

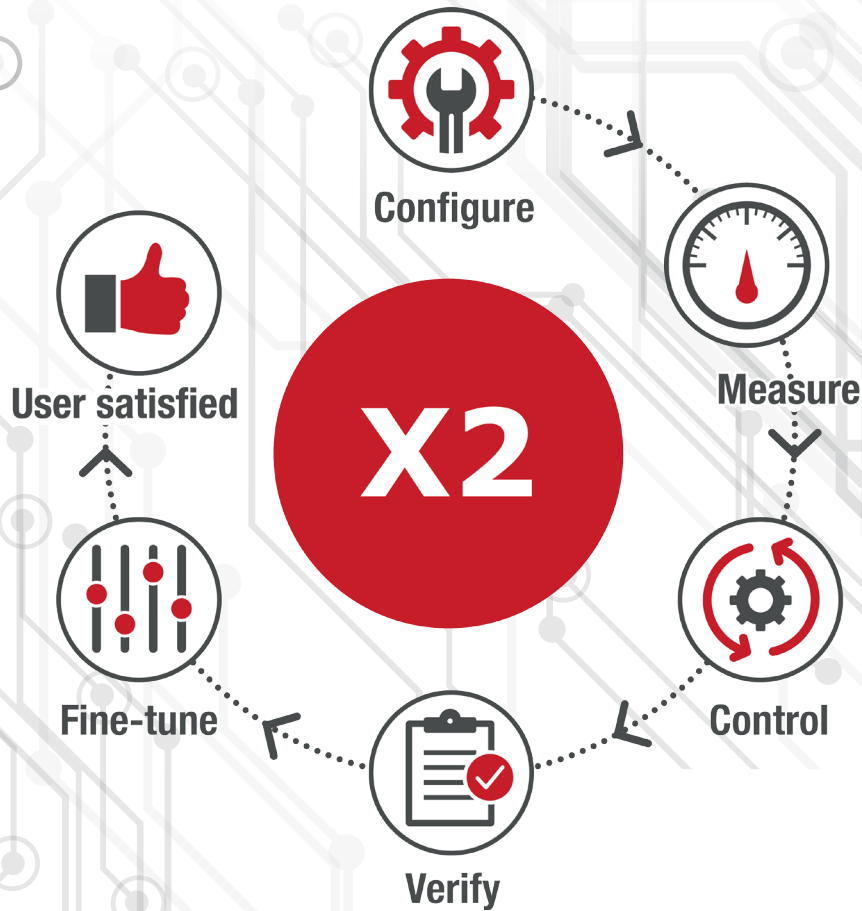
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VECTOR



VECTOR NET
BUILDING MANAGEMENT SYSTEM



VECTOR PRODUCTS **OVERVIEW**

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VECTOR

Controls and Sensors

VECTOR

Introducing Vector Controls - Optimal HVAC & Building controls for everyone.

Commencing in 2001 with the founding of Vector Controls by four experienced industry professionals quickly developed into a success story: The initial focus in ventilation controllers and thermostats led to further controller and measurement applications. The modular design of sensors, controllers and operating terminals laid the foundation for the universal, communicating controller solutions from Vector Controls as they are known today. Efficient, simple and inexpensive HVAC control solutions optimize your indoor climate and conserve resources.

Scalable projects from a single source.

Vector Controls provide solutions for projects ranging from standalone ventilation controllers to HVAC system solutions for entire buildings. The universal programmable controllers are the heart of all Vector applications. They are complemented by a wide range of sensors and application specific controls. The fieldbus connection of the controllers and the graphical representation of the data available with the VectorNET BEMS web server make it possible for every HVAC project to be optimally controlled and monitored using Vector Controls components.

Carefully selected, installed and adjusted control products save energy, reduce system lifecycle cost and increased comfort and air quality.

Reduce power consumption

- Password protected user and engineering parameters
- Limitations on all set points
- Different limitations for summer – winter mode
- Economy mode shifts set points and limits outputs when the room is not occupied
- Operation status may be controlled with motion detector, time schedules and external contacts
- Set point compensation: change the set point in correspondence to outside temperature
- Low limit and high limit alarms on all inputs to detect malfunction

EasySet: Technician software to configure and manage TCX2-series controls.

