PRODUCT CATALOGUE

EMPOWERING INTELLIGENT CONTROL SYSTEMS

FR CONTROLS

Company Profile

At FR CONTROLS, we empower businesses to achieve operational excellence by simplifying complex automation challenges. Our intelligent control systems and programmable solutions are designed to unlock new efficiencies, enhance reliability, and streamline performance across industrial and building environments.

We combine proven engineering with forward-thinking innovation—investing in R&D to develop advanced, flexible controllers that adapt to your needs. Our scalable product range, from compact PLCs to high-capacity control hubs, ensures seamless integration and future-ready automation.

Backed by dedicated support and a growing global reach, FR CONTROLS is your trusted partner in smart automation. With us, you gain not just powerful tools—but a commitment to helping your next project run smoother, smarter, and stronger

Vision

To become the leading provider of intelligent automation and control solutions, enabling smarter, more efficient, and sustainable environments across industries worldwide.

Mission

At FR Controls, our mission is to deliver high-quality, reliable, and customizable control systems that empower businesses to optimize performance, reduce operational costs, and achieve seamless integration in building and industrial automation.

We are committed to:

- Innovating user-friendly, scalable automation solutions
- Supporting clients with expert technical guidance and responsive service
- Building long-term partnerships through trust, quality, and performance

Product and Services

- Building Management System (BMS)
- Energy Monitoring and Control Systems
- System Integration and Automation Solutions
- Remote Monitoring and IOT Solutions
- Technical Support and Troubleshooting
- Training and Consultation
- Programmable Logic Controller and Sensors

Industry Applications

Building Automations

Industrial 4.0

Construction

Smart Home/Cities

Certification

SURUHANJAYA SYARIKAT MALAYSIA
COMPANIES COMMISSION OF MALAYSIA

BORANG E (KAEDAH 13)

PERAKUAN PEMBAHARUAN PENDAFTARAN
AKTA PENDAFTARAN PERNIAGAAN 1956

Dengan ini diperakui bahawa perniagaan yang dijalankan dengan nama

FR CONTROLS ENTERPRISE
NO. PENDAFTARAN: 202403043053 (003576894-H)

telah didaftarkan dari hari ini sehingga **26 FEBRUARI 2028** di bawah Akta Pendaftaran Perniagaan 1956, beralamat di **23-1, JALAN DAGANGAN 3, PUSAT BANDAR BERTAM PERDANA , 13200 KEPALA BATAS, PULAU PINANG.**

Bil. Cawangan: TIADA

Bertarikh di **SISTEM EZBIZ** pada **27 FEBRUARI 2026.**

DATUK NOR AZIMAH ABDUL AZIZ
Pendaftar Perniagaan
Semenanjung Malaysia

UserID: EZBIZ Date: Fri Feb 27 13:32:15 MYT 2026

Contents

T3 Series Bacnet Programmable Controller	2-1
• Specifications	2-2 - 2-3
• T3-BB	2-4
• T3-TB	2-5
Sensors	
• Humidity and Temperature Sensor With Waterproof Connector	3-1 - 3-5
Thermostats	
• Tstat10E	4-1 - 4-4
FRControls BMS Solutions	5-1 - 5-2

When reliability, quick setup, and minimal maintenance matter most, you need a partner you can count on. Our solutions are designed for durability and performance, ready to meet tough demands and deliver consistent results—day in and day out.

Your single point of contact, inquiries, customer services, sales office information and product inquiries

012-936 0735 | 017-461 7923
frcontrolsenterprise@gmail.com

T3 Series
Bacnet Programmable Controller

T3000 controller is a multi-user, T3-BB and T3-TB. It can stand DDC panel alone or in a multiple network system with full communication capabilities. The multiple communication ports allow the controller to operate on a network or host sub networks and to communicate with local and remote operators simultaneously.

Setup and programming are done on a PC not necessary to connect to live hardware as it is the case with many systems. When the program is ready for on-site testing, connect it to a live panel and download the T3000 software. Programming can be done remotely over the network and modem connections as well. The network system is very flexible and economical for the installation.

T3-BB

T3-TB

T3 Series Bacnet Programmable Controller

Specifications

Industry Standard	Bacnet & Modbus Protocols
Control Basic Programs	16
User screen displays	16
User variables	128
Schedule & Holidays	8 Weekly Routines, 4 Annual Routines
PID Controllers	16
Passwords and Users	8
RS485 Sub Baudrates	9600 Thru to 115k
RS485 Main Baudrates	1200 - 921600
Main CPU Capacity	512K Flash/ 512k Ram
Highly Configurable	Any Combination of Input/Output Cards Totaling Up to 64 Points
Digital Output	5A/30VAC, 1A/30VDC
Analog Output	0-10V
Universal Input	Thermistor, 0-10V, 0-5V, 0-20mA
Mechanical Relays	2A, 24VAC/DC
Diagnostic LEDS	Hands Off Auto Switches
SD Disk Slots	Trend Logs, Alarms, Graphics
Ethernet Ports	Bacnet & Modbus Supported Simultaneously
RS485 Ports	2
USB Ports	T3-BB, T3-LB
RS232 Ports	T3-BB
Hardware Options	Several Optional Modules are Available to Support Zigbee, Wifi, 1k Pt Sensor Inputs
Wifi Security	WEP/WPA-PSK/WPA2-PSK
Operating Temperature	-30 to 70 Celsius (-22 to 158 Fahrenheit)
Maximum Power Consumptions	T3-BB : 10W , T3-TB : 6W
Case Color	Black

