FRAKTA Vertriebs GmbH
Fühler Regler Antriebe Komponenten Technische Ausrüstungen

Training Fire Protection Systems

“Building a Safer Tomorrow”

who we are

- The company Frakta Vertriebs GmbH based in Rohrdorf (in Nagold) is a family .
- We are your specialist when it comes to easy – to use systems and applications for fire protection and smoke extraction in buildings
- Our motto **«Building a Safer Tomorrow»** motivated us, offer our customers the easiest , safest , most flexible and tailored to their project solution

The philosophy FRAKTA

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- **Easy , easy , easy!**
- For everybody who is working with our systems !

- **Open and flexible**
- Our products are based on standard protocols (BACnet / Modbus)

BACnet
Modbus

- Thanks to our modular product range can we offer complete system solution or
- The products can be combined or integrated with/in any third-party manufacturers . Frakta provides the necessary information on request
- **Modern and Up to Date**
- Our solutions comply with the latest technology standards

- Commissioning is simple and the user interface (MMI) intuitively

Our goal

- **Lowest total cost of the installed system**
  (lowest total installed costs!)
  - planning
  - installation and commissioning
  - operation
- Elimination of possible error sources at planning , installation, commissioning and maintenance
- Simplify and speed up the work needed throughout the whole project process

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FRAKTA Systeme
for
Fire & Smoke Extraction Dampers

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Market Requirements to a Fire & Smoke Control System

Customer Requirements

- System
  - Specification / Subscription
  - Handling
- Installation
- Commissioning
- Clear display / MMI
- Test run possibilities
- Logging and reporting
- Maintenance
- Verification in each project step

Simple!

Customer Requirements

- High flexibility
  - Completion with components also during installation possible
  - Simple upgrade
- Cost efficient
- For new projects and retrofit jobs
- Use of standard communication protocols

Simple!

Market Requirements

Controls Companies:

- *Simple implementation in a BMS or a Fire Alarm Systems*
- Autonomous operation for the F&S application
- *Visualization* of all F&S dampers and devices possible
- Standard interfaces
- Standard reporting

Implementation / Allocation
FRAKTA Solutions

Implementation FRAKTA Systems

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BACnet

Modbus

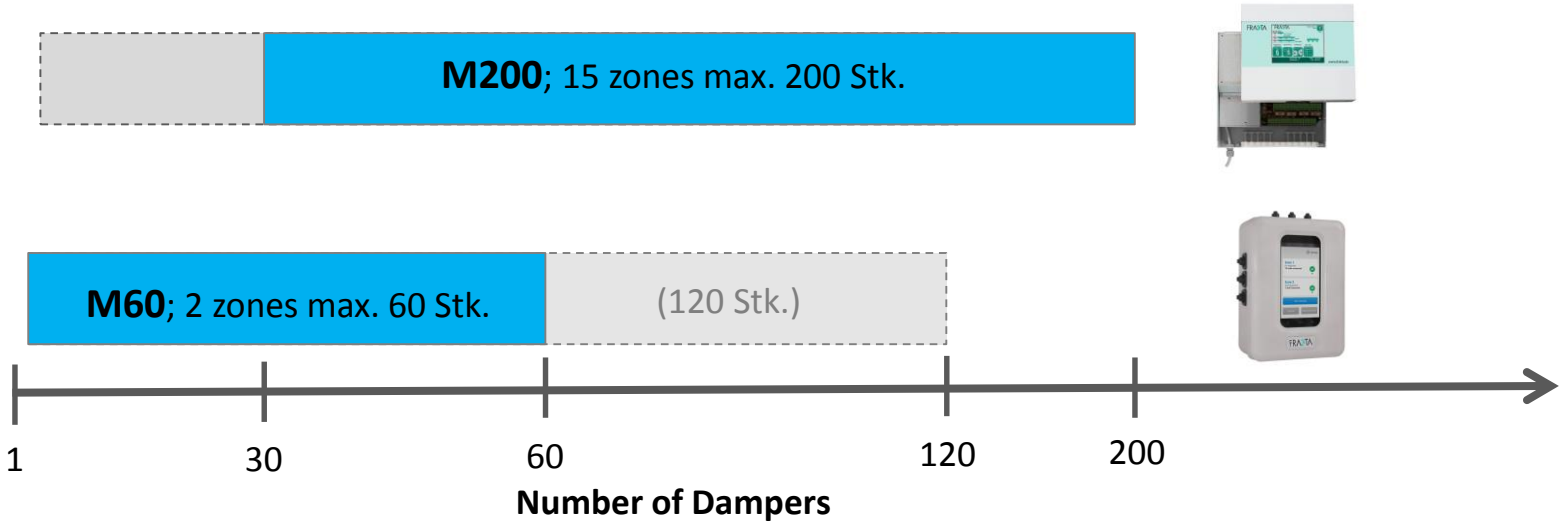
M200 / M60
- Fire & Smoke Damper Control
- UFC devices
- Smoke Sensors
- Temperatur Devices

Building Automation
- HVAC
- Light
- etc

Fire Alarm System
- Alarming
- Smoke Sensing
- Voice
- Light
- etc

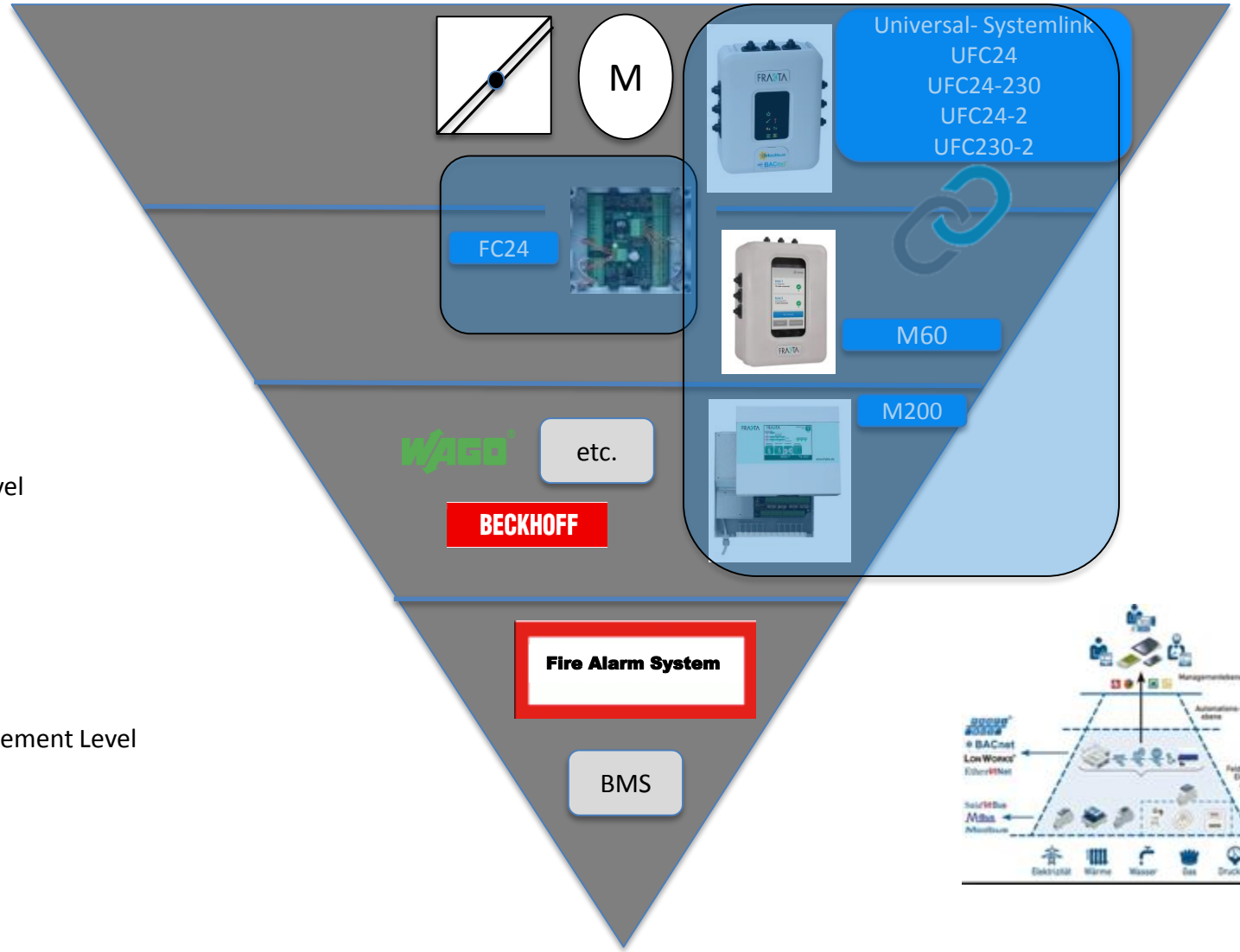
Building Management System (Visualization)

Size Target Projects M200 / M60 System

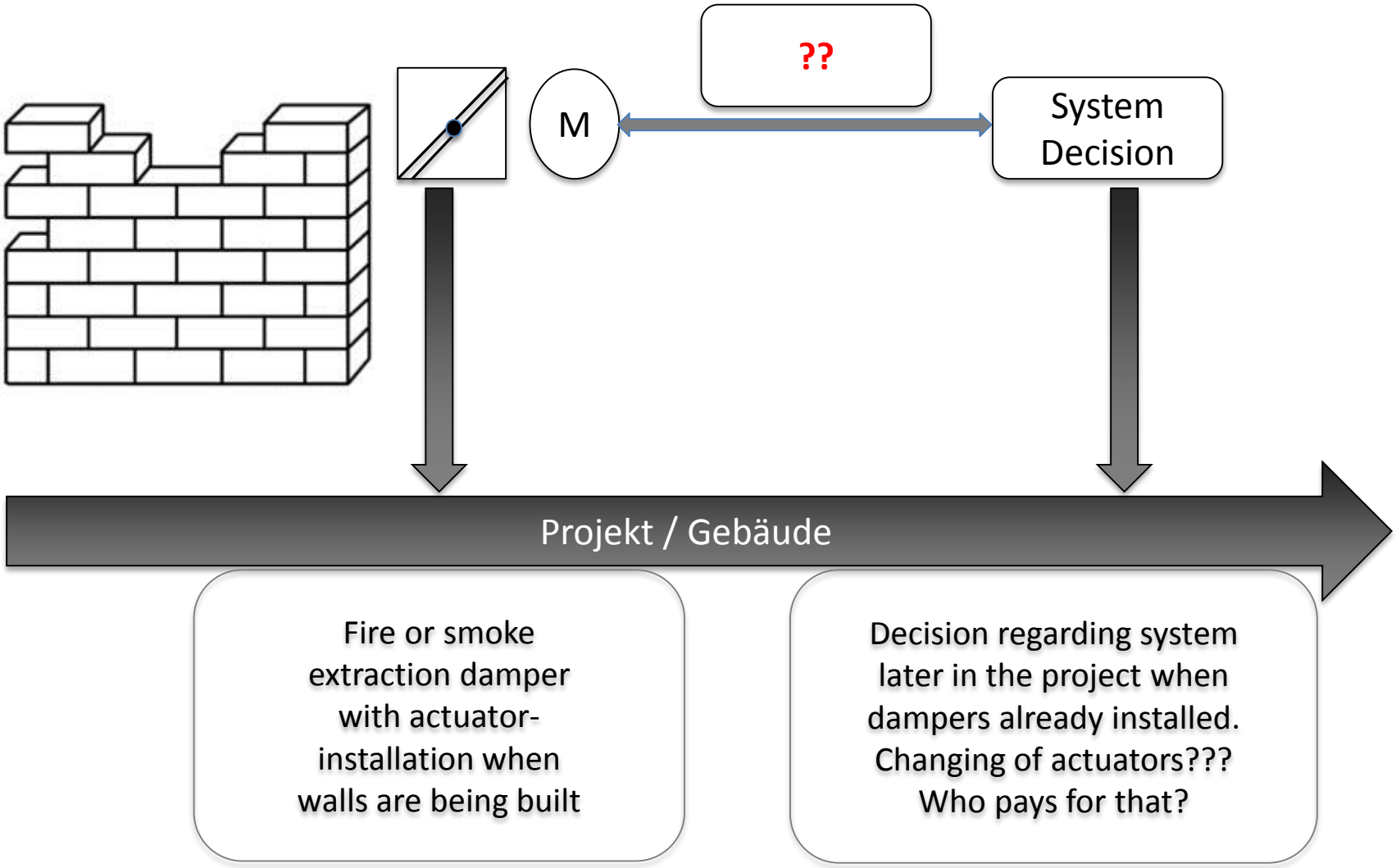


Modulary extensible if required

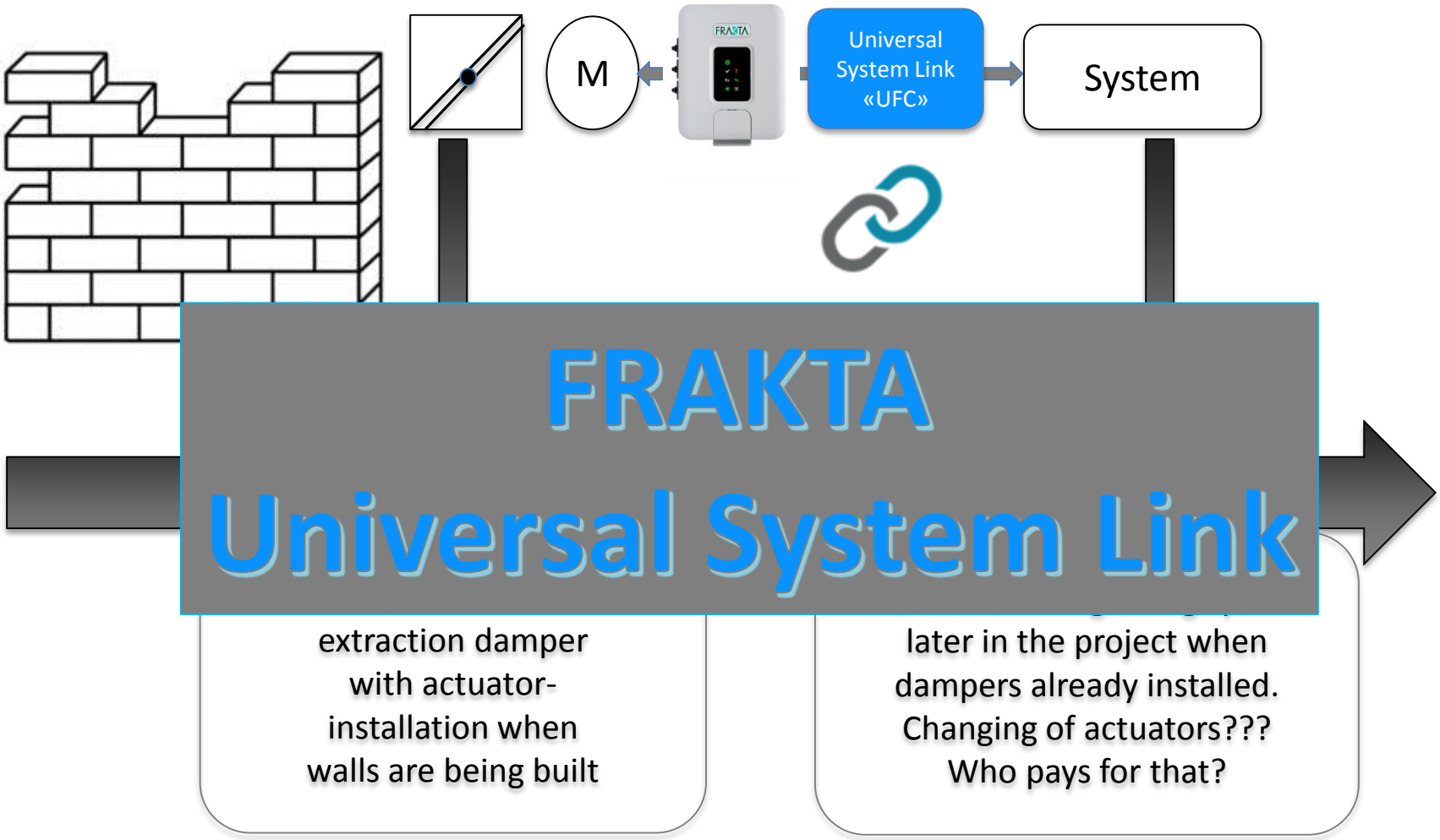
Integration FRAKTA System



Building Project Time Line



Building Project Time Line



References

- >100 carried out fire safety projects since 2013
- Approx. 5’000 pcs. UFC24 installed (sales start 03/2015)

Ben Gurion Tower, Airport Tel Aviv
340 Stk. UFC24, Modbus, Saia Burgess

Assuta Hospital,Tel Aviv
1’200 Stk. UFC24, Modbus, Trend

References

- Numerous projects in planning stage
  - Office building in Switzerland, 450 fire dampers, Modbus (M200, M60, UFC24, FC24)
  - Office building in Germany, 80 fire dampers (Kieback&Peter)
  - School in Belgium, 80 fire dampers (Schneider Electric)
  - Hospital in Germany, 120 fire dampers, BACnet direct integration
  - etc
- The UFC has been integrated by various controls companies (DEOS CH, Trend, Kieback&Peter, Saia Burgess, Sauter etc.)
- Integration by various others planned

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System Comparison

March 2016

Information provided without guarantee

Comparison Systems for Fire Dampers (CH)

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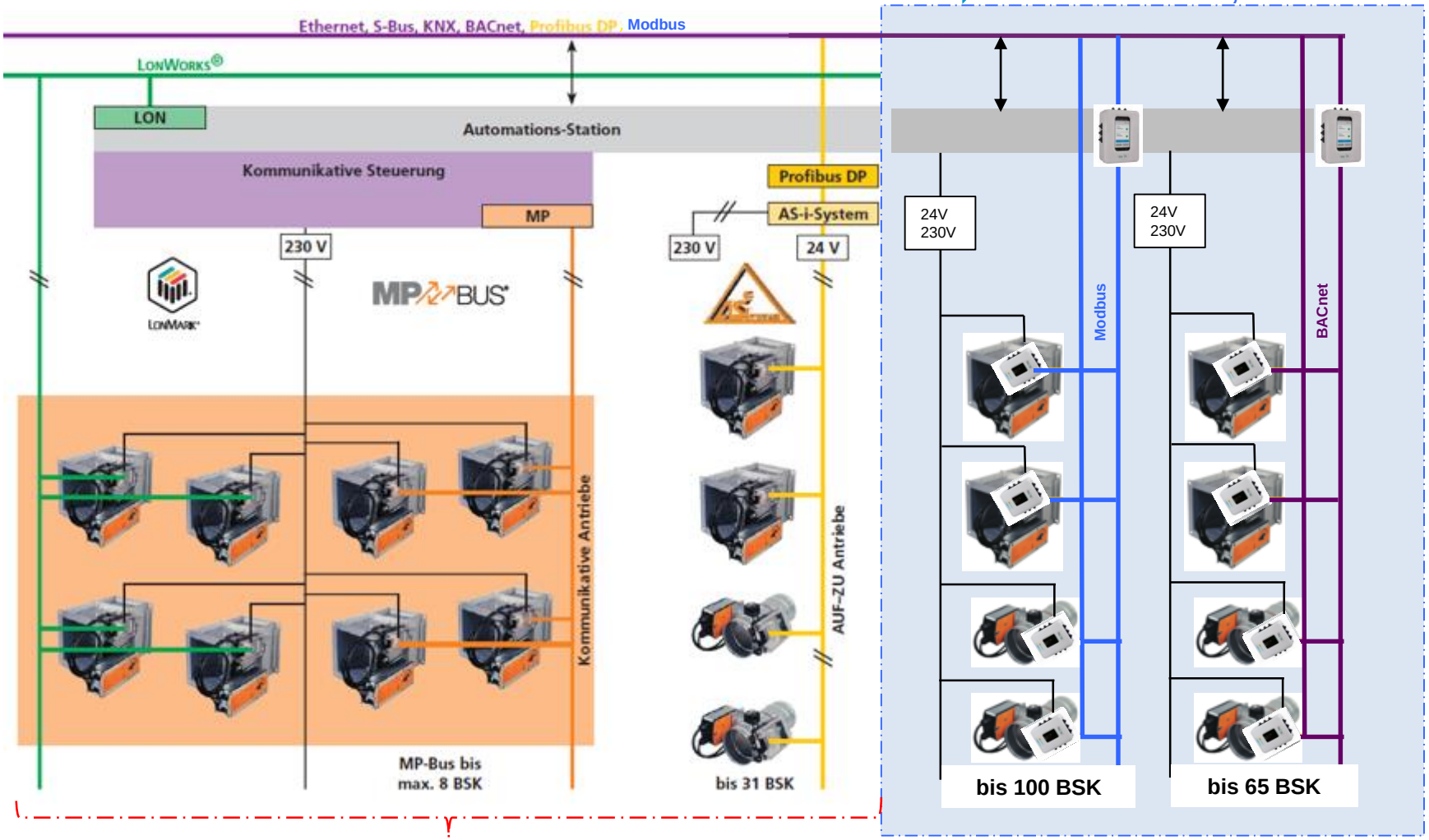
FRAKTA Solutions, New 2015



Source: Leaflet IG BSK 'Brandschutz in Lufttechnischen Anlagen, BB_001_DE 08-2014

Modbus BACnet

AS-I System Solution

Source: TROXNETCOM-AS-INTERFACE multi-media presentation (www.troxaustralia.com/au)

The AS-i system

AS Interface (Actuator Sensor Interface AS-i for short) is a safety bus system standardised worldwide and in Europe according to IEC 62026-2 and EN 50295. From a technical viewpoint, AS-i is an open bus system for the lowest field level of automation technology. System expansions can be realised by AS-i components from various manufacturers.

The task of AS Interface is to realise both the cost-effective connection of sensors and actors to a parent control system and to make an autonomous bus solution with the purpose of cost reduction possible. AS Interface is integral to industry due to more than four million installed components. At TROX, AS Interface is used in the area of building management systems for fire protection and smoke extraction.

