

TECHNICAL BULLETIN

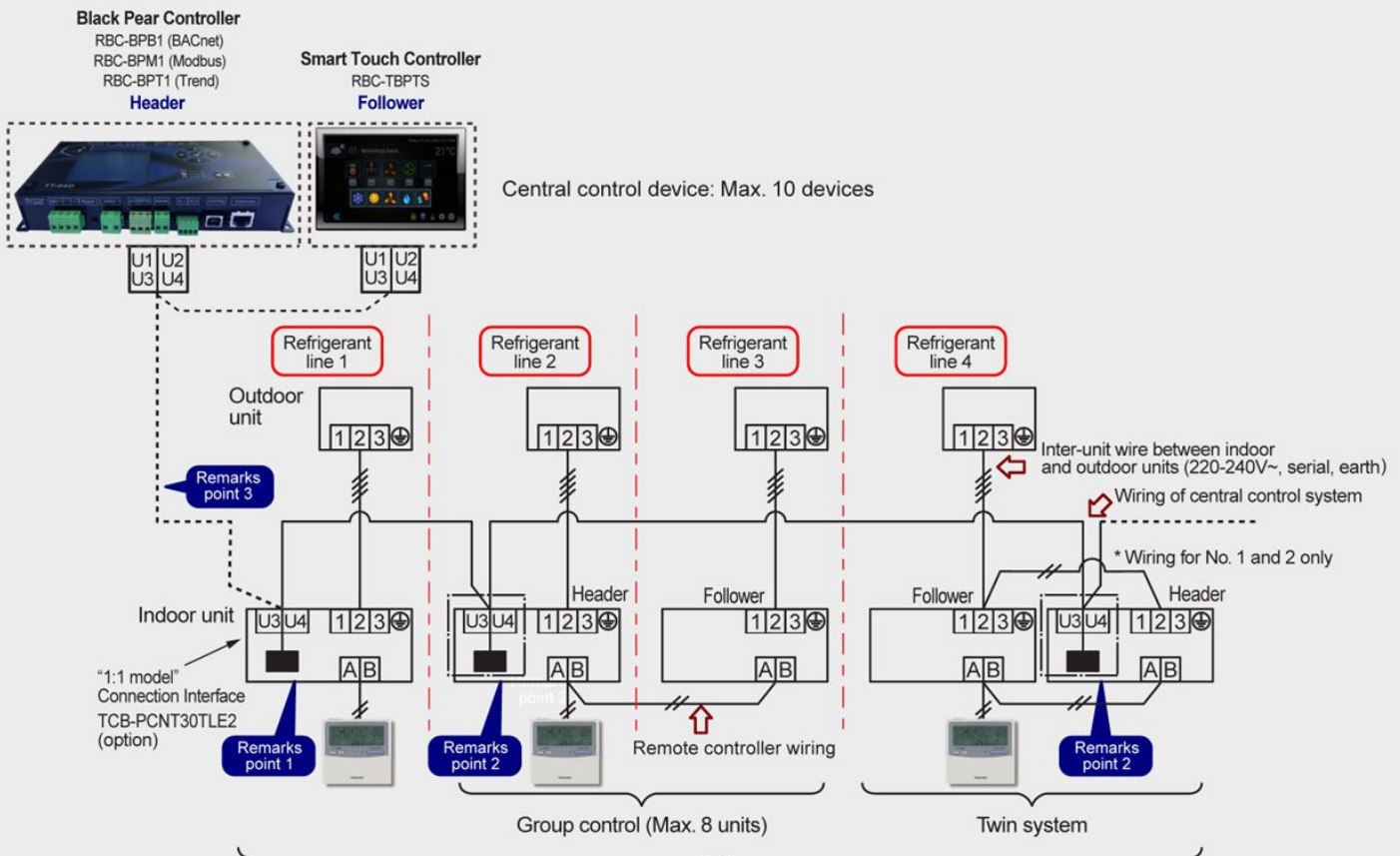
Header and Follower Central Controller

- Black Pear Controller
- SMART Touch Controller
- Up to 64 Indoor Unit Control
- Group and Zone Control

1. System Operation with Header and Follower Central Controller

Black Pear controller enables connection to BACnet, Modbus and Trend that provides full integration for BMS control and when combined with SMART Touch controller offers the customer a simpler user interface.

CENTRAL CONTROLLER HEADER AND FOLLOWER



Max. 64 indoor units of all the refrigerant lines can be connected. When mixed with VRF type (Link wiring), No. of indoor units of VRF type is also included. However, group, twin follower units of the digital inverter air conditioner are not included in No. of units.

Remarks

- Point 1)** When controlling the digital inverter air conditioner collectively, "1:1 model" connection interface TCB-PCNT30TLE2 (this option is required)
- Point 2)** In group control or twin, triple, quad system, this interface must be connected to Header unit of the indoor unit. (Connection to follower unit is unavailable.)
- Point 3)** Connect the central control devices to wires of the central control system.
- Point 4)** When controlling the digital inverter or super digital inverter air conditioner collectively, turn on Bit 1 of SW01 in the line with the least line address No. (OFF is factory default)

For the digital inverter or super digital inverter air conditioner, re-setup of the address from the wired remote controller is required after automatic addressing.

