Product Catalogue

AMTL
ADVANCE METERING TECHNOLOGY LTD

driving
innovation
and life
PKR

GENERATE, MEASURE & MANAGE ENERGY

driving
innovation
and life

Advance Metering Technology Limited (AMTL) *is an energy centric Organization engaged in Power Generation through Renewable resources, Energy Measurement and Energy Management.* ***AMTL*** *is focused on ensuring a Power Generation from renewable sources, manufacturing of world class Energy Measurement Devices and Energy Audit Services.*

The three business verticals are uniquely poised towards conservation of natural resources, Clean Environmental Practices and reduction of our dependence on fossil fuels.

Our large team of Engineers and Specialists work relentlessly identify develop and deploy the latest technologies and products and solutions for our Customers.

AMTL *is promoted by the* ***PKR Group****, which has been involved in the Electrical and Lighting business for nearly 60 years. The* ***PKR Group*** *is headed by Mr. P K Ranade , one of the founder promoters of* ***Indo Asian Fusegear Ltd (IAFL)****, a public limited company and a pioneer in the Electrical Switchgear Industry.*

AMTL *was created by de-merger process of* ***IAFL*** *to create a company that is a energy specialist company and it has now multiple business verticals under its portfolio of products and services.*

Power Generation	***Energy Meters and Devices***	***Energy Consulting Services***
Wind Energy	*Smart Metering*	*Energy Audit*
Bio-fuels and Biomass Energy	*Remote Metering*	*Trainings to Improve Energy Efficiency*
Solar Energy	*Energy Management Systems*	*Power Analysis*
Hydro-Power		*En M S (ISO 50001)*

GENERATION

AMTL *has already forayed into the field of power generation by successfully commissioning 11.7 MW capacity of wind power generation in the Jaisalmer district of Rajasthan in 2012.* ***AMTL*** *intends to invest strategically in RENEWABLE energy technologies and establish itself as a significant IPP (Independent Power Producer) within the next 4 years.*

AMTL *has plans to enhance its base of generation to commission 50 MW of power generation capacity in India and overseas in next 4 years. The focus of Power Division is power production through renewable energy technologies using Wind, Mini-Hydro, Solar & Biomass. The first pilot Biomass Power Plant in U.P., India, is planned to be operational in July 2014. A 20 MW Solar Project is also planned in Rajasthan, India in 2014.*

MEASUREMENT

The company manufactures a wide range of energy meters and systems designed for the distribution networks of tomorrow. A dedicated and experienced R & D team develops and constantly innovates our modern range of meters to exceed our customer needs.

The company has expanded its manufacturing capability in response to the growing demand for Energy meters and metering systems by substantially expanding the existing facility in Noida. A new modern factory is under construction for new projects using the best global practices and systems. A focused Sales & Marketing team, at key locations across India, caters to every market and customer segment.

ENERGY AUDIT AND MANAGEMENT

The objective of this division is to provide solutions for the efficient management of energy for all business enterprises.

Energy Audits form one of the core product offerings for our customers. This involves a detailed inspection and survey of the total energy consumption in a building, process or system with the end objective of reducing the amount of energy used without impacting existing performance.

The available consumer base of this division ranges from single residential consumer to the largest industrial establishment or commercial complex.

However, our customers broadly include the following categories:

- *Commercial - Malls, Commercial Buildings etc*
- *Industrial – Energy intensive industrial establishments.*
- *Hospitality – Hotel and Resort Complexes.*

This division has a large team of Certified Energy Auditors with Industry and Consumer specific expertise in:

- *Lighting Control*
- *HVAC Systems*
- *Electrical Distribution*
- *Energy Systems*

This team is equipped with a complete range of state of the art Monitoring and Measurement Equipment required to capture and track every variable involved in the energy audit process.

In addition to the Audit services, ***AMTL*** *is also equipped to supply all the products and equipment needed to achieve the required saving potential.*

The cost of Energy is increasing substantially and Energy Efficiency can help curb this expense. The gap of Power supply & demand can be reduced by demand side power management i.e. Energy Conservation and Energy Efficiency improvement. The gap can also be reduced by adopting alternative sources of energy.

The major benefits of EE enhancement are:

1. Bottom Line Enhancement

Lower energy costs lead to competitive pricing and improved margins.

2. Legislative Compliance

a. Energy Conservation Act 2001 & subsequent amendment 2010.

b. PAT & ECBC enforcement is already in place.

c. Voluntary compliance is easier than mandatory compliance in the future.

3. Global Warming, GHG Emission & Carbon Foot Print Reduction

a. As per Kyoto Protocol, GHG emission is to be brought to the same level that it was in 1990.

b. Reduction of Ecological Damage to our working environment.

4. Corporate Social Responsibility

The organization is recognized as a socially and environmentally responsible Corporate. Industry is the largest end user of commercial energy in India's economy. The saving potential is generally 15% - 30% depending on the sector. We identify the specific gaps by performing Energy Audits and implementing Energy Management Systems.

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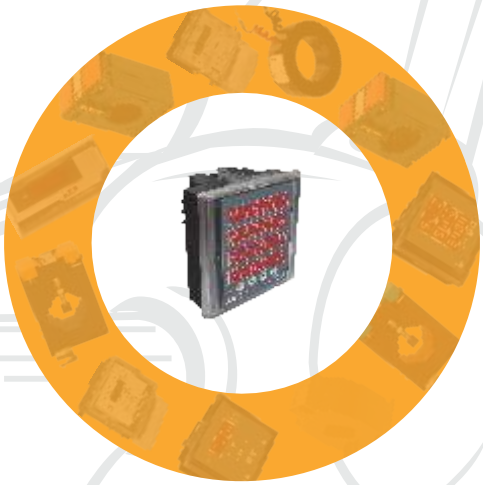

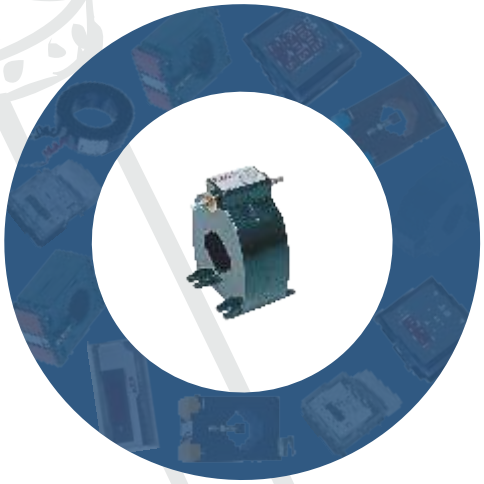

Notes

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REVENUE METERS

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SEMC / SEML - "K" Series

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ADVANCE METERING TECHNOLOGY LTD

SEMLK103C

SEMCK103C

eco-smart

1 - Phase, Digital Energy Meters

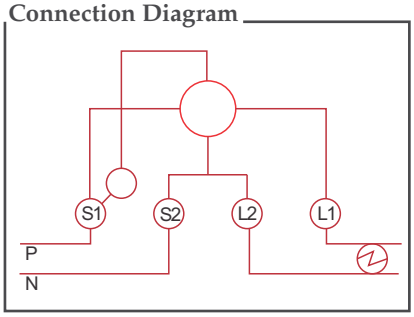
Salient Features

• Compliance with IS : 13779 & CBIP Report No. 304 • State-of-the-art design with class 1.0 accuracy • Liquid Crystal Display / Stepper Motor Counter Display • 6 digits including 1 decimal digit (99999.9) • Comprehensive tamper detection and tamper proofing measures • LED indication (SEML) for calibration, phase indication, earth load tamper and revers tamper • Display/Record cumulative active energy (kWh) • Compact, sleek and packed in dust, moisture and shock proof (IP51) polycarbonate enclosure.

