



**TXIO Third-Party  
Equipment Interface  
for  
Toshiba TCC-Link**

Installation and User Guide



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## **1. Important Information**

- **All electrical work should be carried out by a competent person and wiring must be in accordance with the national electrical installation regulations.**
- **Ensure that installation work is done correctly using the information contained in this manual.**
- **Make all connections securely so that any outside forces acting on the cables are not applied to the terminals.**
- **Never modify or repair the Black Pear by yourself.**  
Any attempt to do so will void the warranty.
- **To dispose of this product, consult your dealer.**

## 2. Product Overview

The Black Pear TXIO enables third party equipment to be controlled and monitored with the Smart Touch central controller and Toshiba versions of the Black Pear BMS interface.

Each TXIO can be given a TCC-Link central address and will then appear on the Smart Touch or Black Pear interface as a simple unit with On/Off, Error and Return Air parameters.

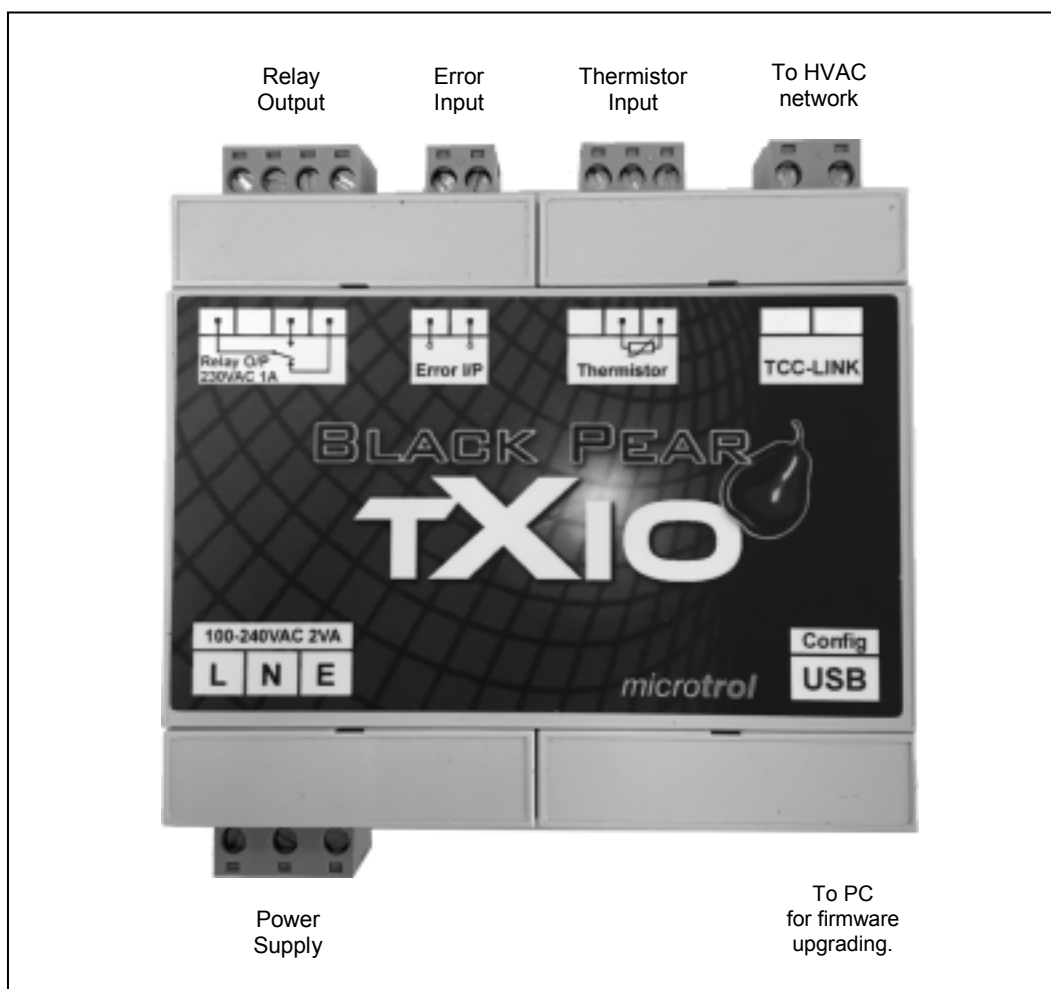
On/Off is provided as a relay output rated at 230v 1A

A digital input provides an error monitoring facility with the error being reported as a C12. The polarity of the input is selectable.

