010-1- 2010
- EMC Compatibility : Compliance to International standard IEC 61326

ZAM LC40

ENERGY METER FOR DUAL SOURCE APPLICATIONS

Technical Specifications

Input Voltage	
Nominal input voltage(ACRMS)	100 VL-L to 500 VL-L (57.7 VL-N to 290 VL-N)
System PTprimaryvalues	100VLLto1200kVLLprogrammableonsite.
Maxcontinuousinputvoltage	120% of nominalvalue
Input Current	
Nominalinputcurrent	1A/5A AC RMS
System CTprimaryvalues	From 1A to 9999A
Maxcontinuousinputcurrent	120% of nominalvalue
OverloadIndication	"-OL">121%ofnominalvalue (for voltage andcurrent)
Auxiliary Supply	
ExternalHigherAux	60 V – 300V AC-DC (± 5% approx)
Higher AuxNominalValue	230VAC/DC 50/60 Hz for ACAux
ExternalLowerAux	20 V – 60V DC / 20 V – 40VAC
Lower AuxNominalValue	48 V DC / 24 V AC(50/60 Hz for ACAux)
AuxSupplyfrequency	45 to 65 Hzrange
VA Burden	
Nominalinputvoltageburden	< 0.3 VA approx. perphase
Nominalinputcurrentburden	< 0.3 VA approx. perphase
Auxiliary Supplyburden Withaddoncard Withoutaddoncard	 < 6 VAapprox. < 4 VAapprox.
Generator Sense	
ACvoltage	20... 300VAC
DCvoltage	10... 60VDC
Operating Measuring Ranges	
Current(EnergyMeasurement) (As per IEC 62053-21)	Starting current : 2mA for 1A & 10mA for 5A Range: 20mA to 1.2A for1A 100mAto6Afor5A
Voltage	50... 120% of nominalvalue
PowerFactor	0.5 Lag...1. 0.8Lead
Frequency	50Hz /60Hz
TotalHarmonicdistortion	0…….50%
Accuracy	
ReferenceConditions	23°C +/-2°C
ActiveEnergy	Class 1 as per IEC 62053 –21
ReactiveEnergy	Class 2 as per IEC 62053 –23
ApparentEnergy	Class1
ActivePower	±0.5%ofnominalvalueatcosø=1
Re-ActivePower	±1.0% of nominal value at sin ø =1
ApparentPower	±0.5% of nominalvalue
PowerFactor/PhaseAngle	±3°
Voltage	±0.5%ofnominalvalue
Current	±0.5%ofnominalvalue
Frequency	± 0.2% of midfrequency
THD (Voltage/Current)	±2.0%
Overload Withstand	
Voltage	2xNominalvaluefor1second,repeated10 times at 10

	secondintervals
Current	20 x Imax for0.5sec
Display Update Rate	
Responsetimetostepinput	1 secapprox.
Applicable Standards	
EMC	IEC 61326 -1:2005
Immunity	IEC61000-4-3.10V/mmin–Level3industrial Low level
Safety	IEC61010-1-2010,Permanentlyconnecteduse
IPforwater&dust	IEC60529
Pollutiondegree:	2
Installationcategory:	III
Isolation : ProtectiveClass	2
High Voltage Test Input+AuxVsSurface Input VsRemainingCircuit	 4kVRMS,50Hz,1min 2kVRMS,50Hz,1min
Environmental	
Operatingtemperature	-10 to+55°C
Storagetemperature	-20 to+65°C
Relativehumidity	0.....90% RH (noncondensing)
Warmuptime	Minimum 3minute
Shock (AsperIEC60068-2-27)	Half sine wave,Peakacceleration 30gn(300m/s^2),duration 18ms.
Vibration	10... 150. 10 Hz, 0.15mmamplitude
Numberofsweepcycles	10 peraxis.
Enclosure	IP 50 (front faceonly)
Interfaces	
ImpulseLed	For Energy Calibration atfront
Relay(Optional)	240VAC,5A(ConfiguredasLimitorPulseoutput)
ModBus(Optional)	RS485,max.1200m Baud rate : 4.8k,9.6k,19.2k,38.4k bps

