ELECTRICAL SAFETY Information Bulletin

STANDATA

February 2019

2018 CANADIAN ELECTRICAL CODE

SUBJECT: Section 16 – Class 1 and Class 2 circuits

Rule 16-010 Circuits to safety control devices

Even though a remote-control circuit may have the power characteristics of a Class 2 circuit, where the failure to operate a remote-control circuit to a safety control device introduces a direct fire or life safety hazard the remote-control circuit shall be deemed to be a Class 1 circuit.

Examples of safety control devices, which may introduce a direct fire or life safety hazard, include boiler safety control devices such as high limit switches and pressure switches, or ski lift safety circuit devices such as limit switches or stop switches.

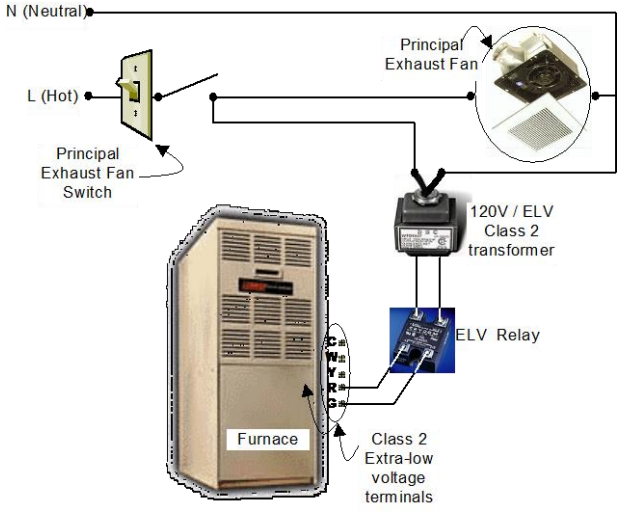
Energy management systems designed to control all heating, air conditioning, and ventilation functions in a building may have both Class 1 and Class 2 circuits. Power requirements, wiring method, application, and design may determine the actual circuit classification. However, any remote-control circuits to a safety control devices that will introduce a direct fire or life safety hazard must be installed as a Class 1 circuit.

For clarification on whether a remote-control circuit with Class 2 power characteristics should be deemed a Class 1 circuit, the installation owner and designer should be consulted to identify if failure of the circuit controlling the safety device will introduce a direct fire or life safety hazard.

Rule 16-212 Separation of Class 2 circuit conductors from other circuits

Principal Exhaust Fans

The Alberta Building Code (Article 9.32.3.4.) requires the mechanical ventilation system in residential occupancies serving only one dwelling unit to incorporate a principal exhaust fan interconnected with a make-up-air supply fan. The principal exhaust fan is controlled by a centrally located control switch, which simultaneously starts the ventilation system supply fan. Where the dwelling uses a forced-air heating system, the principal exhaust fan must be interlocked with the furnace fan.



Most furnaces have a Class 2 circuit, which controls the furnace fan through a relay. It is important when interlocking the principal exhaust fan with the furnace fan not to mix the Class 2 furnace control circuit with the power circuit for the principal exhaust fan. Rule 16-212 3) indicates Class 2 circuits and power circuits must not be in the same enclosure or raceway.

Issue of this STANDATA is authorized by the Provincial Electrical Administrator

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The diagram depicts one example of a proper method for interlocking the Class 2 furnace fan control circuit with the power circuit of the principal exhaust fan. Other methods may also be acceptable.