

For Limit Controller see page 3.
For detailed instructions see UDC2500 Controller Product Manual 51-52-25-127.

Step 1. Model Number Interpretation

Write your controller model number in the boxes. Then refer to Tables I, II, and III and circle the corresponding options to identify your controller's features. A dot indicates the feature is available.

						-			-					-			-	X	X	X	X	X	-	X	X
Key Number							Table I			Table II					Table III			Other options							

KEY NUMBER - UDC2500 Single Loop Controller

Selection	Availability
DC2500	↓
DC2501	↓

TABLE I - Specify Control Output and/or Alarms

Output #1	None (Can be used as an indicator only) Current Output (4 to 20ma, 0 to 20 ma) Electro Mechanical Relay (5 Amp Form C) Solid State Relay (1 Amp) Open Collector transistor output Dual 2 Amp Relays (Both are Form A) (Heat/Cool Applications)
Output #2 and Alarm #1 or Alarms 1 and 2	No Additional Outputs or Alarms One Alarm Relay Only E-M Relay (5 Amp Form C) Plus Alarm 1 (5 Amp Form C Relay) Solid State Relay (1 Amp) Plus Alarm 1 (5 Amp Form C Relay) Open Collector Plus Alarm 1 (5 Amp Form C Relay)

0	•	•
C	•	•
E	•	•
A	•	•
T	•	•
R	•	•
0	•	•
B	•	•
E	•	•
A	•	•
T	•	•

TABLE II - Communications and Software Selections

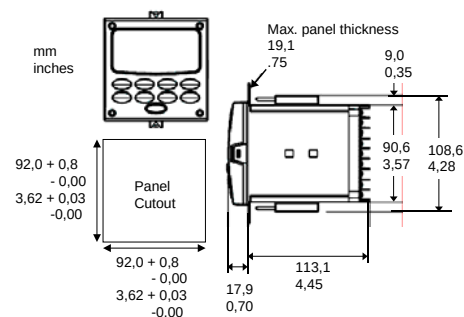
Communications	None Auxiliary Output/Digital Inputs (1 Aux and 1 DI or 2 DI) RS-485 Modbus Plus Auxiliary Output/Digital Inputs 10 Base-T Ethernet (Modbus RTU) Plus Auxiliary Output/Digital Inputs
Software Selections	Standard Functions, Single Display Dual Display with Auto/Manual Set Point Programming (12 Segments) Dual Display, Auto/Manual Limit Controller
Reserved	No Selection
Infrared interface	None Infrared Interface Included (Can be used with a Pocket PC)

Selection	Availability	
	DC 2500	2501
0 _ _ _	•	•
1 _ _ _	•	•
2 _ _ _	•	•
3 _ _ _	•	•
_ 0 _ _	•	•
_ A _ _	•	•
_ B _ _	•	•
_ L _ _	a	a
_ _ 0 _	•	•
_ _ _ 0	•	•
_ _ _ R	•	•

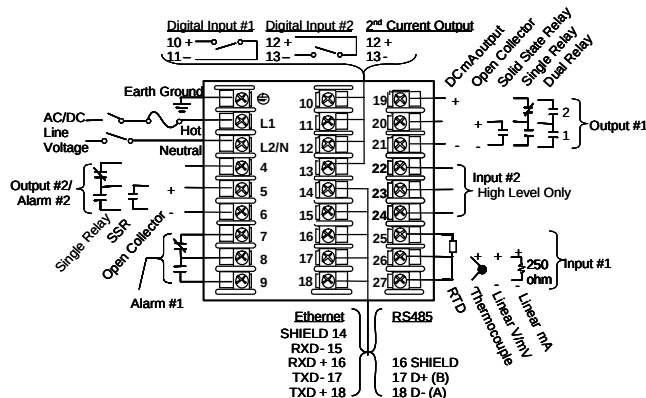
TABLE III - Input 1 can be changed in the field using external resistors

TABLE III: Input 2 range of the module using external resistors		Selection	+	-
Input 1	TC, RTD, mV, 0-5V, 1-5V	1	•	•
	TC, RTD, mV, 0-5V, 1-5V, 0-20mA, 4-20mA	2	•	•
	TC, RTD, mV, 0-5V, 1-5V, 0-20mA, 4-20mA, 0-10V	3	•	•
Input 2	None	0	•	•
	0-5V, 1-5V, 0-20mA, 4-20mA	-1	•	•

