


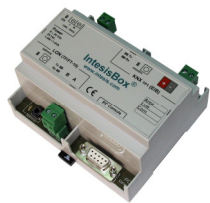
Josep Jorba, May 6th-7th 2010



About our company...

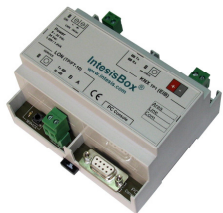
- Founded year 2000
- Located in Igualada / 60km from Barcelona, in Spain
- Staff is 11 people (as of 2010Q1) / 8 of them electrical/telecom engineers
- Focus on software for building automation
- Own hardware platforms **IntesisBox[®]** 
- Core business: gateway / interfacing solutions for building automation
 - Proprietary protocols
 - Open protocols: OPC, Modbus, KNX, BACnet, LonWorks, DALI, enOcean
- Own products and OEM

Products for Integration of Samsung Air Conditioning Systems



- SM-AC-MBS-32 (32 Indoor Units / IDUs)
- SM-AC-MBS-64 (64 IDUs)
- SM-AC-MBS-128 (128 IDUs)

Integration to
Modbus systems

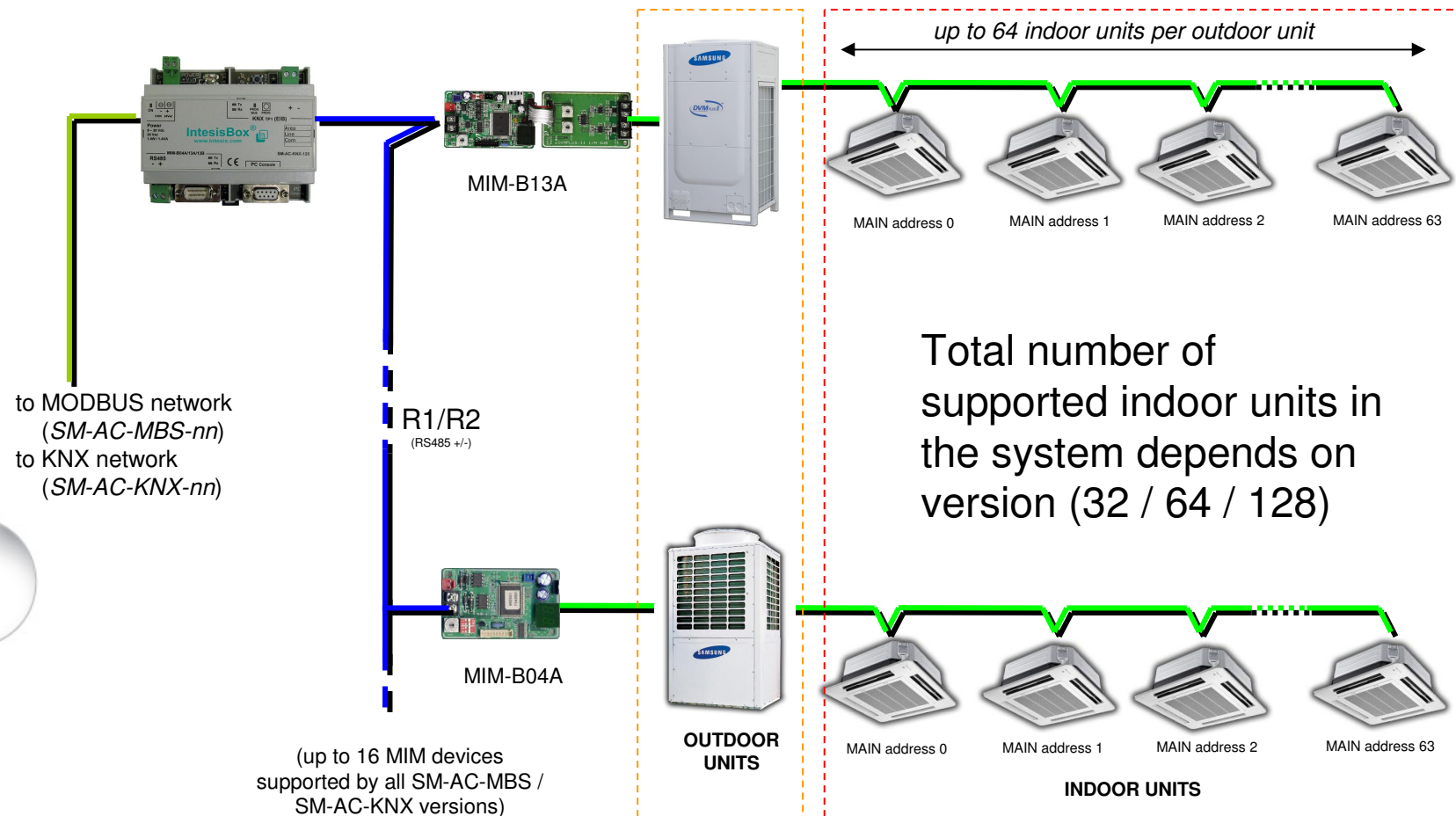


- SM-AC-KNX-64 (64 IDUs)
- SM-AC-KNX-128 (128 IDUs)

Integration to
KNX systems

Connection of SM-AC-XXX to Samsung Air Conditioning System

(Done using MIM-B04, MIM-B13A, MIM-B13B interface from Samsung)

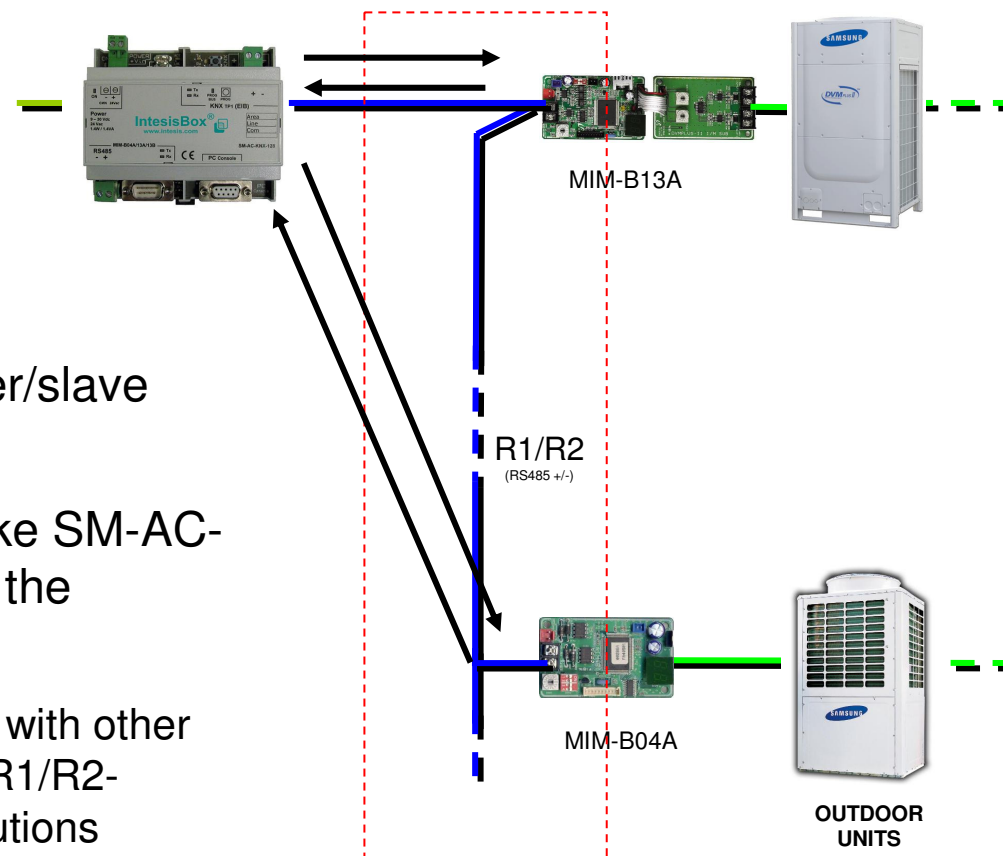


Connection of SM-AC-XXX to Samsung Air Conditioning System

(Done using MIM-B04, MIM-B13A, MIM-B13B interface from Samsung)

SM-AC-XXX
periodically polls
MIM modules

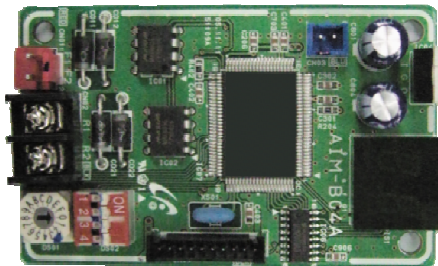
- R1/R2 is a master/slave communication
- Only 1 master (like SM-AC-XXX) possible in the system
 - Not compatible with other R1/R2 masters / R1/R2-based control solutions



