ARGUS

Te30 Outdoor Enclosure w/ Fan Front Door

029-017-B2

Visit us at www.argus.ca

Power

This page intentionally left blank.

Argus Technologies Ltd.

Visit **www.argus.ca**

Burnaby, British Columbia. Telephone: 604 436 5900 Fax: 604 436 1233

Te30 Outdoor Enclosure w/ Fan Front Door

029-017-B2

The following documents and drawings are included in this manual to provide the necessary information required for installation, routine operation and fault diagnosis of the system.

- **Specifications:** 029-017-B1
- **Safety and Installation Instructions:** 029-017-C0
- **Outline Drawings:** 029-017-06
- **Warranty and Service:** 048-507-10
- **Service Centers:** 048-693-10

Specifications for Argus' Te30 Outdoor Enclosure w/ Fan Front Door

Mechanical

Dimensions:	1483mm H x 762mm W x 762mm D, including 254mm plinth (58.4" H x 30" W x 30" D, including 10" plinth)
Weight:	Approx. 227 kg (500 lb.) No batteries, no rectifiers
Mounting:	Pad or platform
Cooling:	Front door with fan and filter
Heating:	Up to 550W, 100-120Vac 50/60Hz
Enclosure:	Aluminum shell 5052-H32
Internal Rack:	23", 26RU

Environmental

Operating Temperature:	-40 to +46°C (-40 to 115°F)
Storage Temperature:	-40 to +85°C (-40 to +185°F)
Humidity:	0 to 95% non-condensing
Elevation:	3600m, see Operating Temperature (12,000 feet)
Weather Tightness:	NEMA Type 3R
Audible Noise:	49dBA @ 7 metres (23 feet)

Regulatory Approvals

Enclosure Ratings:	CSA/UL Type 3R IP55 equivalent
Product Safety:	CSA/UL 60950 CSA 94/UL50

The above information is valid at the time of publication. Consult factory for up-to-date ordering information. Specifications are subject to change without notice.

IMPORTANT SAFETY INSTRUCTIONS

SAVE THESE INSTRUCTIONS

This section contains important instructions that should be followed during the installation and maintenance of equipment and batteries. **Please read all of the instructions before operating the equipment, and save this manual for future reference.**

A licensed electrician MUST perform connections to the branch circuit of service feed. Installation of the power supply and batteries must be performed by, or under the direct supervision of service personnel knowledgeable of the required electrical and battery safety precautions.

If instructions in this manual conflict with local electrical codes, those instructions shall be superseded by the local code.

The following safety symbols will be found throughout this manual, carefully read all information and abide by the instructions:

DANGEROUS VOLTAGE
This symbol indicates a dangerous voltage exists in this area of the product.

GAS HAZARD
This symbol indicates a gas hazard exists in the area of vented batteries.

NO MATCHES OR OPEN FLAMES
This symbol indicates a fire or explosive hazard exists in the area of the product.

The following levels of warning will be used with the above symbols:

DANGER: You WILL be KILLED or SERIOUSLY INJURED if instructions are not followed closely.

WARNING: You CAN be KILLED or SERIOUSLY INJURED if instructions are not followed closely.

CAUTION: You CAN be INJURED or equipment can be DAMAGED if instructions are not followed closely.

Mechanical Safety

Keep hands and tools clear of fans. Fans are thermostatically controlled and will turn on automatically.

Power supplies can reach extreme temperatures under load.

Use caution around sheet metal components and sharp edges.

Electrical Safety

WARNING
Hazardous voltages are present at the input of a power system. The DC output from rectifiers and batteries, though not dangerous in voltage, has a high short-circuit current capacity that may cause severe burns and electrical arcing.

Before working with any live battery or power system, follow these precautions:

- Remove all metallic jewelry; e.g., watches, rings, metal rimmed glasses, necklaces.
- Wear safety glasses with side shields (and prescription lenses if necessary) at all times during installation.
- Use OSHA approved insulated hand tools.

Lethal voltages are present within a power system. Never assume that an electrical connection or conductor is not energized. Check the circuit with a voltmeter with respect to the grounded portion of the enclosure (both ac and dc) prior to any installation or removal procedure.

Do not work alone under hazardous conditions.

A licensed electrician is required to install permanently wired equipment. Input voltages can range up to 240Vac. Ensure that utility power is disabled before beginning installation or removal.

Ensure no liquids or wet clothes contact internal components.

Hazardous electrically live parts inside this unit are energized from batteries even when the ac input power is disconnected.

Battery Safety

Servicing and connection of batteries shall be performed by, or under the direct supervision of, personnel knowledgeable of batteries and the required safety precautions.

Always wear eye protection, rubber gloves, and a protective vest when working near batteries. Remove all metallic objects from hands and neck.

Use OSHA approved insulated hand tools. Do not rest tools on top of batteries.

Batteries contain or emit chemicals known to the State of California to cause cancer and birth defects or other reproductive harm. Battery post terminals and related accessories contain lead and lead compounds; wash hands after handling (California Proposition 65).

WARNING
Follow battery manufacturer's safety recommendations when working around battery systems.

WARNING
Do not smoke or present an open flame when batteries (especially vented batteries) are on charge. Batteries vent hydrogen gas when on charge, which creates an explosion hazard.

Batteries are hazardous to the environment and should be disposed of safely at a recycling facility. Consult the battery manufacturer for recommended local authorized recyclers.

TABLE OF CONTENTS

1 Introduction

1.1 Scope of the Manual

This instruction manual explains the (generic) installation of Argus Technologies' Te30 Outdoor Enclosure.

NOTE: *Images contained in this document are for illustrative purposes only and may not exactly match your installation.*

Enclosure specifications may be found in Argus document #029-017-B1.

1.2 Product Overview

The Te30 is a multipurpose enclosure designed for a wide range of outdoor applications requiring batteries, power equipment or both. It can be configured as a stand-alone single bay, or expanded in a row to two or more enclosures.

Enclosure includes:

- Zone 4 (seismic) design
- NEMA 3R rated
- CSA certification
- Padlockable front door
- Intrusion alarm
- Master ground bar
- Cable access through rear, bottom, and sides
- Provision for 26 RU of customer equipment
- Rectifier alarm / communications cabling
- Multiple cable management access points.

