# Fidelix

# Building Management Solutions

Fidelix is making buildings smart. Our high expertise in technologies is visible in solutions optimising buildings' energy costs, indoor climate and cost of operations. Our products are developed, tested and working every day in demanding and extreme climate conditions in the Nordics and positively affect the wellbeing of over one million people.

Since Fidelix was established in 2002, it has developed a smart, reliable and widely-compatible building automation system. Today, our specialist expertise in smart building automation generates benefits for our customers in the form of better indoor climates, lower energy consumption and reduced maintenance costs.

## Fidelix Oy

- Established in 2002
- Global headquarters, R&D and production facilities in Vantaa, Finland
- 280 specialists
- 25000+ commercial and residential buildings with Fidelix BMS

Fidelix is the smart choice for customers who think about the future. A future-proof system with focus on energy cost and carbon footprint optimisation is a smart long-term choice on many levels.

FIDELIX BUILDING MANAGEMENT SYSTEM

# A powerful and scalable tool for the overall control of building technology

The dependable and reliable Fidelix building automation system guarantees a long life cycle for buildings of all types and sizes. Our technology concept is based on a single system that can be optimally managed.

Based on open interfaces, our system forms an easy-to-manage, compatible and energy-efficient building technology solution. Fidelix's reliable and cost-effective solution demonstrates the advanced nature of Finnish product development and project know-how.

Whether it's healthier indoor climate, energy cost optimisation or minimising the carbon footprint of buildings, Fidelix is leading the way to find the smartest solutions.

# FIDELIX BMS ARCHITECTURE

**Supervision**

SCADA*

PC, smartphone, browser*

FX-VISIO-C-15

Room panel

**Building Management System**

FX-3000-C

FX-Spider-40/10

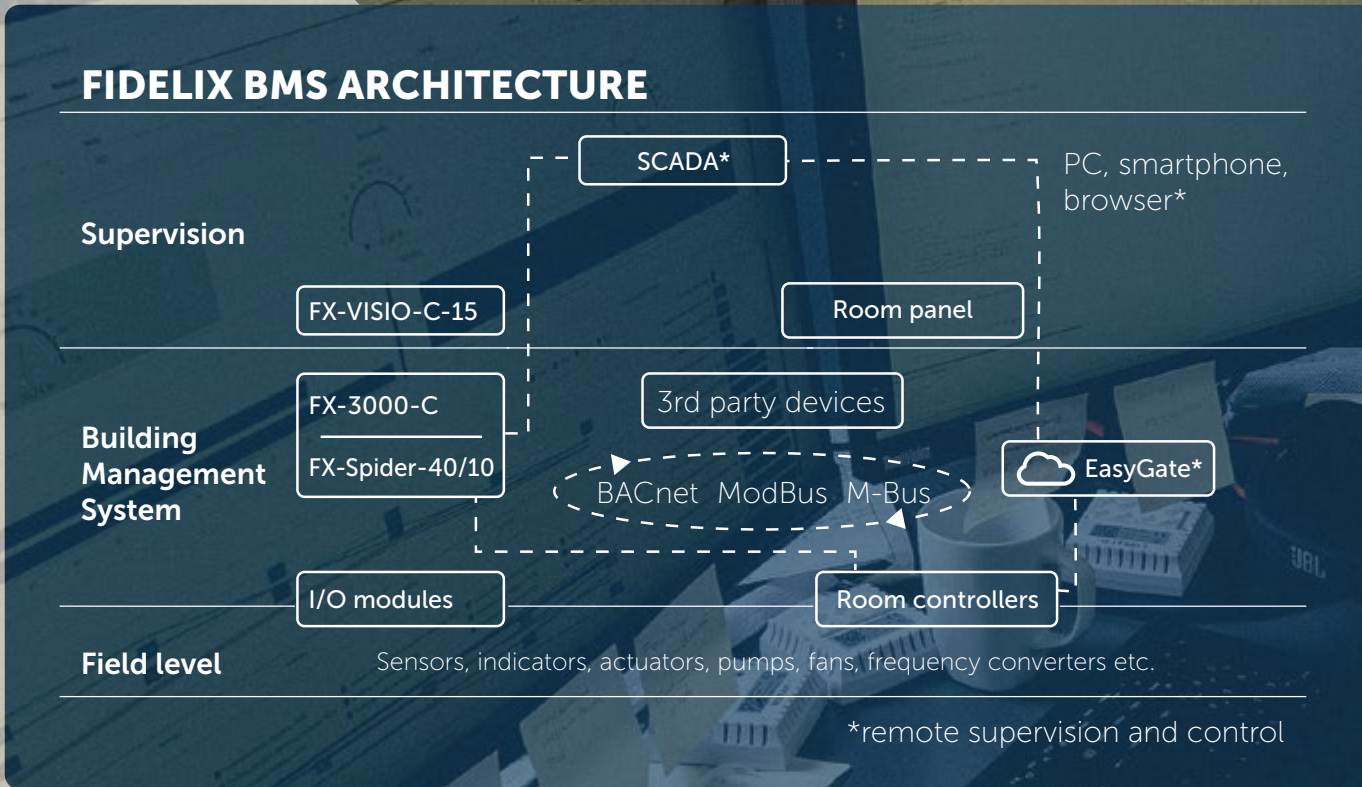3rd party devices

BACnet  ModBus  M-Bus

EasyGate*

I/O modules

Room controllers

**Field level**

Sensors, indicators, actuators, pumps, fans, frequency converters etc.

