

File E184390
Project 96NK28711

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REPORT

on

MISCELLANEOUS
FOR USE IN HAZARDOUS LOCATIONS

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Winona, MN

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DESCRIPTION

PRODUCT COVERED:

USL, CNL *Class I, Div. 2, Groups A, B, C and D Hazardous Locations. Solid State Power Controller Through Wall Heat Sink Mounting, Part No. DC, followed by 1, 2, 3, 4, 8, or 9, followed by T, followed by 02, 12, 20, 24, 27, 40, 48, or 60, followed by CX, K1, K2, K3, FX, LX, PX or SX; followed by 0, C, D, H or S, followed by any three numbers or letters, where "X" equals any number 0 through 9.

GENERAL:

These devices are open solid state power controllers intended for controlling electric resistance heating.

RATINGS:

These devices are either single or three phase, two leg or three phase, 1, 2 or 3 pole and rated as shown below.

Command or Control Signal Ratings - 24, 120-240 V ac, 50/60 Hz. All other control signals are low voltage DC.

Output Ratings - 24-48 V ac, 120-240 V ac or 277-600 V ac, 50/60 Hz.

Models Without Cooling Fan at 60°C - (Through Wall Heat Sink Mounting) -

55 A - 1 pole

37 A - 2 pole

30 A - 3 pole

Control Mode Rating -

24 V ac

120 V ac

240 V ac

These devices may be used in ambients found as part of the derating curves in ILL. 1. These ratings are not to exceed 60°C. The through wall version is suitable for Type 1 and 4X ratings.

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

CNL indicates investigation to Canadian Standards C22.2 No. 213-M1987 and C22.2 No. 14-95.

USL indicates investigation to United States UL Standards 508 and **ANSI/ISA 12.12.01-2011, Nonincendive Electrical Equipment for Use in Class I and II, Division 2 and Class III, Division 1 and 2 Hazardous (Classified) Locations, Approved 24 August 2011.**

NOMENCLATURE:

| | | | | | | | |
|-----------|----------|----------|-----------|-----------|----------|----------|-----------|
| <u>DC</u> | <u>1</u> | <u>T</u> | <u>24</u> | <u>C0</u> | <u>0</u> | <u>0</u> | <u>00</u> |
| I | II | III | IV | V | VI | VII | VIII |

I - DC - Basic Designator.

II - Phase.

- 1 - Single phase, one pole
- 2 - 3 phase, two pole controlled
- 3 - 3 phase, three pole controlled
- 4 - 3 phase, three pole controlled (four wire WYE)
- 8 - Two independently controlled poles
- 9 - Three independently controlled poles

III - Cooling and Heat Sink Options.

T - Natural convection through wall heat sink

IV - Output Voltage.

- 02 - 24-48 V ac (control option C, f or K)
- 12 - 100 to 120 v AC (control options L, P or S)
- 20 - 200 to 208 V ac (control options L, P or S)
- 24 - 100-240 V ac (control option C, f or K)
- 230 to 240 V ac (control options L, P or S)
- 27 - 277 V ac (control options L, P or S)
- 40 - 400 V ac (control options L, P or S)
- 48 - 480 V ac (control options L, P or S)
- 60 - 277-600 V ac (control option C, f or K)
- 600 V ac (control options L, P or S)

V - Control Options.

- C0 - 4.5-32 V dc (contactor)
- F0 - 4-20 mA dc (variable time base)
- F1 - 12-20 mA dc (variable time base)
- K1 - 24 V ac (contactor)
- K2 - 120 V ac (contactor)
- K3 - 240 V ac (contactor)
- L_ - Phase angle with current limit (Select input 0-5 below)
- P_ - Phase angle control (Select input 0-5 below)
- S_ - Single cycle variable time base (Select input 0-5 below)
- _0 - 4 to 20 mA dc
- _1 - 12 to 20 mA dc
- _2 - 0 to 20 mA dc
- _3 - 0 to 5 V dc
- _4 - 1 to 5 V dc
- _5 - 0 to 10 V dc

(Continued)

VI - Alarm Options.

- 0 - No alarm
- C - Shorted SCR alarm with transistor output
- D - Open Heater, Shorted SCR Alarm with transistor output
(S control option only)
- H - Open Heater, Shorted SCR Alarm with triac output
(S control option only)
- S - Shorted SCR alarm with triac output

VII - User Manual Language Options.

- 0 - English users manual
- 1 - German users manual
- 2 - Spanish users manual
- 3 - French users manual

VIII - Custom Label Options and Other Noncritical Options.

- 00 - Standard product
- 01-99 or AA-ZZ - Custom options
 - Custom overlays
 - Custom soft start phase angle times