Figure 1–Tempest Te30 Outdoor Enclosure w/ Fan Front Door

(Photos are for reference only – subject to installation requirements)

1.3 Part Numbers and List Options

This product is available to order under the following part numbers and list options:

Description	Part Number/List Option
Te30 Outdoor Enclosure w/ Fan Front Door	029-017-20
Basic unit	*List 0
Quartz gray finish	List 51
Enclosure plinth, 10” tall	List 51,80
Front door (with fan assembly) and rear door (single shroud)	*List 81
AC distribution, 8-position, internal	List 90
Surge protector, alarmed	List 100
550W heater	List 111

* Default option

Additional kits are available to order for the Te30 under the following part numbers:

Description	Kit/Part Number
Cable access/entry port blanking plate	037-191-20
Cable access/entry,1 port w/ 2 blanks	037-214-20
Consists of:	
Cable entry port blanking plate	037-192-20
Cable entry port, seal, Roxtec	037-193-20
Port blanking plate, Roxtec	037-215-20
Adaptor rack kit, 23" to 19"	037-198-20
Interface kit, w/o cable set (to mount 029-017-20 right hand side to 029-015-20 left hand side)	037-216-20
RF connector, bulkhead	037-194-20
Plinth assembly blanking plate, bulkhead	037-196-20
Barrier mat, 3/16” thick	037-197-20
Anchor bolt set (Hilti)	037-190-20
Liquid tight cable gland fitting (for plinth)	037-195-20

The Te30 (#029-017-20) is also compatible with following items:

Description	Part Number
Te30 Outdoor Enclosure w/ Louvered Front Door, Hinge on Right	029-015-20
Te30 Outdoor Enclosure w/ Air Conditioner	029-016-20

The above information is valid at the time of publication. Consult factory for up-to-date ordering information.

2 Features

2.1 Cooling (Dual) Fan Front Door

A thermostat-controlled dual fan and filter assembly is mounted on the front door (Figure 1).

2.2 Heater

A 550W heater (List 111) is mounted inside the front door (Figure 2).

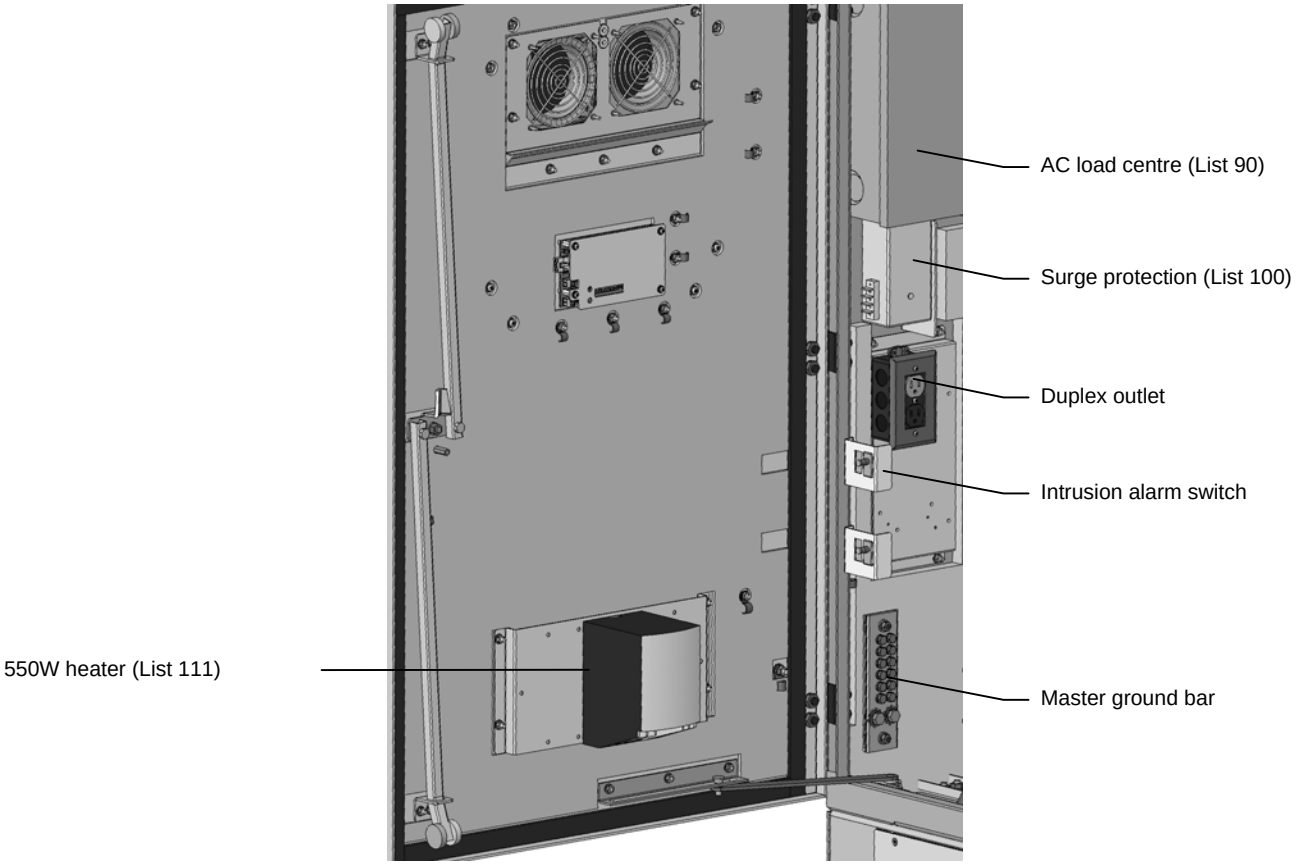


Figure 2–Te30 inside front left

2.3 Cabling and Connections

Multiple cable management access points are provided through side, rear and bottom panels.

The master ground bar (Figure 2) is located at the middle front left of the equipment rack inside the enclosure.

2.4 AC Load Centre

The optional circuit breaker AC load centre is mounted on the inside (left) of the enclosure (Figure 2). See also Section 6.3.1 (Figure 6) and refer to the schematic in the final system documentation package. Surge protection is also optional.

2.5 Security

Front and rear doors may be secured with a padlock. A switch activated by the front door is wired to an intrusion alarm (signal to the front access alarm panel) in the event of an open door condition (Figure 2).

3 Transportation and Storage

3.1 Packaging

The enclosure and components are shipped on individual pallets and shrink wrapped. The pallet is approximately 0.15m H x 1.22m W x 1.22m D (6” H x 48” W x 48” D) and the overall height including pallet and enclosure is approximately 1.65m (65”). The enclosures and components cannot be stacked.

Batteries may or may not be installed; if they are not, they will be on a separate pallet and packaged per the manufacturers guidelines.

NOTE: *Packaging assemblies and methods are tested to International Safe Transit Association standards.*

3.2 Storage

The weight of the enclosure is listed in the specifications. The equipment pallet can be moved using a forklift.

Do not hoist/lift enclosure with batteries installed.

If the batteries are installed, the warehouse facility may have to be certified for handling such goods. Typically, the batteries will be on a separate pallet; the same requirements for certification will apply.

3.3 Site Considerations (see Section 4)

It is assumed that the site will be ready for enclosure installation upon arrival. A lift truck or crane will be required at the site to lift and place the enclosure and components. The Installation team must assess the transport path for all obstructions. Use safe lifting practices.

3.4 Inspection

Prior to unpacking the equipment, perform a visual inspection and note any damage. Unpack the equipment and inspect the exterior for damage. If any damage is observed contact the carrier immediately.