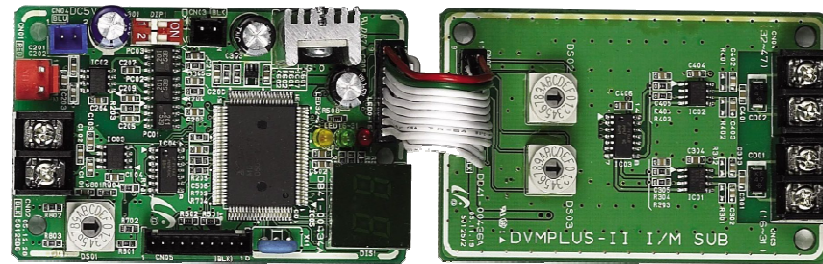
Interface module MIM-B04A / MIM-B13A / MIM-B13B

- Interface between SM-AC-MBS / SM-AC-KNX and indoor / outdoor units*

MIM-B04A



MIM-B13A / MIM-B13B



DVM
Mini DVM(R22)
CAC

DVM PLUS II/III
DVM PLUS II/III HR
FJM, Super FJM
Mini DVM (R410A)
ERV

General features (SM-AC-MBS/SM-AC-KNX)

- Power at 9 to 30 VDC / 24 VAC
- Standard enclosure 6-module DIN rail
- Ports electrically isolated between themselves (and from power too)
- The device needs to be configured with a separate PC tool
 - *LinkBoxMB* (Modbus – *SM-AC-MBS*)
 - *LinkBoxEIB* (KNX – *SM-AC-KNX*)
 - Configuration is loaded over a serial port
 - *LinkBoxXXX* configuration tool and serial cable for configuration download provided with the device

