File E134517 Project 02NB04196

April 16, 2002

REPORT

ON

COMPONENT - MOTOR CONTROLLERS, MAGNETIC

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DESCRIPTION

PRODUCT COVERED:

- USR, CNR Component Switches, Industrial Control, Type JQX-115F and HF115F, may be followed by H, Blank or A, followed by 005-230, followed by 1H, 2H, 1D, 2D, 1Z or 2Z, may be followed by S, followed by 1 through 4, may be followed by A or B, may be followed by G, may be followed by F, may be followed by additional letters or numbers.
- *USR, CNR Component Switches, Industrial Control, Type JQX-115F-Q and HF115F-Q, followed by 005-060, followed by 1H or 1D, **may be** followed by 3, may be followed by G, maybe followed by F, may be followed by additional letters or numbers.
- *USR, CNR Component Switches, Industrial Control, Type JQX-115F-T, HF115F-TH, HF115F-T and HF115F-TH, followed by 005-060, followed by 1H or 1Z, may be followed by S, followed by 3, followed by B, may be followed by G, may be followed by additional letters or numbers.
- USR, CNR Component Switches, Industrial Control, Type JQX-115F-I or HF115F-I, followed by 005 to 110, followed by 1H, followed by Blank or S, followed by 3, followed by A, maybe followed by additional letters or numbers.

GENERAL:

These devices are enclosed, magnetically operated, single- or double-pole, single- or double-throw throw relays. SPST relays may have normally open or normally closed contacts.

- USR Investigated to Standard UL 508.
- CNR Investigated to Canadian Standard C22.2, No. 14.

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ELECTRICAL RATINGS:

Contact - Version 1 or 2, Normal Coil (AgCdO) $$12\ A,\ 277\ V$ ac,\ resistive, 50\ K$ cycles <math display="inline">$1/2\ hp,\ 250\ V$ ac$ $$1/3\ hp,\ 125\ V$ ac$

Version 1 or 2, Sensitive Coil (AgCdO) 10 A, 250 V ac, resistive

Version 1A or 2A, Normal Coil (AgSnO $_2$) 12 A, 277 V ac, resistive, 100 K cycles B300 R300

Version 1B or 2B (AgNi)
12 A, 277 V ac, resistive, 100 K cycles

Version 3 (AgCdO)
 16 A, 277 V ac, resistive, 50 K cycles
 9 A, 250 V ac, resistive, 100 K cycles, 105°C
 1 hp, 250 V ac
 1/2 hp, 125 V ac
 TV-5, 125 V ac
 12 A, 277 V ac, resistive, 100K cycles (NO only),
 40 °C
 12 A, 120 V ac, resistive, 100K cycles (NO only),

Version 3A (AgSnO $_2$) 16 A, 277 V ac, resistive, 75 K cycles B300 R300

40 °C

9.2 A, 120 V ac, general use, 100K cycles, 60°C 8.2 A, 120 V ac, resistive, 100K cycles, 60°C 1/2 HP, 250 V ac 1/3 HP, 125 V ac

5 FLA/30 LRA, 250 V ac, 30k cycles, 65 $^{\circ}$ C

Version 3B (AgNi)
 16 A, 277 V ac, resistive, 100 K cycles
 5 FLA/30 LRA, 250 V ac, 65°C, 30K cycles (require employ with Class F insulation system minimum)

Version 4 (AgCdO)

10 A, 250 V ac, resistive:

30 K cycles normally open
6 K cycles normally closed
8 A, 277 V ac, resistive, 30 K cycles
1/2 hp, 250 V ac
1/4 hp, 125 V ac

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Version 4A (AgSnO₂)

8 A, 277 V ac, resistive, 75K cycles

Version 4B (AqNi)

8 A, 277 V ac, resistive, 100K cycles

JQX-115F-Q Version

20 A, 277 V ac, general use, 100K cycles, 124°C

JQX-115F-T/TH Version:

16 A, 277 V ac, general use, 100K cycles, 105°C

JQX-115F-I Version:

16A, 277 V ac, general use, 75K cycles, 40°C

AMBIENT TEMPERATURE: 85°C, unless otherwise noted.

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NOMENCLATURE 1:

- a. Model Designation
 JQX-115F or HF115F
- c. Coil Voltage 005 110 = 5 110 V dc 005 60 = 5 60 V dc (maximum for sensitive coil) AC coil = 12 230 V ac
- d. Contact Configurations

 1H = SPST (NO)

 2H = DPST (NO)

 1D = SPST (NC)

 2D = DPST (NC)

 1Z = SPDT

 2Z = DPDT
- e. Sealing
 S = sealed
 Blank = unsealed
- f. Version
 1 = 3.5 mm, 1 pole
 2 = 5 mm, 1 pole
 3 = 5 mm, 1 pole
 4 = 5 mm, 2 pole
- g. Contact Material Blank = AgCdO $A = AgSnO_2 \\ B = AgNi$
- $\begin{array}{ccc} \text{h.} & \text{Contact Plating} \\ & \text{Blank = None} \\ & \text{G = Gold} \end{array}$
- i. Insulation F = Class F Blank = Class B

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j. Special Code: May be followed by additional letters or numbers (does not affect the construction)

NOMENCLATURE 2:

- b. Coil Voltage: 005 060 = 5 60 V dc
- c. Contact Configurations:
 1H = SPST (NO)
 1D = SPST (NC)
- *d. Sealing:

Blank = Flux Proof

- e. Terminal:
 Nil = Vertical terminal (standard)
 3 = Horizontal terminal
- g. Contact Plating:
 Blank = None
 G = Gold
- h. Insulation:
 Blank or F = Class F
- i. Special Code:

May be followed by additional letters or numbers (does not affected the construction)

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NOMENCLATURE 3:

a. Model Designation:

> JQX-115F-T or HF115F-T 0.4W JQX-115F-TH or HF115F-TH 0.25W

Coil Voltage:

005 - 060 = 5 - 60 V dc

Contact Configurations:

1H = SPST (NO)

12 = SPDT

d. Sealing:

S = Sealed

Blank = Unsealed

e. Version:

3 = 5.0 mm

f. Contact Material:

B = AgNi

Contact Plating:

Blank = None

G = Gold

Special Code: h.

May be followed by additional letters or numbers (does not affected the construction)

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NOMENCLATURE 4:

- a. Model Designation JQX-115F-I or HF115F-I
- b. Coil Voltage 005 - 110 = 5 - 110 V dc
- Contact Configurations c. 1H = SPST (NO)
- Sealing S = sealed Blank = unsealed
- e. Version 3 = 5 mm
- Contact Material $A = AgSnO_2$
- Special Code: May be followed by additional letters or numbers (does g. not affect the construction)