Natural Ventilation Solutions

Simplify the Complex®

At Titan we simplify the complex to help our customers create truly smart spaces.

Through innovation and continuous investment in technology and people, our intelligent control solutions aid the delivery of smart buildings and connected spaces.

Our range of Natural Ventilation & Smart Building products combine to provide the perfect solution for learning and working environments where productivity, well-being, comfort and energy efficiency is critical.

From Concept to Completion

At Titan we design and develop our products to aid every stakeholder in the delivery of smart and efficient building control.

From design, install and commissioning through to end user, facilities managers and building owners, every feature of the solution has been carefully developed to add value to each user's experience.

CONSULTANT/SPECIFIER/DEVELOPER

At Titan our solutions are delivered as intended from day 1 with modern aesthetics and the best possible user experience

INSTALL

All hardware and software is designed to provide installers with the speed of install and insight they require to hand over to the commissioning team. From pre-wired control panels to wireless sensors install is made as simple as possible.

COMMISSIONING

With flexible commissioning routines and application specific setups, the system provides all the tools for quick and simple commissioning designed to allow engineers to get the system up and running as quick as possible and reducing on-site time

FACILITY & ASSET MANAGERS

With system control & monitoring data links to BMS and/or IoT cloud servers, Energy Consumption reporting and Smart Alarming for reactive maintenance building managers have high quality insights into the system and buildings performance

BUILDING OCCUPANTS

All solutions are designed to provide the highest levels of occupant comfort and well-being to promote productivity within the learning environment & workplace.

The System

A natural ventilation system involves strategically placed windows, vents, and openings to allow fresh air to enter and stale air to exit, creating a healthy and comfortable indoor environment. One of the primary benefits of a natural ventilation system is improved indoor air quality, as it helps to remove pollutants while supplying fresh oxygen. Additionally, natural ventilation can enhance comfort levels by regulating indoor temperatures, preventing overheating or stuffiness in classrooms and creating a more comfortable learning environment. Reducing the reliance on artificial cooling systems, thus lowering energy consumption and costs.

OPTIMISING VENTILATION AND AIRFLOW

Proper ventilation is vital for healthy indoor environments. Sensors monitoring carbon dioxide (CO_2) levels can signal when spaces are inadequately ventilated, prompting adjustments to improve airflow.

ENHANCING PRODUCTIVITY AND WELL-BEING

Healthy indoor environments directly impact occupants' productivity, cognitive function and well-being. Our solutions contributes to creating spaces where occupants feel comfortable and focused, promoting productivity. Moreover, improved IAQ positively affects mental health, reducing stress levels and fostering a sense of well-being among occupants.
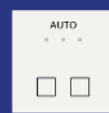
BACNET MS/TP

NVC1204

CCM-204-NV

AUTO

AUTO

Sensors   ACO

Sensors   ACO

Controllers

Flexible Control

Both the NVC1204 and CCM-204-NV controllers allow their array of digital inputs to be allocated or written to via the native BACnet communications for wind, rain, fire and heating to ensure the windows or dampers are closed, or set to a minimum position, should the application require.

Temperature and CO2 values derived from either 0-10V sensor inputs or written values via the native BACnet communications, allow the controller to position the windows / dampers either based on the temperature within the space, or on a priority demand basis of both the temperature and CO2 values.

A Titan ACO window interface unit can be allocated to each zone to provide manual override of the auto control to close or open the windows.
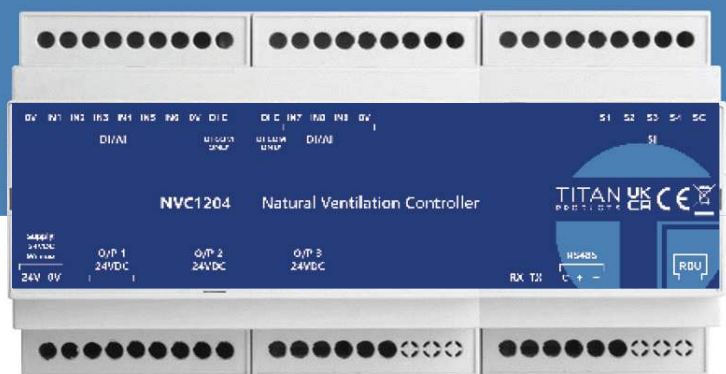
Features

- Flexible natural ventilation control solutions
- BACnet MS/TP communications
- Up to 3 zones of temperature or temperature & CO2 priority control
- Control interlocks for rain, wind, heating & fire
- Weather componsated setpoint control options
- Energy efficent stategies incorpotating free cooling to purge control spaces
- Application specific setup for quick commissioning
- Fully compatible with Titan Gen 3 Temperature & CO2 sensors and ACO window interfaces
- 24VDC drive chain or 0-10V control

NVC 1204

3 Zones of 24VDC control

The NVC1204 provides ventilation on demand control of 3 x 24VDC reverse drive outputs for natural ventilation applications.