It is now simple to design, save, share, and commission your applications. And best of all: It is free.

- Live data trends with CSV export
- Template programs included
- Preset sensor options
- Save custom applications
- Sensor calibration feature



VECTOR











Universal Controller

Insight Vector TCX2

The TCX2 is a programmable universal controller with high level communications capabilities. Each of the 4 control loops may use a P+I sequence, 6 binary stages, 8 universal inputs, and 3 analogue outputs.



FEATURES

-  Onboard interface with backlit LCD.
-  Optional remote wall mounted LCD touchpad.
-  BACnet and Modbus plugin communication options.
-  Economy mode based on enthalpy or temperature.
-  Free EasySet programming software.
-  CO2 control with economy damper override function.
-  CO control for car park applications.
-  Humidity control with set point shift function.
-  Complete turnkey solutions available including programming and installation.
-  Service and support available. Contact us for options and pricing.

SUPPORTED PROTOCOLS



Vector TCX2 Controller

 Download TCX2 Datasheet



- Versatile controller for all your monitoring and operational needs
- 7 Day programmable schedule
- Easily reprogrammable settings
- Additional LCD terminal available
- Touchscreen LCD option available



Product Code	Description
V-TCX2-40863-OP	Vector controller with LCD
V-TCX2-14273-230-MOD	Vector Controller MOD
V-OPA2-VC	Wall Mounted LCD terminal
V-OPT1	Touchscreen LCD terminal



V-TCX2-40863-OP



V-OPA2-VC



V-OPT1

Vector Controller Communication Plugins

- Modbus or BACnet communications module plugins available
- Suitable for a large number of applications
- Supports interfacing with many devices on one network

Product Code	Description
V-AEX-MOD	Modbus communication plug-in
V-AEX-BAC	BACnet communication plug-in



V-AEX-MOD

Vector Controller Memory Plugin

- Memory plugin for the storage and quick transferal of program parameters
- Simple to use, can be used to install program parameters on many controllers quickly and easily
- Pre configured program options, includes USB drive with documentation.
- Custom Programs available on request.



V-AEC-PM1

Product Code	Description
V-AEC-PM1	Memory plug-in

VECTOR












Universal Controller

Insight Vector TCX2-WiFi / Ethernet

The TCX2-Wifi or Ethernet is a programmable universal controller with high level communications capabilities and wifi connectivity which allows the user to control the device via a graphical user interface. Each of the 4 control loops may use a P+I sequence, 6 binary stages, 8 universal inputs, and 3 analogue outputs.



FEATURES

-  User Friendly GUI for Control & Configuration.
-  Onboard interface with backlit LCD.
-  Optional remote wall mounted LCD touchpad.
-  BACnet and Modbus TCP/IP communication options.
-  Economy mode based on enthalpy or temperature.
-  Free EasySet programming software.
-  CO2 control with economy damper override function.
-  CO control for car park applications.
-  Humidity control with set point shift function.
-  Complete turnkey solutions available including programming and installation.
-  Service and support available. Contact us for options and pricing.

SUPPORTED PROTOCOLS



Ethernet



Vector X2 Controllers WIFI Or Ethernet



V-TCX2-40863-ETM

- Wifi & Ethernet Connectivity options
- Inbuilt Web Server for access from Phone, Tablet or PC
- Versatile controller for all your monitoring and operational needs
- 7 Day programmable schedule
- Easily reprogrammable settings
- LCD terminal available
- Touchscreen LCD option available



V-TCX2-40863-WEM

Product Code	Description
V-TCX2-40863-WEM	TCX2 WiFi Modbus TCP+Webserver
V-TCX2-40863-ETM	TCX2 Ethernet Modbus TCP + Webserver
V-OPA2-VC	Wall Mounted LCD terminal
V-OPT1	Touchscreen LCD terminal

Home Domain name: 1
VectorAP-69

LP1	LP1	LP2	LP2
Input Value	0 °C	Input Value	2000 Pa
Setpoint	23 °C	Setpoint	800 Pa
LP3	LP3		
Input Value	0 °C		
Setpoint	21 °C		

Controller State

Operating Mode: Occupied Unoccupied

Unit: °C °F

H / C mode: Heating Cooling

connected

VECTOR

X2 Web Server Screenshots

Home **VECTOR** Logout EN

Control Overview

- Control Loops
- Inputs
- Analog Outputs
- Digital Outputs

connected











Product Code	Description
V-ES	Easy Set Software
V-ES-CommsCable	Communication Cable




 [Download Easyset Programming Software](#)

EasySet is a fast, free, and user friendly way to access and configure Vector TCX2, TCIZ, and SDX2 controllers for any application.

