www.newtekelectricals.com

newtek electricals

Manufacturer & Exporter

Digital Meters

15+
Years of experience

1000+
Successful projects

10,000+
Sq.ft manufacturing facility

500+
Domestic customers

Newtek CTs have worked without failure for over 10 years, and are a proven imports substitute.

World-class manufacturing, quality and supply systems

Newtek Electricals is the first company to introduce nylon flame retardant casing current transformers in India, and the product is now exported to other countries as well. While meeting high demand for quality, the company has developed a reputation for continuously upgrading its technology, and delivering world-class products.

Today, Newtek Electricals has emerged as one of India's leading manufacturers and exporters of CT/PTs in resin cast and nylon casing.

Our Story...

2005 Indo-German joint venture Wintek Electricals founded.

2007 Newtek Electricals is formed as an independent entity.

2008 Introduced Nylon casing CTs for the first time in India; fulfills order for 70,000 CTs.

2009 New! 10,000 sq ft manufacturing facility, resin cast CTs introduced. Supplied Customized products.

2014 Supply of 1,15,000 CTs for 4G towers, R&D facility established, MF meters launched.

2020 Begins in-house manufacturing of CT core. New split core CTs introduced.

Manufacturing & Quality Testing Processes approved by leading Indian and International Customers

Omnicorn CT Analyser

End-to-end Capabilities for global supply chains

R&D Capabilities

- First company in India to introduce Nylon flame retardant casing current transformers
- Dedicated R&D center and team to develop new products
- Recently introduced new nylon casing split core CTs
- Webinars are organized regularly to update customers of trends in electrical technology and resolve their issues.

Sales and Service

- Products exported to Middle East, South Africa and Europe
- Approvals from leading Consultants, MNCs, Govt. Agencies in India & overseas markets

Manufacturing

- State-of-the-art manufacturing facility of 10,000 sqft. in Aurangabad
- Monthly output capacity of 60,000 CT units.
- ISO 9001:2008 certified company

Approvals from Project/Electrical Consultants in over 20+ Industries

Product approvals by leading Consultants

- MECON Limited
- AECOM (previously Spectral Services Consultants Pvt. Ltd.)
- Entask Consultancy Services
- Tata Consulting Engineers
- C.R. Narayan Rao Consultants
- Powertec Engineering
- Avant-Garde Engineers & Consultants
- Satyavani Consultants
- Karmaa SR Consultants Pvt. Ltd.
- Design Bureau
- IBI
- Arup Consultant
- Lead Consultants
- Fichtner India
- Power Drive Engineers
- Archivista Engineering Projects Pvt. Ltd. (AEPPL)
- Aami Associate Consulting Engineers
- RSP Design Consultants India
- Synergy Infra Consultants Pvt. Ltd.
- J. P. Mukherji & Associates
- Excel Design Engineers
- Unique Consultant Services
- Kausi Consultancy Services
- Spectrum Pharmatech
- Currie Brown
- Unik Engineering Services
- Arnita Consultants Pvt. Ltd.
- Aevitas Pharmagro
- Ralys Consulting Engineers
- SYSN Consultants
- Adarsha Developers
- Raj Electrical Designs
- S. M. Engineers & Consultants
- Convenient Construction & Consultancy Pvt. Ltd.
- Semac Consulting Engineers
- Abhiyanta Electricals and Engineers Consultants
- Mott MacDonald
- S. N. Joshi Consultants
- ESKAYEM Consultants
- S. R. Associates
- Knexir Consultants Pvt. Ltd.
- Mott MacDonald
- STUP Consultants Pvt. Ltd.
- Chettiar Consulting Engineers
- IPS Mehtalia
- Vidyut Sallagar Pvt. Ltd.
- CAMES
- Ajit Kulkarni Consultant
- SAN Consultants
- Sripeksha Engineering Consultancy Services Pvt. Ltd.

Comprehensive Range of CT/PTs and Multi-Function Meters (MFMs)

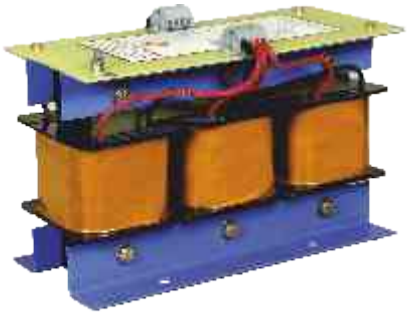
Current Transformer Nylon Casing

Metering Type CT'S
- Window Type CT'S (Bus Bar)
- WPL Type
- Round ID Type CT'S

Protection Type CT'S
- Nylon Casing-Protective Type Bus Bar

Resin Cast-Round ID

Metering Type CT'S
- Resin Cast - WPL
- Resin Cast - Bus Bar
- Resin Cast - Round ID



Control Transformer

- Single-phase Resin Cast
- Three-phase Resin Cast

Digital Meter

- Energy Meter
- MFM Meter
- VAF Meter
- DPM Meter

End Customers

500+ Domestic Customers

100+ Overseas Customers

1000+ successful projects

Sugar
Enpro Sugars, Rohtak
Daund Sugars, Rohtak
Renuka Sugars, Brazil
Mumias Sugar, Kenya
Shiraguppe Sugar, Rohtak
Mylar Sugars, Bangalore
White Nile Mill House, Sudan
Rohtak & Enpro Sugars, Rohtak
Lokmangal Mauli India Ltd, Osmanabad
Chamundeshwari Sugars, Hussain

