TREND IQ SYSTEM OVERVIEW

IQ4 Plant Controllers

The IQ41x series of intelligent controllers is designed for advanced unitary control systems and localised intelligent control of distributed plant. Full compatibility with other Trend IQ controllers enables the IQ41x to integrate the local environmental needs with the main air conditioning system in order to optimise both comfort and running costs. With its small footprint IQ41x can be placed in smaller control panels, lending itself to confined space applications. The IQ41x design meets the required DIN form for standard electrical devices and as such can be fitted within regular electrical enclosures thereby reducing installation costs.

IQ3 Main Plant Controllers

IQ3xcite controllers use TCP/IP over Ethernet, incorporating an on-board web server which can deliver user-specific web pages to a PC or mobile device running internet browser software. Native BACnet options are available in addition to variants that can connect directly to the Trend LAN. These DIN rail mounting controllers have 16 input/output points which can be expanded up to 128 points by adding I/O modules. A 16 point non-expandable unit, as well as the 12 point IQ3xact controller are also available. The IQView8 display can be connected via the RS232 port.

IQeco Terminal Unit Controllers

Designed primarily for commercial buildings, the IQecos provide intelligent solutions for either individual or open plan offices. They are also ideal for hotel applications where separate room control is required. The entire IQeco range has passed the WSP Association's Conformance Review and as such are BACnet certified.

Supervisors

Supervisors are used to graphically display monitored inputs and outputs, change control parameters and perform a wide range of energy analysis and maintenance functions, simplifying the user's interaction with the BEMS.

Trend's 963 Supervisor is a client/server based software package where the 'client' requires nothing more than a standard web browser. 963 is available in both server and lite versions (client), and has a number of variants which include 963 Secure, for compliance with 21 CFR Part 11; 963 SNMP for transmitting alarms to IT monitoring systems and 963 SMS which enables retransmission of alarms to a GSM mobile phone.

The TOPS (Trend Open Protocol Server) enables 963 to control and monitor both Trend and 3rd party BACnet products.
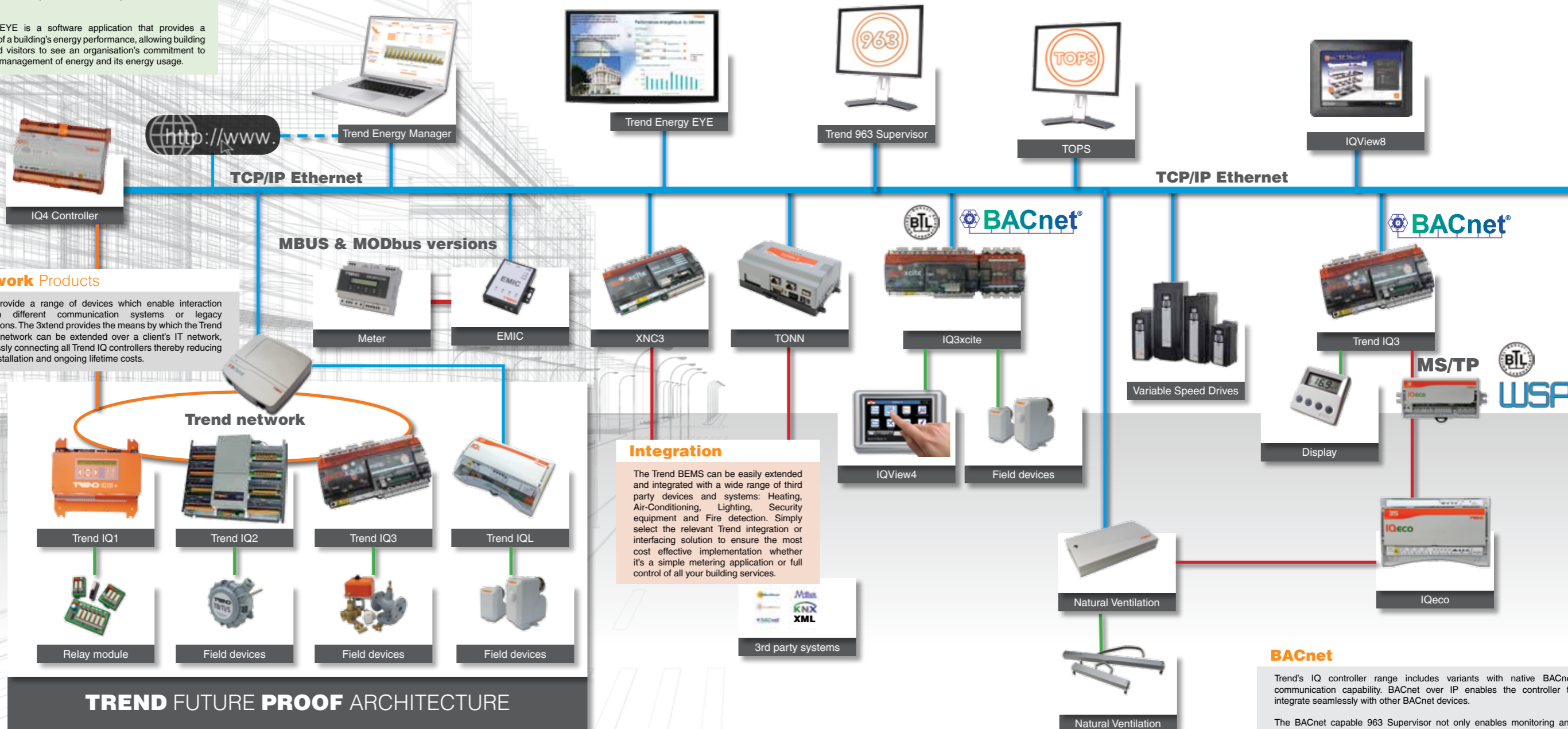
Displays

