

Quick Start Guide

Version 1.0
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1. Foreword

IMPORTANT: IN THE INTEREST OF PRODUCT PERFORMANCE AND SAFETY PLEASE READ THESE GUIDE AND WARRANTY INSTRUCTIONS BEFORE INSTALLING THE PRODUCT.



SAL products are designed in accordance with all mandatory International and Australian Standards, which require installation in accordance with AS/NZS3000 by a qualified installer and regular cleaning and maintenance of the equipment. Products are sold in accordance with the following instructions and SAL standard terms and conditions of sale, available via www.sal.net.au.

Due to continued product and information updates, product data sourced from sal.net.au shall not form part of any contract and or technical performance guarantee unless expressly confirmed in writing by SAL at the time of order. The product wireframe drawings in this document are intended for illustration purposes only and may differ from the final physical product. The installation instruction is subject to change without prior notice.

2. Product Introduction

PIXIE RS485 Controller is one of the key products for indoor climate control in PIXIE wireless smart home system. It enables PIXIE system to control some certain aircons (especially ducted aircons and VRV/VRF) who accepts communication via a MODBUS-RTU interface. PIXIE RS485 Controller communicates with the interface with MODBUS-RTU protocol via RS485 connection, the interface communicates with the aircon using the proprietary protocol of the aircon brand via a designated wiring method.

The control loop is fully local and does not require the involvement of internet or Wi-Fi. It is suitable for the applications of new-built and established properties.

2.1 Product Features

- Controls a range of aircons that support MODBUS-RTU interface*
- One unit per MODBUS-RTU interface
- Typically one MODBUS-RTU interface per aircon
- Local communication via RS485, no need of internet or Wi-Fi
- Physical buttons to facilitate commissioning
- In-built LED indicators for clear status indication

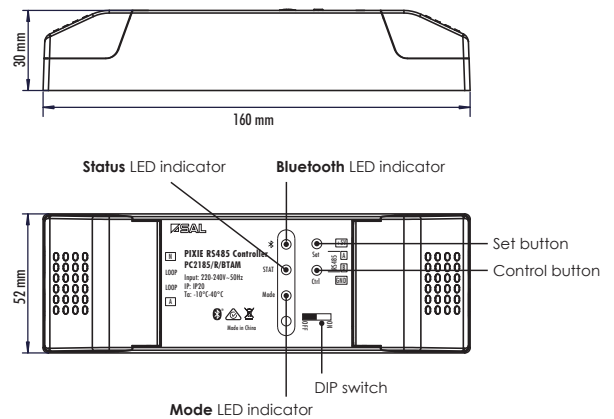
2.2 The package includes

- PIXIE RS485 Controller * 1
- Quick Start Guide * 1
- Termination resistor (120 ohms) * 1

* Subject to integration, refer to compatibility list for compatible aircon information

**All drawings shown are for illustration purpose only, actual product may vary due to product enhancement.

2.3 Product illustration**



3. Specifications

Product Application	Residential, Commercial	Dimension	160mm * 52mm * 30mm
Operation Ambience Temperature (°C)	-10 ~ 40	Storage Ambience Temperature (°C)	-10 ~ 60
Operation Humidity	10% ~ 85% RH, NC	Storage Humidity	10% ~ 85% RH, NC
IP Rating	IP20	Power Input	220-240V AC, 50Hz

4. Installation and Wiring

4.1 Preparation

1. Address the model NO. of the aircon indoor unit, select suitable MODBUS-RTU interface for the aircon
2. Set the MODBUS-RTU interface to correct working mode as per its manual
3. Connect RS485 ports of the PIXIE RS485 Controller and the MODBUS-RTU interface, using a twisted pair, making sure polarity matches. It's highly recommended to apply 120 ohms termination resistor at both ends if the length of the twisted pair is more than 10 meters.
4. Make sure the DIP switch on the PIXIE RS485 Controller is **OFF**.

4.2 Installation

1. Disconnect the power of the aircon and the PIXIE RS485 Controller.
2. Connect wires between the MODBUS-RTU interface and the aircon, in accordance with the user manual of the MODBUS-RTU interface.
3. Supply power to the aircon and the PIXIE RS485 Controller.
4. Check the LED indicator of the PIXIE RS485 Controller, when the top indicator (Bluetooth) is white, this controller is ready for commissioning.
5. Add this PIXIE RS485 Controller into PIXIE or PIXIE PLUS App, which displays an aircon control UI for this device, and enjoy the smart!