*remote supervision and control

A comprehensive understanding of the needs of our customers inspired us to develop an open and generally compatible system. Our building automation system brings building technology sensors, meters, actuators, controllers and safety systems into one, easy to manage whole.

# Fidelix opens the door to true integratability

## Fidelix is a flexible and scalable solution

Thanks to their scalability, Fidelix solutions work flexibly in environments ranging from small buildings all the way up to major monitoring systems. The system can be utilised in both renovation and new construction projects.

## Fidelix is the future-proof choice

The dependable and reliable Fidelix building automation system helps to achieve a long life cycle for buildings of all types and sizes. And thanks to the open standards, you can enjoy maximal compatibility for years and years ahead.

Residential & office buildings

Warehouses

Health care

Shopping centers

Schools

Parking facilities

Hotels

Sports & Entertainment

# FdxCompact

The cornerstone of our smart BMS.
A full product family with exceptional
ease of installation and setup.

# FX-3000-C
## All-in-one BMS controller

Using open standards allows you to focus on your projects, instead of worrying about communication protocols and compatibility issues.

**FX-3000-C** Controller

Full control with ultimate compatibility. The FX-3000-C is a building automation controller with BACnet B-BC profile. Unique in its kind, it is 100% freely configurable. It communicates using Modbus, M-Bus or BACnet, serial, UDP or TCP and has an on-board NAT router. Fully equipped with web server, history recording, user management, energy reporting capabilities and many more features, the FX-3000-C is an all-you-need solution for all your building management needs.

Parametrising the FX-3000-C is done with our software suite FX-Editor, offering a clear and efficient project overview. It makes programming the controller not only an easy, but also a speedy task. When connecting field devices to the FX, multiple FX-controllers to each other, and all controllers to a SCADA server, running a building really becomes a piece of cake.

- Freely programmable PLC with webserver, history logging, energy reports, trending, weather forecast anticipation, user management etc.
- BACnet, Modbus and M-Bus communication
- Integrated WiFi router
- DIN-rail mountable

# I/O MODULES



## AI-8-C

- Analogue input module, 8 inputs
- Supported sensor types: resistive (NTC, PT, Ni, ...), 0(4)-20mA, 0(2)-10V
- Individually configurable inputs
- Indicator-LED for each configured input type
- Power consumption max. 25 mA



## DI-16-C

- Digital input module, 16 inputs
- Pulse inputs, NO, NC indications, alarms
- Individually configurable inputs
- Indicator-LED (red and green) for each configured input type
- Power consumption max. 25 mA



## DOOC-16-C

- Digital output module, 16 open collector outputs
- Max load of 100 mA per output
- Built-in safety feature to deactivate a channel when power leakage is detected
- Indicator-LED (red and green) for each output
- Power consumption max. 25 mA + 100 mA / active output



## AO-8-C

- Analogue output module, 8 outputs
- Output current and voltage max. 20 mA @10V (max.load of 500Ω)
- Freely configurable outputs to retain the last value or send out a programmable voltage upon communication drop
- LED indicator to verify the voltage of each output
- Power consumption max. 90 mA



