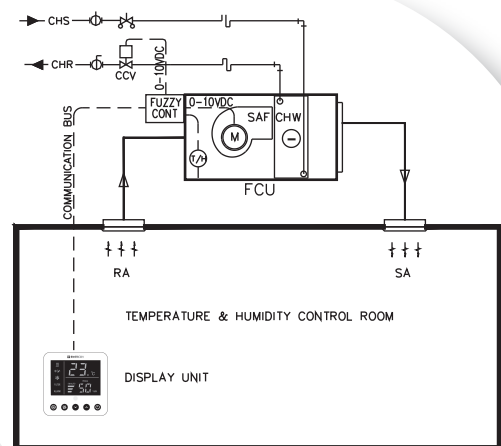


# Intelligent Temperature & Humidity Controller For Chilled Water System



With FUZZY adaptive algorithm  
adjustable temperature control range 15 - 30°C  
humidity 30 - 70%RH

°C +  
%RH



ISO-9001:2015



## IFH Series

Complete with single phase fan speed control board  
or fan speed control signal & CHW control valve signal 0-10VDC

*New innnovation of HVAC controls system, cost effective and accuracy.*

# IFH Series

## ENERCOV intelligent temp. & humidity controller

ENERCOV's IFH series, new innovation of humidity controls system. It is applied to conventional chilled water fan coil unit to control room temperature and humidity at desirably range without electric heater elements. IFH series provide fully equipments for small FCU system such as micro-processor controller, display unit, room temperature & humidity sensor, fan speed control board control and signal 0-10VDC for proportional controls valve. It is suitable for small conventional chilled water fan coil unit (FCU) and air handling unit (AHU) from 1.0 to 30 tons. Furthermore, the controller can provide control signal for heating element i.e. electric heater to maintain higher temperature and humidity control accuracy.

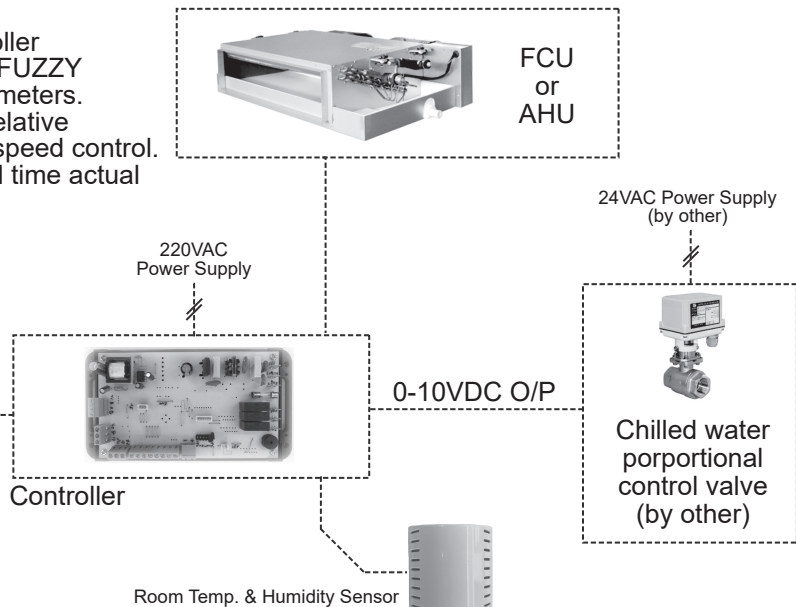
## Micro-processor controls

Intelligent temperture & humidity controller with completed adaptive PID algorithm or FUZZY algorithm provide very precise room parameters. It consists of display unit, temperature & relative humidity sensor, controller and fan motor speed control. LCD display on the display unit shows real time actual temperature and relative humidity.