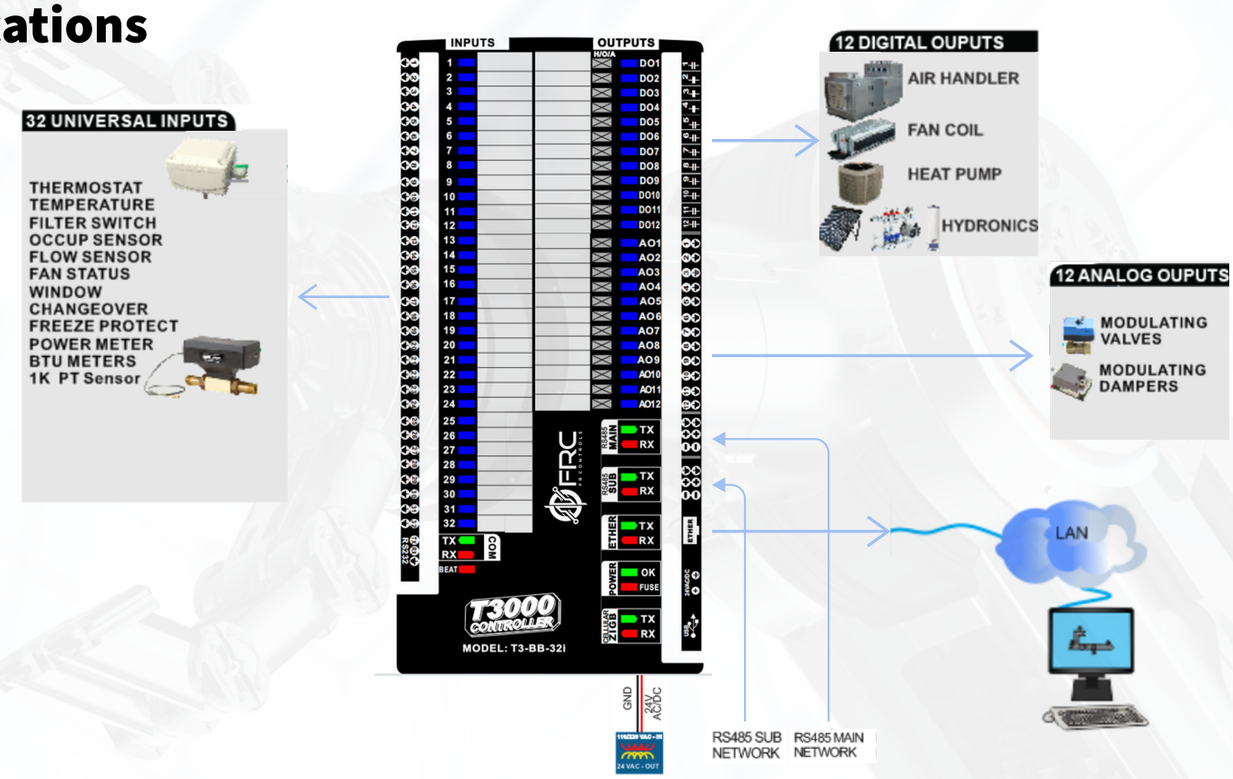
T3 Series Bacnet Programmable Controller

Specifications

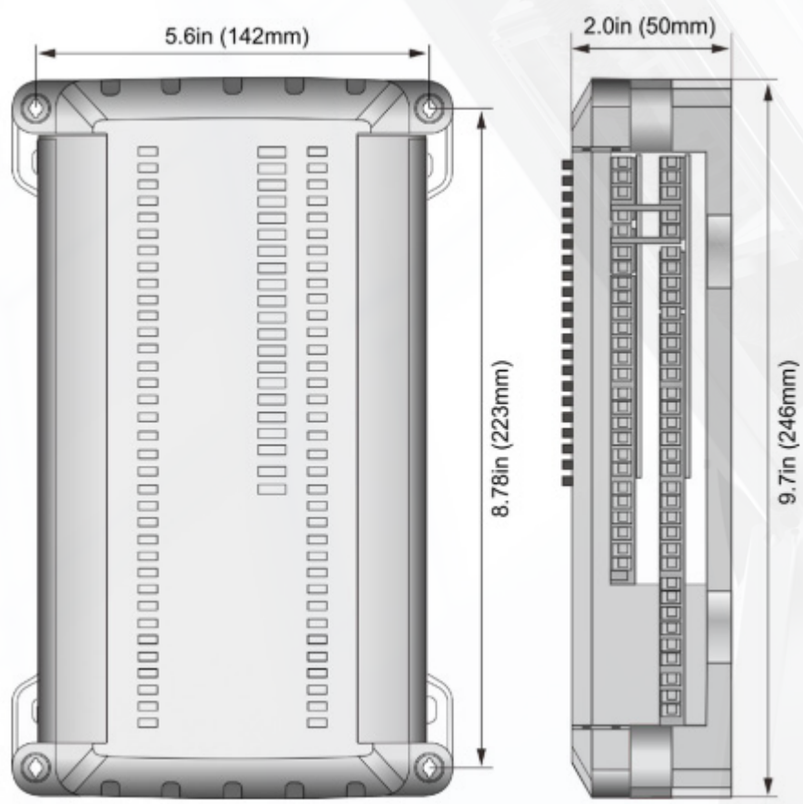
* Surge-protected Universal Inputs with 12-bit resolution
* UL listed ABS enclosure with rubberized texture creates a high end feel.
* Software configure the I/O ranges with the free T3000 software or by writing to the registers with your own software.
* Each output has a hand-off-auto switch for easy troubleshooting and overrides.
* Each I/O as well as the RS485 connections have a separate screw terminal, there's no need to gang two wires under one terminal for any of the terminations.
* High/Low speed input pulse counters
* Communication methods are RS485, Ethernet, USB, Zigbee but it can, at the same time, support Modbus and Bacnet.

T3-BB Controller

Specifications

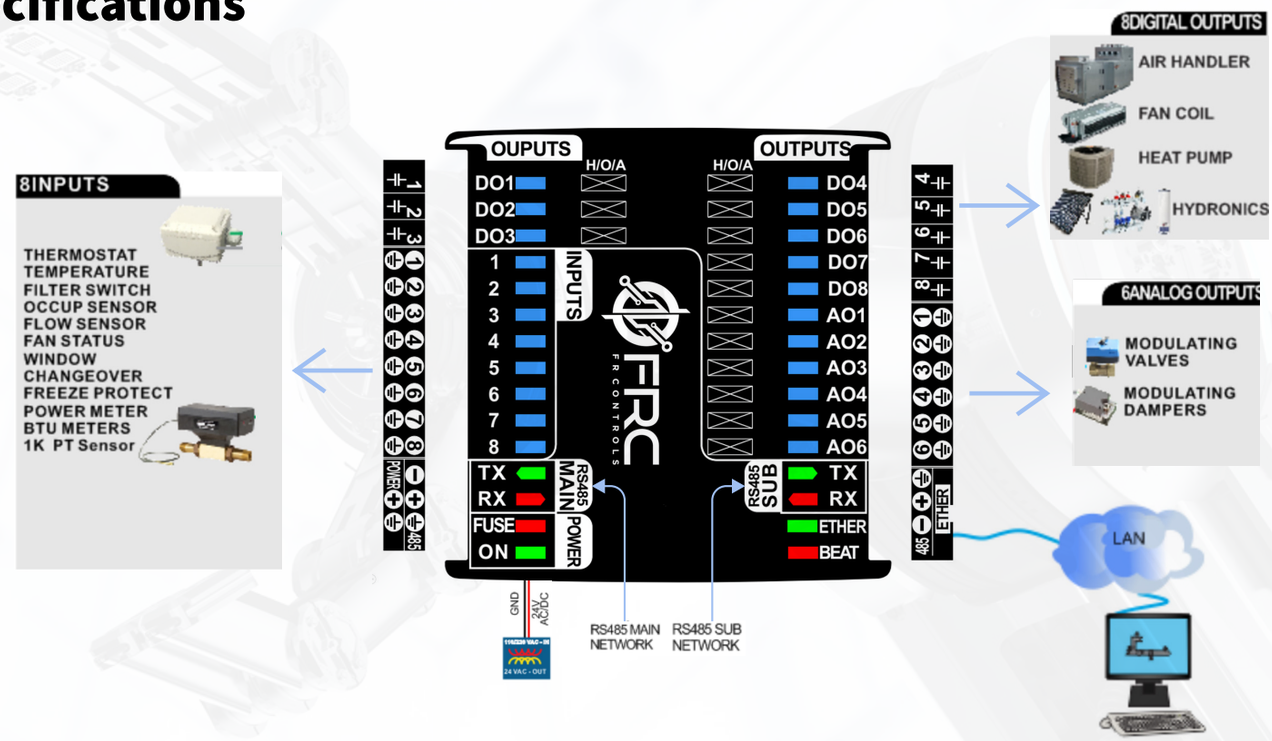


Specifications	T3-BB
Total Channels	56
Universal Input	32
Analog Output	12
Relay Output	12
Comm Port	
RS485	2
RS232	1
Ethernet	1
USB	1
Option Port	1