## DO-8-C

- Digital output module, 8 relays
- Maximum switching capacity 1A@30V
- Freely configurable outputs to retain the last state or switch to a predefined state upon communication drop
- LED indicator to verify the status of each output
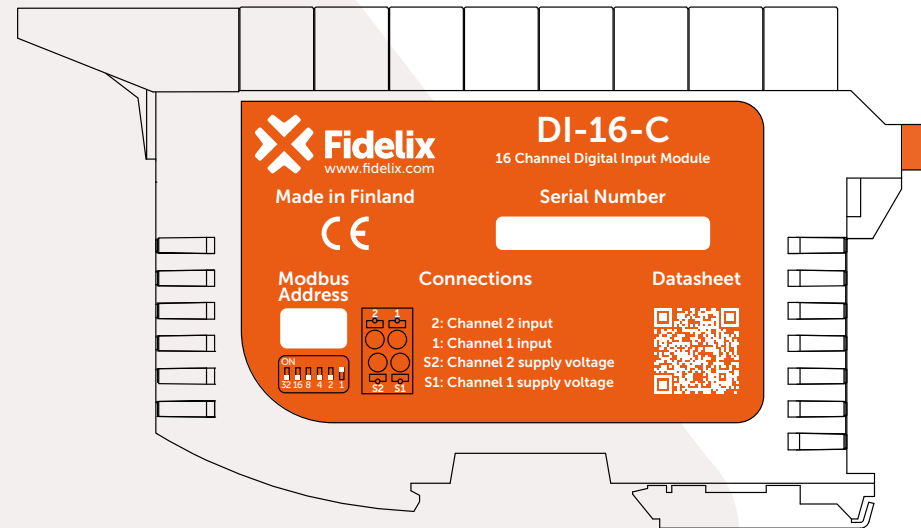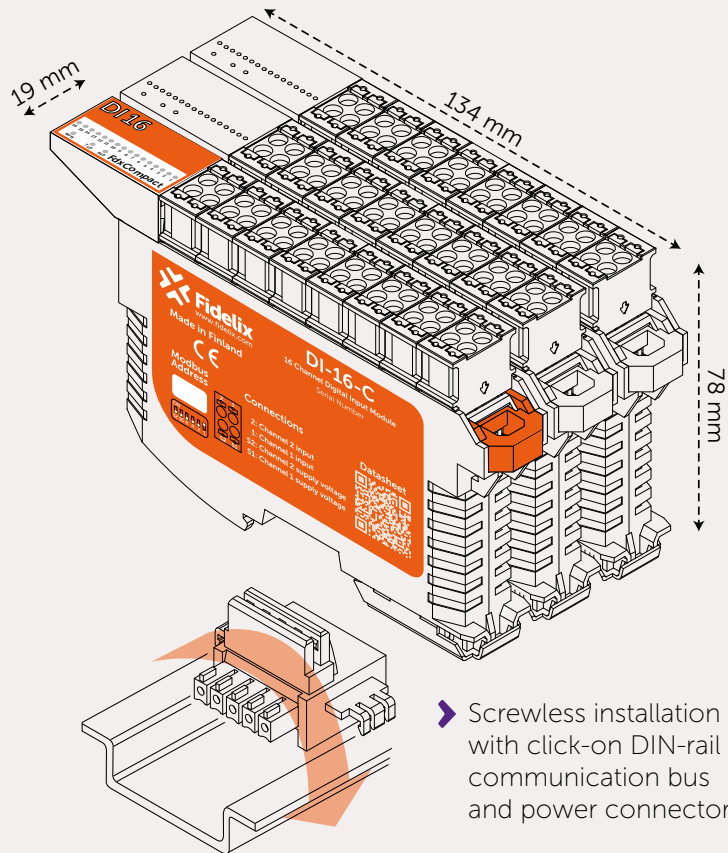- Power consumption max. 90 mA



## TRIAC-8-C

- Analogue output module, 8 outputs
- Output current maximum 500 mA / channel
- Freely configurable outputs to retain the last value or send out a programmable signal value upon communication drop
- LED indicator to verify the signal value of each output
- Power consumption max. 40 mA

# Smart features of **FdxCompact** I/O modules

❯ Push-in spring connectors for cables

❯ Detachable terminal blocks

19 mm

134 mm

78 mm

**DI 16**

❯❮ Fidelix
www.fidelix.com
Made in Finland
CE
**DI-16-C**
16 Channel Digital Input Module
Serial Number

Modbus
Address

Connections
2: Channel 2 input
1: Channel 1 input
S2: Channel 2 supply voltage
S1: Channel 1 supply voltage

Datasheet

❯ Screwless installation with click-on DIN-rail communication bus and power connectors

❯❮ Fidelix
www.fidelix.com

**DI-16-C**
16 Channel Digital Input Module

Made in Finland
CE

Serial Number

Modbus
Address

ON
32 16 8 4 2 1

Connections

2: Channel 2 input
1: Channel 1 input
S2: Channel 2 supply voltage
S1: Channel 1 supply voltage

Datasheet

❯ Operating voltage: 24 VDC

❯ Indicator LEDs for status and bus communication

❯ Speed automatically detected from the bus
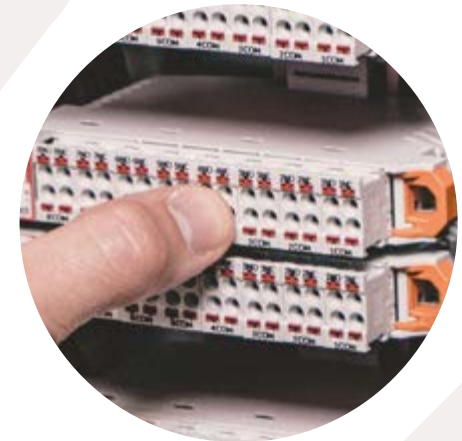
Easy click-on installation

# ❯ FdxCompact VISIO
## Touchscreen interface for FX-controller



- Full HD HMI running Android with multi-touch support
- Ethernet and Wi-Fi connection
- User friendly built-in application to connect to FX-controllers and other devices with a web interface

A touch display is the easiest way to consult your BMS. Installed onto the door of an electrical cabinet anywhere in the building or attached to a wall , the VISIO can be used to access any FX-controller or other TCP/IP connected device in the building.

Providing easy access and a fast and secure connection to the controllers, the display is the perfect way to facilitate maintenance or support personnel in their handling with the building's systems. Running on a familiar Android environment, all users will use the screen intuitively with ease and comfort.