Pulp & Paper Mill
PT Pindo, Indonesia
Subam Papers

Malls
Patna Malls, Patna
Footpark Mall, Indore
Lotus Mall, Bangalore
Magarpatta Mall, Pune
Shoppers Stop, (Mumbai, Bhopal)
Best Price, Aurangabad

Metro
Chennai Metro Rail Ltd, Chennai
Bengaluru Metro Rail Ltd, Bengaluru
Hyderabad Metro Rail Ltd, Hyderabad
Kochi Metro Rail Ltd, Kochi
Navi Mumbai Metro, Mumbai
Nagpur Metro, Nagpur

Government
MTRDC, Bhopal
PWD, Bhopal
BHEL Site Office, Ranchi

Automobile
ARAI, Pune
ESSAR, Mumbai
VHCL, Umbergaon
Mahindra Vehicle, Chakan
Woco Motherson, Gandhidham
VE Commercial Vehicles, Pithampur
Honda Motorcycle & Scooters India, Narsapura

Industrial
Asian Paints, Ankaleshwar
DMIC, Aurangabad
INA Bearings India Pvt Ltd
Polycab Cables, Vadodara
Diamond Cables, Vadodara
Cosmo Films, Vadodara
Perkins India Pvt. Ltd., Aurangabad
Endurance Technologies Ltd.
LG Electronics, Ho Chi Minh
Daikin, Ho Chi Minh

Steel
BSPL, Bhilai
JSW Steel, (Bellary, Dolvi)
JSPL, Tamnar
BSRM, Bangladesh
Sohar Steel, Oman
Electrosteel Steels Ltd, Bokaro
SLR Metalliks, Hospet
Kalyani Garuda, Raichur
Durgapur Steel Plant
Vedanta Steel

Chemical
Safe Water Chemicals, Kuwait
Kalpataru Organics, Sarigam
Virchows Lab, Hyderabad
Hikal Ltd, Hyderabad
Amoli Organics, Vapi

Products

VAF Meter NEO series

NEO 322

Standard Features

- 96 mm X 96 mm DIN Quadratic
  3 Line - 3 Digit LED display
- True RMS measurement up to 15th Harmonic
- **Onsite programmable:** 3 phase 4 wire/3wire /2 wire, CT /PT Primary,CT Secondary 1A or 5A, PT Secondary (100VLL to 500VLL)
- Compact depth (54mm)
- Screw type i/p current termination

Parameters for VAF Meter

- **Basic** : V, I, Hz
- **System :** RPM, Run-hour
- **Unbalance in % :** V, I

Technical Specifications

- **Input Voltage** : 10 –290V L-N (500VLL)
- **Frequency** : 45 to 65 Hz
- **Current** : 1A or 5A
- **AUX supply** : 230 VAC, ± 20%
- **Accuracy** : Class 1.0, Optional: Class 0.5
- **Operating Temperature range** : 0 to +50degC
- **Enclosure** : Front - IP54 (Dust & Water) Back- IP20 Material-Polycarbonate (UL94 V0)
- **High voltage test** : 2.2 kVAC 50Hz for 1 minute between all electrical Circuits

NEO 322-60A

Unique Features

- Direct Measurement of current up to 60 A AC.
- Eliminating the need of an external CT.

Standard Features

- 96 mm X 96 mm DIN Quadratic
  3 Line - 3 Digit LED display
- True RMS measurement up to 15th Harmonic
- **Onsite programmable:** 3 phase 4 wire/3wire/2 wire, PT Primary, PT Secondary (100VLL to 500VLL)

Parameters for VAF Meter

- **Basic** : V, I, Hz
- **System :** RPM, Run-hour
- **Unbalance in % :** V, I

Technical Specifications

- **Input Voltage** : 10 –290V L-N (500VLL)
- **Frequency** : 45 to 65 Hz
- **Current** : 60A
- **AUX supply** : 230 VAC, ± 20%
- **Accuracy** : Class 1.0, Optional: Class 0.5
- **Operating Temperature range** : 0 to +50degC
- **Enclosure** : Front - IP54 (Dust & Water) Back- IP20 Material-Polycarbonate (UL94 V0)
- **High voltage test** : 2.2 kVAC 50Hz for 1 minute between all electrical Circuits
- **length of secondary CT Wire** : 1.6 Meter

NEO 322E

Features

- **Screw Type connectors:** NEO 322E **Input Current Connections of** NEO 322E: Screw type connectors are available for input current termination

Standard Features

All standard features of NEO 322 are applicable for NEO 322E

Technical Specifications

All Technical specifications of NEO 322 are applicable for NEO 322E

Parameters for VAF Meter

- **Basic** : V, I, Hz
- **Energy** : kWh

NEO 323

Unique Features

- **Pass through CT:**
  Protection Against accidental opening of secondary terminals of external C.T.
- Compact depth even with optional features (61 mm)

Standard Features

- 96 mm X 96 mm DIN Quadratic
- **3 Line - 4 Digit LED display**
- True RMS measurement up to 15th Harmonic
- **Onsite programmable:** 3 phase 4 wire / 3 wire/2 wire, CT /PT Primary, CT Secondary 1A or 5A, PT Secondary (100VLL to 500VLL)

Optional Features

Up to 2 Relay outputs (As Limit switch).

