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REPORT

On

COMPONENT - HEATERS AND HEATING  
EQUIPMENT, SPECIALTY

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## DESCRIPTION

## PRODUCT COVERED:

\*USR, CNR - Component Heater (PTC) for mounting in industrial control panels,

**Types CS 060, Model No. 060, followed by 00, 10 or 20, followed by .0 or .9, followed by -00 or -01.**

**Types CS 160, Model No. 160, followed by 00, 10 or 20, followed by .0 or .9, followed by -00 or -01.**

**Types CSK 060, Model No. 060, followed by 30 , 40, or 50, followed by .0-00, or .0-01.**

**Types CSK 160, Model No. 160, followed by 30 or 40, followed by .0-00.**

**Types CSF 060, Model No. 060, followed by 01, 02, 11, 12, 13, 14, 21, 22 or 23, followed by .0-00 or .9-00.**

**Types CSF 160, Model No. 160, followed by 01 or 02, followed by .0-00.**

Individual models as shown in table below

## ELECTRICAL RATING:

Types	Models No.	Wattage	Thermostat	Voltage
CS 060	06000.0-00	50		120-240 Vac/dc
CS 060	06000.0-01			
CS 160	16000.0-00	50		100-120 Vac/dc
CS 060	06010.0-00			
CS 060	06010.0-01	100		120-240 Vac/dc
CS 160	16010.0-00			
CS 060	06010.9-01	100		120-240 Vac/dc
CS 160	16010.9-00			
CS 060	06020.0-00	150		120-240 Vac/dc
CS 060	06020.0-01			
CS 160	16020.0-00	150		120-240 Vac/dc
CS 160	16020.0-01			
CS 060	06020.9-01	150		120-240 Vac/dc
CS 160	16020.9-00			
CS 060	06020.9-00	150		100-120 Vac/dc
CSF 060	06001.0-00	50	15°C	120-240 Vac
CSF 160	16001.0-00			
CSF 060	06002.0-00	50	25°C	120-240 Vac
CSF 160	16002.0-00			
CSF 060	06011.0-00	100	15°C	120-240 Vac
CSF 060	06011.9-00			

Types	Models No.	Wattage	Thermostat	Voltage
CSF 060	06012.0-00	100	25°C	120-240 Vac/dc
CSF 060	06012.9-00			
CSF 060	06013.0-00	100	10°C	120-240 Vac
CSF 060	06014.0-00	100	0°C	120-240 Vac
CSF 060	06021.0-00	150	15°C	120-240 Vac
CSF 060	06021.9-00	150	15°C	120-240 Vac
CSF 060	06022.0-00	150	25°C	120-240 Vac
CSF 060	06022.9-00	150	25°C	120-240 V ac
CSF 060	06023.0-00	150	10°C	120-240 Vac
CSK 060	06030.0-00	20		120-240 Vac/dc
CSK 060	06030.0-01			
CSK 160	16030.0-00			
CSK 060	06040.0-00	10		120-240 Vac/dc
CSK 160	16040.0-00			
CSK 060	06050.0-00	30		120-240 Vac/dc

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

USR - Indicates the heaters were investigated to the Standard for Electric Heating Appliances, UL 499 and to the Standard for Double Insulation Systems for Use in Electrical Equipment, UL 1097.

\*CNR - Indicates the heaters were investigated to the Canadian Standard for Heater Elements, CAN/CSA C22.2 No. 72 and for Double Insulation requirements to the Canadian Standard CAN/CSA C22.2 No. 641 Household Cooking and Liquid-Heating Appliances.

These appliances are for use within industrial control panels, control boxes, etc. They are double-insulated heaters and intended to be mounted within an enclosure to keep the internal temperature at a suitable level. The heat is produced by PTC-elements. **Heater**-Models with first two model numbers "06" are Black in color, while **Heater**-Models with first two model numbers "16" are Grey in color.

**Conditions of Acceptability** - Some of the features, which should be considered in determining the acceptability of this heater in the specific application, are indicated below:

1. The heater is intended for use within an enclosure in accordance with UL 508A, the standard for Industrial Control Panels.
2. The terminal block for the supply connections is only suitable for factory wiring. Consideration shall be given with respect to gauge size and current in the end use.
3. These heaters employ PTC type heater elements. The suitability of any switching devices or fuses with respect to Inrush Current, both at room ambient and cold ambient shall be considered in the end product application.
4. These heaters have been evaluated for Indoor Use Only and vertical (wall) mounting.
5. The PTC heater used in this product was evaluated to Class C1 (+/- 5 % in degree C).
6. These heaters require an unobstructed flow of air to maintain both the marked power rating and safe operating temperatures. Client literature recommends that a minimum of 20 mm shall be maintained to the sides of the unit, and a minimum of 120 mm shall be maintained above the unit, and between the heater and components.
7. Representative units were subjected to a temperature test in a test alcove at room ambient. Due consideration shall be given to conducting a temperature test in the end-product Industrial Control Panel Enclosure.
8. The component heaters exhibited high surface temperatures of **172°C** in an open air ambient of 23°C, during the Normal Temperature Test. The need of guards or marking should be evaluated in the end-use application.
9. The component heaters are provided with plated steel mounting clips, secured within slots of Rear Enclosure, by trap-fit used to secure unit to 35 mm DIN rail within final product. Suitable mounting means is to be provided and evaluated in the end use application.

- \*10. Construction was determined to the Standard for Double Insulation Systems for Use in Electrical Equipment, UL 1097 and to Clause 7 of the Canadian Standard CAN/CSA C22.2 No. 64 Household Cooking and Liquid-Heating Appliances. Suitability shall be determined in the end-product investigation.
  
- \*11. Field wiring of power leads and thermostat are not provided and must be considered in the end use and must be suitable for gauge size and current.