

BALDOR • RELIANCE



AC Submersible Pump Motors

Installation & Operating Manual

Any trademarks used in this manual are the property of their respective owners.

Table of Contents

Section 1

General Information	1-1
Overview	1-1
Limited Warranty	1-1
Safety Notice	1-1
Receiving	1-2
Handling	1-2

Section 2

Installation & Operation	2-1
Overview	2-1
Installation	2-2
Grounding	2-3
Operation	2-6

Section 1 General Information

Overview This manual contains general procedures that apply to Baldor•Reliance Motor products. Be sure to read and understand the Safety Notice statements in this manual. For your protection, do not install, operate or attempt to perform maintenance procedures until you understand the **Warning and Caution** statements.

A **Warning** statement indicates a possible unsafe condition that can cause harm to personnel.
A **Caution** statement indicates a condition that can cause damage to equipment.

Important: **This instruction manual is not intended to include a comprehensive listing of all details for all procedures required for installation, operation and maintenance. This manual describes general guidelines that apply to most of the motor products. If you have a question about a procedure or are uncertain about any detail, Do Not Proceed. Please contact your Baldor District Office for more information or clarification.**

Before you install, operate or perform maintenance, become familiar with the following:

- NEMA Publication MG-2, Safety Standard for Construction and guide for Selection, Installation and Use of Electric Motors and Generators.
- The National Electrical Code
- Local codes and Practices

Limited Warranty

www.baldor.com/support/warranty_standard.asp

Safety Notice: This equipment contains high voltage! Electrical shock can cause serious or fatal injury. Only qualified personnel should attempt installation, operation and maintenance of electrical equipment.

Be sure that you are completely familiar with NEMA publication MG-2, safety standards for construction and guide for selection, installation and use of electric motors and generators, the National Electrical Code and local codes and practices. Unsafe installation or use can cause conditions that lead to serious or fatal injury. Only qualified personnel should attempt the installation, operation and maintenance of this equipment.

WARNING: **The Adjustable Speed Controller may apply hazardous voltages to the motor leads after power to the controller has been turned off. Verify that the controller is incapable of delivering hazardous voltages and that the voltage at the motor leads is zero before proceeding. Failure to observe this precaution may result in severe bodily injury or death.**

WARNING: **Do not touch electrical connections before you first ensure that power has been disconnected. Electrical shock can cause serious or fatal injury. Only qualified personnel should attempt the installation, operation and maintenance of this equipment.**

WARNING: **Be sure the system is properly grounded before applying power. Do not apply AC power before you ensure that all grounding instructions have been followed. Electrical shock can cause serious or fatal injury. National Electrical Code and Local codes must be carefully followed.**

WARNING: **Avoid extended exposure to machinery with high noise levels. Be sure to wear ear protective devices to reduce harmful effects to your hearing.**

WARNING: **Surface temperatures of motor enclosures may reach temperatures which can cause discomfort or injury to personnel accidentally coming into contact with hot surfaces. Protection should be provided by the user to protect against accidental contact with hot surfaces. Failure to observe this precaution could result in bodily injury.**

WARNING: **This equipment may be connected to other machinery that has rotating parts or parts that are driven by this equipment. Improper use can cause serious or fatal injury. Only qualified personnel should attempt to install operate or maintain this equipment.**

WARNING: **Do not by-pass or disable protective devices or safety guards. Safety features are designed to prevent damage to personnel or equipment. These devices can only provide protection if they remain operative.**

WARNING: **Avoid the use of automatic reset devices if the automatic restarting of equipment can be hazardous to personnel or equipment.**

WARNING: **Be sure the load is properly coupled to the motor shaft before applying power. The shaft key must be fully captive by the load device. Improper coupling can cause harm to personnel or equipment if the load decouples from the shaft during operation.**

WARNING: **Use proper care and procedures that are safe during handling, lifting, installing, operating and maintaining operations. Improper methods may cause muscle strain or other harm.**

