



Powering reliable solutions for you

# Transformer solutions across the grid



*Distribution Transformers / Worldwide Support / Customer-Focused Operations / Reliable Performance / Committed to meeting every transformer need.*



# Everything is under (quality) control

Generating, distributing and controlling electricity requires proven expertise, in-depth understanding, worldwide experience and a commitment to customer responsiveness. That's what you get with Prolec GE.

Our products are developed, tested, deployed and continually improved with a focus on delivering reliable, customer-focused performance. And a key to that performance is a relentless commitment to quality.

Our quality systems are based on solid fundamental processes. Key elements of our Total Quality Model include:

**TQM** – Total Quality Management

**TPS** – Toyota Production System

**KDS** – Knowledge Dispersion System

**Six Sigma** Tools

These world-class quality systems ensure reliable, safe,

durable, and environmentally responsible products that meet real customer needs. Enhancing these sound fundamentals with ongoing research and development, global best practices, and continuous process improvement gives you world-class performance in every product and every procedure.

Our processes and products have been certified as meeting or exceeding major international quality standards, including:

- ISO 9001 – 2000
- ISO 14001 – Environmental Certifications
- UL

Thanks to our dedication to quality, the entire Prolec GE line performs precisely as promised. Helping you generate, distribute and control electricity anywhere on the planet.

Tell us what you need, and we'll deliver for you.

# Better quality means better performance

“The one thing you never get from Prolec GE is surprises. They do what they say they'll do and their products perform as promised.”





# Single-Phase Pole-Type Transformers



## Product scope / Standard features

- Rating
  - 10, 15, 25, 37.5, 50, 75, 100, 167 kVA
- High Voltage
  - 4160 GrdY/2400 to 34500 GrdY/19920 or 2400 to 19920 (Dual voltajes available)
  - BIL: 60 kV to 150 kV
- Low Voltage
  - 240/120 and 480/240
- Meets or exceeds current RUS, NEMA and ANSI Standards C57.12.00, ANSI C57.12.20 as applicable
- Mild steel tank with welded lifting lugs and hanger brackets for direct-to-pole mounting
- Single piece clamped cover band meets cover retention requirements of applicable ANSI standards
- Electrostatically applied polyester powder paint system for superior corrosion protection
- High-voltage porcelain cover-mounted bushings (wall mounted for units with high voltage 4160 or below)
- Tank wall mounted porcelain or polymer low-voltage bushings
- Tin-plated bronze terminals for connection to copper or aluminum
- Low-voltage ground provisions
- Tank ground provision
- Insulated cover for wildlife protection
- Laser engraved aluminum nameplate
- Non-PCB insulating oil
- KVA rating on tank wall
- Arrester mounting nuts welded to tank (single bushing designs)
- One HV bushing with tank ground strap for grounded wye applications or two HV bushings for wye applications
- Recessed tank bottom
- Broad selection of design efficiencies to meet specific customer applications and new DOE minimum requirements

**Prolec GE** designs and manufactures a complete line of single-phase pole-type distribution transformers for installation on utility overhead systems. These highly reliable transformers are available in a wide variety of ratings and accessory combinations.

We utilize state-of-the-art technology in our design and manufacturing systems, supported by our ISO-9001 certified processes and quality assurance programs, to provide you with reliable and cost-effective transformer products matched to your system requirements.

## Optional features

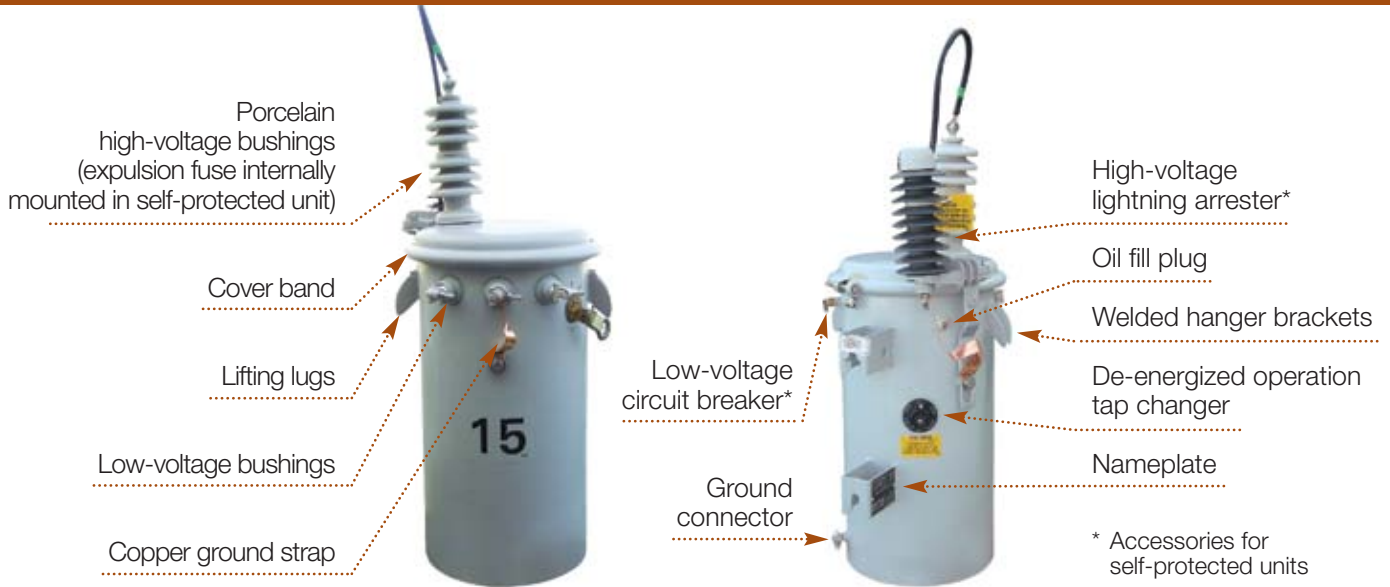
- Automatic pressure relief valve
- High-voltage taps with external tank mounted no load tap changer
- Dual high-voltage ratings (not available with taps)
- Connectors for grounding
- Stencils and labels according to customer requirements
- External tank mounted high-voltage lightning arrester
- Low-voltage circuit breaker with reset (and optional overload signal light)
- Internal high-voltage expulsion fuse
- Under oil arrester
- External low-voltage surge arrester
- Interlaced secondary windings (through 50 kVA ratings)
- RUS compliant 1 bushing designs with double hanger bracket configuration (through 50 kVA)
- Stainless steel tank, cover, clamping band
- Extra creep options for high-voltage bushings
- Variety of features available for wildlife protection
- Magnex™