Return air may be monitored by connecting a 10K301 thermistor.

## 3. Connection Details

**All electrical work should be carried out by a competent person and wiring must be in accordance with the national electrical installation regulations.**



**Fig. 1 Connection Details**

### **3.1 Power Supply**

The TXIO requires a 100-240v AC supply and has a consumption not exceeding 2VA. The internal fuse is rated T630mA.

**THIS EQUIPMENT MUST BE EARTHED**

### **3.2 HVAC Communications Network ( TCC-LINK )**

Can be connected to either U1/U2 or U3/U4 networks.  
These are non-polarized.

**Do not connect to the remote controller network.**

### **3.3 Relay Output**

The relay output is rated at 230V 1A. Normally-open and normally-closed terminals are provided.

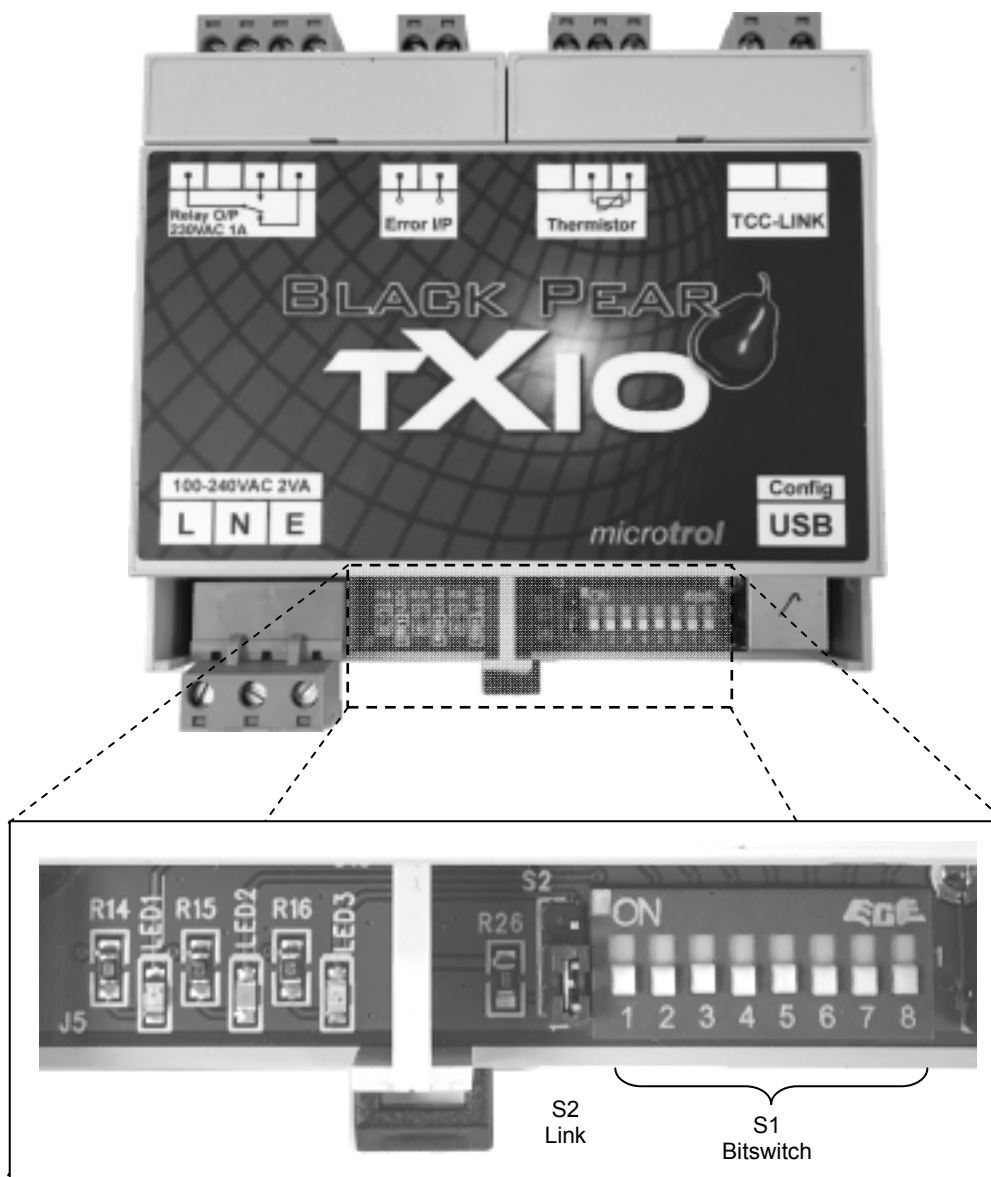
### **3.4 Error Input**

This input accepts a volt-free contact. The polarity of the 'active' state is selectable via a shorting link. See section 4.2.

### **3.5 Thermistor Input**

Connecting a 10K301 thermistor to this input allows a temperature to be monitored by the central controller or BMS interface.

## 4. Configuration



**Fig. 2 LEDs and Config Switches**

### 4.1 S1 Bitswitch Function

**S1-1** On = 100 ohm terminator connected across the TCC-Link lines  
Off = No terminating resistor.