FEATURES


-  Smart wizards for quick and easy programming.
-  Design, save, and share your program files.
-  Windows 7, 8, and 10 compatible.
-  Preset sensor options.
-  Connect easily with a USB programming cable.
-  Live data trends with CSV export.
-  Free software with online updates.
-  Sensor calibration feature.
-  Complete turnkey solutions available including programming and installation.
-  Service and support available. Contact us for options and pricing.

Step 1
Download




Download and install EasySet

Step 2
Connect




Connect our TCX2 to a USB port

Step 3
Open



Run EasySet and open at emplate file

Step 4
Configure



Configure your next project solution

VECTOR

Vector TLR Series

The TLR series controllers are an out of the box solution suitable for use on HVAC systems, available in several configurations to suit your requirements. The TLR series are simple to install, and easily applicable to the following control strategies:



FEATURES

- Multiple configuration types available
- 7 day timeclock standard
- Energy saving features
- Cost saving option with economy functionality and set point limitation
- Designed in Switzerland
- Blackbox retrofit control option, like for like wiring
- Relay switching up to 10(6) A
- LCD Display Touchpad with backlight and inbuilt temperature sensor

APPLICATIONS

- DX plant with reverse cycle
- DX plant with electric heating
- Water cooled reverse cycle with pump call
- Water cooled electric heat with pump call

Vector TLR D5P-122 Controller Kit



V-TLR-D5P-122



V-OPU-D5P-122



V-SDB-TN10-20

Product Code	Description
V-TLR-D5P-122	Vector TLR Controller 122
V-OPU-D5P-122	LCD Touchpad 122
V-SDB-TN10-20	Duct sensor 200mm width 10k
Vector TLR D5P- 122 Controller Kit	

Vector TLR D5-311R Controller Kit



V-TLR-D5-311R



V-OPU-D5-311R



V-SDB-TN10-20

Product Code	Description
V-TLR-D5P-311R	Vector TLR Controller 311R
V-OPU-D5P-311R	LCD Touchpad 311R
V-SDB-TN10-20	Duct sensor 200mm width 10k
Vector TLR D5-311R Controller Kit	

Vector TLR D42-311A Controller Kit



V-TLR-D42-311A



V-OPU-D42-311A



V-SDB-TN10-20

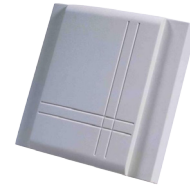
Product Code	Description
V-TLR-D5P-311A	Vector TLR Controller 311A
V-OPU-D5P-311A	LCD Touchpad 311A
V-SDB-TN10-20	Duct sensor 200mm width 10k
Vector TLR D5-311R Controller Kit	

[Download TLR Datasheet](#)

Vector Indoor Temperature & Humidity Sensors

- Suitable for various control systems
- 10k Thermistor
- Transmitter selectable 0-10 or 4-20ma

Product Code	Description
V-SRA-TN10	Wall mounted room sensor 10k
V-SRC-T1-W0	Wall mounted temperature transmitter
V-SRC-H1-A3	Wall mounted humidity transmitter
V-SRC-H1T1	Wall mounted humidity & temperature transmitter



V-SRA-TN10

Vector Duct Temperature Sensor

- 10k Thermistor
- Suitable for various control systems
- Transmitter selectable 0-10 or 4-20ma

Product Code	Description
V-SD-Tn10-12	Probe Lead duct Sensor 12cm 10k
V-SDB-TN10-12	Duct sensor 120mm width 10k
V-SDB-TN10-20	Duct sensor 200mm width 10k
V-SDC-T1	Duct temperature Transmitter
V-SDC-H1	Duct Humidity Transmitter
V-SDC-H1T1	Temperature and humidity transmitter