Layout AS-I System Solution

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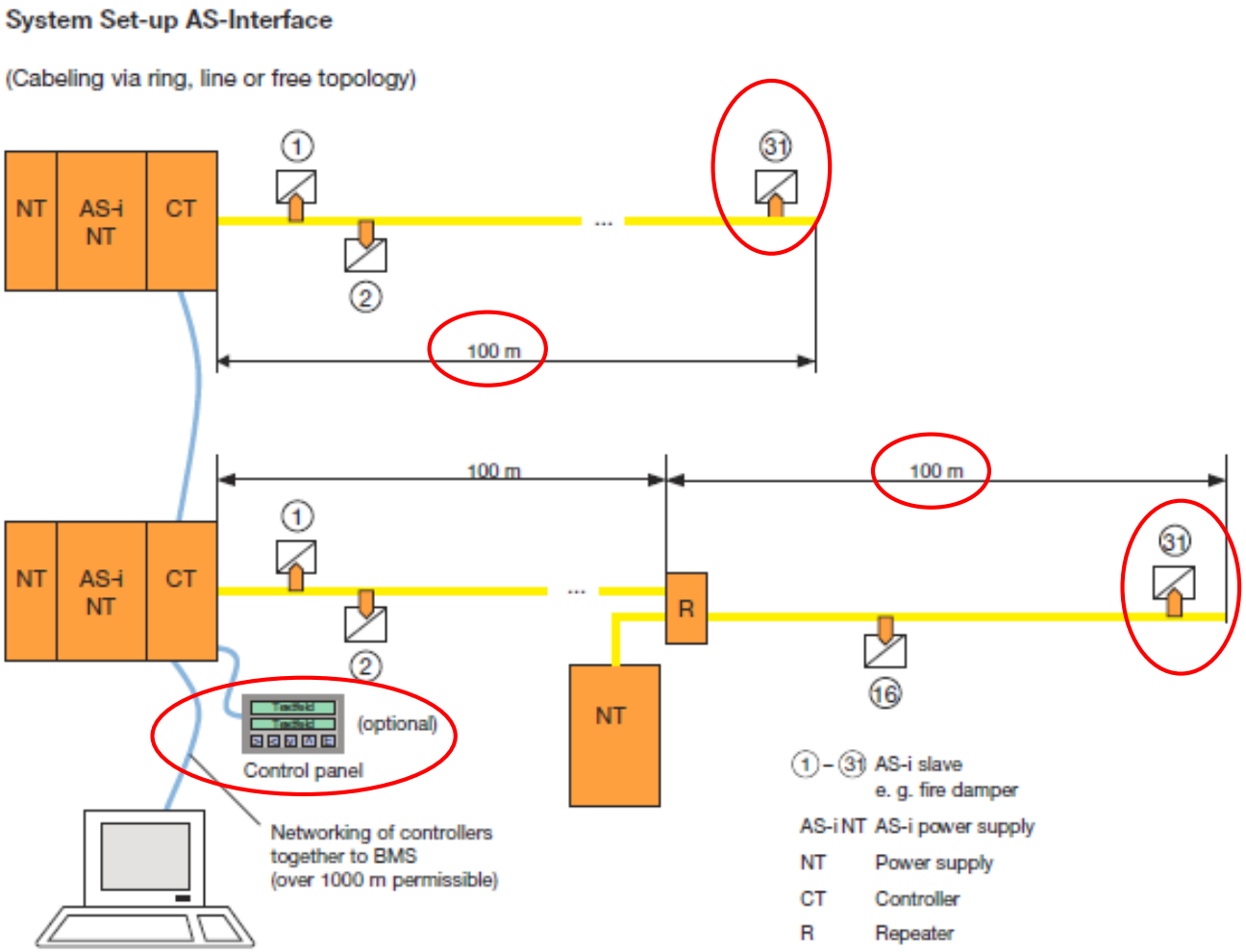
Source: TROXNETCOM-AS-INTERFACE multi-media presentation (www.troxaustralia.com/au)



AS-i System Solution

FRAKTA Vertriebs GmbH
Fühler Regler Antriebe Komponenten Technische Ausrüstungen

Source: TROXNETCOM-AS-INTERFACE multi-media presentation (www.troxaustralia.com/au)

Physical characteristics

– Topology:	Line, ring or freely selectable network (tree structure)
– Transmission medium:	Unshielded two-wire cable for data and energy input for the slaves (24 V DC, usually up to 350 mA per slave and, e.g., 8 A per bus line segment)
– Cable lengths:	100 m via repeater, extendable to 300 m
– Number of slaves:	31 per AS-i segment
– Number of AS-i line:	Flexible, depending upon connection medium, e.g., with RS 485 up to 10 lines, with Profibus DP up to 28
– Number of participants:	Combinations of up to 31 intelligent or 124 binary participants per bus line segment
– Access modes:	Master-slave mode, single master mode
– Messages:	Single-address access to master with direct response from slave
– Data:	4 bits master to Slave; 4 bits slave to master
– Address programming:	Fixed, unique address in slave. Address programming realizable via the master or a manually operated address programming device.
– Cycle time with 31 slaves:	5 ms
– Error detection:	Detection of erroneous telegrams; forwarding
– Services of the master:	Cyclic polling of all slaves, processing of data and control programs, cyclic forwarding and registration of data from higher-level control modules
– Management functions:	Initializing network, identifying bus stations, diagnosing network and slaves, detecting errors, generating protocols, allocating addresses to slaves

For further information, consult www.as-interface.net, (AS International Association) in Gelnhausen and/or the following publication: Aktuator-Sensor Interface Systeme ("Actuator sensor interface networks") by Günter Zeyer (Franzis Verlag); or contact one of our authorized dealers. They'll be more than happy to help you.

AS-i System Solution

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- Interface for the building automation is necessary
- Max length / line: 300m, 100m without repeater
- Per line, one power supply device, AS-I power supply as well as one controller is needed
- In addition a control panel is needed
- Integration into the building automation protocol is necessary
- Components for a project for 30 dampers:
  - 30 fire dampers with 24 V fire damper actuators
  - 30 pcs AS-E modules
  - Bus wiring AS-I, Bus communication and 24 V power supply
  - 1 power supply device, 1 AS-I power supply and 1 AS-I controller, repeater if cable length > 100m
  - Requires cabinet to mount 1 power supply device, 1 AS-I power supply and 1 AS-I controller

Comparison Systems for Fire Dampers (CH)

FRAKTA Vertriebs GmbH
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Integration mit LonWorks®

Empfohlene Anzahl	>50 BSK
Verstärkerdistanz	800m
Brandfallsteuerung	Bus
Ferninspektion	Möglich

Bewertung:

HOCH	Funktionalität
MITTEL	Planungsaufwand
MITTEL	Aufwand für Inbetriebnahme
GERING	Wartungsaufwand
MITTEL	Brandlasten

Ausschreibungstext System:
Kommunikative Brandschutzklappen-Steuerung integriert mit LonWorks in Automationsstation

Integration direkt mit MP-Bus

Empfohlene Anzahl	>6 BSK
Verstärkerdistanz	800m
Brandfallsteuerung	Bus
Ferninspektion	Möglich

Bewertung:

HOCH	Funktionalität
MITTEL	Planungsaufwand
GERING	Aufwand für Inbetriebnahme
GERING	Wartungsaufwand
MITTEL	Brandlasten

Ausschreibungstext System:
Kommunikative Brandschutzklappen-Steuerung integriert mit MP-Bus in Automationsstation

Integration mit AS-i-System

Empfohlene Anzahl	>20 BSK
Verstärkerdistanz	100m
Brandfallsteuerung	Bus
Ferninspektion	Bedingt möglich

Bewertung:

MITTEL	Funktionalität
MITTEL	Planungsaufwand
MITTEL	Aufwand für Inbetriebnahme
MITTEL	Wartungsaufwand
GERING	Brandlasten

Ausschreibungstext System:
AS-i Brandschutzklappensteuerung

Source: Leaflet IG BSK 'Brandschutz in Lufttechnischen Anlagen, BB_001_DE 08-2014

FRAKTA Solutions, New 2015

Integration with Modbus/BACnet

Recommended Qty:	1 to >200 BSK
Repeater Distance:	800m
Fire alarm control:	Bus or analog override
Remote inspection	Possible

Rating:

HIGH	Functionality
LOW	Planning Effort
LOW	Commissioning Effort
LOW	Maintenance Effort
LOW	Fire Load

Subscription Text System:
Communicative Fire Damper control system integrated via Modbus or BACnet into Building Automation System

Modbus BACnet

Summary / Comparison Project of 30 dampers

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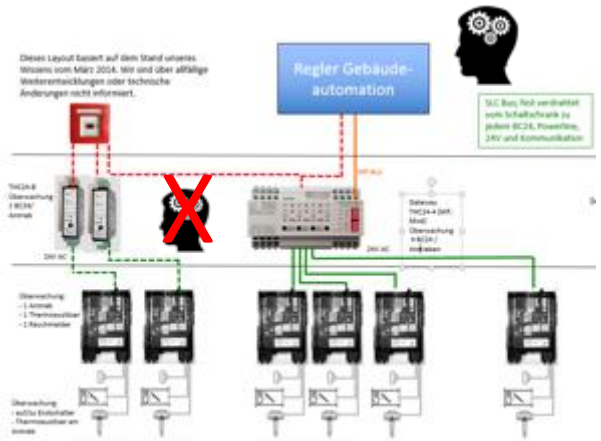
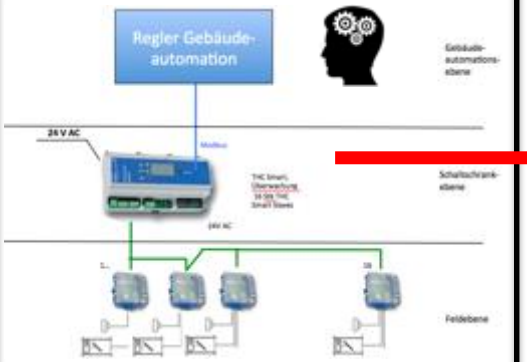
THC-System MP-Modbus Solution

- Hard wiring from each damper to the cabinet – lot of space needed in the cabinet
- 1 THC controller can handle 4 fire dampers and actuators
- Requires cabinet to mount minimum 8 pcs THC controllers



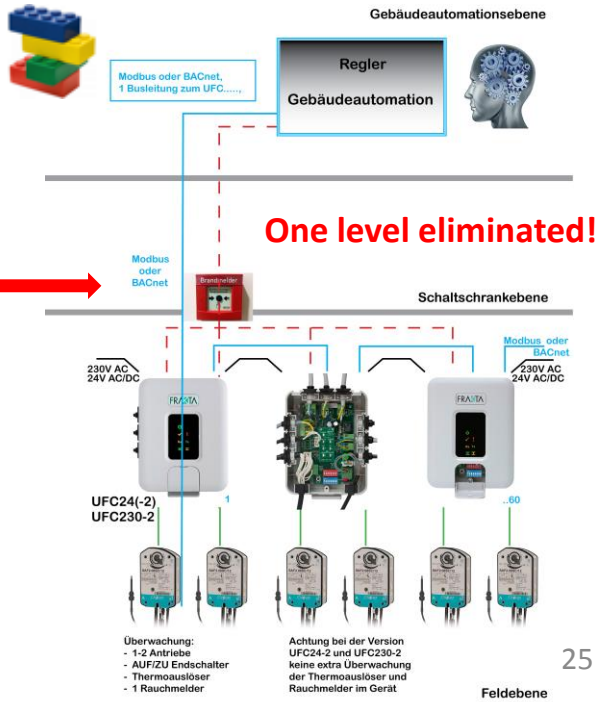
Trox THC Smart Solution

- Integrated Modbus interface for integration into superior system
- Collected messages, no individual access to dampers
- 1 THC Smart Master can handle 16 fire dampers and actuators
- Requires cabinet to mount min. 2 pcs THC Smart Master



FRAKTA Solution

- **1 Level of devices (cabinet or controls) is not required anymore = remarkable cost reduction!**
- BACnet or Modbus
- Fire or Smoke Extraction Application
- Easy integration into superior system
- Easy commissioning, full transparency



Advantages FRAKTA Systems

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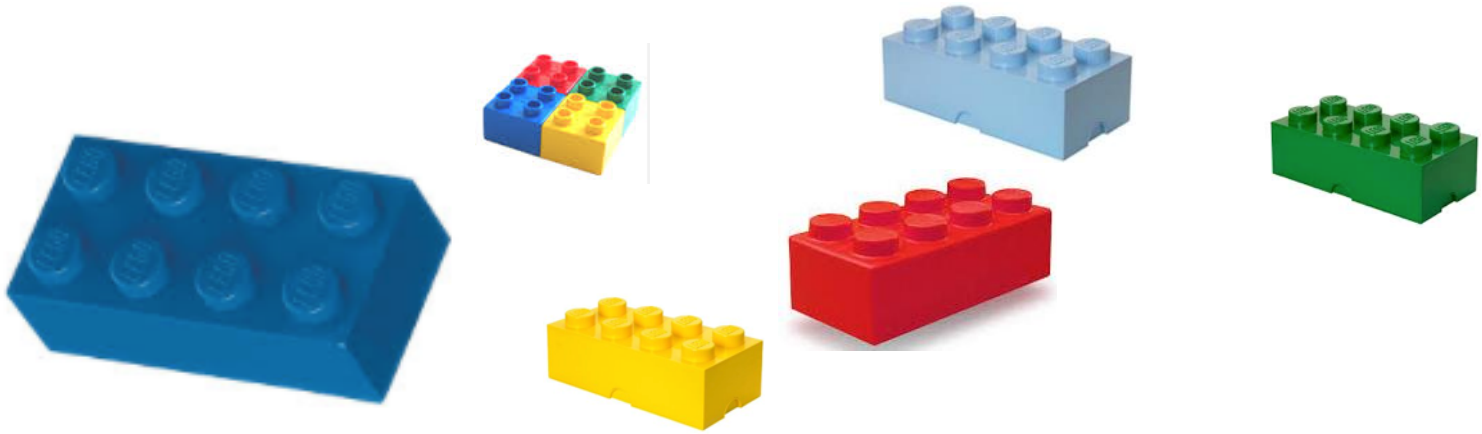
- **Easy integration** into building automation system through **standard interfaces**
  - No gateways or additional integrated protocols needed
  - Clearly defined field of responsibility
- **Easy** planning and subscription
- **Less wiring effort,** reduction in wiring mistakes and reduction of fire load
- **Full transparency** of all installed devices
- Much less space in controls cabinet needed if any
- Easy extendable
- All-inclusive package for the application
  - Use of pre-programmed and tested controllers
  - No license fees

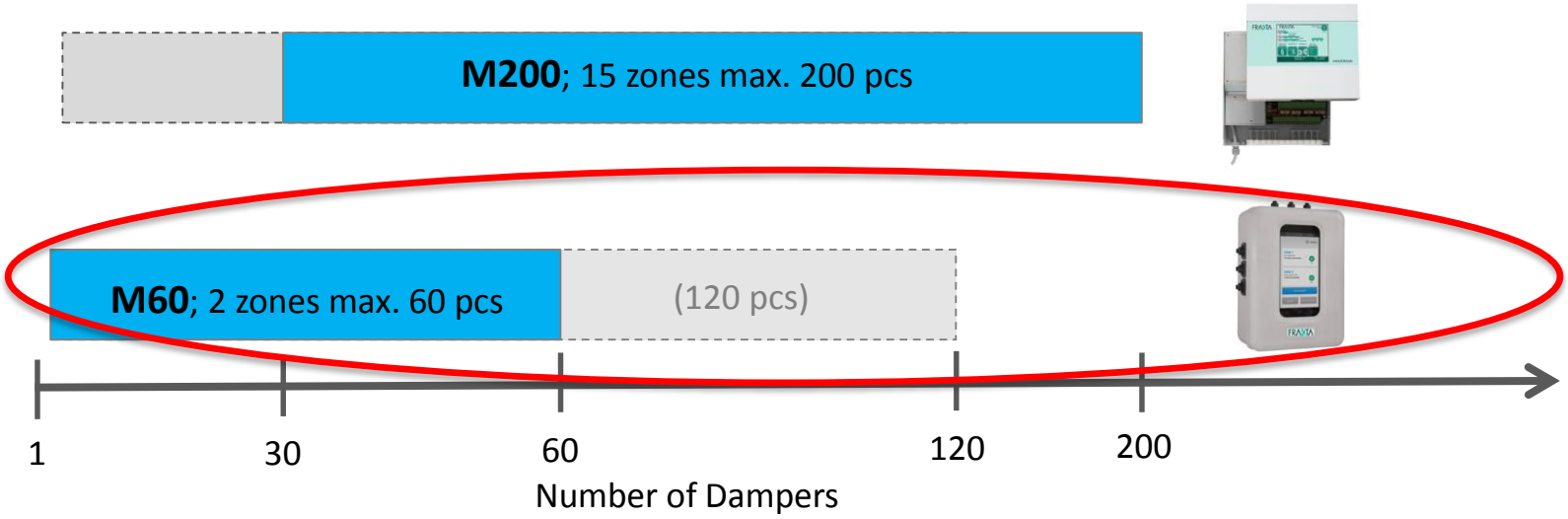
Advantages FRAKTA Systems

- No control cabinet necessary
- Automated test runs / Reviews
- Standalone or Integration into a Modbus or BACnet system
- Connecting two fire dampers to a possible UFC24
  => Significant reduction in the cost per damper!
- ***FRAKTA solutions save time and money with high flexibility***



M60
Fire Safety or Smoke Extraction System

Grösse Zielprojekte M200 / M60 System



modularly extensible if required

M60 FRAKTA System Description

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- The FRAKTA System M60 is a digital system. It monitors and controls:
  - up to 60 (120) motorized fire or smoke extraction dampers
  - 60 smoke detectors
  - 60 additional thermoelectric tripping devices / switches
  - 60 digital inputs for manual override
- Handling of 2 fire or smoke extraction zones or 1 fire and 1 smoke extraction zone
- Digital input from the AHU or the controller possible (conventional application)

M60 FRAKTA System Description

FRAKTA Vertriebs GmbH
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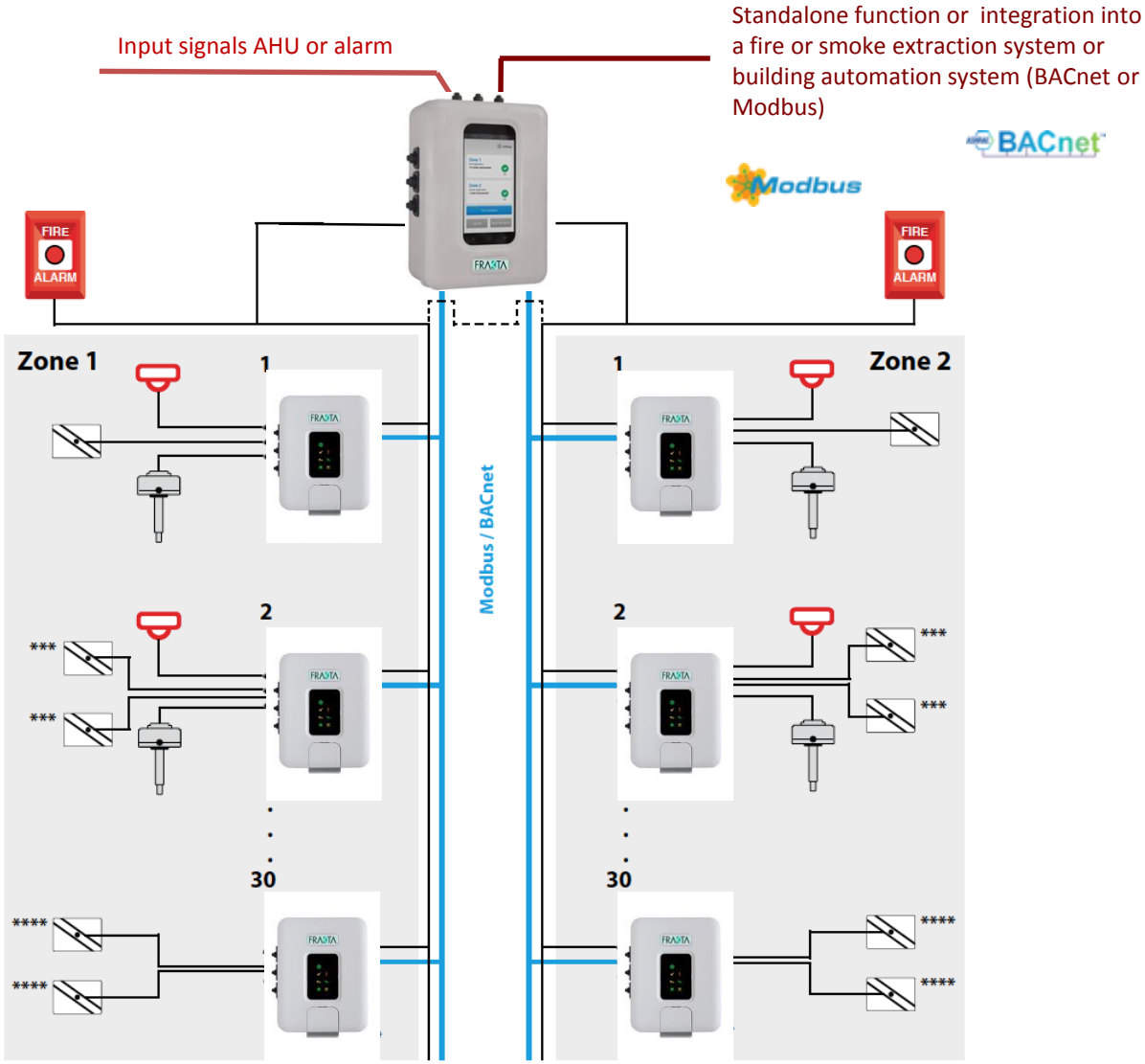
- Digital output to for fans or other devices (conventional application)
- Digital input for fans, alarms or other devices
- Communication through Modbus RTU or BACnet MS/TP (RS-485)
- Nominal voltage of the M60 controller: 230 V
- Installation in the cabinet or place of choice (the M60 ***is*** the cabinet)
- High resolution touch screen, user-friendly interface, intuitive handling
- Stand-alone or can be integrated in any building automation system
- Remote access via Cloud possible

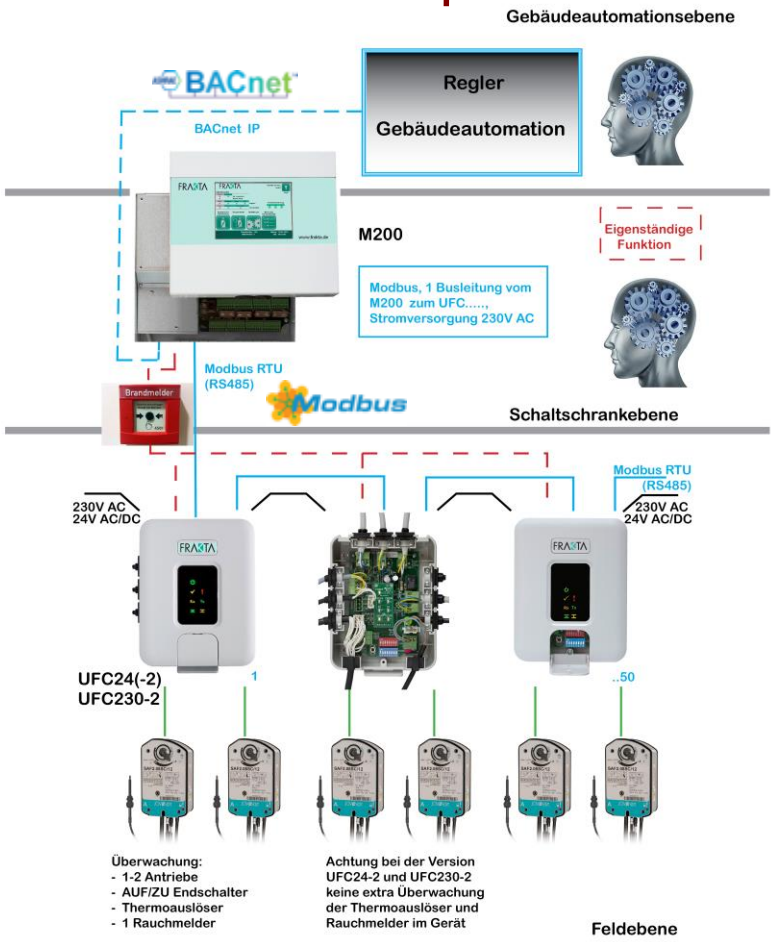
System Layouts
Fire Safety and / or
Smoke Extraction Application