## Display unit functions



Commu. bus



Dim : 87Wx87Hx20D mm.  
Wall mount



Heating "On" Indicating



Temperature and Humidity Control Mode



Cooling Control Mode

**FILTER** Filter Clog Indicator (if applied)

**ALARM** Unit Alarm Indicator

**FAN AUTO** Fan Automatic Control Status Indicator

**PROGM** Programmable Mode

25.°C

Actual Room Temperature or Setpoint Indicator

50 %RH

Actual Room Humidity or Setpoint Indicator



Fan Speed Running Indicator



Function Keypads



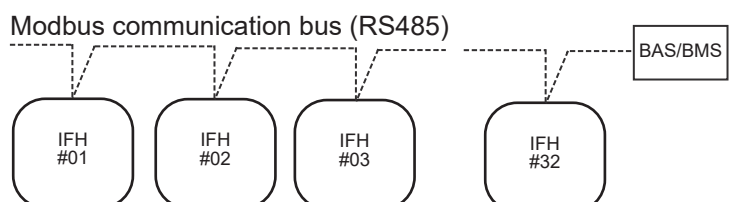
Wireless Remote Control

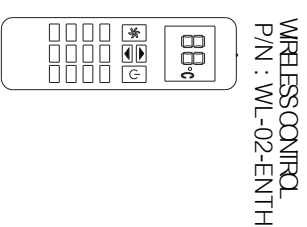
## Control Functions

1. Room temp. & humidity are controlled by adaptive PID algorithm.
2. Cooling mode and temperature/humidity control mode selectable.
3. Aux HEATER lights up means heating function required.