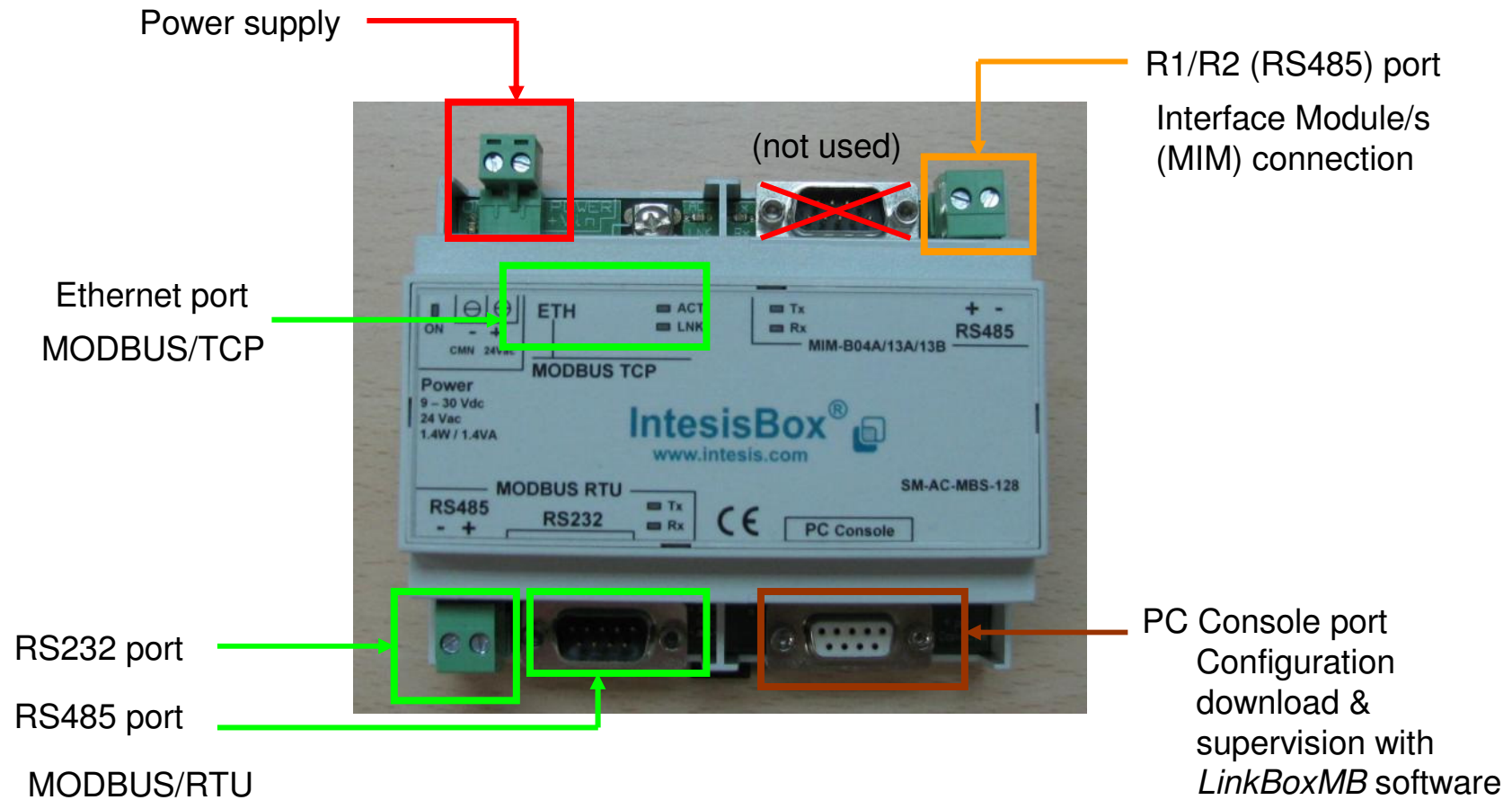


General features (SM-AC-MBS/SM-AC-KNX)

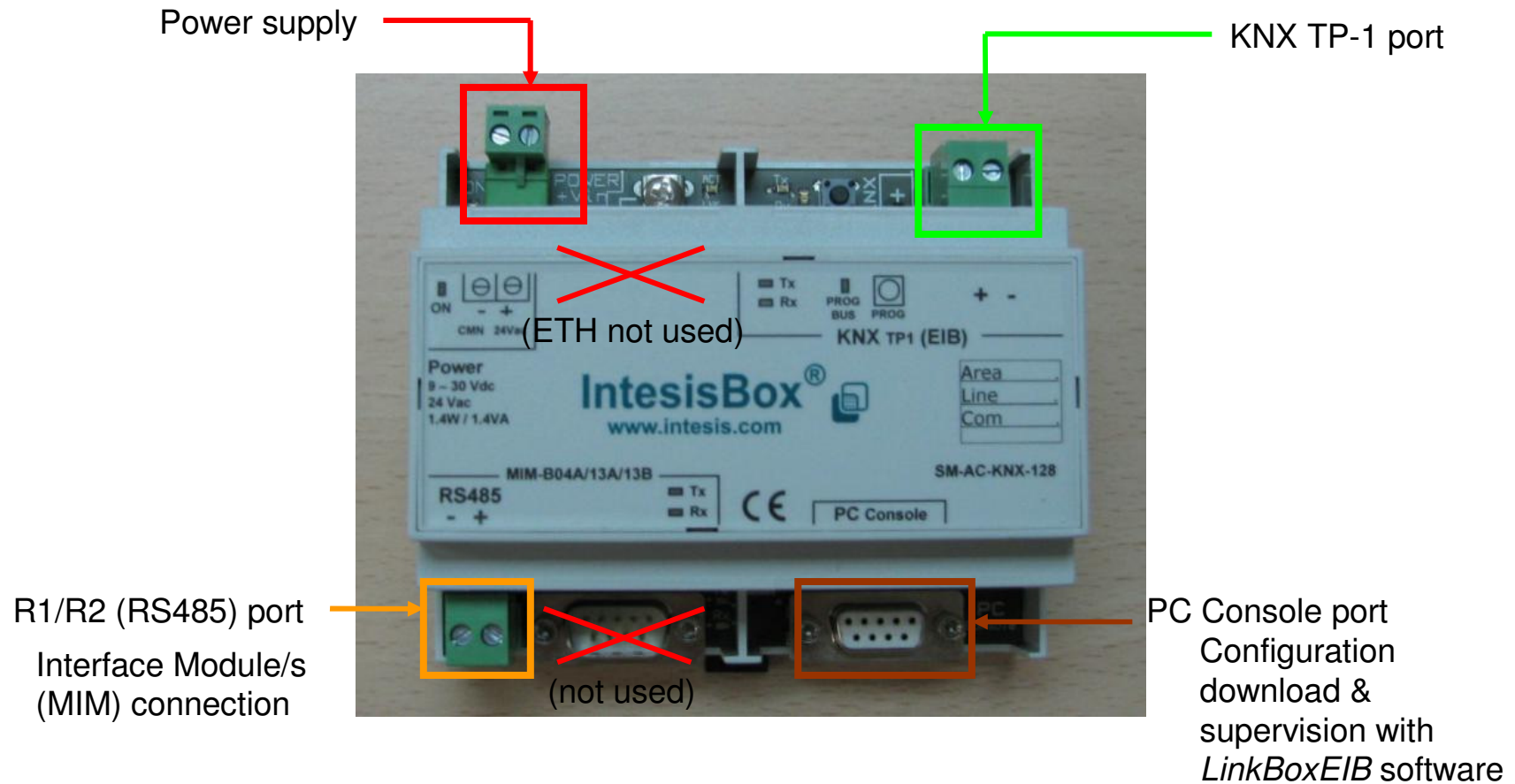
- Modbus connectivity - *SM-AC-MBS*
 - *Acts as a modbus slave device*
 - *Modbus RTU (RS232 / RS485)*
 - *Modbus TCP*
- KNX connectivity – *SM-AC-KNX*
 - *KNX TP-1 bus*