4.3 Wiring Diagram***

Figure 1. Wiring without termination resistor

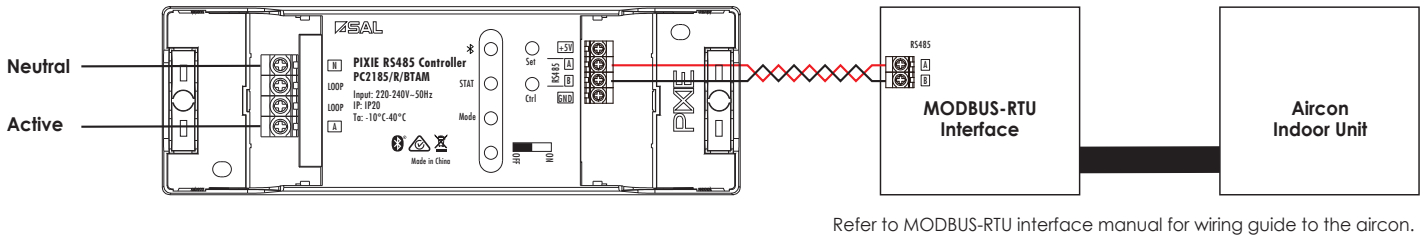
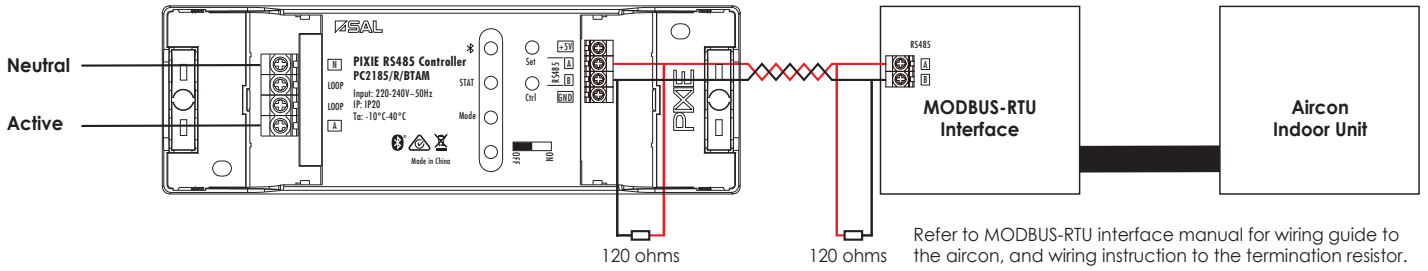


Figure 2. Wiring with termination resistor (when the twisted pair cable length is more than 10 meters)



*** All drawings shown in the wiring diagram are for illustration purpose only

5. Operation

5.1 Set Button

-**Single Click:** Turn ON/OFF the aircon, when the aircon is ON, the top LED indicator (Bluetooth) is lit at high brightness; when the aircon is OFF, the top LED indicator (Bluetooth) is lit at low brightness.

-**Quickly 9 Clicks:** Reset the PIXIE RS485 Controller to factory default. The top LED indicator (Bluetooth) will flash in blue and white for 3 seconds, then stay at white.

5.2 Ctrl Button

-**Single click:** Change working mode of the aircon.

5.3 The LED indicators

Indicator	Indicator status	Status Explanation
Bluetooth	Solid white	The controller is new or factory reset
	Solid Blue, high brightness	The controller was added into a PIXIE HOME (network). The aircon is on.
	Solid Blue, low brightness	The controller was added into a PIXIE HOME (network). The aircon is off.
STAT	Off	The controller is new or factory reset
	Blink in blue / solid blue	The MODBUS communication is good
	Blink in orange / solid orange	Some error is reported from the aircon
	Solid red	The MODBUS communication is failed
Mode	Solid blue	The controller is in working mode 1 (recommended)
	Solid green	The controller is in working mode 2

6. How to download App

Scan QR code or go to App store (IOS) or Google Play (Android) to download the free PIXIE app to your smart phone.

IOS: Requires IOS 6.0 or later. Compatible with iPhone, iPad and iPod touch

Android: Requires Android 4.4 or above, devices must support Bluetooth 4.0

Specifications above are for reference only and may vary without prior notice.



7. Warranty

In accordance with SAL's standard terms and conditions of sale, SAL warrant this product to be free from defects in materials and or workmanship for a period as stated below for goods not subject to incorrect installation, maintenance, operation, mishandling, environmental, unauthorised modifications or electrical operating conditions outside the nominated product specification as detailed in these installation instructions.

The benefits to you given by this warranty are in addition to other rights and remedies you have under law. Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.

Warranty term – Residential usage (12) months, Commercial usage (12) months

7.1 How to make a claim?

Step #1 – Within 30 days of the fault discovery, please contact the original place of the SAL product purchase during standard (local) business hours, with the following information (a) proof of purchase (b) description and quantity of the claimed fault (c) address of installation. (d) operating hours of the product.

Step #2 – It is then the responsibility of the original place of product purchase to report the matter to SAL aftersales;

NSW ACT	SAL National Pty Ltd, 40 Biloela Street Villawood NSW 2163	P # 02 9723 3099
QLD	SAL National Pty Ltd, 36 Whitelaw Place Richlands QLD 4077	P # 07 3879 5999
VICT TAS SA NT	SAL National Pty Ltd, 46-48 Keys Road Moorabbin Victoria 3189	P # 03 9532 3168
WA	SAL National Pty Ltd, 29 Beringarra Av Malaga WA 6090	P # 08 9248 7458

Step #3 - Upon review of your claim and if the product is required to be returned to SAL for technical evaluation, then at the owners expense the product must be returned to SAL as per the above nominated locations.

Step #4 - Pending the evaluation, the claim will be validated resulting in the product being repaired or replaced with the same or best equivalent product at the discretion of SAL, or rejected if the product fault was found to be caused by conditions beyond the responsibility of SAL warranty obligations. Consideration of installation, product removal, return freight and or testing fees are not the responsibility of SAL.