Technical Specifications

Confirms to	:	IS 13779, IEC 62052/53, CBIP Report No. 304
Accuracy Class	:	Class 1.0
Reference Voltage	:	240V AC (-40% to +20%)
Current Rating lb (lm)	:	5(20)A, 5(30)A, 10(40)A, 10(60)A
Frequency Range	:	50Hz ± 5%
Power Factor Range	:	0(lag)-UPF-0(lead)
Starting Current	:	0.2% Ib
Meter Constant	:	3200 Pulses/kWh
Power Consumption	:	< 1W/8VA (in voltage circuit); <1VA (in current circuit)
Display	:	LCD- 5+1 / Stepper Motor Counter Display (99999.9) with rollover

Connection Diagram



Display/Record Parameters

Indications
Calibration LED
Reverse

Tamper
Current reversal, Phase reversal
Earth loading, DC/AC magnetic influence
EMI/EMC interface

Communication
No Communication

Ordering Details

Rating	Voltage	Product Code
5 - 20A	240V AC	SEMCK100C/SEMLK100C
5 - 30A	240V AC	SEMCK101C/SEMLK101C
10 -40A	240V AC	SEMCK102C/SEMLK102C
10 - 60A	240V AC	SEMCK103C/SEMLK103C

Type	Display
SEMC	Stepper Motor Counter
SEML	LCD

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ADVANCE METERING TECHNOLOGY LTD

SEMLM113C

eco-smart

1 - Phase, Multi Function Energy Meter

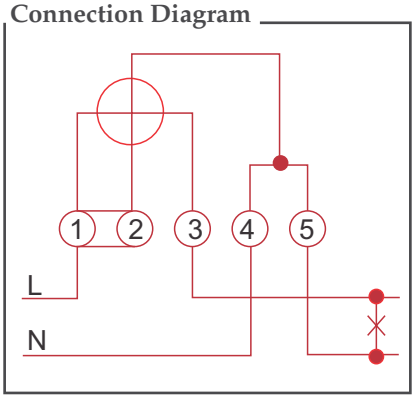
Salient Features

• Compliance with IS : 13779 & CBIP Report No. 304 • State-of-the-art design with class 1.0 accuracy • Blacklit Liquid Crystal Display-7 segment • 7 digits including 1 decimal digit (999999.9) • Comprehensive tamper detection and tamper proofing measures • LED/LCD indication for calibration, phase indication, earth load tamper and revers tamper • Display / Record cumulative active energy (kWh) • TOD, MD, Load profile, PF indication • Optical communication port • Forward energy registration in case of all tampers • High resolution energy display mode for dial test • Authenticated Billing code (ABC) • Compact, sleek and packed in dust, moisture and shock proof (IP51) polycarbonate enclosure.

Technical Specifications

Confirms to	:	IS 13779, IEC 62052/53, CBIP Report No. 304
Accuracy Class	:	Class 1.0 (No drift in tolerance of accuracy for 10 years)
Reference Voltage	:	240V AC (-40% to +20%)
Current Rating lb (lm)	:	5(20)A, 5(30)A, 10(40)A, 10(60)A
Frequency Range	:	50Hz ± 5%
Power Factor Range	:	0(lag)-UPF-0(lead)
Starting Current	:	0.2% Ib
Meter Constant	:	3200 Pulses/kWh
Power Consumption	:	< 1W/8VA (in voltage circuit); <1VA (in current circuit)
Display	:	LCD- 6+1

Connection Diagram



Display/Record Parameters

Auto scroll mode
Cumulative active energy (kWh)
Cumulative MD along with legend

Tamper
Current reversal, Phase reversal, Earth loading, DC/AC magnetic influence EMI/EMC interface, Neutral missing, RCD Cover open, Immune and log for abnormal voltage surge of 35Kv

Push button mode
Real date & time, Instantaneous voltage, Instantaneous current Instantaneous power factor, Instantaneous load (kW) Supply frequency, MD with date & time, Meter serial number

Communication
Optical communication as per IEC 62056-21 Optically isolated RS232/RS485 port for data downloading, GSM/GPRS communication (optional) LPR 2.4 GHz (optional), IRDA communication (optional)

Ordering Details

Rating	Voltage	Product Code
5 - 20A	240V AC	SEMLM110C
5 - 30A	240V AC	SEMLM111C
10 -40A	240V AC	SEMLM112C
10 - 60A	240V AC	SEMLM113C

Type	Display
SEML	LCD

* Additional Communication & Tamper will be available at extra cost.

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SEMLD1B3C

eco-smart

1 - Phase, Dual Source Energy Meter

Salient Features

• Compliance with IS : 13779 & CBIP Report No. 304 • State-of-the-art design with class 1.0 accuracy • Liquid Crystal Display-7 segment with Backlit • 7 digits including 1 decimal digit (999999.9) • Measure the power consumption on two sources simultaneously (DG set & Power grid) • Comprehensive tamper detection and tamper proofing measures • LED / LCD indication for calibration, phase indication, earth load tamper and revers tamper • Display/Record cumulative active energy (kWh) • TOD, MD, Load profile, PF indication • Alert on RDU display for low balance and overloads • Forward energy registration in case of all tampers • Inbuilt relays for auto cut-off up to 80Amp. • Authenticated Billing code (ABC) • Compact, sleek and packed in dust, moisture and shock proof (IP51) polycarbonate enclosure.

Technical Specifications

Confirms to	:	IS 13779, IEC 62052/53, CBIP Report No. 304
Accuracy Class	:	Class 1.0
Reference Voltage	:	240V AC (-40% to +20%)
Current Rating lb (lm)	:	5(20)A, 5(30)A, 10(40)A, 10(60)A
Frequency Range	:	50Hz ± 5%
Power Factor Range	:	0(lag)-UPF-0(lead)
Starting Current	:	0.2% Ib
Meter Constant	:	3200 Pulses/kWh
Power Consumption	:	< 1W/8VA (in voltage circuit); <1VA (in current circuit)
Display	:	LCD- 6+1

Ordering Details

Rating	Voltage	Product Code
5 - 20A	240V AC	SEMLD1B0C
5 - 30A	240V AC	SEMLD1B1C
10 -40A	240V AC	SEMLD1B2C
10 - 60A	240V AC	SEMLD1B3C

Type	Display
SEML	LCD

Display/Record Parameters

Auto scroll mode
Cumulative active energy (kWh) for grid supply, Maximum demand of current month (kW) with date & time for grid supply Real date & time, Cumulative active energy (kWh) & MD of current month (kW) with date & time for DG supply

Tamper
Current reversal, Phase reversal, DC/AC magnetic influence, Neutral missing, Cover open, Immune and log the tamper events for abnormal, voltage surge of 35Kv, RCD

Push button mode
LCD check, Meter serial no., History of cumulative active energy, (kWh) & MD (kW) with date & time for last six months for grid supply, History of cumulative active energy (kWh) & MD (kW) with date & time for last six months for DG supply

Communication
Optical communication as per IEC 62056-21, Optically isolated RS232/RS485 port for data downloading, GSM/GPRS communication (optional), LPR 2.4 GHz (optional), IRDA communication (optional), Downloaded data can be used for on the spot billing

Indications
Active energy by LED, DG supply indication by LED, Grid supply indication by LED, Overload indication (optional)

Application
Suitable for low cost application, Captivate generator sets, Individual machine & compressors, Lighting loads

Advantages
Minimum wiring as same power feeding lines are utilized for DG Set as well as for mains (Grid) power supply, Load control configuration of DG and mains separately, Over and under voltage protection.

