

File E234324
Project 13CA21195

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REPORT

on

COMPONENT - INDUSTRIAL CONTROL PANELS

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DESCRIPTION

PRODUCT COVERED:

* USR, CNR Component Air Heaters for mounting in Industrial Control Panels, Series HVI 030 followed by **7 or 8** followed by 0, 1, 2, 3, 4, 5, 6, or 7 followed by 0, 1, 2, or 9 followed by 00 up to 40 (see nomenclature breakdown for further details).

GENERAL:

These devices are used for control the humidity and the temperature within industrial control panels for prevention of falling below the condensation point. The devices are available in different power values. Possible Operation Modes could be fan and heater simultaneous. **Series HVI 0308 is provided with fan, series HVI 0307 is provided without fan.**

ELECTRICAL RATING:

Models	Followed by:	Followed by:	Voltage/Frequency	Power
HVI 0308. HVI 0307.	0	0	230 Vac - 50/60 Hz	950 W
		9	120 Vac - 50/60 Hz	950 W
	1	0	230 Vac - 50/60 Hz	800 W
		9	120 Vac - 50/60 Hz	800 W
	2	0	230 Vac - 50/60 Hz	700 W
		9	120 Vac - 50/60 Hz	700 W
	3	0	230 Vac - 50/60 Hz	600 W
		9	120 Vac - 50/60 Hz	600 W
	4	0	230 Vac - 50/60 Hz	500 W
		2	48 Vdc	500 W
		9	120 Vac - 50/60 Hz	500 W
	5	0	230 Vac - 50/60 Hz	400 W
		2	48 Vdc	400 W
		9	120 Vac - 50/60 Hz	400 W
	6	0	230 Vac - 50/60 Hz	350 W
		2	48 Vdc	350 W
		9	120 Vac - 50/60 Hz	350 W
	7	0	230 Vac - 50/60 Hz	200 W
		1	24 Vdc	200 W
		2	48 Vdc	200 W
		9	120 Vac - 50/60 Hz	200 W

Surrounding Air temperature = 40°C.

NOMENCLATURE

HVI	030	8	3	1	XX
I	II	III	IV	V	VI

I	Series	HVI
II	Model	030
III	Fan	8 = with fan 7 = without fan
IV	Max Power	0 = max 950 W 1 = max 800 W 2 = max 700 W 3 = max 600 W 4 = max 500 W 5 = max 400 W 6 = max 350 W 7 = max 200 W
V	Voltage	0 = 230 Vac 1 = 24 Vdc 2 = 48 Vdc 9 = 120 Vac
VI	Features codes	00 up to 40 = Variant describes different possibilities to combine the way of connection via terminal, clip or screw mounting. Way of interaction between the fan and the regulating part is also involved (Heater and fan controlled or heater controlled and fan continuous running).

ENGINEERING CONSIDERATIONS (NOT FOR UL REPRESENTATIVE USE):

- USR - Indicates investigated to United States Standard for Industrial Control Equipment, UL508 Seventeenth Edition.
- CNR - Indicates investigated to Canadian National Standard for Industrial Control Equipment, C22.2 No.14-13.

Note: USR = United States Standards - Recognized
CNR = Canadian National Standards - Certified

CONDITIONS OF ACCEPTABILITY

Some of the features which should be considered in determining the acceptability of this heater in the specific applications are indicated below:

1. The devices should be used within their ratings.
2. These devices should be mounted within overall enclosure suitable for the end use application. The device shall be installed in compliance with the enclosure, mounting, spacings, and segregation requirements of the ultimate application.
3. The devices are prepared for screw mounting.
4. The terminal block is suitable for Field and Factory Wiring.
5. These devices were tested in a surrounding air of 40°C (without enclosure).
6. Consideration about the need to repeat the temperature test within an enclosure to maintain surrounding air of 40°C shall be evaluated in the end use.

7. Series HVI0307 shall be used with fans listed in the table below and considerations about the need to repeat the temperature test within an enclosure to maintain surrounding air of 40°C shall be evaluated in the end use.

Heaters model	Fan model and ratings	Fan manufacturer
HVI0307X.0-XX	4715MS-23W-B50, rated 230 Vac, 14/15 W, 50/60 Hz, Class A	NMB Minebea (E89936)
HVI0307X.9-XX	4715MS-12W-B50, 115 Vac, 7 W, 50/60 Hz, Class A	NMB Minebea (E89936)
HVI0307.1-XX	4715KL-05W-B20. Rated 24 Vdc, 0.28 Ampere, Class A	NMB Minebea (E89936)
HVI0307X.2-XX	4715KL-07W-B30. Rated 48 Vdc, 0.21 Ampere, Class A	NMB Minebea (E89936)
HVI0307X.0-XX	4656Z, rated 240 Vac, 20 W, 50/60 Hz, Class A	EBM-Papst (E38324)
HVI0307X.9-XX	4606, rated 115 Vac, 20 W, 50/60 Hz, Class A	EBM-Papst (E38324)
HVI0307.1-XX	4214NN, rated 24 Vdc, 1.4 W, Class A	EBM-Papst (E38324)
HVI0307X.2-XX	4218NN, rated 48 Vdc, 4 W, Class A	EBM-Papst (E38324)