

Installer's Guide

BAYCAKT002AA SmartCharge™ Tool

Specifications: R-410A or R-454B
24 Volt AC

SAFETY WARNING

Only qualified personnel should install and service the equipment. The installation, starting up, and servicing of heating, ventilating, and air-conditioning equipment can be hazardous and requires specific knowledge and training. Improperly installed, adjusted or altered equipment by an unqualified person could result in death or serious injury. When working on the equipment, observe all precautions in the literature and on the tags, stickers, and labels that are attached to the equipment.

Introduction

Read this manual thoroughly before operating or servicing this unit.

This document is customer property and is to remain with this unit. Return to the service information pack upon completion of work.

Warnings, Cautions, and Notices

Safety advisories appear throughout this manual as required. Your personal safety and the proper operation of this machine depend upon the strict observance of these precautions.

The three types of advisories are defined as follows:



WARNING

Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.



CAUTION

Indicates a potentially hazardous situation which, if not avoided, could result in minor or moderate injury. It could also be used to alert against unsafe practices.

NOTICE

Indicates a situation that could result in equipment or property-damage only accidents.

Important Environmental Concerns

Scientific research has shown that certain man-made chemicals can affect the earth's naturally occurring stratospheric ozone layer when released to the atmosphere. In particular, several of the identified chemicals that may affect the ozone layer are refrigerants that contain Chlorine, Fluorine and Carbon (CFCs) and those containing Hydrogen, Chlorine, Fluorine and Carbon (HCFCs). Not all refrigerants containing these compounds have the same potential impact to the environment. Trane advocates the responsible handling of all refrigerants.

Important Responsible Refrigerant Practices

Trane believes that responsible refrigerant practices are important to the environment, our customers, and the air conditioning industry. All technicians who handle refrigerants must be certified according to local rules. For the USA, the Federal Clean Air Act (Section 608) sets forth the requirements for handling, reclaiming, recovering and recycling of certain refrigerants and the equipment that is used in these service procedures. In addition, some states or municipalities may have additional requirements that must also be adhered to for responsible management of refrigerants. Know the applicable laws and follow them.

⚠ WARNING

Proper Field Wiring and Grounding Required!

Failure to follow code could result in death or serious injury.

All field wiring **MUST** be performed by qualified personnel. Improperly installed and grounded field wiring poses **FIRE** and **ELECTROCUTION** hazards. To avoid these hazards, you **MUST** follow requirements for field wiring installation and grounding as described in NEC and your local/state/national electrical codes.

⚠ WARNING

Personal Protective Equipment (PPE) Required!

Failure to wear proper PPE for the job being undertaken could result in death or serious injury.

Technicians, in order to protect themselves from potential electrical, mechanical, and chemical hazards, **MUST** follow precautions in this manual and on the tags, stickers, and labels, as well as the instructions below:

- Before installing/servicing this unit, technicians **MUST** put on all PPE required for the work being undertaken (Examples; cut resistant gloves/sleeves, butyl gloves, safety glasses, hard hat/bump cap, fall protection, electrical PPE and arc flash clothing). **ALWAYS** refer to appropriate Safety Data Sheets (SDS) and OSHA guidelines for proper PPE.
- When working with or around hazardous chemicals, **ALWAYS** refer to the appropriate SDS and OSHA/GHS (Global Harmonized System of Classification and Labelling of Chemicals) guidelines for information on allowable personal exposure levels, proper respiratory protection and handling instructions.
- If there is a risk of energized electrical contact, arc, or flash, technicians **MUST** put on all PPE in accordance with OSHA, NFPA 70E, or other country-specific requirements for arc flash protection, **PRIOR** to servicing the unit. **NEVER** PERFORM ANY SWITCHING, DISCONNECTING, OR VOLTAGE TESTING WITHOUT PROPER ELECTRICAL PPE AND ARC FLASH CLOTHING. **ENSURE** ELECTRICAL METERS AND EQUIPMENT ARE PROPERLY RATED FOR INTENDED VOLTAGE.

⚠ WARNING**Follow EHS Policies!**

Failure to follow instructions below could result in death or serious injury.