Continue the inspection for any internal damage. In the unlikely event of internal damage, please inform the carrier and contact Argus Technologies for advice on the consequence of any damage.

Verify that you have all the necessary parts per your order for proper assembly.

Call Argus Technologies if you have any questions before you proceed: +1 888 GO ARGUS (462-7487).

4 Enclosure Installation

4.1 Site Considerations

The information in this section is intended as a guideline only; there may be site-specific requirements and other factors that will require individual attention, such as jurisdictional codes and construction covenants.

4.1.1 Site Selection

The supporting structure must be designed to support a fully configured enclosure. This will require a concrete slab and any existing structures to be properly reinforced to support the floor loading. In addition, the mounting site must be designed and installed in accordance with local building practices and codes.

Site consideration should include the following:

- Areas that may receive hot air exhaust from neighboring buildings or structures should be avoided.
- Any areas with architectural controls or environmental restrictions should be known.
- Areas prone to flooding should be avoided.
- A proper grounding system. See next section.

4.1.2 Enclosure Support

A supporting structure (slab, roof top, etc. with a minimum loading capacity of up to 475lb./sq.ft.) is required to support a fully loaded enclosure (rectifiers, batteries, air conditioning, etc.).

4.2 Enclosure Preparation

Remove the protective covering from the enclosure.

NOTE: *Inspect the packing slip to verify that all equipment is there.*

If batteries are on a separate pallet, they should not be installed until after the enclosure has been secured. If the batteries are going to be placed within the enclosure, the inter-unit connectors must be installed.

Inspect moving parts, hardware, connectors, and installed equipment.

NOTE: *In case of damage, report it according to procedure.*

Remove and properly dispose of all packaging.

4.3 Lifting Preparation

CAUTION
All local safety practices and guidelines must be followed while lifting the enclosure.

Do not lift enclosure with batteries installed.

All personnel involved with lifting and placing the enclosure should wear head and eye protection and gloves when required.

Crane Operation
Only properly trained and certified personnel should operate the crane.

Forklift Operation
Only properly trained and certified personnel should operate the forklift. The forklift should have a rated lifting capacity of 907 kg (2000 lb.) with a minimum fork length of 76.2cm (30”).

4.4 Enclosure Mounting

4.4.1 Rubber Mat

Use barrier mat kits if required to insolate enclosure (to prevent moisture ingress). Place in the proper position so that the mounting holes line up.

4.4.2 Concrete Pad

Cast-in-place or pre-cast concrete slabs can be used.

Place the enclosure on the concrete slab and secure with Hilti HSL heavy-duty expansion anchor bolts or approved equivalent. Secure the enclosure using the specific recommendations from the chosen fastener manufacturer, taking into account the embedment depth and clear edge distances in order for the securing device to achieve its full structural capacity. All alternates other than what is provided directly with the enclosure will need to be reviewed by a registered professional engineer qualified to practice within the area where the enclosure is being installed.

Alternate installation could be to use a chemical anchoring system such as Hilti HY150 for concrete or HY20 for masonry along with suitable threaded rods and inserts from the same manufacturer. Spacing and placement utilizing this method shall be performed as per the manufacturer's recommendations.

4.4.3 Steel Platform

It is recommended that the mounting bolts be 1.27cm (1/2") diameter A325 structural bolts in conjunction with a backing plate/clasp to grip the underside of the grating. Once the enclosure is in place, secure on the inside using appropriate washers and bolts.

5 Enclosure Grounding

In order to provide a ready, reliable source of backup power it is necessary to establish a grounding system that not only provides for the safety of the service personnel responsible for its operation and maintenance, but also facilitates the proper operation and protection of the equipment within the network. Such a grounding system will provide protection with respect to operator safety, system communication, and equipment protection.

NOTE: *Grounding method of the customer may supercede the recommendations made in this section.*

5.1 Safety Ground

The safety ground is a two-part system. The first part is a return path for stray current back to the input breaker, and the second is a return path from the enclosure to a second ground rod.

Typically, the safety, or utility ground, provides a return path to the input breaker or fuse panel by means of a connection to an appropriate driven ground rod at the base of the power pole. This path must meet National Electric Code (NEC) as well as local codes to ensure the breaker will open, preventing unwanted current flow from posing a hazard to service personnel.

The second part of the safety ground arrangement is the ground path between the enclosure and a second ground rod located at least 6 feet away from the driven ground rod at the power pole. The second ground rod and enclosure are connected via an #6 AWG solid copper wire buried at a depth of 8-12 inches. The wire is connected to the cabinet by means of a ground lug on the back of the cabinet (for pole-mounted enclosures), or to a ground lug inside the cabinet (for ground-mounted enclosures), and connected to the ground rod by means of a listed grounding clamp suitable for direct burial, or exothermic weld. Normally it is specified that the impedance of this ground can be no greater than 25 ohms at 60 hertz. If, however, dual ground rods are installed approximately eight feet apart, it is not necessary to measure the impedance of the ground rods to meet the maximum 25 ohms specification—it is assumed that the impedance specification is met.

5.2 Strike (Lightning) Ground

Lightning strikes, grid switching, or other aberrations on the power line all have the potential to cause “fast rise-time currents” which can cause damage to the powering system. Without a low-impedance path to ground, the current, while traveling through wires of varying impedance, can produce high voltages that will damage the powering equipment. The most viable method available to protect the system from damage is to divert these unwanted “fast rise-time currents” along a low-impedance path to ground. A low-impedance path to ground will prevent these currents from reaching high voltage levels and posing a threat to equipment. The single-point grounding system provides a low-impedance path to ground, and the key to its success is the proper bonding of the ground rods, so the components of the grounding system appear as a single point of uniform impedance.

WARNING
Low impedance grounding is not only critical for the proper operation of the cable system, but also is MANDATORY FOR SAFETY OF PERSONNEL.

5.3 Installation Notes

NOTE: *Argus Technologies recommends using the grounding method illustrated as follows:*

The grounding method for a particular site will be dependant upon soil type, available space, local codes, NEC, and other site-specific characteristics.

Argus Technologies recommends 5 ohms minimum ground resistance between enclosure and ground rods, in accordance with IEEE 1100-1999 Powering and Grounding Electronic Equipment.

CAUTION
Argus Technologies assumes no responsibility or liability for failure of the installer to comply with the requirements of all applicable local and national codes.