The outputs can be driven in unison for banks of windows / ventilation dampers, or individually providing up to 3 zones of control depending on the temperature and CO_2 conditions within the controlled space(s).

CCM-204/NV

2 Zones of 0-10V control

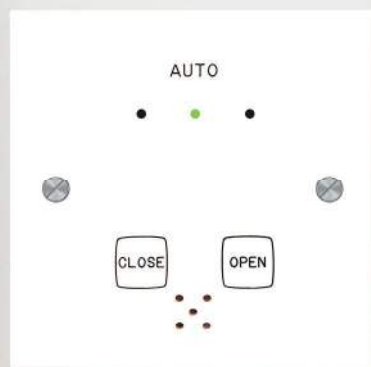The CCM-204-NV provides on demand control for up to 2 x zones of natural ventilation zones.

2 x 0-10V control outputs per zone can be allocated to either provide control of cross flow applications through the control of a low-level and high-level damper, or single vent applications with a 0-10V modulating fan boost.

Manual window override

ACO user interfaces can be connected directly to the controllers and allow for manual override of the automatic window control via the touch-sensitive buttons. The operating mode is shown clearly by the user friendly, LED indication.

The ACO can be housed in a Titan Products Gen 2 room enclosure or on a flush single-gang plate.

Features

- 3 setting (Open/Auto/Closed)
- Touch-sensitive buttons
- LED indication
- 0-10V output signal
- Incorporated 10K3A1 temperature sensor

Flexible CO2 & Temperature monitoring

Whether looking to retrofit reliable wireless sensors, integrate networkable BACnet sensors, or connect 0-10V sensors directly to a controller or IO device, the sensor connectivity is truly flexible, catering for multiple install options.

All sensors benefit from the market leading feature set of the Gen 3 sensor range including modern & slimline aesthetics, anti-microbial plastics, intuitive CO2 HALO indications and ease of install.

Features

- Wireless, BACnet & 0-10V sensor options
- Modern and slimline Gen 3 aesthetics
- Anti-microbial plastics
- Intuitive HALO LED indication for CO2
- TPZ-Net & BACnet mapping to any controller or IO via NetMaster

Enhance your System

Greater flexibility when NetMaster is added.

Whether new build or retrofit we have a range of options to suit

The Titan NetMaster provides network management covering time scheduling, water treatment routines, alarming and energy management.
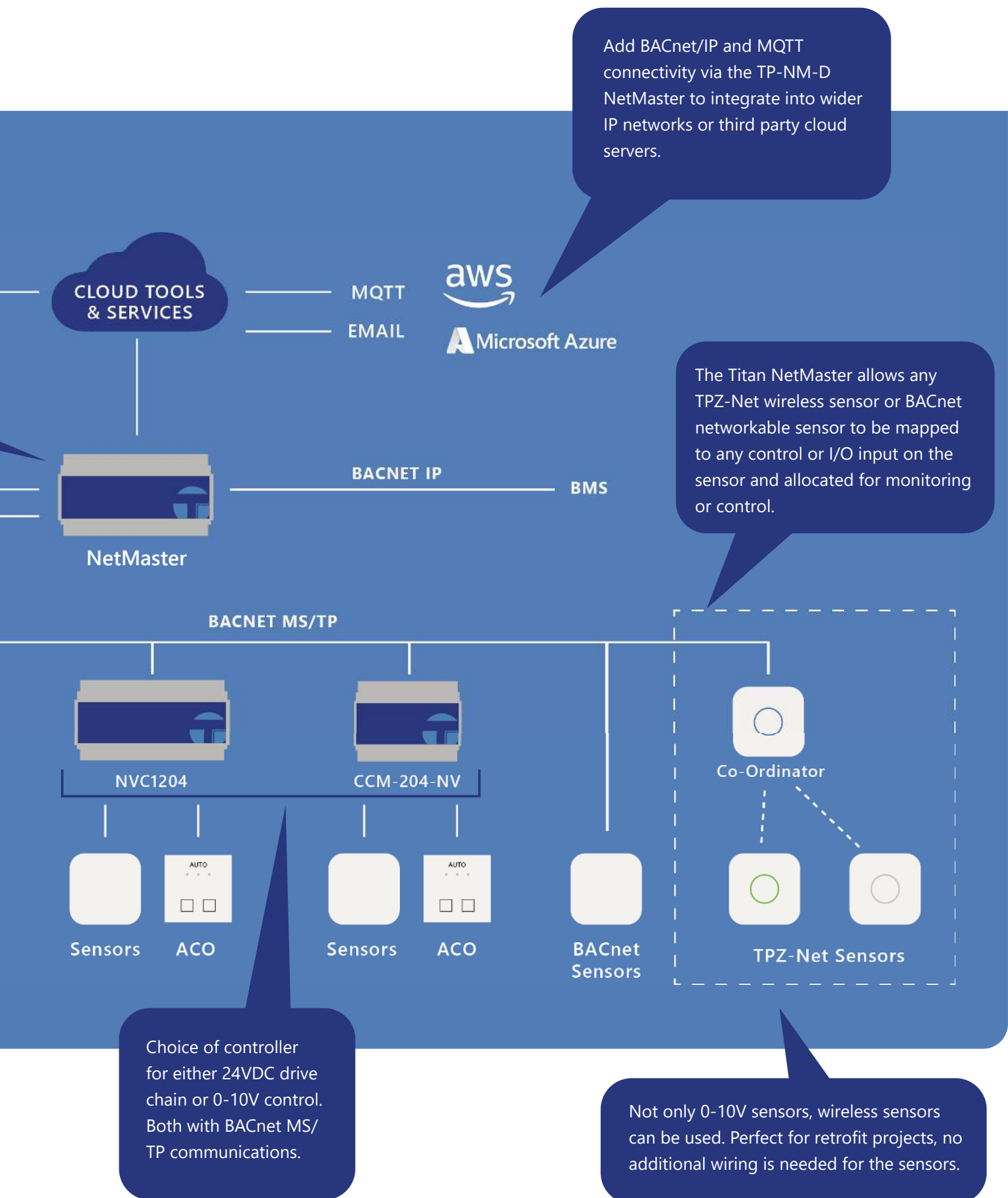
Adding the Smart I/O units into the building scheme opens up system flexibility whether wishing to monitor alarm inputs, utilise pulsed meters, map sensors and input values to other networked controller or enable local plant equipment.