- All Trane personnel must follow the company's Environmental, Health and Safety (EHS) policies when performing work such as hot work, electrical, fall protection, lockout/tagout, refrigerant handling, etc. Where local regulations are more stringent than these policies, those regulations supersede these policies.
- Non-Trane personnel should always follow local regulations.

⚠ WARNING**Cancer and Reproductive Harm!**

This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

⚠ WARNING**Safety Hazard!**

Failure to follow instructions below could result in death or serious injury or property damage.

This unit is not to be used by persons (including children) with reduced physical, sensory, or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning the use of the appliance by a person responsible for their safety.

Do not allow children to play or climb on the unit or to clean or maintain the unit without supervision.

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Revision History

- Updated literature number to replace 18-HH37D1-1C-EN.
- Updated SmartCharge™ Tool figure in the Installation Chapter.

General Information

NOTICE

Equipment Damage!

Failure to follow instructions below could result in equipment damage.

Do not connect backwards.

⚠ WARNING

Safety Hazard!

Failure to follow instructions below could result in death or serious injury, or equipment damage.

Hoses contain refrigerant under high pressure.

Important: This tool was designed to assist in properly charging a Link™ equipped Air Conditioning or Heat Pump system with refrigerant by interfacing with a microprocessor that calculates the system subcooling.

Notes:

- Device is not intended to charge without at least 50 psig of refrigerant pressure or temperatures below 65°F. To be used in cooling mode only.
- The installer must apply 24vac to the Red wire in the Outdoor units low voltage harness.

Installation

See [Figure 2, p. 6](#) for installation of the SmartCharge™ Tool.

1. Verify that the solenoid flow arrow is pointing in the direction shown in [Figure 1, p. 5](#).
2. Attach a refrigerant hose from a refrigerant bottle to the inlet side of the SmartCharge tool.
3. Open the refrigerant bottle to pressurize the inlet hose.
Purge the hose by loosening the inlet hose slightly at the SmartCharge™ inlet connection. Tighten when the purge completes.
4. Attach a refrigerant hose from the SmartCharge tool outlet to the vapor line service port.
Unscrew the refrigerant hose slightly at the SmartCharge outlet connection to purge outlet hose. Tighten when the purge completes.
5. Connect the interface cable from the SmartCharge tool to the IVSC at terminals T1 and T2 Charge Solenoid location on Danfoss Drive and on terminals J14 and J15 on SanHua drives.
6. Open the Diagnostics app and connect to the system.
Choose **Test Modes**, then select **SmartCharge** from the top banner.
The Diagnostics app will show a status.
7. When the SmartCharge procedure completes, close off the refrigerant cylinder and carefully disconnect the hoses.