TEMC / TEML - "K" Series

AMTL
ADVANCE METERING TECHNOLOGY LTD

TEMCK405C

TEMLK405C

eco-smart

3 - Phase, Digital Energy Meters

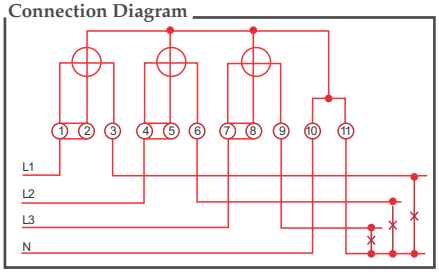
Salient Features

• Compliance with IS : 13779 & CBIP Report No. 304 • State-of-the-art design with class 1.0 accuracy • Liquid Crystal Display / Stepper Motor Counter Display • 6 digits including 1 decimal digit (99999.9) • Comprehensive tamper detection and tamper proofing measures • LED indication (TEML) for calibration, phase indication, earth load tamper and revers tamper • Display/Record cumulative active energy (kWh) • Compact, sleek and packed in dust, moisture and shock proof (IP51) polycarbonate enclosure.

Technical Specifications

Confirms to	:	IS 13779, IEC 62052/53, CBIP Report No. 304
Accuracy Class	:	Class 1.0
Reference Voltage	:	3X240V AC (-40% to +20%)
Current Rating lb (lm)	:	10(40)A, 10(60)A
Frequency Range	:	50Hz ± 5%
Power Factor Range	:	0(lag)-UPF-0(lead)
Starting Current	:	0.2% Ib
Meter Constant	:	1600 Pulses/kWh
Power Consumption	:	< 1W/8VA (in voltage circuit); <1VA (in current circuit)
Display	:	LCD- 5+1 / Stepper Motor Counter Display (99999.9) with rollover

Connection Diagram



Display/Record Parameters

Indications
Calibration LED, R Phase, Y Phase, B Phase, Reverse

Tamper
Current reversal, Phase reversal
DC/AC magnetic influence

Communication
No communication

Ordering Details

Rating	Voltage	Product Code
10 -40A	240V AC	TEMCK405C/TEMLK405C
10 - 60A	240V AC	TEMCK406C/TEMLK406C

Type	Display
TEMC	Stepper Motor Counter
TEML	LCD

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TEMLM413C

eco-smart

3 - Phase, Multi Function Energy Meter

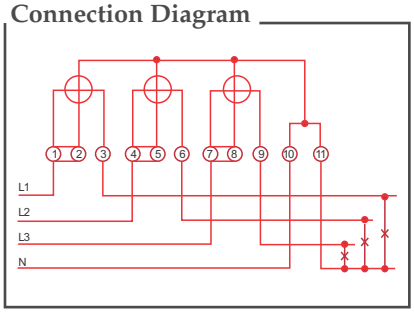
Salient Features

• Compliance with IS : 13779 & CBIP Report No. 304 • State-of-the-art design with class 1.0 accuracy • Blacklit Liquid Crystal Display-7 segment • 7 digits including 1 decimal digit (999999.9) • Comprehensive tamper detection and tamper proofing measures • LED/LCD indication for calibration, phase indication, earth load tamper and revers tamper • Display / Record cumulative active energy (kWh) • TOD, MD, Load profile, PF indication • Optical communication port • Accurate energy registration in case of all tampers • High resolution energy display mode for dial test • Authenticated Billing code (ABC) • Compact, sleek and packed in dust, moisture and shock proof (IP51) polycarbonate enclosure.

Technical Specifications

Confirms to	:	IS 13779, IEC 62052/53, CBIP Report No. 304
Accuracy Class	:	Class 1.0
Reference Voltage	:	3X240V AC (-40% to +20%)
Current Rating lb (lm)	:	10(40)A, 10(60)A
Frequency Range	:	50Hz ± 5%
Power Factor Range	:	0(lag)-UPF-0(lead)
Starting Current	:	0.2% Ib
Meter Constant	:	1600 Pulses/kWh
Power Consumption	:	< 1W/8VA (in voltage circuit); <1VA (in current circuit)
Display	:	LCD- 6+1

Connection Diagram



Display/Record Parameters

Auto scroll mode
Cumulative active energy (kWh Cumulative MD along with legend

Indications
Calibration LED, R Phase, Y Phase, B Phase, Reverse tamper

Tamper
Current reversal, Phase reversal, DC/AC magnetic influence, EMI/EMC interface, Neutral missing, RCD Cover open, Immune and log for abnormal voltage surge of 35Kv

Push button mode
Real date & time, Instantaneous voltage, Instantaneous current Instantaneous power factor, Instantaneous load (kW) Supply frequency, MD with date & time, Meter serial number

Communication
Optical communication as per IEC 62056-21 Optically isolated RS232/RS485 port for data downloading, GSM/GPRS communication (optional) LPR 2.4 GHz (optional), IRDA communication (optional) Downloaded data can be used for on the spot billing.

Ordering Details

Rating	Voltage	Product Code
10 -40A	240V AC	TEMLM412C
10 - 60A	240V AC	TEMLM413C

Type	Display
SEML	LCD

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TEMLD4B3C

eco-smart

3 - Phase, Dual Source Energy Meter

Salient Features

• Compliance with IS : 13779 & CBIP Report No. 304 • State-of-the-art design with class 1.0 accuracy • Blacklit Liquid Crystal Display-7 segment • 7 digits including 1 decimal digit (999999.9) • Measure the power consumption on two sources simultaneously (DG set & Power grid) • Comprehensive tamper detection and tamper proofing measures • L E D / L C D indication for calibration, phase indication, earth load tamper and revers tamper • Display/Record cumulative active energy (kWh) • TOD, MD, Load profile, PF indication • Alert on RDU display for low balance and overloads • F o r w a r d e n e r g y registration in case of all tampers • Inbuilt relays for auto cut-off up to 80Amp. • Authenticated Billing code (ABC) • C o m p a c t, sleek and packed in dust, moisture and shock proof (IP51) polycarbonate enclosure.

Technical Specifications

Confirms to	:	IS 13779, IEC 62052/53, CBIP Report No. 304
Accuracy Class	:	Class 1.0
Reference Voltage	:	3X240V AC (-40% to +20%)
Current Rating lb (lm)	:	10(40)A, 10(60)A
Frequency Range	:	50Hz ± 5%
Power Factor Range	:	0(lag)-UPF-0(lead)
Starting Current	:	0.2% Ib
Meter Constant	:	1600 Pulses/kWh
Power Consumption	:	< 1W/8VA (in voltage circuit); <1VA (in current circuit)
Display	:	LCD- 6+1

Ordering Details

Rating	Voltage	Product Code
10 -40A	240V AC	TEMLD4B2C
10 - 60A	240V AC	TEMLD4B3C

Type	Display
TEML	LCD

Display/Record Parameters

Auto scroll mode
Cumulative active energy (kWh) for grid supply, Maximum demand of current month (kW) with date & time for grid supply Real date & time, Cumulative active energy (kWh) for DG supply & MD of current month (kW) with date & time for DG supply

Tamper
Current reversal, Phase reversal, DC/AC magnetic influence, EMI/EMC interface, Neutral missing, Cover open, Immune and log voltage surge of 35Kv.

