



## *Pocket Quick Reference Guide*

On **TOSHIBA** / **RealTime**

**FDP3-Full AHU Control Interface**

**Cool Designs Ltd**

Raising the Standards in Air Conditioning Distribution

[www.cdlweb.info](http://www.cdlweb.info)

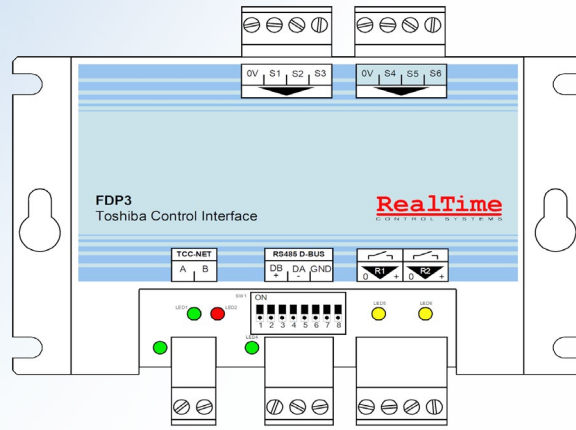


[CarbonNeutral.com](http://CarbonNeutral.com)



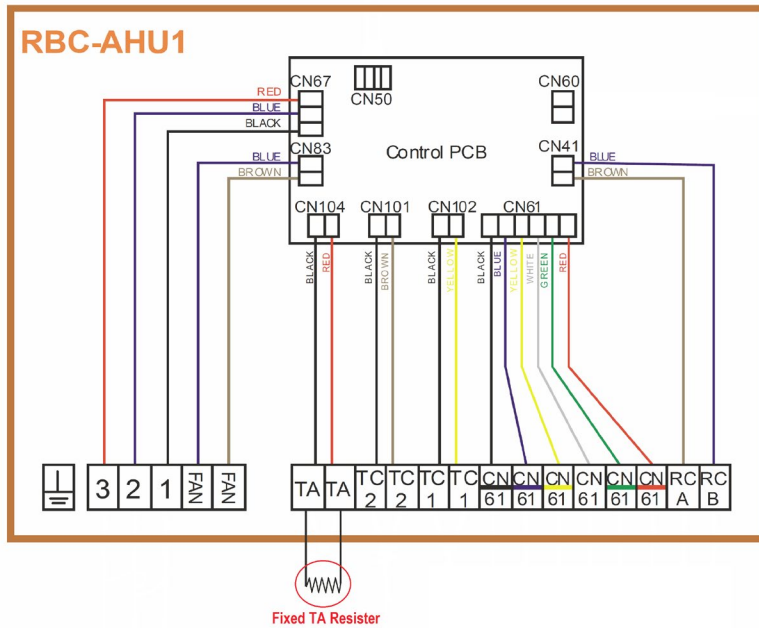
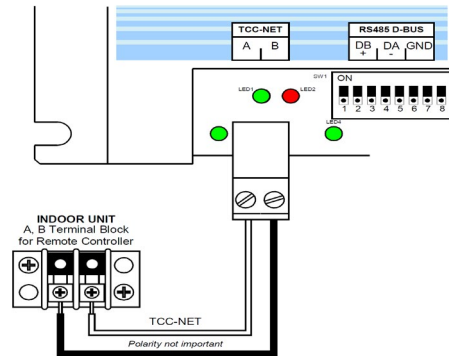


**FDP3 ModBus AHU Control interface.**



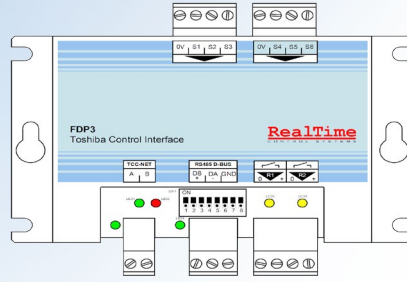
The FDP3 Full Version contains modified software to act as a controller to the TOSHIBA RBC-AHU1 air handling unit interface.

It is connected to the AB connection on the RBC-AHU1.



**The Fixed resistance in the TA sensor connection on the AHU1 must be left in place.**

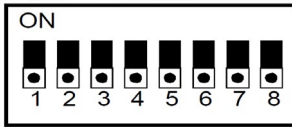




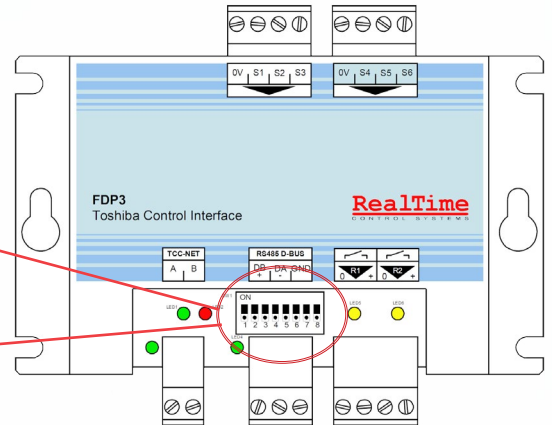
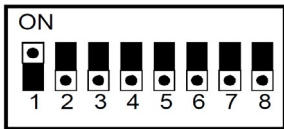
## Dip Switch Setting

Depending upon the position of SW1 on the FDP3, the FDP3-AHU controller will operate in different modes. The outdoor unit will run at full demand or at a demand dependant upon the supplied voltage.