2. Black Pear Controller

The **BLACK PEAR** Toshiba HVAC controller is the most versatile on the market, connecting directly to the 2-wire HVAC bus. The integrated LCD display provides an engineer's interface for local control. The result saves time, space and commissioning is made simple with free USB based configuration software. The units will operate on systems with or without a central controller and supports Modbus, BACnet or Trend protocols. The device is easily configured to communicate with units in the same way that a standard central controller communicates with connected units. When the controller is powered it scans the entire network for all connected indoor units. The keypad controller can be used to operate all indoor units. This feature is very useful in the event of a BMS failure in providing and enabling continuous communication. The controller can be configured by a PC to interface to group units and name zones.



Product Features

- ◆ BACnet IP*
 - ◆ Modbus RTU or IP*
 - ◆ TREND Via and Outstation*
 - ◆ Maximum 64 Indoor Units/Groups and 16 Outdoor systems can be connected
 - ◆ TCB-PCNT30TLE2 Network adaptor required for connection of DI/SDI to BACnet® System
- *Dependent on controller type (not interchangeable)

MAIN FUNCTIONS

FUNCTION	COMMAND INPUT	STATUS OUTPUT
ON/OFF Status	✓	✓
Operation Mode	Auto, Heat, Cool, Dry, Fan Only	✓
Fan Speed	Stop, Auto, Ultra-low, Low, Medium, High	✓
Louver	Swing, Fix	✓
Set Temperature	18-29°C	✓
Room Temperature	✓	✓
Permit/Prohibit of Local Operation	ON/OFF, Mode, Set temp	✓
Error Status	Reset	✓
Error Code	Reset	✓

Limits

The device is limited to standard network restrictions applied to the TCC- link network with a maximum indoor unit count of 64 indoor units.

CONNECTION COMPONENTS FOR BACNET®

MINIMUM EQUIPMENT REQUIRED FOR BACNET® CONTROL SYSTEM	SOURCE
Black Pear RBC-BPB1 BACnet® Controller	TOSHIBA
TCS-Net Relay Interface TCB-PCNT30TLE2	TOSHIBA
BACnet® Control System	Local Supply

CONNECTION COMPONENTS FOR MODBUS

MINIMUM EQUIPMENT REQUIRED FOR MODBUS CONTROL SYSTEM	SOURCE
Black Pear RBC-BPM1 Modbus Controller	TOSHIBA
TCS-Net Relay Interface TCB-PCNT30TLE2	TOSHIBA
Modbus Master Device	Local supply
Upper Side Modbus Graphic Control System	Local supply

CONNECTION COMPONENTS FOR TREND

MINIMUM EQUIPMENT REQUIRED FOR TREND CONTROL SYSTEM	SOURCE
Black Pear RBC-BPT1 Trend Controller	TOSHIBA
TCS-Net Relay Interface TCB-PCNT30TLE2	TOSHIBA
Trend IQ3/4 outstation with spare memory	Local supply

SPECIFICATION INDOOR INTERFACE

Protocols supported	BACnet I/P Modbus RTU or IP TREND via an Outstation
Chassis material	Painted metal
Power Supply	24V AC 5VA
Number of Connectable Indoor Units	64
Operating Temperature / Humidity	0 to 40°C / 10 to 90%
Storage Temperature	-20 to 60°C (no condensation)
Dimensions H X W X D	118 x 211 x 38 mm
Communications Platforms	RS232, RS485, 2-wire Network Bus
Backlit Graphic Display	62mm x 62mm with 6 navigational buttons
Air Conditioner Connection	2-wire T1 & T2 communication bus
TCC Link	U3 / U4

3. SMART Touch Controller

The Toshiba SMART Touch controller provides a modern compact approach to management control technology utilising easy to use Icons and simple intuitive navigation to deliver sophisticated strategies that provide precise control and data analysis. The controller is simple to install and configure and offers three levels of operation, general user, building manager and engineering, all password protectable. The Toshiba SMART Touch controller features a built-in web browser interface, air conditioning status, unit enable and disable, time and alarm management control and fault indication.

Product Features

- ◆ Built in Web Browser
- ◆ Back-up and Restore
- ◆ Customisable appearance
- ◆ Multi-language preference
- ◆ Alarm Settings
- ◆ Unit setup, status and inhibit
- ◆ Programmable time and date events
- ◆ Maximum 64 Indoor Units/Groups and 16 Outdoor systems can be connected
- ◆ TCB-PCNT30TLE2 Network adaptor required for connection of DI/SDI to provide TCC Link Connection



MAIN FUNCTIONS

FUNCTION	COMMAND INPUT	STATUS OUTPUT
ON/OFF Status	✓	✓
Operation Mode	Auto, Heat, Cool, Dry, Fan Only	✓
Fan Speed	Stop, Auto, Ultra-low, Low, Medium, High	✓
Louver	Horizontal, Vertical, Swing	✓
Set Temperature	18-29°C	✓
Room Temperature	✓	✓
Permit/Prohibit of Local Operation	ON/OFF, Mode, Set temp, fan speed, louver	✓
Error Status	Reset	✓
Error Code	Reset	✓

Limits

The device is limited to standard network restrictions applied to the TCC- link network with a maximum indoor unit count of 64 indoor units. The device does not communicate with the BMS network.

For further information please contact our customer support team on 0870 843 0333, your local representative, your supplier of **TOSHIBA** products or email any enquiries to: - general.enquiries@toshiba-ac.com