## Tests

- All transformers are tested in strict accordance with the latest revision of applicable ANSI™, IEEE™, NEMA, and RUS with test reports available by serial number of the transformer

Routine tests are:

- Leak test
- Polarity and phase relation
- Resistance
- No-load losses and excitation current
- Load losses and impedance
- Applied voltage
- Induced voltage
- Full wave impulse
- Ratio test



Popular configurations



Double hanger bracket one high-voltage bushing conventional unit.



Single hanger bracket two high-voltage bushings conventional unit.



Single hanger bracket one high-voltage bushing self protected unit.





# Single-Phase Pad-Mounted Transformers




## Product scope / Standard features

- Rating
  - 10, 15, 25, 37.5, 50, 75, 100, 167 kVA
- High Voltage
  - 4160 GrdY/2400 to 34500 GrdY/19920 or 2400 to 19920 (Dual voltajes available)
  - BIL: 60 kV to 150 kV
- Low Voltage
  - 240/120 and 480/240
- Meets or exceeds applicable ANSI, NEMA, and RUS standards, including ANSI C57.12.00, C57.12.28 and C57.12.38 (enclosure integrity and finishing systems)
- Crowned tank top to prevent water retention
- Removable flip-top hood opens 180° for easy access with stainless steel hinge pins
- Externally clamped high-voltage bushing wells for loop feed or radial feed operation
- Externally clamped low-voltage threaded stud bushings
- Automatic relief device for internal pressures
- Penta-head security bolt with padlock provision (Hexa-head bolt available)
- NEMA safety labels
- Externally clamped low-voltage bushings
- Tank ground provisions
- Laser engraved aluminum nameplate
- Oil fill/level top plug and bottom drain plug
- Recessed tank bottom
- Electrostatically applied polyester powder paint system with urethane top coat for superior corrosion protection
- Removable sill
- Broad selection of design efficiencies to meet specific customer applications and new DOE minimum requirements

**Prolec GE** manufactures a complete line of single-phase pad-mounted distribution transformers designed to provide the features, performance and aesthetics needed for modern underground residential applications.

We utilize state-of-the-art technology in our design and manufacturing systems, supported by our ISO-9001 certified processes and quality assurance programs.

## Optional features

- High-voltage no load tap changer
- Dual high-voltage ratings (not available with taps)
- Complete stainless steel tank and cabinet or combination of components with mild steel and stainless steel
- High-voltage, load-break 2 positions or sectionalizing switch
- Multiple fusing options and combinations, including internal and external expulsion fuse in series with isolation link or partial range current limiting fuse
- Low-voltage circuit breaker
- Under oil arrester
- Drain valve with sampling device
- Hold-down cleats
- Connectors for ground pads
- Stencils and labels according to customer needs
- Magnex™
- Certification available 