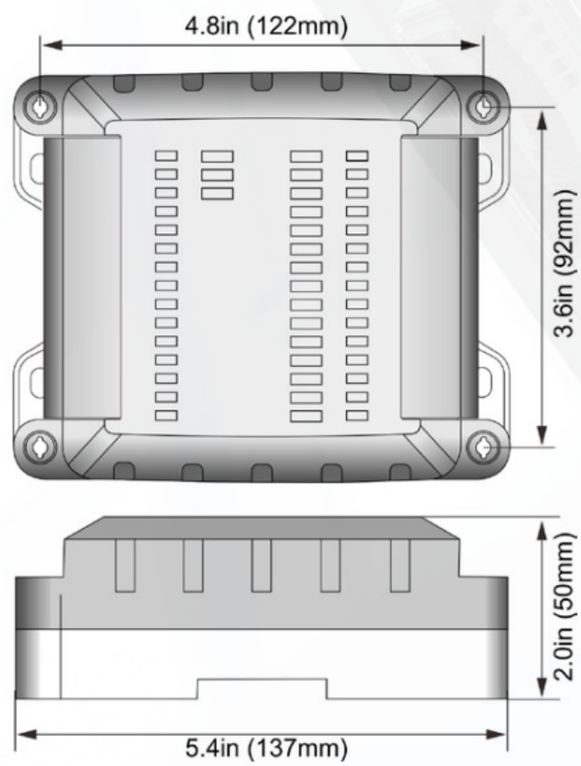


T3-TB Controller

Specifications

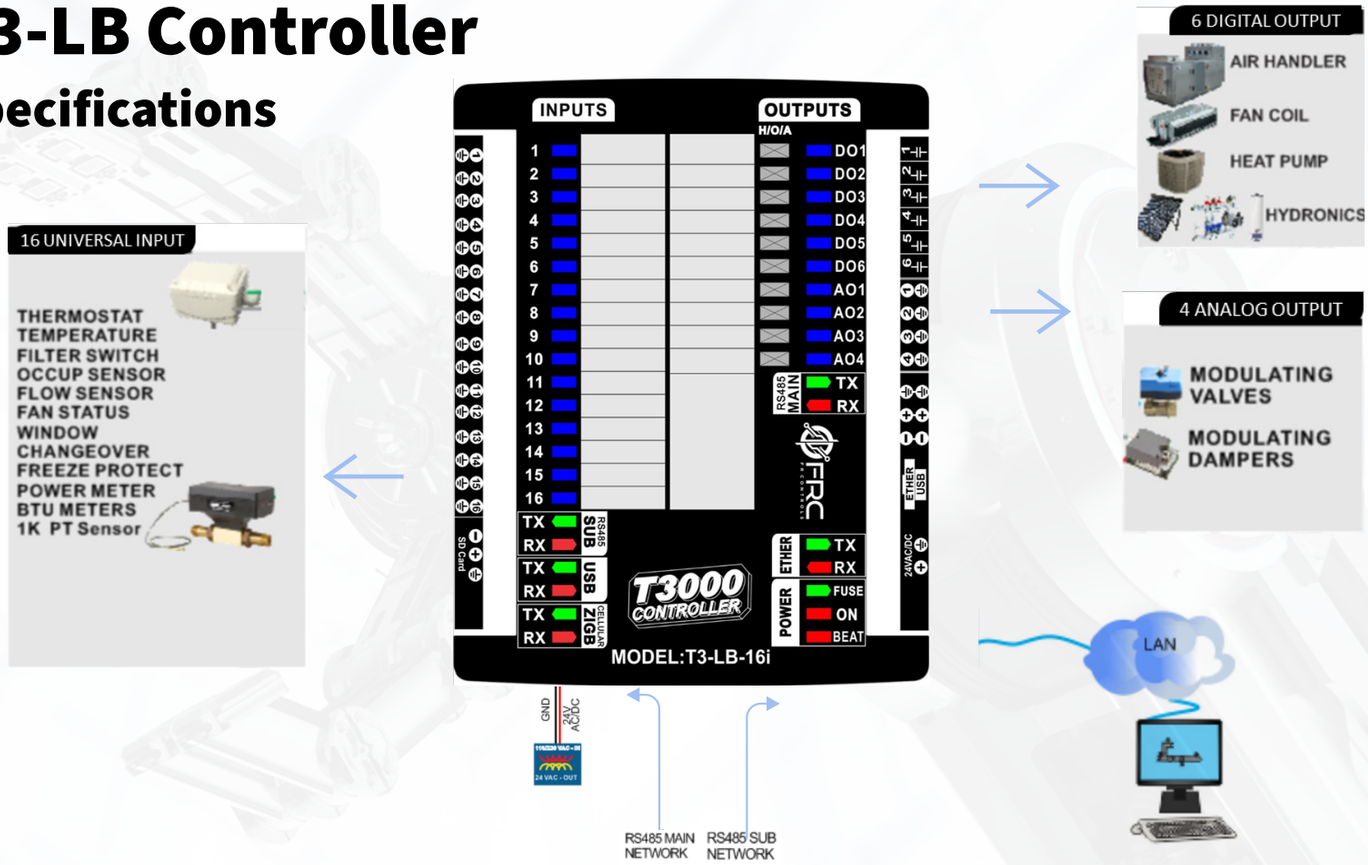


Specifications	T3-TB
Total Channels	22
Universal Input	8
Analog Output	6
Relay Output	8
Comm Port	
RS485	2
RS232	0
Ethernet	1
USB	0
Option Port	0

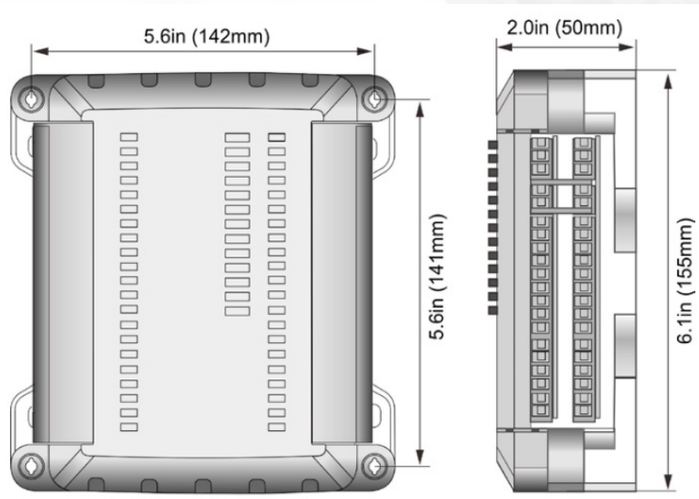


T3-LB Controller

Specifications



Specifications	T3-LB
Total Channels	26
Universal Input	16
Analog Output	4
Relay Output	6
Comm Port	
RS485	2
RS232	0
Ethernet	1
USB	1
Option Port	1