Push button mode
LCD check, Meter serial no., History of cumulative active energy, (kWh) & MD (kW) with date & time for last six months for grid supply, History of cumulative active energy (kWh) & MD (kW) with date & time for last six months for DG supply

Communication
Optical communication as per IEC 62056-21, Optically isolated RS232/RS485 port for data downloading, GSM/GPRS communication (optional)LPR 2.4 GHz (optional), IRDA communication (optional). Downloaded data can be used for on the spot billing

Indications
Active energy by LED, DG supply indication by LED, Grid supply indication by LED, R Phase Y Phase, B Phase, Overload indication (optional)

Application
Suitable for low cost application, Captivate generator sets, Individual machine & compressors, Lighting loads

Advantages
Minimum wiring as same power feeding lines are utilized for DG Set as well as for mains (Grid) power supply, Load control configuration of DG and mains separately, Over and under voltage protection.

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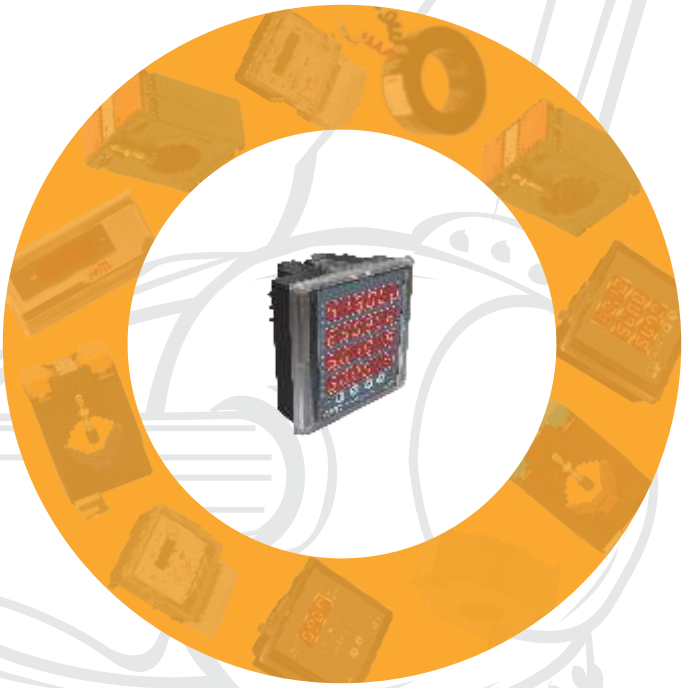

PANEL METERS

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AMTL
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96 x 96 mm

96 x 96 mm

POWER ANALYZER
(3 Phase)

Main Features

- True RMS Measurement
- C lass 1.0 / CBIP 88 (0.5 Optional)
- Password protection programmable
- Simultaneous sampling of Current & Volts
- Recording of Max./Min. - V, A, Hz, W, VA, PF, VAr value storage
- Automatic measuring of Kilo, Mega, Giga and decimal point
- RPM display & Neutral current calculation
- K-factor V&A (all three phase)
- Clearance and Creepage distance comply to IEC61010 safety standard
- Arithmetic harmonics/Selectable VA measurement Vector
- Upgrade rate of programmable parameter 1 sec to 5 sec (Default 1 sec.)
- Auto Scrolling period 1 sec. to 10 sec. (Default 5 sec.)
- % of unbalance A & V for all three phases
- Pulse output (POP) on time 50-500ms programmable
- Front LED pulse 5000 imp/kWH
- Modbus Communication.
- Programmable - Energy display counter based on resolution base.
- Energy resets at 999999kWH * Multiplication factor
- Reverse lock option user programmable for positive energy accumulation
- THD for Current and Voltage (upto 31st)
- Ampere hour (Ah) and PF average parameters

Standard Features

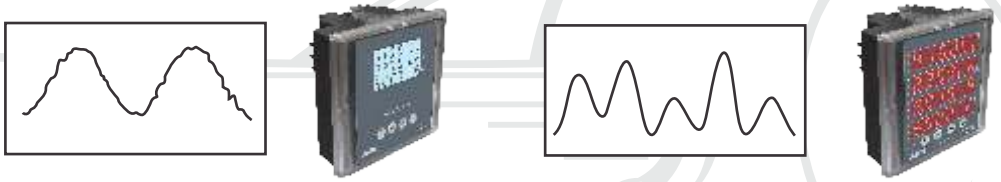
• Basic Parameter-VL-L, VL-N, AMP, HZ, Q(Angle V/A)/R, Unbalance (in RYB) • Power Parameter-W, VA, PF, VAR, RYB VAR (in RYB) • Energy Parameter-WH, VAH, VARh (Ind), VARh(Cap), LH, Old Energy • Other Parameter-THD, KF, H/L

Technical Specifications

Accuracy	:	Class 1 (As per IEC 62036/53, 61557-12) (Optional Class 0.5)
Sensing/Measurement :		True RMS with 1 Sec. update time, 4 Quadrant Power and Energy
Ambient Conditions :		Temperature: -5 to +55° C (K55), Humidity : <95% non-condessing
Safety	:	IP protection: IP51 on front plate, Device safety: As per IEC 61010
Input Voltage	:	VR, VY, VB, VN inputs - Programmable 110 or 415VLL Nominal (Range 80 to 550V LL), Primary Programmable up to 999 kV, Burden: <0.2VA
Input Current	:	AR, AY, AB input current - 50mA-6A (Programmable 1A or 5A), CT Primary Programmable up to 99 kA, Burden : <0.2 VA
Aux-Supply	:	80 - 300V AC/DC, 48V DC Optional, 40-70Hz, Burden : <4VA
Display Type	:	7 segment 6 digits LED/ 7 digits graphical LCD display

Technical Specifications

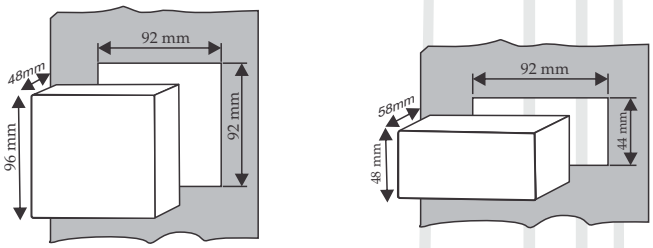
Max CT, PT Ratio	:	2000 MVA Programmable
Communication	:	RS485 serial channel connection with Modbus RTU protocol (RS232 optional), Baud rate: 2400 bps to 19200 bps. (Standard 9600 bps)
Mechanical	:	Enclosure: compact sleek and shock proof engineering plastic, Bezzel Size: 96 x 96 mm
Weight	:	<300 gms
Recording of Max / Min. value of V, A, Hz, VA, W, Var, PF:		
	:	Protection of 3 phase system against single phasing, min. & max. voltage, over load, highly lagging and leading Pf, Hz etc. Power Navigator can trap such events for future reference. Identifying & record unbalance voltage and currents and helps the user to identify the root cause. Unbalance over-burdens the electrical system and affects in the form of over loading of cables, motors and switchgear.
Harmonics:		
	:	Identify the Total Harmonic Distortion. Presence of THD will urge the user to identify the pollution loads and take necessary action to mitigate harmonics thru' an appropriate harmonic filter and save energy and also to improve plants & equipments efficiency.
Data Logging:		
	:	It is very important information for all types of business to determine performance, quality, efficiency, cost reduction, fuel consumption monitoring and many other critical factors. This feature provides important and accurate data for analysis.
		1 Minute to 24 hours interval programmable. Data interval and parameter can be selected through RS485 communication.