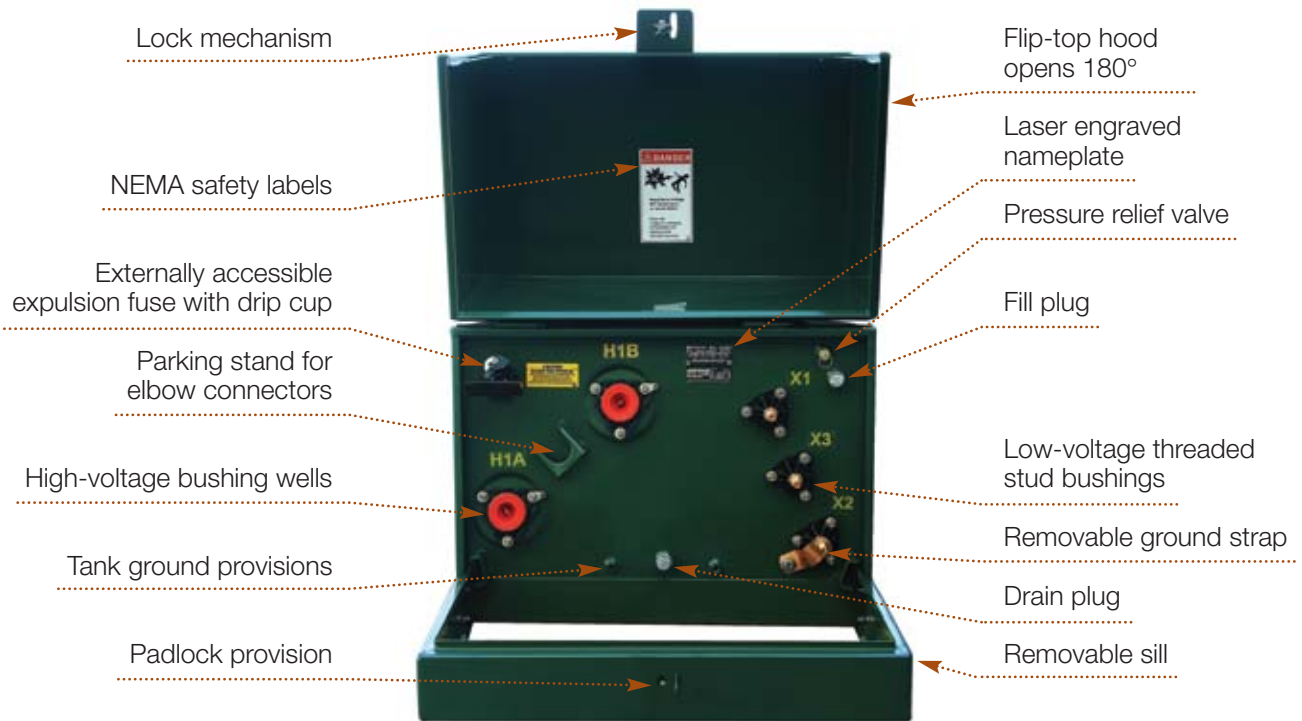
(For optional accessories or features not listed above, please contact your GE sales representative).

## Tests

- All transformers are tested in strict accordance with the latest revision of applicable ANSI™, IEEE™, NEMA, and RUS with test reports available by serial number of the transformer

Routine tests are:

- Polarity and phase relation
- Resistance
- No-load losses and excitation current
- Load losses and impedance
- Applied voltage
- Induced voltage
- Full wave impulse
- Ratio test
- Leak test



### Mini-Pad (ANSI Type II)

Prolec GE's Mini-Pad transformers are designed for single-phase residential underground applications where aesthetics and size are important. They meet all applicable ANSI Standard C57.12.38 Type II requirements for cross-cable configuration. Transformers feature loop feed two bushing dead-front primary designs. Ratings are 10 kVA through 167 kVA single-phase, 34.5 kV GrdY and below. Standard voltage ratings as well as dual voltages are offered.

### Maxi-Pad (ANSI Type I)

Prolec GE's Maxi-Pad transformers offer the same tamper-resistant features and accessibility as the Mini-Pad transformer while allowing straight cable configuration with only a small increase in height. The Maxi-Pad is available in 10 kVA through 167 kVA with the same broad range of voltages and optional accessories as the Mini-Pad. This product meets ANSI Standard C57.12.38 Type I requirements.





# Three-Phase Pad-Mounted Transformers



**Prolec GE** offers a complete line of liquid-filled Three-Phase Pad-Mounted distribution transformers that meet applicable IEEE standards. These transformers are specifically designed for commercial and residential applications, such as hotels, hospitals, universities, among others. Our transformers are designed for outdoor installation with cabinets meeting C57.12.34 & C57.12.28.

**Prolec GE** Three-Phase Pad-Mounted Transformers use aluminum or copper windings and are optimized to maximize efficiency and footprint.

## Standard offering

- Rating
  - Up to 3,750 kVA ONAN
- High Voltage
  - Up to 34,500 V Delta or Wye Connected
  - BIL up to 200 kV
  - Loop feed
  - Dead front
  - Bushing wells
- Low Voltage
  - Up to 1200 V Delta or Wye Connected
  - BIL up to 60 kV
- Frequency: 60 Hz
- 5-legged Core
- Temperature rise: 65°C
- Cooling class: ONAN
- Insulating fluid: Mineral oil
- Impedance: per C57.12.34
- Altitude: 3,300 FASL
- Mild steel tank & cabinet
- Powder paint system; Color: Green Munsell 7GY 3.29/1.5 or ANSI 70
- Built to all applicable IEEE C57.12.34
- Operation Step down
- Windings per Prolec GE standard