V-SDB-TN10-12

Vector Outdoor Temperature Sensors

- 10k Thermistor
- Suitable for various control systems
- Transmitter selectable 0-10 or 4-20ma

Product Code	Description
V-SOD-Tn10	Temperature sensor 10k
V-SOC-T1-1-W0	Temperature Transmitter
V-SOC-H1Tn10-A3	Temperature and Humidity Sensor
V-SOC-H1T1-A3-1-W0	Temperature and humidity transmitter -40~ +60 degrees



V-SOD-Tn10



V-SOC-T1

 [Download Sensor Datasheet](#)

VECTOR

SRD2-THC Sensors



22.0 °C 43.7 %RH 🏠 🌫️	25.1 °C 38.6 %RH 763 ppm	25.1 °C 38.6 %RH 763 ppm 92.4 %AQI	🔄 1 22.0 °C 23.0 °C 🏠 🌫️ 😊	22.0 °C 38.6 %RH 763 ppm
-----------------------------	--------------------------------	---	-------------------------------------	--------------------------------

Features

- Indoor Temperature Monitoring
- Indoor Humidity Monitoring
- Indoor CO2 Monitoring
- Onboard Display Option Available
- VOC & Dust Particles Option Available
- Automatic Speed Control Of Fresh Air Fan
- Automatic Modulation Of Fresh Air Damper
- Adjustable CO2 Setpoint
- High Quality Product
- Install Option Available



Indoor Air Quality Sensors

Indoor Air Quality & Temperature Transmitter/Monitor



V-SRC-Q1T1

- Indoor Temperature Monitoring
- Indoor Humidity Monitoring
- Indoor CO2 Monitoring
- Onboard Display Option Available
- VOC & Dust Particles Option Available
- Automatic Speed Control Of Fresh Air Fan
- Automatic Modulation Of Fresh Air Damper
- Adjustable CO2 Setpoint

Product Code	Description
V-SRD2-THC	Wall Mount TH, CO2 no display
V-SRD2-THC OPIR	Wall Mount TH, CO2 Sensor OPIR
V-SRD2-THC MOD (no display)	Wall Mount TH, CO2 Sensor w MOD
V-SRD2-THC OPIR-MOD	Wall Mount TH, CO2, OPIR, MOD
V-SRD2-THC OPIR-BAC	Wall Mount TH, CO2, OPIR, BAC
V-SRD2-THC OPIR-WIM	Wall Mount TH, CO2, OPIR, MOD, Wifi
V-SRD2-THC OPIR-WIB	Wall Mount TH, CO2, OPIR, BAC, Wifi



Indoor CO2 & Temperature



V-SRC-C1T1

- Indoor CO2 Monitoring and temperature measurement
- CO2 level indication with three separate color LED's
- Direct Outside air control

Product Code	Description
V-SRC-C1T1	Indoor CO2 0 ~ 2000 ppm and temperature transmitter -40...60 °C
V-SRC-C1	Wall Mounted CO2 transmitter: 0-2000 ppm
V-SDC-C1	Duct CO2 transmitter 160mm probe: 0-2000ppm

CO2 Fan Control Kit



- Indoor CO2 Monitoring
- Automatic Speed Control of Fresh Air Fan
- Automatic Modulation of Fresh Air Damper
- Adjustable CO2 Setpoint
- CO2 Led Indication on Sensor
- High Quality Product
- Install Option Available



V-SDA-P*

Vector SDA Differential Pressure Transmitter

- Suitable for various control systems
- Transmitter selectable 0-10 or 4-20ma

Product Code	Description
V-SDA-P1	Diff Pressure transmitter
V-SDA-P2	Diff Pressure transmitter 0-500Pa
V-SDA-P3	Diff Pressure transmitter 0-1kPa



V-SDE-P*

Vector SDE Differential Pressure Transmitter

- Suitable for various control systems
- Transmitter selectable 0-10 or 4-20ma

Product Code	Description
V-SDE-P1	Diff Pressure transmitter 0-25Pa
V-SDE-P2	Diff Pressure transmitter 0-500Pa