Optional Features

• Upto 4 digital output • 2 Analogue input • TOD • Individual **Harmonics** upto 31st level for V & A • RD (Rising Demand) • Analogue Input/output • Ethernet • Class 0.5 • **Data logger** - 1MB / 8MB optional • Demand **updation** • RTC can be adjusted using external communication upto 60A direct measurements using Hanging CT.

Cutout details



Ordering Details

Rating	Size	Product Code
3 Phase	96x96 mm	TMU0DMC
3 Phase	96x96 mm	TMP00DM
3 Phase	96x96 mm	TM00ALM
3 Phase	96x96 mm	TM00BLM
3 Phase	96x96 mm	TMUDMCL
3 Phase	96x96 mm	TMP0DML
3 Phase	96x96 mm	TM0ALML
3 Phase	96x96 mm	TM0BLML

AMTL
ADVANCE METERING TECHNOLOGY LTD

96 x 96 mm

DUAL SOURCE METER
(3 Phase)

Main Features

- 2 Line Display
- True RMS Measurement
- Password protection programmable
- Simultaneous sampling of Current & Volts
- Automatic measuring of Kilo, Mega, Giga and decimal point
- Single Energy Meter for EB & DG
- Single Potential free contact required from AMF panel or 240 Volt
- Automatic switching of Display based on input source
- Energy resets at 999999kWH * Multiplication factor
- Reverse lock option user programmable for positive energy accumulation
- Lower CT & PT burden
- User programmable CT & PT ratio upto 2000 MVA
- User programmable kVAh or kWh for meters with energy

Standard Features

• Power Parameter - W, PF • Energy Parameter-WH, OLD Energy

Technical Specifications

Accuracy	: Class 1 (As per IEC 62036/53, 61557-12) (Optional Class 0.5)
Sensing/Measurement :	True RMS with 1 Sec. update time
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	: 80 - 300V AC/DC, 48V DC Optional, 40-70Hz, Burden : <4VA
Display Type	: 7 segment 6 digits LED display
CT PT Ratio Max :	Programmable 2000 MVA
Mechanical	: Enclosure: compact sleek and shock proof engineering plastic, Bezzel Size: 96 x 96 mm, 48 x 96 mm
Weight	: <300 gms

Optional Features

• Accuracy : Class 0.5 (Optional) • RS485 communication with Modbus RTU protocol (RS232 optional) • Upto Two Digital output • 60 Amp inbuilt CT option

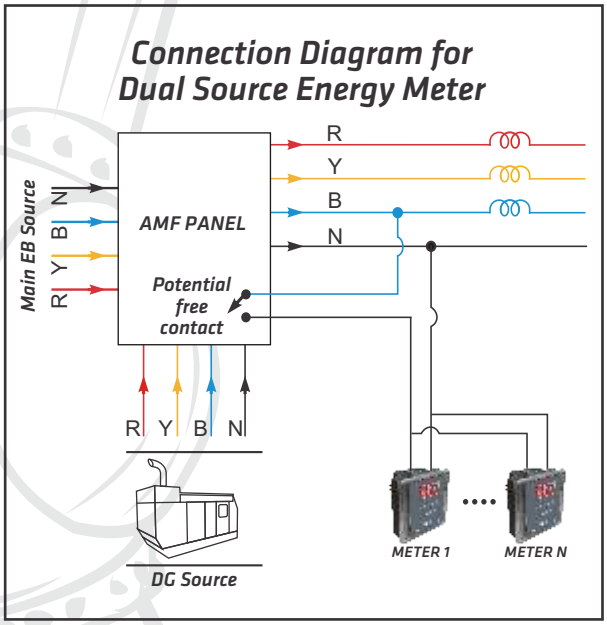
AMTL
ADVANCE METERING TECHNOLOGY LTD

96 x 96 mm

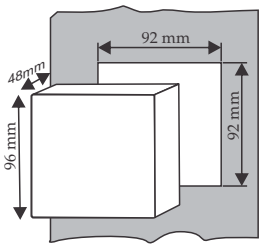
DUAL SOURCE METER
(3 Phase)

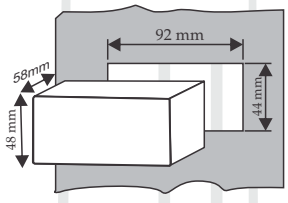
Additional Features

• Basic Parameter-VL-L, VL-N, AMP, HZ • Power Parameter-W, PF • Energy Parameter-WH, LH, OLD Energy



Cutout details





Ordering Details

Rating	Size	Product Code
3 Phase	96x96 mm	3M003DS
3 Phase	96x96 mm	3MM03DS

AMTL
ADVANCE METERING TECHNOLOGY LTD


96 x 96 mm


96 x 96 mm


96 x 48 mm

MULTI FUNCTION METER
(3 Phase)

Main Features

- 3 Line Display
- True RMS Measurement
- Password protection programmable
- Simultaneous sampling of Current & Volts
- Automatic measuring of Kilo, Mega, Giga and decimal point
- Auto Scrolling
- Front LED pulse 2500 imp/kWH
- Programmable - Energy display counter based on resolution base.
- Energy resets at 999999kWH * Multiplication factor
- Reverse lock option user programmable for positive energy accumulation
- Lower CT & PT burden
- User programmable CT & PT ratio upto 2000 MVA
- User programmable kVAh or kWh for meters with energy

Standard Features

• Basic Parameter-VL-L, VL-N, AMP, HZ (in RYB) • Power Parameter-W, VA, PF (in RYB) • Energy Parameter-WH, LH

Technical Specifications:

Accuracy	:	Class 1 (As per IEC 62036/53, 61557-12) (Optional Class 0.5)
Sensing/Measurement	:	True RMS with 1 Sec. update time
Ambient Conditions	:	Temperature: 0-55° C, Humidity : <95% non-condessing
Safety	:	IP protection: IP51 on front plate, Device safety: As per IEC 61010
Input Voltage	:	VR, VY, VB, VN inputs - Programmable 110 or 415VLL Nominal (Range 80 to 550V LL), Primary Programmable up to 999 kV, Burden: <0.2VA
Input Current	:	AR, AY, AB input current - 50mA-6A (Programmable 1A or 5A), CT Primary Programmable up to 99 kA, Burden : <0.2 VA
Aux-Supply	:	80 - 300V AC/DC, 48V DC Optional, 40-70Hz, Burden : <4VA
Display Type	:	7 segment 6 digits LED display
CT PT Ratio Max	:	Programmable 2000 MVA
Communication	:	RS485 serial channel connection with Modbus RTU protocol (RS232 optional), Baud rate: 2400 bps to 19200 bps. (Preferred 9600 bps)
Mechanical	:	Enclosure: compact sleek and shock proof engineering plastic, Bezzel Size: 96 x 96 mm, 48 x 96 mm
Weight	:	<300 gms