Parameters for VAF Meter

- **Basic** : V, I, Hz
- **System :** RPM, Run-hour, On-hour, Interruptions

Technical Specifications

- **Input Voltage** : 10 –290V L-N (500VLL)
- **Frequency** : 45 to 65 Hz
- **Current** : 1A or 5A
- **AUX supply** : 80– 300V AC/DC
- **Accuracy** : Class 1.0, Optional: Class 0.5
- **Operating Temperature range** : 0 to +50degC
- **Applicable Standards** : IEC 61010 , IEC60529, IEC 61326
- **Enclosure** : Front - IP54 (Dust & Water) Back- IP20 Material-Polycarbonate (UL94 V0)
- **Installation category** : III
- **Pollution Degree** : 2
- **High voltage test** : 3.3 kVAC 50Hz for 1 minute between all electrical Circuits (2.2 kVAC for Relay)

MFM Meter ACE series

◆ Unique Features of ACE series

- **Pass through CT:** Protection against accidental opening of secondary terminals of external C T.: *Reliable Current Connections*
- Analog load bar graph for indicating average current in %: *Shows trend of average load current in analog fashion*
- Energy Pulse LED on front Panel : *Verification of energy accuracy*
- Communication LED for MODBUS (RS 485) on Front Panel: *For Monitoring Status of MODBUS communication*
- Compact depth even with optional features (61mm) : *Reduced Panel Size & hence cost saving*

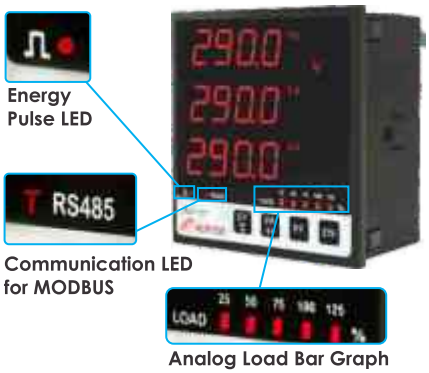
◆ Standard Features of ACE series

- 96 mm X 96 mm DIN Quadratic/ 3 Line –4 Digit LED Display
- True RMS measurement up to 15th Harmonic
- Onsite programmable: 3 phase 4 wire / 3 wire/2 wire ,CT /PT Primary, CT Secondary 1Aor 5A , PT Secondary (100VLL to 500VLL)

◆ Technical Specifications of ACE series

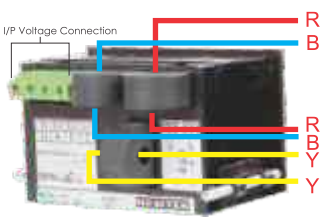
Input Voltage	: 10–290V L-N (500VLL)
Frequency	: 45 to 65 Hz
Current	: 1A or 5A
AUX supply	: 80– 300V AC/DC
Accuracy	: Class 1.0 Optional : Class 0.5
Operating Temperature range	: 0 to +50degC
Applicable Standards	: IEC 61010 , IEC60529, IEC 61326
Enclosure	: Front - IP54 (Dust & Water) Back-IP20 Material — Polycarbonate (UL94V0)
Installation category	: III
Pollution Degree	: 2
High voltage test	: 3.3 kVAC 50Hz for 1 minute between all electrical Circuits (2.2kVAC for Modbus & Relay)

◆ Unique Features of ACE series



◆ Input Current Termination

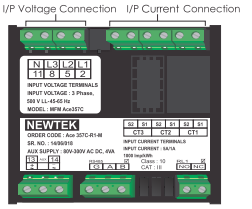
Pass through CT:



I/P Current termination for Ace 353, 354, 354M, 355, 355F, 357, 357D, 357T, 357TH, 357TDC, 357THDC, 360, 360TH,3E1, 3E1D, 3E2, 3E2D, Neo 323.

Compact depth even with optional features = 61mm

Screw Type:



I/P Current termination for Ace 353C, 354C, 354MC, 355C, 355FC, 355C Plus, 357C,357TC, 357CRA, 357THC, 3E1C, 3E2C, Neo 322, Em3

Compact depth even with optional features = 54 mm

ACE 353/353C

◆ Parameters

- **Basic** : V, I, Hz
- **Power** : kW, PF
- **System** : RPM, Run-hour

◆ Optional Features

A) MODBUS (RS-485)
B) 1 Relay output (As Limit switch)
C) Screw type connectors are available an Ace 353C for input current terminals. Compact depth = 54mm

ACE 354/354C/354M/354MC

◆ Parameters

- **Power** : kW, kVAr, kVA, PF
- **Energy** : kWh (354/354C/354M/ 354MC), kVArh, kVAh (354M/354MC)

◆ Optional Features

A) MODBUS (RS-485)
B) 1 Relay output (As Pulse or Limit switch)

ACE 355/355C/355F/355FC

◆ Parameters

- **Basic** : V, I, Hz (355/355C)
- **Power** : kW, PF
- **Energy** : kWh
- **System** : RPM, Run-hour
- **Unbalance in % :** V, I
- **Event Counter**

◆ Optional Features

A) MODBUS (RS-485)
B) 1 Relay output (As Pulse or Limit switch)

Note: In ACE 355F & 355FC System Power will be displayed in the 3rd row when SY Key is Pressed first time & frequency is disable.

ACE 355C Plus

◆ Parameters

- **Basic** : V, I, Hz
- **Power** : kW/ kVAr/ kVA (Optional), PF, Φ, In
- **Energy** : kWh/ kVArh/ kVAh (Optional)
- **System** : RPM, Run-Hour, On-Hour, Interruption
- **Unbalance in % :** V, I

◆ Optional Features

A) MODBUS (RS-485)
B) 1 Relay output (As Pulse or Limit switch)

ACE 357

Note: Net Energy and Voltage & current unbalance not available in meter with 2 relay outputs.