SW1 OFF Full demand depending on DIs



SW1 ON Demand Depending upon a 0-10 Volt Input.



## Unit DN Code Settings

The Configuration settings below need to be made by accessing the (Set,Spanner and Clear on the Remote Controller (Toshiba RBC-AMT32E/AMS41E, for instructions how to undertake configuration settings with the Toshiba RBC-AMS51-ES please refer to our web site for the "Pocket Guide" for this controller) and changing the DN codes as below).

Note: Configuration setting is not possible with the Toshiba RBC-AS41E remote controller.



Enter Configuration Menu  
Press and hold  
Test(Spanner), Set & CL

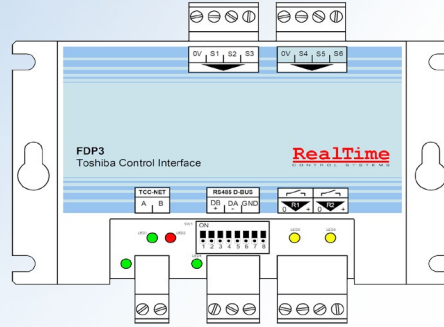


DN code = 10 (Right Hand Display)  
Set Left Hand Display to 0006  
(Via Timer up and Down Buttons)  
Press Set



DN code = 6 (Via Temp up & Down Buttons)  
Set Left Hand Display to 0000  
(Via Timer up and Down Buttons)  
Press Set then Test (Spanner)

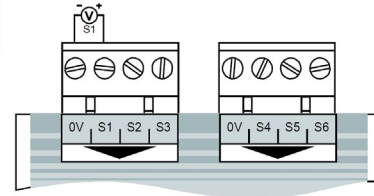




## DIS Connections

### Terminals 0V & S1

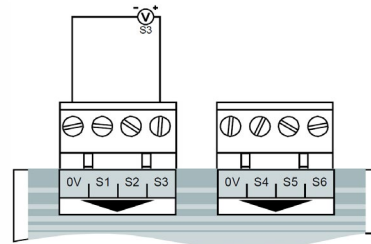
0 to 10 volt input **ONLY** used in demand control



### Terminals 0V & S3

Heat Command (Contact Closed)

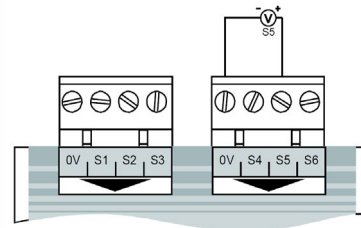
Cool Command (Contact Open)



### Terminals 0V & S5

Off Command (Contact Open)

On Command (Contact Closed)



## Full Demand Control

In this mode an instruction is given to the outdoor unit to run in maximum cooling or heating mode. A no volt contact applied across terminals 0V & S3 will select the mode (Open) Cool/ (Closed) Heat A second no volt contact applied across terminals 0V & S5 will select the operation (Open) Stop/ (Closed) Start.

## 0 - 10 Volt Control

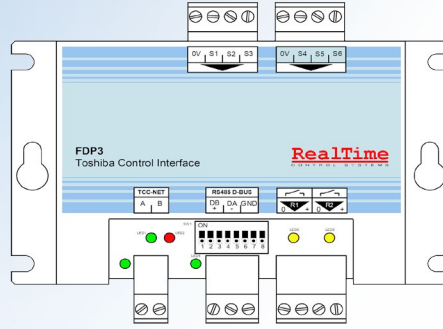
In this mode a voltage is applied across terminals 0V & S1 this will then instruct the outdoor unit to operate at a speed proportional to the voltage applied.

A no volt contact applied across terminals 0V & S3 will select the mode (Open) Cool/ (Closed) Heat

A second no volt contact applied across terminals 0V & S5 will select the operation (Open) Stop/ (Closed) Start.