AMTL
ADVANCE METERING TECHNOLOGY LTD

96 x 96 mm

96 x 96 mm

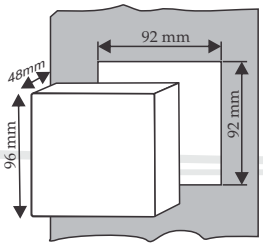
96 x 48 mm

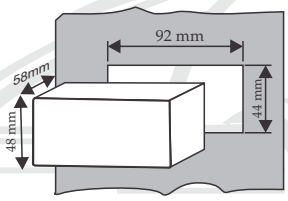
MULTI FUNCTION METER
(3 Phase)

Optional Features

• Accuracy : Class 0.5 (Optional) • RS 485 Communication • Upto Two Digital output

Cutout details





Ordering Details

Rating	Size	Product Code
3 Phase	96x96 mm	3MRM005
3 Phase	96x96 mm	3MRM004
3 Phase	96x96 mm	3MRM003
3 Phase	96x96 mm	3MRM04L
3 Phase	96x96 mm	3MRM03L
3 Phase	96x48 mm	3MRM04m
3 Phase	96x48 mm	3MRM03m

AMTL
ADVANCE METERING TECHNOLOGY LTD

96 x 96 mm

96 x 48 mm

ENERGY METER
(3 Phase)

Main Features

- 1 Line Display
- True RMS Measurement
- Password protection programmable
- Automatic measuring of Kilo, Mega, Giga and decimal point
- Auto Scrolling
- Programmable - Energy display counter based on resolution base.
- Energy resets at 999999kWH * Multiplication factor
- Reverse lock option user programmable for positive energy accumulation
- Lower CT & PT burden
- User programmable CT & PT ratio upto 2000 MVA

Standard Features

• Energy Parameter-WH, VA, W, PF (any one programmable)

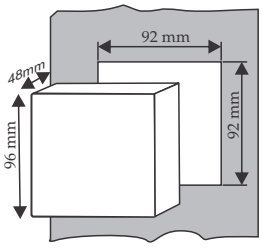
Technical Specifications

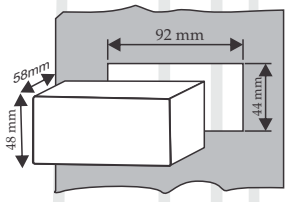
Accuracy	:	Class 1 (As per IEC 61036, IS 13779, CBIP 88) (Optional Class 0.5)
Sensing/Measurement	:	True RMS with 1 Sec. update time
Ambient Conditions	:	Temperature: 0-55° C, Humidity : <95% non-condessing
Safety	:	IP protection: IP51 on front plate, Device safety: As per IEC 61010
Input Voltage	:	VR, VY, VB, VN inputs - Programmable 110 or 415VLL Nominal (Range 80 to 550V LL), Primary Programmable up to 999 kV, Burden: <0.2VA
Input Current	:	AR, AY, AB input current - 50mA-6A (Programmable 1A or 5A), CT Primary Programmable up to 99 kA, Burden : <0.2 VA
Aux-Supply	:	80 - 300V AC/DC, 48V DC Optional, 40-70Hz, Burden : <4VA
Display Type	:	7 segment 6 digits LED display
Mechanical	:	Enclosure: compact sleek and shock proof engineering plastic, Bezzel Size: 96 x 96 mm, 48 x 96 mm
Weight	:	<300 gms

Optional Features

• Accuracy : Class 0.5 (Optional) • RS485 communication with Modbus RTU protocol (RS232 optional)

Cutout details





Ordering Details

Rating	Size	Product Code
3 Phase	96x96 mm	2MEM001
3 Phase	96x48 mm	2MRM01m

AMTL
ADVANCE METERING TECHNOLOGY LTD

96 x 96 mm

96 x 48 mm

VOLTMETER
(1/3 Phase)

Main Features

- 1 Phase/3 Phase voltmeter with inbuilt selector switch
- 1 Phase / Star / Delta Wiring type programmable
- Micro controller based operation
- Password protection programmable
- Phase-wise and average information in three phase meters
- Auto Scrolling
- Voltage primary up to 999k Volt
- Onsite programmable PT primary & PT secondary
- Reverse lock option user programmable for positive energy accumulation

Standard Features

• Basic Parameter-VL-L, VL-N, Avg & Phase Wise

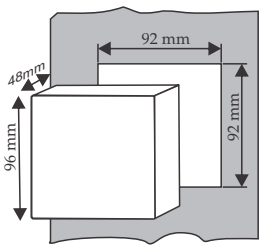
Technical Specifications

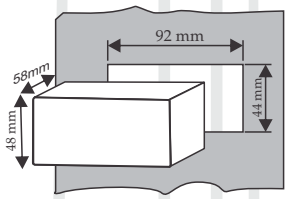
Accuracy	: Class 1 (As per IEC 61036, IS 13779, CBIP 88) (Optional Class 0.5)
Sensing/Measurement :	True RMS with 1 Sec. update time
Ambient Conditions :	Temperature: 0-55° C, Humidity : <95% non-condessing
Safety	: IP protection: IP51 on front plate, Device safety: As per IEC 61010
Input Voltage	: VR, VY, VB, VN inputs - Programmable 110 or 415VLL Nominal (Range 80 to 550V LL), Primary Programmable up to 999 kV, Burden: <0.2VA
Aux-Supply	: 80 - 300V AC/DC, 48V DC Optional, 40-70Hz, Burden : <4VA
Display Type	: 7 segment 4 digits LED display
Mechanical	: Enclosure: compact sleek and shock proof engineering plastic, Bezzel Size: 96 x 96 mm, 48 x 96 mm
Weight	: <300 gms

Optional Features

• Accuracy : Class 0.5 (Optional) • RS485 communication with Modbus RTU protocol (RS232 optional)

Cutout details





Ordering Details

Rating	Size	Product Code
1 Phase	96x96 mm	1M0001V
1 Phase	96x48 mm	1M001Vm
3 Phase	96x96 mm	1M0003V
3 Phase	96x48 mm	1M003Vm

AMTL
ADVANCE METERING TECHNOLOGY LTD

96 x 96 mm

96 x 48 mm

AMMETER
(1/3 Phase)

Main Features

- 1 Phase/3 Phase ammeter with inbuilt selector switch
- 1 Phase / Star / Delta Wiring type programmable
- Micro controller based operation
- Password protection programmable
- Phase-wise and average information in three phase meters
- Auto Scrolling
- Current primary upto 99 kAmps
- Onsite programmable CT primary & CT secondary
- Current secondary 1 Amp to 6 Amp (Default 5 Amp)