NOTE: ***Where allowed, exothermic welding may be used as an alternative to Burndy clamps and connectors.***

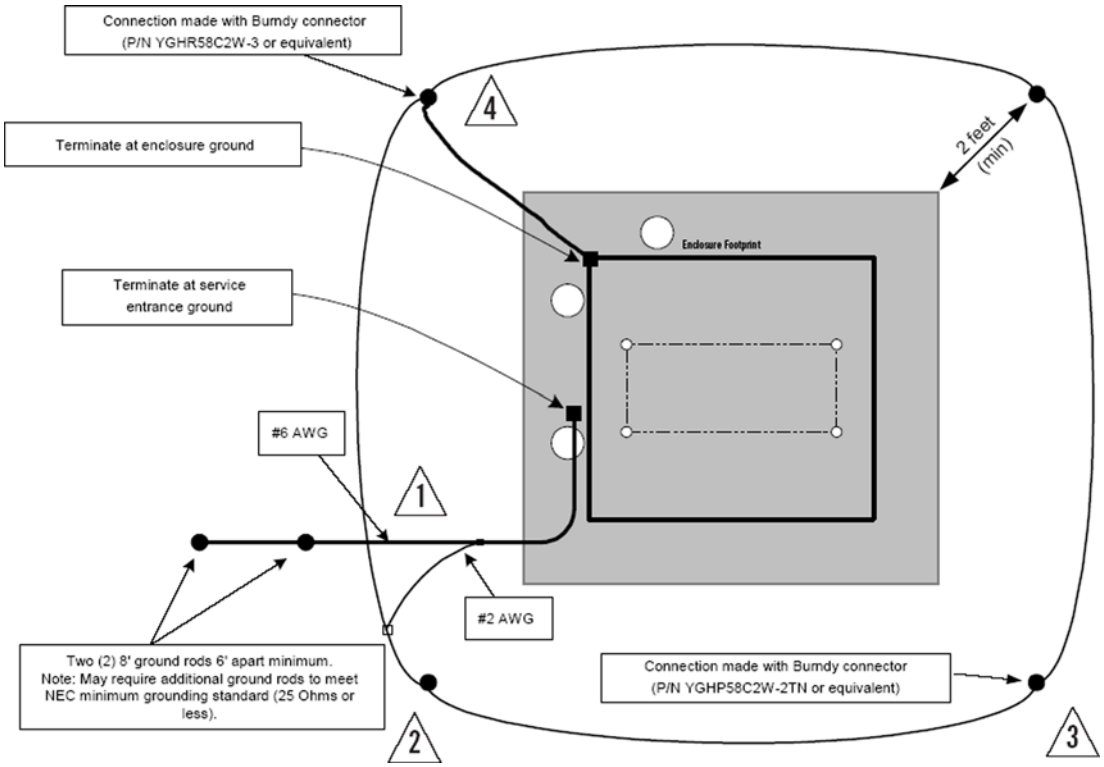


Figure 3–Enclosure grounding

5.3.1 Service Grounding (required)

1 #6 bare copper wire from Service Neutral / Ground Bar with 2 ground rods located 6' apart.

5.3.2 Lightning Protection (optional)

2 1/2" x 8' copper ground rod, four places, driven about 2 feet (typical) from the corners of the pad.

3 #6 bare copper wire loop terminated to each ground rod and buried below grade 30 inches minimum. Corrosion-proof connections (25+ year life-span) and hardware suitable for direct burial MUST be used.

4 #6 bare copper wire from loop to the enclosure.

6 Connections and Wiring

This section is provided for qualified personnel to install and interconnect the power components within the Argus Outdoor Enclosure. Regarding battery installation, refer primarily to the manufacturer's guidelines for more specific information.

6.1 Tools Required

Various insulated tools are essential for DC power system installation. Use this list as a guide:

- Battery lifting apparatus (as required)
- Various crimping tools and dies, to match lugs used in installation
- Digital voltmeter equipped with test leads
- Cable cutters
- Torque wrench: 1/4" drive, 0-150 in/lbs
- Torque wrench: 3/8" drive, 0-100 ft/lbs
- Insulating canvases as required (2' x 2', 1' x 1', 3' x 3', etc.)
- Various insulated hand tools (see Figure 4) including:
  -Combination wrenches -Ratchet and socket set
  -Various screwdrivers -Electricians knife
  -Fine tipped slot screwdrivers ("tweaker")
- Battery safety spill kit (required for wet cells only) including:
  -Protective clothing -Face shields
  -Gloves -Baking soda
  -Eye wash equipment
- Cutters and wire strippers (#14 to #22AWG) [2.5 to 0.34mm^2].

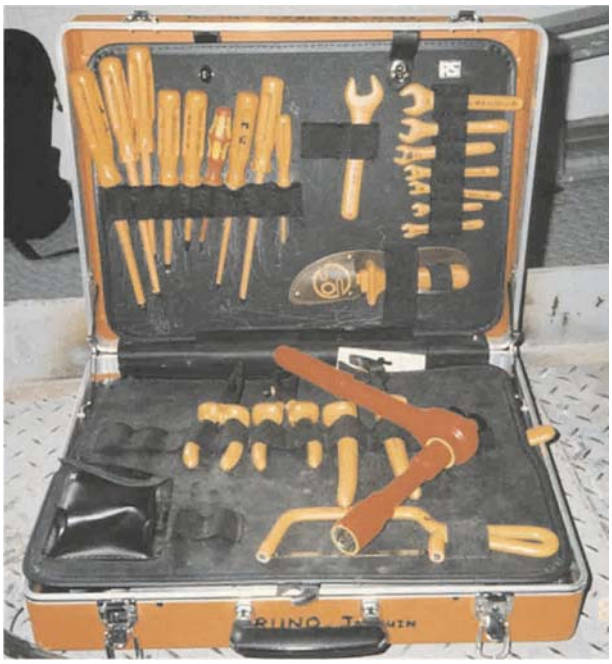


Figure 4–Example of an insulated tool kit

6.2 Grounding

DANGER

An enclosure that is not properly grounded can present an electrical hazard.

A proper grounding system that meets or exceeds the specifications of the equipment must be designed and installed prior to or in conjunction with the construction of the mounting scenario. The ground system must be bonded to the enclosure to ensure a “Common” or “Single-Point” Ground; some examples are:

New builds – Buried ground ring with bare solid conductor to ground rods.

Rooftop – Connection to building steel, water pipes, etc.

Refer to local codes and practices from the local power company. Size to suit.

Only a licensed electrician should connect any ac power and grounding to the enclosure. A dedicated ground rod is required for the grounding the ac panel.

CAUTION
Do not route ac and dc wiring in the same conduit.

6.2.1 Site Ground Wire Entry

Located at the bottom and rear of the enclosure, are knockouts for making the external site ground wire connection.

6.2.2 Master Ground Bar

The master (main) ground bar is located at the bottom left side of the enclosure. Terminate to the master ground bar and to the external ground ring with either a compression or exothermic connection. Argus recommends a minimum #2 AWG wire size.

