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REPORT

ON

COMPONENT - INDUSTRIAL CONTROL EQUIPMENT,
INDUSTRIAL CONTROL SWITCHES

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DESCRIPTION

PRODUCT COVERED:

USR/CNR - Component - Switches, Industrial Control, Model OJ, OJE followed by -SS or -SH followed by -1, followed by 3-48 followed by DM, HM, LM, TM, LMH, LMH2, LMH4 or HM2, may be followed by F or WG, may be followed by up to 5 letters and/or numbers.

Model OJT followed by SS or SH, followed by 1, followed by 3-48, followed by DM or LM, followed by F or WG, may be followed by additional letters or numbers.

GENERAL:

The devices are open type magnetically operated, single-pole, single-throw relays, with normally open contacts. These devices are intended for industrial applications.

RATINGS: (Refer to Sec. 35 of UL 508)

OJ/OJE Contact -

Type DM	5 A, 250 V ac, 30 V dc resistive 100,000 ops 5A, 250 V ac, resistive 60,000 ops at 85°C 1/6 hp, 240 V ac, 100,000 ops 1/10 hp, 120 V ac, 100,000 ops 10 LRA/1.5 FLA, 120 V ac, 100,000 ops
Type LM	3 A, 250 V ac, 30 V dc resistive 100,000 ops 3 A, 250 V ac, general use, 100,000 ops 3 A, 277 V ac, resistive, 6,000 ops 3 LRA/1.5 FLA, 120 V ac, 100,000 ops @ 70°C 10 LRA/1.5 FLA, 120 V ac, 30,000 ops @ 85°C, non-vented 5.4 LRA/0.9 FLA, 240 V ac, 30,000 ops @ 85°C 3 A, 120 V ac, Resistive, 100,000 ops @ 105°C, non-vented 2 A, 120 V ac, General Purpose, 100,000 ops @ 105°C, non-vented 3 A, carry-only @ 105°C
Type TM	TV-5, 120 V ac
Type HM	10 A, 250 V ac, 30 V dc, resistive 100,000 ops 10 A, 250 V ac, general use, 200,000 ops 10 LRA/1.5 FLA, 120 V ac, 30,000 ops @ 85°C, non-vented 5.4 LRA/0.9 FLA, 240 V ac, 30,000 ops @ 85°C, non-vented 8 A, carry-only @ 85°C 8.5 A, 120 Vac, General Use, 100,000 ops @ 85C. 2 A, 120 V ac, Pilot Duty, 30,000 ops @ 70°C 3 LRA/1.5 FLA, 120 V ac, 100,000 ops @ 70°C 7.5A, 240 V ac, resistive 100,000 ops @ 105°C Normal 1.0 A/Inrush 10 A, 125 Vac, Pilot Duty, 100,000 ops@85 °C 18 LRA / 3 FLA, 240 Vac, 100,000 ops @ 85 °C 4 A, 240 Vac, General Use, 100,000 ops @ 85 °C 10 A, 250 V ac, resistive, 50,000 ops @ 85 °C (For Type SS) 10 A, 250 V ac, resistive, 30,000 ops @ 85 °C (For Type SH)
Type HM2	10 A, 250 V ac, resistive 100,000 ops 10 A, 250 V ac, resistive 10,000 ops @ 85°C 7.5A, 240 V ac, resistive 100,000 ops @ 105°C

Type LMH 8 A, 250 V ac, resistive
3 A, 250 V ac, General Purpose, 30,000 ops
4 A, 120 V ac, Resistive, 100,000 ops @ 105°C
1 A LRA, 1 A FLA, 120 V ac, 100,000 ops @ 105°C
6.6 A LRA, 1.1 A FLA, 120 V ac, 100,000 ops @ 105°C
8 A, 277 Vac, resistive, 100,000 ops @ 70°C

Type LMH2 8 A, 250 V ac, resistive
8 A, 250 V ac, resistive, 30,000 ops, @ 85°C
12A LRA/2A FLA, 250 V ac, 100,000 ops, @ 85°C
TV-1, 120 V ac, 25,000 ops, @ 85°C, WG type only