V-SRC-C1

Vector CO2 Sensors

- Air Quality applications
- Outside air control

Product Code	Description
V-SRC-C1	Wall Mounted CO2 transmitter: 0-2000 ppm
V-SDC-C1	Duct CO2 transmitter 160mm probe: 0-2000ppm



C-GAS-CO-150

Car Park CO Sensors

- Range adjustable at time of installation
- Durable plastic housing
- Air quality applications
- Car park monitoring

Product Code	Description
C-GAS-CO-150	Carbon monoxide sensor 0-150ppm

 [Download Sensor Datasheet](#)

Vector Accessories

- 10k thermistor temperature sensor
- For use with TCX2-OP controllers

Product Code	Description
V-AMC-2	Conduit Connector:NPT thread
V-AMB-005	Connection Box Surface Mounting
V-OPR-1	Infrared remote controller
V-OPC-S	Integrated display & programing unit
V-OPA-S	Remote display & prog interface



V-OPC-S



VECTOR NET

BUILDING MANAGEMENT SYSTEM

Training Session

Call us about our next training session dates.

1300 665 831 or email
training@insightcontrol.net.au

- Vector Products Overview
- Programming Basics
- Vector Net BMS Preview
- Tech Install Tips

Lunch Provided





Electrical • Monitoring • Automation
www.insightcontrol.net.au 1300 665 831

Vector Knowledge Base

- Product Range Information
- Easyset Program Library
- How-to articles
- Troubleshooting



Introducing VectorNET Building Management System

The perfect building control solution bringing Vector Controls hardware and all other building controls and systems together in one compact, powerful and intuitive package.

The VectorNET BMS is a stand-alone, embedded, web-based graphical interface for building automation, process control and access control systems. Multiple simultaneous protocols supported Modbus, BACnet and more. The VectorNET is totally self-contained so no PC is required on site, only access for a web browser, locally or via the internet. All set up and user interactions are performed via a web browser. No dedicated PC or external software applications are required. The user interface utilises HTML5 to allow for advanced graphical features. The VMS is designed to automatically adjust to any screen size and orientation. This allows it to be used in browsers on a PC, tablet or mobile phone with no changes or special software configuration necessary.

VectorNET BMS & Control System Engineering with a Difference

VectorNET Engineering options are tailored to suit your particular needs, giving you the ability to be in control of your controls projects. Fully engineered systems to suit your building applications big or small or self engineered solutions available with pre-loaded template packages ready to deploy onsite with minimal engineering. System Integrator Training programs are available, no expensive engineering software required to get started with dedicated remote service and support provided by Insight Control.



[Download Vector NET BMS Datasheet](#)

VectorNET BMS Feature Summary

- Modern Animated building graphics included
- Dedicated Mobile or Desktop Viewing options
- Energy Monitoring with automated Demand / Load-shed control
- Internally maintained time schedules with sunrise/sunset and stagger offsets
- Trend data collection, display and export to CSV or NEX Cloud
- Runtime accumulation with Email and SMS notifications
- Alarm condition monitoring with Email and SMS notifications
- Calculated point values (average, min, max, etc)
- Simple line programming for controlling equipment
- Database of up to 100 users and 100 user groups
- Multiple simultaneous users
- Activity logging for tracking user actions
- Template system for quickly cloning points, graphics, devices or entire networks
- QR code point mapping for simple user monitoring and control.
- Live Weather station data feeds
- Support for up to 2,000 nodes which can be any combination of points, graphics, trends, etc. - no hard limits on individual nodes.
- Supported VPN Remote Access Options available
- Dedicated BMS 4G network router options available

Industry Standard Protocols Supported

- BACnet IP
- BACnet MS/TP
- ModBus RTU/485
- ModBus/TCP (IP)
- XML/HTTP (read only)
- LonWorks



Software Requirements

No software is required other than an HTML5 compatible web browser.

Recommended browsers are as follows:

- Windows: Chrome
- Android: Chrome
- iPhone/iPad: Safari
- Linux: Chrome



VectorNET Building Management System

- Extremely compact, standalone, embedded web-based interface.
- For use with building automation and process/access control systems.
- Can be supplied programmed and engineered to meet your particular needs.
- BACnet IP, BACnet MS/TP, Modbus/TCP, Modbus RTU/485, LonWorks.