Safety Notice Continued

- WARNING:** Pacemaker danger – Magnetic and electromagnetic fields in the vicinity of current carrying conductors and permanent magnet motors can result in a serious health hazard to persons with cardiac pacemakers, metal implants, and hearing aids. To avoid risk, stay away from the area surrounding a permanent magnet motor.
- WARNING:** Incorrect motor rotation direction can cause serious or fatal injury or equipment damage. Be sure to verify motor rotation direction before coupling the load to the motor shaft.
- WARNING:** Do not use non UL/CSA listed explosion proof motors in the presence of flammable or combustible vapors or dust. These motors are not designed for atmospheric conditions that require explosion proof operation.
- WARNING:** Motors that are to be used in flammable and/or explosive atmospheres must display the UL label on the nameplate along with CSA listed logo. Specific service conditions for these motors are defined in NFPA 70 (NEC) Article 500.
- WARNING:** UL Listed motors must only be serviced by UL Approved Authorized Baldor Service Centers if these motors are to be returned to a hazardous and/or explosive atmosphere.
- WARNING:** Thermostat contacts automatically reset when the motor has slightly cooled down. To prevent injury or damage, the control circuit should be designed so that automatic starting of the motor is not possible when the thermostat resets.
- Caution:** To prevent equipment damage, be sure that the electrical service is not capable of delivering more than the maximum motor rated amps listed on the rating plate.
- Caution:** If a HI POT test (High Potential Insulation test) must be performed, follow the precautions and procedure in NEMA MG1 and MG2 standards to avoid equipment damage.
- Caution:** Never raise or lower the motor/pump by the power cords. Use lifting eyes provided in the motor casting (opposite drive end) and attach a cord/cable to lift the weight of the motor and pump. Failure to lift this motor properly may seriously damage the lead connections and water seals and seriously damage the motor.

If you have any questions or are uncertain about any statement or procedure, or if you require additional information please contact your Baldor District Office or an Authorized Baldor Service Center.

Receiving

Each Baldor•Reliance Motor is thoroughly tested at the factory and carefully packaged for shipment. When you receive your motor, there are several things you should do immediately.

1. Observe the condition of the shipping container and report any damage immediately to the commercial carrier that delivered your motor.
2. Verify that the part number of the motor you received is the same as the part number listed on your purchase order.

Handling

The motor must be stored shaft down in its' original packaging until it is to be into service. The motor should only be lifted using the lifting eyes provided, see Figure 2-1.

- Caution:** Never raise or lower the motor/pump by the power cords. Use lifting eyes provided in the motor casting (opposite drive end) and attach a cord/cable to lift the weight of the motor and pump. Failure to lift this motor properly may seriously damage the lead connections and water seals and seriously damage the motor.
1. Only use the lifting eyes provided to lift the motor. Never attempt to lift the motor by the power cords.
 2. Be sure the motor is stored shaft down until ready to install.

Section 2 Installation & Operation

Overview

Installation should conform to the National Electrical Code as well as local codes and practices. All Baldor•Reliance Submersible Pump Motors Include thermal devices as standard. Normally, there are four conditions during which a submersible sewage pump may be operated in gases or vapors.

1. When the wet well is being dewatered.
2. When the pump motor assembly is being lowered down the guide rails.
The flow from the pump is needed during the installation process to ensure that solids are cleared from the discharge flange area to ensure proper seating.
3. When low-level cutoff controls fail.
4. When low-level sensors are positioned at the bottom of the pump assembly.

