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REPORT

On

Programmable Controllers for Use in Hazardous Locations - Component
(NRAG2, NRAG8)

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DESCRIPTION

PRODUCT COVERED:

USR, CNR Programmable Controllers for use in Hazardous Locations, Class I, Div. 2 Groups A, B, C, D.

Open Type, Industrial Ethernet Rail Switch -

Cat.Nos. RSPEXX-XXXXXXXXXX-XCCXXXXXXXXXXXXXXXX.X.XX, RSPEXX-XXXXXXXXXX-XKXXXXXXXXXXXXXXXX.X.XX, RSPEXX-XXXXXXXXXX-XK9XXXXXXXXXXXXXXXX.X.XX, and RSPEKK-XXXXXXXXXX-XPPXXXXXXXXXXXXXXXX.X.XX with accessory media modules RSPM20-XXXXXXXXXXXXXXXX.X.XX and RSPM22-XXXXXXXXXXXXXXXX.X.XX

GENERAL:

These products shall comply with ordinary locations File E175531, Report No. E175531-D2, issued date 2015-07-10, Industrial Ethernet Rail Switch, covering for this manufacturer and with the following description. Should the Procedure File E175531, issued date 2015-07-10 withdrawn, labeling under this Procedure must be discontinued until authorization to resume is received.

Correlation between the model numbers from Ordinary Locations and Hazardous Locations certification:

Ordinary Locations Model Number	Hazardous Locations Model Number
RSPExx - xxxxxxxxxxxx - xCC-y	RSPEXX-XXXXXXXXXX-XCCXXXXXXXXXXXXXXXX.X.XX
RSPExx - xxxxxxxxxxxx - xKK-y	RSPEXX-XXXXXXXXXX-xKXXXXXXXXXXXXXXXX.X.XX
RSPExx - xxxxxxxxxxxx - xK9-y	RSPEXX-XXXXXXXXXX-XK9XXXXXXXXXXXXXXXX.X.XX
RSPExx - xxxxxxxxxxxx - xPP-y	RSPEXX-XXXXXXXXXX-XPPXXXXXXXXXXXXXXXX.X.XX

These open-type devices (RSPE series) are industrial control Ethernet LAN devices for DIN-rail mounting and intended for use in industrial automation applications. The RSPE series devices are capable to get equipped with RSPM-Family modular accessory media modules. The system is microcomputer-based and communicates via interfaces through wire or optical ports.

These devices Models RSPE are intended for field wiring. The RSPM media modules are intended for installation within the RSPE media modules.

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

Products designated USR have been investigated using requirements contained in:

ISA 12.12.01-2015 (CAN/CSA C22.2 NO. 213-15) NONINCENDIVE ELECTRICAL EQUIPMENT FOR USE IN CLASS I AND II, DIVISION 2 AND CLASS III, DIVISIONS 1 AND 2 HAZARDOUS (CLASSIFIED) LOCATIONS - Edition N/A - Issue Date 2015/08/21.

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The accessory media modules RSPM series were additionally evaluated and investigated using requirements contained in UL 61010-1, 3rd Edition, revised 2015-07-15, Standard for Electrical Equipment for Measurement, Control, and Laboratory Use - General Requirements, UL 61010-2-201- 1st Edition, issued 2014-01-24, Standard for Electrical Equipment for Measurement, Control, and Laboratory Use - Part 2-201: Particular Requirements for Control Equipment, CSA C22.2 No. 61010-1-12, 3rd Edition, revised 2015-05-01, Standard for Electrical Equipment for Measurement, Control, and Laboratory Use - General Requirements, and CSA C22.2 No. 61010-2-201:14- 1st Edition, issued 2014-01-01, Standard for Electrical Equipment for Measurement, Control, and Laboratory Use - Part 2-201: Particular Requirements for Control Equipment

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

ELECTRICAL RATINGS (See ILL. 11 for different configurations per model):

Power supply used	Input voltage	Tolerance	Input frequency	Input power or current
"CC"	2 x 24-48 VDC	18-60 VDC	DC	1.4-0.7 A (Class 2)
"KK"	2 x 110-230 VAC or 2 x 60-250 VDC	88-265 VAC or 48-320 VDC	50-60 Hz or DC	0.3-0.2 A or 0.6-0.2 A
"K9"	110-230 VAC or 60-250 VDC	88-265 VAC or 48-320 VDC	50-60 Hz or DC	0.3-0.2 A or 0.6-0.2 A
"PP"	2 x 48 VDC (POE) or 54 VDC (POE+)	47-57 VDC (POE) or 53-57 VDC (POE+)	DC	3.5-3.1 A (Class 2)

Rating of the device is based on the power supply used.