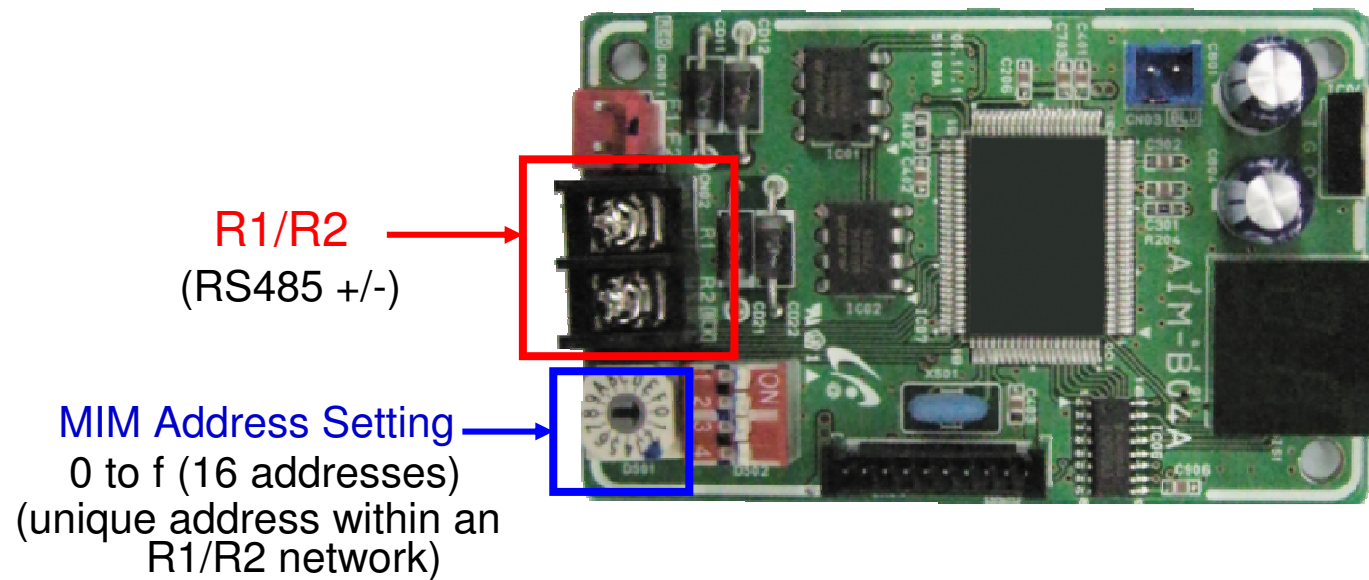
SM-AC-MBS connections



SM-AC-KNX connections



Interface Module (MIM) connections



SM-AC-MBS available signals

For each indoor unit (IDU) x 32 / 64 / 128 (according to version)

Type: Read / Write	Signal description and values
Read-only	AC Unit is present • 0: AC Unit Not Present, 1: AC Unit Present
Read-only	K2 Switch status • 0: K2 Switch On (central control disabled), 1: K2 Switch Off (ready)
R/W	Indoor Unit On/Off • 0: Off, 1: On
R/W	Mode • 0: Cool, 1: Heat, 2: Dry, 3: Fan, 4: Auto
Read-only	Operation Mode (when Mode signal is "4: Auto") • 0: Auto Cooling, 1: Auto Heating
Read-only	Ambient temperature (Celsius value) • -55°C to 200°C
R/W	Setpoint temperature (Celsius value) • In Heat Mode: 18°C to 30°C • In all other Modes: 16°C to 30°C