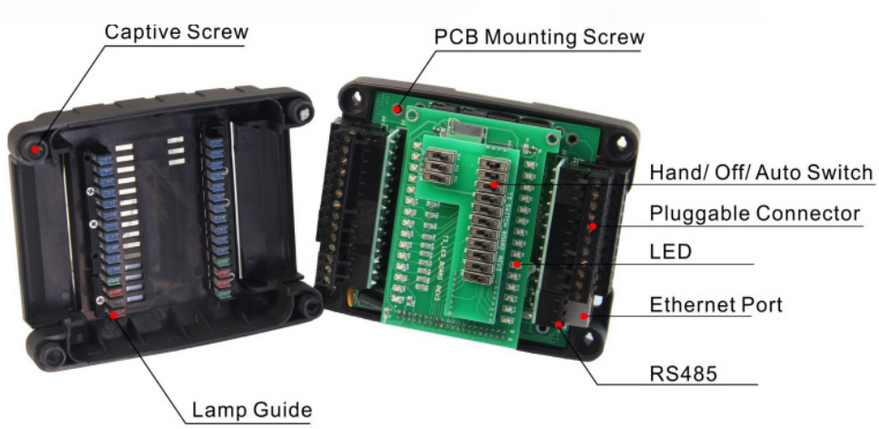


Expansion Module

Specifications

Surge-protected Universal Inputs with 10-bit resolution.
• UL listed ABS enclosure with rubberized texture creates a high end feel.
• The RS485 port has separate upstream and a downstream connectors to make troubleshooting easier.
• Software configure the I/O ranges with the free T3000 software or by writing to the registers with your own software.
• Each input as well as the RS485 connections have a separate screw terminal, there's no need to gang two wires under one terminal for any of the terminations.
• Each output has a hand-off-auto switch for easy troubleshooting and overrides.
• Baudrates: 9600, 19200, 38400, 57600,76800 and 115200bps.
• The T3 modules support Bacnet over MSTP and TCP/IP as well as Modbus.

Specifications	T3E-32i	T3E-886-W	T3E-886	T3E-22i	T3E-22i-W
Universal Input	32	8	8	22	22
Analog Output	-	8	8	-	-
Relay Output	-	6	6	-	-
Wifi	-	Yes	-	-	Yes
RS485	2	2	2	2	2



Sensors
Humidity and Temperature Transmitter with Waterproof Connector

Humidity & Temperature transmitters are designed for environment monitoring and controlling in industrial, commercial and other buildings. These transmitters can be used for indoor air temperature and humidity monitoring in various industrial plant, clean room, lab, machine room, office and commercial building, airport, station, library and stadium. The modbus interface is documented and integrator friendly. They also have transducer outputs for connecting as analog inputs to all popular control systems. Various models are available:Duct Mount,Wall Mount,Room Mount and 2 meter cable.

BACnet MS/TP and Modbus RTU protocols

HUM-D1

HUM-C1

HUM-D1 HUM-W1 HUM-C1

Humidity and Temperature Transmitter with Waterproof Connector

Specifications

Power	15V to 24V AC or DC, +-10%
Current Output Load	< 500Ω
Display	LCD Screen for Wall Outdoor/ Room Mount and Duct Mount
Display Resolution	0-1 Celcius, 0.1%RH
Temperature Limit	-30 to 70 Celcius, 0-95% RH (Non Condensing)
Plastic Housing	Flammability Rating UL94HB
Connector	UL File E365137, Vol 1
Protection	IP65, Outdoor Rated for Duct and Wall Mount Models; IP30 for Room Mount
Filter	Sintered Stainless Steel, 60µm

	Relative Humidity	Temperature
Sensors	Capacitance Polymer	10k internal
Range	0 to 100% Non Condensing	-30 to 70 Celcius (-22 to 158 Farenheit)
Output	4-20mA, 0-5V or 0 to 10V, RS 485	4-20mA, 0-5V or 0 to 10V, RS 485
Accuracy	+-2% @ (0-90%)	+-0.2Celcius @ 5-6 Celcius
Hysterisis	< +-1% RH	
Response Time	<10s	
Drift	<0.5% RH/year	

Humidity and Temperature Transmitter with Waterproof Connector

Specifications

- High performance digital sensors and circuits, ensure accurate measurement and temperature compensation
- Good long term stability and reliability
- 100% field changeable sensors, no recalibration needed
- Fast response
- Multiple output signals selectable: 4-20mA, 0-5V or 0-10V
- Display in degrees Fahrenheit or Celsius (connection to Modbus)
- HUM-C is same as HUM-W but with extended cable to connect the sensor
- Featured as pluggable sensor pipe
- Dew point and enthalpy can be configured by register list
- BACnet MS/TP and Modbus RTU protocols over RS485,with an ethernet port.

Sensors
Humidity and Temperature Transmitter with Waterproof Connector

Humidity & Temperature transmitters are designed for environment monitoring and controlling in industrial, commercial and other buildings. These transmitters can be used for indoor air temperature and humidity monitoring in various industrial plant, clean room, lab, machine room, office and commercial building, airport, station, library and stadium. The modbus interface is documented and integrator friendly. They also have transducer outputs for connecting as analog inputs to all popular control systems. Various models are available:Duct Mount,Wall Mount,Room Mount and 2 meter cable.

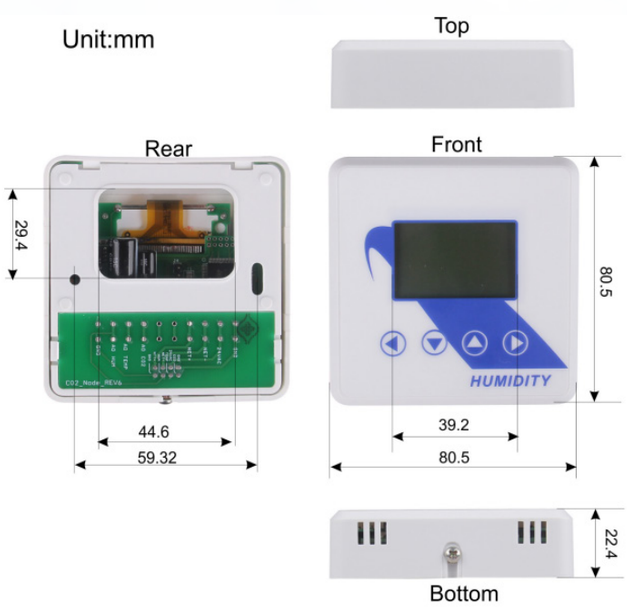
BACnet MS/TP and Modbus RTU protocols

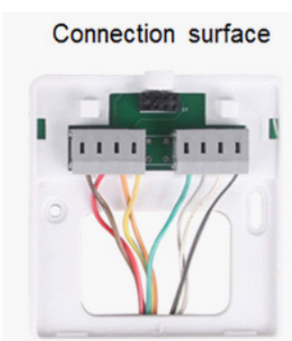
Humidity and Temperature Transmitter with Waterproof Connector