Figure 1. SmartCharge™ tool

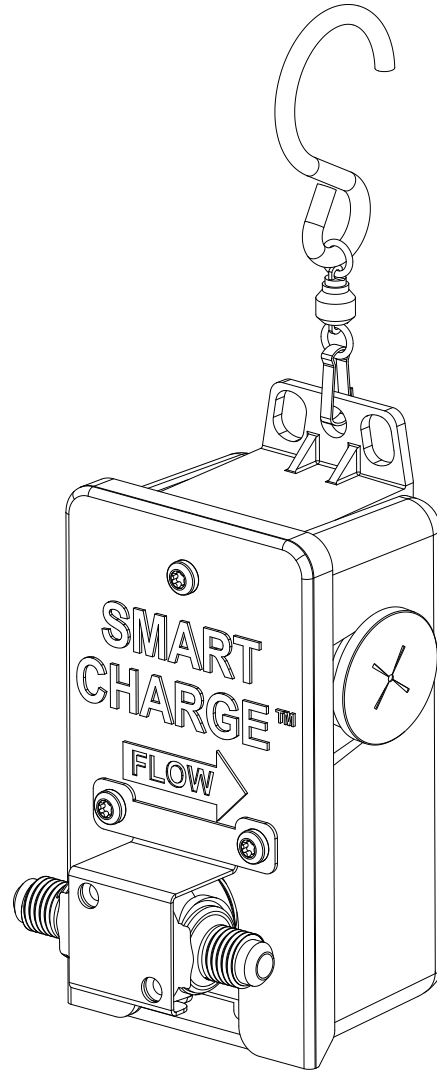
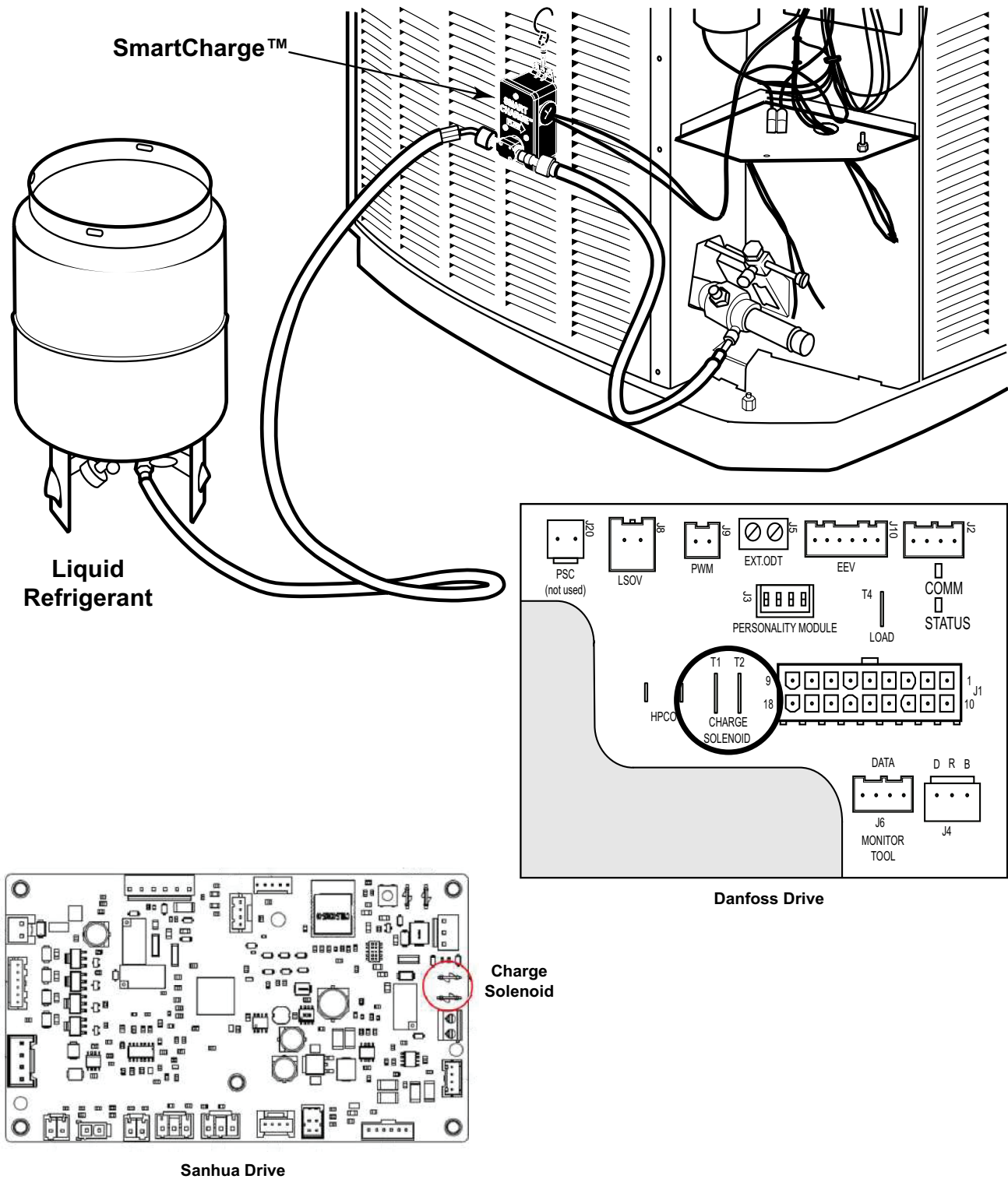


Figure 2. SmartCharge™ tool installation



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The manufacturer has a policy of continuous data improvement and it reserves the right to change design and specifications without notice. We are committed to using environmentally conscious print practices.