## Optional features

- Rating 3,750 – 5,000 kVA
- High Voltage
  - Copper windings
  - Tap changer with 7 positions
  - Radial feed
  - Live front
  - Bushing wells + Inserts
  - Tap changer:  $\pm 2, 2.5\%$
  - Integral bushing
  - Porcelain bushing
- Low Voltage
  - Copper windings
  - Epoxy, 2 pieces bushings, up to 12 holes blade
  - Epoxy, 1 piece bushings up to 12 holes blade
- Frequency: 50 Hz
- Temperature rise: 55°C, 55/65°C
- Cooling class: KNAN
- Insulating fluid: Natural ester fluid (VG-100 or FR3)
- Impedance per customer request
- Electrostatic shield
- Altitude up to 14850 FASL
- Internal switch
- Bay-O-Net expulsion fuses + current limiting fuses
- Under-oil internal arresters
- Stainless Steel 409 tank & cabinet
- Stainless Steel 304 tank & cabinet
- Infrared window
- Powder paint system & liquid finish color per customer request
- Seismic designs IBC Certified
- Operation Step-Up



### Standard voltages

Standard Primary	
Voltage Ratings	Minimum BIL (kV)
Delta or Wye	
2400	45
4160	60
4800	60
7200	75
7620	75
12000	95
12470	95
13200	95
13800	95
16340	95

Grounded Wye	
4160GrdY/2400	65
12470GrdY/7200	95
13200GrdY/7620	95
13800GrdY/7970	95
22860GrdY/13200	125
23900GrdY/13800	125
24940GrdY/14400	125
34500GrdY/19920	150

### Standard ratings

Standard kVA Ratings		
45	225	1000
75	300	1500
112.5	500	2000
150	750	2500

### Overall typical dimensions for reference

kVA	Height	Width	Depth	Typ Weight (Lb)	Typ Gal Oil
75	66	46	65	2,550	136
112.5	66	46	65	2,750	145
150	69	46	66	2,900	145
225	69	50	69	3,500	164
300	69	53	71	3,800	171
500	74	62	70	5,950	284
750	75	72	72	6,950	275
1000	78	75	75	7,800	315
1500	83	80	83	10,600	375
2000	86	85	89	12,000	440
2500	87	88	96	14,000	490

*For kVAs not listed, contact factory.*

*Dimensions and weights are approximate and subject to change without notice and should not be used for construction purposes.*



### Standards and certifications available





# Step Up Transformers for Solar Energy Applications



**Prolec GE** offers step up transformers specifically designed for Solar Power Generation applications. Operational characteristics include thermal design for higher ambient temperature ranges, and core and coils designed for step up application with an electrostatic shield to protect against electrical noise coming from the grid and the inverter. Natural ester fluid (VG-100™), amorphous metal core & solar duty are environmentally-friendly options for this product.

**Prolec GE** Solar Transformers have the possibility to be connected to 1 or 2 inverters from any brand; using aluminum or copper windings, the transformers optimizes both the efficiency of the system and the area of the skid. Also, optional safety features include external accessories, in order to mitigate the risk of Arc Flash.

## Product scope / Standard features

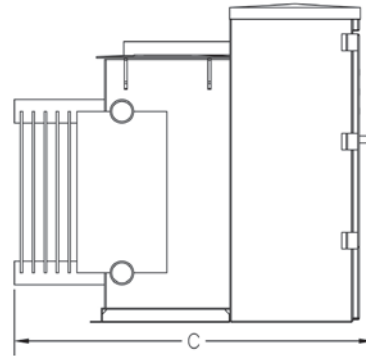
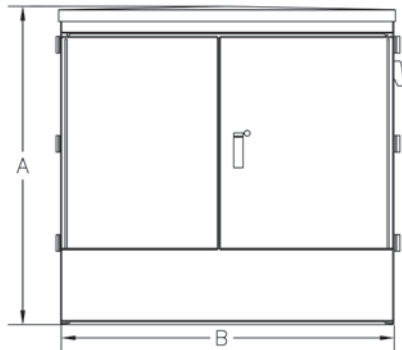
- Rating
  - Up to 4,000 kVA Single Low Voltage winding
  - Up to 2,800 kVA Dual Low Voltage winding
- High Voltage
  - Aluminum windings
  - Up to 34,500 V Delta or Wye Connected
  - BIL up to 200 kV
  - Tap changer:  $\pm 2, 2.5\%$
  - Loop feed
  - Dead front
  - Bushing wells
- Low Voltage
  - Aluminum windings
  - Up to 1200 V Delta or Wye Connected
  - BIL up to 60 kV
  - Epoxy 2 piece-bushings with 4-holes blade
- Frequency: 60 Hz
- 5-legged Core
- Electrostatic shield
- Temperature rise: 65°C
- Cooling class: ONAN
- Insulating fluid: Mineral oil
- Impedance:  $5.75\% \pm 7.5\%$
- Impedance between Low Voltage windings  $> 8\%$
- Altitude: 3,300 FASL
- Bay-O-Net expulsion fuses plus partial-range current limiting fuses
- Mild steel tank & cabinet
- Powder paint system; Color: ANSI 70 or Green Munsell 7GY 3.29/1.5
- Built to all applicable IEEE C57.12.34