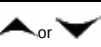
Step 2. Dimensions and mounting



Step 3. Wiring



Step 4. Configuration Procedure

Step 4: Configuration Record			
Step	Operation	Press	Result
1	Enter Set Up Mode		Upper Display = SET Lower Display = TUNING (This is the first Set Up Group title)
2	Select any Set Up Group		Sequentially displays the other Set Up group titles shown in the prompt hierarchy. (See 5. Configuration Record Sheet for prompts.) You can also use the  or  keys to scan the Set Up groups in both directions. Stop at the Set Up group title that describes the group of parameters you want to configure. Then proceed to the next step.
3	Select a Function Parameter		Upper Display = the current value or selection for the first function prompt of the selected Set Up group. Lower Display = the first Function prompt within that Set Up group. Sequentially displays the other function prompts of the Set Up group you have selected. Stop at the function prompt that you want to change, then proceed to the next step.
4	Change the Value or Selection	 or 	Increments or decrements the value or selection that appears for the selected function prompt. If you change the value or selection of a parameter while in Set Up mode then decide not to enter it, press M-A RESET] once—the original value or selection is recalled.
5	Enter the Value or Selection		Enters value or selection made into memory after another key is pressed.
6	Exit Configuration		Exits configuration mode and returns controller to the same state it was in immediately preceding entry into the Set Up mode. It stores any changes you have made. If you do not press any keys for 30 seconds, the controller times out and reverts to the mode and display used prior to entry into Set Up mode.

Step 5. Configuration Record Sheet

Enter the value or selection for each prompt on this sheet so you will have a record of how your controller was configured.

Group Prompt	Function Prompt	Value or Selection	Factory Setting	Group Prompt	Function Prompt	Value or Selection	Factory Setting
TUNING	PB or GAIN	_____	1.0	INPUT2	IN2TYP	_____	1-5V
	RATE T	_____	0.00		LIN	_____	LIN
	I MIN or I RPM	_____	1.0		IN2 HI	_____	2400
	MANRST	_____	1.0		IN2 LO	_____	0
	PB2 or GAIN 2	_____	0.0		RATIO2	_____	1.00
	RATE2T	_____	0.00		BIAS 2	_____	0.0
	I2 MIN or I2 RPM	_____	1.0		FILTR2	_____	1.0
	CYCT1 or CT1	_____	20				
	X3	_____	20				
	CYC2T2 or CT2	_____	20				
	X3	_____	20				
	SECUR	_____	0				
	LOCK	_____	NONE				
	AUTOMA	_____	ENAB				
	A TUNE	_____	ENAB				
	RN HLD	_____	ENAB				
	SP SEL	_____	ENAB				
SPRAMP	SPRAMP	_____	DIS	CONTRL	PIDSET	_____	ONE
	TI MIN	_____	3		SW VAL	_____	0.00
	FINLSP	_____	1000		LSP'S	_____	ONE
	SPRATE	_____	DIS		RSPSRC	_____	NONE
	EUHRUP	_____	0		SP TRK	_____	NONE
	EUHRDN	_____	0		PWR UP	_____	AUTO
	SPPROG	_____	DIS		PWROUT	_____	FSAF
					SP Hi	_____	2400
					SP Lo	_____	0
					ACTION	_____	REV
					OUT Hi	_____	100
					OUT Lo	_____	0
					D BAND	_____	2.0
					HYST	_____	0.5
					FAILSF	_____	0.0
					FSMODE	_____	NOL
					PBorGN	_____	GAIN
					MINRPM	_____	MIN
ATUNE	FUZZY	_____	DIS	OPTION	AUXOUT	_____	DIS
	TUNE	_____	TUNE		ARANGE	_____	4-20
	DUPLEX	_____	MAN		0 PCT	_____	0
	AT ERR	_____	---		100 PCT	_____	100
ALGOR	CTRALG	_____	PIDA		DIG IN 1	_____	NONE
	TIMER	_____	DIS		DIG1 COM	_____	DIS
	PERIOD	_____	0:01		DIG IN 2	_____	NONE
	START	_____	KEY		DIG2 COM	_____	DIS
	L DISP	_____	TREM	COM	ComSTA	_____	Disable
	RESET	_____	KEY		ComADD	_____	0
	INCRMT	_____	MIN		SDENAB	_____	Enable
OUTALG					IRENAB	_____	Enable
					SHDTIM	_____	0
					BAUD	_____	9600
					TX_DLY	_____	30
					WS_FLT	_____	FP_B
					SDMODE	_____	Last
					SHDSP	_____	LSP
					UNITS	_____	PCT
					CSRATO	_____	1.0
					CSP_BI	_____	0
OUTALG	OUTALG	_____	(MOXL)	ALARMS	A1S1TY	_____	NONE
	CRANGE	_____	4-20		A1S1VA	_____	90
	RLY TY	_____	MECH		A1S1HL	_____	HIGH
	MTRTI	_____	5		A1S1EV	_____	BEGN
					A1S2TY	_____	NONE
					A1S2VA	_____	90
					A1S2HL	_____	HIGH
					A1S2EV	_____	BEGN
					A2S1TY	_____	NONE
					A2S1VA	_____	90
					A2S1HL	_____	HIGH
					A2S1EV	_____	BEGN
					A2S2TY	_____	NONE
					A2S2VA	_____	90
					A2S2HL	_____	HIGH
					A2S2EV	_____	BEGN
					ALHYST	_____	0.0
INPUT1	IN1TYP	_____	KH	DISPLY	ALARM1	_____	NOL
	XMTR1	_____	LIN		BLOCK	_____	DIS
	IN1 HI	_____	2400		DIAGAL	_____	DIS
	IN1 LO	_____	0				
	RATIO1	_____	1.00				
	BIAS 1	_____	0.0				
	FILTR1	_____	1.0				
INPUT1	BRNOUT	_____	UP		DECIMAL	_____	NONE
	EMIS	_____	1.0		UNITS	_____	F
					FREQ	_____	60
					DISPLY	_____	SP
					LWRDSP	_____	ENAB
INPUT1					LNGUAG	_____	ENGL
					TCDIAG	_____	ENAB