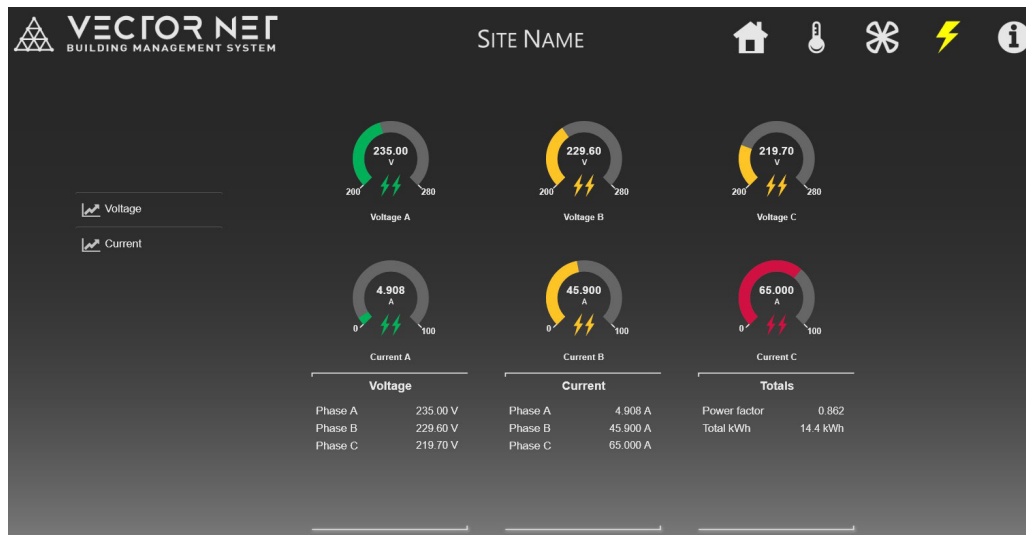
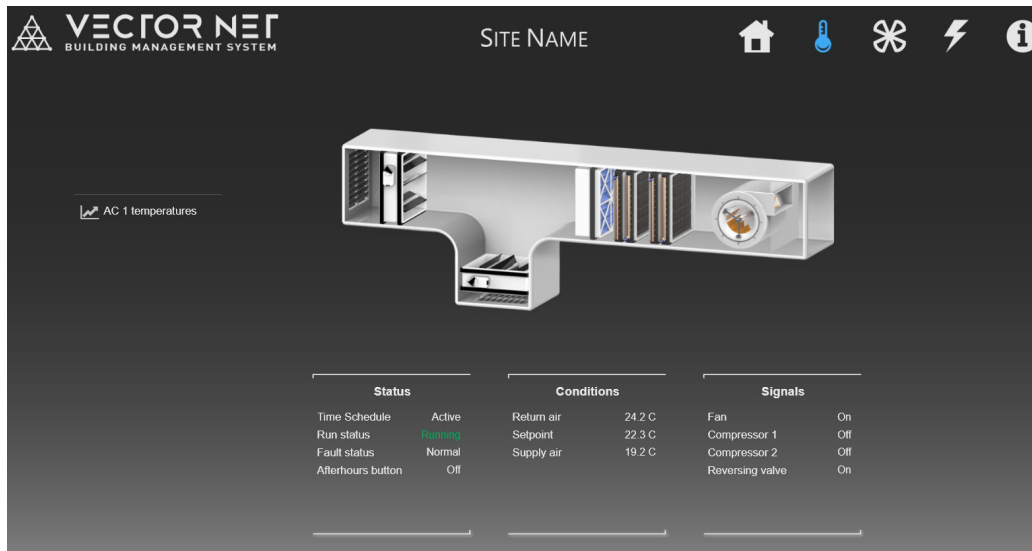
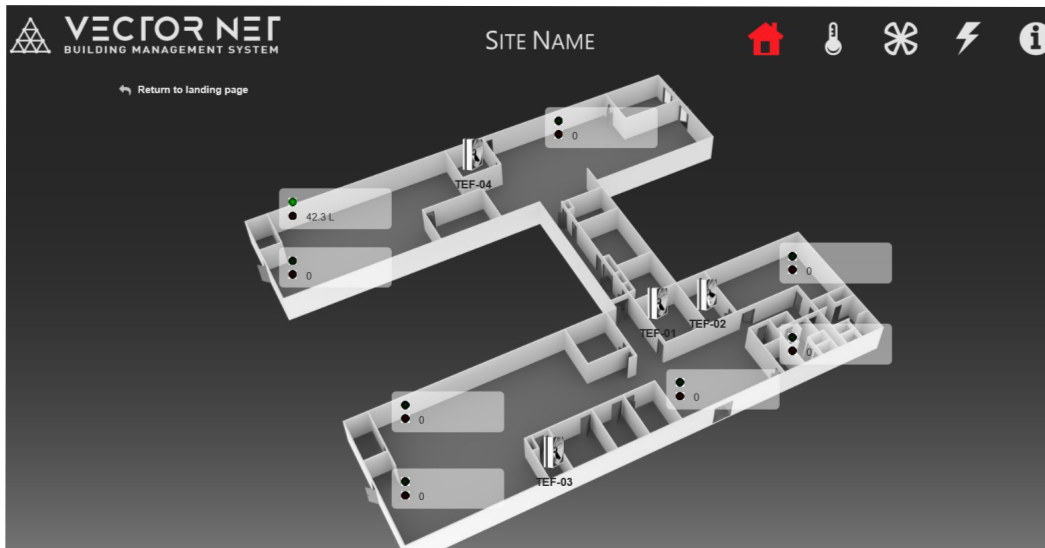
VN-VectorNET Web HMI