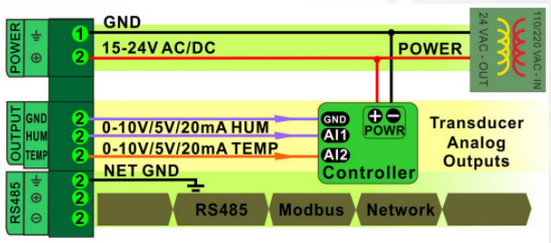
Specifications

Power	15V to 24V AC or DC, +-10%
Display	LCD Screen for Wall mount indoor
Display Resolution	0-1 Celcius, 0.1%RH
Temperature Limit	-30 to 60 Celcius, 0-95% RH (Non Condensing)
Plastic Housing	Flammability Rating UL94HB
Connector	RS485 1 Port
Protection	Flammability rating UL94V0 file E194560

	Relative Humidity	Temperature
Sensors	Capacitance Polymer	10k internal
Range	0 to 100% Non Condensing	-30 to 70 Celcius (-22 to 158 Farenheit)
Output	4-20mA, 0 to 5V or 0 to 10V, RS 485	4-20mA, 0 to 5V or 0 to 10V, RS 485
Accuracy	+-2% @ (0-90%)	+-0.2Celcius @ 5-60 Celcius







Humidity and Temperature Transmitter with Waterproof Connector

Specifications

Unit	Description	Device
HUM-N-LCD	Indoor wall mount Temperature and Humidity Sensor, Modbus RS485 with 0-5V,0-10V and 4-20mA Output, Bacnet MS/TP, LCD display and keypad	
HUM-C1	Humidity and Temperature transmitter with 2.0 meter cable and remote display, 87mm probe, BACnet, Modbus, RS485, Ethernet, Analog Output 0-5V,0-10V, 4-20mA jumper select. With waterproof connector	
HUM-W1	Humidity and temperature transmitter, wall mount, BACnet, Modbus, RS485, Ethernet, Analog Output 0-5V,0-10V, 4-20mA jumper select. With waterproof connector.	
HUM-D1	Humidity and temperature transmitter, duct mount, BACnet, Modbus, RS485, Ethernet, Analog Output 0-5V,0-10V, 4-20mA jumper select. With waterproof connector	

Thermostat
Tstat10E

Tstat10 Bacnet programmable controller is a low cost high performance programmable controller. With an I/O configuration, it can be extended through external I/O modules to form a complete building automation solution. There are five relays and two analog outputs as well as 8 universal inputs. These i/o can be configured using the free software. There are more than 300 settings with many options for each of the settings so its possible to configure these devices for most any application. Once the unit is configured, save the config file for copying to other controllers and backing up project settings.Options are available for occupancy sensor, zigbee, and humidity / enthalpy. Supports Bacnet MSTP and Modbus RTU for the RS485 model.

Wifi version supports Bacnet IP and Modbus IP

Tstat10E

Tstat10E

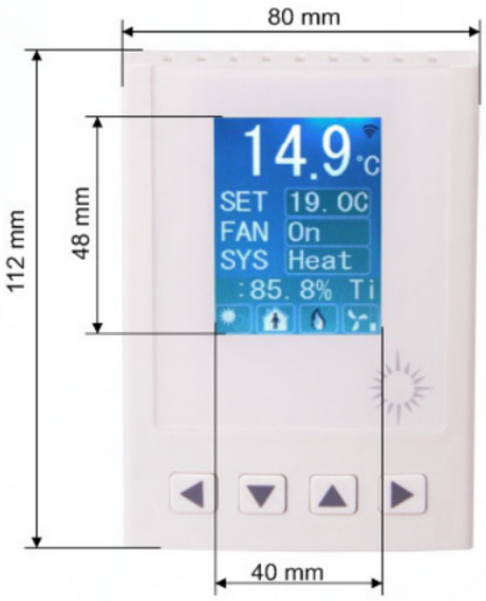
Specifications

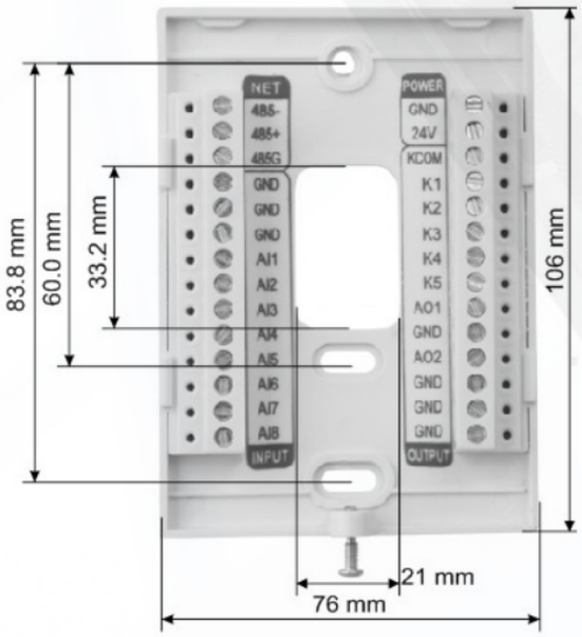
• Software configure the I/O ranges with the free T3000 software or by writing to the registers
with your own software
• Universal I/O can be configured for nearly any sensor, no jumper settings required
• Well documented register list for easy integration with other systems.
• 8 universal inputs for external temperature sensors, contacts, etc.
• 5 relay outputs, each rated at 12~24vac, 2 amps
• 2 analog outputs, 0-10V @ 100ma.
• Color LCD display with scroll bar.
• Each I/O as well as the RS485 connections have a separate screw terminal
• Clock with infinite life supercap battery backup.
• Supports Modbus RTU and Bacnet protocols simultaneously.