**Note:- Only one terminating resistor should be enabled per network**

**S1-2** On = Auto Restart (retain the I/O state as it was at power down)  
Off = Start in the OFF condition

**S1-3 to S1-8** Set the address of the unit; S1-3 = MSB : S1-8 = LSB

The address is the binary value of S1-3 to S1-8 plus 1.

(all switches off = 1, all switches on = 64)

1	ON OFF		14	ON OFF		27	ON OFF		40	ON OFF		53	ON OFF	
2	ON OFF		15	ON OFF		28	ON OFF		41	ON OFF		54	ON OFF	
3	ON OFF		16	ON OFF		29	ON OFF		42	ON OFF		55	ON OFF	
4	ON OFF		17	ON OFF		30	ON OFF		43	ON OFF		56	ON OFF	
5	ON OFF		18	ON OFF		31	ON OFF		44	ON OFF		57	ON OFF	
6	ON OFF		19	ON OFF		32	ON OFF		45	ON OFF		58	ON OFF	
7	ON OFF		20	ON OFF		33	ON OFF		46	ON OFF		59	ON OFF	
8	ON OFF		21	ON OFF		34	ON OFF		47	ON OFF		60	ON OFF	
9	ON OFF		22	ON OFF		35	ON OFF		48	ON OFF		61	ON OFF	
10	ON OFF		23	ON OFF		36	ON OFF		49	ON OFF		62	ON OFF	
11	ON OFF		24	ON OFF		37	ON OFF		50	ON OFF		63	ON OFF	
12	ON OFF		25	ON OFF		38	ON OFF		51	ON OFF		64	ON OFF	
13	ON OFF		26	ON OFF		39	ON OFF		52	ON OFF				

The address set by S1-3 to S1-8 is used for both the central TCC-Link address and also for the Unit address in the Line/Unit addressing mode.

The Line address for the TXIO interface is always 29.

## **4.2 S2 Link Function**

S2 controls the polarity of the 'Error' input signal.