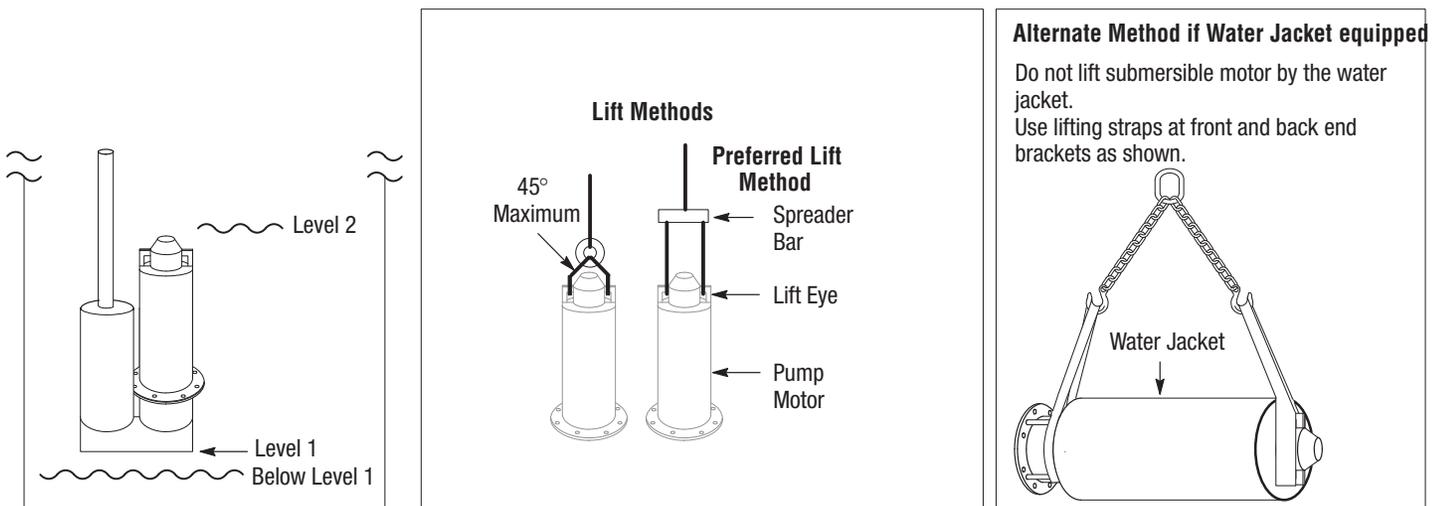
Continuous Operation Gasses Or Vapors

Be sure you have selected the correct motor for your application. The horsepower rating of the motor is determined by the pump design, impeller size & head and flow conditions.

Operating time is a function of pit size, pump capacity, and flow conditions. Only the pump manufacturer can ensure that the pump motor is properly applied for continuous in-gas or vapor operation. As with any motor product, it is essential that proper consideration be given to the load characteristics to ensure the motor will not be overloaded. Should such an overload occur, thermostats embedded in the windings will provide a signal to deenergize the motor. However, proper consideration of the application will prevent such an overload.

Caution: Lift using Lift Eyes only. Lifting by power cords will cause motor damage. Use spreader bar to evenly distribute lift force. Angle of lift rope (no spreader bar) should not exceed 45° from vertical, excessive lift angle can damage motor.

Figure 2-1



The following load conditions should be noted, refer to Figure 2-1:

1. Below Level 1 (below the pump) fluid is not pumped and no load is reflected to the motor.
2. One pump should always be sized sufficiently large to draw the well down (even under maximum flow conditions). The maximum amount of time the motor will operate fully loaded and uncovered is the amount of time required to draw the well down from Level 2 (top of the motor) to the bottom of the pump.
3. Time described in 2 should not be greater than 15 minutes.
4. These notes do not make allowance for the following:
 - a. The heat exchanger effect of the attached pump. It is pumping a relatively cool fluid and will remove some heat.
 - b. The motor does not operate fully loaded completely in gas. It is fully loaded as the motor is being uncovered.
 - c. If the well is being drawn down from the top of the motor and the maximum flow conditions exist, the influent flow will usually provide excellent cooling of the pump motor.

WARNING: Do not touch electrical connections before you first ensure that power has been disconnected. Electrical shock can cause serious or fatal injury. Only qualified personnel should attempt the installation, operation and maintenance of this equipment.

WARNING: The Adjustable Speed Controller may apply hazardous voltages to the motor leads after power to the controller has been turned off. Verify that the controller is incapable of delivering hazardous voltages and that the voltage at the motor leads is zero before proceeding. Failure to observe this precaution may result in severe bodily injury or death.

Installation When the submersible pump motor leaves the factory it is ready for installation. No adjustment, venting or oil filling is required.

Considerations

1. The user must select a motor starter and over-current protection suitable for this motor and its application. Consult motor starter application data as well as the National Electric Code and/or other local codes.
2. Maximum submergence of motor is not to exceed 160 ft (49m) in depth and or 100 PSI (690 kpas) at the external motor seal for Tandem Seal designs. For slurry seal designs the maximum external motor seal pressure is 15 PSI (103 kpas).
3. Thermal Protectors must be connected. Leads marked P1 and P2 (See Figure 2-2).
4. Moisture Sensing Probes must be connected. Leads marked W1 and W2. (See Figure 2-3).
5. Check your power supply against final nameplate connection voltage.
6. Motor will operate properly with frequency not more than $\pm 5\%$ and voltage not more than $\pm 10\%$ above or below nameplate rating.
7. Performance within this range will not necessarily be the same as the established performance at exact rated voltage and frequency.
8. For three phase motors only: To reverse direction of a three phase motor, interchange any two motor lead connections at the starter.

