Certificate Number: 0220041-2 Date: 2013-06-21

UL CONDITIONS OF ACCEPTABILITY

Company Name: FUTURE DESIGN CONTROLS INC

File-CCN: E197216-QUYX2

Product Description: Temperature Controllers

Models: FDC-9100 f/b 4 or 5, f/b 1 thru 8, f/b 0 thru 6 or C, f/b 0 thru 9 or C, f/b 0 or 1, f/b 0 thru 5, f/b 0 thru 3, f/b blank or AA thru ZZ.

Conditions of Acceptability: When installed in the end-product, consideration shall be given to the following:

1. This component has been judged on the basis of the required spacing's in The Standard for Process Control Equipment, UL 61010C-1, First Edition, which would cover the component itself if submitted for Listing.

2. The products were tested on a 20 A branch circuit. If used on a branch circuit greater than this, additional testing may be necessary.

3. The terminals are suitable for factory wiring only and only to copper conductors.

4. The device is intended for panel mounting and only the front portion has been evaluated for Permissible Limits for Accessible Parts. The suitability of the mounting means and electrical/fire enclosure shall be determined in the end-use equipment evaluation.

5. When installed in the end-use equipment, the device is intended to be used with an external fuse rated 2 A, 250 V.

6. A switch or circuit-breaker acting as the disconnect device shall be included in the end-use equipment or the building installation.

Ratings:

Voltage: Minimum 90, Maximum 250 V ac or Minimum 11, Maximum 26 V ac/dc, SELV, Limited Energy

Frequency: 47-63 Hz

Power: 12 VA for Models FDC-9100

Outputs: See NOMENCLATURE for details

Nomenclature:

FDC-9100	X	X	X	X	X	X	X	X
	1	2	3	4	5	6	7	8

FDC-9100 f/b 4 or 5, f/b 1 thru 8, f/b 0 thru 6 or C, f/b 0 thru 9 or C, f/b 0 or 1, f/b 0 thru 5, f/b 0 thru 3, f/b blank or AA thru ZZ.

1. POWER INPUT

4:	90-250VAC 50/60 HZ	N/C
5:	11-26VAC/VDC	$15.00
9:	Special Order	

2. SIGNAL INPUT

1:	Thermocouple: J,K,T,E,B,R,S,N,L RTD: PT100DIN & JIS	N/C
9:	Other (refer to manual for matrix codes for mA, VDC & mV)	

3. OUTPUT 1

0:	None	N/C
1:	Relay 2A/240VAC resistive (SPST)	N/C
2:	SSR Drive 5VDC @ 30mA	N/C
3:	4-20/0-20mA linear, isolated, max load 500 ohms	$26.00
4:	1-5/0-5VDC linear, isolated, min impedance, 10K ohms	$26.00
5:	0-10 VDC linear, isolated min impedance 10K ohms	$26.00
6:	Triac 1A/240VAC	$26.00
C:	SSR Drive 14VDC @40mA	$26.00
9:	Special Order	

4. OUTPUT 2 / ALARM 2 (control PID Cool only)

0:	None	N/C
1:	Form A Relay 2A/240VAC resistive (SPST)	$11.00
2:	SSR Drive 5VDC @30mA	$11.00
3:	4-20/0-20mA linear, isolated, max load 500 ohms	$26.00
4:	1-5/0-5VDC linear, isolated, min impedance 10K ohms	$26.00
5:	0-10VDC linear, isolated, min impedance 10K ohms	$26.00
6:	Triac 1A/240VAC	$26.00
7:	Transmitter Power Supply 20VDC/25mA (isolated)	$26.00
8:	Transmitter Power Supply 12VDC/40mA (isolated)	$26.00
9:	Transmitter Power Supply 5VDC/80mA (isolated)	$26.00
C:	SSR Drive 14VDC @40mA	$26.00
A:	Special Order	

5. ALARM 1

0:	None	N/C
1:	Form C Relay 2A/240VAC resistive (SPDT)	$11.00
9:	Special Order	

6. COMMUNICATIONS

0:	None	N/C
1:	RS-485 Modbus RTU	$70.00
2:	RS-232 Modbus RTU	$70.00
3:	Retransmission: 0-20/4-20mA isolated, 500 ohm load min	$80.00
4:	Retransmission: 0-5/1-5 VDC, isolated, 10K ohm load min	$80.00
5:	Retransmission: 0-10 VDC, isolated, 10K ohm load min	$80.00
9:	Special Order	

7. PROTECTIVE CLASS

0:	IP50 Standard	N/C
1:	IP65 (Nema 4X)	$10.00
2:	DIN Rail Mount w/IP50 (FDC-9100 only)	$10.00
3:	DIN Rail Mount w/IP65 (FDC-9100 only)	$20.00
9:	Special Order	

8. SPECIAL ORDER

Leave Blank unless assigned a specific 2-character Special Order Code

Note: The last digit (codes 8) is typically left blank