(Ethernet Addresses accessible via PIE tool)

Step 6. Start Up Procedure for Operation

Single Display Step	Dual Display Step	Operation	Press	Result
1	1	Configure controller		Make sure the controller has been configured properly and that all the values and selections have been recorded on the Configuration Record Sheet. See steps 4 & 5.
	2	Select Manual Mode		N/A for Single Display Model Until "M" indicator is ON. The controller is in manual mode.
	3	Adjust the Output		N/A for Single Display Model To adjust the output value and ensure that the final control element is functioning correctly. <i>Upper Display = Pv Value</i> <i>Lower Display = OT and the output value in %</i>
	4	Select Automatic Mode		N/A for Single Display Model Until "A" indicator is ON. The controller is in Automatic mode. The controller will automatically adjust the output to maintain the process variable at setpoint.

Single Display Step	Dual Display Step	Operation	Press	Result
2	5	Enter the Local Setpoint	 or 	Upper Display = Pv Value Lower Display = SP and the Local Setpoint Value To adjust the local setpoint to the value at which you want the process variable maintained. The local setpoint cannot be changed if the Setpoint Ramp function is running.
3	6	Tune the Controller		Use Accutune to tune the controller; see product manual for detailed procedure or refer to Tuning Set Up group to set that the selections for PB or GAIN, RATE T, and I MIN or I RPM.

For detailed instructions see UDC2500 Limit Controller Product Manual 51-52-25-118.

Step 1. Model Number Interpretation

Write your controller model number in the boxes. Then refer to Tables I, II, and III and circle the corresponding options to identify your controller's features. A dot indicates the feature is available.

Key Number	-	Table I	-	Table II	-	Table III	-	X X X X X - X X	Other options
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KEY NUMBER - UDC2500 Single Loop Controller

Description	Selection	Availability
Digital Controller for use with 90 to 264Vac Power	DC2500	↓
Digital Controller for use with 24Vac/dc Power	DC2501	↓

TABLE I - Specify Control Output and/or Alarms

Output #1	Electro Mechanical Relay (5 Amp Form C) Solid State Relay (1 Amp) Open Collector transistor output	E _ A _ T _	• • •	• • •
Output #2 and Alarm #1 or Alarms 1 and 2	No Additional Outputs or Alarms One Alarm Relay Only E-M Relay (5 Amp Form C) Plus Alarm 1 (5 Amp Form C Relay) Solid State Relay (1 Amp) Plus Alarm 1 (5 Amp Form C Relay) Open Collector Plus Alarm 1 (5 Amp Form C Relay)	_ 0 _ B _ E _ A _ T	• • • • •	• • • • •

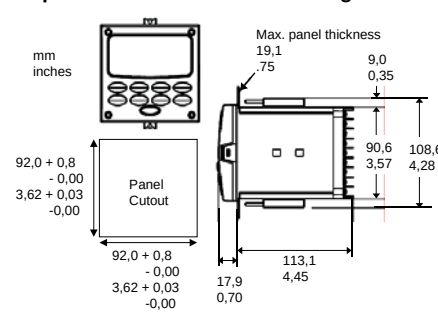
TABLE II - Communications and Software Selections