SM-AC-MBS available signals

For each indoor unit (IDU) x 32 / 64 / 128 (according to version)

Type: Read / Write	Signal description and values
R/W	Fan Direction • 0: Stop, 1: Up/Down, 2: Left/Right, 3: Both
R/W	Fan Speed • 0: Auto, 1: Low, 2: Middle, 3: High
R/W	Remote Controller Restriction • 0: Remote Controller Enabled, 1: Remote Controller Disabled
Read-only	• Filter Alarm • 0: Filter Alarm Not Present, 1: Filter Alarm Present
Read-only	Indoor Unit Error Code • 0: No Error, 100-999: Error Code
Write-only	Filter Reset • 1: Clear Filter Alarm
R/W	Last Command Execution Status • 0: Last Command execution OK (or value has been cleared) • 1: Last Command execution failed

SM-AC-MBS available signals

For each outdoor unit (ODU) x 16 in all versions

Type: Read / Write	Signal description and values
Read-only	MIM Interface is Present • 0: Present, 1: Not present
Read-only	MIM Interface is Ready • 0: Not Ready, 1: Ready
Read-only	Outdoor Unit Compressor Status • 0: Off, 1: On
Read-only	Discharge Temperature (celsius 0°C to 255°C)
Read-only	Condout Temperature (celsius value -55°C to 200°C)
Read-only	Oil Temperature (celsius value -55°C to 200°C)
Read-only	Suction Temperature (celsius value -55°C to 200°C)
Read-only	Exterior Temperature (celsius value -55°C to 200°C)
Read-only	Outdoor Unit Error Code • 0: No Error, 100-999: Error Code

SM-AC-MBS available signals

Global / general status signals

Type: Read / Write	Signal description and values
Read-only	R1/R2 bus communication error <ul style="list-style-type: none"> • 0: No Communication Error on R1/R2 • 1: Communication Error on R1/R2
Read-only	Tracking phase status <ul style="list-style-type: none"> ▪ 0: Tracking phase ended ▪ 1: Tracking is being performed

SM-AC-KNX available signals

For each indoor unit (IDU) x 64 / 128 (according to version)

Property	EIS type	Description and values
On / Off (R/W)	1 – Switching (1bit)	Start/Stop • 0 – OFF, 1 – ON
Mode (R/W)	14 – Counter (8bit)	AC Mode • 0 – COOL, 1 – HEAT, 2 – DRY, 3 – FAN, 4 – AUTO
Mode::Cool (R/W)	1 – Switching (1bit)	0 – Inactive, 1 – Active
Mode::Heat (R/W)	1 – Switching (1bit)	0 – Inactive, 1 – Active
Mode::Dry (R/W)	1 – Switching (1bit)	0 – Inactive, 1 – Active
Mode::Fan (R/W)	1 – Switching (1bit)	0 – Inactive, 1 – Active
Mode::Auto (R/W)	1 – Switching (1bit)	0 – Inactive, 1 – Active
Auto Mode (read-only)	14 – Counter (8bit)	AC Operating Mode (when mode is Auto) • 0 – AUTO COOLING, 1 – AUTO HEATING
AutoMode::Cooling	1 – Switching (1bit)	0 – Inactive, 1 – Active
AutoMode::Heating	1 – Switching (1bit)	0 – Inactive, 1 – Active

SM-AC-KNX available signals

For each indoor unit (IDU) x 64 / 128 (according to version)

Property	EIS type	Description and values
Setpoint Temperature (R/W)	EIS 5 – Float (2byte)	Temperature Set Point • For HEAT mode: 18..30 °C, for any other mode: 16..30 °C
Ambient Temperature (read-only)	EIS 5 – Float (2byte)	Ambient Temperature • -55°C to 200°C
Fan Direction (R/W)	14 – Counter (8bit)	Air output direction • 0 – Stop, 1 – Up/Down, 2 – Left/Right, 3 – Both
FanDirection::U/D (R/W)	1 – Switching (1bit)	0 – Inactive, 1 - Active
FanDirection::L/R (R/W)	1 – Switching (1bit)	0 – Inactive, 1 - Active
Fan Speed (R/W)	14 – Counter (8bit)	AC Fan Speed • 0 – AUTO, 1 – LOW, 2 – MID, 3 – HIGH
FanSpeed::Auto (R/W)	1 – Switching (1bit)	0 – Inactive, 1 – Active
FanSpeed::Low (R/W)	1 – Switching (1bit)	0 – Inactive, 1 – Active
FanSpeed::Mid (R/W)	1 – Switching (1bit)	0 – Inactive, 1 – Active
FanSpeed::High (R/W)	1 – Switching (1bit)	0 – Inactive, 1 – Active