Trend provide a range of display options that allow different user types to interact with their BEMS without the fear of damage to the overall system.

The range covers single controller setpoint adjustment via push buttons through to touch screen site-wide graphical displays.

Energy Software

Trend Energy Manager software puts you in control of your building's environmental performance and costs. There is little or no requirement for extensive product training. It uses a simple browser interface and layout to ensure the system is intuitive and easy to learn.

Trend EnergyEYE is a software application that provides a dynamic view of a building's energy performance, allowing building occupants and visitors to see an organisation's commitment to improving the management of energy and its energy usage.

Network Products

Trend provide a range of devices which enable interaction between different communication systems or legacy installations. The 3xtend provides the means by which the Trend system network can be extended over a client's IT network, seamlessly connecting all Trend IQ controllers thereby reducing initial installation and ongoing lifetime costs.

Integration

The Trend BEMS can be easily extended and integrated with a wide range of third party devices and systems: Heating, Air-Conditioning, Lighting, Security equipment and Fire detection. Simply select the relevant Trend integration or interfacing solution to ensure the most cost effective implementation whether it's a simple metering application or full control of all your building services.

BACnet

Trend's IQ controller range includes variants with native BACnet communication capability. BACnet over IP enables the controller to integrate seamlessly with other BACnet devices.

The BACnet capable 963 Supervisor not only enables monitoring and adjustment of all Trend's IQ controllers but also other manufacturers BACnet devices. Importantly Trend's approach to BACnet in both the IQ3xcite, IQ4 and 963 supervisor maintains existing engineering and operating methods, giving customers a consistent and familiar approach.

Field Devices

The efficient control and monitoring of a system depends heavily upon the quality of the field devices connected and the information these provide. Trend offers a complete range of field devices, these include:

Sensors - A range of devices for measuring temperature, humidity, air quality and pressure. The wireless sensors deliver significant benefits in terms of ease of installation and cost, and equally importantly provides flexibility and convenience in areas that are regularly reconfigured.

Meters - The ability to measure energy and utility usage is essential to run a building effectively – you cannot control what you cannot measure. Changes to the UK Building Regulations (Part L2) have made metering a mandatory requirement in the majority of commercial buildings.

Variable Speed Drives - The range starts at 3.3 Amps and scales to 310 Amps. Drives are available in IP21 and IP54 versions and meet the latest harmonic standard EN 61000-3-12. Using the latest technology, the drives will

connect directly onto the Trend or Ethernet networks, as a result they are easy to use, puts you in control, and above all substantially reduces costs.

Valves + Actuators - Trend's range of valves and actuators cover all HVAC applications including 2-way and 3-way linear valves with a choice of actuators from thermic, linear and rotary through to direct coupled actuators for air dampers, ventilation flaps, louvres and VAV units.

Natural Ventilation - The demand for greater and more intelligent control over automated windows is increasing and this will continue as the focus on energy consumption and sustainability grows. Accurate positioning of windows is necessary to obtain an optimal indoor climate during all seasons and all weather conditions. Data communication between the actuators and the motor controllers enables the actuators to report back their precise opening/closing position. This enables the BEMS system to know the exact position of the vents at all times.

Diagram labels

- Trend Energy Manager
- Trend Energy EYE
- Trend 963 Supervisor
- TOPS
- IQView8
- TCP/IP Ethernet
- IQ4 Controller
- MBUS & MODbus versions
- Meter
- EMIC
- XNC3
- TONN
- IQ3xcite
- IQView4
- Field devices
- Variable Speed Drives
- Trend IQ3
- MS/TP
- Display
- Trend network
- Trend IQ1
- Trend IQ2
- Trend IQ3
- Trend IQL
- Relay module
- Field devices
- Field devices
- Field devices
- 3rd party systems
- Natural Ventilation
- Natural Ventilation
- IQeco

TREND FUTURE PROOF ARCHITECTURE

www.trendcontrols.com