## Optional features

- High Voltage
  - Copper windings
  - Tap changer with 7 positions
  - Radial feed
  - Live front
  - Bushing wells + Inserts
  - Integral bushing
  - Porcelain bushing
- Low Voltage
  - Copper windings
  - Epoxy, 2 pieces bushings, up to 12 holes blade
  - Epoxy, 1 piece bushings up to 12 holes blade
- Frequency: 50 Hz
- Temperature rise: 55°C, 55/65°C
- Cooling class: KNAN
- Insulating fluid: Natural ester fluid (VG-100 or FR3)
- Impedance per customer request,  $\pm 7.5\%$
- Impedance between Low Voltage  $> 10\%$
- Altitude up to 14850 FASL
- Internal switch
- Bay-O-Net expulsion fuses + current limiting fuses
- Under-oil internal arresters
- Stainless Steel 409 tank & cabinet
- Stainless Steel 304 tank & cabinet
- Infrared window
- Powder paint system & liquid finish color per customer request
- Solar duty calculation
- Seismic designs IBC Certified

## Standards and certifications available





Product scope / Standard features

Concept	Features	Value point
Step Up	Increased margin for core over excitation, withstanding high magnetizing inrush currents	Prevent core saturation or ferroresonance
Electronic Protection	Electrostatic Shield	Provide a pathway to ground for any residual resonance
Network Protection		Prevent capacitive coupling between the grid and capacitive banks of the inverter

Overall typical dimensions reference

kVA	A* Height	B* Width	C* Depth	Weight (lbs)	Core Material
700	70	70	80	7000	Silicon Steel
1000	80	90	80	9000	
1500	85	90	95	11500	
2000	90	100	100	16500	
2500	95	120	100	17500	
700	75	85	80	8000	Amorphous Metal
1000	85	90	80	11000	

\* Dimensions in inches

\*\* Dimensions and weight are approximate and subject to change without notice and should not be used for construction purposes

\*\*\* Other ratings available upon request





# Step Up Transformer for Windfarm Applications



**Prolec GE** offers step up transformers specifically designed for Wind Power Generation applications. These transformers are optimized using duty cycle rating, and can be designed to be used inside or outside the tower, or inside the nacelle. Natural ester fluid (VG-100™) and amorphous metal core are environmentally-friendly options for this product. Also, optional safety features include external accessories, in order to mitigate the risk of Arc Flash.

## Product scope / Standard features

- Rating up to 4,000 kVA (2-windings) and 3,400 kVA (3-windings)
- High Voltage
  - Aluminum windings
  - Up to 34,500 V Delta or Wye Connected
  - BIL up to 200 kV
  - Tap changer:  $\pm 2, 2.5\%$
  - Loop feed
  - Dead front
  - Bushing wells
- Low Voltage
  - Aluminum windings
  - Up to 1200 V Delta or Wye Connected
  - BIL up to 60 kV
  - Epoxy 2 piece-bushings with 4-holes blade
- Frequency: 60 Hz
- 5-legged Core
- Electrostatic shield
- Temperature rise: 65°C

- Cooling class: ONAN
- Insulating fluid: Mineral oil
- Impedance:  $5.75\% \pm 7.5\%$
- Altitude: 3,300 FASL
- Bay-O-Net expulsion fuses + partial-range current limiting fuses
- Mild steel tank & cabinet
- Powder paint system; Color: ANSI 70 or Green Munsell 7GY 3.29/1.5 (applies to designs outside of tower)
- Liquid paint system; Color: ANSI 70 or Green Munsell 7GY 3.29/1.5 (applies to designs inside of tower, and nacelle)
- Built to all applicable IEEE C57.12.34 (applies to designs outside of tower)
- Built to all applicable IEC 60076-14, IEEE PC57.154 TM/D5 (applies to designs inside of tower, and nacelle)

## Optional features

- High Voltage
  - Copper windings
  - Tap changer with 7 positions
  - Radial feed
  - Live front
  - Bushing wells + Inserts
  - Integral bushing
  - Porcelain bushing
- Low Voltage
  - Copper windings
  - Epoxy, 2 pieces bushings, up to 12 holes blade
  - Epoxy, 1 piece bushings up to 12 holes blade
- Frequency: 50 Hz
- Temperature rise: 55°C, 55/65°C
- Cooling class: KNAN
- Insulating fluid: Natural ester fluid (VG-100 or FR3)
- Silicon fluid available for designs inside the tower or nacelle
- Impedance per customer request,  $\pm 7.5\%$
- Altitude up to 14,850 FASL
- Internal switch
- Bay-O-Net expulsion fuses + current limiting fuses
- Under-oil internal arresters
- Stainless Steel 409 tank & cabinet
- Stainless Steel 304 tank & cabinet
- Infrared window
- Powder paint system & liquid finish color per customer request
- Duty cycle rating
- Seismic designs IBC Certified

### Value features

Concept	Description	Value point
Step Up	Increased margin for transformer over excitation	Prevent core saturation, partial discharges, and gassing
Electronic Protection	* Electrostatic Shield	Provide a pathway to ground for any residual resonance
Network Protection		Prevent capacitive coupling between the grid and capacitive banks of the inverter
Tertiary winding	Third winding to feed the induction rotor generator	Reducing the number of components to be installed up in the nacelle
Duty Cycle Rating	Load calculation based on specific location characteristics	Optimized size and cost