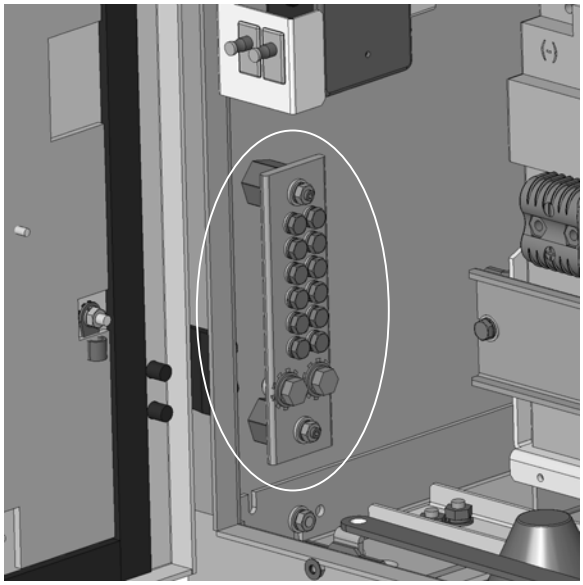


Figure 5–Master ground bar

6.2.3 Enclosure Chassis Ground (Factory Installed)

The chassis ground is connected to the enclosure frame and equipment racks and is terminated to the master ground bar within the enclosure.

6.3 AC Input Power

Verify electrical codes prior to installation. Codes may vary and contain specific conduit and wire sizes for ac input power connections.

Connection to utility power must be approved by the local utility before installing the power supply.

6.3.1 AC Load Centre

The 8-position internal load centre provides breaker positions for customer equipment and optional rectifier shelves as specified.

NOTE: *See schematic in the final system documentation package.*

Figure 6–AC load centre

Procedure:

1. Open the ac load centre on the inside of the enclosure.

If this ac load centre is to be used as the primary service entrance, connect bonding strap/link between the neutral assembly and the enclosure ground stud/screw terminal.

When the load centre is used as a sub-panel, connect grounding electrode conductor to the equipment grounding bus bar/terminal lug.

2. Remove an appropriate knockout on the load centre to accept the power conduit and cable.
3. Run conduit and cable into the load centre.
4. Locate the two line terminal lugs (L1 and L2) on the main circuit breaker (labeled for commercial power).
5. Connect the incoming black wire to L1.
6. Connect the incoming red wire to L2. Label as necessary.
7. Connect the incoming white wire to the neutral bus bar.
8. Connect the incoming green wire to the enclosure master ground bar (per Section 6.2).
9. Replace ac load centre cover.

6.4 Alarm Terminations

Refer to the documentation package that comes with your power system components.

All Tempest system alarms are connected via a punch-down (BIX) block from the local alarm-sending unit. A system controller can provide a central point for all external alarm lead connections – alarm table to be provided.

The type of alarm input required by the alarm sending unit determines how the alarm contacts are configured and wired; i.e. form “A”,“B” or “C” wired for ground sending, battery sending, loop closure, loop open, etc. Some system control panels require jumpers to be moved to configure the alarm contacts as form “A” or “B”.

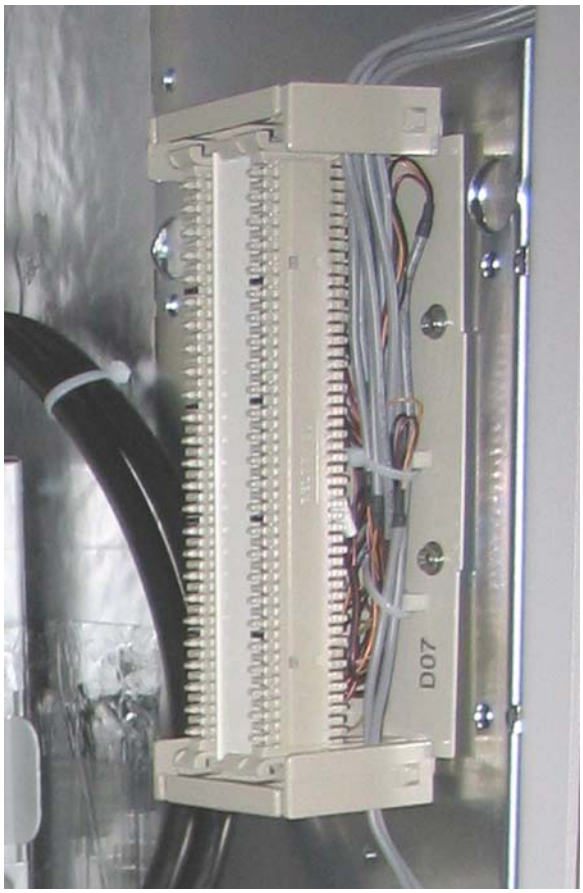


Figure 7–Alarm connections

The punch-down block also serves to extend the alarm connections.

6.5 Cooling (Dual) Fan Cable Assembly

Air temperature probe should be placed in the upper section of the enclosure above optional rectifier shelf.

7 Battery Installation

WARNING
Follow battery manufacturer's safety recommendations when working around battery systems and review the safety instructions provided in this manual.

7.1 Preparation/Mounting

The Outdoor Enclosure must be mounted (Section 4) before installation of the bottom tray of batteries may be completed.

Batteries should be located in a temperature-controlled environment; i.e., Tempest. The temperature should be regulated at approx. 25°C (77°F). Significantly lower temperatures reduce performance and higher temperatures decrease life expectancy.

Before assembly, clean cells (where applicable) as per the battery manufacturer's recommendations. First neutralize any acid with a baking soda and water solution. Rinse with clean water, then wipe dry.

7.2 Installation of Batteries in Argus Tempest Power Systems

Verify that all battery breakers, DC circuit breakers, and fuses on the distribution panels are either in the OFF position or removed. For each of the following steps, verify that the rubber terminal caps / plastic covers are on and are completely covering the positive and negative terminal connections.

Use a corrosion-inhibiting agent, such as NO-OX-ID "A"™, on all battery terminal connections.

1. Check the battery block voltage (typically >12.6V).
2. Disconnect Anderson connectors.
3. Slide the battery blocks onto the battery trays starting at the bottom (four per tray).

NOTE: *The Outdoor Enclosure must be mounted before installation of the bottom tray of batteries may be completed.*

4. Ensure that the battery output cabling will reach the [+] and [–] terminals of the series battery string and that the batteries are oriented correctly for easy installation of the inter-unit "series" connectors.
5. Remove any NO-OX-ID "A"™ grease from battery terminals.
6. Burnish terminal posts with a non-metallic brush, polishing pad or 3M Scotch Brite™ scouring pad.
7. Apply a light coating of NO-OX-ID "A"™ grease to the terminal posts.
8. If lead plated inter-unit connectors are used, they should also be burnished and NO-OX-ID "A"™ grease applied as above. Install the inter-unit connectors.
9. Connect the batteries to the pre-installed cables.
10. Install in-line battery fuse on one battery terminal inter-unit connector.
11. Repeat the above installation procedure for each shelf and battery string. For the middle battery tray, install a temperature probe to each of the negative posts on the center batteries.
12. After all battery connections are completed, torque per battery specifications (typically 100 in-lbs).
13. Verify polarity and voltage at Anderson connectors.