Selection	Availability
Communications	Availability
None	DC 2500 2501
Auxiliary Output/Digital Inputs (1 Aux and 1 DI or 2 DI)	•
RS-485 Modbus Plus Auxiliary Output/Digital Inputs	•
10 Base-T Ethernet (Modbus RTU) Plus Auxiliary Output/Digital Inputs	•
Software Selections	Availability
Limit Controller	DC 2500 2501
Reserved	•
No Selection	•
None	•
Infrared interface	•
Infrared Interface Included (Can be used with a Pocket PC)	•

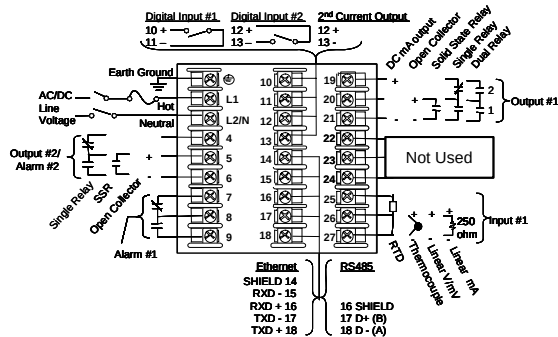
TABLE III - Input 1 can be changed in the field using external resistors

Input 1	Selection	Availability
TC, RTD, mV, 0-5V, 1-5V	1 _	•
TC, RTD, mV, 0-5V, 1-5V, 0-20mA, 4-20mA	2 _	•
TC, RTD, mV, 0-5V, 1-5V, 0-20mA, 4-20mA, 0-10V	3 _	•
Input 2	_ 00	•

Step 2. Dimensions and mounting



Step 3. Wiring



Step 4. Configuration Procedure

Step	Operation	Press	Result
1	Enter Set Up Mode		Upper Display = SET Lower Display = LOCK (This is the first Set Up Group title)
2	Select any Set Up Group		Sequentially displays the other Set Up group titles shown in the prompt hierarchy. (See 5. Configuration Record Sheet for prompts.) You can also use the  or  keys to scan the Set Up groups in both directions. Stop at the Set Up group title that describes the group of parameters you want to configure. Then proceed to the next step.
3	Select a Function Parameter		Upper Display = the current value or selection for the first function prompt of the selected Set Up group. Lower Display = the first Function prompt within that Set Up group. Sequentially displays the other function prompts of the Set Up group you have selected. Stop at the function prompt that you want to change, then proceed to the next step.
4	Change the Value or Selection	 or 	Increments or decrements the value or selection that appears for the selected function prompt. If you change the value or selection of a parameter while in Set Up mode then decide not to enter it, press M-A/RESET once—the original value or selection is recalled.
5	Enter the Value or Selection		Enters value or selection made into memory after another key is pressed.
6	Exit Configuration		Exits configuration mode and returns controller to the same state it was in immediately preceding entry into the Set Up mode. It stores any changes you have made. If you do not press any keys for 30 seconds, the controller times out and reverts to the mode and display used prior to entry into Set Up mode.

Step 5. Configuration Record Sheet

Enter the value or selection for each prompt on this sheet so you will have a record of how your controller was configured.

Group Prompt	Function Prompt	Value or Selection	Factory Setting	Group Prompt	Function Prompt	Value or Selection	Factory Setting
LOCK	SECUR LOCK	_____	DIS CAL	COM	ComADR ComSTA IRENAB SDENAB SHDTIM BAUD TX DLY WS FLT UNITS LOOPBK	_____	3 DIS ENAB ENAB 0 19200 30 FP_B PCT DIS
	LIMIT	_____	HIGH NORM 1000 0 PROC			_____	
INPUT1	IN1TYP XM1TR1 IN1 HI IN1 LO BIAS 1 FILTR1 BRNOUT EMIS	_____	KH LIN 2400 1.00 0.0 1.0 UP 1.0	ALARMS	A1S1TY A1S1VA A1S1HL A1S2TY A1S2VA A1S2HL A2S1TY A2S1VA A2S1HL A2S2TY A2S2VA A2S2HL ALHYST ALARM1 BLOCK DIAGAL	_____	NONE 90 HIGH NONE 90 HIGH NONE 90 HIGH NONE 90 HIGH 0.1 NOL DIS DIS
	OPTIONS	_____	DIS 0 100 4-20 DIS		DISPLY	_____	NONE F 60 ENAB ENAB

Step 6. Start Up Procedure for Operation

Single Display Step	Operation	Press	Result
1	Display setpoint		Press the "Lower Display" key till SP appears.
2	Enter the Limit Setpoint	 or	Set the SP, using the Up & Down arrow keys, to the desired Limit Setpoint
3	Store the limit setpoint		Press the "Lower Display" to store the value.
4	If the display flashes "Limit"		Press the Auto-Man/ Reset key.