Ambient Temperature Rating Value 60°C or 70°C

The relay connections are to be used within their wiring parameters (detailed below):

$$U_i = 30 \text{ V}, I_i = 90 \text{ mA}, C_i = 2 \text{ nF}, L_i = 1 \text{ } \mu\text{H}$$

The RSPM modules are accessory cards powered directly from the RSPE modules.

MODEL CONFIGURATIONS

Power supply Code	RSPM on Slot 1	RSPM on Slot 2	Max. SFP ports loaded	Max. POE port loaded	Max. Non-POE ports loaded	Ambient temperature rating	Heatsink
"PP"	RSPM22	RSPM22/ RSPM20	16	4*PoE+ or 8*PoE	28	60°C	N
"PP"	RSPM22	RSPM22/ RSPM20	8	4*PoE+ or 8*PoE	28	65°C	Y
"KK"	RSPM20	RSPM20	16	0	28	60/70°C	N/Y
"K9"	RSPM20	RSPM20	16	0	28	60/70°C	N/Y
"CC"	RSPM20	RSPM20	16	0	28	60/70°C	N/Y

CONDITIONS OF ACCEPTABILITY

For use only in (or with) complete equipment where the acceptability of the combination is determined by Underwriters Laboratories Inc. When installed in the end-use equipment, consideration shall be given to the following in addition to the conditions of acceptability provided in ordinary locations File E175531, Report No. E175531-D2, issued 2015-07-10:

1. These devices shall be installed in a suitable enclosure in accordance with the end-product requirements.
2. These devices shall be used within their marked electrical ratings.
3. These devices are intended for factory wiring connections only.
4. Subject devices were temperature tested in an ambient of 60°C and 70°C depending on the configuration and maximum surface temperature was determined to be as below:

Model with power supply code	Maximum surface temperature
K9	113.0°C
KK	115.0°C
CC	118.3°C
PP	108.3°C

External sources of heat, other electrical components and location of where subject device is installed may affect the ambient temperature, therefore, a Temperature Test on the end-use product may be considered and the Temperature of where the Subject Device is installed shall be monitored to verify that the ambient does not exceed its ratings.

5. This equipment is evaluated for use in Class I, Division 2, Groups A, B, C and D OR non-hazardous locations only.
6. Subject device is not to be disconnected unless power has been removed or the area is known to be non-hazardous.
7. Substitution of components may impair suitability of the subject device for use in Class I, Division 2, Groups A, B, C and D Hazardous Locations.
8. The relay contacts are intended for connection within their entity parameters: $U_i = 30 \text{ V}$, $I_i = 90 \text{ mA}$, $C_i = 2 \text{ nF}$, $L_i = 1 \text{ } \mu\text{H}$
9. Installation Instructions are provided with each device and shall include the following in addition to ordinary locations marking under File E175531, issued date 2015-07-10. For products intended for sale in Canada all WARNING statements must be translated in French.

MARKING:

The following markings shall appear on the device in addition to ordinary locations marking under File E175531, Report No. E175531-D2, issued 2015-07-10

Nameplate No.	Marking Content
1.	Listee name or Trademark or File Number
2.	Catalog or Model number
3.	Electrical ratings: Voltage, frequency and either amperes, volt-amperes, or watts (optional)
4.	Hazardous location designation Class I, Division 2, Groups A, B, C, D. (optional)
5.	Maximum Ambient Temperature Rating of 60°C or 70°C depending on the configuration. (optional)
6.	Service temperature. (optional)
7.	The month and year of manufacture or another suitable method, such as date coding or serial numbers. (optional)
8.	Control drawing for installation (which includes the parameters). See ILL. 13 for details. (optional)

This equipment is suitable for use in Class I, Division 2, Groups A, B, C and D OR non-hazardous locations only.

WARNING - EXPLOSION HAZARD - Do not disconnect equipment unless power has been removed or the area is known to be non-hazardous.

WARNING - EXPLOSION HAZARD - Substitution of any components may impair suitability for Class I, Division 2.

This equipment is an open-type device and is meant to be installed in an enclosure suitable for the environment that is only accessible with the use of a tool.