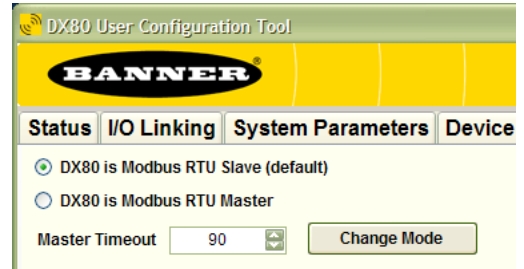


Using the UCT to Map DX85 Extended Remote I/O

Adding a DX85 Expanded Remote I/O device to a Gateway adds additional I/O to the wireless network. To map the Node inputs to the DX85 outputs and the DX85 inputs to the Node outputs, use the User Configuration Tool (UCT).

1. Set the DX80 Gateway to be a Modbus RTU Slave.

There is a 90 second window to change the Gateway between RTU Master and Slave after the device is powered up. To change the Gateway to RTU Slave, connect the Gateway to the UCT, select “DX80 is Modbus RTU Slave” on the UCT, and click the Change Mode button.



The Remote I/O screen includes the following parameters:

Map #	Local Register	Action	Remote Type	Remote Register	Slave ID	Poll Timeout m
1	0	None	None	0	1	200

- Map Number: There are 32 possible table entries in the master table. The map number is only an index into the master table.
- Local Register: Setting the local register defines the Modbus register within the Gateway master device and wireless system. Refer to the register table listed in the device data sheet (and shown).

Modbus Register Block

I/O Point*	Modbus Holding Register		I/O Type	Units	I/O Range		Holding Register Representation		Terminal Block Labels
	Gateway	Any Node			Min. Value	Max. Value	Min. (Decimal)	Max. (Decimal)	
1	1	1 + (node# × 16)	Discrete IN 1	-	0	1	0	1	DI1
2	2	2 + (node# × 16)	Discrete IN 2	-	0	1	0	1	DI2
3	3	3 + (node# × 16)	Discrete IN 3	-	0	1	0	1	DI3
4	4	4 + (node# × 16)	Discrete IN 4	-	0	1	0	1	DI4
5	5	5 + (node# × 16)	Analog IN 1	mA	0.0	20.0	0	65535	AI1
6	6	6 + (node# × 16)	Analog IN 2	mA	0.0	20.0	0	65535	AI2
7	7	7 + (node# × 16)	Reserved						
8	8	8 + (node# × 16)	Device Message						
9	9	9 + (node# × 16)	Discrete OUT 1	-	0	1	0	1	DO1
10	10	10 + (node# × 16)	Discrete OUT 2	-	0	1	0	1	DO2
11	11	11 + (node# × 16)	Discrete OUT 3	-	0	1	0	1	DO3
12	12	12 + (node# × 16)	Discrete OUT 4	-	0	1	0	1	DO4
13	13	13 + (node# × 16)	Analog OUT 1	mA	0.0	20.0	0	65535	AO1
14	14	14 + (node# × 16)	Analog OUT 2	mA	0.0	20.0	0	65535	AO2
15	15	15 + (node# × 16)	Control Message						
16	16	16 + (node# × 16)	Reserved						

* These are the I/O points as displayed on the device LCD.

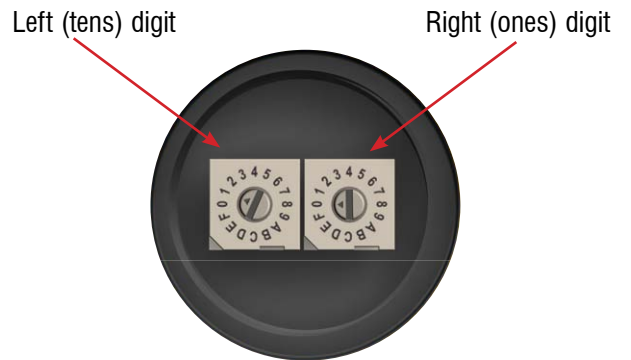
- Action: Select an action to define the operation performed between the registers on the master and slave device. *Read From* sets the master to read from the remote slave register and copies the result into the local register. *Write To* writes the local register contents to the remote slave register. Select *None* if the table entry is empty.
- Remote Type: Defines the data type in the remote slave device. DX80 devices use *Holding Registers*.
- Remote Register: Defines the slave device register to read/write. Modbus holding registers on the DX85 as defined in the DX85 data sheet are below.

Modbus Register Block

I/O Point*	Modbus Holding Register	I/O Type	Units	I/O Range		Holding Register Representation		Terminal Block Labels
				Min. Value	Max. Value	Min. (Decimal)	Max. (Decimal)	
1	1	Discrete IN 1	-	0	1	0	1	DI1
2	2	Discrete IN 2	-	0	1	0	1	DI2
3	3	Discrete IN 3	-	0	1	0	1	DI3
4	4	Discrete IN 4	-	0	1	0	1	DI4
5	5	Analog IN 1	mA	0.0	20.0	0	65535	AI1
6	6	Analog IN 2	mA	0.0	20.0	0	65535	AI2
7	7	Reserved						
8	8	Device Message						
9	9	Discrete OUT 1	-	0	1	0	1	DO1
10	10	Discrete OUT 2	-	0	1	0	1	DO2
11	11	Discrete OUT 3	-	0	1	0	1	DO3
12	12	Discrete OUT 4	-	0	1	0	1	DO4
13	13	Analog OUT 1	mA	0.0	20.0	0	65535	AO1
14	14	Analog OUT 2	mA	0.0	20.0	0	65535	AO2
15	15	Control Message						
16	16	Reserved						

* These are the I/O points as displayed on the device LCD.

- Slave ID: Use the rotary dials on the face of the DX85 to set the device ID. The left dial (tens place) in the example device is set to 0, and the right dial is set to 2, setting the Slave ID to 02.



- Poll Timeout (milliseconds): The poll timeout defines how long (ms) the master waits for a slave response when performing a map action. If the slave device's response is not received within that timeout period, the master device continues to the next table entry.

- Map the Node and DX85 inputs and outputs as needed.

For this example, mapping all Node 1's inputs to DX85 outputs would look like this:

This section maps the Node 1 inputs to DX85 outputs.

This section maps the DX85 inputs to Node 1 outputs.

Map #	Local Register	Action	Remote Type	Remote Register	Slave ID	Poll Timeout ms
1	17	Writes To	Holding Regis	9	2	200
2	18	Writes To	Holding Regis	10	2	200
3	19	Writes To	Holding Regis	11	2	200
4	20	Writes To	Holding Regis	12	2	200
5	21	Writes To	Holding Regis	13	2	200
6	22	Writes To	Holding Regis	14	2	200
7	25	Reads From	Holding Regis	1	2	200
8	26	Reads From	Holding Regis	2	2	200
9	27	Reads From	Holding Regis	3	2	200
10	28	Reads From	Holding Regis	4	2	200
11	29	Reads From	Holding Regis	5	2	200
12	30	Reads From	Holding Regis	6	2	200
13	0	None	None	0	1	200

- Click the Send button to send this Remote I/O mapping to the Gateway.
- Using the radio buttons at the top left of the screen, set the DX80 to be the Modbus RTU Master.
- Click the Change Mode button.
- Disconnect the Gateway from the UCT and use a splitter cable to connect the DX80 Gateway and DX85 Expanded Remote I/O device to power.
- Wire inputs and outputs to the DX85 and DX80 Node as needed.