◆ Parameters

- **Basic** : V, I, Hz
- **Power** : kW, kVAr, kVA, PF, Ø ,In
- **Demand** : I, kW, kVA
- **Energy** : kWh, kVArh, kVAh
- **System** : RPM, Run-hour, On-hour, Interruptions
- **Unbalance in %** : V, I
- **Net energy (kWh)**

◆ Optional Features

A) MODBUS (RS-485)
B) Up to 2 Relay outputs (As Pulse or Limit switch)

ACE 357C

◆ Features

- **Screw Type connectors: Input Current connections of** ACE 357C: Screw type connectors are available on ACE 357C for input current terminations.

◆ Parameters

All parameters of ACE 357 are applicable for ACE 357C

◆ Optional Features

A) MODBUS (RS-485)
B) 1 Relay output (As Pulse or Limit switch)

ACE 357D

◆ Features

- Direct Measurement of Current up to 40A AC
- Max Value for direct current measurement programmable on site from 5A to 40A

◆ Parameters

All parameters of ACE 357 are applicable for ACE 357C

◆ Optional Features

A) MODBUS(RS-485)
B) Up to 2 Relay outputs (As pulse or Limit Switch)

ACE 357CR4

◆ Features

- kVArh lag and kVArh lead available as per required by MSEB.
- It shows average PF over period of time as per new MSEB formula.
- Instantaneous and avg PF are available with more accuracy i.e. three digit after decimal.
- User can set target PF as per their requitement capacitance in kVAr to achieve target PF.

◆ Optional Features

A) MODBUS (RS-485)
B) 1 relay output (as pulse or limit switch)

◆ Parameters

- **Basic** : V, I, Hz
- **Power** : kW, kVAr, kVA, PF,Ø, In
- **Demand** : I, kW, kVA
- **Energy** : Total kWh, Total kVArh, kVArh lag,kVArh Lead, kVAh.
- **System** : RPM, Run-Hour, On-Hour, Interruption

ACE 357T/TC

◆ Parameters

- **Basic** : V, I, Hz
- **Power** : kW, kVAr, kVA, PF, Ø ,In
- **Demand** : I, kW, kVA
- **Energy** : kWh, kVArh, kVAh
- **Power Quality Parameters** :
  - **THD in %** : V, I
  - **Harmonic Voltage** : Total, fundamental, Distorted
  - **Harmonic Current** : Total, fundamental, Distorted
  - **Total Demand Distortion in %**
  - **K-factor (Harmonic Factor)**
- **System** : RPM, Run-hour, On-hour, Interruptions
- **Unbalance in %** : V, I

◆ Optional Features

A) MODBUS (RS-485)
B) Up to 2 Relay outputs (As Pulse or Limit switch) for 357T.
C) 1 Relay for 357TC

ACE 357TH/THC

◆ Parameters

- **Basic** : V, I, Hz
- **Power** : kW, kVAr, kVA, PF, Ø ,In
- **Demand** : I, kW, kVA
- **Energy** : kWh, kVArh, kVAh
- **Power Quality Parameters** :
  - **THD in %** : V, I
  - **Harmonic Voltage** : Total, fundamental, Distorted
  - **Harmonic Current** : Total, fundamental, Distorted
  - **Total Demand Distortion in %**
  - **K-factor (Harmonic Factor)**
  - **Individual odd Harmonics (3rd,5th...15th) in %** : V, I
- **System** : RPM, Run-hour, On-hour, Interruptions
- **Unbalance in %** : V, I

◆ Optional Features

A) MODBUS (RS-485)
B) Up to 2 Relay outputs (As Pulse or Limit switch) for 357TH.
C) 1 Relay for 357THC

Demand Controller

ACE 357TDC

Demand Controller (two relay) with THD measurements and modbus

◆ Parameters

All parameters as per Ace 357T/357TC

- **Current Demand:** Instantaneous, Maximum and Predictive
- **kVA Demand:** Instantaneous, Maximum and Predictive
- **kW Demand:** Instantaneous, Maximum and Predictive

◆ Inbuilt Features

- Inbuilt modbus communication port and 2 relay for demand control

ACE 357THDC

Demand Controller (2 relay) with THD measurements & individual odd Harmonics upto 15th & Modbus

◆ Parameters

All parameters as per Ace 357TH/357THC

- **Current Demand:** Instantaneous, Maximum and Predictive
- **kVA Demand:** Instantaneous, Maximum and Predictive
- **kW Demand:** Instantaneous, Maximum and Predictive

◆ Inbuilt Features

- Inbuilt modbus communication port and 2 relay for demand control

ACE 360/360TH

Power Quality Parameter (ACE 360TH)

- **THD in % :**V, I
- **Individual odd harmonics :** V, I (3rd, 5th,...31st) in %

Standard Features

- 4-Line 4-Digit LCD Display and with one eight digit line
- contrast back light (Digit Height 14mm)
- 8-digit single line seperate Energy display: User can monitor kWh/kVArh/kVAh
- Onsite programmable: 3 phase 4 wire / 3 wire, 1phase 2 wire, CT/PT Primary, CT Secondary 1A or 5A, PT Secondary (100VLL to 600VLL)
- Password Protected

Unique Features

- Pass through CT
- Digital load bar graph on LCD display for individual load current.
- Communication Indication for MODBUS (RS 485) on LCD Display.