FRAKTA System M60



FRAKTA System M200

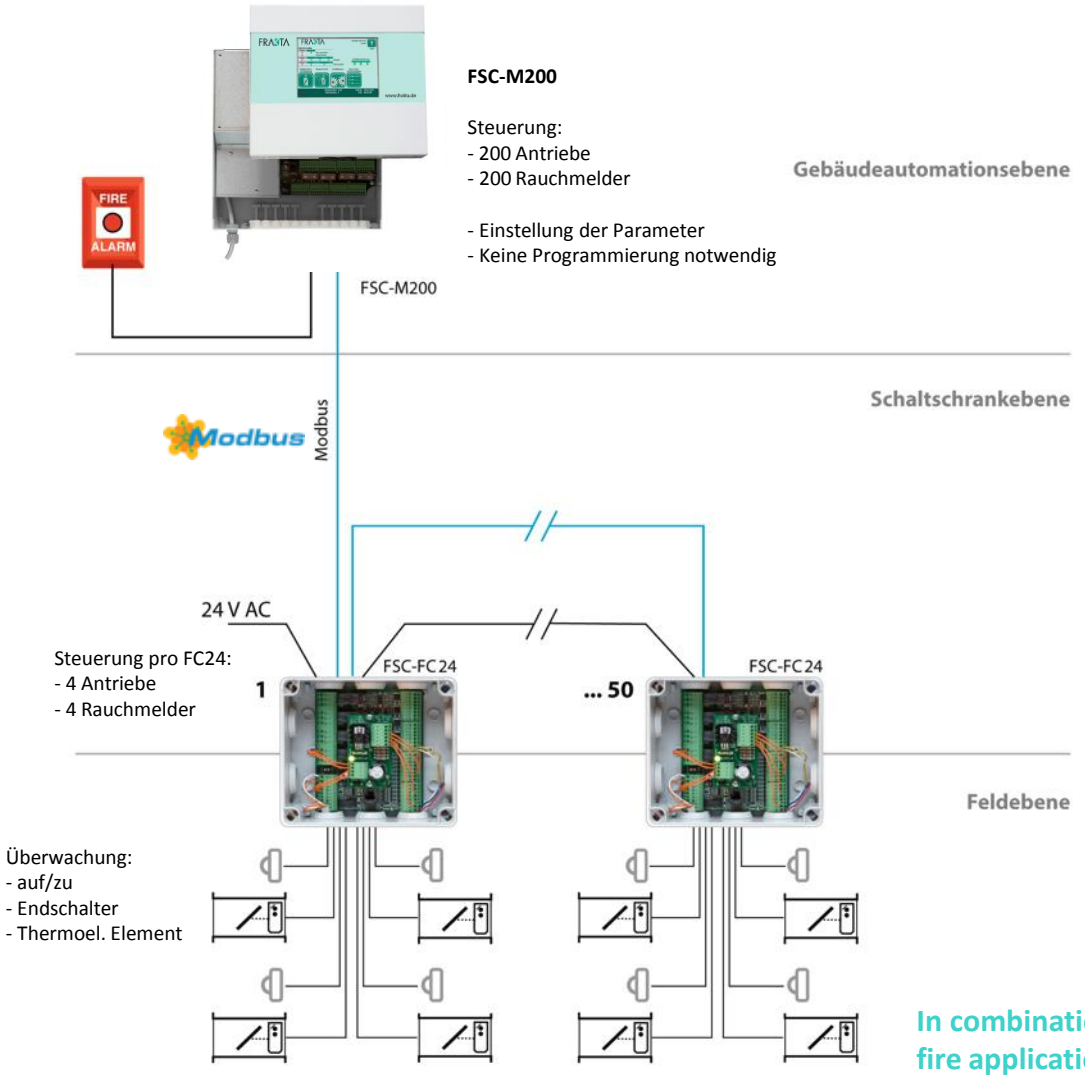
Standalone function or integration into a fire system or in a building automation system (BACnet IP)



In combination with M200 for fire application only

FRAKTA System M200

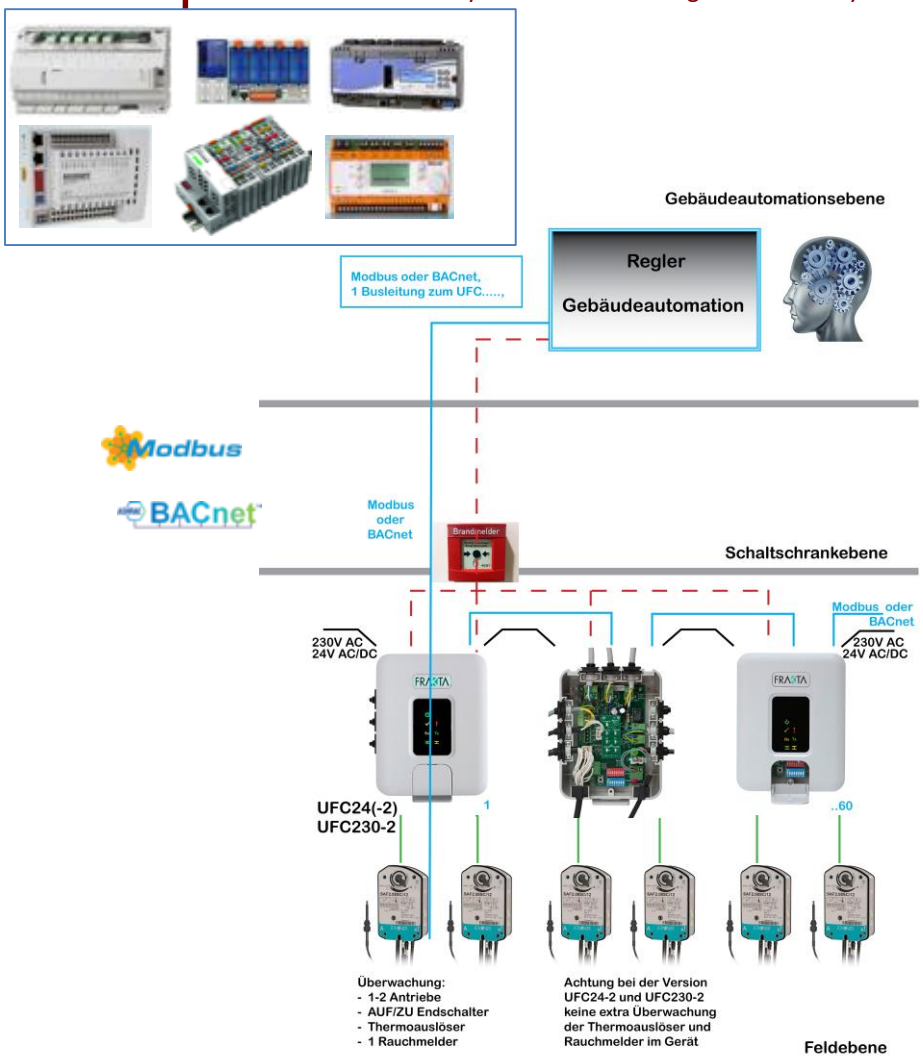
Standalone function or integration into a fire system or in a building automation system (BACnet IP)



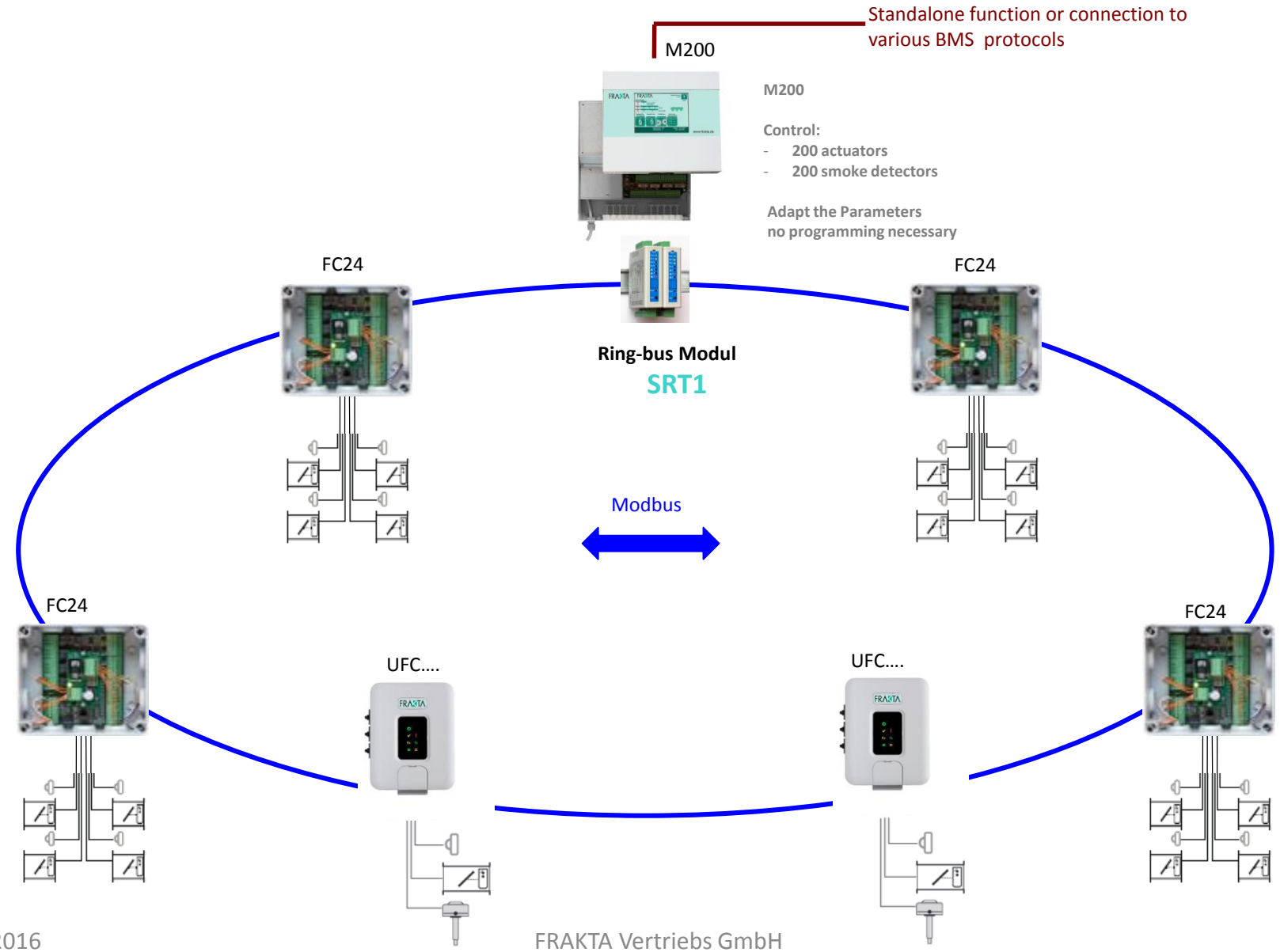
In combination with M200 for fire application only

FRAKTA System “open”

Standalone function or integration into a fire or smoke extraction system or in a building automation system (Modbus / BACnet)



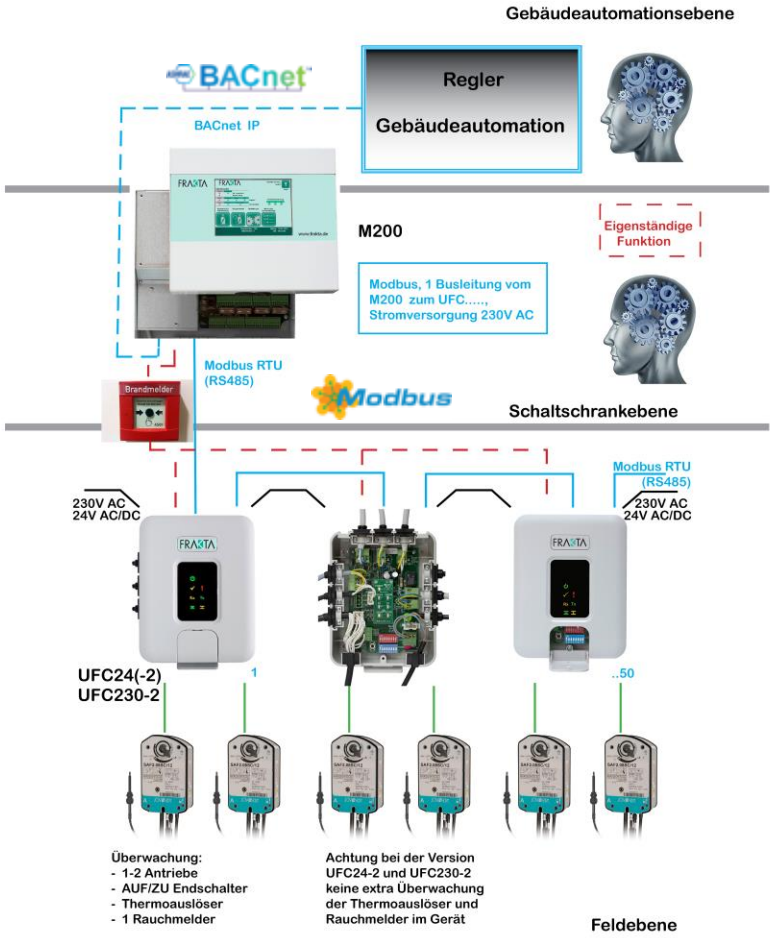
FRAKTA System M200 Ring Structure



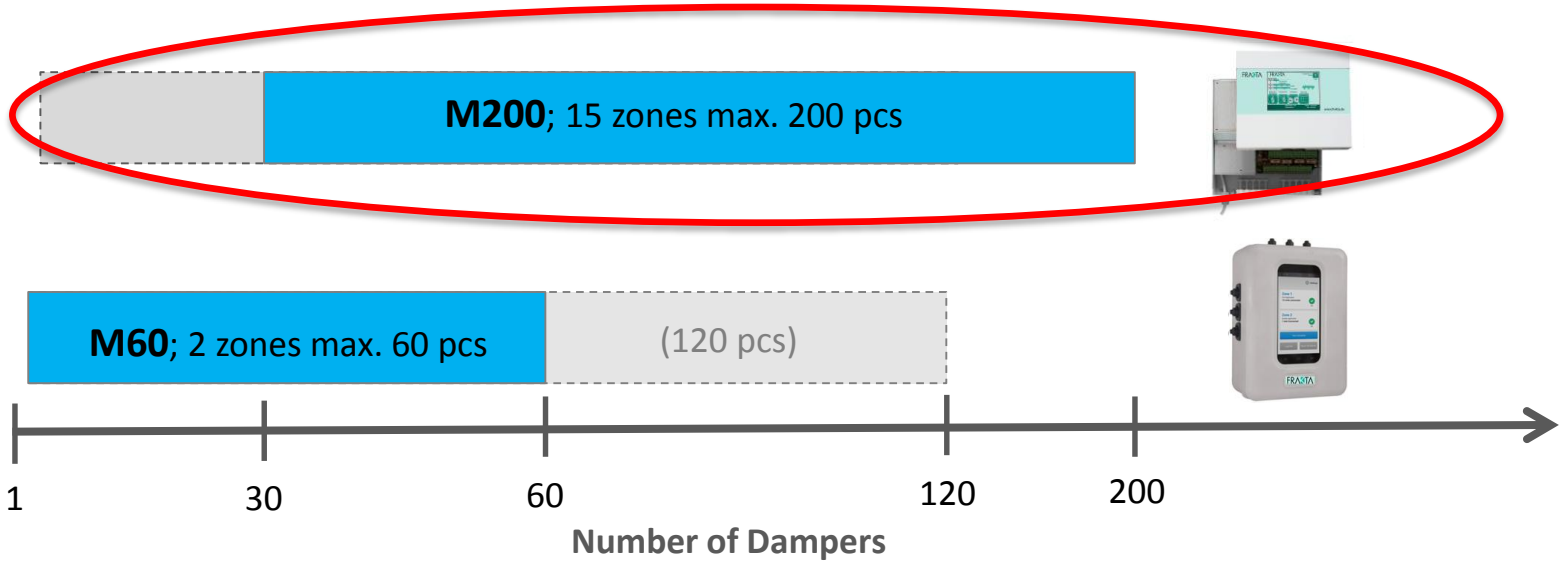
M200
Fire Safety System

FRAKTA System M200

Standalone function or integration into a fire system or in a building automation system (BACnet)



Grösse Zielprojekte M200 / M60 System



modularly extensible if required

M200
for fire dampers

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- The System M200 is a digital system to control and monitor up to 200 motorized fire dampers and 200 smoke detectors
- Communication through Modbus RTU (RS-485)
- Nominal voltage of the system: 24V AC
- Can be mounted in the control room or according to customer's need
- Autonomous working unit, can be integrated into a fire alarm system or a building management system

M200
for fire dampers

FRAKTA Vertriebs GmbH
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- Simple parameterization and configuration for a specific project via touch screen or Web browser
- Extensive safety functions
- Integrated real time clock for simple and automatic testing of the whole system incl. test report
- Simple extension of the system possible
- Wiring length for Modbus up to 800 m without repeater
- No license fees
- No tools needed

Implementation into Superior Systems

M60
Implementation into Superior Systems

FRAKTA Vertriebs GmbH
Fühler Regler Antriebe Komponenten Technische Ausrüstungen

Integration through standard interfaces

- Via **BACnet or Modbus** into a BMS system
  - Full transparency of all components in the BMS system
  - Visualization of all F&S information possible on every level of the building automation

- Communication
  - Modbus or BACnet
  - Cloud option for remote access

M200
Implementation into Superior Systems

FRAKTA Vertriebs GmbH
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Implementation by **standard interfaces**

- **BACnet IP** for integration into BMS System
  - Full transparency of all components on the BMS System
  - Visualization of all F&S information possible on every level of the building automation
- Communication:
  - Digital via BACnet
  - TCP/IP through Ethernet (RJ45) for remote access
  - I/O Ports (8xDO, 16x UI, 8xAO, 8xDI)
  - Output Modules for any kind of Modbus modules

M200
Implementation into Superior Systems

Functionality M200 System

- M200 works as **an independent system**
  - Autonomous control of the fire safety application
  - Operation functionality in combination with Building Automation and Fire Alarm System (i.e. fans, alarms etc) can be combined

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Component Details

Universal System Link

Details Universal Field Controller UFC24 for 24V actuators:

UFC24 Details – for 1 fire or smoke actuator

USP's UFC24:

- One device fits for all eventualities!
- One device to control and monitor 1 motorized **fire damper** (2-wire) ***OR***
- 1 **smoke extraction damper** (3-wire) for direct mounting on the damper
- Digital communication via **Modbus RTU** (RS-485) ***OR***
- Digital communication via **BACnet** ***OR***
- Analog control of the actuator
- Settings and Modbus addressing via dip switch directly on the field controller
- Universal System Link between fire or smoke extraction damper and any Modbus or BACnet system or analog control

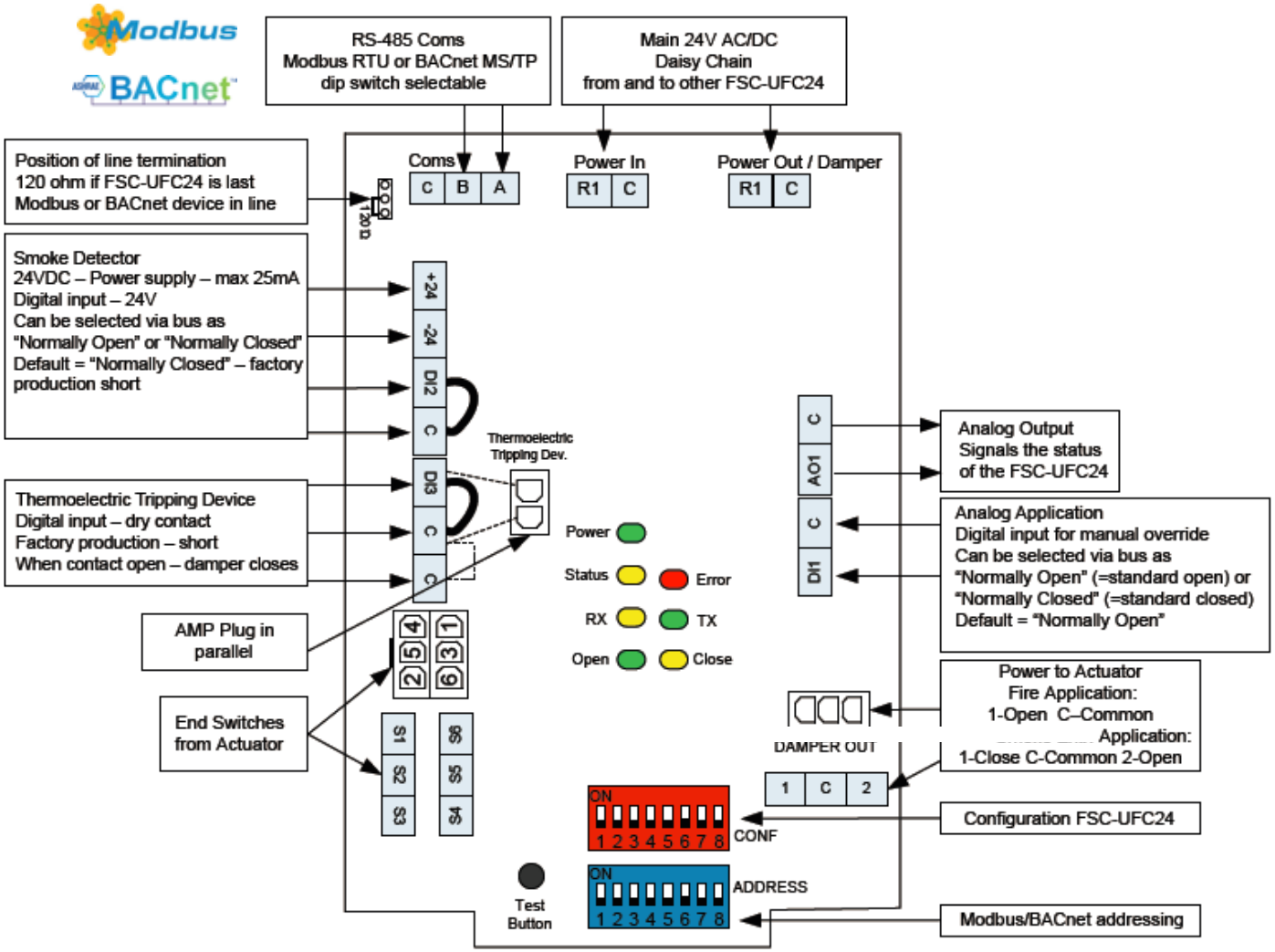
UFC24 Details – for 1 fire or smoke actuator