### FdxCompact VISIO-15-C
### 15.6″ touchscreen interface for FX-controller

- Screen size: 15.6 Inch
- Aspect ratio: 16:9
- Resolution: 1920x1080 px
- Power consumption: maximum 750 mA @ 24VDC
- Communication: TCP/IP via Ethernet and/ or Wi-Fi

### FdxCompact VISIO-10-C
### 10.1″ touchscreen interface for FX-controller

- Screen size: 10.1 Inch
- Aspect ratio: 16:10
- Resolution: 1280x800 px
- Power consumption: max 750 mA @ 24VDC
- Communication: TCP/IP via Ethernet and/or Wi-Fi

# ❯ FX-Spider-40/10
## Central control unit with 40 I/O points

**FX-Spider-40/10** Controller

- **Central control unit with 40 integrated I/O-points via Modbus communication**
- **10.1" touch screen**
- **Integrated web server, history logging, user management, ...**
- **BACnet, Modbus and M-bus communication**

The FX-SPIDER-40/10 central controlling unit for building automation and security applications is a special version of it's brother, the FX-3000-C. Dedicated for small processes, narrow spaces and all-in-one solutions, it features a 10.1" touch screen showing HTML-graphics, a powerful processor to run your programs, and 40 built- in I/O-points, thus being everything you need to get your project up and running.

Connect the standard plug to a wall socket and get going in no time to discover the true meaning of plug and play!

- Dimensions: 326 x 325 x 130mm
- Operating voltage: 220-230 VAC
- Power consumption: max 200W
- Operating temperature: 0 to +40°C
- I/O's ports: 8 relays (DO), 8 digital inputs, 8 analogue outputs (0..10V) and 16 universal inputs (digital indication, resistance, voltage, current)
- Outputs:
  - Auxiliary power supply 24V DC for field devices
  - Optional 24V AC (20VA) power supply (for actuators, ...)
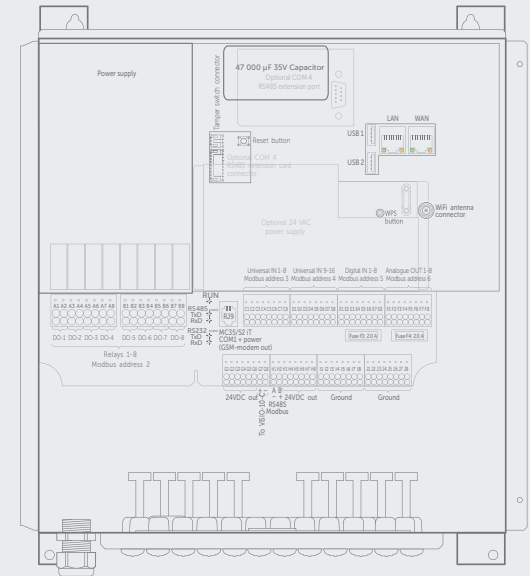
- **User interfaces can be tailored to meet the needs of any customer.**
- **Intuitive user interface makes it easy for all intended users to operate.**
- **Remote use options guarantee flexible system control and up-to-date information.**

# › multiDISPLAY

**Modbus Room Panel touch screen**

- Freely programmable
- Modbus RTU communication
- Selectable master or slave mode
- 250 32-bit values in Modbus registers
- µSD card for complex graphics
- Integrated temperature sensor
- 5 built-in time schedules
- real-time clock with capacitor to save time and date during power interruptions
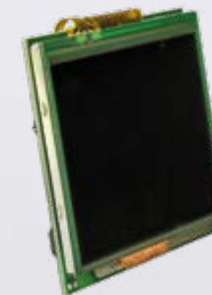- multiDISPLAY is available in straight (A), tilted (B) and bare (C) models

The primary usage of the multiDISPLAY is as room panel in hotels, apartments and private homes. However, the embedded modbus capabilities and processor enable the multiDISPLAY to also be used as an operating terminal for other applications.

Connect the multiDISPLAY to one of our multi-24 modules, straight to our substations or any other modbus communicating system.

Mount the multiDISPLAY into a standard pattress box, and instantly make your project look trendy thanks to the 100% customisable user interface you can create for the multiDISPLAY. Create your own graphics with our graphics editor to to consult or control any application or system you connect the display to. You can add your company's or the building owner's logo to the freely editable graphics you make for the display to give it a unique look and feel.

The Modbus RTU master or slave mode enables the display to be used with literally any Modbus device.

- Operarating voltage: 12-26VDC or 16-26VAC
- Operating temperature: 0 to +50°C
- Screen resolution: 320x240px
- Number of data points: 40 per page, 250 total
- IP-Class: 20
- On-board temperature sensor: NTC10
- Modbus: Selectable master / slave, parity, number of data- and stopbits, speed up to 115 200 bps (autodetect for slave, configurable for master)

**multiDISPLAY (A)**
Size: 85mm x 85mm x 19mm thick. Fits onto standard IEC 60670-1 pattress box of 68 (60) mm.

**multiDISPLAY (B)**
Size: 85mm x 85mm x 35mm thick. Fits onto standard IEC 60670-1 pattress box of 68 (60) mm.

**multiDISPLAY (C)**
multiDISPLAY C can be mounted into any device, box or machine to immediately add a 100% customisable HMI to your device. Size: 77mm x 71mm x 16mm

# multi-24 / multi-16

We rely on open and license-free standards to program our controllers, for communication to modules and devices, and for our user interface (IEC 61131-3, HTML, BACnet, Modbus, M-Bus). This makes the implementation easier and ensures future freedom of choice when upgrading the system.