Parameters

- **Basic :** V, I, Hz
- **Power :** kW, kVAr, kVA, PF, φ, In
- **Demand :** I, kW, kVA
- **Energy :** kWh, kVArh, kVAh
- **System :** RPM, Run-hour, On-hour, Interruptions
- **Unbalance :** in %V, I
- **Display Type :** LCD Display with back light
- **Display :** 4 row 4 digits and 1 Row with Eight Digits Line Display

Optional Features

- MODBUS (RS-485)

Technical Specifications

- **Operating Temperature Range :** -10 to 55°C

Energy Meter

NEO EM3

NEO EM3 is a dedicated panel mounted energy meter with single line **6 digit** LED display which accumulates Active energy in 3 phase 4 wire, 3 phase 3 wire & 1 phase 2 wire

Parameters for through Display

- Active Energy (kWh)
- Old Active Energy (kWh)
- Energy Billing in Specified Currency

Unique Features

- Analog load bar graph for indicating average current in %
- Compact depth (54mm)

Standard Features

- 96 mmX96 mm DIN Quadratic
- **Single line 6 Digit LED Display**
- True RMS measurement up to 15th Harmonic
- Energy Pulse LED on front Panel : 1000 imp/kWh (Meter constant)
- Onsite programmable : 3 phase 4 wire / 3 wire /2 wire, CT /PT Primary , CT Secondary 1A or 5A , PT Secondary (100VLL to 500VLL).
- Indication for healthy phases
- Indication for reverse **(Irev)**
- Screw type i/p current termination

Technical Specifications

Input Voltage	: 10 –290V L-N (500VLL)
Frequency	: 45 to 65 Hz
Current	: 1A or 5A
AUX supply	: 230 VAC, ± 20%
Accuracy	: Class 1.0, Optional: Class 0.5
Operating Temperature range	: 0 to 50°C
Enclosure	: Front - IP54 (Dust & Water) Back- IP20 Material-Polycarbonate (UL94 V0)
High voltage test	: 2.2 kVAC 50Hz for 1 minute between all electrical Circuits

NEO EM3-60

NEO EM3 with direct measurement up to 60A is a dedicated panel mounted energy meter with single line **6 digit** LED display which accumulates Active energy in 3 phase 4 wire.

Parameters for through Display

- Active Energy (kWh)
- Old Active Energy (kWh)
- Energy Billing in Specified Currency

Unique Features

- Direct measurement of current upto 60A AC. Eliminating the need of an external CT for measurement
- Analog load bar graph indicating avg. current in %

Standard Features

- 96 mmX96 mm DIN Quadratic
- **Single line 6 digit LED Display**
- True RMS measurement up to 15th harmonic.
- **Energy Pulse LED on front Panel :** 300 Imp/kwh (Meter Constant)
- **Onsite Programmable :** PT Primary, PT Secondary(100VLL to 500VLL)
- indicating for healthy phase
- Indiction fo reverse **(Irev)**

Technical Specifications

Input Voltage	: 10 –290V L-N (500VLL)
Frequency	: 45 to 65 Hz
Current	: 60 A AC
AUX supply	: 230 VAC, +/- 20%
Accuracy	: Class 1.0,
Operating Temperature range	: 0 to +50 C
Enclosure	: Front - IP54 (Dust & Water) Back- IP20 Material-Polycarbonate (UL94 V0)
High voltage test	: 2.2 kVAC 50Hz for 1 minute between all electrical Circuits
Length of secondary CT Wire	: 1.6 Meter

ACE 3E1/3E1C

ACE 3E1 is a dedicated panel mounted energy meter with single line **8 digit** LED display which accumulates Active energy in 3 phase 4 wire, 3 phase 3 wire & 1 phase 2 wire

◆ Parameters for through Display

- Active Energy (kWh)
- Old Active Energy (kWh)
- Energy Billing in Specified Currency

◆ Parameters for through MODBUS (Rs-485)

- **Basic** : V, I, Hz
- **Power** : kW, kVAr, kVA, PF, Ø
- **Energy** : kWh, kVAh, Old kWh
- Energy Billing in Specified Currency

◆ Optional Features

A) MODBUS (RS-485)
B) 1 Relay output (As Pulse output)

◆ Unique Features

- Protection against accidental opening of secondary terminals of external C.T **(ACE 3E1)**
- Analog load bar graph for indicating average current in %
- Communication LED for MODBUS (Rs-485) on Front Panel
- Compact depth even with optional features (61mm)

◆ Standard Features

- 96 mmX96 mm DIN Quadratic
- **Single line 8 Digit LED Display**
- True RMS measurement up to 15th Harmonic
- Energy Pulse LED on front Panel : 3600 imp/kWh (Meter constant)
- Onsite programmable : 3 phase 4 wire / 3 wire /2 wire, CT /PT Primary , CT Secondary 1A or 5A , PT Secondary (100VLL to 500VLL).
- Indication for healthy phases **(VoN)**
- Indication for reverse **(Irev)**

◆ Technical Specifications

• **Input Voltage**	: 10-290V-N (500VL)
• **Frequency**	: 45 to 65 Hz
• **Current**	: 1A or 5A
• **AUX supply**	: 80-300V AC/DC
• **Accuracy**	: Class 1.0
• **Operating Temperature Range**	: 0 to +50°C
• **Applicable Standards**	: IEC 61010, IEC 60529 IEC 61326
• **Enclosure**	: Front-IP54 (Dust & Water) Back - IP20 Material-Polycarbonate (UL94V0)
• **Installation category**	: III
• **Pollution Degree**	: 2
• **High voltage test**	: 3.3 kVAC 50Hz for 1 minute between all electrical Circuits (2.2 kVAC for MODBUS & Relay)

Note: 3E1C is a Screw type Meter.