- Digital input for analog **override** when actuator is controlled by bus
- Possibility to connect 1 additional smoke detector and 1 additional thermoelectric tripping device
- Application dedicated safety function for fire or smoke extraction application
- Nominal voltage for the system: 24 V AC / DC
- Use of standard 24 V actuators
- Test button for individual damper testing
- “Watchdog” functionality can be activated if needed

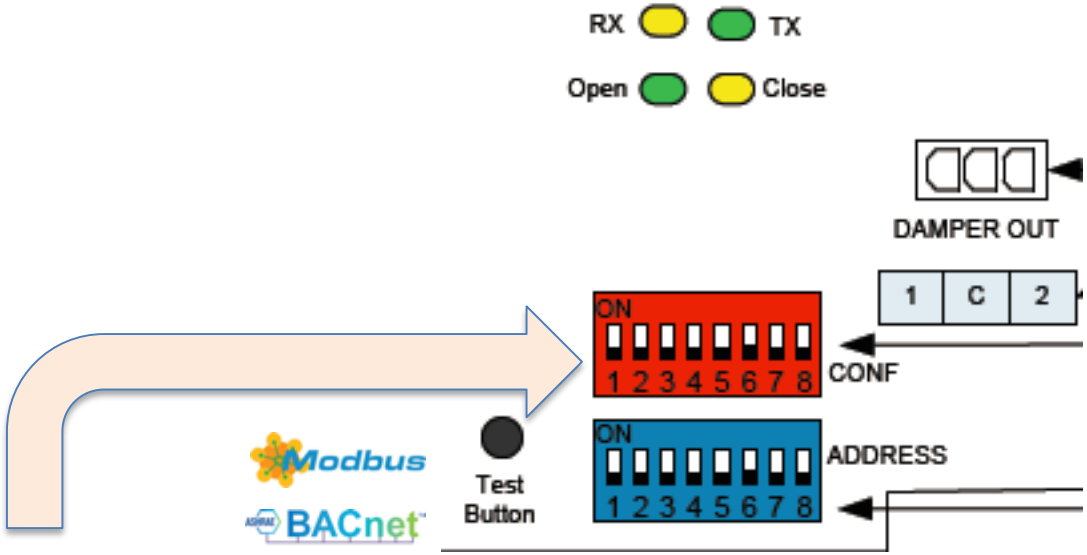
UFC24 Details – for 1 fire or smoke actuator

- **AMP plug-in connections** and quick connections (**terminals**) for easy wiring
- IP42 – housing of non-flammable polycarbonate
- **Modular housing concept** allows to install UFC24 at any time and place to the damper
- Very cost efficient solution!
- Remarkable logistic savings potential due to the simplification of the processes as well as the reduction of the variety of products in stock

UFC24 Details



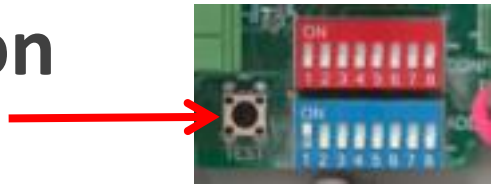
UFC24 Details



Configuration Possibilities

Pin	Off (Default)	On
1	Bus	Analog
2	Fire Application	Smoke Extr. Application
3	Modbus RTU	BACnet Ms/Tp
4	Baud Rate (Off-Default)	
5	Baud Rate (Off-Default)	
6	Not In Use=Off	
7*	Smoke Detector Alarm "System"	Smoke Detector Alarm "Actuator"
8	Not In Use=Off	

UFC24 Test Button



- Different functionalities depending on applications
- Fire Application
  - Power on: actuator (damper) opening
  - Pushing test button interrupts power supply – spring closing actuator (damper)
  - Release test button – power comes back – actuator (damper) opening
- Smoke Extraction Application
  - Power on: actuator makes self test and remains in position defined by controls
  - Pushing test button changes command of the actuator – actuator (damper) runs into opposite direction
  - Release test button: actuator (damper) runs back into last defined position
- Reset alarm message

UFC24 Housing

- New housing developed to fulfill multiple demand of various user groups
- Housing can be snapped on the bracket at any stage of the project
- Customizing possible at any time of the project
- Easy to handle cable connection – access from 4 sides!
- LED’s for status indication

UFC24 Housing Set UP

Individual
Logo Plate

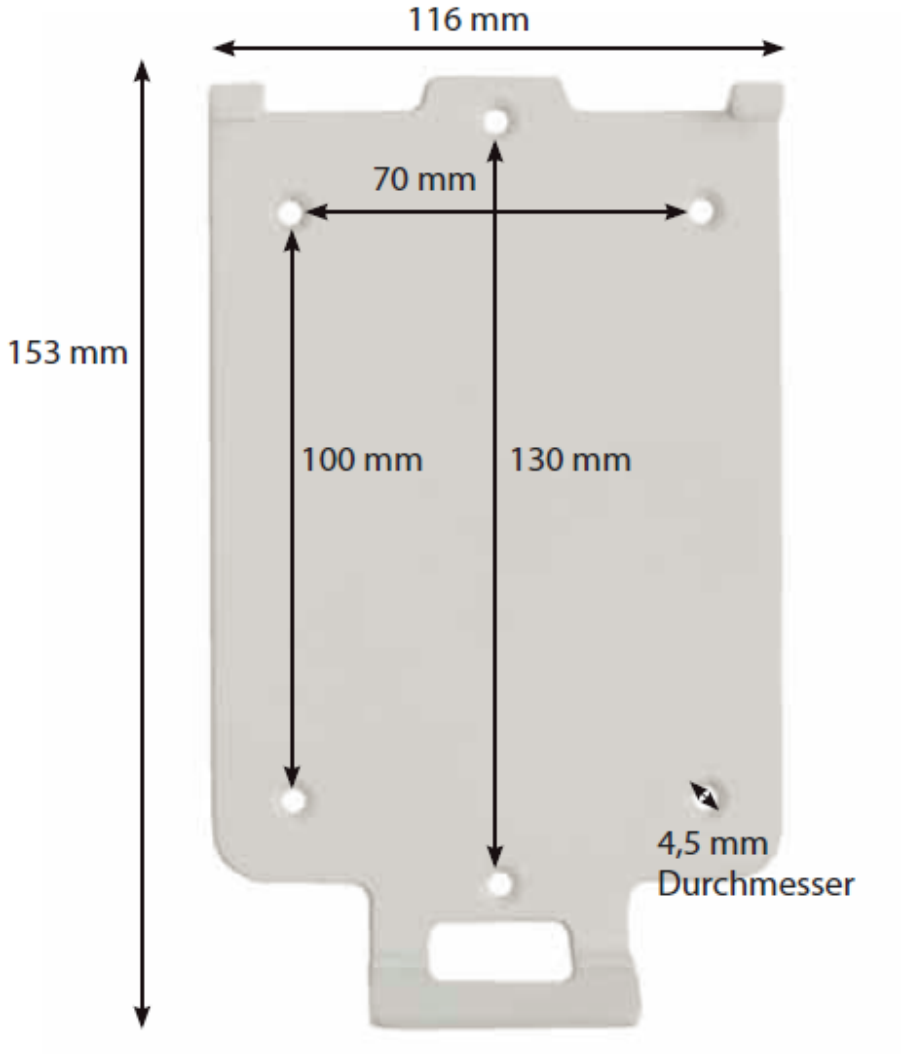
Opening for easy access to dip switch terminals

Lid

UFC24

Bracket

UFC24 Bracket Dimensions



UFC24 Bracket

- Mounting on the damper at production line or at a later stage
- Whole spacing (distance between holes) same as market standard
- Housing can be snapped on any time

UFC24 Housing

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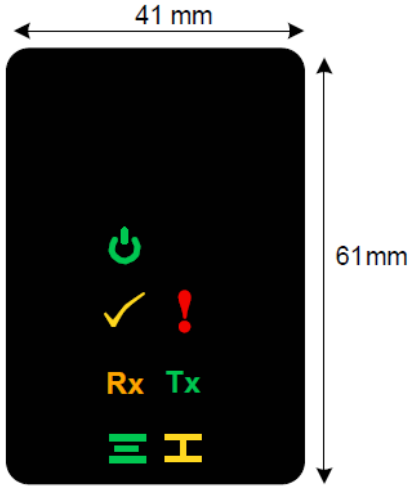
- Housing can be snapped onto the bracket at any stage of the project
  - At manufacturer's production plant
  - At the jobsite at any time
  - Offers new operational processes
- Easy to handle cable connection – access from 4 sides!
  - AMP Plugs
  - Quick connection terminals
- Access to dip switches and test button from separate cover from the front side at any time
- LED's for clear indication of various status
  - Only those visible which indicate a status
  - Special cover to avoid strong light disturbance in projects

UFC24 LED

- LED's are only visible if they are active
- Layout and functionality:



Led	Color	Action	Description
Power	Green	On	Power is connected
Status	Yellow	Off	Bus operation
		On	Analog connection
Error	Red	Flash Interval 1 sec	Actuator did not reach end switch position within 90 sec
		Flash Interval 2 sec	Smoke detector alarm
		Flash Interval 3 sec	Thermoelectric tripping device alarm
		Flash Interval 0.3 sec	Error on 2 devices or more Error message test report
		Flash Interval 5 sec	General alarm
Rx	Yellow	Flash	Receive data
Tx	Green	Flash	Transmit data
Close	Yellow	On	Damper close
Open	Green	On	Damper open
Close + Open Flashing	Damper is moving		

UFC24 Run Time Monitoring Actuator

- The UFC24 is equipped with an actuator run time monitoring function. This function monitors the time required by the actuator from leaving of the one and reaching of the other end switch.

- If the actuator does not reach the other end switch in the specified time an error message is sent.

- The default value for the actuator run time is 90 seconds. This can be adapted via Modbus or BACnet from 0…360 seconds.

UFC24 Full Auto Test Function

- The UFC24 offers a ‘Full Auto Test’ function. This can be controlled through the Modbus or BACnet controller.

- ***Function:***
  Base for this function is the run time monitoring of the actuator.

- ***Fire Damper Actuator***
  The fire damper actuator is closing (spring) and remains in the closed position as long as the run time is set. After the time passed the actuator will open again automatically until the end switch has been reached. After passing of the test time the UFC24 will go back into normal operation mode and a feedback ”full auto test ok” is sent to the controller. If one of the end switches is not reached within the defined test time an error message is sent to the controller.

UFC24 Full Auto Test Function

- ***Smoke Extraction Damper Actuator***
  The smoke extraction damper actuator is moving to the opposite direction and remains in that position as long as the damper run time is set . After the time passed the actuator will move back to the original position until the end switch has been reached. After passing of the test time the UFC24 will go back into normal operation mode and a feedback ”full auto test ok” is sent to the controller. If one of the end switches is not reached within the defined test time an error message is sent to the controller.

UFC24 ‘Watchdog’ Functionality

- If the bus communication is interrupted the safety function is provided by the thermoel. tripping device
- If required an additional “Watchdog” functionality can be activated over the bus:
  - If bus communication is interrupted the actuator closes the fire damper automatically
  - The time until the closing signal is given is set to 120 sec
  - Over the bus this time can be set in between 0 to 360 sec

UFC24 Logistics

- Bulk package of 50 units
- Bulk package of 10 units
- Delivery from stock in Rohrdorf (Germany)
- Available from stock

UFC24 Summary

- Simple to select – one product fits for (almost) all applications
- Universal System Link between fire or smoke extraction damper and any Modbus or BACnet system or analog control 
- Selection of functionality at commissioning offers security that the right product is delivered with the damper to the jobsite
- Remarkable reduction of variety of products on stock
- New housing with access from 4 sides!
- Integrated test and monitoring functions
- Remarkable logistic savings potential

Universal System Link

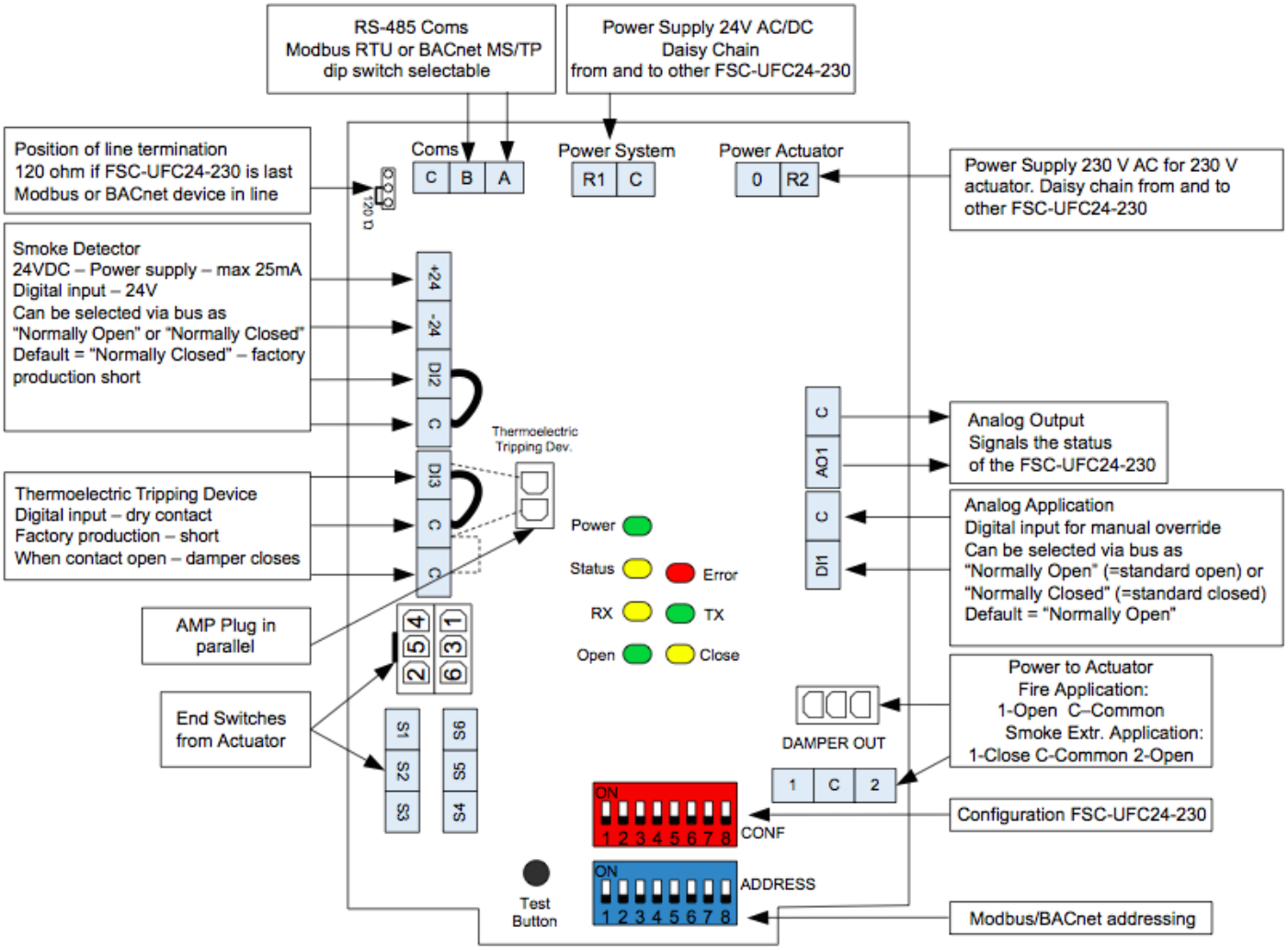
Universal Field Controller UFC24-230 for 110 – 230 V actuators:

UFC24-230 Details for 1 fire or smoke actuator

USP's UFC24-230:

- **For the use of 230 V actuators!**
- One device to control and monitor 1 motorized fire damper (2-wire) ***OR***
- 1 smoke extraction damper (3-wire) for direct mounting on the damper
- Digital communication via **Modbus RTU** (RS-485) ***OR***
- Digital communication via **BACnet *OR***
- Analog control of the actuator
- Settings and Modbus addressing via dip switch directly on the field controller
- Possibility to connect 1 additional smoke detector and 1 additional thermoelectric tripping device
- Universal System Link between fire or smoke extraction damper and any Modbus or BACnet system or analog control

UFC24-230 Details for 1 fire or smoke actuator



Universal System Link

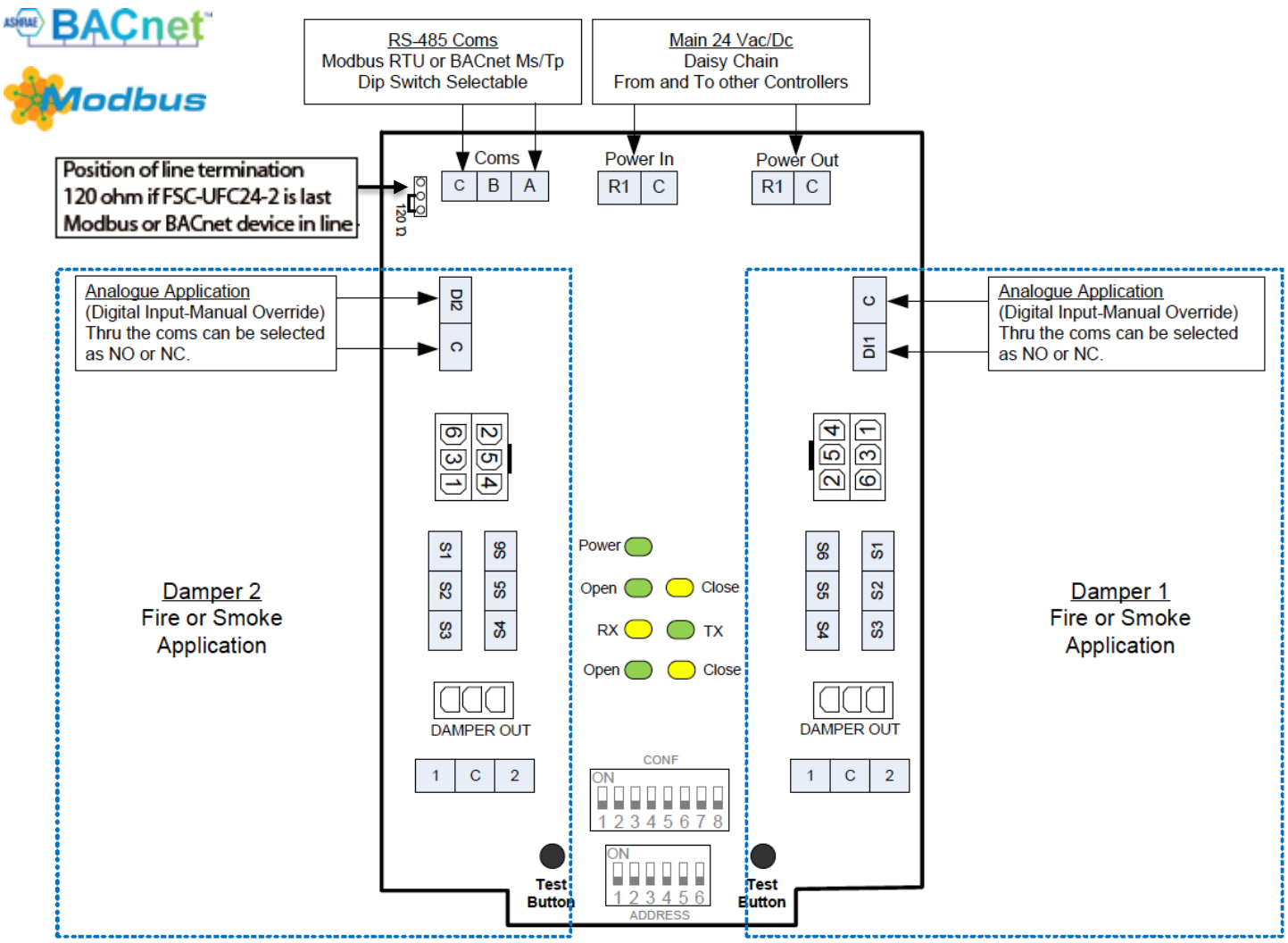
Universal Field Controller UFC24-**2** – **for 2 fire or smoke extraction dampers**

UFC24-2 Details - for 2 fire or smoke actuators

USP's UFC24-2:

- One device to **individually control** and monitor 2 motorized fire dampers (2-wire) for direct mounting on the damper
- Individual status indication of each damper
- Digital communication via **Modbus RTU** (RS-485) ***OR***
- Digital communication via **BACnet MS/TP**
- Settings and Modbus addressing via dip switch directly on the field controller
- Universal System Link between fire damper and any Modbus or BACnet system or analog control

UFC24-2 Details



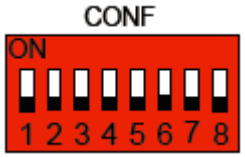
UFC24-2 Details

- Analog **override** (Digital Input) when actuators are controlled by bus
  - Allows independent opening/closing of the dampers!
- Application dedicated safety function for fire damper application
- Nominal voltage for the system: 24 V AC / DC
- Use of standard 24 V actuators
- 2 Test buttons for individual damper testing

UFC24-2 Details

- AMP plug-in connections and/or quick connections (terminals) for easy wiring
- Housing IP42 – non-flammable polycarbonate
- Modular housing concept allows to install UFC24-2 at any time and place to the damper
- Very cost efficient solution (cost per damper)!
- Remarkable logistic savings potential due to the simplification of the processes as well as the reduction of the variety of products in stock

UFC24-2 Configuration



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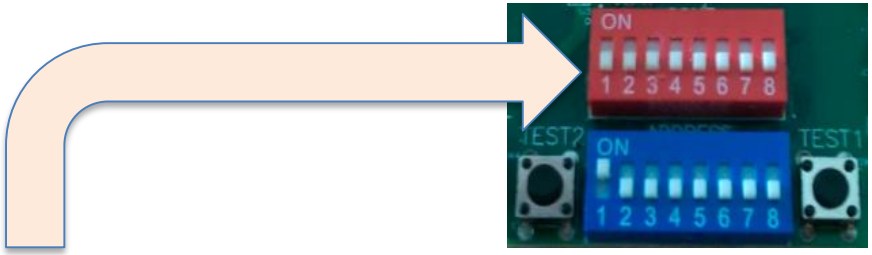
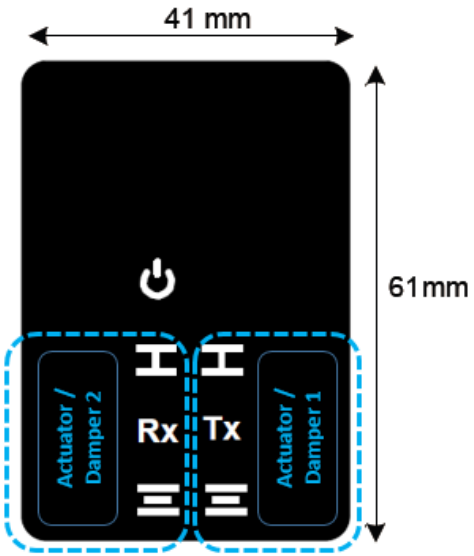


Pin	Off (Default)	On
1	Fire Damper 1	Smoke Extraction Damper 1
2	Fire Damper 2	Smoke Extraction Damper 2
3	Modbus RTU	BACnet MS/TP
4	Baud Rate (Off = Default)	
5	Baud Rate (Off = Default)	
6	Not in Use = Off	
7	Not in Use = Off	
8	Not in Use = Off	

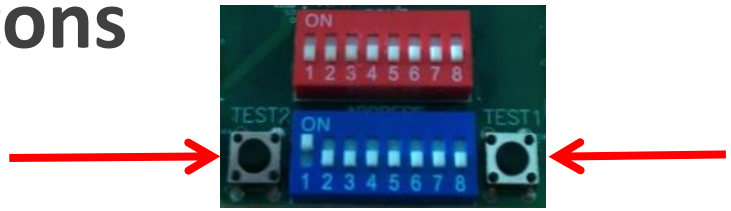
UFC24-2 LED

- LED’s are only visible if they are active
- Layout and functionality:

LED	Color	Action	Description
Power	Green	On	Power is connected
Alarm	Yellow or green per actuator / Dampers blinking alternately	Flash Interval 1 sec	Actuator did not reach end switch position within 90 sec
Alarm	Both LED green (damper open) blinking alternately. Yellow (damper closed) = static	Flash Interval 1 sec	Alarm on 1 or more devices active (minimum 1 actuator in closed position). Bus-Command = open; Alarm = close all actuators
Rx	Yellow	Flash	Receive data
Tx	Green	Flash	Transmit data
Close	Yellow	On	Damper close
Open	Green	On	Damper open
Close + open flashing	Yellow / Green	Flash	Damper is moving



UFC24-2 Test Buttons



Two test buttons are available in the FSC-UFC24-2 (damper 1 and damper 2). Depending on the application (fire or smoke extraction) the test buttons create different test scenarios.