ZAM LC40

ENERGY METER FOR DUAL SOURCE APPLICATIONS

Parameter Measurement

Sr No	Displayed Parameters	3 Phase 4Wire	3Phase 3Wire	1Phase 2Wire
1.	Utility Active Energy (kWh)	✓	✓	✓
2.	Generator Active Energy (kWh)	✓	✓	✓
3.	Utility Reactive Energy (kVArh)	✓	✓	✓
4.	Generator Reactive Energy (kVArh)	✓	✓	✓
5.	Apparent Energy (kVAh) (Utility & Generator)	✓	✓	✓
6.	System Active Power (kW)	✓	✓	✓
7.	Active Power L1 (kW)	✓	×	×
8.	Active Power L2 (kW)	✓	×	×
9.	Active Power L3 (kW)	✓	×	×
10.	System Re-active Power (kVAr)	✓	✓	✓
11.	Re-active Power L1 (kVAr)	✓	×	×
12.	Re-active Power L2 (kVAr)	✓	×	×
13.	Re-active Power L3 (kVAr)	✓	×	×
14.	System Apparent Power (kVA)	✓	✓	✓
15.	Apparent Power L1 (kVA)	✓	×	×
16.	Apparent Power L2 (kVA)	✓	×	×
17.	Apparent Power L3 (kVA)	✓	×	×
18.	System Power Factor	✓	✓	✓
19.	Power Factor L1	✓	×	×
20.	Power Factor L2	✓	×	×
21.	Power Factor L3	✓	×	×
22.	System Phase Angle	✓	✓	✓
23.	Phase Angle L1	✓	×	×
24.	Phase Angle L2	✓	×	×
25.	Phase Angle L3	✓	×	×
26.	Current Demand(Utility / Generator)	✓	✓	✓

ZAM LC40

ENERGY METER FOR DUAL SOURCE APPLICATIONS

Sr No	Displayed Parameters	3 Phase 4Wire	3Phase 3Wire	1Phase 2Wire
27.	kVA Demand(Utility / Generator)	✓	✓	✓
28.	kW Demand (Utility / Generator)	✓	✓	✓
29.	Max Current Demand(Utility & Generator)	✓	✓	✓
30.	Max kVA Demand(Utility & Generator)	✓	✓	✓
31.	Max kW Demand(Utility & Generator)	✓	✓	✓
32.	Run Hour (Utility & Generator & Total)	✓	✓	✓
33.	On Hour (Utility & Generator & Total)	✓	✓	✓
34.	Number of Interruptions (Utility & Generator)	✓	✓	✓
35.	System Voltage	✓	✓	✓
36.	Voltage L1	✓	×	×
37.	Voltage L2	✓	×	×
38.	Voltage L3	✓	×	×
39.	Voltage L12	✓	✓	×
40.	Voltage L23	✓	✓	×
41.	Voltage L31	✓	✓	×
42.	System Voltage THD	✓	✓	✓
43.	Voltage L1 THD	✓	✓	×
44.	Voltage L2 THD	✓	✓	×
45.	Voltage L3 THD	✓	✓	×
46.	System Current	✓	✓	✓
47.	Current L1	✓	✓	×
48.	Current L2	✓	✓	×
49.	Current L3	✓	✓	×
50.	System Current THD	✓	✓	✓
51.	Current L1 THD	✓	✓	×
52.	Current L2 THD	✓	✓	×
53.	Current L3 THD	✓	✓	×

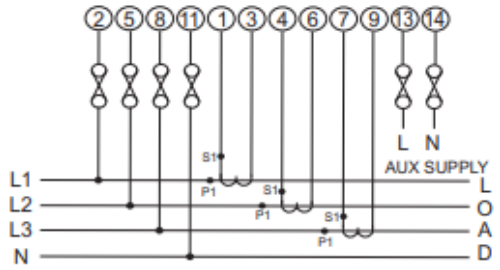
ENERGY METER FOR DUAL SOURCE APPLICATIONS

Sr No	Displayed Parameters	3 Phase 4Wire	3Phase 3Wire	1Phase 2Wire
54.	Neutral Current	✓	×	×
55.	Frequency	✓	✓	✓
56.	RPM	✓	✓	✓
57.	Phase Reversal Indication	✓	✓	×
58.	Current Reversal Indication	✓	✓	✓
59.	Phase Absent Indication	✓	✓	×
60.	Old Utility Active Energy (kWh)	✓	✓	✓
61.	Old Generator Active Energy (kWh)	✓	✓	✓
62.	Old Utility Reactive Energy (kVArh)	✓	✓	✓
63.	Old Generator Reactive Energy (kVArh)	✓	✓	✓
64.	Old Apparent Energy (kVAh) (Utility & Generator)	✓	✓	✓
65.	Old Run Hour (Utility & Generator & Total)	✓	✓	✓
66.	Old On Hour (Utility & Generator & Total)	✓	✓	✓
67.	Old Number of Interruptions (Utility & Generator)	✓	✓	✓