Standard Features

• Basic Parameter-AMP-AVg, AR, AY, AB

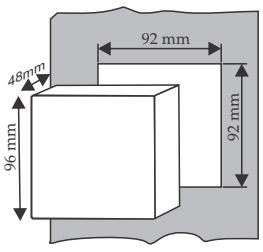
Technical Specifications

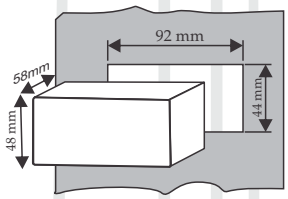
Accuracy	:	Class 1 (As per IEC 61036, IS 13779, CBIP 88) (Optional Class 0.5)
Sensing/Measurement :		True RMS with 1 Sec. update time
Ambient Conditions :		Temperature: 0-55° C, Humidity : <95% non-condessing
Safety	:	IP protection: IP51 on front plate, Device safety: As per IEC 61010
Input Current	:	AR, AY, AB input current - 50mA-6A (Programmable 1A or 5A), CT Primary Programmable up to 99 kA, Burden : <0.2 VA
Aux-Supply	:	80 - 300V AC/DC, 48V DC Optional, 40-70Hz, Burden : <4VA
Display Type	:	7 segment 4 digits LED display
Mechanical	:	Enclosure: compact sleek and shock proof engineering plastic, Bezzel Size: 96 x 96 mm, 48 x 96 mm
Weight	:	<300 gms

Optional Features

• Accuracy : Class 0.5 (Optional) • RS485 communication with Modbus RTU protocol (RS232 optional)

Cutout details





Ordering Details

Rating	Size	Product Code
1 Phase	96x96 mm	1M0001A
1 Phase	96x48 mm	1M001Am
3 Phase	96x96 mm	1M0003A
3 Phase	96x48 mm	1M003Am

AMTL
ADVANCE METERING TECHNOLOGY LTD

96 x 96 mm

96 x 48 mm

FREQUENCY METER
(1 Phase)

Main Features

- Wider range of display 35 Hz to 70 Hz
- Micro controller based operation
- Password protection programmable
- Available in 96 x 96 mm & 96 x 48 mm

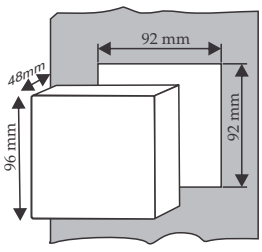
Standard Features

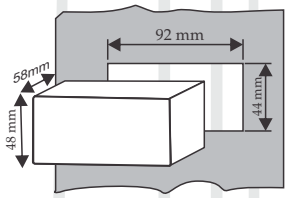
• Basic Parameter- Hz

Technical Specifications:

Accuracy	: Class 0.2(As per IEC 61036, IS 13779, CBIP 88)
Sensing/Measurement :	True RMS with 1 Sec. update time
Ambient Conditions :	Temperature: 0-55° C, Humidity : <95% non-condessing
Safety	: IP protection: IP51 on front plate, Device safety: As per IEC 61010
Aux-Supply	: 80 - 300V AC 50/60Hz Option, Burden : <4VA
Display Type	: 7 segment 4 digits LED display
Mechanical	: Enclosure: compact sleek and shock proof engineering plastic, Bezzel Size: 96 x 96 mm, 48 x 96 mm
Weight	: <300 gms

Cutout details





Ordering Details

Rating	Size	Product Code
1 Phase	96x96 mm	1M001HZ
1 Phase	96x48 mm	1M01HZm

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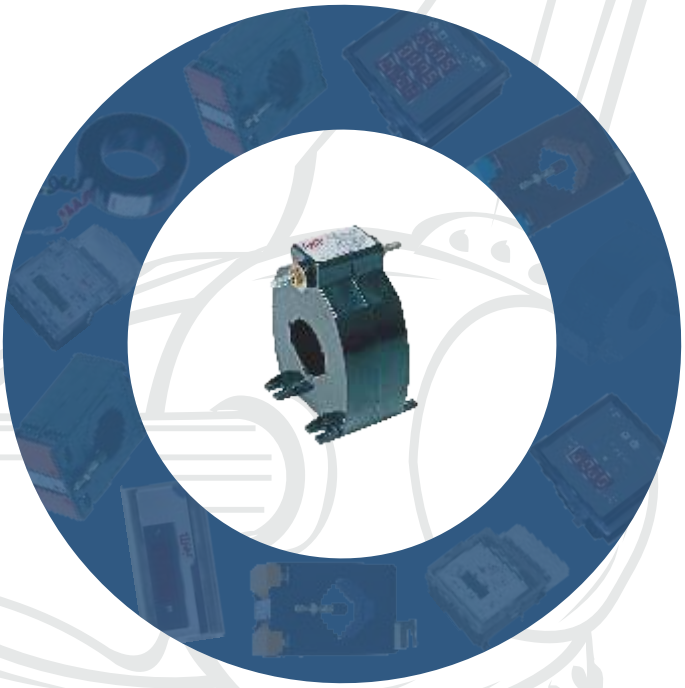

CURRENT TRANSFORMERS

Page No. 23 to 27

Current Transformers

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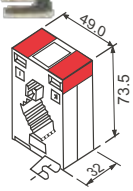
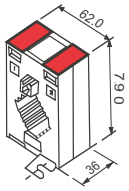
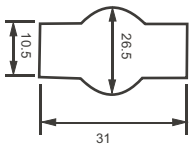
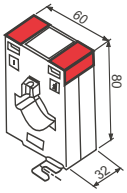
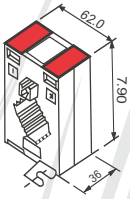










AM 301 **AM 3301** **AM 301E** **AM 401** **AM 4401**

MOULDED

Standard Features

- Flame retardant and self extinguishing
- Accommodate wide range of busbar size
- Easy to mount, compact in size
- Ultrasonically welded and non-breakable
- Finger touch proof terminals as per IEC 185
- Insulation Class E
- M5 Screw clamps on secondary terminals

Technical Specifications

Accuracy : Class 0.5, Class 1, Class 3 depending upon variants.

Ambient Conditions : -20° C to +70°C, Humidity <95% RH (non condensing)

Safety : Flame retardant glass filled ABS, VE 404 and IEC 185 compliance

Saturation Coefficient : < 5

Primary Rating : From 5Amp. to 4000 Amp.

Secondary Output : 5 Amp. (1Amp. optional)

Max System Volt : 720 V

Max Test Volt : 3 KV for 1 minute

Overload : 1.2 times rated current continuously

Mounting Hardware : Feet and busbar screw

Rated Dynamic Current : 7.5 kA for 1 sec.

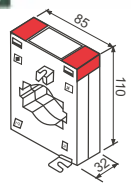
Rated Ratio	AM 301			AM 3301		
	Accuracy Class			Accuracy Class		
	0.5	1	3	0.5	1	3
50/5A						1.25 VA
60/5A			1 VA		1.25 VA	
75/5A			1 VA		1.25 VA	
80/5A			1 VA		1.25 VA	
100/5A		1 VA			5 VA	
125/5A		1 VA			5 VA	
150/5A		1 VA	2.5 VA		5 VA	
200/5A		2.5 VA			5 VA	
250/5A		2.5 VA			5 VA	
300/5A		2.5 VA	5 VA		5 VA	
400/5A		5 VA			5 VA	
500/5A		5 VA			5 VA	
600/5A		5 VA			5 VA	
750/5A					5 VA	