SM-AC-KNX available signals

For each indoor unit (IDU) x 64 / 128 (according to version)

Property	EIS type	Description and values
Remote Restriction (R/W)	1 – Switching (1bit)	Remote Control Enablement / Disablement 0 – Remote control enabled, 1 – Remote control disabled
Error Sign (read-only)	1 – Switching (1bit)	Error Code / Communication error with the Indoor Unit 0 – No error present, 1 – Error code present, or communication error with the indoor unit
Error Code (read-only)	10 – Counter (16bit)	Error Code 000 – No error, 100 to 999 – Indoor unit error code
Filter Alarm (read-only)	1 – Switching (1bit)	Filter Alarm Status 0 – No alarm, 1 – Filter alarm present
Filter Alarm Reset (write-only)	1 – Switching (1bit)	Filter Alarm Reset 1 – Filter alarm reset

Global / general status signals

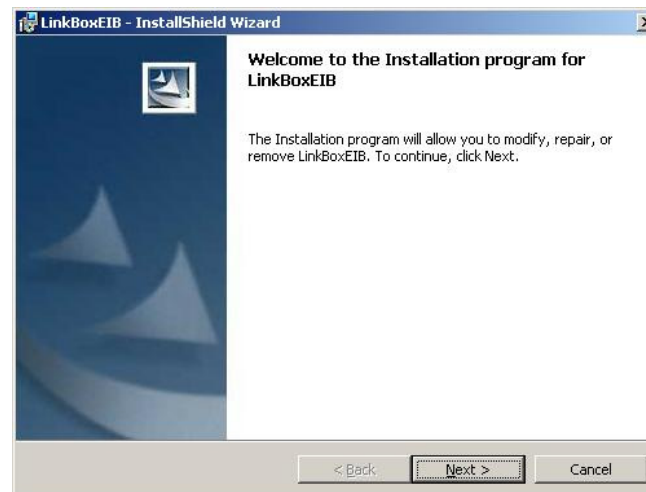
Property	EIS type	Description and values
Communication Error (R/W)	1 – Switching (1bit)	Communication Error at R1/R2 0 – No error present / OK, 1 – Communication Error

LinkBoxMB configuration software (SM-AC-MBS)

Latest version on: <http://www.intesis.com/down/mb/linkboxmb.html>

LinkBoxEIB configuration software (SM-AC-KNX)

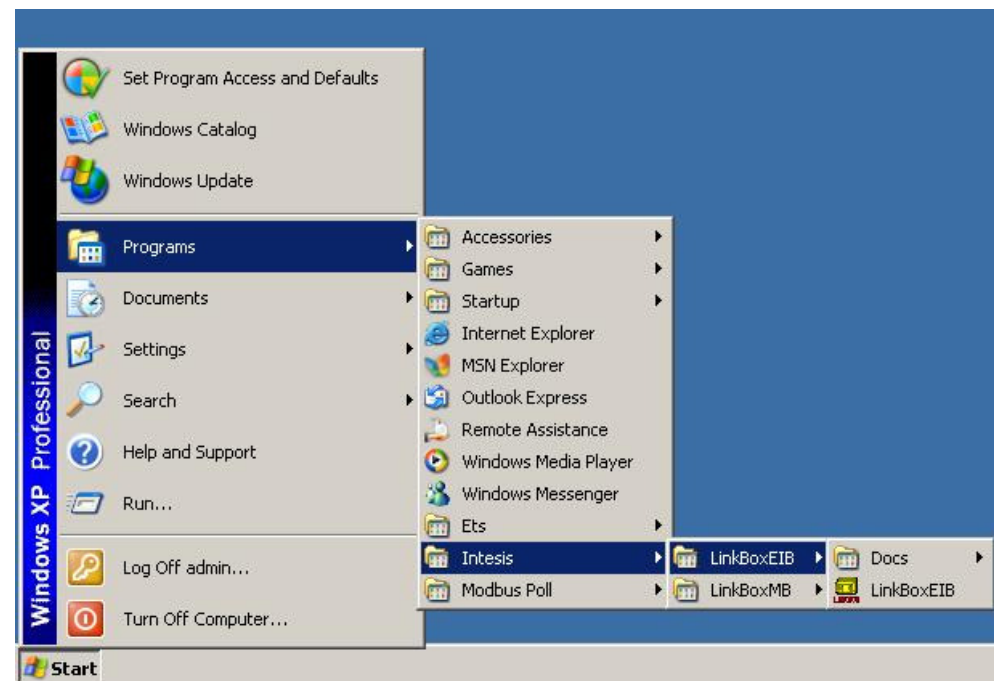
Latest version on: <http://www.intesis.com/down/eib/linkboxeib.html>