Product Code	Description
VN-VectorNET Web HMI	VectorNET BMS/EMS HMI
VN-VectorNET Web HMI MR	VectorNET BMS/EMS HMI Modbus RTU
VN-VectorNET Config < 5	VectorNET Config < 5 Devices
VN-VectorNET Config < 10	VectorNET Config < 10 Devices
VN-VectorNET Config < 25	VectorNET Config < 25 Devices
VN-VectorNET Config 25+	VectorNET Config 20+ POA
VN-VectorNET Config HLI	VectorNET Config Misc HLI
VN-VectorNET AIO 13" TS	VectorNET Touchscreen PC11.6"
VN-VectorNET AIO 22" TS	VectorNET Touchscreen PC21.5"



[Download Vector NET BMS Datasheet](#)





VectorNET Energy Demand Control

- Automatic Load Shed Control
- Energy Monitoring
- Temperature Monitoring (Store & Cold / Freezer Rooms)
- Time Schedule Equipment Shutdown after hours
- Fail Safe Control, High Temp override
- Battery & Solar integration possible
- New build or retro fit installation
- NEX Cloud connection for system trend reporting and email alerts



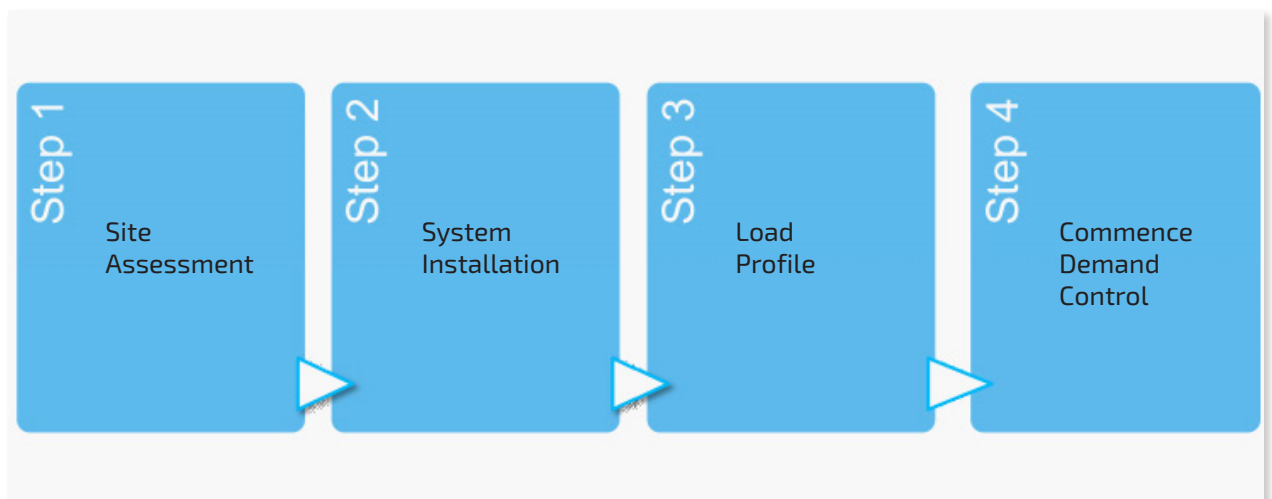
Typical EDC System will require the following, this can change depending on the project.