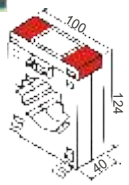
Rated Ratio	AM 301E			AM 401			AM 4401		
	Accuracy Class			Accuracy Class			Accuracy Class		
	0.5	1	3	0.5	1	3	0.5	1	3
60/5A			1 VA						
75/5A			1 VA						
80/5A			1 VA						
100/5A		1 VA							
125/5A		1 VA							
150/5A		1 VA	2.5 VA			2.5 VA		2.5 VA	
200/5A		2.5 VA			2.5 VA			5 VA	
250/5A		2.5 VA			2.5 VA			5 VA	
300/5A		2.5 VA	5 VA		2.5 VA	5 VA		5 VA	
400/5A		5 VA			5 VA	7.5 VA		5 VA	7.5 VA
500/5A		5 VA		5 VA	7.5 VA			7.5 VA	
600/5A		5 VA		5 VA	7.5 VA			7.5 VA	
750/5A				5 VA	7.5 VA			7.5 VA	
800/5A				5 VA	7.5 VA			7.5 VA	

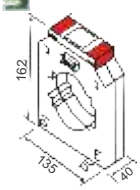
AMTL
ADVANCE METERING TECHNOLOGY LTD

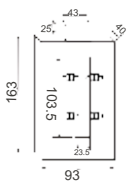


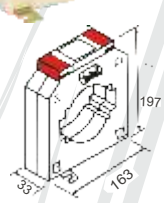












AM 601 AM 801 AM 1001 AM 1020 AM 1201

MOULDED

Standard Features

- Flame retardant and self extinguishing
- Accommodate wide range of busbar size
- Easy to mount, compact in size
- Ultrasonically welded and non-breakable
- Finger touch proof terminals as per IEC 185
- Insulation Class E
- M5 Screw clamps on secondary terminals

Technical Specifications

Accuracy : Class 0.5, Class 1, Class 3 depending upon variants.

Ambient Conditions : -20° C to +70°C, Humidity <95% RH (non condensing)

Safety : Flame retardant glass filled ABS, VE 404 and IEC 185 compliance

Saturation Coefficient : < 5

Primary Rating : From 5Amp. to 4000 Amp.

Secondary Output : 5 Amp. (1Amp. optional)

Max System Volt : 720 V

Max Test Volt : 3 KV for 1 minute

Overload : 1.2 times rated current continuously

Mounting Hardware : Feet and busbar screw

Rated Dynamic Current : 7.5 kA for 1 sec.

Rated Ratio	AM 601			AM 801			AM 1001		
	Accuracy Class			Accuracy Class			Accuracy Class		
	0.5	1	3	0.5	1	3	0.5	1	3
400/5A		10 VA		5 VA	7.5 VA		5 VA		
500/5A		10 VA		5 VA	7.5 VA		5 VA	10 VA	
600/5A	10 VA	15 VA		5 VA	7.5 VA		5 VA	10 VA	
750/5A	10 VA	15 VA		10 VA	15 VA		10 VA	15 VA	
800/5A	10 VA	15 VA		10 VA	15 VA		10 VA	15 VA	
1000/5A	10 VA	15 VA		10 VA	15 VA		15 VA		
1200/5A	15 VA			10 VA	15 VA		15 VA		
1250/5A	15 VA			10 VA	15 VA		15 VA		
1500/5A	15 VA			10 VA	15 VA		15 VA		
1600/5A	15 VA			10 VA	15 VA		15 VA		
2000/5A				10 VA	15 VA		15 VA	30 VA	
2500/5A							15 VA	30 VA	
3000/5A							30 VA		
4000/5A							30 VA		

Rated Ratio	AM 1020			AM 3301		
	Accuracy Class			Accuracy Class		
	0.5	1	3	0.5	1	3
400/5A				5 VA		
500/5A				5 VA	10 VA	
600/5A				5 VA	10 VA	
750/5A	10 VA	15 VA		10 VA	15 VA	
800/5A	10 VA	15 VA		10 VA	15 VA	
1000/5A	15 VA			15 VA		
1200/5A	15 VA			15 VA		
1250/5A	15 VA			15 VA		
1500/5A	15 VA			15 VA		
1600/5A	15 VA			15 VA		
2000/5A	15 VA	30 VA		15 VA	30 VA	
2500/5A	15 VA	30 VA		15 VA	30 VA	
3000/5A	30 VA			30 VA		
4000/5A				30 VA		

Current Transformers

AMTL
ADVANCE METERING TECHNOLOGY LTD

AM 801

AT 201

RESIN CAST & TAPE WOUND

Standard Features

- Flame retardant and self extinguishing
- Accommodate wide range of busbar size
- Easy to mount, compact in size
- Ultrasonically welded and non-breakable
- Finger touch proof terminals as per IEC 185
- Insulation Class E
- M5 Screw clamps on secondary terminals

Technical Specifications

Accuracy : Class 0.5, Class 1, Class 3 depending upon variants.

Ambient Conditions : -20° C to +70°C, Humidity <95% RH (non condensing)

Safety : Flame retardant glass filled ABS, VE 404 and IEC 185 compliance

Saturation Coefficient : < 5

Primary Rating : From 50Amp. to 3000 Amp.

Secondary Output : 5 Amp. (1Amp. optional)

Max System Volt : 720 V

Max Test Volt : 3 KV for 1 minute

Overload : 1.2 times rated current continuously

Mounting Hardware : Feet and busbar screw

Rated Dynamic Current : 7.5 kA for 1 sec.

Rated Ratio	AR 501(Bar Primary) Accuracy Class		Primary	AR 501(Wound Primary) Accuracy Class	
	1	3		1	3
50/5A		5 VA	1-50		5 - 7.5 - 10 VA
60/5A		5 VA	1-50	2.5 - 7.5 - 10 VA	
75/5A	5 VA		1-50	15 VA	
100/5A	7.5 VA		51-100		5 - 7.5 - 10 VA
150/5A	10 VA		51-100	2.5 - 7.5 - 10 VA	
200/5A	10 VA		51-100	15 VA	
250/5A	15 VA				
300/5A	15 VA				
400/5A	15 VA				
500/5A	15 VA				
600/5A	15 VA				
800/5A	15 VA				
1000/5A	15 VA				
1200/5A	15 VA				
1600/5A	15 VA				
2000/5A	15 VA				
2500/5A	15 VA				
3000/5A	15 VA				

Rated Ratio	VA	Class	ID (mm)	OD (mm)	Width (mm)
50/5A	5	3	30	85	50
60/5A	5	3	30	85	50
75/5A	5	3	30	85	50
100/5A	2.5 - 5	1 - 3	30	85	50
150/5A	7.5 - 10	1 - 3	30	85	50
200/5A	10 - 15	1 - 3	52	95	45
250/5A	10 - 15	1 - 3	52	95	45
300/5A	10 - 15	1 - 3	52	95	45
400/5A	15 - 30	1 - 3	60	100	40
500/5A	15 - 30	1 - 3	60	100	40
600/5A	15 - 30	1 - 3	60	100	40
800/5A	15 - 30	1 - 3	80	130	40
1000/5A	15 - 30	1 - 3	80	130	40
1200/5A	15 - 30	0.5 - 3	125	175	40
1600/5A	15 - 30	0.5 - 1	125	175	40
2000/5A	15 - 30	0.5 - 1	125	175	40
2500/5A	15 - 30	0.5 - 1	125	175	40
3000/5A	15 - 30	0.5 - 1	125	175	40

Notes

AMTL
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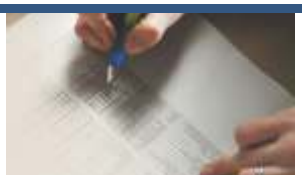

driving innovation and life

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