Type LMH4 8 A, 250 V ac, resistive

OJT Contact - Type DM TV-5, 120 V ac (Ag: 90%, SnO: 10%) - Silver Tin Oxide

5 A, 250 V ac, resistive, 10,000 ops @ 85°C
or LM 5 A, 250 V ac, resistive, 100,000 ops @ 70°C
TV-5, 120 V ac (Ag: 90%, SnO: 10%) - Silver Tin Oxide

Coil - 3 through 48 V dc

Maximum ambient temperature (non-switching)

Type LM, Class F - 105°C at 3 A load

Type HM, Class F - 85°C at 8 A load

NOMENCLATURE:

The significance of the alphanumeric marking system is explained as follows:

OJE	-SS	-1	06	DM	F	-	#####
I	II	III	IV	V	VI		VII

I. Basic Designation

OJE - Standard
OJ - With Increased Spacing

II. Sealing Construction

SS: Flow Solder Type
SH: Fully Sealed Type, non-vented

III. Number of Poles

1 - 1 Pole

IV. Nominal Coil Voltage

03 through 48 (**LM: 03 through 24**)

V. Contact Rating (See Ratings on Page 1)

DM - 5 A type
LM - 3 A type
TM - TV-5 type
HM - 10 A type
LMH - 8 A type
LMH2 - 8 A type
LMH4 - 8 A type
HM2 - 10 A type

VI. Insulation System Designation

Blank - Class 105 (A) System
F - Class 155 (F) System
WG - Class 155 (F) System

VII. Additional numbers and/or letters.

May be followed by up to five numbers and/or letters which do not represent electrical changes. These denote specific customers, requirements and/or electrical testing.

NOMENCLATURE (OJT Relay):

OJT SS 1 06 - DM - F - #####
I II III IV V VI VII

I. Basic Designation

OJT

II. Sealing Construction

SS: Flow Solder type

SH: Fully Sealed type, no -vented

III. Number of Poles

1 - 1 Pole

IV. Coil Voltage

03 through 48

V. Coil Power

DM - 450 mW

LM - 250 mW

VI. Insulation System Designation

Blank - Class 105 (A) system

F - Class 155 (F) system

WG - Class 155 (F) System

VII. Additional numbers and/or letters.

May be followed by up to five numbers and/or letters which do not represent electrical changes. These denote specific customers, requirements and /or electrical testing.

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

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

This component has been judged on the basis of the required spacings in the Standard for Industrial Control Equipment (UL 508), Paragraph 47.1, Fourteenth Edition, and Temperature Indicating - Regulating Equipment (UL 873), Paragraph 32.2.2, 11th Edition, which would cover the component itself if submitted for unrestricted Listing.

Conditions of Acceptability -

1. These devices should be used within their Recognized ratings as specified above.
2. Open type devices should be mounted in enclosures having adequate strength and thickness and in the intended manner and with acceptable spacings being provided.
3. The main terminals are not suitable for field wiring. The pin terminals are to be factory wired only and the suitability of the connection including spacings between factory connectors shall be determined.
4. The rating of "12A LRA/2A FLA, 250 V ac, 100,000 ops, @ 85°C" is used for definite purpose controllers.
5. The rating of "18 LRA / 3 FLA, 240 Vac, 100,000 ops @ 85 °C" is used for definite purpose controllers.
6. **The rating of "10 LRA/1.5 FLA, 120 V ac, 100,000 ops" of Contact Type DM is used for definite purpose controllers.**
7. **The ratings of "3 LRA/1.5 FLA, 120 V ac, 100,000 ops @ 70°C", "10 LRA/1.5 FLA, 120 V ac, 30,000 ops @ 85°C, non-vented" and "5.4 LRA/0.9 FLA, 240 V ac, 30,000 ops @ 85°C" of Contact Type LM are used for definite purpose controllers.**

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