NOTE: *See system startup procedure before connecting batteries online.*

After assembly, batteries should be numbered and "as received" readings should be taken; such as, battery voltage and temperature. ***Refer to manufacturer's literature for guidelines.***

See following table for typical maintenance report.

Company: _____ Date: _____
Address:_____
Battery location and/or number:_____
No. of cells: _____ Type: _____ Date new: _____
Date installed: _____ Float voltage: _____ Ambient temp.: _____

Battery Readings

Battery #	Serial #	Voltage	Specific Gravity	Ohms	Mhos	Observations
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						

Remarks and recommendations:_____
_____
_____

Readings taken by: _____

Table A–Typical VRLA battery maintenance report

8 HVAC Setting Defaults/Changes

8.1 Heater

Compartment Thermostat	Default	Adjust To
Enclosure Set Point	18.3°C [65°F]	NO CHANGE

8.2 Temperature Alarms

Compartment Thermostat	Default	Adjust To
High Temperature Alarm (Blue)	N/A	35°C (95°F)
Low Temperature Alarm (Red)	N/A	-15°C (5°F)

9 Test and Commissioning (Overview)

9.1 System

All Argus power system components undergo thorough factory testing. All levels/alarms are set to predetermined values as detailed in their individual component manuals except where custom levels are specified. Good installation practice is to check the operation of all features and alarms and to set the power system levels in accordance with the specific requirements of your system.

NOTE: *The individual system component manuals detail the methodology for testing and calibration of all components.*

9.2 Battery

After installation of batteries it is usually necessary to “initial charge” the batteries to ensure proper operation and to eliminate plate sulfation. Follow guidelines supplied with the battery and record initial charge readings; i.e. specific gravity, cell voltage, charge current and temperature.

NOTE: *Battery warranty may be void if batteries are not initially charged following the manufacture's guidelines – with proper records maintained.*

Some VRLA batteries do not require initial charging if placed on charge within 3-6 months of manufacture, check with the manufacturer.

After the equalization period battery voltage should be reduced to the recommended float level.

Once the batteries have been initial charged it is suggested to perform a short duration high rate discharge test on the batteries to verify the connections on the batteries and also to verify that there are no open or failed cells. Cell voltages should be monitored during this process:

- Discharge for 15 minutes at the C/8 rate.
- Record cell voltages every 5 minutes.
- Check for overheating connections.

9.3 Documentation

Complete all necessary documentation; i.e., battery reports (Table B), DC wiring lists, ac distribution tables, floor plans, etc. Tag wires, fill out identification strips, and identify circuit breakers.

10 Maintenance

Although very little maintenance is required with Argus systems, routine checks and adjustments are recommended to ensure optimum system performance. Qualified service personnel should do repairs.

The following table lists a few maintenance procedures for this system. These procedures should be performed at least once a year.

WARNING: HIGH VOLTAGE AND SHOCK HAZARD.

Use extreme care when working inside the enclosure/shelf while the system is energized. Do not make contact with live components or parts.

Circuit cards, including RAM chips, can be damaged by static electricity. Always wear a grounded wrist strap when handling or installing circuit cards.

Procedure	Date Completed
Clean ventilation openings	
Inspect all system connections (re-torque as necessary)	
Verify alarm/control settings	
Verify alarm relay operation	

Table B–Sample maintenance log

10.1 Fan and Filter

To access the filter for cleaning (every 2 to 6 months), remove the nuts from the fan assembly mounting bracket.

10.2 Batteries

It is recommended that checks are made every six months for battery voltage, conductance, temperature, impedance, connections, etc. See battery manual for general maintenance information.

11 Argus Conventions

11.1 Numbering System

Argus Technologies uses an eight-digit drawing number system, which is broken into three blocks. The first three digits describe the category of the product; e.g., rectifier or fuse panel. The next three digits indicate the sequence in which the product number was allocated in a particular category. The last two digits indicate the type of drawing, for example:

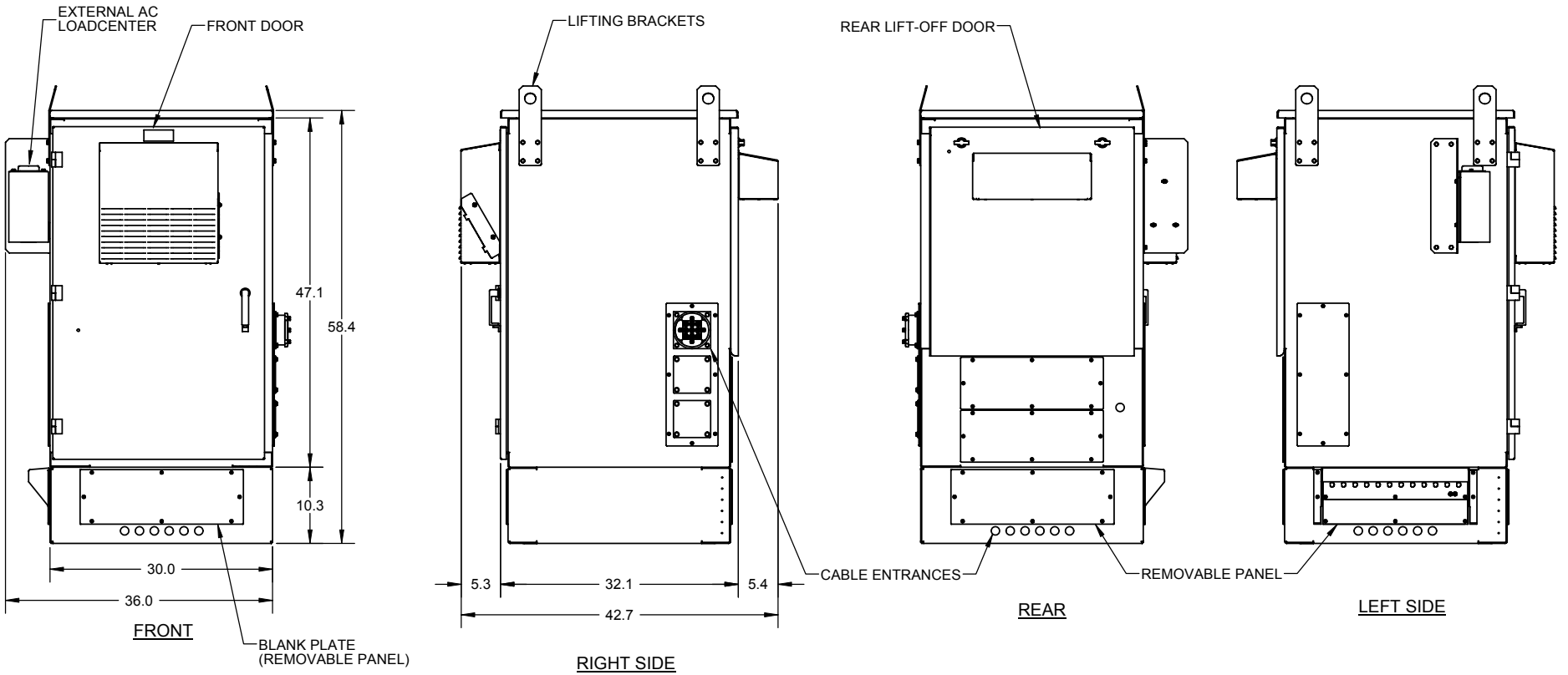
"-06" Outline Drawing
"-08" Customer Connections
"-20" Main Assembly

Argus uses an eight-digit part numbering system for all components and sub assemblies. Each part is covered by its own unique number. Due to the quantity, categories will not be listed within this manual.