## multi-24

The multi-24 is a controller that can be used for numerous applications, such as hotel rooms, district heating or small ventilation systems.

The module's CPU runs its code independently, enabling swift and accurate reactions to changing measurements. Programmed using the industrial standard IEC 61131-3, the multi-24 can be used as a stand-alone controller, or the module can be connected via Modbus RTU to a building management system to receive settings and commands, or send out alarms or other data.

The internal Flash memory of the module makes sure all data is saved even during power or communication interruptions. The controller can also simultaneously act as Modbus master for intelligent local sensors or terminals, like the Fidelix Modbus multiDisplay.

Additionally, the multi-24 can be equipped with an enocean transceiver to connect wireless sensors and actuators.

- Process controller with 24 I/O-connection points; Modbus slave and master simultaneously
  - 12 universal inputs (digital indication, resistance, voltage, current)
  - 4 digital outputs (relays 230 VAC / 6A max)
  - 4 TRIAC outputs (PWM, maximum 1A)
  - 4 analogue outputs (0..10V)
- 100% freely programmable
- Size (with DIN-rail clamps): 122mm x 108mm (x 65mm height)
- Operating voltage: 24VDC / 16-26VAC
- Operating temperature: 0 to +50°C
- Enclosure (optional, without DIN-rail clamps): IP55, non-flammable polystyrene, IEC 695-2-1
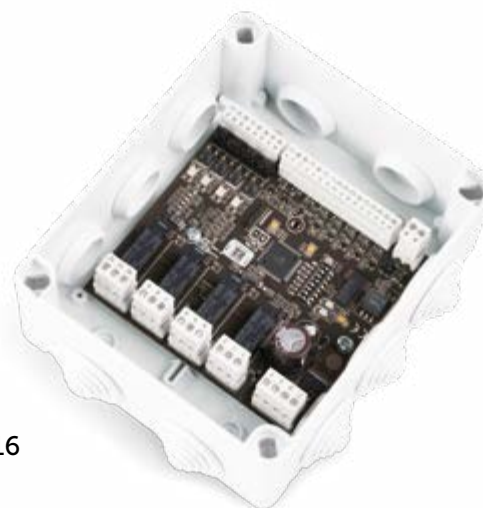
## multi-16

The Multi-16 is a versatile controller that can be used for numerous applications, such as hotel rooms, district heating, small ventilation systems, or as room controller.

The modules CPU runs its code independently, enabling swift and accurate reactions to changing measurements. Choose the multi-16 program that best fits your needs from our extensive library, or ask for your personal, dedicated program. All modules will be pre-loaded with the requested program, tested and 100% guaranteed to work.

The module can be connected via Modbus RTU to a Fidelix building management system to send out alarms, measurements or other data. The internal Flash memory of the module makes sure all data is saved even during power or communication interruptions.

- Room controller with 16 I/O connections
  - 6 universal inputs digital or analogue input (0(2)-10V, resistive, ...)
  - 2 analogue inputs
  - 4 digital outputs (230 VAC / 6A max)
  - 4 analogue or TRIAC outputs (0-10 VDC, PWM maximum 1A)
- Pre-programmed by Fidelix
- Size (with DIN-rail clamps): 117mm x 125mm (x 65mm height)
- Operating voltage: 24 VDC (16-26VAC)
- Operating temperature: 0 to +50°C
- Enclosure (optional, without DIN-rail clamps): IP55, non-flammable polystyrene, IEC 695-2-1



multi-24



multi-16

# › multiLINK

## Multi-purpose communication module

**Our intelligent solutions adapt to a variety of needs**
Thanks to their scalability, Fidelix solutions work flexibly in environments ranging from small buildings all the way up to major monitoring systems. The system can be utilised in both renovation and new construction projects.

- 1 Modbus RTU - RS485 port
- 2 serial ports for M-bus or Modbus TCP/IP ethernet port (RJ45, PoE) Mini USB
- RS232 debugging port
- µSD card reader
- RJ12 port
- Integrated web- and FTP-server



The multiLINK is a versatile communication module, interconnecting Ethernet, M-Bus, Modbus and RS-232 interfaces, both equipment and services, seamlessly. It can be used to convert fieldbus over UDP or TCP to RS485 or RS232, as a serial repeater, or as serial master.

One multiLINK communication module can be connected to multiple serial devices, using different bus types.

With the optionally embedded webserver with customisable HTML pages, you can consult and control the connected serial devices, or serve the information through XML to a SCADA system.

- Size (with DIN-rail clamps and cover): 107mm x 99mm (x 63mm height)
- Operating voltage: 12-36 VDC / 12-26VAC (with M-Bus: 24VDC)
- Operating temperature: 0 to +50°C

# › Genius
## District heating controller

- 3.5" touch screen
- Clear process pictures
- Support for various sensors and actuators
  Graphical, easily adjustable heating curve
  Optional remote access with web browser
  and/or SMS-alarms
- Suitable both for new buildings and
  renovations projects

The Fidelix Genius is the latest new technology in disctrict heating controlling. Using a 3.5" graphical touch screen with clear, powerful and easy to understand graphics, it brings the pleasure back to installing and commisioning a district heating package.