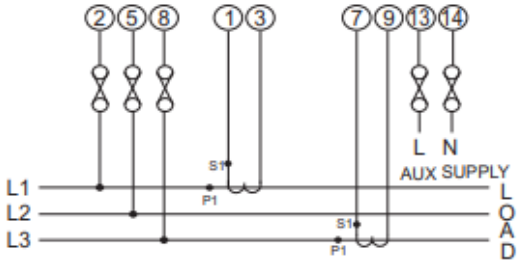
ZAM LC40

ENERGY METER FOR DUAL SOURCE APPLICATIONS

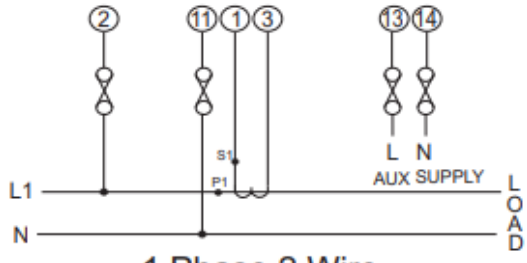
Connection Diagram and Installation



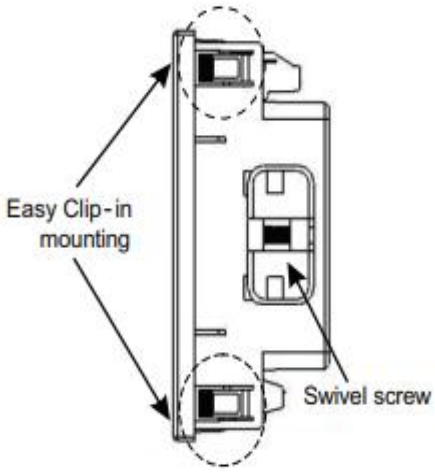
3 Phase 4 wire Unbalanced load

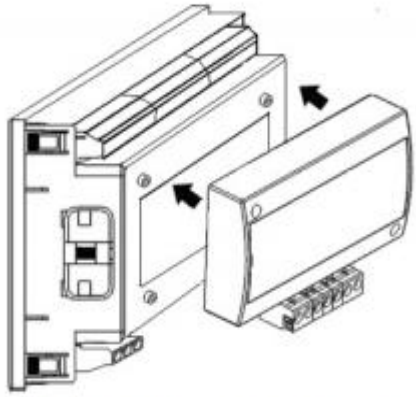


3 Phase 3 wire Unbalanced load



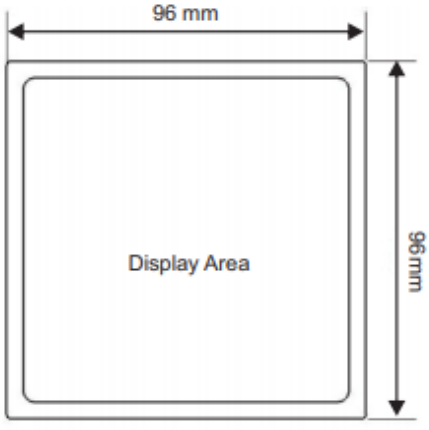
1 Phase 2 Wire



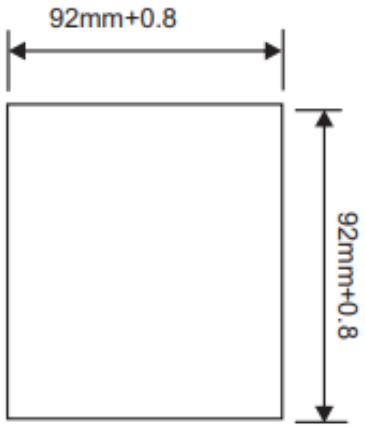


Optional Modbus/Pulse output pluggable module.

Dimensions



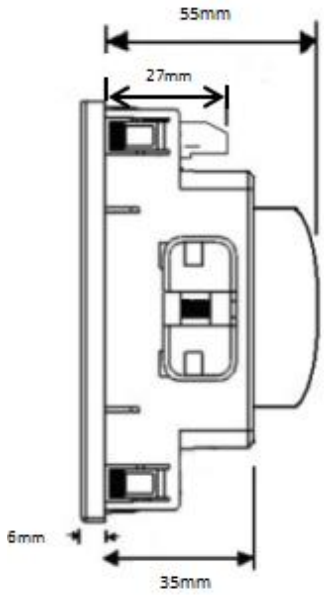
Front View



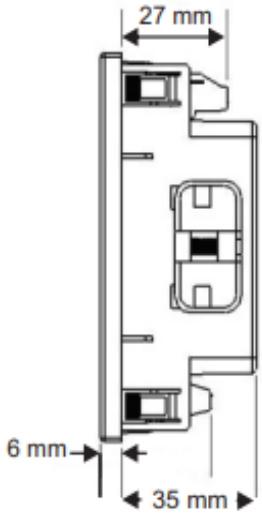
Panel Cutout

ZAM LC40

ENERGY METER FOR DUAL SOURCE APPLICATIONS



With Optional module



Without Optional module

Side view

Ordering Information

Ordering information	(✓)
System Type (Connection network)	
3 Phase (programmable as 4 Wire or 3 Wire on site)	
Auxiliary Supply Voltage	
60 - 300 V AC DC	
20 - 60 V DC / 20 - 40 V AC	
Optional	
A I. MODBUS (RS485) output	
II. MODBUS Option not used	
B I. Pulse Output- 1	
II. Pulse output- 2	
III. Pulse Output option not used	

ZAM LC40 1 Phase, 20 - 60 V DC / 20 - 40 V AC Auxiliary Supply Voltage, MODBUS (RS485) output, Pulse Output option not used.

Ziegler

Redefine Innovative Metering

Ziegler Instrumentation UK Ltd.

Central Buildings, Woodland close old woods Trading Estate, Torquay Devon, TQ2 7BB, United Kingdom

+441803 616 800 | info@ziegler-instrument.com | ziegler-instrument.com