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

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

		Selection	Availability DC2500 ↓	Availability 2501 ↓
Output #1	None (Can be used as an indicator only)	0 _	•	•
	Current Output (4 to 20ma, 0 to 20 ma)	C _	•	•
	Electro Mechanical Relay (5 Amp Form C)	E _	•	•
	Solid State Relay (1 Amp)	A _	•	•
	Open Collector transistor output	T _	•	•
	Dual 2 Amp Relays (Both are Form A) (Heat/Cool Applications)	R _	•	•
Output #2 and Alarm #1 or Alarms 1 and 2	No Additional Outputs or Alarms	_ 0	•	•
	One Alarm Relay Only	_ B	•	•
	E-M Relay (5 Amp Form C) Plus Alarm 1 (5 Amp Form C Relay)	_ E	•	•
	Solid State Relay (1 Amp) Plus Alarm 1 (5 Amp Form C Relay)	_ A	•	•
	Open Collector Plus Alarm 1 (5 Amp Form C Relay)	_ T	•	•

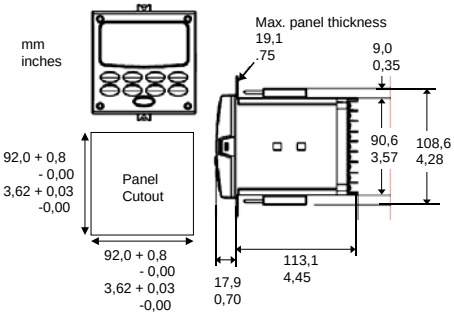
TABLE II - Communications and Software Selections

		Selection	Availability DC2500 ↓	Availability 2501 ↓
Communications	None	0 _ _ _	•	•
	Auxiliary Output/Digital Inputs (1 Aux and 1 DI or 2 DI)	1 _ _ _	•	•
	RS-485 Modbus Plus Auxiliary Output/Digital Inputs	2 _ _ _	•	•
	10 Base-T Ethernet (Modbus RTU) Plus Auxiliary Output/Digital Inputs	3 _ _ _	•	•
Software Selections	Standard Functions, Single Display	_ 0 _ _	•	•
	Dual Display with Auto/Manual	_ A _ _	•	•
	Set Point Programming (12 Segments) Dual Display, Auto/Manual	_ B _ _	•	•
	Limit Controller	_ L _ _	a	a
Reserved	No Selection	_ _ 0 _	•	•
Infrared interface	None	_ _ _ 0	•	•
	Infrared Interface Included (Can be used with a Pocket PC)	_ _ _ R	•	•

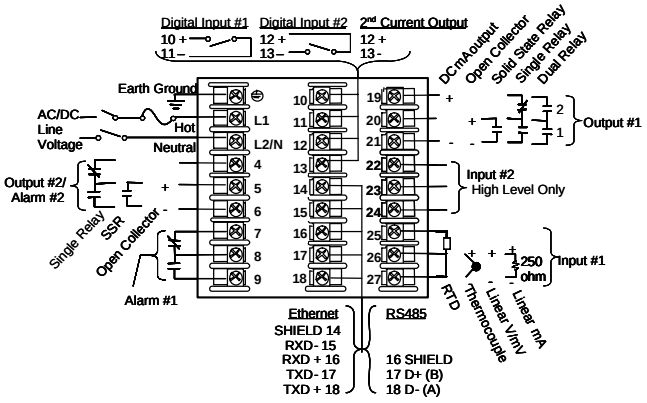
TABLE III - Input 1 can be changed in the field using external resistors

		Selection	Availability DC2500 ↓	Availability 2501 ↓
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	Operation	Press	Result
1	Enter Set Up Mode	Setup	*Upper Display* = **SET** *Lower Display* = **TUNING** (This is the first Set Up Group title)
2	Select any Set Up Group	Setup	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	Function	*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	Function	Enters value or selection made into memory after another key is pressed.
6	Exit Configuration	Lower Display	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
					DIG IN 1	_____	NONE
					DIG1 COM	_____	DIS
					DIG IN 2	_____	NONE
					DIG2 COM	_____	DIS
ALGOR	CTRALG	_____	PIDA	**COM**	ComSTA	_____	Disable
	TIMER	_____	DIS		ComADD	_____	0
	PERIOD	_____	0:01		SDENAB	_____	Enable
	START	_____	KEY		IRENAB	_____	Enable
	L DISP	_____	TREM		SHDTIM	_____	0
	RESET	_____	KEY		BAUD	_____	9600
	INCRMT	_____	MIN		TX_DLY	_____	30
					WS_FLT	_____	FP_B
					SDMODE	_____	Last
					SHDSP	_____	LSP
					UNITS	_____	PCT
					CSRATO	_____	1.0
					CSP_BI	_____	0
					LOOPBACK	_____	Disable
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
					ALARM1	_____	NOL
					BLOCK	_____	DIS
					DIAGAL	_____	DIS
INPUT1	IN1TYP	_____	KH	**DISPLY**	DECMAL	_____	NONE
	XMITR1	_____	LIN		UNITS	_____	F
	IN1 HI	_____	2400		FREQ	_____	60
	IN1 LO	_____	0		DISPLY	_____	SP
	RATIO1	_____	1.00		LWRDSP	_____	ENAB
	BIAS 1	_____	0.0		LNGUAG	_____	ENGL
	FILTR1	_____	1.0		TCDIAG	_____	ENAB
	BRNOUT	_____	UP				
	EMIS	_____	1.0				