- **Fire Application:**
  - Power on the FSC-UFC24-2: actuator (damper) opening until end position is reached
  - Pushing test button will interrupt the power supply to the actuator. Spring is closing the actuator
  - As soon as the test button is released the power comes back to the actuator and the damper will open again

- **Smoke Extraction Application:**
  - Power on: actuator makes self-test and remains in position defined by controls
  - Pushing test button changes command of the actuator – actuator (damper) runs into opposite direction
  - Release test button: actuator (damper) runs back into last defined position

UFC24-2 Test Functions Actuator

- The UFC24-2 offers run time monitoring per actuator. Analog the function of the UFC24

- The UFC24-2 offers full auto test function per actuator. Analog the function of the UFC24

Universal System Link

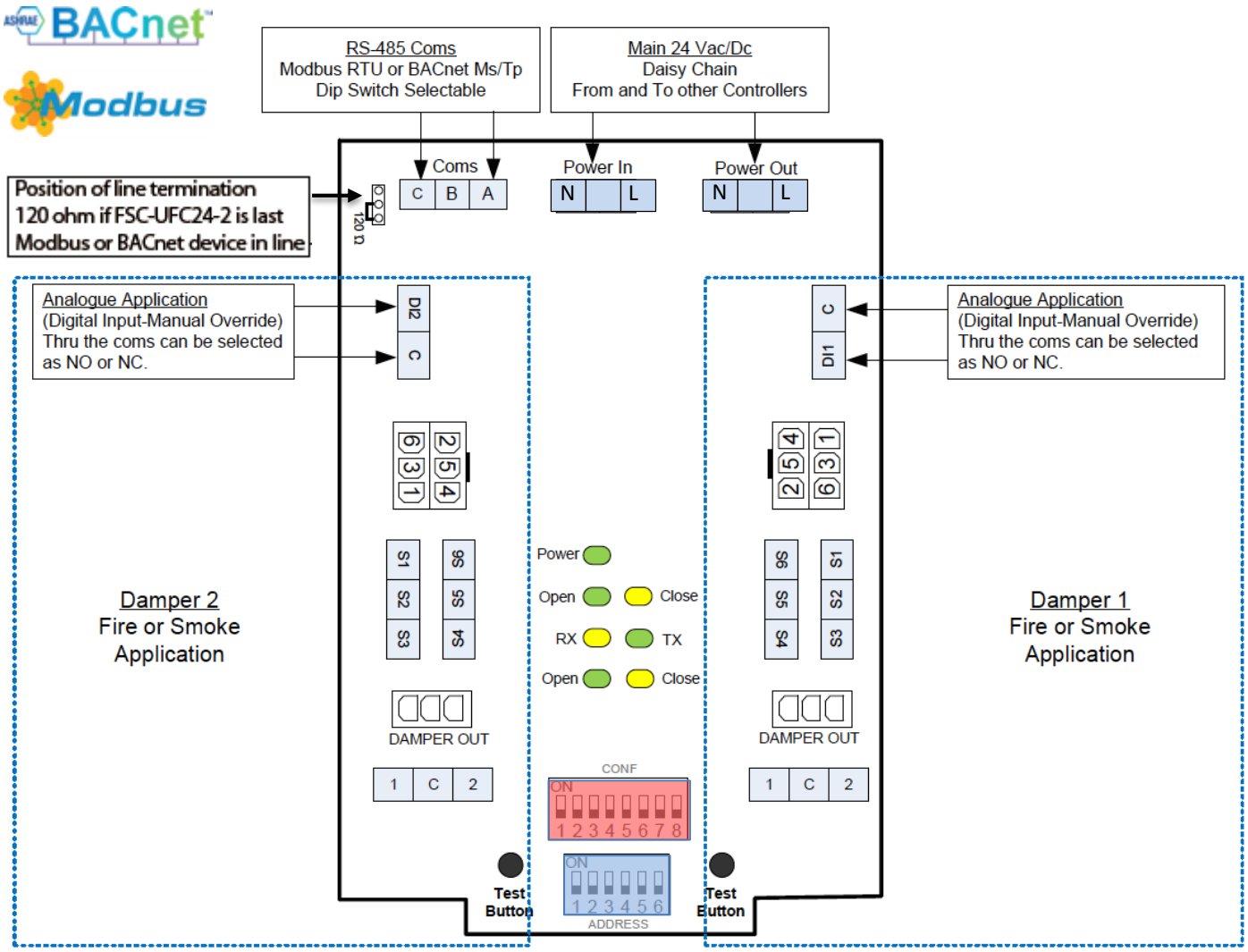
Universal-Steuergerät UFC230-2 – for 2 fire damper actuators

UFC230-2 Details for 2 fire damper actuators

USP's UFC230-2:

- **For the use of 230 V actuators!**
- One device to **individually control** and monitor 2 motorized fire dampers (2-wire) for direct mounting on the damper
- Individual status indication of each damper
- Digital communication via **Modbus RTU** (RS-485) ***OR***
- Digital communication via **BACnet MS/TP**
- Settings and Modbus addressing via dip switch directly on the field controller
- Universal System Link between fire damper and any Modbus or BACnet system or analog control

UFC230-2 Details



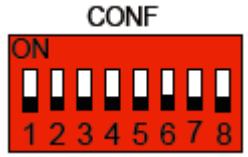
UFC230-2 Details

- Analog **override** (Digital Input) when actuators are controlled by bus
  - Allows independent opening/closing of the dampers!
- Application dedicated safety function for fire damper application
- Nominal voltage for the system: 230 V AC
- Use of standard 230 V actuators
- 2 Test buttons for individual damper testing

UFC230-2 Details

- AMP plug-in connections and/or quick connections (terminals) for easy wiring
- Housing IP42 – non-flammable polycarbonate
- Modular housing concept allows to install UFC230-2 at any time and place to the damper
- Very cost efficient solution (cost per damper)!
- Remarkable logistic savings potential due to the simplification of the processes as well as the reduction of the variety of products in stock

UFC230-2 Configuration



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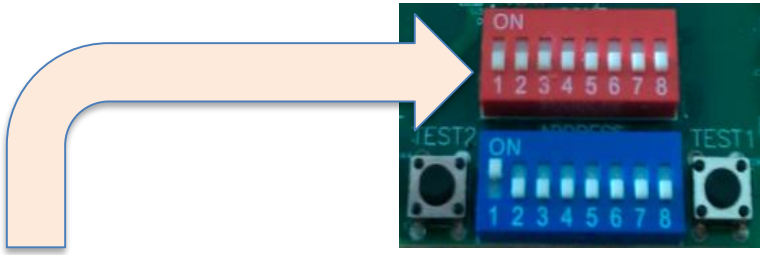
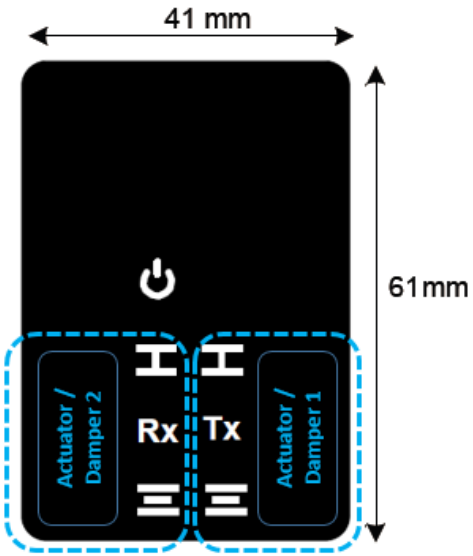


Pin	Off (Default)	On
1	Fire Damper 1	~~Smoke Extraction Damper 1~~
2	Fire Damper 2	~~Smoke Extraction Damper 2~~
3	Modbus RTU	BACnet MS/TP
4	Baud Rate (Off = Default)	
5	Baud Rate (Off = Default)	
6	Not in Use = Off	
7	Not in Use = Off	
8	Not in Use = Off	

UFC230-2 LED



- LED's are only visible if they are active
- Layout and functionality:

LED	Color	Action	Description
Power	Green	On	Power is connected
Alarm	Yellow or green per actuator / Dampers blinking alternately	Flash Interval 1 sec	Actuator did not reach end switch position within 90 sec
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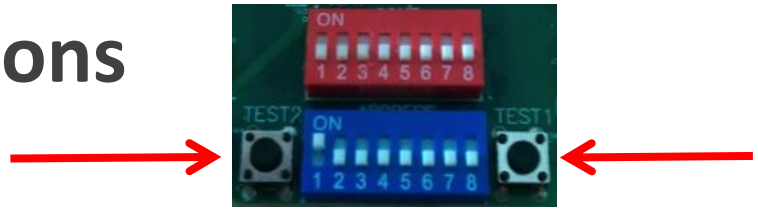
Rx	Yellow	Flash	Receive data
Tx	Green	Flash	Transmit data
Close	Yellow	On	Damper close
Open	Green	On	Damper open
Close + open flashing	Yellow / Green	Flash	Damper is moving

UFC230-2 Test Buttons



Two test buttons are available in the FSC-UFC230-2 (damper 1 and damper 2). Depending on the application (fire or smoke extraction) the test buttons create different test scenarios.

- **Fire Application:**
  - Power on the FSC-UFC230-2: actuator (damper) opening until end position is reached
  - Pushing test button will interrupt the power supply to the actuator. Spring is closing the actuator
  - As soon as the test button is released the power comes back to the actuator and the damper will open again

UFC230-2 Test Funktions Actuator

- The UFC230-2 offers run time monitoring per actuator. Analog the function of the UFC24

- The UFC230-2 offers full auto test function per actuator. Analog the function of the UFC24

Universal System Link

Universal-Field Controller for all applications – planned developments:

Universal System Link – new products

Following developments are under way:

- **UFC24-0**
  - Universal field controller to monitor mechanical dampers
  - Available approx. 12 weeks after order

- **Further concepts planned**
- **Possible new applications can be discussed any time**

Smart Controller M60

FRAKTA Vertriebs GmbH
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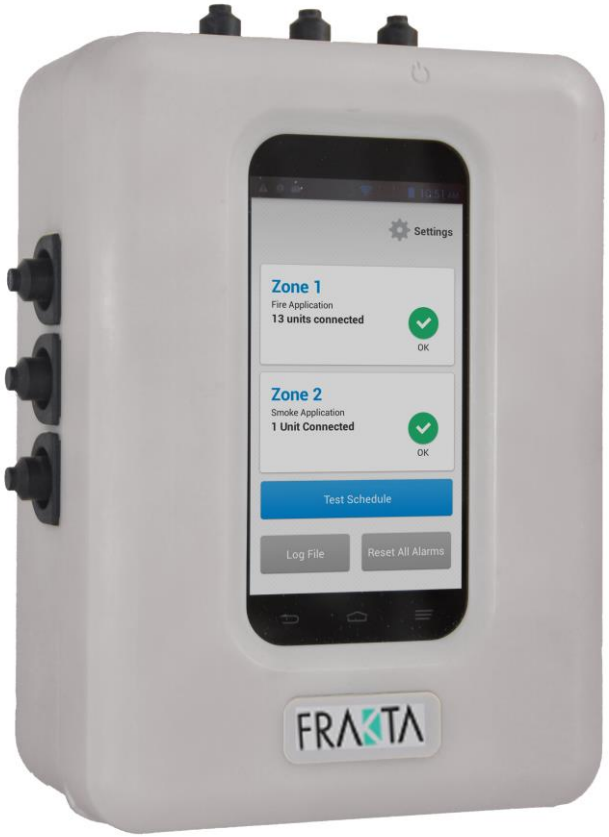
To control and monitor fire and smoke extraction dampers



M60 Revolution für F&S Controls!

FRAKTA Vertriebs GmbH
Fühler Regler Antriebe Komponenten Technische Ausrüstungen

- *Specifically developed for the controls of fire and smoke extraction application!*
- *Revolutionary control via Android-Controller (Standards!)*
- *Stand-Alone or to be integrated into standard BMS-system!*
- *BACnet, Modbus and Cloud access all on one platform (Standards!)*
- *Touch-Screen, mobile phone / tablet und computer connection, access parallel and at the same time possible!*
- *“Plug and Play”-Solution => Revolution during commissioning!*
- *Revolutionary, very easy test functions and reporting!*
- *Etc, etc!*

M60 F&S System Description

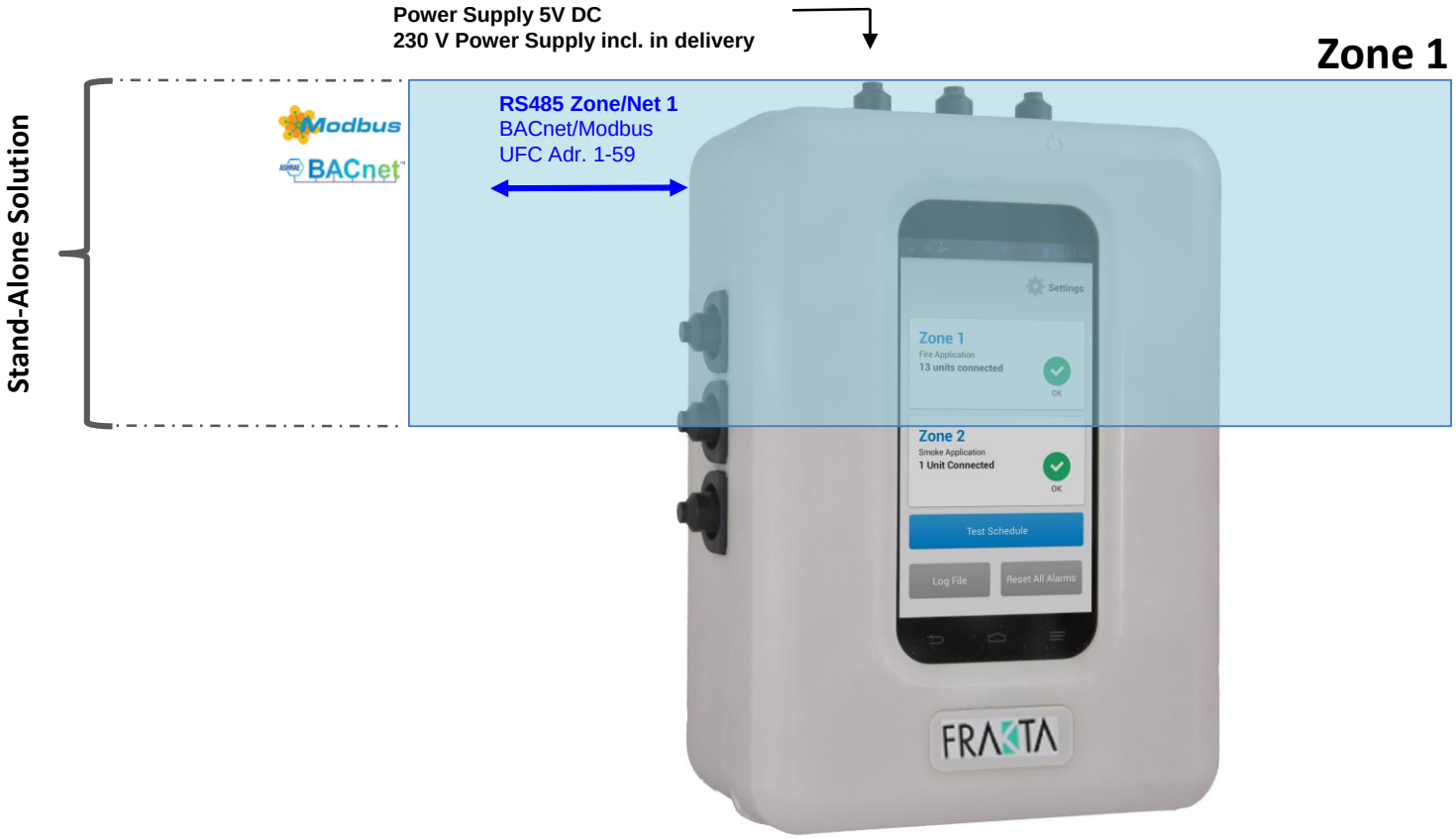
- The SMT system M60 is a smart system. It controls and monitors:
  - Up to 60 (120) motorized fire and/or smoke extraction dampers
  - 60 smoke detectors
  - 60 additional thermoel. tripping devices / switches
  - 60 digital inputs for the manual override
- Control of 2 fire or smoke extraction zones or 1 fire and 1 smoke extraction zone possible
- Digital input from the AHU or the controller possible (conventional application)