### Pad-Mounted transformers recognized as best in class in reliability and DGA measurements in Wind Industry

**Prolec GE** has the largest fleet of padmounted transformers installed in Wind farm projects in the US Market.

Dissolved Gas Analysis (DGA) is an Industry accepted method to detect faults at an early stage and to evaluate the transformer health. DGA Guidelines in IEEE are based on data from large Power Transformers, but can still be a helpful tool to evaluate distribution transformers with proper considerations

**Prolec GE** is recognized by customers in the Wind Industry as having the best performance in DGA measurements

This performance is achieved by the following special features:

- Insulation strength of the windings, one BIL level above nominal
- Increased over-excitation capability to absorb voltage fluctuations
- Superior core grounding practice with inside core ground straps to prevent generation of partial discharge and core over-heating
- Optimization of thermal performance based on actual wind loading cycle and ambient temperature conditions
- Special production test beyond routine test requirements
- Use of accessories rated for wind loading cycle duty

### Standards and certifications available





## Flip-Top Cabinet



**Prolec GE** offers a flip top cabinet as an option for commercial Three Phase Pad-Mounted Transformers.

### Design Overview

- From 45 kVA to 2500 kVA
- Opening Angles: 45°, 110° (max)

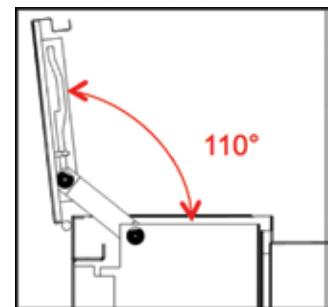
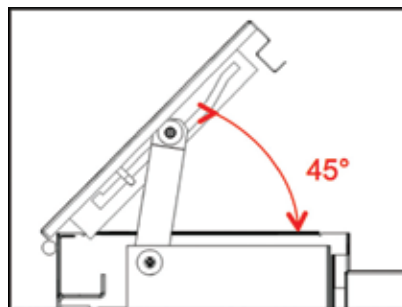
### Advantages

The new cabinet design has a cover that can be flipped up, with the following benefits:

- Enhanced range of access to front-plate components
- Improved safety for O&M personnel
- Greater visibility, since the open cover allows more sunlight in the cabinet area
- Shorter product height

### Applicable Standards

- IEEE C57-12-00
- IEEE C57-12-28
- IEEE C57-12-34





# Transformer Solutions for Arc Flash Risks

**Prolec GE** has developed options for reducing arc flash risks to personnel responsible for installation, operation and maintenance routines during transformer operation. Typically, in renewable applications, transformers are very close to the generation point, which justifies precautionary measures against an arc flash event. Our solutions focus on the safety of personnel by offering several packages for added protection.

Typical Operation and Maintenance activities performed on a transformer for renewable applications:

- Switching transformers in and out of the collection circuit
- Routinely taking oil samples for dissolved gas analysis testing
- Monitoring tank pressure and adding gas as needed
- Performing infrared temperature scans of the HV and LV connections

*Tamper-proof pad lockable enclosures for externally-accessible accessories*



## Available packages

Package	Features	Value point
Basic	Accessories externally accessible with padlock provision - Drain valves, liquid level, liquid temperature and pressure vacuum gauges, load break switch	Provides a safe access for O&M routines.
Off-load	Molded circuit breakers installed in plexiglass barrier in LV compartment IR Windows for thermo scanning	Minimize risk when de-energizing transformer from generation source.
Monitoring	Monitoring capabilities supported via accessories with contact switches, and SCADA digital communication signals	Mitigate the hazard by remote monitoring.

## Standards and certifications available



*Low Voltage Molded circuit breaker installed in a plexiglass barrier*





# ESP – Multitap transformer



## Experience in the industry

**Prolec GE** has a long experience in advanced technology transformer for the Oil & Gas Industry, drilling and production to refining and petrochemical.

## Product Scope

- Rating
  - Up to 540 kVA
- High Voltage
  - Aluminum windings
  - Up to 4800 V Delta or Wye Connected
  - BIL up to 60 kV
  - Tap changer: 25 Taps
  - Radial feed
  - Live front
  - Porcelain Bushing
- Low Voltage
  - Aluminum windings
  - 480 V Delta
  - BIL 30 kV
  - Epoxy 2 piece-bushings with 4-holes blade
- Frequency: 60 Hz
- 5-legged Core
- Electrostatic shield
- Temperature rise: 65°C
- Cooling class: ONAN
- Insulating fluid: Mineral oil
- Impedance: 5.75% ± 7.5%
- Altitude: 3,300 FASL
- Mild steel tank & cabinet
- Liquid paint system; Color: ANSI 61
- Harmonic factor up to 4

## Optional features

- High Voltage
  - Copper windings
- Low Voltage
  - Copper windings
  - Epoxy, 2 pieces bushings, up to 12 holes blade
- Frequency: 50 Hz
- Temperature rise: 55°C, 55/65°C
- Altitude up to 14850 FASL





### Safe operation under Short Circuit

Excellent mechanical strength provided by diamond pattern, epoxy coated paper insulation and unique compression bonding process which helps to support short circuit forces.

The bond retains the winding from shifting during operation or under short circuit stresses.

### Solution for... Oil & Gas

- Artificial Lift application
- Onshore operation

### Corrosive environment

Coatings specially designed to operate under several conditions for the Oil & Gas Industry, including high humidity environment, ultra violet radiation, chemical pollution & saline fog.