ACE 3E1D

◆ Parameters

All parameters of ACE 3E1 are applicable for ACE 3E1D.

◆ Optional Features

A) MODBUS (RS-485)
B) 1 Relay output (As Pulse output)

◆ Features

Direct measurement of current up to 40A AC Meter Constant for Pulse LED on front panel: 500 imp/kWh.

ACE 3E1P

◆ Technical Specification, Unique, Standard, Optional Features

- All Technical Specification, Unique, Standard, Optional Features of ACE 3E1 are Applicable for ACE 3E1P
- **Onsite Programmable:** 3 phase 4 wire

◆ Parameters

• **Basic**	: V, I, Hz
• **Power**	: kW, PF
• **Energy**	: kWh

Dual Source Energy Meter

ACE 3E2

ACE 3E2 has two energy conters U & G,
U counter is for Utility &
G counter for Generator

◆ Parameters

- **Basic** : V, I, Hz
- **Power** : kW, kVAr, kVA, PF, φ, In
- **Energy** : kWh, kVAh, Old kWh Energy Billing in user defined Currency
- **Timing Parameters** : Run-hour, On-hour, Interruptions

◆ Unique Features

- Protection against accidental opening of Secondary terminals of external CT : Reliable Current Connections
- Analog load bar graph for indicating avg. current in %
- Energy Pulse LED on front panel : Verification of Energy Accuracy.
- Communication LED for Modbus on front Panel.
- Reduced panel size & hence cost saving.
- G-sense LED on front panel to indicate that Generator is ON

◆ Standard Features

- 96x96mm DIN Quadratic
- Dual line 8 Digit LED Display
- True RMS measurement up to 15th Harmonic
- Energy Pulse LED on front panel : 3600 imp/kWh (Meter Constant)
- Onsite Programmable: 3 phase 4 wire/ 3 wire/2 wire, CT/PT Primary,
- CT Secondary 1A or 5A
- Indication for healthy phases (VoN)
- Indication for reverse phase (Vrev)
- Two functional keys

◆ Technical Specifications

• **Input Voltage**	: 10-290V L-N (500VLL)
• **Frequency**	: 45 to 65 Hz
• **Current**	: 1A or 5A
• **AUX supply**	: 80-300V AC/DC
• **G. Sense input**	: 20-300V AC, 10-60V DC
• **Accuracy Class**	: 1.0, Optional: Class 0.5
• **Operating Temperature Range**	: 0 to 50°C
• **Applicable Standards**	: IEC 61010, IEC 60529 IEC 61236
• **Enclosure**	: Front-IP54 (Dust & Water) Back - IP20 Material-Polycarbonate (UL94V0)
• **Installation category**	: III
• **Pollution Degree**	: 2
• **High voltage test**	: 3.3 kVAC 50Hz for 1 minute between all electrical Circuits (2.2 kVAC for MODBUS & Relay)

◆ Optional Features

A) MODBUS (RS-485)
B) 1 Relay output (As Pulse output)

ACE 3E2C

◆ Parameters

All parameters of ACE 3E2 are applicable for ACE 3E2C.

◆ Optional Features

A) MODBUS (RS-485)

◆ Features

Input Current Connections:

- Screw type connectors are available on *Ace 3E2C* for Input Current terminations.

ACE 3E2D

◆ Parameters

All parameters of ACE 3E2 are applicable for ACE 3E2D.

◆ Optional Features

A) MODBUS (RS-485)
B) 1 Relay output (As Pulse output)

◆ Features

Input Current Connections:

- Direct measurement of current up to 40A AC
- Meter Constant for Pulse LED on front panel: 500 imp/kWh

Ammeter & Voltmeter

◆ Optional Features

- 96x96mm DIN Quadratic
- True RMS measurement up to 15th Harmonic
- Kilo indication LED
- Measurement possible when any one 1 phase is present for *3EAP* and *3EVP*

◆ Technical Specifications

• **Frequency**	: 45 to 65 Hz
• **AUX supply**	: 80-300V AC/DC
• **Accuracy**	: Class 1.0, Optional Class 0.5
• **Operating Temperature Range**	: -10°C to +60°C
• **Enclosure**	: Front-IP54 (Dust & Water) Back - IP20 Material-Polycarbonate (UL94V0)
• **Installation Category**	: III
• **Pollution Degree**	: 2
• **High voltage Test**	: 2.2 kVAC 50Hz for 1minute between all electrical Circuits

LEO 1EAP

LEO 1EAP is basically a programmable Digital Ammeter which is useful for AC current measurement in 1 Phase 2 Wire System.

◆ Technical Specifications

- **Current :** 1A or 5A
- **CT ratio :** 1 to 9999 programmable on site

◆ Optional Features

- 1 Line 4 Digit LED Display
- Onsite Programmable: CT ratio
- Screw type connectors for current termination

LEO 1EVP

LEO 1EVP is basically a programmable Digital Voltmeter which is useful for AC Voltage measurement in 1 Phase 2 Wire System.

◆ Technical Specifications

- **Voltage :** 10 - 290V L-N (500VLL)
- **PT ratio :** 1 to 999 programmable on site

◆ Optional Features

- 1 Line 3 Digit LED Display
- Onsite Programmable: PT ratio
- Screw type connectors for voltage termination.

