Taktis

Powerful and sophisticated analogue addressable fire panel.

PRODUCED BY

Kentec Electronics Ltd

Introduction

Taktis - Kentec's most powerful and sophisticated addressable fire alarm control panel. Intelligent and technically robust, Taktis provides enhanced integration and redundant networking capabilities to meet current and future needs of buildings.

2-8 AND 2-16 LOOP VARIANTS

LARGE COLOUR TOUCH SCREEN DISPLAY

Taktis is a single platform for a global market.

Modular design provides system designers the ability to configure the Taktis system to meet their requirements. Plug-in loop cards, each with two loops enable the Taktis to be configured with up to 16 loops maximum in two configuration options – Standard enclosure 2-8 loops, large enclosure 2-16 loops. Plug-in loop cards also allow easy expansion of panels in the field. Taktis supports Hochiki and Apollo protocols giving installers and end-users freedom of choice in their system design.

A large colour touch screen display provides simple and intuitive operation of the Taktis panel and with 35 in-built selectable languages it is easy for all to operate.

The modular construction of Taktis using a base motherboard and plug-in processor, loop and I/O cards allows easy addition, re-configuration, or replacement of electronic hardware without disturbing external field wiring.

Taktis Plug-in i/o cards provide easy expansion of input and output options on Taktis, from monitored inputs, monitored outputs, relay outputs and non-monitored input/output cards.

Compatibility

Taktis is compatible with a number of optional accessories such as:

- Taktis Vision - Repeater panels,
- INS - Fibre Optic network modules,
- Vizulinx - Email and text notification, BACnet and Modbus interfacing
- Kentec Fire Alarm Graphics
- Matrix - Mimic panels.

All of this offers installers and their customers maximum flexibility in system design, site customisation. Taktis can provide solutions for the most technically challenging applications while delivering added value, market advantage and a competitive edge to your business.

TAKTIS IS FULLY APPROVED TO EN54 -2, EN54-4, EN54-13, UL 864 10TH EDITION, AND VDS

COMPATIBLE

Panel features summary

LARGE COLOUR TOUCH SCREEN DISPLAY

UP TO 24 CONFIGURABLE FUNCTION BUTTONS

NETWORK OF UP TO 127 PANELS*

10,000 ENTRY DOWNLOADABLE EVENT LOG

OVER 6000 SUB ADDRESS POINTS PER PANEL

FIRE AND FAULT ROUTING INPUTS AND OUTPUTS

- Approved by LPCB to EN54-2, EN54-4 & EN54 Part 13
- VdS approved
- UL & FM
- Supports Apollo & Hochiki loop protocols
- Supports K-Mesh wireless
- 2-8 and 2-16 loop variants
- Loop current – 500mA per loop
- Individual loop learn option
- Over 6000 sub address points per panel
- Up to 2000 software zones
- 48, 96 or 144 Zonal LED options
- False Alarm management features
- Large colour touch screen display
- Automatic LCD backlight control
- Up to 5000 programmable cause and effect rules per Taktis system
- Up to 24 Configurable function buttons
- Three programmable non-monitored inputs
- 5 Programmable Relay Outputs
- Four programmable sounder circuits each, rated at 2.5A
- Up to 512 programmable inputs/outputs can be provided using plug-in or serially connected option cards
- Option to 'invert' input/output operation
- Network of up to 127 panels*
- Fire and fault routing inputs and outputs
- Config upload/download via USB flash drive or PC running LE2 software
- 10,000 entry downloadable event log
- Optional Media Gateway communications card
- 5.25A or 10.25 integral power supply options
- Battery capacity 26Ah or 45Ah dependent on enclosure size

* pending approval

Product overview

Touch screen Display

Taktis uses a full colour, 7” Touch screen graphical display both on the panel and Vision repeater to provide a clear, simple, and intuitive user interface. Configurable user text - 80 Characters for both zone location and device messages enables clear and concise information to the user. The resistive touch screen technology allows the panel to be operated wearing gloves, or by using a stylus.

Zonal Indicators

Taktis can be configured with up to 2000 cross network software zones. Panels can be provided with three standard zonal LED configurations of 48, 96 or 144 zones.