Connect your Genius to a GSM modem to forward SMS-alarms to the maintenance company, or allow remote browser-access through our multiLINK media converter with web server.

- Size: 307 x 217 x 118 mm
- Operating power: 230 VAC / 6 A
- Operating temperature: 0 to +50 °C
- Inputs: 12 x resistive (NTC, PT1000, Ni, ...),
  0(2)-10V, or digital indication
  (selectable per input)
- Outputs:
  - 4 x Digital Out relay (max. 230 VAC / 6A)
  - 4 x 0-10VDC
  - 4 x Triac (PWM, max. 1A)

# › DU-10

## Security and access control door unit

A comprehensive understanding of the needs of our customers inspired us to develop an open and generally compatible system. Our intelligent solutions and service concept are based on a single, easily manageable system, a clear and understandable user interface, and standardized technology.

- 8 alarm loops
- 2 digital outputs
- 2 external entrance
- card readers
- IP55, non flammable casing

The DU-10 door unit can be connected to actuator / solenoid controls (open or close locks, day/ night mode) and alarms related to the entrance area (push-to-open buttons, movement detection, magnetic contacts, ...) totaling 8 inputs.

In addition, two different RFID readers can be connected to the door unit, which itself is connected through a Modbus loop (RS-485) to the Fidelix Building Management System.

The unit is, within some limits, freely programmable and adjustable to meet every individual customer's needs.

- Size (with casing): 110mm x 110mm (x 65mm height)
- Operating voltage: 16-26VDC
- Operating temperature: 0 to +50°C
- Maximum load (per relay): 1 A / 30 VDC

# I/O MODULES

## Tried and tested for reliability.

- DIN-rail mounting
- Individually detachable connectors
- Operating voltage: 20-26VDC
- Operating temperature: 0 to +50°C
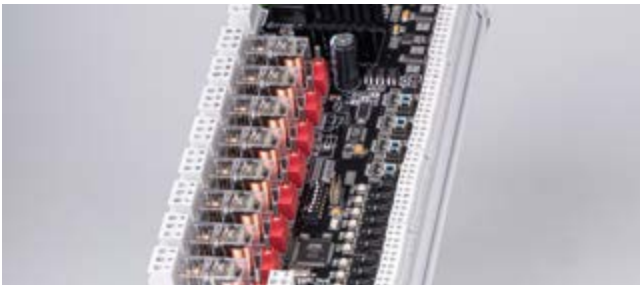


### COMBI-36

The 36 channel combination module is our most used module for multiple automation purposes. Combining the speed and precision of our four dedicated modules, the COMBI-36 offers enough connectors to be used for instance as the sole I/O-interface in a junction box to connect machines in a different room, or the ideal quantity distribution of I/O-points to use in any substation cabinet.Connect the module to one of our outstations to get reliable and fast readings, and assure a precise control of your field equipment.

- Combined I/O module, 20 inputs, 16 outputs
  - 12 digital inputs
  - 8 analogue inputs
  - 8 digital outputs
  - 8 analogue outputs
- Size (with DIN-rail clamps): 231mm x 126mm (x 65mm height)
- Supported sensor types (AI): Resistive (NTC, PT1000, Ni, ...), 0(4)-20mA, 0(2)-10V
- Output voltage (AO): 0-10V (individually adjustable)
- Relays (DO): max 6A at 250 V



### AO-8

The 8 channel output module is used to generate voltage controlling signals. Its 8 individually configurable channels are all short circuit protected, have customisable minimum and maximum voltage outputs, and have configurable safeguard values in case of a break in communication. Connect the module to one of our outstations to control your field equipment fast and accurately.

- Analogue control module, 8 outputs
- Programmable default output values
- Size (with DIN-rail clamps): 123mm x 90mm (x 65mm height)
- Maximum output current: 20 mA
- Output voltage: 0-10 VDC



### DI-16

The 16 channel digital input module is used to read and detect digital signals for indication, alarm, or impulse measurement purposes, or to detect whether or not a cable is still intact (security loops). Each channel can be individually set, and has a green and red LED to show the current status of each point as soon as you see the module. Connect the module to one of our outstations to get fast, accurate and precise readings.

- Digital measurement module, 16 inputs
- Bi-coloured LED indicators
- Size (with DIN-rail clamps): 205mm x 90mm (x 65mm height)
- Input loop current: 2.5 mA at 24 VDC per active loop
- Input loop voltage: 20-48 VDC



### DO-8

Each of the 8 channels of the digital output module with 8 changeover type relays, can be set to send programmed values, or manually switched, overwriting this programmed value. Should there be an unforeseen interruption in the communication towards the module, each relay can preserve its current state or switch to a pre-programmed status. Each relay has an LED, indicating its current status. Use the DO-8 module to control devices up to 250 volts.

- Digital control module, 8 outputs
- Manual override switches
- Size (with DIN-rail clamps): 205mm x 90mm (x 65mm height)
- Maximum load: 6 A / 250 VAC



### AI-8

The 8 channel input module is used to read input signals from active and passive sensors. Its 8 individually configurable channels can read data from resistive sensors, current loops or voltage messages, and digital indications. Selection is done using the physical jumpers on the module. Connect the module to one of our outstations to get reliable, accurate, precise and fast readings from your field equipment.