LEO 3EAP

LEO 3EAP is basically a programmable Digital Ammeter which is useful for AC current measurement in 3 Phase System.

◆ Optional Features

- 1 Line 4 Digit LED Display
- Phase Indication LED
- Onsite Programmable: 3 phase 4 wire/3 wire, CT Primary (1 to 9999A), CT Secondary (5A or 1A), Frequency (Enable/Disable), Auto Screen (Enable/Disable)
- Screw type connectors for current termination

◆ Technical Specifications

- **Current :** 1A or 5A

LEO 3EVP

LEO 3EVP is basically a programmable Digital Voltmeter which is useful for AC Voltage measurement in 3 Phase 3 Wire / 4 Wire System.

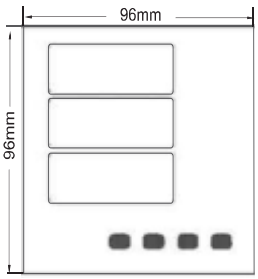
◆ Optional Features

- 1 Line 4 Digit LED Display
- Phase Indication LED
- Onsite Programmable: 3 phase 4 wire/3 wire, PT primary (100VLL to 999.9kVLL), PT Secondary (100VLL to 500VLL), Frequency (Enable/Disable), Auto Screen (Enable/Disable)
- Screw type connectors for voltage termination.

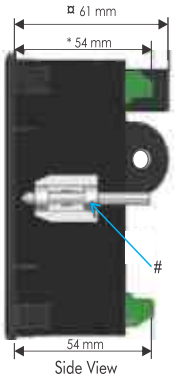
◆ Technical Specifications

- **Voltage :** 10 - 290V L-N (500VLL)

Mounting of Meter



Front View



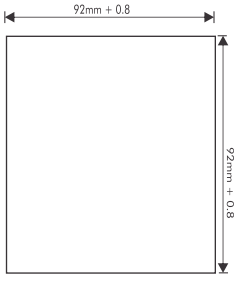
Side View

Clamping bracket assembly (2x) for secure fixing of the meter on panel.

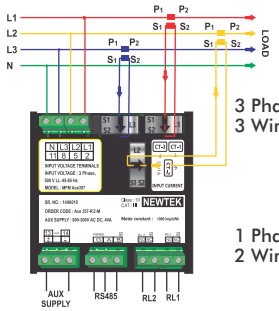
* Depth of screw type connector meter with optional features.

¤ Depth of pass through CTs type meter with optional features.

Wiring Diagram



Panel cut out details



3 Phase 4 Wire

3 Phase 3 Wire : Connection of Neutral (N) not required Connection of CT2 not required

1 Phase 2 Wire : Connection of L2, L3 not required Connection of CT2, CT3 not required

Meter selection guide

	Specification	VAF Meter		Ammeter		Voltmeter	
Sr. No.	Characterstics	NEO 322/E 322-60A	NEO 323	1EAP	3EAP	1EVP	3EVP
	Basic Parameters						
1	VL-N(RYB)	√	√			√ (R)	√
2	VL-L(RYB)	√	√				√
3	AMP(RYB)	√	√	√ (R)	√		
4	Hz	√	√		√		√
5	V & I Unbal (%)	√ (322)					
	Power Parameters						
1	Kw(RYB)						
2	kVAr(RYB)						
3	kVA(RYB)						
4	PF(RYB)						
5	Φ(RYB)						
6	Avg. PF (Over the period of time)						
	Energy Parameters						
1	kWh	√ (322E)					
2	Old kWh						
3	E.Bill in INR /USD						
4	kVArh lag						
5	kVArh lead						
6	kVArh						
7	kVAh						
8	Net Energy(kWh)						
	Demand Parameters						
1	Amp Demand						
2	kW Demand						
3	kVA Demand						
4	Neutral Current				√		
	Power Quality Parameters						
1	THD-V, THD-I in %						
2	Harmonics V(T,F,D)						
3	Harmonics A(T,F,D)						
4	TDD in %						
5	K-factor						
6	Ind odd Harmonics (3rd,5th...15th) in %						
	System Parameters						
1	Run Hour	√ (322)	√				
2	ON Hour		√				
3	RPM	√ (322)	√				
4	Event Counter						
5	Interruptions		√				
	Aux Power Supply(External)						
1	Aux Power Supply (External)	230 VAC ± 20%			80-300 VAC/DC		
	Options						
1	Modbus(RS-485)						
2	One Relay		√ (L)				
3	Two Relay		√ (L)				