11.2 Acronyms and Definitions

AC	Alternating current
AWG	American Wire Gauge
BTU	British thermal unit
CSA	Canadian Standards Association
DC	Direct current
HVAC	Heating, ventilating, and air conditioning
NEMA	National Electrical Manufacturers Association
NMS	Network Monitoring Station
OMC	Operations and Maintenance Cell
RAM	Random access memory
RU	Rack unit (1.75")
UL	Underwriters Laboratories
VRLA	Valve regulated lead acid

REVISIONS				
LTR	DESCRIPTION	REV BY	DATE	APPD
B	UPDATED PLINTH CONFIGURATION	SDW	2008/01	



ARGUS

DESIGN	EL	2007/06	MATERIAL
DRAWN	SDW	2007/12	
CHECKED			
APPROVED	RD	2008/01	FINISH

PER P.O. and Doc. 070-024-83

TOLERANCES
X.X ±0.04" [X] ±1mm
X.XX ±0.02" [X.X] ±0.5mm
X.XXX ±0.01" [X.XX] ±0.25mm

SCALE NTS

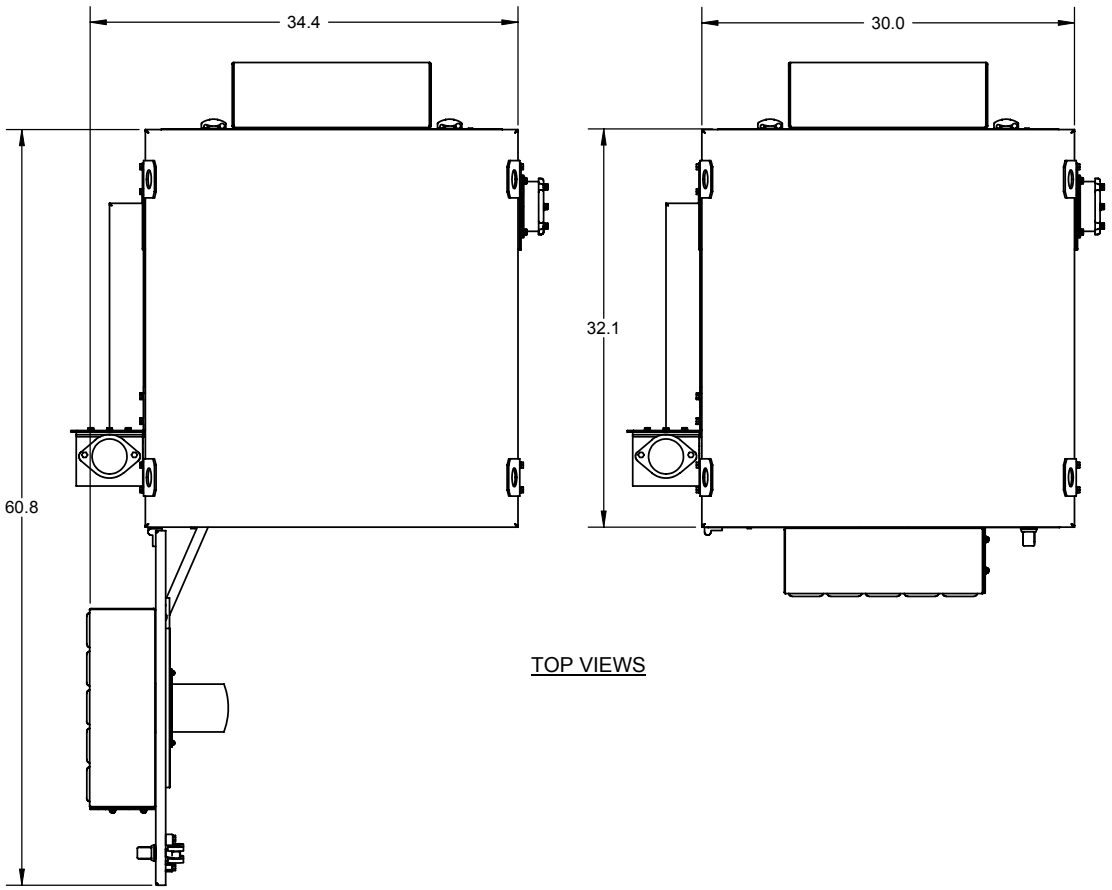
TITLE
OUTLINE, FINISHED ENCL, Te30 FAN COOLED

ISSUE DATE

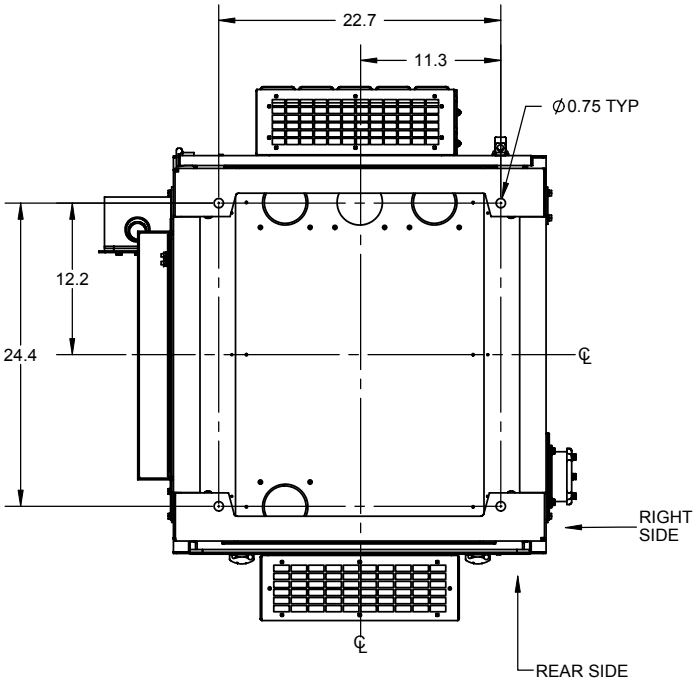
SHEET 1 OF 2

DIMENSIONS ARE IN INCHES.

SIZE	TYPE	DWG NO.	REV
B	D2	029-017-06	B



TOP VIEWS



BOTTOM VIEW
MOUNTING DETAILS

DIMENSIONS ARE IN INCHES.