M60 F&S System Concept

Power Supply 5V DC
230 V Power Supply incl. in delivery

M60 F&S System Concept

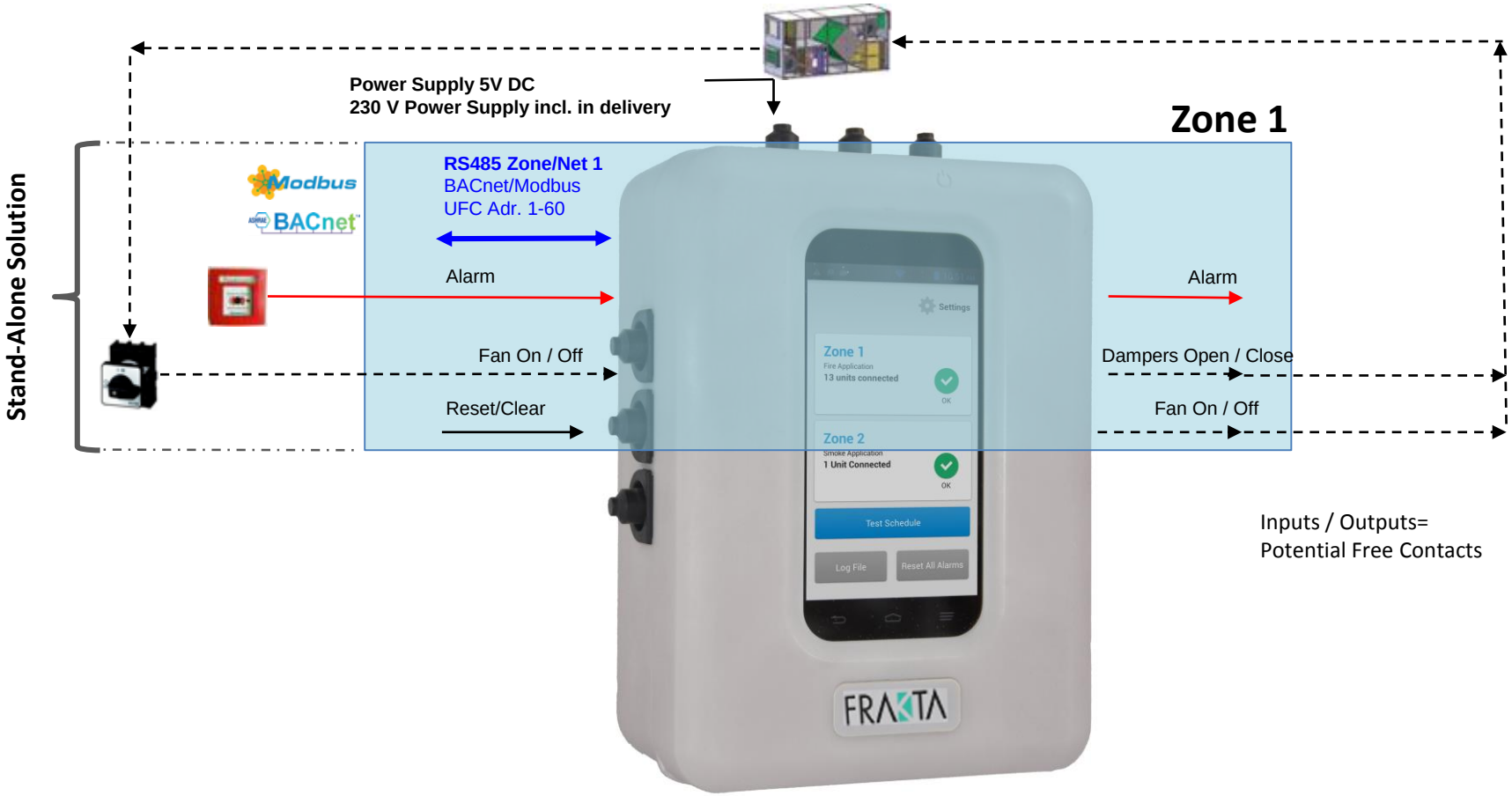
M60 B&E System Konzept



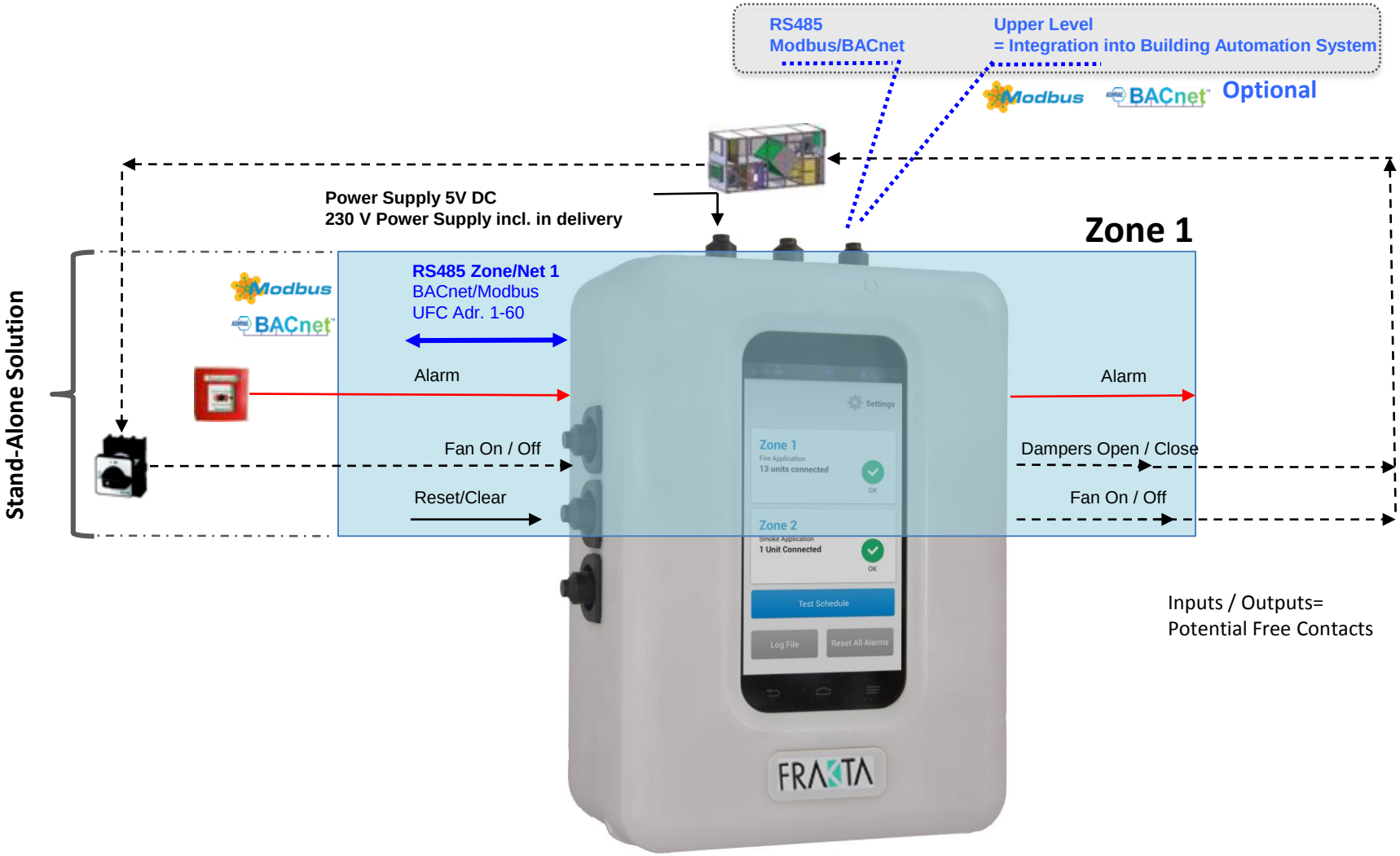
M60 F&S System Concept

M60 F&S System Concept

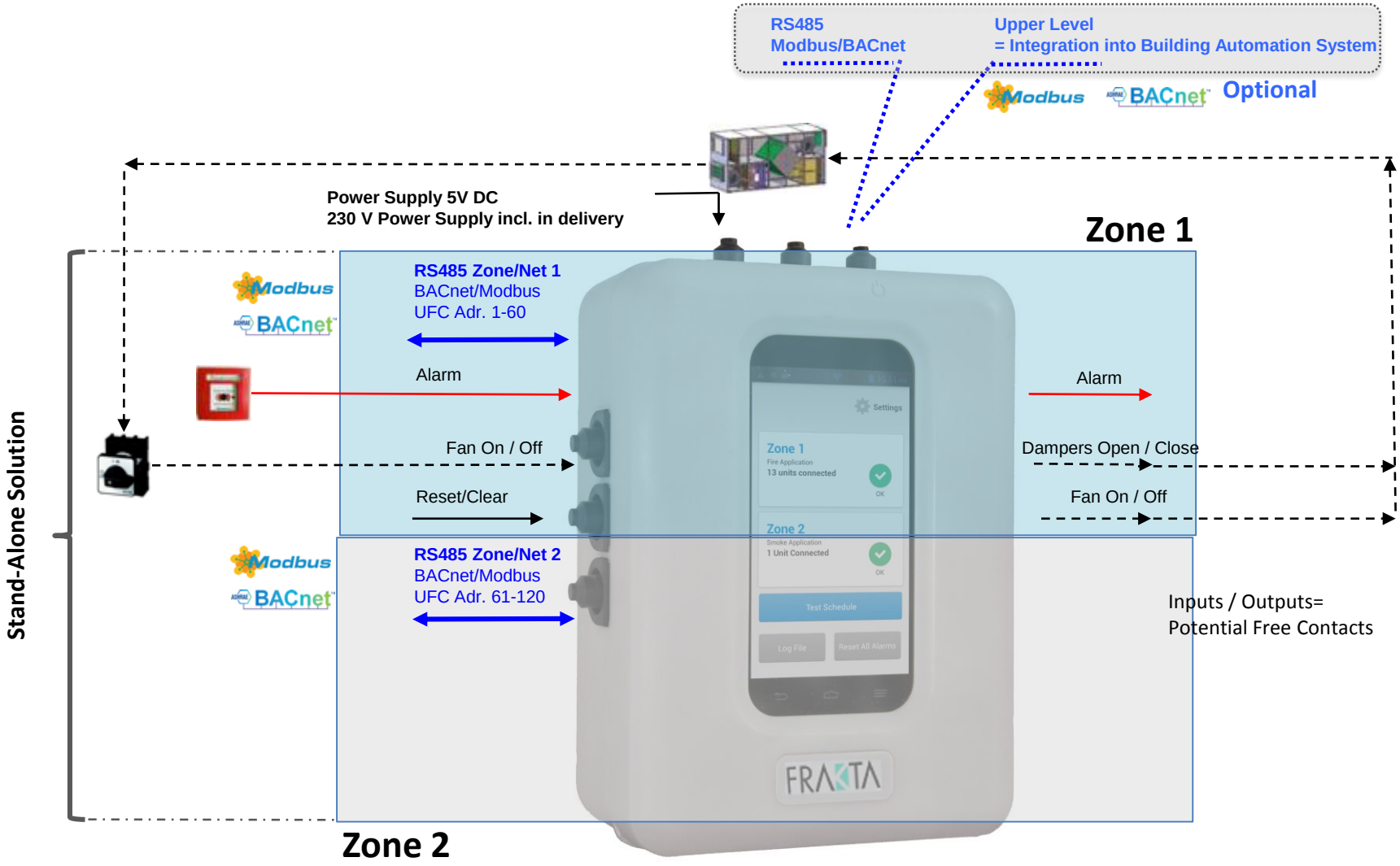
M60 F&S System Concept



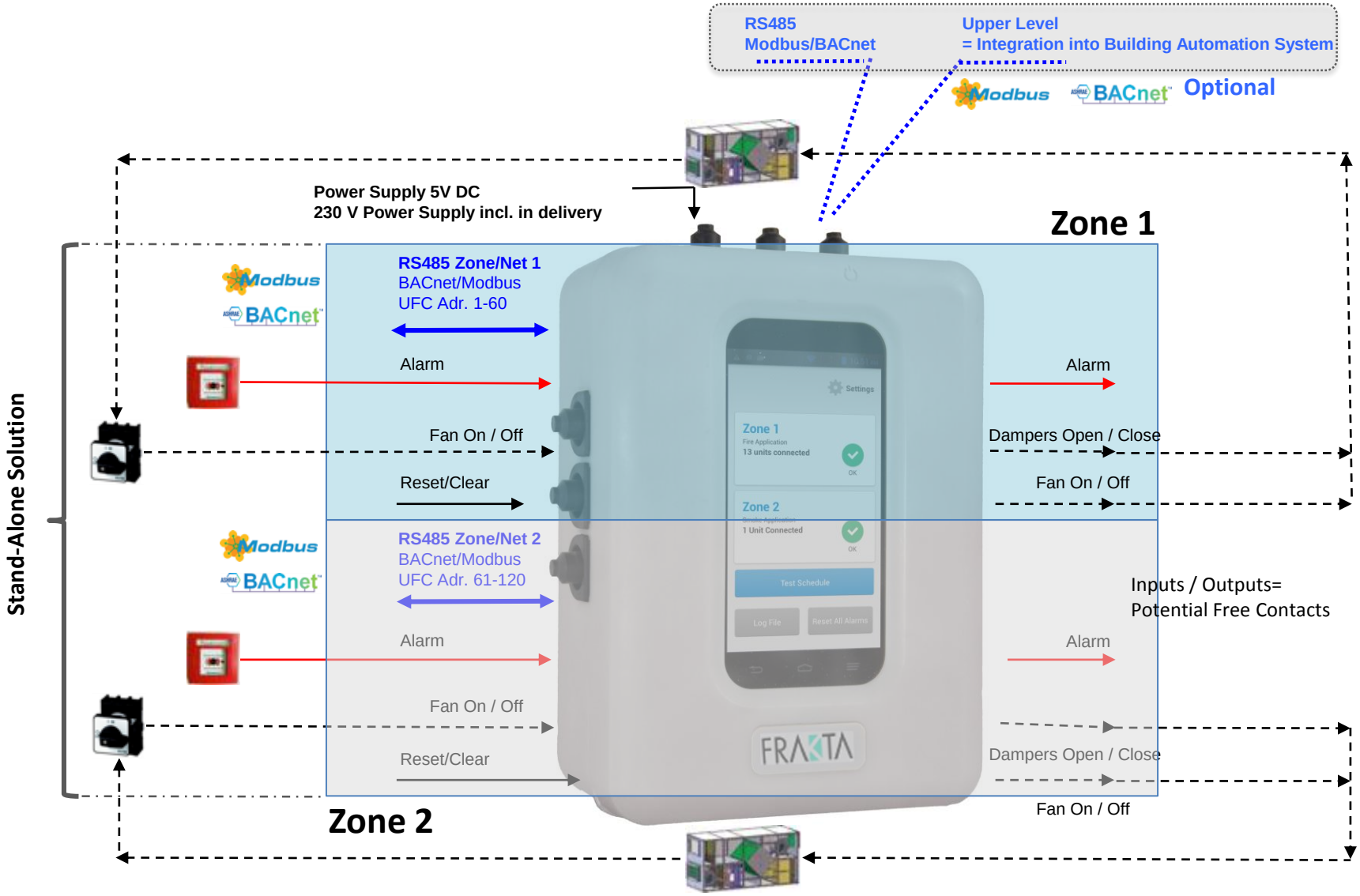
M60 F&S System Concept



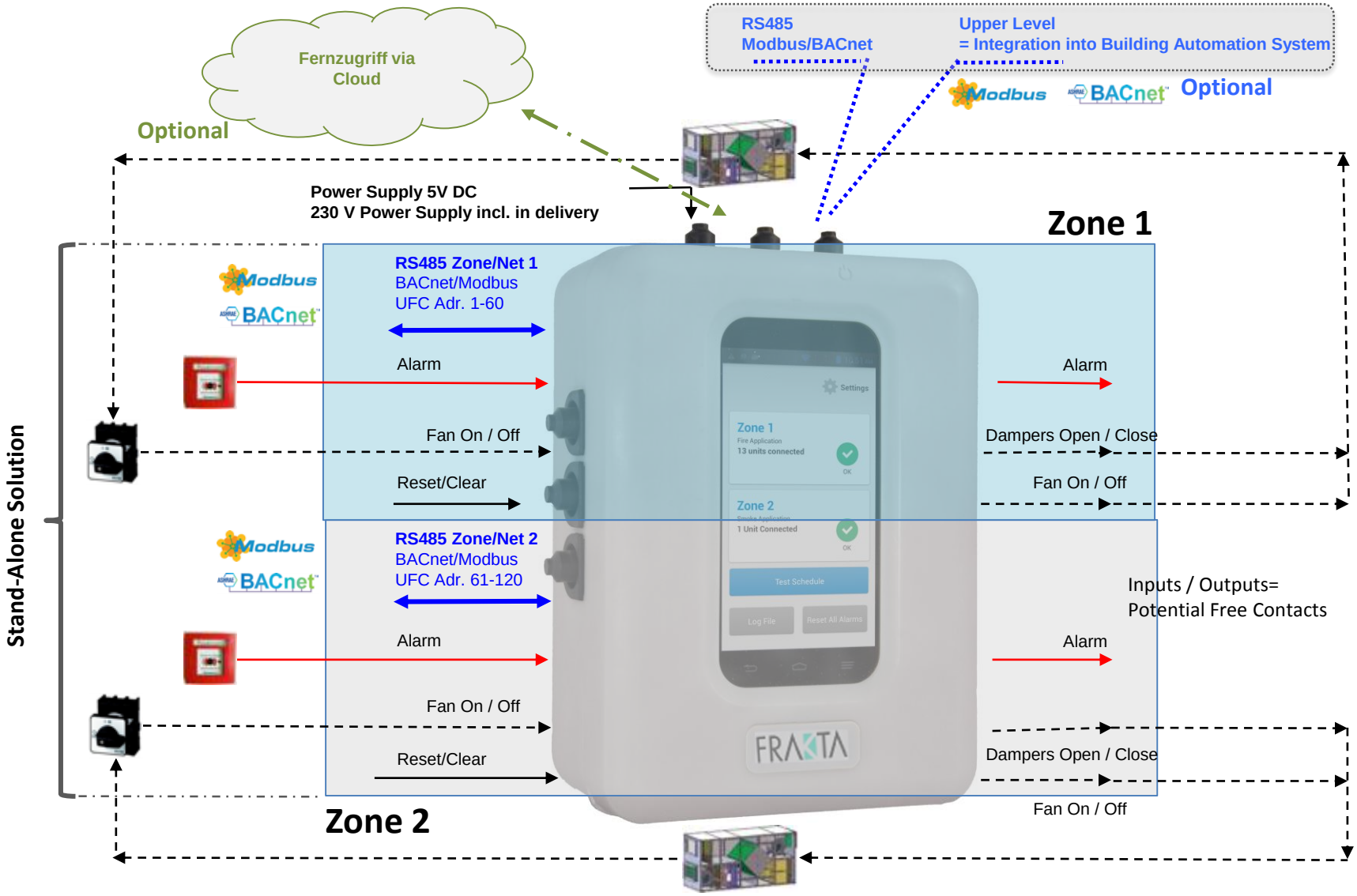
M60 F&S System Concept



M60 F&S System Concept



M60 F&S System Concept



M60 Details

Simple!

- *Plug and Play* Solution, application software included in M60
- *Intuitive handling*, integrated high resolution touch screen
- *Pre-programmed* fire and smoke extraction application – no programming knowledge needed
- *Automatic detection / addressing* of the connected UFC-devices
- Controlling and monitoring of up to *60 pcs* fire or smoke extraction dampers as well as 60 smoke detectors and thermo-electr. tripping devices through Modbus RTU and BACnet MS/TP
- *2 zones* for fire or smoke extraction

M60 Details

Simple!

- *Autonomous application* including control of fans (conventional DI/DO)
- *Implementation* into superior systems with standard interfaces (Modbus, BACnet) or directly through the fans (conventional DI/DO)

Modbus BACnet

- *Remote access* for all kind of functions via WiFi and cellular connection (optional) possible
- *Automatic test run* possibilities including test reports thanks to the integrated real time clock
- *Customizing*
- *Commissioning*
- Available *from stock* in Rohrdorf (Germany)

M60 Details

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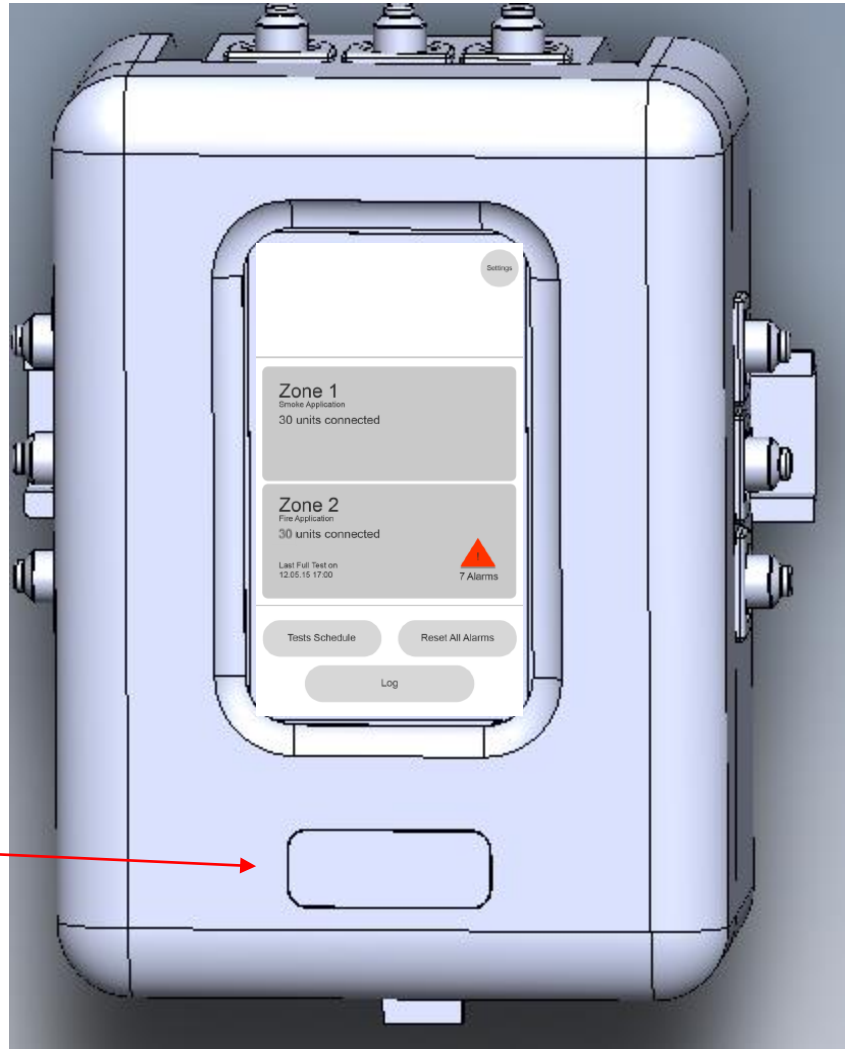
Dimensions



Height:
75 mm

M60 F&S System Concept Modbus

FRAKTA Vertriebs GmbH
Fühler Regler Antriebe Komponenten Technische Ausrüstungen

Connection Concept Modbus RTU

Zone 1 addresses 1 - 60 → Modbus UFC24 – Max 30 pcs

Zone 2 addresses 61 - 120 → Modbus UFC24 – Max 30 pcs

Zone 3 Modbus Slave, adresses 121 (Z1) und 122 (Z2) ↔ Modbus for BMS

Modbus Master = Building Automation
Integration M60 as slave in a Modbus-System possible; Modbus Register = Basis for the integration, full transparency of the 60 slaves

M60 B&E System Concept Modbus

FRAKTA Vertriebs GmbH
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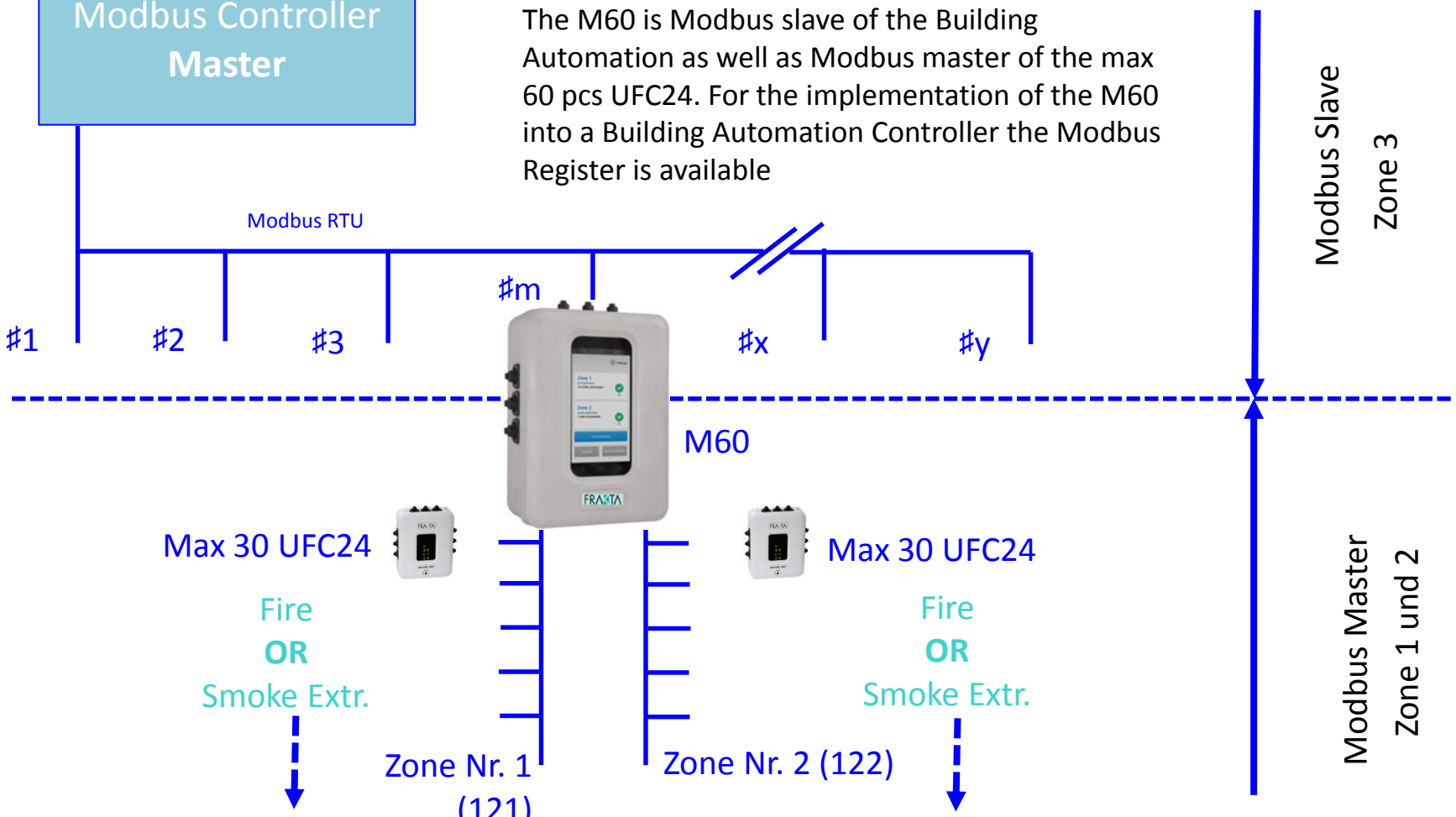
Building Automation
Modbus Controller
Master

