



Ducted Systems Technical Services Service Letter

Letter: **YS-004-2021**

Date: March 09, 2021

To: Ducted Systems (Factory Direct) S1 HVAC Branch Service, Sales, Warranty Managers
Ducted Systems (UPG/Applied) Distribution Service, Sales, Warranty Managers

Subject: **Residential control transformer defect – 208 Volt applications ONLY**

Product: YXV, AC21B, AL21B, YZV, HC20B, HL20B, AP, RFCX***P*2, AE, RFCX***E*2, AVC, AVV, ME, MVC, PCG, PHG, PCE, PHE (Single phase models only)

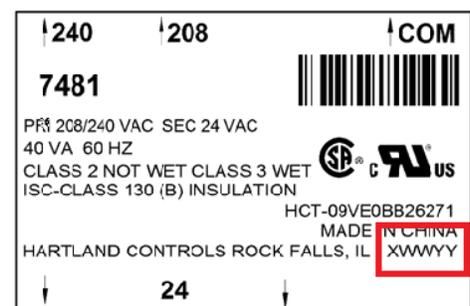
Effective: **March 09, 2021** Expires: **March 09, 2023**

Summary: **This letter provides explanation and resolution for a control transformer defect that applies to the transformer 208 Volt power tap ONLY.**

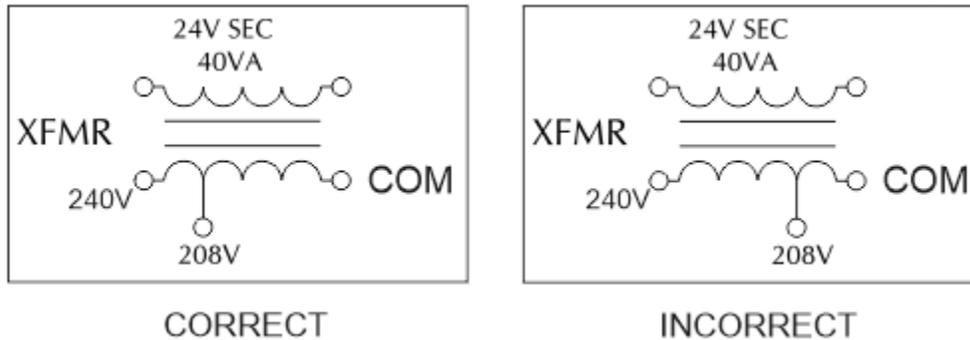
Very recently we received several reports of control voltage transformer failures in the MVC and PCG product. Specifically, these reports were related to product installed in commercial locations with 208 volt 3 phase incoming power. When any of the above mentioned models are applied in a 208 volt application the installer is supposed to change the incoming line voltage power wire going to the control voltage transformer from the 240 volt tap to the 208 volt tap. In many cases this step of equipment setup never takes place and generally does not cause any problems. The residential equipment listed above is applied to 240 volt power systems in the majority of installations.

The above models utilize control voltage transformer 7481 which is service part S1-02518452700. Since 240 volt is the most common applied voltage, all equipment comes factory wired for 240 volt operation. Line voltage wiring is connected to the COM and 240 tap. There is a plastic cap on the 208 volt tap. Transformer 7481 is shown in the image to the right. The transformer label contains a date code.

The date code can be found in the lower right hand corner of the transformer label. See the image on the right showing date code as XWWYY. There are 4 date codes involved with this defect. Transformers with date code N3220, N3320, N4120, and N4320 are 100% defective **IF** the transformer is to be wired for 208 volt operation. Transformer failure is instant if equipment is properly wired for 208 volt operation and line voltage power is applied. Typically no damage will occur to any other electrical device, however, this defect is an inconvenience for an equipment installer or equipment start-up service technician.



The images below provides a visual of the internal wiring of the control transformer. Notice the placement of the 240 and 208 voltage taps in relationship to the COM tap. The image on the left shows the 240 volt tap the furthest away from the COM tap and the 208 volt tap close to the 240 volt tap. The image on the right shows the 208 volt tap close to the COM tap. The image on the right shows the defect in which this service letter details. The connection of the 208 volt tap close to the COM tap results in low resistance across the taps and instant transformer failure will occur when wired for 208 volts and power is applied.



The earliest reports we have on file containing a defective transformer for this specific issue are from equipment built in September of 2020 which are serial numbers beginning with W2K0. However we must extend this serial number range back to August of 2020 as the earliest defective transformer date code is N3220 meaning the 32nd week of year 2020. **Serial number range for affected product is W2H0 through W2C1.** When this transformer defect was found, production of the affected models ceased and all part 7481 transformers were quarantined. No equipment built after 03/01/21 will have a transformer with this defect. No Source 1 transformers will have this defect.

For equipment within the affected serial range that has been installed and operating, no further action relating to this matter is needed.

For equipment within the affected serial range that will be installed in a 240 volt application, no further action relating to this matter is needed.

Since the majority of equipment is installed in 240 volt applications the transformer defect will almost never be discovered as the 208 volt tap will go un-used almost always. What we do highly recommend though is a notice placed on each piece of affected equipment. The notice will advise of the defective transformer **IF** the equipment is to be applied with 208 volt power. An example of such notice can be found on the next page of this service letter. Even with the 208 volt tap transformer defect, the transformer can still be used with 208 volt power. This will allow the equipment to be started and used until a replacement transformer can be obtained and installed. For these situations this service letter should be used on a fix on fail basis only and only applies to installed equipment. This service letter will cover one S1-02518452700 transformer and 2 hours labor at the standard registered dealer labor rate.

Any distributor charges related to this matter such as the recommended notice, please send us an email at be-ams-be-ductedsystemsresidentialdistributorsupport@jci.com. The email subject line should read “distributor inquiry – YS-004-2021.” We apologize for this inconvenience and as always appreciate your support.

Casey McConaughy
Ducted Systems Field Technical Support Engineer II
Residential Distributor Support
Ducted Systems Technical Services
Johnson Controls



Read the following information if equipment is to be applied with 208 volt power.

This equipment control transformer comes wired for 240 volt power. For use on 208 volt systems, the transformer 240 volt wire must be moved to the 208 volt tap.

This piece of equipment *may* contain a control transformer with a defective 208 volt tap.

Prior to applying power to the equipment, inspect the label on the control transformer. The date code can be found in the lower right hand corner of the transformer label. See the image on the right. **If the date code reads N3220, N3320, N4120 or N4320, the 208 volt tap is located internally in the wrong location.**

If a date code other than one listed above is found, disregard this notice.

If one of the above date codes is found, the transformer can still be used for 208 volt operation.

To use an affected transformer on 208 volt power follow the following steps:

- Leave one LINE voltage power wire on 240 volt tap.
- Move the other LINE voltage power wire connected to the COM tap to the 208 volt tap.

The transformer will now function correctly for 208 volt applications.

Contact your distributor to obtain a replacement S1-02518452700 transformer. There is also a DOA labor allowance available for this repair. Refer your distributor to service letter YS-004-2021 regarding this issue.

We apologize for the inconvenience.



DATE CODE