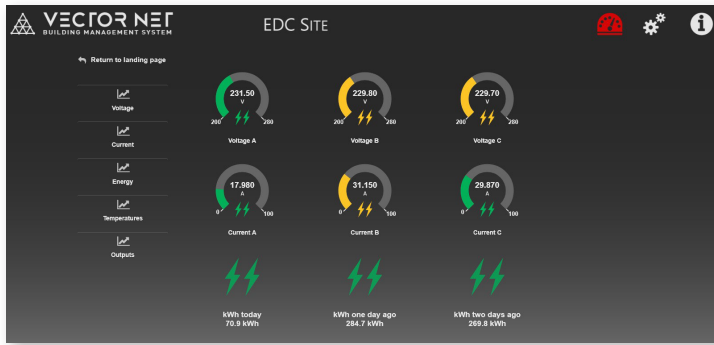
Product Code	Description
VN-VectorNET Web HMI	VectorNET BMS/EMS HMI
V-TCX2-40863-OP	Vector controller with LCD
M-SPM93	Electrical meter, kWh, 3 Phase 60A C1
M-SCT36-200/5	CT Split Core 200/5amp
M-NEX	12Months NEX Cloud Subscription
P-Engineering	Programmed to your particular needs



VN-VectorNET Web HMI

EDC System Implementation Process

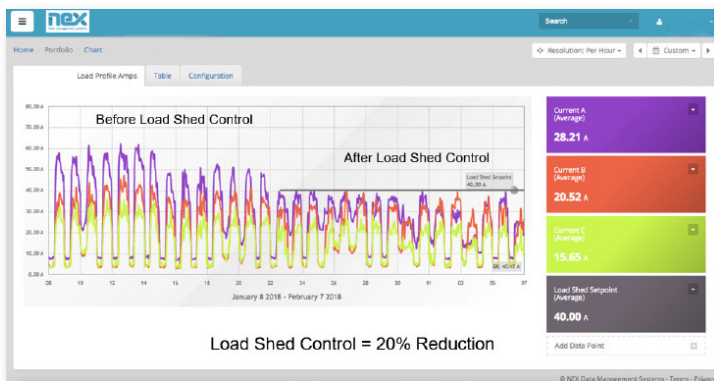




EDC Dashboard



NEX Data



Fixed Access
Touchscreen PC



Local
access



NEX Cloud
Data storage & reports



Network Switch

AC Manufacturer
Gateway Modules



Local Network

Network options

- Wifi
- Ethernet
- RS485

Comms options



Vector X2
Controllers



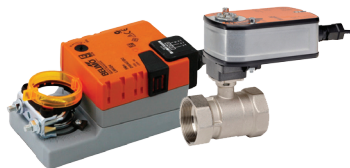
Energy meters



Outdoor sensors



Valves & Actuators



Air Quality sensors



Sensor cabling

Typical Network Schematic

Email and Text Notifications



Secure Remote Access
• Managed VPN
• Dynamic DNS



MANAGEMENT LEVEL

Internet connection

TCP to RS 485 Converter



4G Router

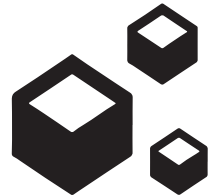


AUTOMATION LEVEL

ABB VSDs



AC Interface Modules



CONTROL LEVEL

Wall sensors



Duct & pipe sensors



Pressure sensors



SENSOR LEVEL

VECTOR

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VECTOR

Controls and Sensors