User Accounts

Access to the Taktis menu and control functions is controlled by the use of a six digit user passcode, up to 64 individual user accounts can be configured with their own passcode. The functions and controls available to each user can be customised based on their authority level. User login and logout events are recorded in the panel event log.

Event log

Taktis records all system activity with storage of up to 10,000 historical events including alarms, faults, disablements, test modes, user login/ logout etc. Filtering by event type, zone, panel, address, or a date range makes searching for specific information quick and easy. Event logs can be downloaded direct to a USB flash drive or to PC using LE2 configuration software. The event logs can be saved in Comma Separated Values (CSV) format to be opened in other software applications such as Microsoft Excel.

Function Buttons

Up to 24 function buttons can be configured on Taktis, each button can be configured for specific user controls, disablements or other engineering functions that may be required. Function buttons can be allocated to individual user profiles preventing unauthorised access or operation.

Printer

A 40 character thermal printer can be provided as an optional extra on the Taktis panel (0 and 48 zone variants only). This provides a hard copy print out of events as they happen or can be used to print out a hard copy of the event log.

Connectivity

An optional plug-in Media Gateway card provides an IP interface between Taktis and third party products such as Kentec Graphics Systems and Vizulinx communication modules providing live information on panel/system status. Kentec can provide the Media Gateway protocol on request to third party product manufacturers to enable them to integrate their products on To Taktis Systems. The Media Gateway card is key to providing integrated solutions.

Vision repeater

Taktis Vision repeaters can be located at strategic points around a building providing local indications of the Taktis panel status. Connected as a node on the Taktis network the repeater can be configured to show status events from all panels or selected panels on the network. Small and compact these can be located at building access points providing fire alarm status information to emergency services on arrival, or in a hospital at nurse stations to provide early notification of an alarm event, among many other applications.

Advanced cause and effects

One of the things that makes Taktis such a powerful system is its advanced cause and effects, up to 5000 cause and effect rules can be operated locally or network wide. Advanced cause and effects allow Taktis to be configured for many complex requirements and can be triggered by zone, device, or inputs when in Alarm, Fault or Disabled state. Cause and effects can also be configured to activate on system events. Advanced cause and effects allow the Taktis system to comply with all categories of BS7273-1 on a wired system.

Multi-language support

Taktis as a global product must provide a user interface which supports different languages and with 35 (and counting) built-in menu selectable languages it can. Languages available are Amharic, Arabic, Bengali, Bulgarian, Chinese (Traditional), Chinese (Simplified), Croatian, Czech, Danish, Dutch, English, Estonian, French, Finnish, German, Hungarian, Icelandic, Italian, Japanese, Latvian, Norwegian, Polish, Portuguese, Portuguese (Brazil), Romanian, Russian, Serbian, Slovakian, Spanish, Swedish, Taiwan, Thai, Turkish, and Vietnamese.

Alarm Management

The effect of unwanted alarms is extremely damaging and costly to a business.

Continuous false alarms can lead to the following:

- Business disruption/downtime due to unnecessary evacuations
- Complacency in staff, causing no or slow response to alarm signals
- Charges or no/delayed response by emergency services

Many fire and rescue services will no longer respond to automatic fire alarms without confirmation of a fire.

Unwanted alarms are largely due to poor management of fire alarm systems and emergency procedures, the following alarm management features within Taktis can assist end users and minimise unwanted alarms and the effects they have.

Co-incidence detection

Simple cause and effect rules can be used to provide coincidence detection where a fire signal from more than one detection device is required to provide confirmation of an alarm which then activates the evacuation signal.

Alarm Acknowledgement Function (AAF)

If a detection device configured for AAF is activated it will activate sounders within the area covered by that detection device only and will not evacuate the whole building. AAF provides a pre-programmed time period in which the user can acknowledge the alarm and silence the sounders. This starts an investigation time period (Pre-configured between 30 -300 secs) if the investigation determines it is not a genuine fire event the panel can be reset and returned to normal without the need for a building evacuation. If the alarm is not acknowledged within the pre-programmed time period (either 30 or 60 secs) the Taktis will automatically activate the building evacuation signal. If the investigation period expires and the alarm has not been cleared the Taktis will activate the building evacuation signal.