0V = 0, 1V=10%,2V=20%, 3V=30%, 4V=40%, 5V=50%, 6V=60%, 7V=70%, 8V=80%, 9V=90%, 10V=100%





## ModBus Registers

### Operation Procedure

#### Virtual S5

**ModBus Register 13005**

This register tells the unit to start and stop, a signal of 0 = Off and 100 = Run

#### Virtual S3

**ModBus Register 13003**

This register tells the unit which mode to operate in, 0= Cool and 100 = Heating

#### Virtual S1 (If using demand level control)

**ModBus Register 13001**

This register tells the compressor what speed to operate at for capacity control. 0=minimum and 1500 is the maximum

The ModBus based BMS should be sending the following commands to the FDP3 for cooling and heating operation:-

#### Cooling Operation

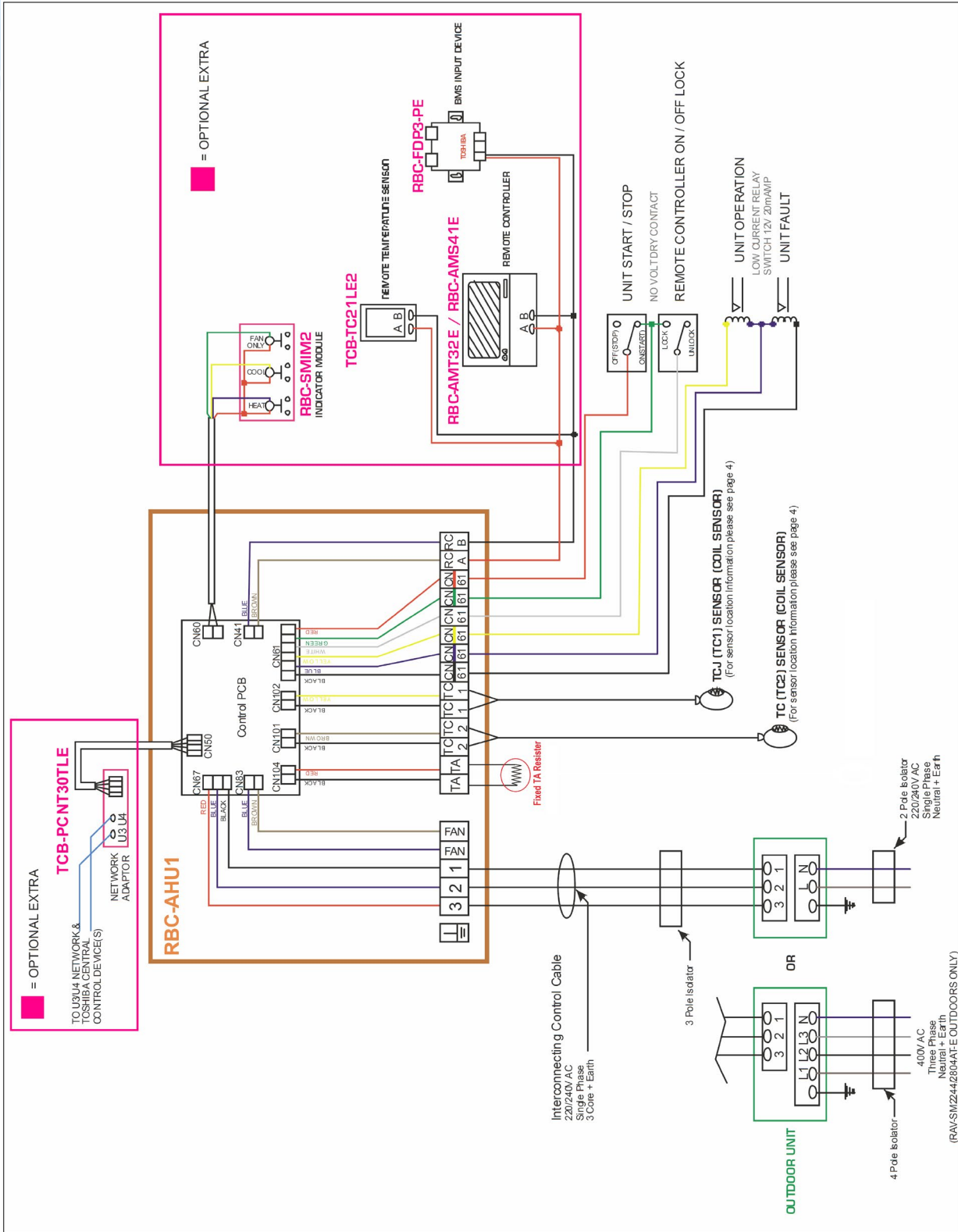
S5 (Register 13005)	100 (On)
S3 (Register 13003)	0 (Cool)
S1 (Register 13001)	A figure between 0 and 1500 depending on capacity required

#### Heating Operation

S5 (Register 13005)	100 (On)
S3 (Register 13003)	100 (Heat)
S1 (Register 13001)	A figure between 0 and 1500 depending on capacity required



# Wiring Diagram







Contact details;

## Cool Designs Ltd Technical Support

**07590 775 510**

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Toshiba Air Conditioning  
24/7 technical support

0870 843 0333

Text back service

07624 803 017

(Type fault code in lower case no spaces)



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