Installation Procedure

To prevent damage to the motor, do not use force to drive pump on (drive impeller onto motor shaft) or to remove pump from motor shaft.

1. Turn off and lockout all power and verify the voltage at the motor starter connectors are zero.
2. Connect the motor power leads to the connectors in the motor starter. (See "Grounding").

Note: The motor lead cable assembly for all Submersible Pump Motors has 3 marked power leads plus two ground leads, two thermal leads and two moisture sensing probe leads.

3. **Three Phase Motors ONLY.**
 - a. Turn off and lockout all power and verify the voltage at the motor starter connectors are zero.
 - b. Be sure the motor shaft is disconnected from the load and will not cause mechanical rotation of the motor shaft.
 - c. Remove all unused shaft keys and loose rotating parts to prevent them from flying off.
 - d. Momentarily apply power and check the direction of rotation of the motor shaft. Motors are designed for bi-directional shaft rotation. When voltages in an A-B-C phase sequence are applied to leads U/T1, V/T2, W/T3 clockwise shaft rotation facing the opposite drive end will result. If shaft rotation is incorrect, change the direction of rotation as follows:
 - i. Turn off and lockout all power and verify that the voltage at the motor leads is zero.
 - ii. Reverse any two of three motor power leads at the motor starter.
 - iii. Restore power and verify correct rotation.
 - iv. Turn off and lockout all power and verify that the voltage at the motor leads is zero.
4. Connect the two Thermal Protectors at the motor starter as shown in Figure 2-2.
5. Connect the two Moisture Sensing Probes at the motor starter as shown in Figure 2-3.
6. Follow pump manufacturer's instructions and mount the pump on the motor shaft.
7. Secure the pump case to the motor flange.
8. Attach drain piping to pump.
9. Use spreader bar and lifting eyes (see Figure 2-1) to lower the motor/pump assembly to the proper depth. Be sure that motor wires are not damaged (contact with metal objects etc.)
10. Set control parameter values (if applicable) according to motor nameplate values.

Grounding In the USA consult the National Electrical Code, Article 430 for information on grounding of motors and generators, and Article 250 for general information on grounding. In making the ground connection, the installer should make certain that there is a solid and permanent metallic connection between the ground point, the motor or generator terminal housing, and the motor or generator frame. In non-USA locations consult the appropriate national or local code applicable.

Motors with resilient cushion rings usually must be provided with a bonding conductor across the resilient member. Some motors are supplied with the bonding conductor on the concealed side of the cushion ring to protect the bond from damage. Motors with bonded cushion rings should usually be grounded at the time of installation in accordance with the above recommendations for making ground connections. When motors with bonded cushion rings are used in multimotor installations employing group fusing or group protection, the bonding of the cushion ring should be checked to determine that it is adequate for the rating of the branch circuit over current protective device being used.

There are applications where grounding the exterior parts of a motor or generator may result in greater hazard by increasing the possibility of a person in the area simultaneously contacting ground and some other nearby live electrical parts of other ungrounded electrical equipment. In portable equipment it is difficult to be sure that a positive ground connection is maintained as the equipment is moved, and providing a grounding conductor may lead to a false sense of security.