OTA UPDATES

MODBUS

ENERGY METERS

SMART IO

Leak detection

Pulsed meters

Alarms

Sensors

Add BACnet/IP and MQTT connectivity via the TP-NM-D NetMaster to integrate into wider IP networks or third party cloud servers.

CLOUD TOOLS & SERVICES

MQTT

EMAIL

aws

Microsoft Azure

The Titan NetMaster allows any TPZ-Net wireless sensor or BACnet networkable sensor to be mapped to any control or I/O input on the sensor and allocated for monitoring or control.

BACNET IP

BMS

NetMaster

BACNET MS/TP

NVC1204

CCM-204-NV

Co-Ordinator

AUTO

AUTO

Sensors

ACO

Sensors

ACO

BACnet Sensors

TPZ-Net Sensors

Choice of controller for either 24VDC drive chain or 0-10V control. Both with BACnet MS/TP communications.

Not only 0-10V sensors, wireless sensors can be used. Perfect for retrofit projects, no additional wiring is needed for the sensors.

Part Codes

Controllers	Part Number
2 zone natural ventilation controller for cross flow and fan boost applications with real time clock	CCM-204/NV
3 zone natural ventilation controller for 24V DC drive chains	NVC-1204

Combined CO2, Temperature & Humidity Sensors	Part Number
0-10V sensor (slimline enclosure)	TP-RS-CO2RHT-V-10K3
0-10V sensor c/w LED HALO	TP-RS-CO2RHT-V-10K3-H
TPZ-Net wireless sensor c/w LED HALO	TP-RS-CO2RHT-TPZ
Smart sensor with BACnet / Modbus communications (slimline enclosure)	TP-RS-CO2RHT-BMS
Smart sensor with BACnet / Modbus communications c/w LED HALO	TP-RS-CO2RHT-BMS-H

ACO	Part Number
Window positioning unit, white surface mounted room enclosure closed/auto/open	TPRS/ACO/W
Window positioning unit, white flush mounted closed/auto/open	TP/ACO/F/W

NetMaster	Part Number
BACnet MS/TP to IP Router with MQTT gateway capabilities	TP-NM-D

IO Modules	Part Number
Smart IO Module with 4 x UI and 4 x Digital Outputs c/w NFC communications for setup	IO/COM-4DO
Smart IO Module with 8 x UI and 8 x Analogue Outputs c/w NFC communications for setup	IO/COM-8AO
Smart IO Module with 8 x UI and 8 x Digital Outputs c/w NFC communications for setup	IO/COM-8DO
Smart IO Module with 8 x UI and 8 x Relay Outputs c/w NFC communications for setup	IO/COM-8R