ALARM MANAGEMENT

Hotel mode

Is one of the latest features added to Taktis and is similar to AAF but requires no user intervention to acknowledge the alarm. Designed primarily for hotels but also suitable for other applications, if a detector in hotel mode goes into alarm it will sound local sounders and start the hotel mode investigation timer (up to 300 secs) if the timer expires and the detectors smoke level has returned to normal, the Taktis panel will automatically reset the local alarms and return to status normal. If the timer expires and the detector is still in alarm a full evacuation will be instigated.

Both hotel mode and AAF are features which allow end users to manage their sites effectively and prevent unnecessary evacuations or attendance of emergency services from unwanted alarm activations. They provide time for critical investigations to be conducted into the cause of an activation and take the appropriate responses.

Hotel mode sequence

1. NORMAL
2. HOTEL ROOM DETECTOR GOES INTO AN ALARM STATE
3. FACP SHOWS EVENT AS 'TECHNICAL ALARM'
4. SOUNDER BASE IN HOTEL ROOM ACTIVATES AS A LOCAL ALARM
5. HOTEL MODE INVESTIGATION TIMER COUNTS DOWN (<300S)
6. TIMER EXPIRES
7. SMOKE DETECTOR SEES THE SMOKE LEVEL HASN'T RETURNED TO NORMAL
   OR
   SMOKE DETECTOR SEES THE SMOKE LEVEL HAS RETURNED TO NORMAL
8. HOTEL EVACUATION

Networking

NETWORK UP TO 127 NODES*

Large scale applications such as hospitals, university campuses, large office blocks etc. can comprise of multiple fire alarms connected together to a single networked system.

Taktis networks can support up to 127 nodes, with a node being either a Taktis panel or a Taktis Vision repeater. Information is transmitted between nodes sharing key information relating to alarms, faults, disablements etc. Panels can be configured to provide network wide cause and effects where an event on one panel can trigger an action on other panels around the network.

Large network capacity and network wide cause and effects all join together to make Taktis suitable for the largest of applications. Installations can easily be expanded as required by adding additional control panels and networking them together or adding to an existing network.

* pending approval

Cardiff City Football Stadium
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Fibre optic network

For a further enhanced network Kentec can provide a comprehensive fibre optic network solution. Fibre optic networks provide significant advantages over copper wired networks and can overcome such problems as:

- Increased distance between nodes (Up to 20Km)
- Immune to electrical interference

INS modules provide the fibre optic interface and are capable of providing full fibre or hybrid copper/fibre solutions. INS Modules also provide advanced monitoring and diagnostics of network communications, signal strengths are monitored with the module capable of automatic adjustment for variations in signal quality ensuring optimum network performance at all times. INS modules support fibre optic transceivers for multi-mode, single mode, and Bi-Directional communications.

