A Small Commercial Unitary System that is Not Heating

By Jim Johnson

The equipment in this month’s troubleshooting problem is a rooftop package unit with a 100,000-Btu gas-heating input, and the customer’s complaint is that they “have no heat at all.” Upon your arrival, you begin your evaluation by determining two factors:

1. The control system is properly set to call for heat; and
2. The three-phase power supply to the equipment (see Figure 1) is OK.

Your next step is to trace the circuits on the diagram related to the heating mode of this equipment. You note that it is equipped with a smoke detector (SD), auxiliary limit control (ALC), two manual reset limit controls (MRLC) and a negative pressure control (NPC) in relation to the operation of the gas valve (GV).

After taking the appropriate steps to ensure that the integrated furnace control (IFC) system will initiate a heating cycle, you perform a voltage check at wires No. 11 and No. 12 at GV. Your reading is 24 V.

Your troubleshooting question is:

What is the next step you need to take to service this equipment?

The answer to this month’s problem will be published in the April 2016 issue of RSES Journal.

If you have the answer to this question, submit your name, home address, a day and evening phone number, the month in which the question you are answering was published and your answer to: Jordan Brandes, Associate Editor, RSES Journal, 1911 Rohlwing Road, Suite A, Rolling Meadows, IL 60008-1397; email troubleshooting@rses.org; or fax to 847-297-5038. Make sure your answer is submitted by Feb. 28, 2015.

All correct answers will be entered into two drawings. The monthly drawing will be for a copy of Johnson’s video training program, “A Heat Pump That’s Not Delivering Any Air,” and the quarterly drawing will be for a Fieldpiece LT-17A digital meter.
And the winner is...

The answer to the December 2015 Troubleshooting problem, “A Follow-up on a Heat-pump Repair,” is: The reversing valve was not properly protected during installation, and is not seating properly between the high and low pressure connections. The winner of the December monthly drawing (from among 21 correct responses) is Laura Newman, Tarzan, CA. The winner of the October, November and December quarterly drawing (from among 51 correct responses) is Dan McDonald, Lockport, NY. Winners should call 520-625-6847 or email Johnson to facilitate shipment of their prizes. Drawings must be claimed by April 30, 2016.

Jim Johnson, Director of Training, Technical Training Associates, develops technician training workshops, DVDs, audio books and e-books, many of which are available at the RSES online store.

For information on Jim’s DVD training program, “Schematic Symbol Fundamentals and Translating What They Mean”, visit www.techtrainassoc.com, write PO Box 2259, Green Valley, AZ 85622-2259 or email jim@techtrainassoc.com.

WINNER

Laura Newman
Tarzan, CA
is the winner of the December 2015 Troubleshooting Challenge.

Dan McDonald
Lockport, NY
is the winner of the quarterly drawing from October, November and December 2015.