(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	Setup	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	M-A Reset	**N/A for Single Display Model** Until "**M**" indicator is ON. The controller is in manual mode.
	3	Adjust the Output	or	**N/A for Single Display Model** To adjust the output value and ensure that the final control element is functioning correctly. *Upper Display* = **Pv Value** *Lower Display* = **OT and the output value in %**
	4	Select Automatic Mode	M-A Reset	**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	Lower Display	*Upper Display* = **Pv Value** *Lower Display* = **SP and the Local Setpoint Value**
			or	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	Setup	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		Other options
	-		-		-		-	X X X X X - X X

KEY NUMBER - UDC2500 Single Loop Controller

Description	Selection	Availability DC2500	Availability 2501
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

		Selection	Availability DC2500	Availability 2501
Output #1	Electro Mechanical Relay (5 Amp Form C)	E _	•	•
	Solid State Relay (1 Amp)	A _	•	•
	Open Collector transistor output	T _	•	•
Output #2 and Alarm #1 or Alarms 1 and 2	No Additional Outputs or Alarms	_ 0	•	•
	One Alarm Relay Only	_ B	•	•
	E-M Relay (5 Amp Form C) Plus Alarm 1 (5 Amp Form C Relay)	_ E	•	•
	Solid State Relay (1 Amp) Plus Alarm 1 (5 Amp Form C Relay)	_ A	•	•
	Open Collector Plus Alarm 1 (5 Amp Form C Relay)	_ T	•	•

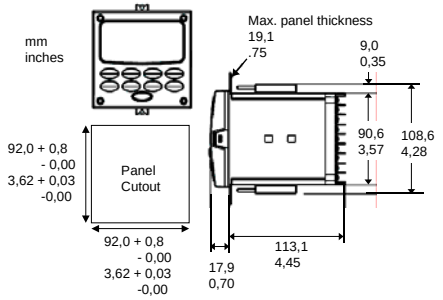
TABLE II - Communications and Software Selections

		Selection	Availability DC2500	Availability 2501
Communications	None	0 _ _ _	•	•
	Auxiliary Output/Digital Inputs (1 Aux and 1 DI or 2 DI)	1 _ _ _	•	•
	RS-485 Modbus Plus Auxiliary Output/Digital Inputs	2 _ _ _	•	•
	10 Base-T Ethernet (Modbus RTU) Plus Auxiliary Output/Digital Inputs	3 _ _ _	•	•
Software Selections	Limit Controller	_ L _ _	•	•
Reserved	No Selection	_ _ 0 _	•	•
Infrared interface	None	_ _ _ 0	•	•
	Infrared Interface Included (Can be used with a Pocket PC)	_ _ _ R	•	•

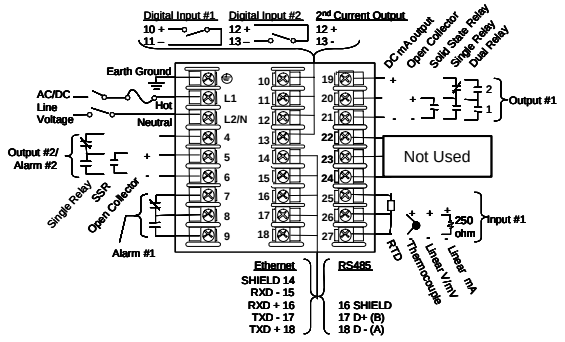
TABLE III - Input 1 can be changed in the field using external resistors

		Selection	Availability DC2500	Availability 2501
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	_ 00	•	•

Step 2. Dimensions and mounting



Step 3. Wiring



Step 4. Configuration Procedure

Step	Operation	Press	Result
1	Enter Set Up Mode	Setup	*Upper Display* = **SET** *Lower Display* = **LOCK** (This is the first Set Up Group title)
2	Select any Set Up Group	Setup	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	Function	*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	Function	Enters value or selection made into memory after another key is pressed.
6	Exit Configuration	Lower Display	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
LOCK	SECUR	_____	DIS
	LOCK	_____	CAL
LIMIT	LOW or HIGH	_____	HIGH
	POWRUP	_____	NORM
	SP MAX	_____	1000
	SP MIN	_____	0
	DISPLY	_____	PROC
INPUT1	IN1TYP	_____	KH
	XMITR1	_____	LIN
	IN1 HI	_____	2400
	IN1 LO	_____	1.00
	BIAS 1	_____	0.0
	FILTR1	_____	1.0
	BRNOUT	_____	UP
	EMIS	_____	1.0
OPTIONS	AUXOUT	_____	DIS
	0 PCT	_____	0
	100 PCT	_____	100
	CRANGE	_____	4-20
	DIGIN1	_____	DIS

Group Prompt	Function Prompt	Value or Selection	Factory Setting
COM	ComADR	_____	3
	ComSTA	_____	DIS
	IRENAB	_____	ENAB
	SDENAB	_____	ENAB
	SHDTIM	_____	0
	BAUD	_____	19200
	TX DLY	_____	30
	WS FLT	_____	FP_B
	UNITS	_____	PCT
	LOOPBK	_____	DIS
ALARMS	A1S1TY	_____	NONE
	A1S1VA	_____	90
	A1S1HL	_____	HIGH
	A1S2TY	_____	NONE
	A1S2VA	_____	90
	A1S2HL	_____	HIGH
	A2S1TY	_____	NONE
	A2S1VA	_____	90
	A2S1HL	_____	HIGH
	A2S2TY	_____	NONE
	A2S2VA	_____	90
	A2S2HL	_____	HIGH
	ALHYST	_____	0.1
	ALARM1	_____	NOL
	BLOCK	_____	DIS
	DIAGAL	_____	DIS
DISPLY	DECML	_____	NONE
	UNITS	_____	F
	FREQ	_____	60
	LWRDSP	_____	ENAB
	TCDIAG	_____	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.