Sr. No.	Specification Characterstics	MFM Meter ACE 353/C/ 355/C/F/FC	ACE 354/ C/M/MC	ACE 355C PLUS	ACE 357/ C/CR4	ACE 357T/ TH/C/THC	ACE 357D	ACE360/ 360TH	Energy Meter NEOEM3/ EM3-60A	ACE 3E1 3E1D/3E1P	ACE 3E2 3E2D/3E2C	Demand Controller 357TDC/ THDC
	Basic Parameters											
1	VL-N(RYB)	√		√	√	√	√	√		√	√	√
2	VL-L(RYB)	√		√	√	√	√	√		√	√	√
3	AMP(RYB)	√		√	√	√	√	√		√	√	√
4	Hz	√		√	√	√	√	√		√	√	√
5	V & I Unbal (%)	√ (355C)		√	√ (357/357C)	√	√	√				√
	Power Parameters											
1	Kw(RYB)	√	√	√(Optional)	√	√	√	√		√	√	√
2	kVAr(RYB)		√	√(Optional)	√	√	√	√		√	√	√
3	kVA(RYB)		√	√(Optional)	√	√	√	√		√	√	√
4	PF(RYB)	√	√	√	√	√	√	√		√	√	√
5	Φ(RYB)			√	√	√	√	√		√	√	√
6	Avg. PF (Over the period of time)				√ (357CR4)							
	Energy Parameters											
1	kWh	√ (355C)	√	√(Optional)	√	√	√	√	√	√	√	√
2	Old kWh								√	√	√	
3	E.Bill in INR /USD								√	√	√	
4	kVArh lag				√ (357CR4)							
5	kVArh lead				√ (357CR4)							
6	kVArh			√(Optional)	√	√	√	√				√
7	kVAh			√(Optional)	√	√	√	√		√	√	√
8	Net Energy(kWh)				√ (357/357C)							
	Demand Parameters											
1	Amp Demand				√	√	√	√				√
2	kW Demand				√	√	√	√				√
3	kVA Demand				√	√	√	√				√
4	Neutral Current				√	√	√	√		√	√	√
	Power Quality Parameters											
1	THD-V, THD-I in %					√		√ (360TH)				√
2	Harmonics V(T,F,D)					√						√
3	Harmonics A(T,F,D)					√						√
4	TDD in %					√						√
5	K-factor					√						√
6	Ind odd Harmonics (3rd,5th...15th) in %					√ (357TH/357THC)		√ (360TH) (Upto 31st)				√ (357THDC)
	System Parameters											
1	Run Hour	√		√	√	√	√	√		√	√	√
2	ON Hour			√	√	√	√	√		√	√	√
3	RPM	√		√	√	√	√	√				√
4	Event Counter	√ (355C)										
5	Interruptions			√	√	√	√	√		√	√	√
	Aux Power Supply (External)											
1	Aux Power Supply (External)	80-300 VAC/DC							± 230 VAC 20%	80-300 VAC/DC		
	Options											**Inbuilt**
1	Modbus(RS-485)	√	√	√	√	√	√	√		√	√	RS-485
2	One Relay	√ (L)(353) (P/L)(355)	√(P/L)	√(P/L)	√(P/L)	√(P/L)	√(P/L)			√(P)	√(P) (3E2) (3E2D)	With
3	Two Relay				√(357)	√(P/L)(357T/TH)	√(P/L)					2Relay

Note:
1) Meter selection guide for VAF, Ammeter & Voltmeter are given in previous page.
2) Meter Code which are ending with the 'C' Alphabet, and Leo 3EAP, 1EAP, Neo 322, 322E, Em3, Ace 357CPlus, 357CR4 Meters are having Screw Type connector for input current Ace 357TDC, 357THDC & rest all other meters have pass through CT's for input current connection.
3) In Ace 3E2 / Ace 3E2C / Ace 3E2D some parameter has been display in meter and some parameter are through MODBUS therefore refer the datasheet for details. In Ace 3E2 / 3E2D / 3E2C meter the parameters are applicable for both 'U' & 'G' counter.
4) Meter Code which are ending with the 'D' Alphabet is 40 Amp (i.e. Direct pass through CT Meters).
5) In Ace 3E1 only Active energy (kWh) is shown on display, rest all other parameters are through MODBUS (RS-485) only.
6) Ace 355CPlus is having optional power (kw / kVA / kVAr) and optional energy (kw / KvAh / KVArh) and it is programable through setup menu.
7) P-Relay as a pulse output only.
8) L-Relay as a limit switch only.
9) P/L Relay as a pulse output or limit switch.
10) Net Energy and Voltage & Current Unbalance not available in meter with 2 relay outputs.
11) Front side of Ace 357C, 357D & 357CR4 is same as Ace 357, The model number Ace 357C, 357D & 357CR4 is mentioned on back side of meter.

General Features of NEWTEK Current Transformers

Electrical Features

- Rated frequency = 50-60 Hz
- Class of insulation = E
- Rated short time thermal current Ith = 60 In
- Nominal surge current Idyn = 2.5 Ith (Minimum 100 kA at all window type CT's)
- Highest voltage for equipment Um = 0.72Kv (Other voltages on request)
- Rated power-frequency withstand voltage = 4Kv/1min (Other voltages on request) Instrument security factor = Fs5

Mechanical Features

- Unbreakable, flame retardant, self-extinguishing
- Nylon casing of grade UL 94 V2.
- Cores are made from high grade CRGO material.
- Dual coated copper wire having class of insulation H.
- Nickel plated secondary terminals with plus mins screws of 0.5Nm.
- Integrated secondary terminal caps.

Special Notes

- Ct's also available in 0.55, 0.2 and 0.2S accuracy class on request.
- Other Va's are as per customer requirement.

Applicable Standards:

- Current Transformer: IS: 2705/1992; IEC/EN: 60044-1
- Potential Transformer: IS: 3156/1992; IEC: 60044-2
- Control Transformer: IS: 12021/1987; IEC: 60044-2

Control & Potential Transformer:

- Newtek provides tailor made range of LT Potential & Control Transformer as per customers demand both in single phase & three phase system, in Resin Cast/Tape Insulated/Varnish Impregnated type of Insulation.
- Voltage range 0 to 690V, Max VA:-10kVA. We can supply dual secondary, tap changer type PTs & Control Transformers.
- Available Class of PTs: 0.2, 0.5, 1.0 3P, 6P We can provide you IVTs, RVTs on demand.

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