ARGUS

SCALE	NTS
TITLE	OUTLINE, FINISHED ENCL, Te30 FAN COOLED
ISSUE DATE	SHEET 2 OF 2
SIZE / TYPE / DWG NO.	B / D2 / 029-017-06
REV	B

WARRANTY AND SERVICE INFORMATION

Technical Support

Technical support staff are available for answering general questions related to installation, operation and maintenance of Argus products. In Canada and the USA, call Argus toll free at +1-888-GO-ARGUS (+1-888-462-7487) 7:30 am to 5:00 pm Pacific Standard Time.

For emergencies, call +1-888-GO-ARGUS (+1-888-462-7487) 24 hours a day, seven days a week.
Customers outside Canada and the USA, call +1-604-436-5547 for technical support.

Factory Repair and Servicing

All service, beyond initial adjustments, should be carried out by qualified factory service personnel. For these procedures, please contact Argus Technologies at the locations listed in the Service Centers document.

Warranty Policy

Argus Technologies Ltd. warrants all equipment manufactured by it to be free from defects in parts and labor, excluding third party OEM materials (example: air conditioners, batteries), for a period of two years from the date of shipment from the factory. For third party products the OEM's warranty shall apply. The liability of Argus applies solely to repairing, replacing or issuing credit (at Argus' sole discretion) for any equipment manufactured by it and returned by the customer during the warranty period. The terms of the warranty are Ex Works (EXW) from Argus' factory service location.

Argus reserves the right to void the warranty if:
(1) identification marks or serial numbers are removed or altered in any way,
(2) invoice is unpaid, or
(3) defect is the result of misuse, neglect, improper installation, environmental conditions, non-authorized repair, alteration or accident.

Argus shall not be liable to the customer or other parties for any loss of profits, loss of use, costs for removal or installation of defective equipment, damages or consequential damages based upon equipment failure during or after the warranty period. There shall be no other obligations either expressed or implied. Argus will not honor warranties for batteries and other third party products without prior written Argus authorization.

Customer is responsible for all shipping and handling charges (COD and freight collect will not be accepted without prior approval from Argus Technologies).

Payment terms (North America) are net 30 days subject to prior credit approval. All other orders require payment before shipping.

Payment terms (International) are subject to prior approval and are typically through Tele-Transfer.

Return Material Policy

Our return policy is designed to ensure prompt, efficient and high quality factory service. A service request order (SRO) number must be obtained before products can be accepted for servicing by the Argus factory. For returns to an authorized service center (refer to the Service Centers document), please consult the individual service center for specific return policies and instructions.

To obtain an SRO number for a factory return, customers must call the appropriate location with the product serial and model number, as well as a brief description of the problem, shipment instructions and billing details.

The original packing container should be used whenever possible. The box should be completely enclosed and constructed of wood or double-wall, corrugated cardboard. At least 3" of foam or shock absorbing packing material must surround the unit. Both the shipping documents and the outside of the box must have the SRO # clearly marked and the product shipped prepaid to the Argus factory service center. Argus will endeavor to repair products within five working days of receipt. Repairs to the returned product are warranted for a period of six months. A service charge may be applied if no fault is found in the returned product. Argus will not accept products without an SRO number.

Service Centers

Factory Service Centers

Canada and International
Argus Technologies Ltd.
ATTN: RMA Returns
7033 Antrim Avenue
Burnaby, BC, V5J 4M5 Canada
Tel: +1 604 436 5900
Fax: +1 604 436 1233
Email: returns@argusdcpower.com

USA
Argus Technologies Inc.
ATTN: RMA Returns
3116 Mercer Avenue
Bellingham, WA, 98225 USA
Tel: +1-360 756 4904
Fax: +1-360 647 0498
Email: returns-usa@argusdcpower.com

Asia-Pacific
PCM Electronics (Dong Guan) Co., Ltd.
Hongli Industrial Area, Miaobian,
Liaobu Town, Dongguan City,
Guangdong Province, 523400 China
Tel: +86 755 8895 3310
Fax: +86 755 8895 3307

Authorized Service Center

Argentina
Argus Technologies de Argentina
Belen 315, Capital Federal, Buenos Aires,
1407l Argentina
Tel: +54 (11) 4672 4821
Fax: +54 (11) 4504 4698
Cell: +54 9 (11) 4993 9996
Email: lkleiman@argus.ca

Asia
Argus Technologies Asia Pte Ltd
Blk 6 Tagore Lane #160
Singapore 787570
Tel: +65 6458 8900
Fax: +65 6458 2122

Australia
CPS National
8/376 Newbridge Rd
Moorebank, NSW, 2170 Australia
Tel: +61 02 9822 8977
Fax: +61 02 9822 8077

Australia/New Zealand
Alpha Power Systems Pty Ltd.
Unit 3, 30 Heathcote Road
Moorebank, NSW, 2170 Australia
Tel: +61 02 9602 8331
Fax: +61 02 9602 9180

Century Yuasa
37 - 65 Colbalt Street
Carole Park QLD 4300
Australian Sales & Service
Tel: +61 07 3361 6587
Fax: +61 07 3361 6705
New Zealand Sales & Service
Tel: +64 9 978 6689
Fax: +64 9 978 6677

Brazil
Argus Brasil Serviços e Comércio Ltda
Rua: Constituição,145/147 - Santos
São Paulo – Brasil 11015-471
Tel: +55 (13) 3234 2469
Fax: +55 (13) 3234 2469
Cell: +55 (13) 7806 1438
Email: argusbrasil@bignet.com.br

Canada
Compower Systems Inc.
118 Tiffield Road
Toronto, ON, M1V 5N2 Canada
Tel: +1 416 293 3088
Fax: +1 416 293 0671

Europe
Alpha Technologies Europe Ltd.
Cartel Business Estate
Edinburgh Way
Harlow, Essex, CM20 2DU UK
Tel: +44 1279 422110
Fax: +44 1279 423355

Mexico & Central America
Technologies Argus First De Mexico SA de CV
Anatole France No. 17
Col. Polanco
Mexico City, 11560 Mexico
Tel: +52 55 5280 6990
Fax: +52 55 5280 6585

Romania
Alphapower SRL
Str. Paul Constantinescu nr.5
Timisoara, Romania
Tel: +40 21 569 1214
Cell: +40 31 816 1491

South America
Argus Technologies Argentina
Santo Tome 2573, Capital Federal
Buenos Aires, 1416 Argentina
Tel: +54 11 4504 4698
Cell: +54 9 11 4993 9996
E-pager: 541149939996@nextel.net.ar

Turkey
IPC Enerji Elk San ve TIC AS
Inonu cad. Kanarya sok. No:20
Yenisahra - Kadikoy
Istanbul, Turkey
Tel: +90 216 317 41 42
Fax: +90 216 472 90 66

048-693-10 Rev C (04/2008)