Redundant networking

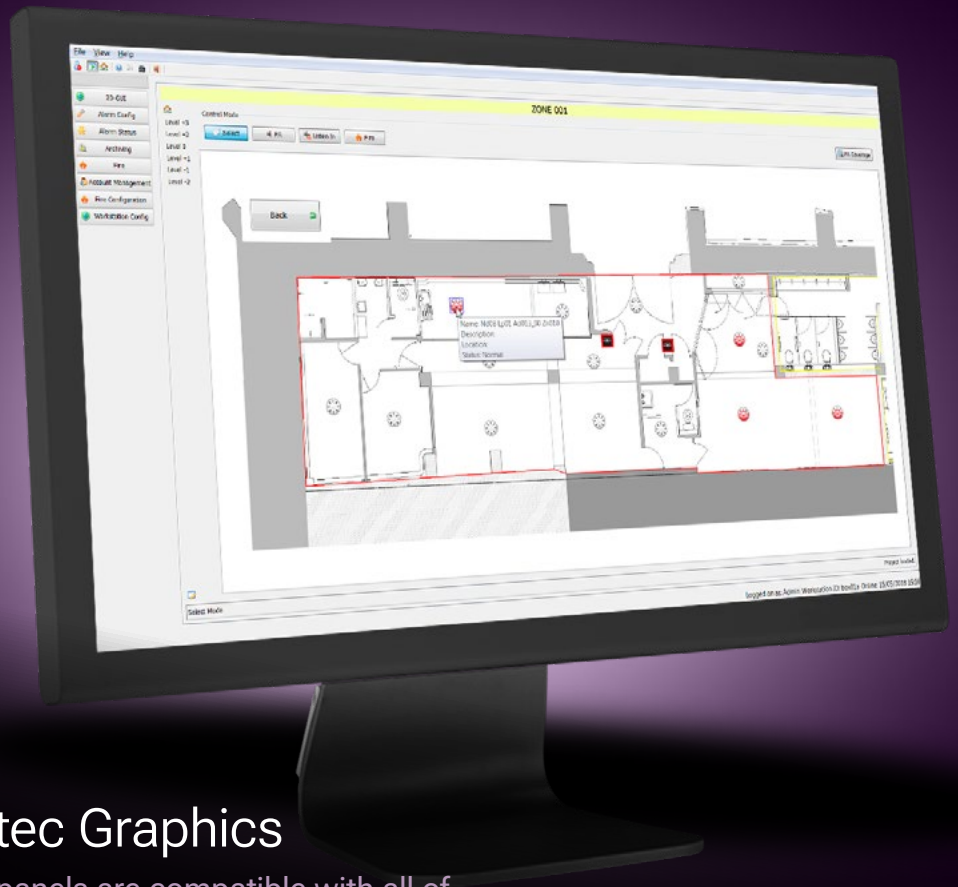
Standard networks provide a level of redundancy by where a single break in the communication path will not affect the communications between network nodes, however if two breaks in the communication path occurs then communications will be lost with any nodes between the two breaks. If a node itself was to fail all communications would be lost to that node while all other nodes would continue to communicate.

Using INS redundant network modules Taktis can be configured to provide a fully redundant networked fire alarm system. INS redundant network modules are connected to each networked panel to monitor fire and fault outputs on the networked panels, the INS modules can then be networked together using RS485 or Ethernet communications. This creates a secondary network for transmitting fire and fault signals between nodes on the network, in the event of a main processor failure nodes will still activate their fire and fault output therefore allowing us to continue to send basic signals between nodes maintaining network performance.

Bridge network

Providing an upgrade path from legacy products to newer more advanced products is important to end users. This upgrade path has to be cost effective to the end user as replacement of large networked systems is a significant financial outlay.

Bridge networking provides an upgrade path from legacy Syncro systems to the latest technology Taktis products in a phased manner allowing end users to spread the cost of upgrading over a period of time which suits them. The purpose of the bridge network allows Taktis panels to replace Syncro panels on an existing network without impacting functionality of the network. Gradually all Syncro panels can be replaced with Taktis panels over a period of time. The performance of Taktis panels on a Syncro network will be limited to match the Syncro panels, however once all networked panels are replaced with Taktis end users will have a much enhanced system and be able to take advantage of the full power of Taktis' features.



GRAPHICS

Kentec Graphics

Taktis panels are compatible with all of Kentec's current graphics package offerings.

Graphics packages provide a central point of information and control for networked Taktis systems. Networked fire alarm systems consist of multiple panels spread across a site or throughout a building where a user can only see information when they are in front of a control panel. Graphics systems can be located in a central control room or security room where the system status can be monitored through a PC running graphics software.

Graphics software will provide instant updates of changes to system status across the network and provide detailed information as to the event type i.e. Fire, Fault, Disablements etc. the device type that has created the event i.e. Smoke detector, Heat detector, Manual Call Point etc.

More importantly the graphics will provide map layouts of the site/building showing exactly where the event has occurred and on which device, for example in a fire condition the graphics will automatically display the floor map where the alarm has occurred indicating the area and the device which has triggered the alarm. This is critical information in being able to establish a rapid emergency response and direct responders to the correct location as quickly as possible.

