

File E102269
Project 05NK26022

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REPORT

on

AUXILIARY DEVICES

Process Control Equipment (QUYX) & (QUYX7)

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Winona, MN

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DESCRIPTION

PRODUCT COVERED:

USL, CNL - Temperature/Time Control Microprocessor, Series ST, followed by K, B, P, E, D, H, J or C, followed by A, L or B, followed by A, B or F, followed by L, H, 1, 2 or 3, followed by any letter or number combination, followed by B, C, D, E, F, G, H, J, K, L, M, N, P, R, S or T, followed by B, C, **D, E or F** followed by any letter or number, followed by two digit alphanumeric combination

GENERAL:

These devices are open type, single phase, temperature or time controllers with integrated solid state relays to control external resistive loads. The sensor terminals are intended for connection to thermocouple, RTD or process inputs which sense the process to be controlled and turn the outputs on or off based on set point or timer interval or both. An option exists for a redundant control monitor shutdown device.

RATINGS:

Electrical - Units are related as follows:

Input: Control Module
24-28 V ac/dc, 50/60 Hz; 100-240 V ac/dc, 50/60 Hz max 12 VA if no contactor; 24-28 V ac/dc, 50/60 Hz; 120 V ac, 50/60 Hz, or 208-240 V ac, 50/60 Hz max 50 VA if integrated contactor is supplied or max 140 VA if external contactor is used.

* Base Module/Solid State Relay
24-240 V ac, **25, 40 or 75** A depending on heatsink and SSR or 48-600 V ac, **25, 40 or 75** A depending on heatsink and SSR or 100-240 V ac, **25, 40 or 75** A phase angle model depending on heat sink and SSR or 260-600 V ac **25, 40 or 75** A phase angle depending on heatsink and SSR provided.

Output: Control Module
Model ST: Switched DC to control Solid State Relay Class 2 DC

Model ST (K, B, P or E): Solid state relay rated 0.5 A resistive 24-240 V ac, 20 VA pilot duty 120/240 V ac.

Model ST (H, D, J or C): Mechanical relay rated 5 A resistive 24-240 V ac, 125 VA pilot duty 120/240 V ac, 25 VA 24 V ac

Model STXL: Mechanical relay rated 5 A resistive 24-240 V ac, 125 VA pilot duty 120/240 V ac, 25 VA 24 V ac and mechanical relay rated 2 A resistive 24-240 V ac, 125 VA pilot duty 120/240 V ac, 25 VA 24 V

Base Module/Solid State Relay

24-240 V ac, or 48-600 V ac Zero Cross control or
100-240 V ac or 260-600 V ac Phase angle control.

*

Rated **25, 40 or 75** A depending on heatsink and Solid State Relay provided.

Temperature: 0 to 70 °C ambient temperature.

Note: Currents are derated above 50 °C ambient based on figure 1.