The M60 is Modbus slave of the Building Automation as well as Modbus master of the max 60 pcs UFC24. For the implementation of the M60 into a Building Automation Controller the Modbus Register is available



M60 F&S System Concept BACnet

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Fühler Regler Antriebe Komponenten Technische Ausrüstungen

Connection Concept BACnet

M60 is a participant in the BACnet MS/TP System

Can for example also be used as manual control device to access the UFC`s

BMS – HMI Main Software

Zone 1 – BACnet MS/TP

BACnet – UFC24
Max 30 Units

Zone 2 – BACnet MS/TP

BACnet – UFC24
Max 30 Units

BACnet
Router IP to
MS/TP

Ethernet

BACnet
Router IP to
MS/TP

M60 F&S Connection Concept

FRAKTA Vertriebs GmbH
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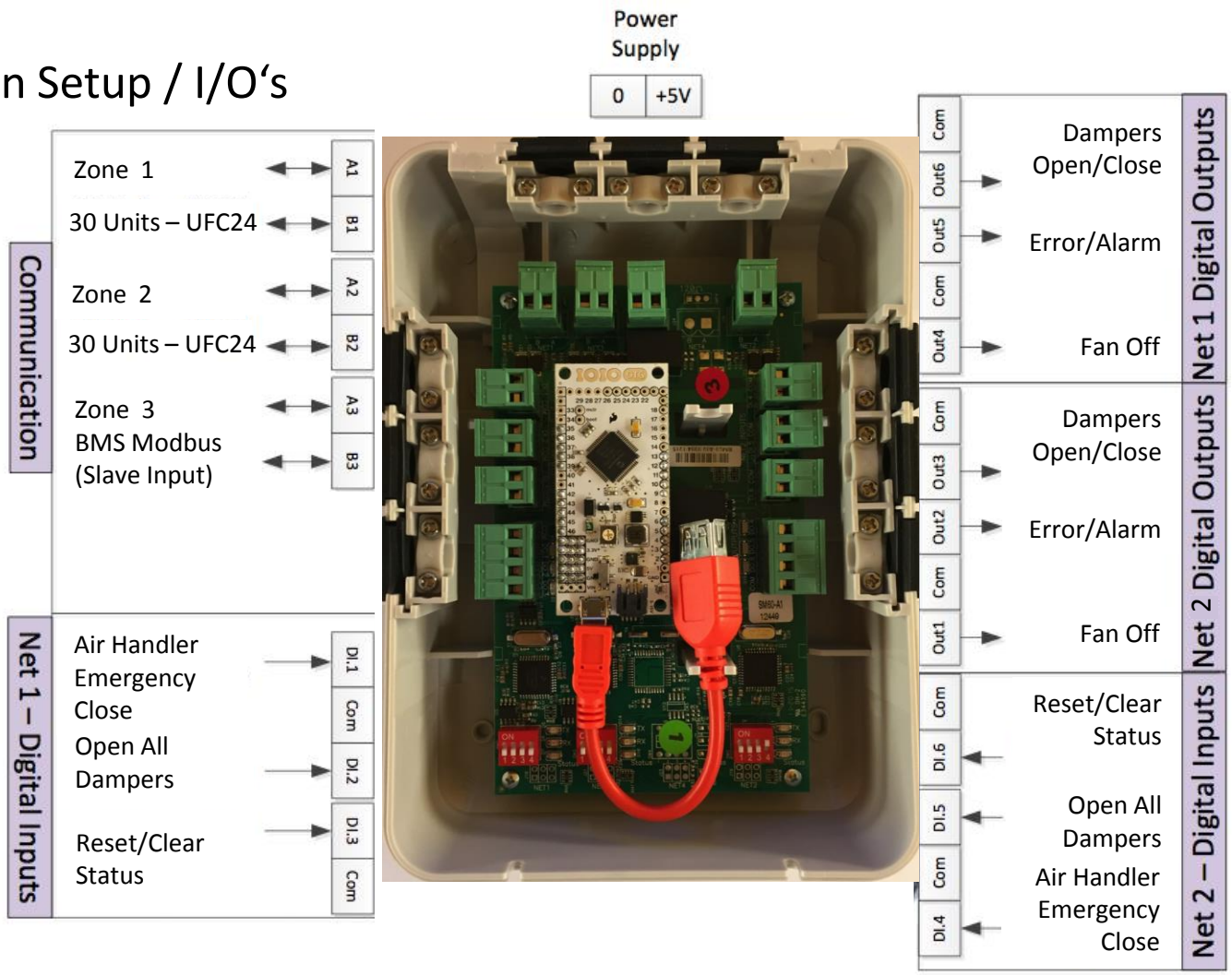
Connection Setup / I/O‘s



M60 F&S Funktionality

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Fühler Regler Antriebe Komponenten Technische Ausrüstungen

Addressing Concept (Auto Addressing):

- M60 is used in combination with the UFC24
- (Pre) addressing the UFC24 Modbus address with the dip switches
- Connect the bus-cable from M60 to all available bus components
  - *The system will recognize all units which are connected to the M60*
  - Information which addresses are connected
  - Information if one address in the chain is missing
  - Can be done at *any time again* => system expansion possible!

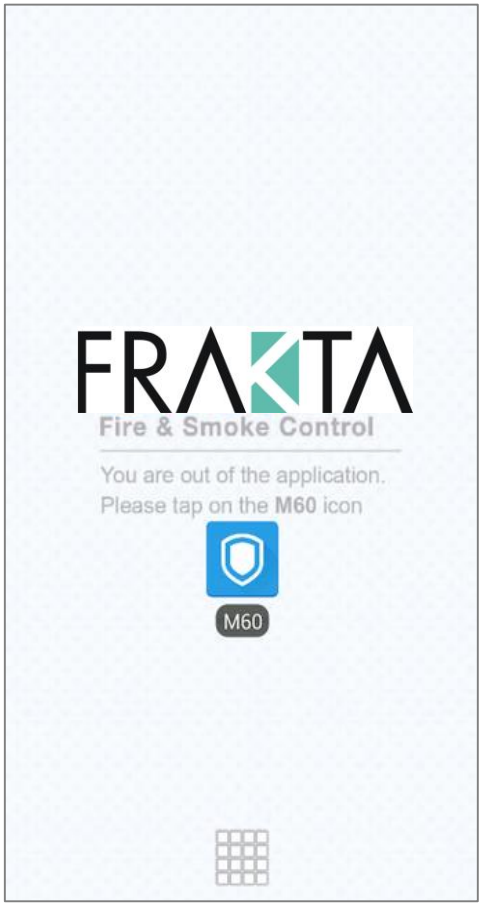
Simple!

M60 User Interface / HMI

FRAKTA Vertriebs GmbH
Fühler Regler Antriebe Komponenten Technische Ausrüstungen

Start-up Screen M60

- Easy customizing acc. to customer specific Corporate Design
  (Logo)



M60 User Interface / HMI

FRAKTA Vertriebs GmbH
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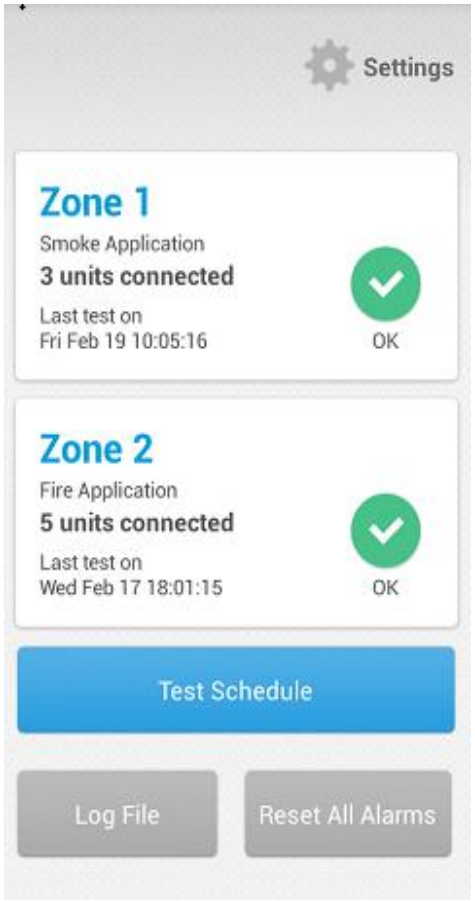
Start screen Application

- Clear, simple overview
- Summary of the actual situation
- Color codes for o ✓ green), Alarms (▲ red) and testing in progress

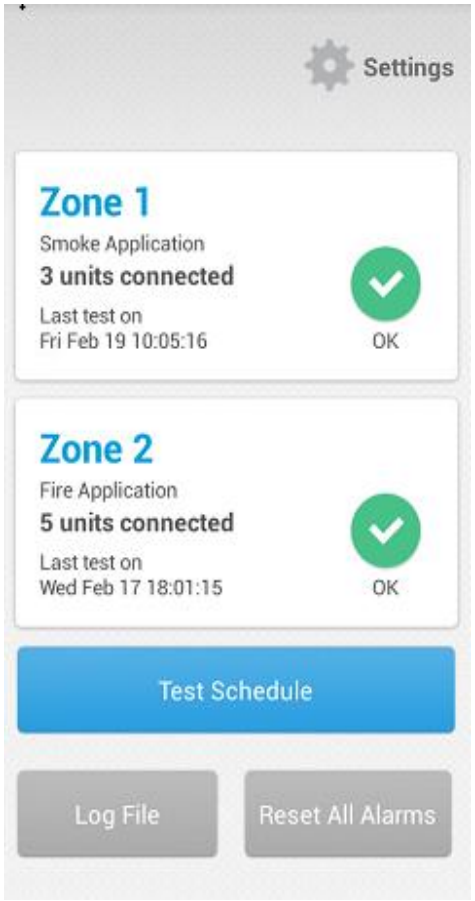


M60 User Interface / HMI

FRAKTA Vertriebs GmbH
Fühler Regler Antriebe Komponenten Technische Ausrüstungen

Start screen Application

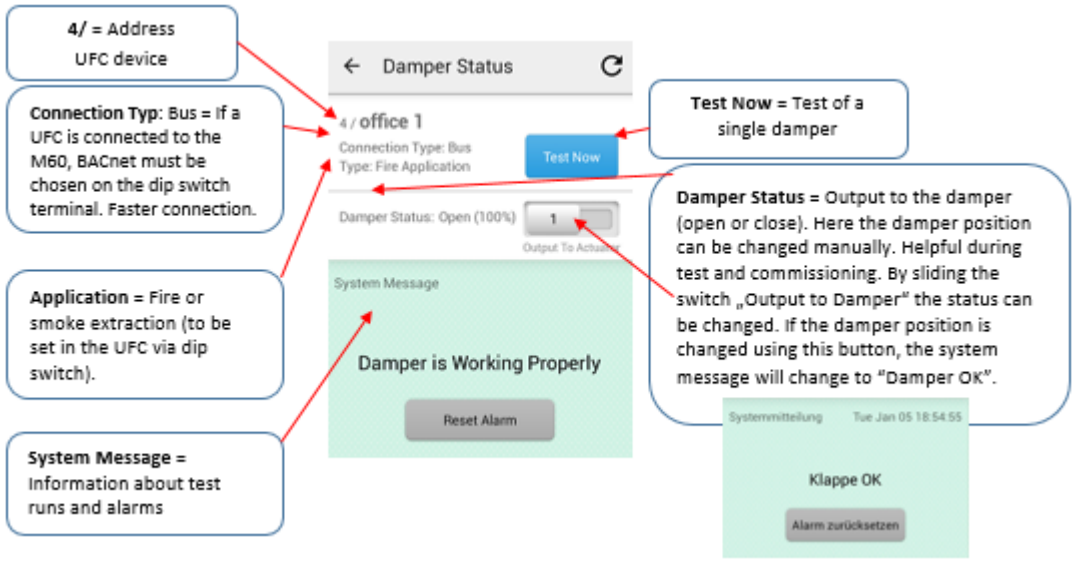
- Clear, simple overview
- Summary of the actual situation
- Color codes for o ✓ green), Alarms (▲ red) and testing in progress



M60 User Interface / HMI

Zone

- Status individual damper in the zone
- Color code
- Most important information at one glance
- Touch screen scrolling up/ down to achieve all addresses

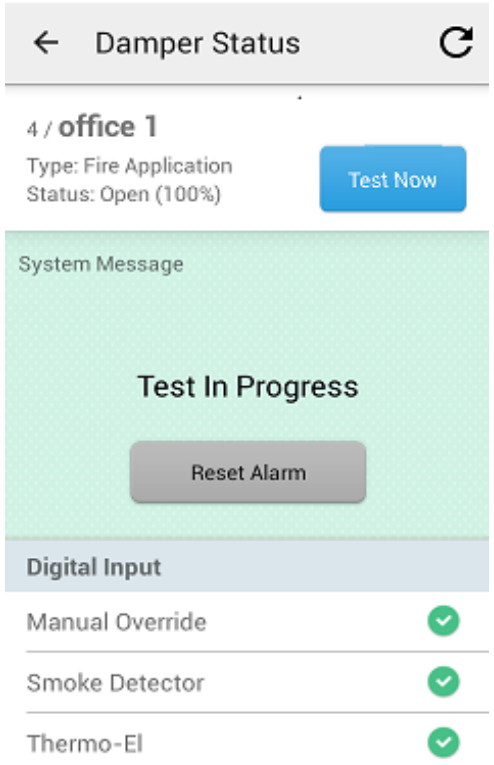


M60 User Interface / HMI

Level Individual Damper

(View: read only)

- Status individual damper and connected devices on the UFC24
- Color code

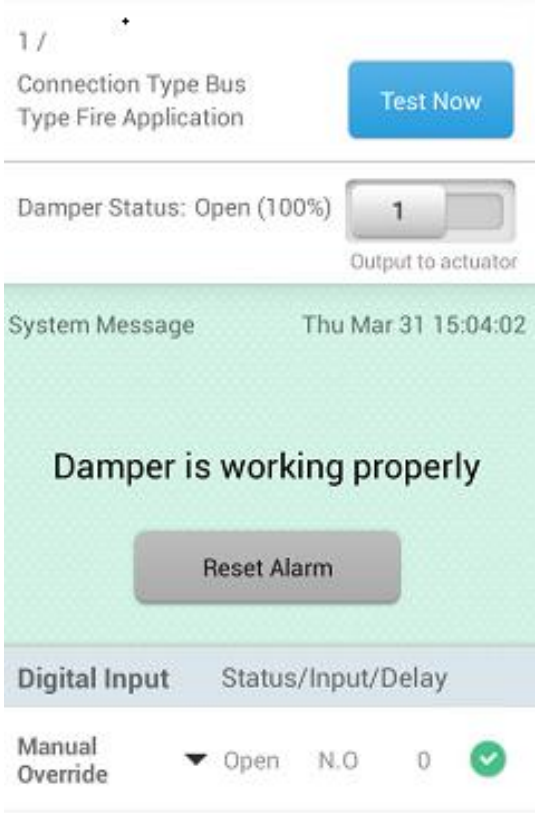


M60 Interface / HMI

2nd Level Individual Damper

With writing rights (password protected area, read and write)

- Status individual damper and connected devices on the UFC24
- Color code

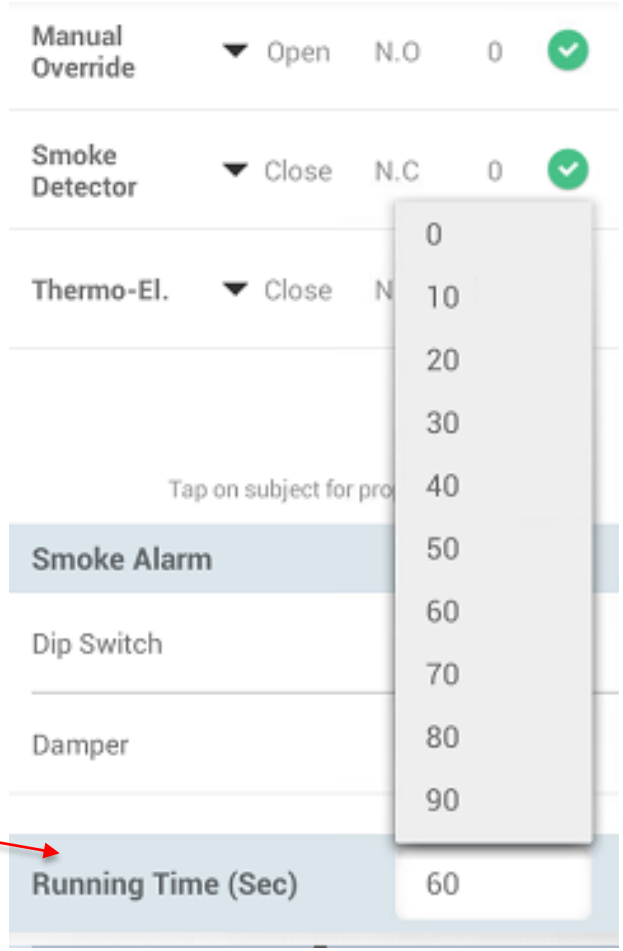


M60 User Interface / HMI

2nd Level Individual Damper

With writing rights (password protected area, read and write)

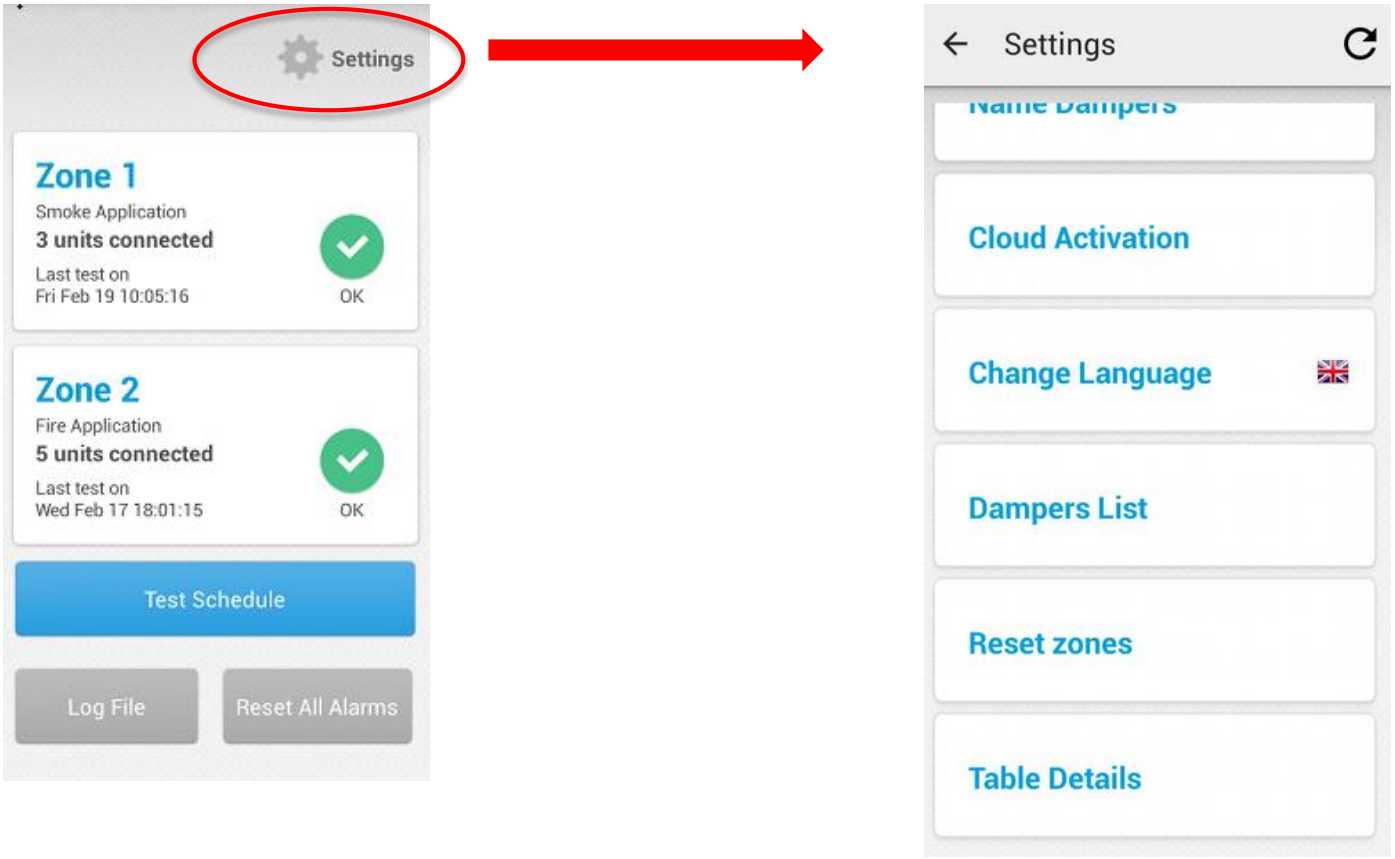
- Status individual damper and connected devices on the UFC24
- Color code



