



UDC 2500 Application Note

Current Proportional Output Calibration

Introduction

Calibrate the controller so that the output provides the proper amount of current over the desired range. The controller can provide an output current range of from 0 to 21 milliamperes and can be calibrated at 4 mA for 0 % of output and 20 mA for 100 % of output, or any other values between 0 mA and 21 mA.

Equipment Needed

You will need a standard shop type milliammeter, with whatever accuracy is required, capable of measuring 0 to 20 milliamps.

Calibrator Connections

Refer to Figure Error! No text of specified style in document.-1 and wire the controller according to the procedure given in Table Error! No text of specified style in document.-1.

Table Error! No text of specified style in document.-1 Set Up Wiring Procedure for Current Proportional Output

Step	Action
1	Apply power and allow the controller to warm up 30 minutes before you calibrate.
2	Set LOCK in the Tuning Set Up group to NONE.
3	Tag and disconnect the field wiring, at the rear of the controller, from terminals 21 (-) and 19 (+). See Figure Error! No text of specified style in document.-1.
4	Connect a milliammeter across these terminals.

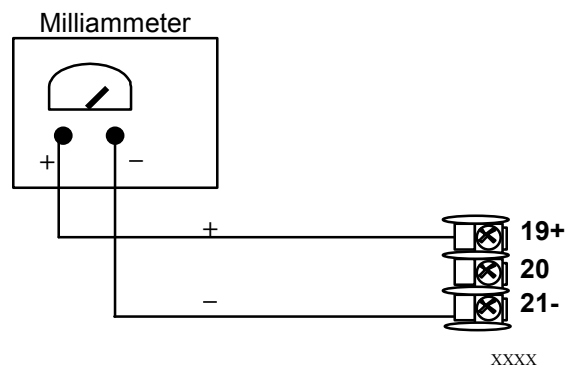


Figure Error! No text of specified style in document.-1 Wiring Connections for Calibrating Current Proportional Output



UDC 2500 Application Note

Procedure

The procedure for calibrating the Current Proportional Output is listed in Table Error! No text of specified style in document.-2. The numeric codes are also listed. Make sure LOCK in the Tuning Set Up group is set to NONE. (See Subsection Error! Reference source not found. – Error! Reference source not found..)

Table Error! No text of specified style in document.-2 Current Proportional Output Calibration Procedure (Numeric Code 30000)

Step	Operation	Press	Result
1	Enter Calibration Mode	SET UP until you see	Upper Display = CAL (- - - -) Lower Display = CURENT (30000)
2	Calibrate 0 %	FUNCTION ▲ or ▼	You will see: Upper Display = A Value Lower Display = ZROVAL (30001) Until the desired 0 % output is read on the milliammeter, use the values shown below depending on the action of your controller. <ul style="list-style-type: none"> • 0 mA For 0 to 20 mA Direct Action • 4 mA For 4 to 20 mA Direct Action • 20 mA For 4 to 20 mA Reverse Action or 0 to 20 mA Reverse Action
3	Calibrate 100 %	FUNCTION ▲ or ▼	This stores the 0 % value and you will see: Upper Display = A Value Lower Display = SPNVAL (30002) Until the desired 100 % output is read on the milliammeter, use the values shown below depending on the action of your controller. <ul style="list-style-type: none"> • 20 mA For 0 to 20 mA Direct Action • 20 mA For 4 to 20 mA Direct Action • 4 mA For 4 to 20 mA Reverse Action • 0 mA For 0 to 20 mA Reverse Action
4	Exit the Calibration	FUNCTION	The controller stores the span value.



UDC 2500 Application Note

Step	Operation	Press	Result
	Calibration Mode	LOWER DISPLAY	To exit the calibration mode.

Auxiliary Output Calibration

Introduction

Calibrate the controller so that the auxiliary output provides the proper amount of current over the desired range. The controller can provide an auxiliary current output range of from 0 mA to 20 mA and can be calibrated at 4 mA for 0 % of output and 20 mA for 100 % of output or any other values between 0 mA and 21 mA.

Equipment Needed

You will need a calibrating device with whatever accuracy is required, capable of measuring 0 to 20 mA.

Calibrator Connections

Refer to Figure Error! No text of specified style in document.-2 and wire the controller according to the procedure given in Table Error! No text of specified style in document.-3.

Table Error! No text of specified style in document.-3 Set Up Wiring Procedure for Auxiliary Output

Step	Action
1	Apply power and allow the controller to warm up 30 minutes before you calibrate.
2	Set LOCK in the Tuning Set Up group to NONE.
3	Tag and disconnect the field wiring, at the rear of the controller, from terminals 12 (+) and 13 (-). See Figure Error! No text of specified style in document.-2.
4	Connect a milliammeter across these terminals.

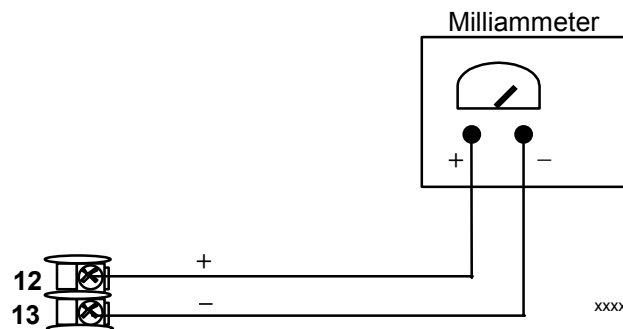


Figure Error! No text of specified style in document.-2 Wiring Connections for Calibrating Auxiliary Output



UDC 2500 Application Note



UDC 2500 Application Note

Procedure

The procedure for calibrating the auxiliary output is listed in Table Error! No text of specified style in document.-4. The numeric codes are also listed.

Make sure “LOCK” in the Tuning Set Up group is set to “NONE” (see *Subsection Error! Reference source not found.*).

Table Error! No text of specified style in document.-4 Auxiliary Output Calibration Procedure (Numeric Code 50000)

Step	Operation	Press	Result
1	Enter Calibration Mode	SET UP until you see	Upper Display = CAL (- - - -) Lower Display = AUXOUT (50000)
2	Calibrate 0 %	FUNCTION ▲or▼	You will see: Upper Display = A Value Lower Display = ZROVAL (50001) until the desired 0 % output is read on the milliammeter, use the values shown below depending on the action of your controller.
3	Calibrate 100 %	FUNCTION ▲or▼	To store the 0 % value you will see: Upper Display = A Value Lower Display = SPNVAL (50002) until the desired 100 % output is read on the milliammeter.
4	Exit the Calibration Mode	FUNCTION LOWER DISPLAY	The controller stores the span value. To exit the calibration mode.