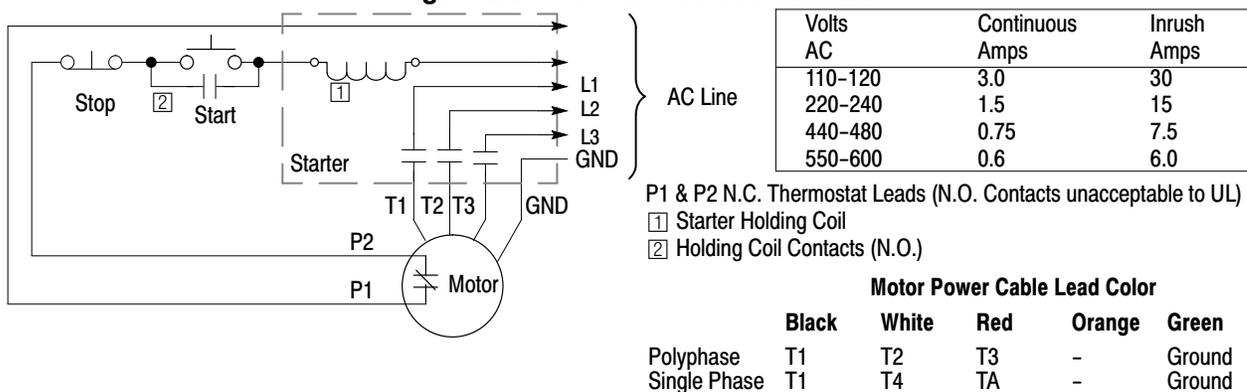
Select a motor starter and over current protection suitable for this motor and its application. Consult motor starter application data as well as the National Electric Code and/or other applicable local codes.

Adjustable Frequency Power Inverters used to supply adjustable frequency power to induction motors produce wave forms with lower order harmonics with voltage spikes superimposed. Turn-to-turn, phase-to-phase, and ground insulation of stator windings are subject to the resulting dielectric stresses. Suitable precautions should be taken in the design of these drive systems to minimize the magnitude of these voltage spikes. Consult the drive instructions for maximum acceptable motor lead lengths, and proper grounding.

Thermal Protection

Thermostat leads marked P1 & P2 must be connected in series with the stop button of the 3-wire pilot circuit of the magnetic motor controller, so that the thermostat will open the circuit before dangerous temperatures are reached. Thermostats are automatic reset for use in a normally closed circuit where the thermostat is connected in series with the holding coil of the magnetic starter. Thermostats provide “Over Temperature” Protection in accordance with NEMA MG 1-12.53. Thermostats do not provide winding over temperature protection (locked rotor). It is suggested that over current protection be used in the motor starter to ensure locked rotor protection.

Figure 2-2 Thermal Protection Circuit



Installation (for reference only)

Note: Since changes occur, always refer to installation and connection documentation from the manufacturer and follow their procedures.

All type 2800–XXX controls are identified by a specific component number which follows the format 2800–XXX where the X's are replaced by numbers and letters indicative of the A–C supply line voltage and frequency, contact configuration and enclosure. Each control has a data label on the right hand side of the terminal block. In addition, each enclosed control has another data label on the outside of the enclosure cover.

Mount the control on a vertical surface with the transformer on the left hand side and accomplish all indicated wiring. Terminals on the control are numbered and are in the same relative position as the terminals shown on the wiring diagram.

Terminal pair 1 –2 must be continuously energized from an A–C supply line of electrical characteristics shown on the data label. Contacts must be wired into the electrical load circuit(s) of the warning devices as required. Each contact used for load duty must be wired in series with the load and that series branch circuit connected across a power source compatible with the load.

Wiring must be provided from the moisture detector sensor probe leads W1 and W2 to terminals 9 and 10 of the 2800–XXX control. Control leads should not be installed in the same conduit as power leads. Induced voltage can cause false moisture signals.

Contact Operation

Normally open load contacts close and normally closed load contacts open when the sensor probes detect the influx of moisture within the motor.

Test Procedure

A normally closed pushbutton and neon indicating lamp are provided as means of checking the moisture sensing components. When the pushbutton is depressed, the indicating lamp will be illuminated to indicate (A) power is supplied to the control, (B) the control is operative, and (C) wiring to the moisture sensing probes in the motor is intact. This procedure should be performed periodically to confirm integrity of circuit. Signal devices The signal device may be audible (bell, buzzer, horn or siren) or visible (incandescent or neon lamp) or both – a signal device of your choice may be obtained from your local electrical supply house.

Signal Devices

The signal device may be audible (bell, buzzer, horn or siren) or visible (incandescent or neon lamp) or both – a signal device of your choice may be obtained from your local electrical supply house.