- Analogue measurement module, 8 inputs
- Selectable sensor types
- Size (with DIN-rail clamps): 158mm x 90mm (x 65mm height)
- Supported sensor types: Resistive (NTC, PT1000, Ni, ...), 0(4)-20mA, 0(2)-10V
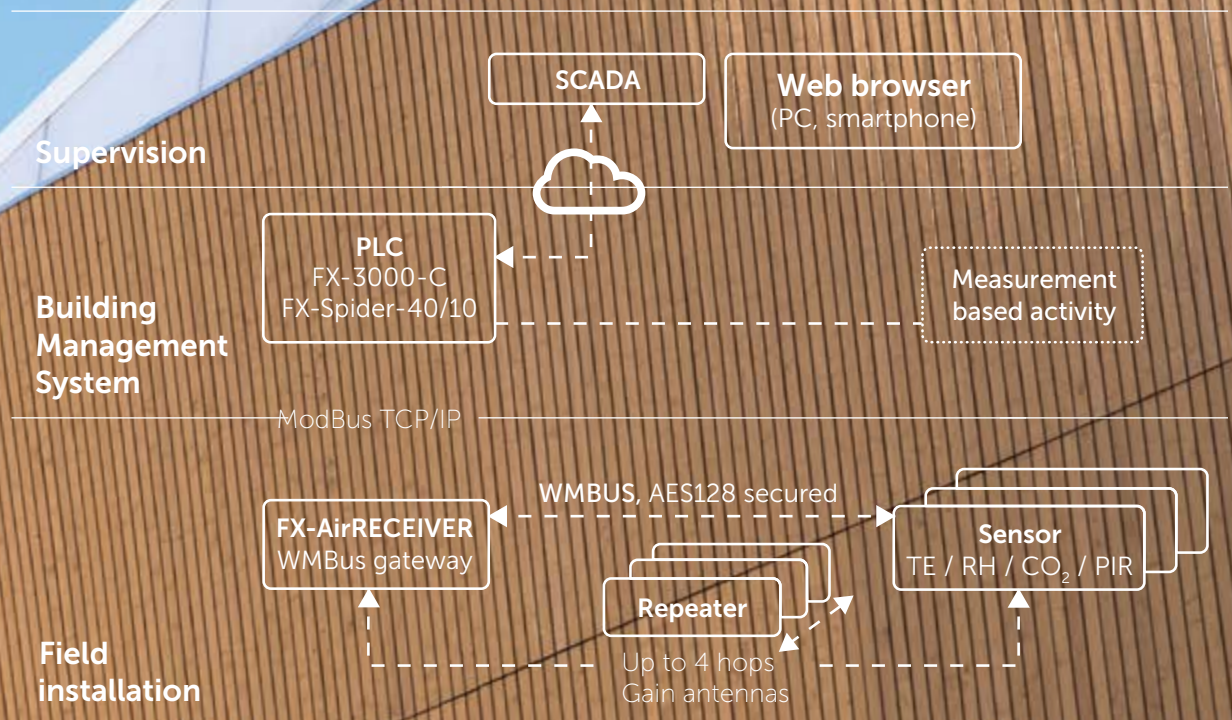
# › Measure to manage
## with Fidelix wireless.

Fidelix wireless sensors are are plug-and-play transmitter for measuring room conditions. Great care has been used to design sleek, good looking devices with high security and performance. The design allows for discrete integration when mounted in home environment.

The devices have a robust design with an tamper detection if opened from the wall. A bit in the status message is set if sabotage is detected or restored. The battery level is continuously monitored and a low level warning is issued when battery is nearing depletion. For maximum performance the devices have 2 internal antennas.

Wireless sensors

- Battery powered for wireless installation
- AES128 Encrypted Wireless M-Bus communication
- Continuous battery level monitoring
- Discreet design

SCADA

**Web browser**
(PC, smartphone)

**Supervision**

**PLC**
FX-3000-C
FX-Spider-40/10

Measurement based activity

**Building Management System**

ModBus TCP/IP

WMBUS, AES128 secured

**FX-AirRECEIVER**
WMBus gateway

**Sensor**
TE / RH / CO$_2$ / PIR

**Repeater**

**Field installation**

Up to 4 hops
Gain antennas

# SENSORS

Fidelix wireless components make collecting essential indoor condition data easily integratable.

## FX-WMBUS-C-TH
### Wireless M-Bus temperature & humidity room sensor

- Temperature range: -40..85°C
- Dimensions: 32 x 89 x 26 mm
- Power supply: 3.6V - AA battery
- Communication:
- 90 sec interval
- OMS standard wireless M-Bus

## FX-WMBUS-G2-TH
### Wireless M-Bus temperature & humidity room sensor

- Configurable using the FX-CF-CABLE
- Temperature range: -40..85°C
- Dimensions: 25.5 x 105 x 22 mm
- Power supply: 3.6V - AA battery
- Communication:
  - interval configurable from 60s to 1 hour
  - selectable encryption
  - OMS standard wireless M-Bus