Tstat10E

Specifications

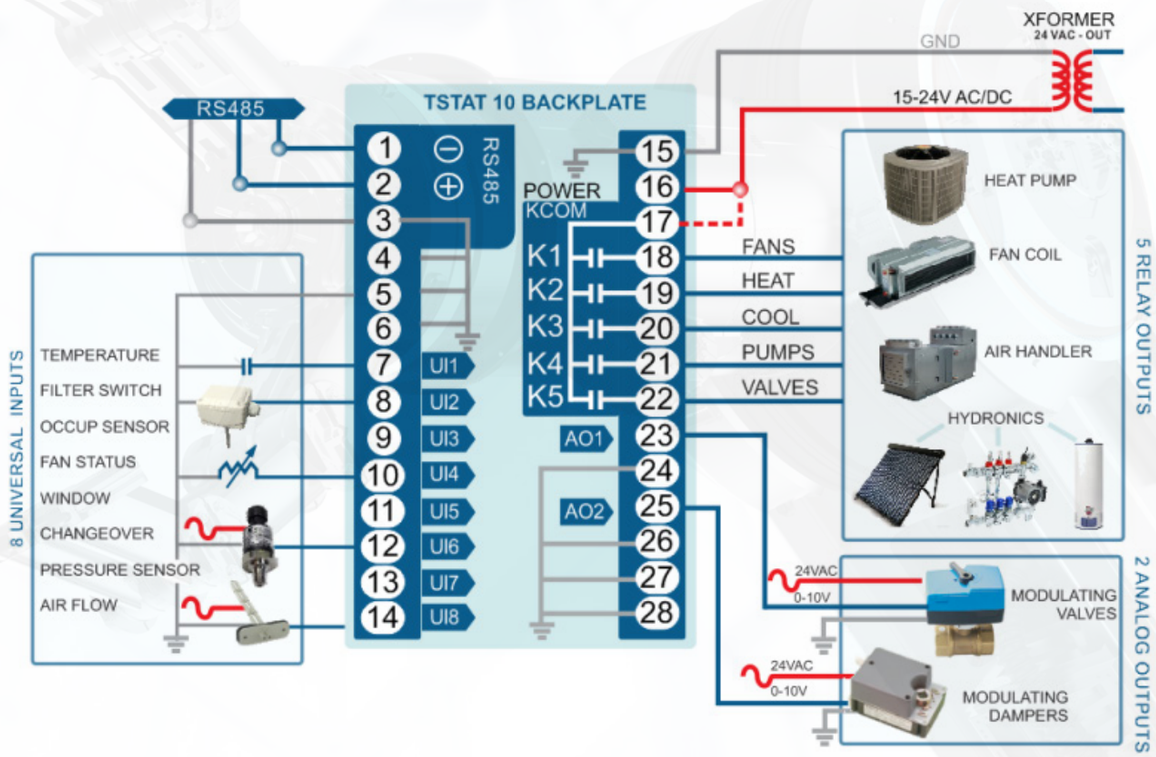
Outputs	5 Relay Outputs, 2 Analog Outputs 10V@100mA
8 Universal Inputs	10k Therm, contacts, 4-20mA, 0-5V, 0-10V
Operating Range	-30 Celcius to 70 Celcius / 0 to 99% Relative Humidity
Supply Voltage	12 to 24 VAC/VDC +- 20%, 50-60Hz
Power Consumptions	100mA at 12VDC
Relay Contacts	5 relays, 2A @ 24VAC UL File : E169380
Plastic Housing	Flammability rating UL94 file E56070
Enclosure Rating	IP31
Protocols	Bacnet MSTP and Modbus RTU
Baudrate	9600, 19200, 38400, 57600, 115200
Temperature Sensors	10K Thermistor +-0.5 Celcius
Setup Software	Free, No Licensing, Open Source





Tstat10E

Specifications

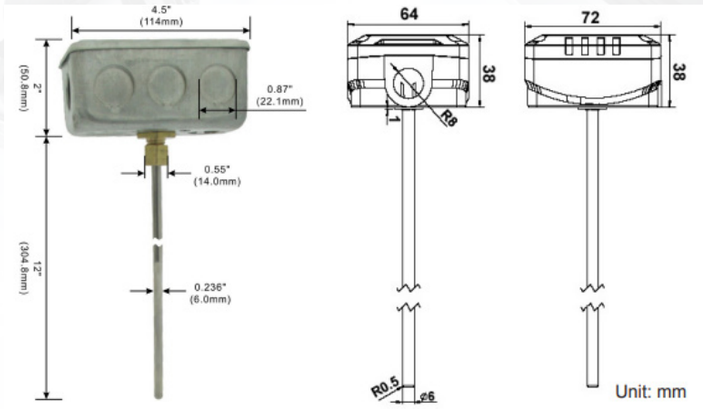


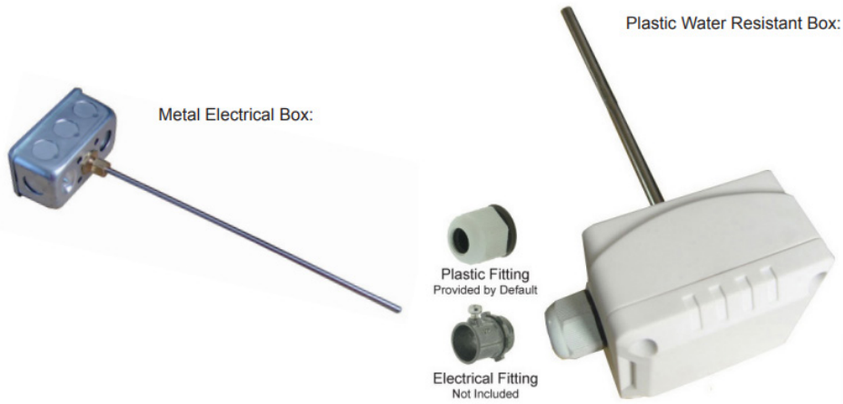
Duct Temperature Sensor

Temperature sensors are used to measuring the temperature or the air conditioning industry. This document shows the enclosures and temperature vs. resistance curves for the standard sensors.

The sensors employ precision interchangeable thermistors and RTD which are compatible with all the major building automation systems.

- Designed for temperature sensing in an HVAC and light industrial control applications.
- Precision interchangeability eliminates the necessity for individual circuit calibration.





Duct Temperature Sensor

Specifications

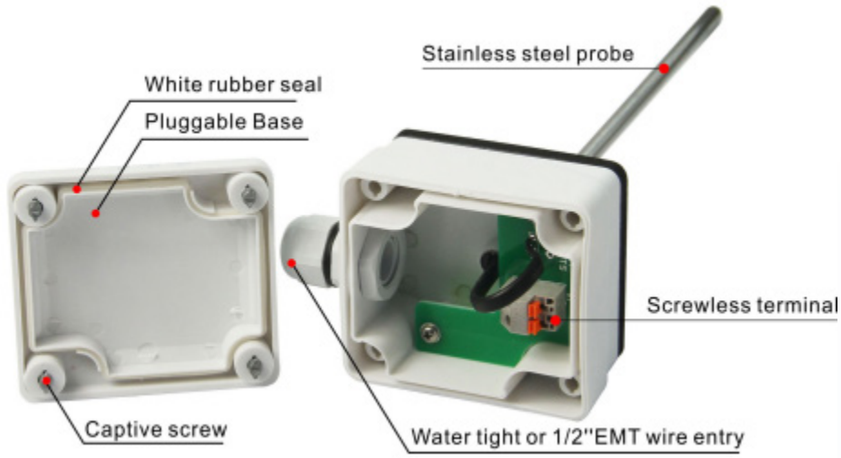
Sensor Type	Accuracy	Operating Temperature Range
10k ohm Type II	+/- 0.2 Celcius	-40 to 125 Celcius
10k ohm Type III	+/- 0.2 Celcius	-50 to 105 Celcius
100k ohm	+/- 0.3 Celcius	-40 to 125 Celcius
1k ohm	+/- 0.4 Celcius	-200 to 300 Celcius
Probe Material	Stainless steel 304, 1 mm thick wall	
Cable Property	FT4, 105 Celcius, 300V standard or 200 Celcius	
Cable Material	PVC standard or high temperature silicon	
Exposure Rating	IP65, Outdoor use	
Available Model	DTS - WP - 12 - 7	