System Operation

It is recommended that upon indication (by warning light, etc.,) of outer seal failure that the motor be removed from the installation and the oil and outer seal be replaced as soon as possible. If reconditioning is not performed within a 30 day period it is recommended that the inner seal be thoroughly inspected and replaced if required.

WARNING: Surface temperatures of motor enclosures may reach temperatures which can cause discomfort or injury to personnel accidentally coming into contact with hot surfaces. Protection should be provided by the user to protect against accidental contact with hot surfaces. Failure to observe this precaution could result in bodily injury.

WARNING: Do not touch electrical connections before you first ensure that power has been disconnected. Electrical shock can cause serious or fatal injury. Only qualified personnel should attempt the installation, operation and maintenance of this equipment.

WARNING: Disconnect all electrical power from the motor windings and accessory devices before disassembly of the motor. Electrical shock can cause serious or fatal injury.

WARNING: Be sure the system is properly grounded before applying power. Do not apply AC power before you ensure that all grounding instructions have been followed. Electrical shock can cause serious or fatal injury. National Electrical Code and Local codes must be carefully followed.

Operation

During operation, observe the motors performance. It should run smoothly with little noise. Motor operation may stop for one of the following trip conditions:

1. If moisture infiltrates the motor, the moisture detector circuit will activate.
2. If the motor overheats, the Thermal Protection circuit will activate.
3. Other condition detected by motor starter (over current, overvoltage, etc. if equipped)

Unbalanced voltage or single-phase operation of poly phase motor may cause excessive heating and ultimate failure. Only a slight unbalance of voltage applied to a poly phase motor will cause large unbalanced currents and resultant overheating. Periodic checks of phase voltage, frequency and power consumption of a motor (measured at the motor starter) while in operation are recommended; such checks assure the correctness of frequency and voltage applied to the motor and yield an indication of the load offered by the apparatus which the motor drives.

Comparisons of this data with previous no load and full-load power demands will give an indication of the performance of the complete machine. Any serious deviations should be investigated and corrected.

If a problem with the motor occurs, contact your Baldor District Office for repair.

Should the lead connector assembly be damaged or the integrity of the encapsulation be in question, it is required that a replacement lead connector assembly be ordered from Baldor, contact your Baldor District Office. Renewal instructions will be provided with the replacement parts.

Baldor District Offices

UNITED STATES

ARIZONA

PHOENIX
4211 S 43RD PLACE
PHOENIX, AZ 85040
PHONE: 602-470-0407
FAX: 602-470-0464

ARKANSAS

CLARKSVILLE
1001 COLLEGE AVE.
CLARKSVILLE, AR 72830
PHONE: 479-754-9108
FAX: 479-754-9205

CALIFORNIA

LOS ANGELES
6480 FLOTILLA
COMMERCE, CA 90040
PHONE: 323-724-6771
FAX: 323-721-5859

HAYWARD
21056 FORBES STREET
HAYWARD, CA 94545
PHONE: 510-785-9900
FAX: 510-785-9910

COLORADO

DENVER
3855 ForestStreet
Denver, CO 80207
PHONE: 303-623-0127
FAX: 303-595-3772

CONNECTICUT

WALLINGFORD
65 SOUTH TURNPIKE ROAD
WALLINGFORD, CT 06492
PHONE: 203-269-1354
FAX: 203-269-5485

FLORIDA

**TAMPA/PUERTO RICO/
VIRGIN ISLANDS**
3906 EAST 11TH AVENUE
TAMPA, FL 33605
PHONE: 813-248-5078
FAX: 813-247-2984

GEORGIA

ATLANTA
62 TECHNOLOGY DR.
ALPHARETTA, GA 30005
PHONE: 770-772-7000
FAX: 770-772-7200

ILLINOIS

CHICAGO
4 SAMMONS COURT
BOLINGBROOK, IL 60440
PHONE: 630-296-1400
FAX: 630-226-9420

INDIANA

INDIANAPOLIS
5525 W. MINNESOTA STREET
INDIANAPOLIS, IN 46241
PHONE: 317-246-5100
FAX: 317-246-5110

IOWA

DES MOINES
1800 DIXON STREET, SUITE C
DES MOINES, IA 50316
PHONE: 515-263-6929
FAX: 515-263-6515

MARYLAND

BALTIMORE
8660 SANTA BARBARA RD.
SUITE 22-24
ELKRIDGE, MD 21075
PHONE: 410-579-2135
FAX: 410-579-2677

MASSACHUSETTS

BOSTON
6 PULLMAN STREET
WORCESTER, MA 01606
PHONE: 508-854-0708
FAX: 508-854-0291

MICHIGAN

DETROIT
5993 ProgressDrive
STERLING HEIGHTS, MI 48312
PHONE: 586-978-9800
FAX: 586-978-9969