## FX-WMBUS-E-CO2
### Wireless M-Bus CO2, temperature, & humidity room sensor

- Temperature range: -40..85°C
- Dimensions: 80 x 80 x 25 mm
- Power supply: 3.6V - AA battery
- Communication:
  - interval 90 sec
  - OMS standard wireless M-Bus

## FX-WMBUS-E2-VOC
### Wireless M-Bus VOC, temperature, & humidity room sensor

- Temperature range: -40..85°C
- Dimensions: 80 x 80 x 25 mm
- Power supply: 3.6V - AA battery
- Communication:
  - interval 90 sec
  - OMS standard wireless M-Bus

## FX-EXT-PROBE-OW
### Single probe for FX-WMBUS-G2-TH sensor

## FX-CF-CABLE
### Configuration cable for G2 sensors

# WIRELESS M-BUS REPEATERS

Mains powered Fidelix wireless M-BUS repeaters are mounted with an AC/DC adapter in a combined enclosure. The devices are plug-and-play and highly configurable repeaters for extending the range between meters and a collector/gateway. The enclosures are chosen to make the repeaters as discrete as possible.

Once a minute a packet is sent from the repeater and contains information about the repeater, such as number of routed packets, software version, and current battery level. The packet is also used for time synchronizing between repeaters in a multihop system. Furthermore, this packet can be used as an indication that the device is up and running and the load of the repeater.

The repeaters are highly immune to electrical disturbances that could be generated by, for example, LED lights in buildings.

- Mains powered with always-on function
- Support for AES128 encrypted Wireless M-Bus communication
- IP67 design for demanding installations
- Plug-and-play yet highly configurable
- Convert between different WMBUS modes
- OMS 4 compatible



Indoor repeaters make use of two high performance internal antennas that are mounted at 90 degrees from each other, thus taking advantage of both horizontal and vertical polarizations for maximum range.



## FX-WMBUS-R4-M24-LR
### Wireless M-BUS MAINS REPEATER (24 VAC/DC, IP67)

- For indoor multi-floor building with better range
- Temperature range: -40..85°C
- Dimensions: 130 x 130 x 50 mm
- Power supply: 24V AC or DC
- Protection class: IP67
- Max. number of connected sensors: 932
- Communication:
  - OMS standard wireless M-Bus
  - 0-30 min suppression timer
  - Status Tx interval 60s

## FX-WMBUS-R4-M-LR
### Wireless M-BUS MAINS REPEATER (230 VAC, IP67)

- For indoor multi-floor building with better range
- Temperature range: -40..85°C
- Dimensions: 130 x 130 x 50 mm
- Power supply: 100–240 VAC
- Protection class: IP67
- Max. number of connected sensors: 932
- Communication:
  - OMS standard wireless M-Bus
  - 0-30 min suppression timer
  - Status Tx interval 60s

## FX-WMBUS-R4-M-LR-X
### Wireless M-BUS repeater (230 VAC, 1SMA, IP67) with 1 antenna connector

- Outdoor for longest range in one direction
- Temperature range: -40..85°C
- Dimensions: 130 x 130 x 50 mm
- Power supply: 100–240 VAC
- Protection class: IP67
- Max. number of connected sensors: 932
- Communication:
  - OMS standard wireless M-Bus
  - 0-30 min suppression timer
  - Status Tx interval 60s

## FX-WMBUS-RX4-M-LR-X
### Wireless M-BUS repeater (230 VAC, 2SMA, IP67) with 2 antenna connectors

- Maximum sensitivity – longest range in one direction
- Temperature range: -40..85°C
- Dimensions: 130 x 130 x 50 mm
- Power supply: 100–240 VAC
- Protection class: IP67
- Max. number of connected sensors: 932
- Communication:
  - OMS standard wireless M-Bus
  - 0-30 min suppression timer
  - Status Tx interval 60s

# WIRELESS GATEWAY

The Fidelix FX-AirRECEIVER is a housing unit for the collection of data from wireless M-Bus devices to convert it to the MODBUS TCP server. The unit contains dual internal antennae for improved range indoors and transmitting information received via Ethernet to the Fidelix or others vendors supervisory system. The product is authorised for assembly indoors in residential and commercial properties and is powered by the 230V network.

- Connects easily to Fidelix FX-controllers or other Modbus TCP servers
- Communicate with up to 500 wireless M-Bus devices
- Support for AES128 encryption

A well-functioning and carefully tuned building automation system can significantly improve energy efficiency – without compromising indoor conditions. A properly functioning building automation system functions unnoticed. Our system uses data to adjust building technology functions to the optimal level, enabling the achievement of major savings.



**FX-AirRECEIVER**
**Wireless gateway**

- Operation temperature: –20..55°C
- Dimensions: 240 x 180 x 33 mm
- Power consumption: <5W, 230 VAC
- Communication: 868 MHz (WMBus)

**REPEATER ACCESSORIES**



**FX-WMBUS-D1-TC**
Configuration dongle for repeaters



**FX-ANT-868-HW-DP**
Fidelix standard 868MHz dipole antenna

Our high expertise in technologies is visible in solutions optimizing buildings energy costs, indoor climate and cost of operations. Our products are developed, tested and working every day in demanding and extreme climate conditions in the Nordics and positively affect the wellbeing of over one million people.

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Fidelix