Code	Description
DTS	Duct Temperature Sensor

Code	Enclosure
WP	Watertight Plastic Box
E	Metal Box

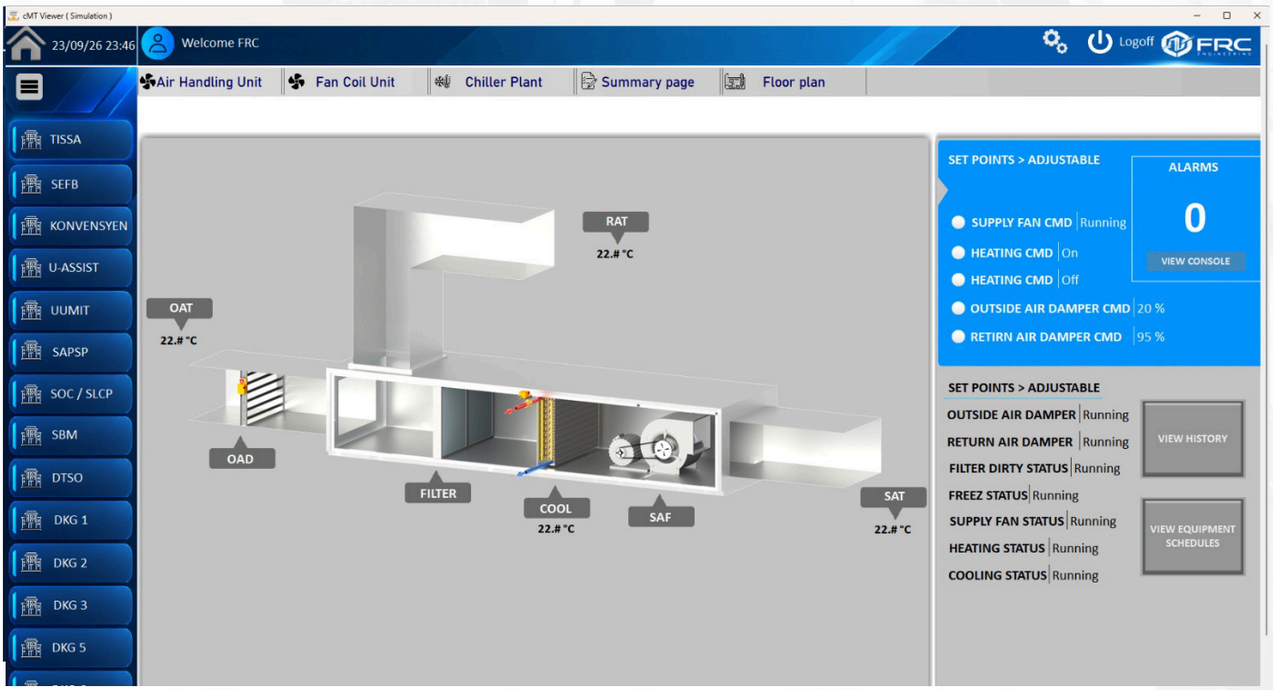
Code	Temperature Curve
2	100PT
7	10K type 2
12	1K PT