### Standards and certifications available





# Substation Transformers for Industrial Applications



**Prolec GE** offers Small Primary Substation Transformers (SPST's) specifically designed for a wide range of commercial, industrial, and utility applications. With high voltages up to 69 kV and ratings up to 15 MVA, **Prolec GE** transformers are built using high-grade materials and designed with advanced technology in order to provide years of reliable operation. Designed for use in outdoor substations, these transformers comply with the heavy duty requirements of utility and industrial applications.

Our stringent quality assurance practices, state-of-the-art facilities, and highly-qualified personnel allow us to deliver products and services according to your needs in a prompt and reliable way. We know that every customer is unique and needs a different level of support and involvement from its transformer supplier. We are committed to provide a reliable and responsive support, from the day you start building your specification to the day in which you start operating the transformer.

## Product scope / Standard features

- Rating
  - Up to 15,000 kVA
- High Voltage
  - Copper windings
  - Up to 69,000 V Delta or Wye Connected
  - BIL up to 350 kV
  - Tap changer:  $\pm 2, 2.5\%$
  - Radial feed
  - Live front
  - Porcelain bushing
- Low Voltage
  - Copper windings
  - Up to 34,500 V Delta or Wye Connected
  - BIL up to 200 kV
  - Porcelain bushings with 4-holes blade
- Frequency: 60 Hz
- 3-legged Core
- Temperature rise: 65°C
- Cooling class: ONAN
- Insulating fluid: Mineral oil
- Impedance:  $5.75\% \pm 7.5\%$
- Altitude: 3,300 FASL
- Mild steel tank & cabinet
- Liquid paint system; Color: ANSI 61 or ANSI 70
- Built to all applicable IEEE C57.12.36

## Optional features

- High Voltage
  - Tap changer with 7 positions
- Frequency: 50 Hz
- Temperature rise: 55°C, 55/65°C
- Cooling class: KNAN, ONAN/ONAF, KNAN/KNAF, ONAN/ONAF/ONAF
- Insulating fluid: Natural ester fluid (VG-100 or FR3), silicone
- Impedance per customer request,  $\pm 7.5\%$
- Altitude up to 14850 FASL
- Infrared window
- Electrostatic shield
- Pressure relief device
- Winding temperature device
- Sudden pressure relay with or without seal in
- Devices with alarm contacts
- Top filter press valve
- HV & LV air terminal compartments
- HV lightning arresters in ATC
- Current transformers
- Neutral grounding resistor
- Special environment (i.e: classified areas)
- Special / low sound level
- Retrofit to specific dimensions
- Non-standard loading conditions such as harmonic loading or specified K-factor
- Removable radiators
- Stainless steel removable radiators
- Galvanized steel removable radiators
- Special paint for marine ambient
- CSA compliance



Typical dimensions

Oil filled transformer, 65°C, 95 KV BIL				
kVA	Height	Width	Depth	Total Weight
10000	121	125	160	46300
12000	121	145	170	48000
15000	121	170	180	62000

VG-100 filled transformer, 65°C, 95 KV BIL				
kVA	Height	Width	Depth	Total Weight
10000	121	170	160	48600
12000	121	185	170	56700
15000	126	215	180	72500

*Dims in inches.  
Weight in Lbs.*

Standards and certifications available





# Secondary Substation Transformers (SST)



**Prolec GE** offers Secondary Substation Transformers specifically designed for a wide range of commercial, industrial, and utility applications requiring three-phase substation service with match-ups to switching and/or fusing. With high voltages up to 34.5 kV and ratings up to 7.5 MVA, **Prolec GE** transformers are built using high-grade materials and designed with advanced technology in order to provide years of reliable operation.

Our stringent quality assurance practices, state-of-the-art facilities, and highly-qualified personnel allow us to deliver products and services according to your needs in a prompt and reliable way. We know that every customer is unique and needs a different level of support and involvement from its transformer supplier. We are committed to provide a reliable and responsive support, from the day you start building your specification to the day in which you start operating the transformer.

## Product scope / Standard features

- Rating
  - Up to 7,500 kVA
- High Voltage
  - Aluminum windings
  - Up to 34,500 V Delta or Wye Connected
  - BIL up to 200 kV
  - Tap changer:  $\pm 2, 2.5\%$
  - Radial feed
  - Live front
  - Porcelain bushing
- Low Voltage
  - Aluminum windings
  - Up to 15,000 V Delta or Wye Connected
  - BIL up to 95 kV
  - Epoxy bushings with 4-holes blade
- Frequency: 60 Hz
- 5-legged Core
- Temperature rise: 65°C
- Cooling class: ONAN
- Insulating fluid: Mineral oil
- Impedance:  $5.75\% \pm 7.5\%$
- Altitude: 3,300 FASL
- Mild steel tank & cabinet
- Liquid paint system; Color: ANSI 61 or ANSI 70
- Built to all applicable IEEE C57.12.36