Run time monitoring of the actuator can be adjusted here

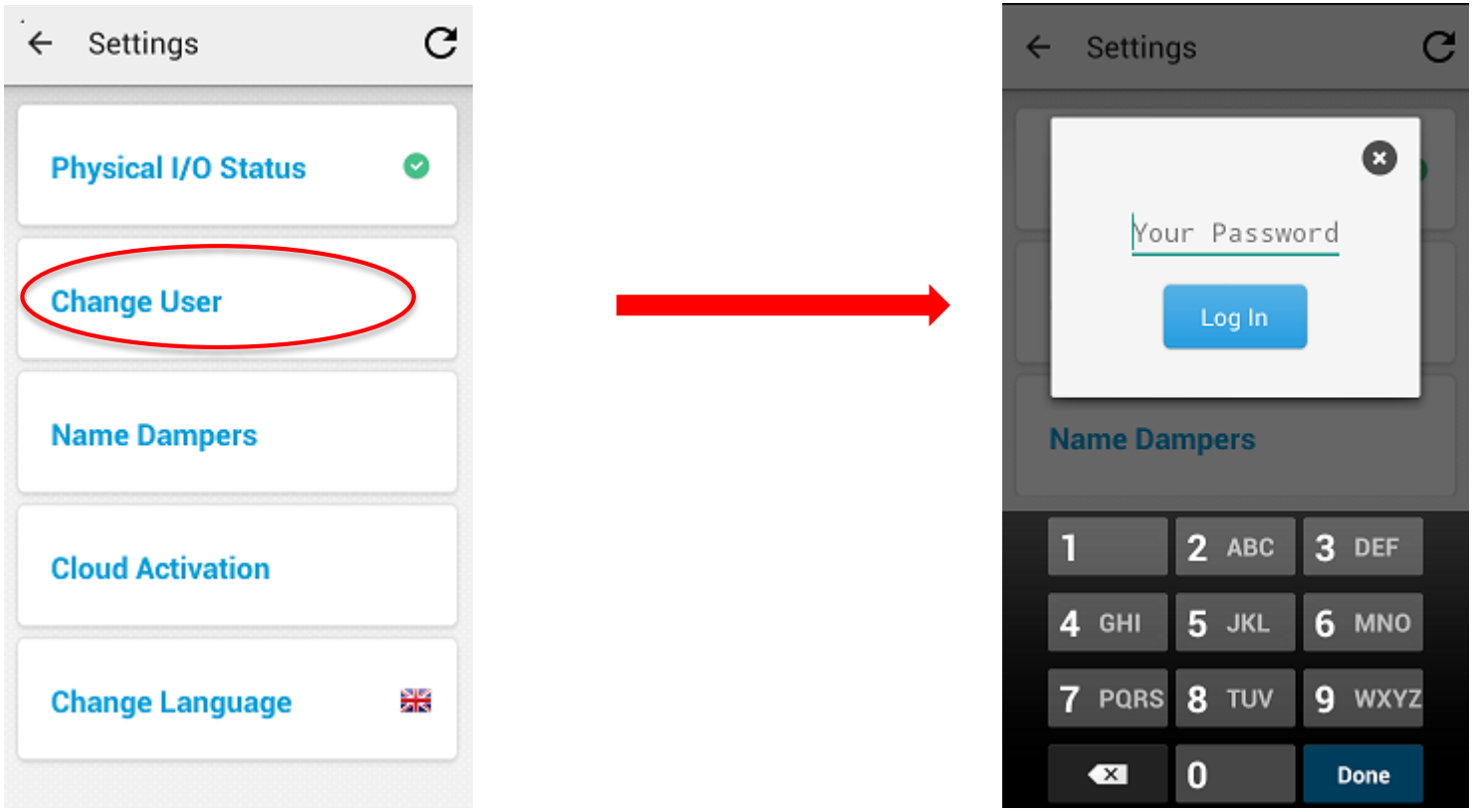
M60 User Interface / HMI

Function Settings



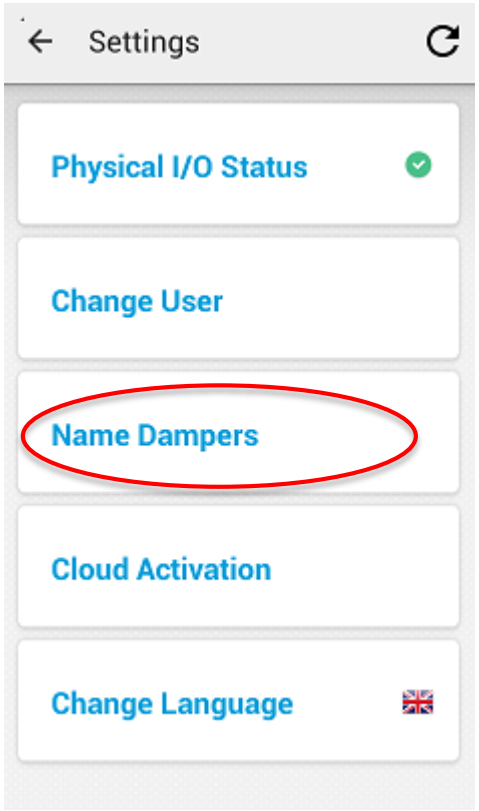
M60 User Interface / HMI

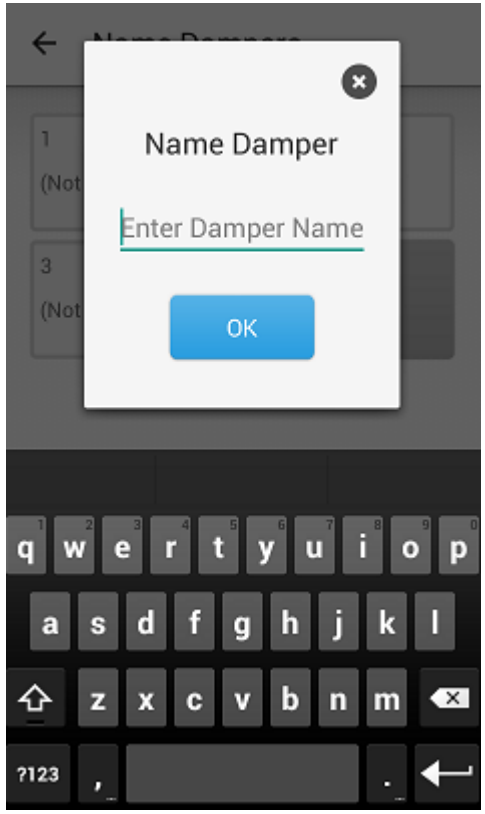
Changing of the User (Password Protection)



M60 User Interface / HMI

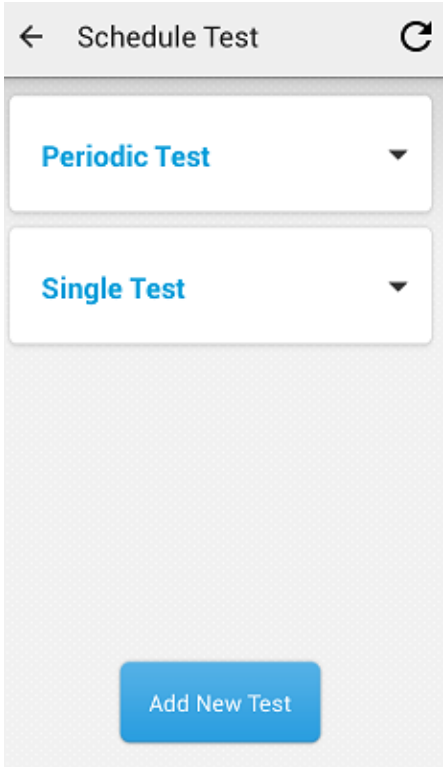
Individual Naming of Each Damper (Password Protected)

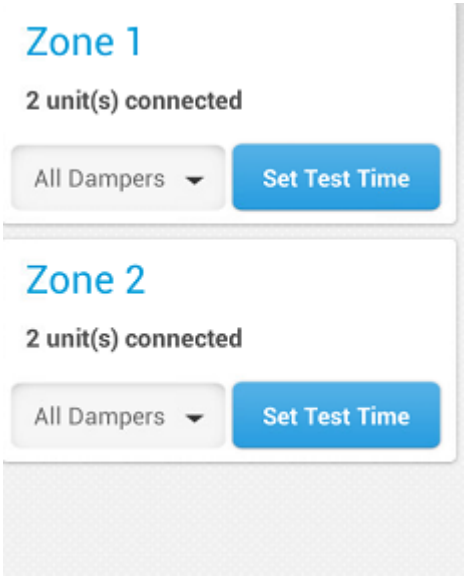


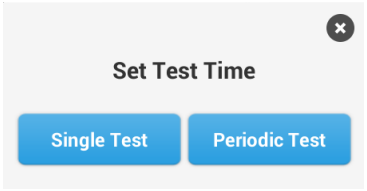


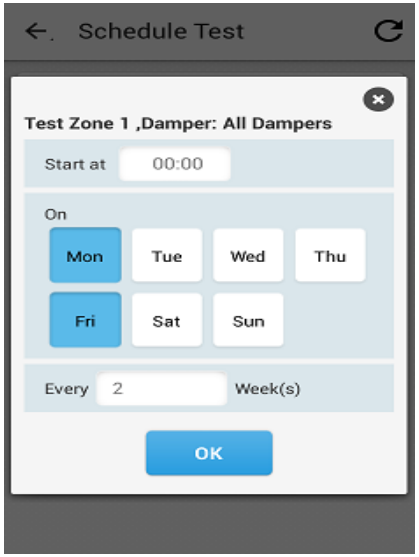
M60 User Interface / HMI

Test Settings – add new test (Password Protected)





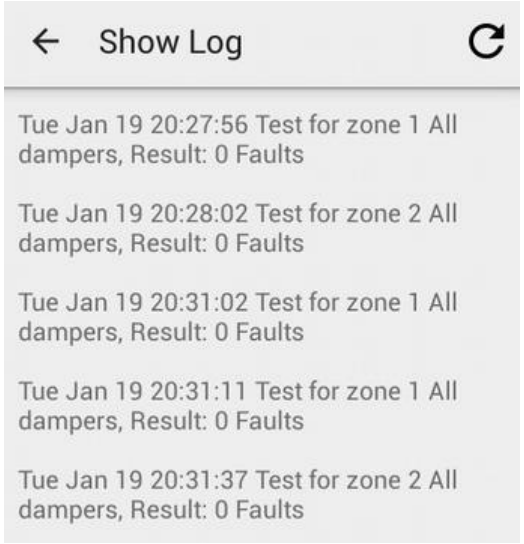




M60 User Interface / HMI

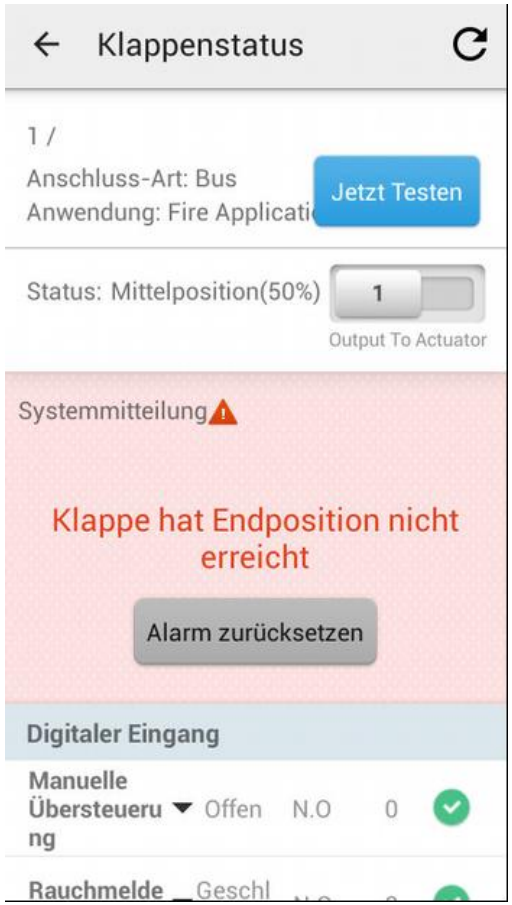
Test Reports

- Test reports are shown in the log file
- If Cloud function is activated, test reports and alarms can be sent to defined recipients via email



M60 User Interface / HMI

Individual settings per damper (password protected)



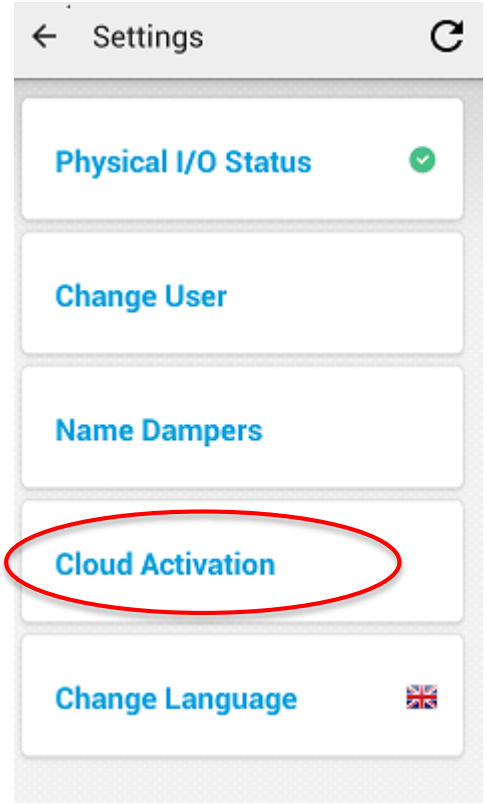
Manual override: N.O. / N.C. and a delay can be adjusted

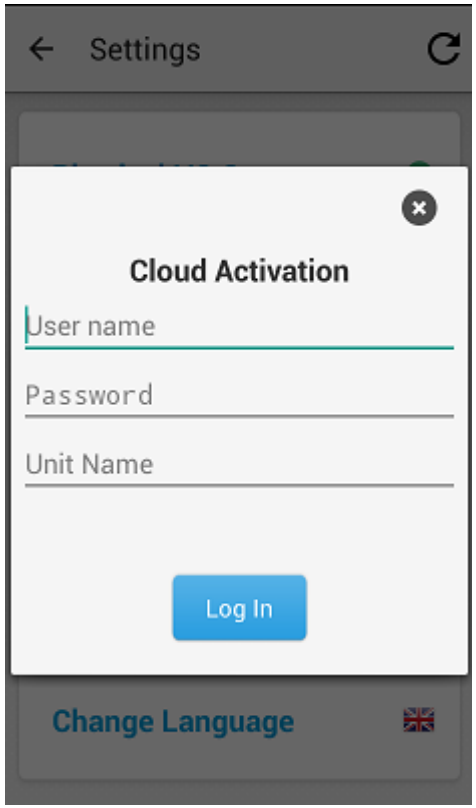
Cloud Access: CHF 96 .- / year for endusers

M60 User Interface / HMI

FRAKTA Vertriebs GmbH
Fühler Regler Antriebe Komponenten Technische Ausrüstungen

Remote Access via Cloud





- Cloud Acess: EURO 120.- / years for endusers
- Registration / Access via a separate website
- Zugriff über Standard-Browser!

M60 User Interface / HMI

Advantages Cloud:

- Access to each project anytime possible without having to go there physically
  => complaints, service calls
- Test reports and alarm messages (alerts) can be automatically sent to registered email addresses
- For the testing of the dampers only one person is needed (confirmation during physical inspection via mobile phone => automatic logging)

M200 Details

Digital controller M200

For fire safety application

FSC-M200 Details

FRAKTA Vertriebs GmbH
Fühler Regler Antriebe Komponenten Technische Ausrüstungen

USP's M200:

- No application software needed – **everything is included in the M200**!
- Pre-programmed fire safety application – **no programming knowledge** necessary
- Easy **configuration** through user-friendly MMI
- **Automatic test runs and test reports**; integrated real time clock

Simple!

FSC-M200 Details

FRAKTA Vertriebs GmbH
Fühler Regler Antriebe Komponenten Technische Ausrüstungen

Digital controller M200:

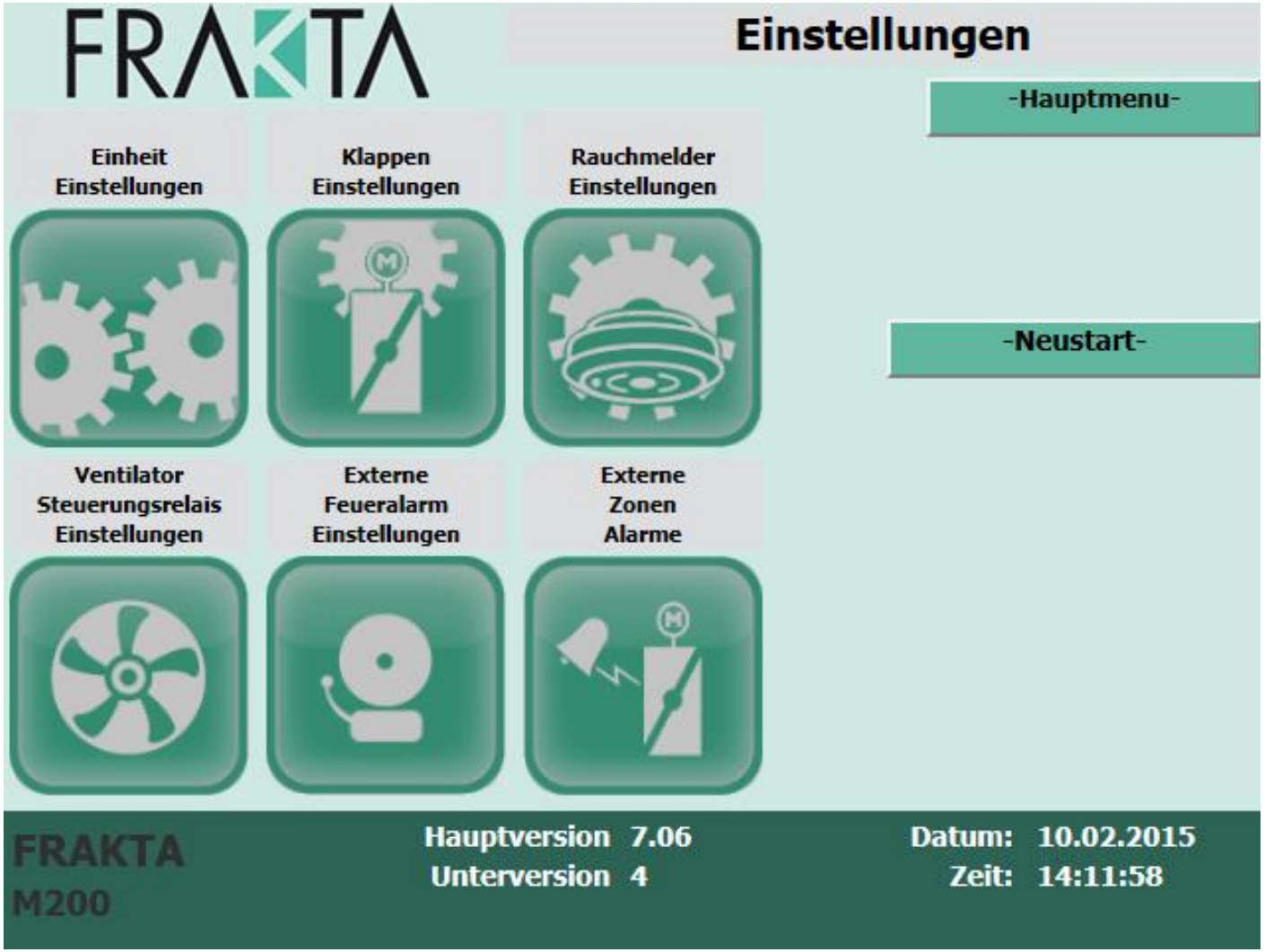
- To control and monitor of up to 200 motorized **fire dampers** and 200 smoke detectors (type Calectro EVC-PY-DA)
- Digital communication via **Modbus RTU** (RS-485)
- Connection of max 50 pcs FC24 or UFC24 possible
- Max. wiring length for Modbus = 800 m (without repeater)
- Baud Rate: 9’600 – 57’600 bps
- Nominal Voltage: 230 V AC
- Nominal Voltage for the system: 24 V AC

M200 Details

Digital controller M200:

- **Input for fire alarm system**
- TCP/IP via Ethernet (RJ45) for remote access
- Integrated **IP Address**
- WiFi access via wireless router
- Optional GSM modem for data exchange
- Configuration and monitoring of all functions via **integrated touch screen**
- **Pre-programmed functions**, no additional programming costs for project adjustments, no programming skills required

M200 Start display



FC24 Details

Digital field controller FC24:

FC24 Details

FRAKTA Vertriebs GmbH
Fühler Regler Antriebe Komponenten Technische Ausrüstungen

Digital field controller FC24:

- To control and monitor up to **4 motorized fire dampers**
- Possibility to connect **4** additional **smoke detectors type Calectro** EVC-PY-DA
- Digital communication via **Modbus RTU** (RS-485)
- Modbus addressing via dip switch directly in the field controller
- The safety function of the dampers is not affected when the Modbus communication is interrupted
- Nominal voltage for the system: 24 V AC

FC24 Details

Digital field controller FC24:

- Spring cage terminals (Phoenix contact) for easy wiring
- IP55 – housing of non-flammable polystyrene UL94V-0

Summary

Summary Solutions by FRAKTA

FRAKTA Vertriebs GmbH
Fühler Regler Antriebe Komponenten Technische Ausrüstungen

- **Universal Solution «Fits All»**
  - No matter if you have a 30 fire and/or smoke extraction dampers or 200 and more with the FRAKTA solution we can offer you **great flexibility**
  - Our solution can be connected to all F&S actuators available in the market (e.g. Joventa, Belimo, Gruner, Siemens etc.)
  - The **pre-programmed applications** in the M200 / M60 controllers are **unique** and do not exist to this extent in the market

Summary Solutions by FRAKTA

FRAKTA Vertriebs GmbH
Fühler Regler Antriebe Komponenten Technische Ausrüstungen

- **Modular solution based on standard protocols**
  - We offer an **open platform** based on Modbus or BACnet.
  - Regardless if you want to have the M200 or M60 controller or the field controllers FC24 or UFC devices and integrate them into one of your controllers – we supply you with all necessary information regarding interfaces etc.
  - The system M60 can be used for the fire or smoke extraction application. **Configuration via dip switch**.
    System M200 for fire application.
  - The Systems M60 / M200 can be integrated into **any Modbus or BACnet controller**

Summary Solutions by FRAKTA

FRAKTA Vertriebs GmbH
Fühler Regler Antriebe Komponenten Technische Ausrüstungen

- **Reduce to the max**
  - Less components but **more functionality and flexibility**
  - Easy configuration – **no programming** needed
  - **Save costs** on material, installation, programming etc
  - The SMT Systems are **independent solutions** which can be easily integrated into any system

Summary Solutions by FRAKTA

- **Increase your added value**
  - With the SMT solution you generate **added value** for your company by offering a Fire Safety System which
    - is **pre-programmed** for this **application (safe time!)**
    - has the **application software** included in the price for the digital controllers

Summary Solutions by FRAKTA

- **Increase your added value**
  - **Universal System Link** between fire or smoke extraction dampers and any Modbus or BACnet system or analog control – all in one product!
    - Easy to choose – one product for (almost) **all** applications
    - **reduce variety of products in stock**
    - **Remarkable saving potential**

Interested?

FRAKTA Vertriebs GmbH
Fühler Regler Antriebe Komponenten Technische Ausrüstungen

For more information visit our homepage www.frakta.de

There you will find:

- Technical data sheets of the available products
- Product overviews
- System layouts as well as
- Subscription texts

All available in German and English

Contact FRAKTA

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We have the ideal classroom in

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