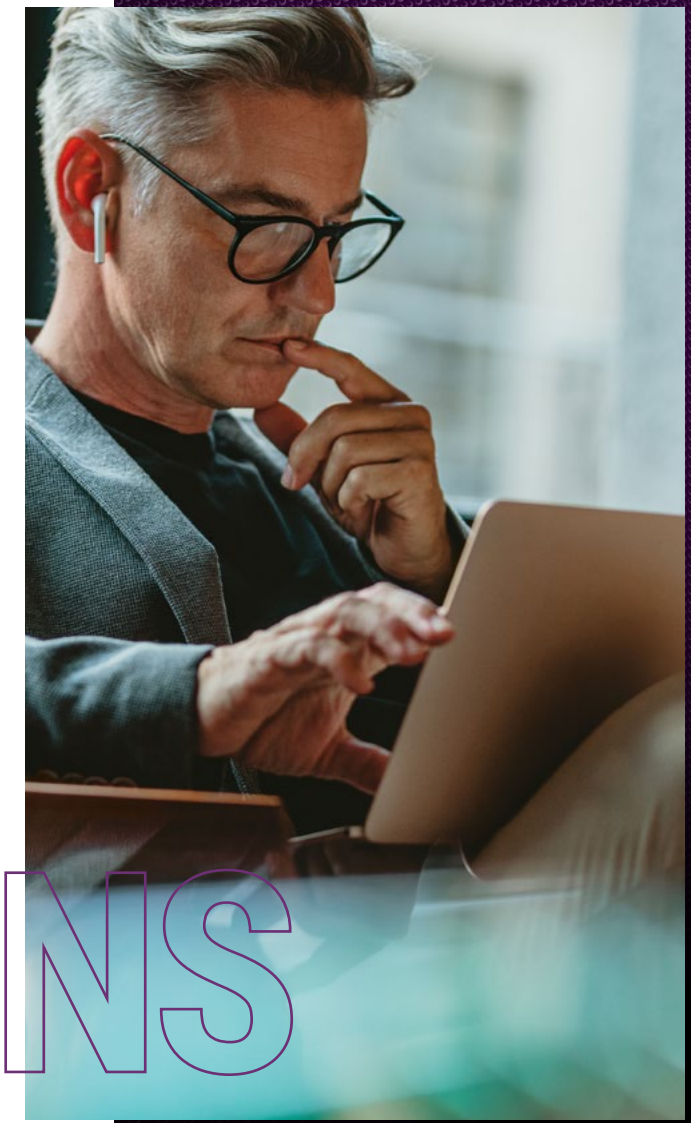
Graphics systems also allow for customer messages to be displayed on a fire event i.e. instructions to follow when an event occurs, instructions for emergency responders.

SMS and email notifications

Managing fire systems across multiple locations can be extremely difficult however SMS and email notifications can give you instant visibility of changes to the fire alarm system status wherever you are.

The Vizulinx gateway module interfaces to Taktis and provides the ability to send SMS and email notifications to anyone the user requires the instant an event occurs. Simple configurations allows the user to select who receives what event types i.e. Alarms to building managers, faults to maintenance team etc. SMS and e-mail messages will contain the same detailed information as shown on the panel LCD i.e. Panel number, zone number, device address, sub-address, type, fault type, time and date etc. In the event of a fault this can provide information to service and maintenance teams allowing them to plan any spare parts that may be required before they attend site, preventing further visits/delays. SMS and email notifications can be saved providing an additional history of a sequence of events. Vizulinx can be configured to send notifications for any events that may occur on the panel i.e. Alarms, Faults Disablements etc.

For SMS and email notification support Vizulinx requires an ethernet connection with access to the internet. SMS messaging uses the business SMS messaging service Text Magic for which the user would require an account.



NOTIFICATIONS

System integration

Vizulinx also provides BACnet and Modbus communication protocol options enabling Taktis to interface with building management systems or other third party equipment.

Modbus

Vizulinx Modbus provides a pre-configured allocation of Modbus addresses making configuration simple. Built into Modbus readily available to use are 2000 Modbus addresses, addresses 1-499 provide panel status, 500 – 999 provide status of zones 1-500, addresses 1000 – 1999 are allocated to loop devices split into blocks of 250 per loop. Out of the box Vizulinx Modbus will support 127 panels, 500 zones and 4 loops of devices, software licenses can be purchased to increase the number of Modbus addresses for loops, each license will provide 1000 Modbus addresses for an additional 4 loops. Each Modbus address will provide a value which will represent a status event i.e. 0 = Normal, 1 = Fire, 32 = Fault etc.