4. Room temperature and relative humidity real time display
5. Supply air fan can config to adjust fan speed to maintain room condition automatically.
6. Room sensors faulty alarm codes.
7. Room temperature & humidity sensors calibration are also available.
8. Proportional, integral gain and calculation time are configurable.
9. FCU fan minimum speed is configurable.
10. Alarm display codes.
11. Electrical heater protection cut off system. (option)
12. Pre configuration programmable software.
13. Modbus interface port for BAS communication (option).

## Network Management (option, max 32 IFHs/loop)

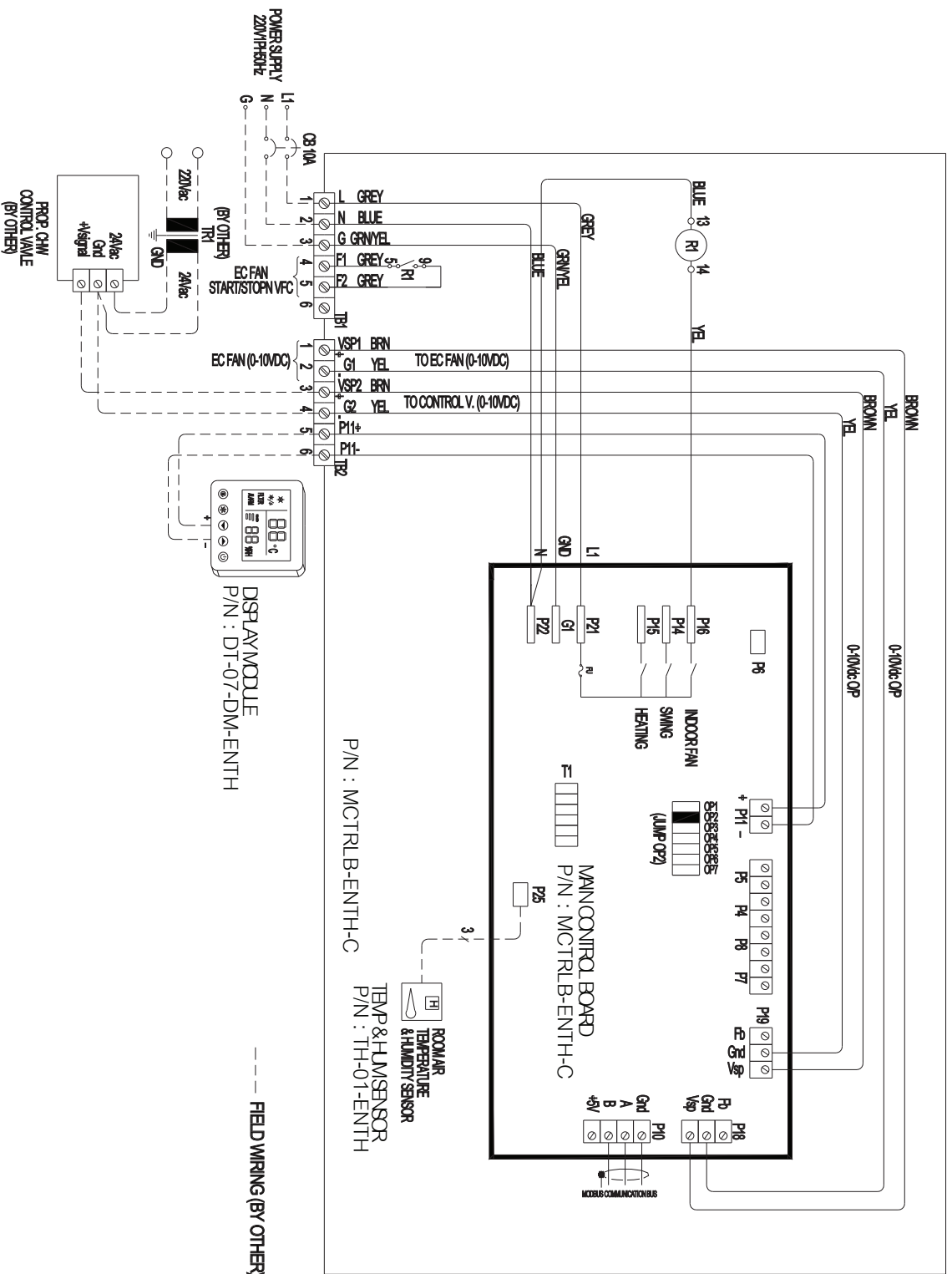
IFH's controller can communicate with BAS or BMS by modbus protocol, max 32 nodes per loop and 300 meters length.