Code	Probe Length
4	4inch
6	6inch
8	8inch
12	12inch

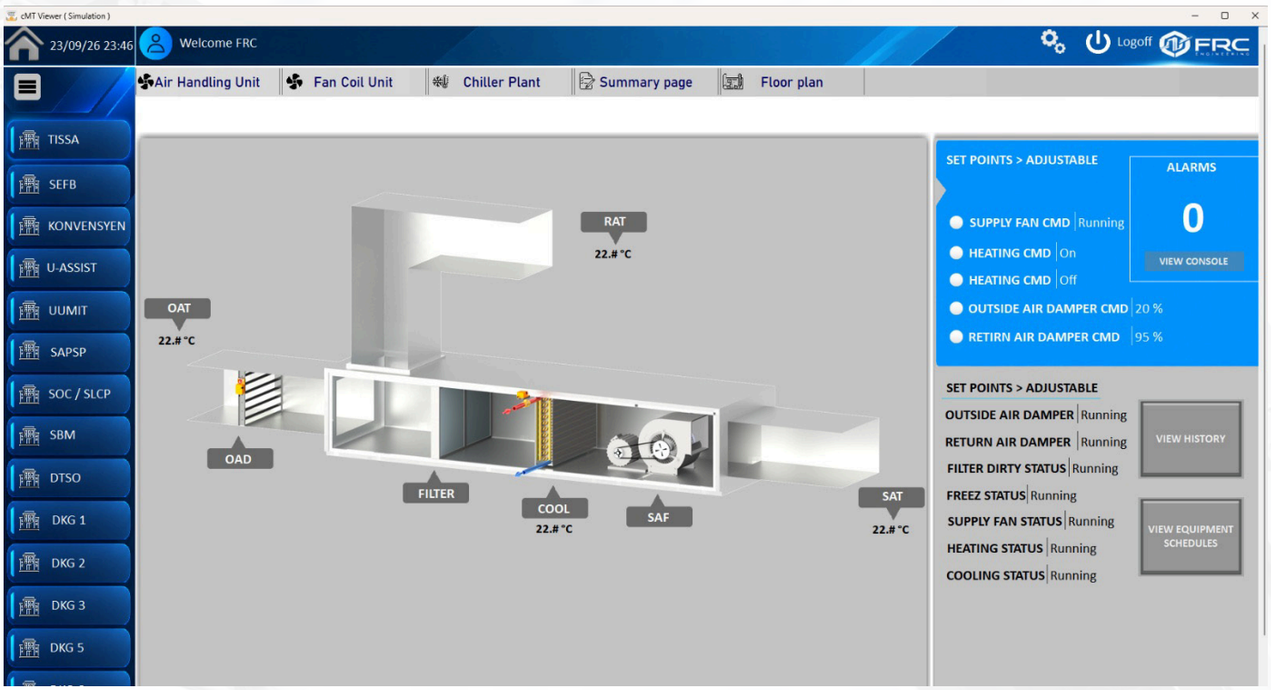


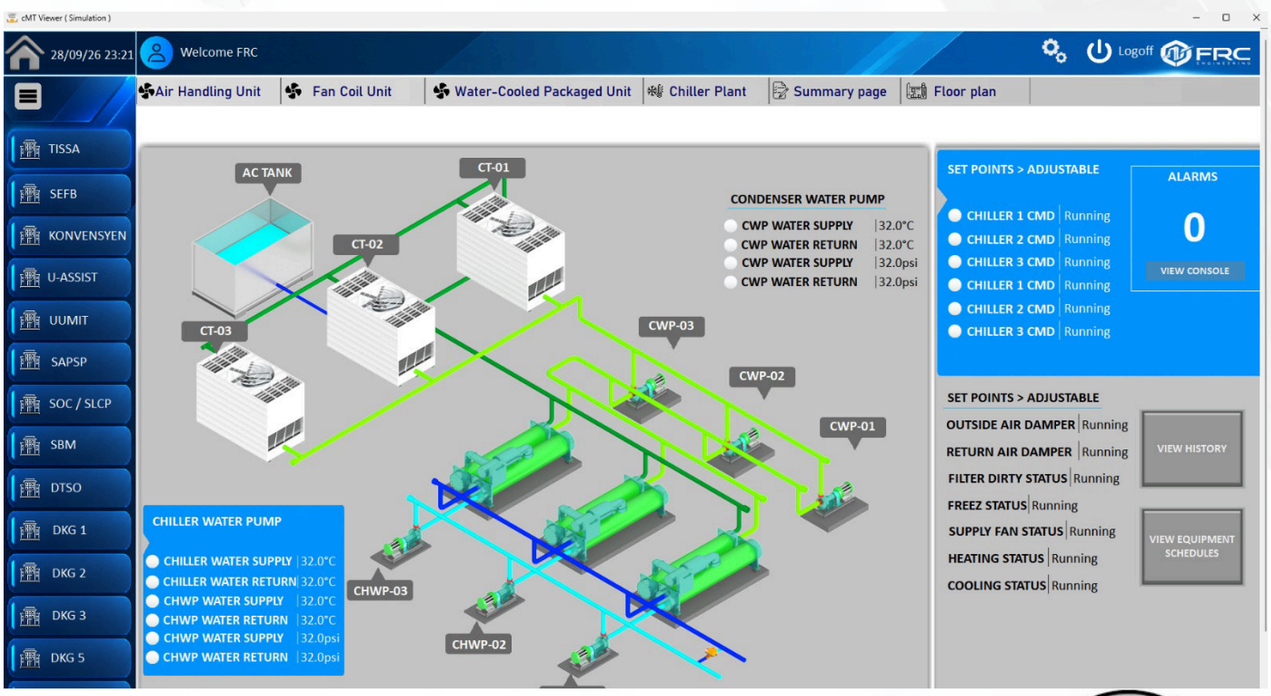
FR CONTROLS BMS SOLUTIONS

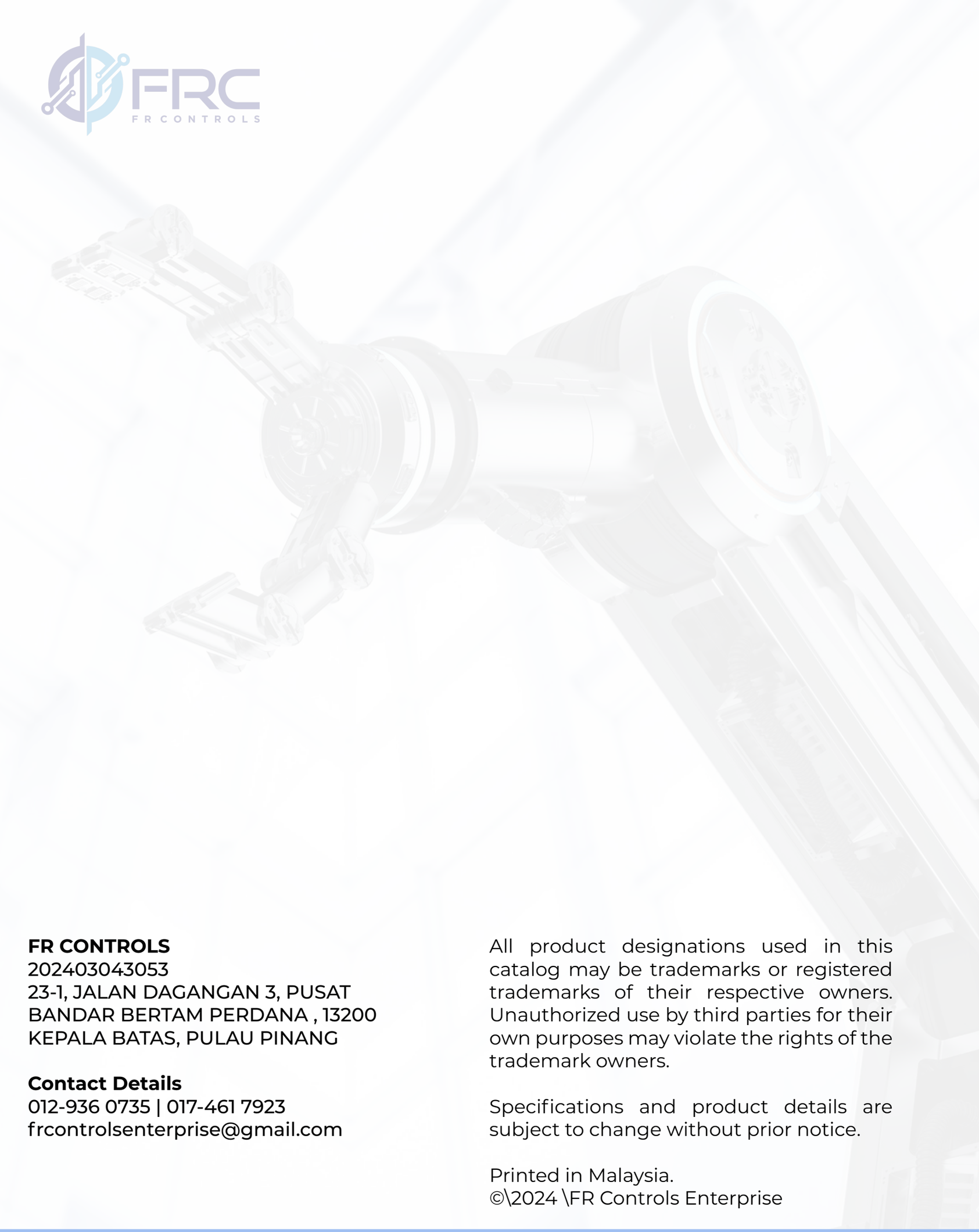
A centralized graphical interface gives facility teams a complete view of building systems, enabling faster response, better operational control and informed maintenance decisions.



FR CONTROLS BMS SOLUTIONS







FR CONTROLS
202403043053
23-1, JALAN DAGANGAN 3, PUSAT
BANDAR BERTAM PERDANA , 13200
KEPALA BATAS, PULAU PINANG

Contact Details
012-936 0735 | 017-461 7923
frcontrolsenterprise@gmail.com

All product designations used in this catalog may be trademarks or registered trademarks of their respective owners. Unauthorized use by third parties for their own purposes may violate the rights of the trademark owners.

Specifications and product details are subject to change without prior notice.

Printed in Malaysia.
©\2024 \FR Controls Enterprise