BACnet

Vizulinx BACnet provides a simply configured solution with Object IDs automatically allocated based on the panel configuration file. BACnet supports two different selectable data formats of bit string (16 bit data string) or Binary/ Analogue values.

Bit string format provides all information regarding status in a 16 bit data string and requires only one object ID per panel, zone, loop address, loop sub-address. Binary/Analogue values is the most common data format, indicating panel status as a binary state which requires nine object IDs per panel with each object ID indicating a particular panel state i.e., fire, fault, disablement etc. Zones likewise are indicated using binary values requiring nine object IDs for each zone indicating the different states. Loop device and loop device sub-address statuses are indicated as an analogue value i.e. 1 = Fire, 32 = Fault etc.

The Vizulinx module provides support for 500 object IDs as standard with software licenses that can be purchased to increase the number of object IDs available, each software license supports an additional 500 object IDs.

Vizulinx Modbus v Vizulinx BACnet

	Modbus	BACnet
Number of Modbus Addresses/ BACnet Object IDs supported	9999	4,194,302
Statuses transmitted for	Panels Zones Loop Devices	Panels Zones Loop Devices Loop Device sub-addresses

University of Nicosia (UNIC) Student Accommodation - Cyprus

Technical Information

Mechanical

- Enclosure sizes:
  - 2-8 loop Standard enclosure – 420mm (W) x 590mm (H) x 153mm (D)
  - 2-8 loop deep enclosure – 420mm (W) x 590mm (H) x 203mm (D)
  - 2-16 loop enclosure – 540mm (W) x 720mm (H) x 212mm (D)
- Construction: 1.5mm mild sheet steel
- Cable entries:
  - 2-8 loop standard enclosure – 45 x 20mm, 6 x 28mm
  - 2-8 loop deep enclosure – 55 x 20mm, 6 x 28mm
  - 2-16 loop enclosure – 75 x 20mm, 6 x 28mm
- Battery capacity:
  - 2-8 loop Standard enclosure – Up to 26Ah
  - 2-8 loop Deep enclosure – Up to 45Ah
  - 2-16 loop enclosure – Up to 45Ah
- Colour: door and box – Grey BS 00 A 05
- Colour: Facia plate – RAL 7016 Anthracite grey
- Finish: Epoxy Powder Coated

Panel firmware

- Detection zones: up to 2000
- Groups: up to 500
- Cause and effect rules: 5000
- Event log: 10,000 events, filterable, downloadable, and printable

Electrical

- Mains input: 230V AC or 115V AC
- Power supply:
  - 2-8 loop standard enclosure – 5.25A or 10.25A
  - 2-8 loop deep enclosure – 10.25A
  - 2-16 loop enclosure – 10.25A
- Display: Full colour 840 X 480 LCD with resistive touch screen
- Zonal Fire LEDs: 48, 96 or 144
- Detection loops: Min 2, Max 16 dependent on enclosure size
- Detection loop current: – 500mA each loop
- Sounder outputs: 4 x Programmable, rated 2.5A @ 24Vdc
- Auxiliary 24v supply: 2 x 500mA

Electrical cont.

- Relay outputs: 5 x Programmable relays, rated 1A @30Vdc
  - Fire (Default)
  - Alarm (Default)
  - Fault (Default)
  - Programmable 1
  - Programmable 2
- USB Ports: 1 x USB A, 1 x USB B
- Monitored outputs: 3
  - Fire routing output
  - Fault routing output
  - Extinguisher output
- Monitored inputs: 4
  - Fire routing input
  - Fault routing input
  - Extinguisher input
  - Extinguisher fault input
- Non-monitored inputs: 3 - 0v Activation
- Serial communications: RS485
  - Network
  - Ancillary I/O board
- Optional printer: 40 column, thermal, front loading

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BS-EN12094-1
KM 96761

SIGNALING
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 BR02 Rev.05 04/24