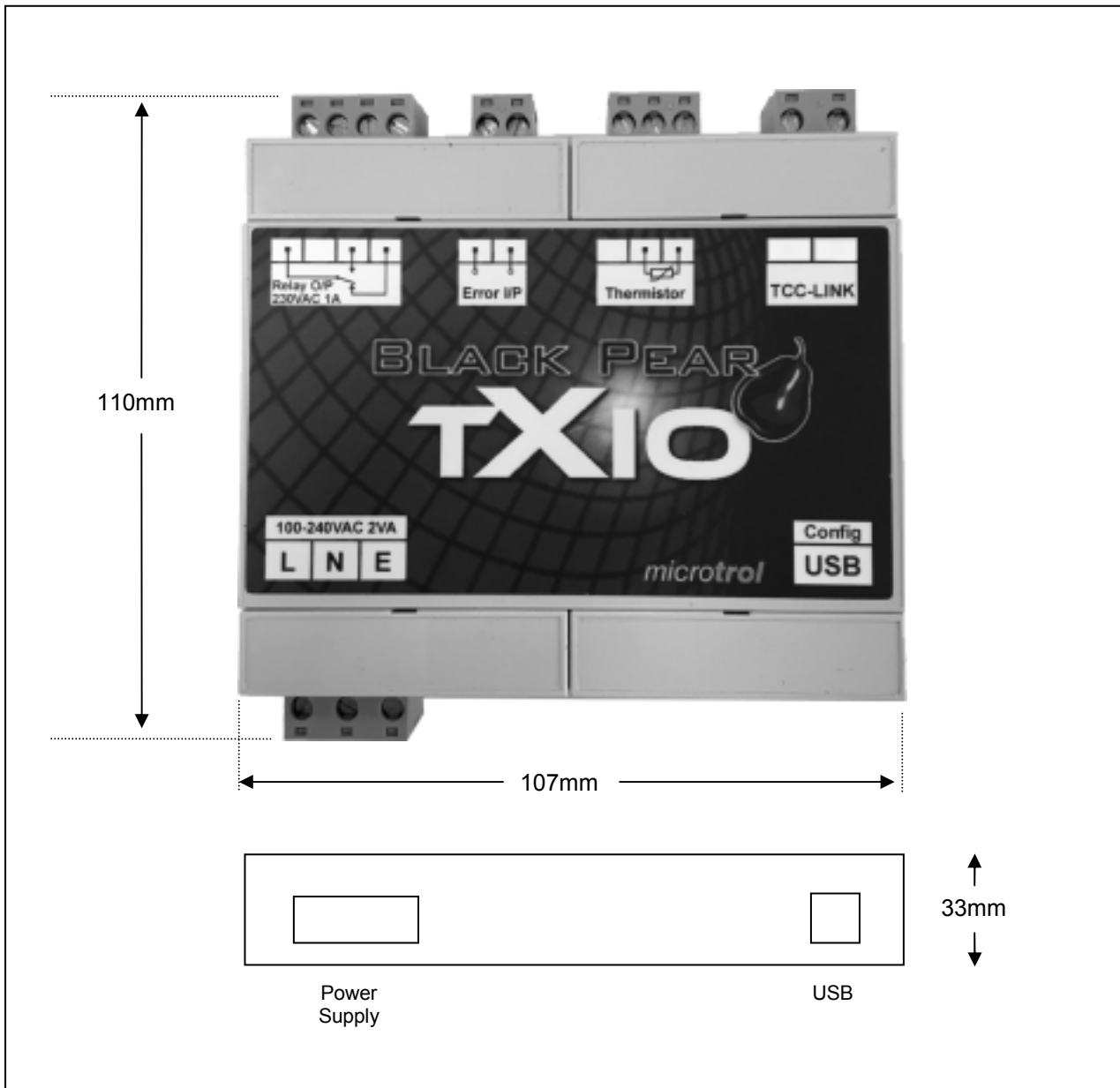
Normally open signal	(Closed=Error)	Link S2-1 to S2-2 (bottom pair of pins)
Normally closed signal	(Open = Error)	Link S2-2 to S2-3 (top pair of pins)



### **4.3 LED Functions**

LED 3 (Blue)	Power	(Flashing = 'In Error')
LED 2 (Red)	TCC-Link Comms	Flashes for each message
LED 1 (Amber)	Output State	(On = Active)

## Appendix A : Physical Dimensions



**Fig. 3 Dimensions**

## Appendix B : Document Revision History

<b>Date</b>	<b>Document Ver</b>	<b>Firmware Ver</b>	<b>By</b>	<b>Comments</b>
01/07/2017	v1.00	v1.10	mcb	First version converted from preliminary instructions.
05/07/2017	v1.01	v1.10	mcb	Converted to booklet

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