## Symbols

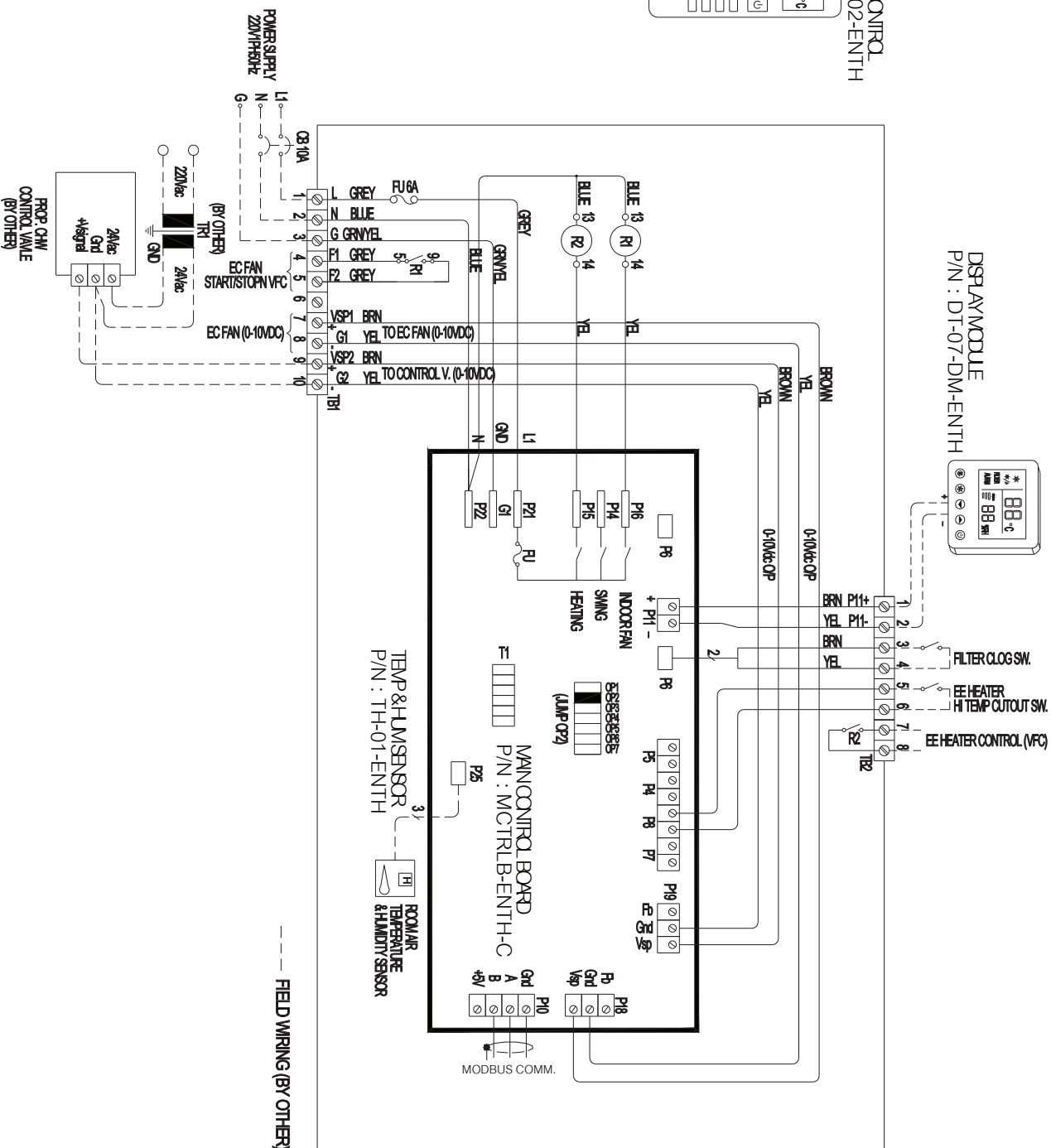
|       |                                 |
|-------|---------------------------------|
| CAP   | CAPACITOR                       |
| CCV   | COILING COIL CONTROL VALVE      |
| FU1   | FUSE 20 A                       |
| GND   | GROUND                          |
| HC    | HEATER CONTACTOR                |
| HT    | HEATER                          |
| JFM   | INDOOR FAN MOTOR                |
| RELAY | INDOOR FAN RELAY                |
| JFC   | INDOOR FAN CONTACTOR            |
| SV    | SOL ENOID VALVE                 |
| TR    | TRANSFORMER                     |
| TB    | TERMINAL BLOCK (TB)             |
| TDR   | TIME DELAY RELAY                |
| SP    | SPLICE                          |
| ---   | COMPONENT CONNECTIONS MARKED    |
| ---   | TERMINAL BLOCK CONNECTIONS (TB) |
| ---   | FIELD POWER WIRING              |
| ---   | FIELD CONTROL WIRING            |



IFH series sample schematic wiring diagram (1 Phase)

WIRELESS CONTROL  
P/N : WL-02-ENTH

DISPLAY MODULE  
P/N : DT-07-DM-ENTH



IFH series sample schematic wiring diagram (1 Phase)  
With Electric Heater Control

## Symbols

|     |                                 |
|-----|---------------------------------|
| CAP | CAPACITOR                       |
| CCV | CODING CIL CONTROL VALVE        |
| FU1 | FUSE 20 A                       |
| GND | GROUND                          |
| HC  | HEATER CONTACTOR                |
| HT  | HEATER                          |
| IFM | INDOOR FAN MOTOR                |
| RL  | RELAY                           |
| JFC | INDOOR FAN CONTACTOR            |
| SV  | SOL ENOID VALVE                 |
| TR  | TRANSFORMER                     |
| TDR | TERMINAL BLOCK (TB)             |
|     | TIME DELAY RELAY                |
|     | SPLICE                          |
|     | COMPONENT CONNECTIONS MARKED    |
|     | TERMINAL BLOCK CONNECTIONS (TB) |
|     | FIELD POWER WIRING              |
|     | FIELD CONTROL WIRING            |