MINNESOTA

MINNEAPOLIS
21080 134TH AVE. NORTH
ROGERS, MN 55374
PHONE: 763-428-3633
FAX: 763-428-4551

MISSOURI

ST LOUIS
422 INDUSTRIAL DRIVE
MARYLAND HEIGHTS, MO 63043
PHONE: 314-298-1800
FAX: 314-298-7660

KANSAS CITY

1501 BEDFORD AVENUE
NORTH KANSAS CITY, MO 64116
PHONE: 816-587-0272
FAX: 816-587-3735

NEW YORK

AUBURN
ONE ELLIS DRIVE
AUBURN, NY 13021
PHONE: 315-255-3403
FAX: 315-253-9923

NORTH CAROLINA

GREENSBORO
1220 ROTHERWOOD ROAD
GREENSBORO, NC 27406
PHONE: 336-272-6104
FAX: 336-273-6628

OHIO

CINCINNATI
2929 CRESCENTVILLE ROAD
WEST CHESTER, OH 45069
PHONE: 513-771-2600
FAX: 513-772-2219

CLEVELAND
8929 FREEWAY DRIVE
MACEDONIA, OH 44056
PHONE: 330-468-4777
FAX: 330-468-4778

OKLAHOMA

TULSA
7170 S. Braden, Suite140
Tulsa, OK 74136
PHONE: 918-366-9320
FAX: 918-366-9338

OREGON

PORTLAND
20393 SW AVERY COURT
TUALATIN, OR 97062
PHONE: 503-691-9010
FAX: 503-691-9012

PENNSYLVANIA

PHILADELPHIA
1035 THOMAS BUSCH
MEMORIAL HIGHWAY
PENNSAUKEN, NJ 08110
PHONE: 856-661-1442
FAX: 856-663-6363

PITTSBURGH

159 PROMINENCE DRIVE
NEW KENSINGTON, PA 15068
PHONE: 724-889-0092
FAX: 724-889-0094

TENNESSEE

MEMPHIS
4000 WINCHESTER ROAD
MEMPHIS, TN 38118
PHONE: 901-365-2020
FAX: 901-365-3914

TEXAS

DALLAS
3040 QUEBEC
DALLAS, TX 75247
PHONE: 214-634-7271
FAX: 214-634-8874

HOUSTON

10355 W. LittleYorkRd.
Suite300
Houston, TX 77041
PHONE: (281) 977-6500
FAX: (281) 977-6510

UTAH

SALT LAKE CITY
2230 SOUTH MAIN STREET
SALT LAKE CITY, UT 84115
PHONE: 801-832-0127
FAX: 801-832-8911

WISCONSIN

MILWAUKEE
2725 SOUTH 163RD STREET
NEW BERLIN, WI 53151
PHONE: 262-784-5940
FAX: 262-784-1215

INTERNATIONAL SALES

FORT SMITH, AR
P.O. BOX 2400
FORT SMITH, AR 72902
PHONE: 479-646-4711
FAX: 479-648-5895

CANADA

EDMONTON, ALBERTA
4053-92 STREET
EDMONTON, ALBERTA T6E 6R8
PHONE: 780-434-4900
FAX: 780-438-2600

TORONTO

OAKVILLE, ONTARIO
2750 COVENTRY ROAD
OAKVILLE, ONTARIO L6H 6R1
PHONE: 905-829-3301
FAX: 905-829-3302

MONTREAL, QUEBEC

5155, J.A. Bombardier
St-Hubert(Quebec) Canada
J3Z 1G4
PHONE: 514-933-2711
FAX: 514-933-8639