Amperage/Temperature Derating Curves Ez Zone ST

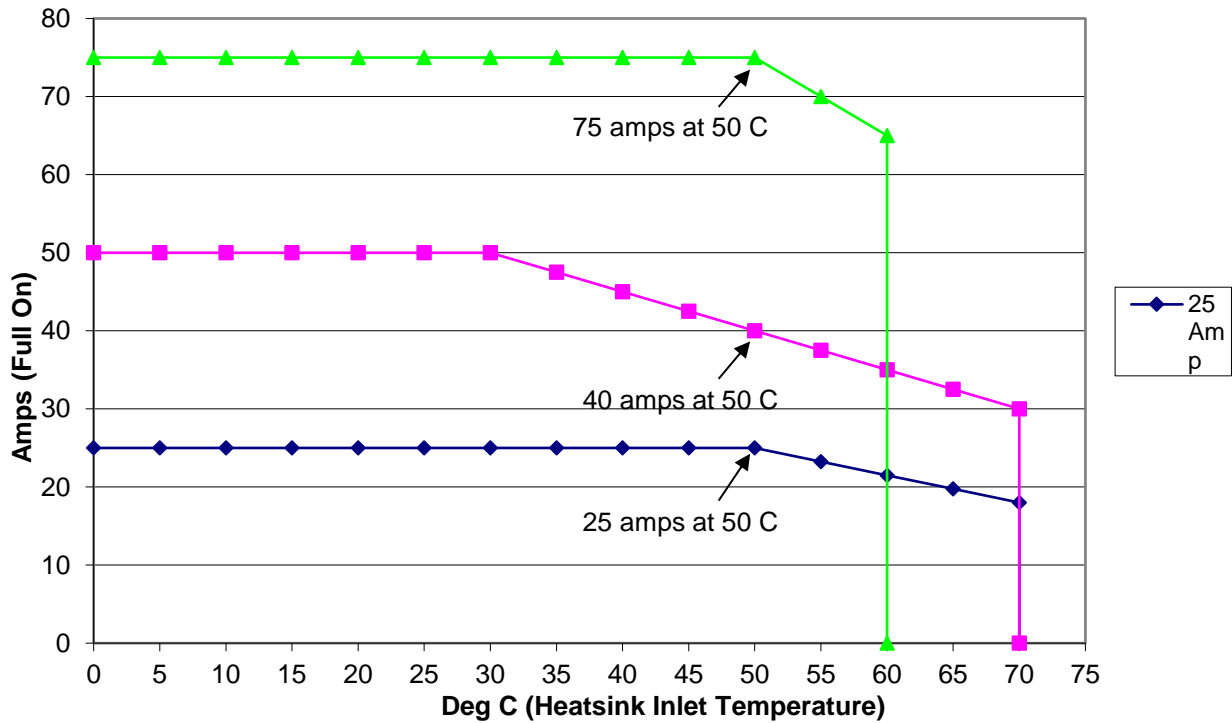


FIGURE 1

NOMENCLATURE:

ST	K	A	A	L	Xx	A	A	Xx	xx
I	II	III	IV	V	VI	VII	VIII	IX	IX

I - Basic Series Designation

II - Controller Options

K = Output 2, 0.5 A SSR (solid state relay)
 B = Output 2, 0.5 A SSR, 2 Digital I/O
 P = Output 2, 0.5 A SSR, Current Measurement
 E = Output 2, 0.5 A SSR, 2 Digital I/O, Current Measurement
 H = Output 2, 5 A Mechanical Relay
 D = Output 2, 5 A Mechanical Relay, 2 Digital I/O
 J = Output 2, 5 A Mechanical Relay, Current Measurement
 C = Output 2, 5 A Mechanical Relay, 2 Digital I/O, Current
 Measurement

III - Limit Control Options

A = No limit module
 L = Limit Module, Output 3, 5 A Mechanical Relay Form C
 Output 4, 2 A Mechanical Relay Form A
 B = No Limit Module, Terminal block access to contactor coil

IV - Mechanical Limit Contactor Options

A = No Contactor
 B = 40 A Single Pole
 F = 40 A Dual Pole

V - Power Supply Options

L = Low voltage 24-28 Vac/dc universal supply (no limit module)
 H = High voltage 100-240 Vac/dc universal supply (no limit
 module)
 1 = 24-28 Vac - contactor voltage
 2 = 120 Vac - Contactor voltage
 3 = 208/240 Vac - Contactor voltage

VI - Communications Options

Any letter or number

VII - SSR Options

A = None - user provided (R/C option only)
 B = **Zero cross** 10 A (24 to 240 V ac output)
 C = **Zero cross** 25 A (24 to 240 V ac output)
 D = **Zero cross** 40 A (24 to 240 V ac output)
 E = **Zero cross** 50 A (24 to 240 V ac output)
 K = **Zero cross 75 A (24 to 240 V ac output)**
 F = **Zero cross 90 A** (24 to 240 V ac output)
 G = **Zero cross** 25 A (**48** to 600 V ac output)
 H = **Zero cross** 40 A (**48** to 600 V ac output)
 L = **Zero cross 75 A (48 to 600 V ac output)**
 J = **Zero cross 90 A (48 to 600 V ac output)**
 M = **Phase angle 25 A (100 to 240 V ac output)**

VII - SSR Options* (cont).

N = Phase angle 40 A (100 to 240 V ac output)

P = Phase angle 75 A (100 to 240 V ac output)

R = Phase angle 25 A (260 to 600 V ac output)

S = Phase angle 40 A (260 to 600 V ac output)

T = Phase angle 75 A (260 to 600 V ac output)

*Unit load current rating dependent on heatsink selected.

VIII - Heat Sink Option

A = None (R/C only)

B = 25 A

C = 40 A

D = 75 A, 24 V dc fan cooled heatsink***E = 75 A, 120 V ac fan cooled heatsink*****F = 75 A, 240 V ac fan cooled heatsink******not available with contactor model. Option IV must be "A"**

IX - Firmware Options

Any letter or number

X - Custom Options

Any two letters or numbers - Custom firmware, logo's (Watlow Logo to be on Label)

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

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