## Optional features

- High Voltage
  - Copper windings
  - Tap changer with 7 positions
- Low Voltage
  - Copper windings
  - Porcelain bushings
- Frequency: 50 Hz
- Temperature rise: 55°C, 55/65°C
- Cooling class: KNAN, ONAN / ONAF, KNAN / KNAF
- Insulating fluid: Natural ester fluid (VG-100 or FR3), silicone
- Impedance per customer request,  $\pm 7.5\%$
- Altitude up to 14850 FASL
- Infrared window
- Seismic designs IBC Certified
- Electrostatic shield
- Pressure relief device
- Winding temperature device
- Sudden pressure relay with or without seal in
- Devices with alarm contacts
- Top filter press valve
- HV & LV air terminal compartments
- HV lightning arresters in ATC
- Current transformers
- Neutral grounding resistor
- Special environment (i.e. Class 1, Division 2, Group C&D)
- Special / low sound level
- Retrofit to specific dimensions
- Non-standard loading conditions such as harmonic loading or specified K-factor
- Removable radiators
- Stainless steel removable radiators
- Galvanized steel removable radiators
- Special paint for marine ambient
- CSA compliance



Typical dimensions

Oil filled transformer, 65°C, 95 kV BIL				
kVA	Height	Width	Depth	Total Weight
750	82	67	100	8250
1000	82	67	100	8700
1500	82	67	100	9520
2000	82	73	100	11800
2500	103	78	102	15450
3000	103	105	105	15200
3750	103	110	118	21350
5000	107	130	129	24600

VG-100 filled transformer, 65°C, 95 kV BIL				
kVA	Height	Width	Depth	Total Weight
750	82	50	96	8500
1000	82	58	96	9400
1500	82	68	96	10100
2000	86	77	100	12400
2500	86	81	102	16250
3000	100	95	118	16350
3750	100	110	118	22000

*Dims in inches.  
Weight in Lbs.*

Standards and certifications available



# The people and philosophy behind the products

At Prolec GE, we're proud of the dedication, integrity, skill and resourcefulness of our people. We carefully recruit, train, develop and promote only motivated, customer-focused professionals to power our operations. These outstanding individuals act as a team to help ensure our customers receive the products, service and support they need to thrive.



## Technology development

Research and development is serious business at Prolec GE. Our Applied Technology Center boasts more than 80 engineers and specialists developing multi-generational product plans, design platforms, and continuous improvement processes. Their expertise and efforts make our customers' operations more reliable, efficient and environmentally sound.

We also draw technology expertise and ideas from our partners, including GE and its worldwide technology resources, our suppliers, customers, consultants, and university centers.

## Professionals at every level

Our people are highly qualified professionals driven by a strong commitment to service, quality and performance. We emphasize the individual development of each member of our team through training and educational programs. We encourage and reward employees who understand the value of building a career, instead of merely holding a job.

## Complete range of turnkey services

You can trust Prolec GE with every aspect of your transformer solution for accountability and continuity advantages. Your project team coordinates and orchestrates your entire transformer package, including:



- Rigging and Mobilizations
- Transportation
- Installation
- Storage Preparation
- Field Services
- Maintenance
- Training
- Condition Assessment
- Spare Parts



## Community

Our strong values and behavior standards are part of our organizational culture. They guide our daily activities and influence our performance. From a ten-acre, on-site family activity center to integrated efforts that protect our environment, we make a concerted effort to improve the lives of our employees, our neighbors and our planet.



## Growing to meet your growing needs

Worldwide energy needs are forecasted to skyrocket as we move through the 21st century. Prolec GE is uniquely situated to meet those needs.

Our state-of-the-art facility continues to grow with multi-million-dollar expansions and ongoing equipment upgrades. Our strong supply-chain connections and worldwide resources provide us with a healthy stream of raw materials, shipping resources and business partners.

So as your energy demands grow, you can continue to count on Prolec GE for the reliable solutions that power your individual needs.

## Headquarters & Service

### Monterrey, N.L., Mexico

Blvd. Carlos Salinas de Gortari  
Km. 9.25 Apodaca, N.L.  
66600 Mexico

Tel: +52 (81) 8030-2000

+52 (81) 8030-2400

Fax: +52 (81) 8030-2500

# 24/7

Contact us:

**1-800-4377-653**

+52 (81) 8030-2360

## Sales

### USA & Canada

Contact your local GE sales representative  
or call 1-800-437-7653 or +52 (81) 8030-2341

### Mexico City

Paseo de la Reforma No. 222 - 8vo. Piso  
Col. Juarez  
Delegacion Cuauhtemoc, C.P. 06500  
Mexico, D.F.

Tel: +52 (55) 5329-2700

+52 (81) 8030-2400

01-800-377-6532

Fax: +52 (55) 5329-2727

### Middle East

General Electric International Operations Co., Inc.  
Dubai, United Arab Emirates  
Dubai Internet City, PO BOX 11549  
Office G01, Building #18

Tel: +971 4 429 6101

Fax: +971 4 429 6133

### ADDITIONAL CONTACT INFORMATION:

See your local GE sales representative or visit our website [www.prolecge.com](http://www.prolecge.com)  
or email [sales@prolecge.com](mailto:sales@prolecge.com) or [services@prolecge.com](mailto:services@prolecge.com)

For information about our facilities in India: [www.prolecge.in](http://www.prolecge.in)



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