VANCOUVER,

BRITISH COLUMBIA
1538 KEBET WAY
PORT COQUITLAM,
BRITISH COLUMBIA V3C 5M5
PHONE: 604-421-2822
FAX: 604-421-3113

WINNIPEG, MANITOBA

54 PRINCESS STREET
WINNIPEG, MANITOBA R3B 1K2
PHONE: 204-942-5205
FAX: 204-956-4251

AUSTRALIA

UNIT 3, 6 STANTON ROAD
SEVEN HILLS, NSW 2147,
AUSTRALIA
PHONE: (61) (2) 9674 5455
FAX: (61) (2) 9674 2495
UNIT 8, 5 KELLETTS ROAD
ROWVILLE, VICTORIA, 3178
AUSTRALIA
PHONE: (61) (3) 9753 4355
FAX: (61) (3) 9753 4366

ELSALVADOR

RESIDENCIAL PINARES DE SUIZA
POL. 15 #44,
NVA. SAN SALVADOR,
EL SALVADOR
PHONE: +503 2288-1519
FAX: +503 2288-1518

CHILE

LuisThayerOjeda166,
of402 - Providencia
Santiago, Chile
Phone: +56 2 816 9900

CHINA

160 SongSHENG road
SongjiangINDUSTRY ZONE
Shanghai201613, China
PHONE: +86 21 5760 5335
FAX: +86 21 5760 5336

GERMANY

DIESELSTRASSE 22
D-85561 KIRCHHEIM
MUNICH, GERMANY
PHONE: +49 89 90 5080
FAX: +49 89 90 50 8492

INDIA

14, COMMERCE AVENUE
MAHAGANESH COLONY
PAUD ROAD
PUNE - 411038
MAHARASHTRA, INDIA
PHONE: +91 20 25 45 27 17 / 18
FAX: +91 20 25 45 27 19

ITALY

BaldorASR AG
SUCCURSALE DI Mendrisio
ViaBorromini, 20A
CH-6850 Mendrisio
Switzerland
PHONE: 0041 91 640 99 50
FAX: 0041 91 630 26 33

JAPAN

DIA BLDG 802,
2-21-1 TSURUYA-CHO,
KANAGAWA-KU
YOKOHAMA, 221-0835, JAPAN
PHONE: 81-45-412-4506
FAX: 81-45-412-4507

MEXICO

LEON, guanajuato
KM. 2.0 BLVD. AEROPUERTO
LEON 37545, GUANAJUATO,
MEXICO
PHONE: +52 477 761 2030
FAX: +52 477 761 2010

MIDDLE EAST & NORTH AFRICA

VSE INTERNATIONAL CORP.
P. O. BOX 5618
BUFFALO GROVE, IL 60089-5618
PHONE: 847 590 5547
FAX: 847 590 5587

PANAMA

AVE. RICARDO J. ALFARO
EDIFICIO SUN TOWERS MALL
PISO 2, LOCAL 55
CiudaddePanamá, Panamá
PHONE: +507 236-5155
FAX: +507 236-0591

SINGAPORE

18 KAKI BUKIT ROAD 3, #03-09
ENTREPRENEUR BUSINESS
CENTRE SINGAPORE 415978
PHONE: (65) 6744 2572
FAX: (65) 6747 1708

SWITZERLAND

POSTFACH 73
SCHUTZENSTRASSE 59
CH-8245 FEUERTHALEN
SWITZERLAND
PHONE: +41 52 647 4700
FAX: +41 52 659 2394

TAIWAN

1F, No126 Wenshan3rdStreet,
NantunDistrict,
TaichungCity408
TaiwanR. O. C
PHONE: (886) 4 238 04235
FAX: (886) 4 238 04463

UNITED KINGDOM

6 BRISTOL DISTRIBUTION PARK
HAWKLEY DRIVE
BRISTOL BS32 0BF U.K.
PHONE: +44 1454 850000
FAX: +44 1454 859001

VENEZUELA

Av. Roma. QtaelMilagro. Urb.
CaliforniaNorte
Caracas, 1070
Venezuela
Phone/fax: +58 212 272 7343
mobile: +58 414 114 8623



* 4 1 4 - 0 4 0 9 *

BALDOR[®]

BALDOR ELECTRIC COMPANY
World Headquarters
P.O. Box 2400 Fort Smith, AR 72901-2400
(479) 646-4711 Fax (479) 648-5792
www.baldor.com