

File E164102  
Project 07CA48084

December 26, 2007

REPORT

on

COMPONENT - TEMPERATURE-INDICATING AND REGULATING EQUIPMENT

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## DESCRIPTION

## PRODUCT COVERED:

USR, CNR - Component - Mechanical Thermostats, Types FZK 01170.0-00, 01170.0-01, 01170.9-00, 01170.9-01 and FZK 01170.0-02.

## GENERAL CHARACTER:

These devices are SPDT, rail mounted, adjustable, electromechanical thermostats designed to control heating and cooling equipment, filter fans or signal devices. The devices consist of an internal bimetal sensing material that actuates a lever-arm/switch assembly via snap-action. A maximum of two loads may be connected which would be switched alternately (one Normally Open load and one Normally-Closed load). The circuit is designed such that only one load will be on at a time.

## RATINGS:

Electrical -

## Outputs:

Models	Type	Rating	No. of Cycles	Terminals
<b>FZK</b> <b>01170.0-00,</b> <b>01170.0-01,</b> <b>01170.0-02</b>	Resistive	250 VAC, 10 A	6,000	Normally Closed (NC)
	Motor	250 VAC, 4 FLA, 24 LRA	6,000	
	Resistive	250 VAC, 5 A	6,000	Normally Open (NO)
	Motor	250 VAC, 2 FLA, 12 LRA	6,000	
<b>FZK</b> <b>01170.9-00,</b> <b>01170.9-01</b>	<b>Resistive</b>	<b>120 VAC, 10 A</b>	<b>6,000</b>	<b>Normally Closed (NC)</b>
	<b>Motor</b>	<b>120 VAC, 4 FLA, 24 LRA</b>	<b>6,000</b>	
		<b>Resistive</b>	<b>120 VAC, 5 A</b>	<b>6,000</b>
	<b>Motor</b>	<b>120 VAC, 2 FLA, 12 LRA</b>	<b>6,000</b>	

Ambient temperature rating - 80°C

## MODEL DIFFERENCES:

Types FZK 01170.0-00, 01170.0-01, 01170.9-00, 01170.9-01, and FZK 01170.0-02, covered by this description, are provided with same construction and they have the same features.

## ENGINEERING CONSIDERATIONS (NOT FOR FIELD REPRESENTATIVE'S USE):

## Spacings -

The subject devices have been evaluated in accordance with the spacing requirements as outlined in UL 840, Tables 8.1 and 9.2.

Clearance - This component has been judged on the basis of the required clearances in the UL 840 standard, Table 8.1, dated January 6, 2005. The clearance requirements are based on the following parameters:

TABLE: clearance measurements						
distance under consideration	Phase-to-Ground System Voltage	Overvoltage Category	pollution degree	rated impulse voltage (V)	case A clearance (mm)	
					req.	meas.
Terminal Block (supply/load connections)	250 V	III	2	4000	2.5 mm	3.6 mm
Contact Arm to RF Resistor Leads	250 V	III	2	4000	2.5 mm	4.8 mm
EMI Capacitor (pin 1 to pin 2)	250 V	III	2	4000	2.5 mm	9.4 mm

Creepage - This component has been judged on the basis of the required creepages in the UL 840 standard, Tables 9.1 and 9.2, dated January 6, 2005. The creepage requirements are based on the following parameters:

TABLE: Creepage measurements						
distance under consideration	Material (PTI)	rated voltage (V)	pollution degree	material group	creepage (mm)	
					required	measured
AC Supply/Load Traces (line to neutral)	3	250 V	2	IIIa	1.0 mm	3.0 mm
Terminal Block (supply/load connections)	3	250 V	2	IIIa	2.5 mm	3.6 mm

## ENGINEERING CONSIDERATIONS (NOT FOR FIELD REPRESENTATIVE'S USE):

USR indicates evaluation to UL 873, Temperature Indicating and Regulating Equipment, eleventh edition, revised April 18, 2006.

CNR indicates investigation to CSA C22.2 No. 24-93, the Canadian Standard for Temperature Indicating and Regulating Equipment.

Use - For use only in products where the acceptability of the combination is determined by Underwriters Laboratories Inc.

Conditions of Acceptability - When installed in the final use equipment, etc., the following are among the considerations to be made.

1. This control shall be mounted within an ultimate end-use enclosure and shall be installed in compliance with the enclosure, mounting, spacing, and segregation requirements of the ultimate application.
2. The device has not been evaluated for field wiring.
3. The performance of these devices with regards to safety or limiting applications has not been investigated.
4. The product was tested at an elevated ambient of 80°C.
5. Mounting securement of this device shall be considered in the end application.
6. The units are NOT provided with a dedicated ground connection.
7. These devices have been subjected to Calibration Verification in accordance with Table 6 of CSA C22.2 No. 24-93, for temperature regulating controls for use in appliances.
8. Temperature testing was conducted with Load and Supply leads provided with 90°C insulation. The suitability of leads shall be determined in the end product.