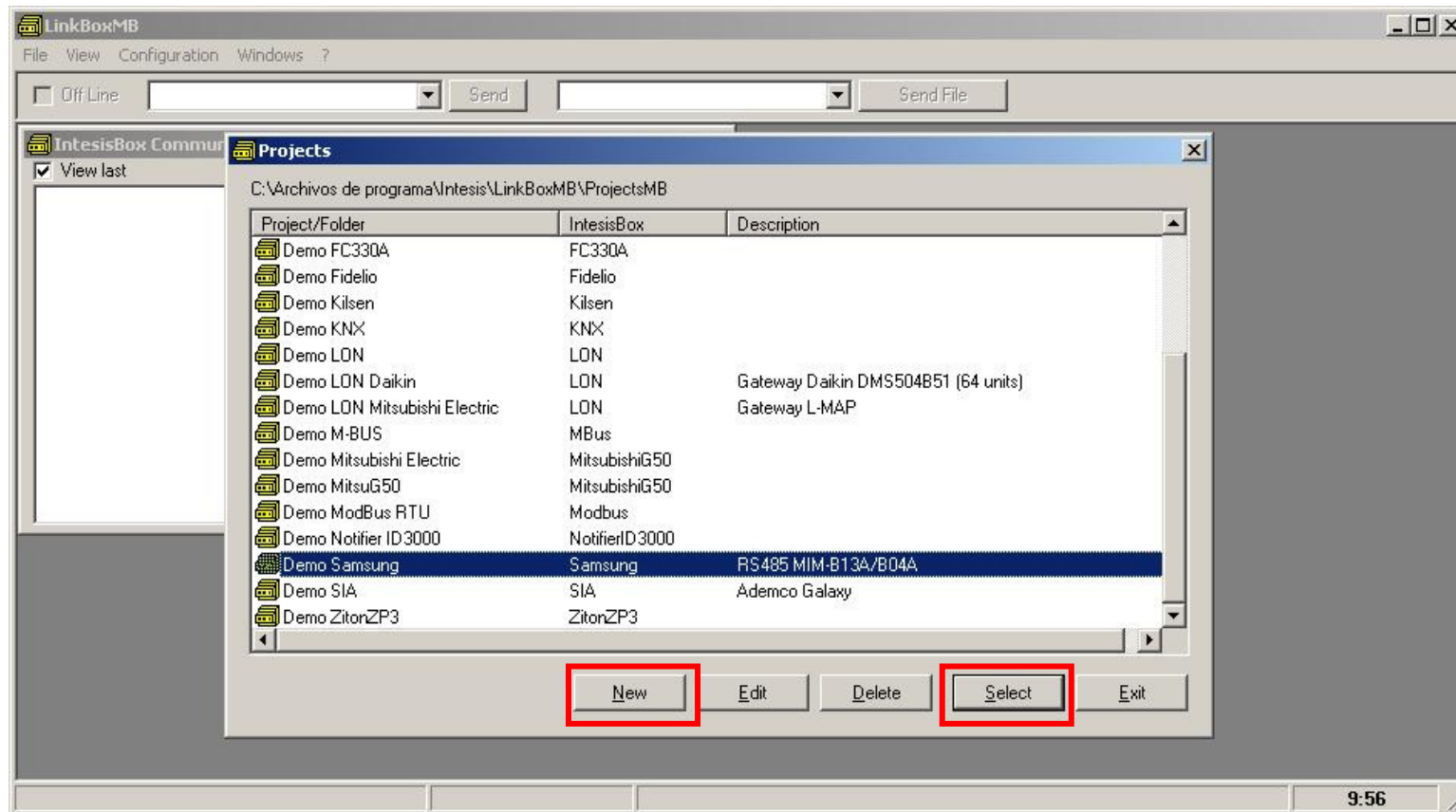
Setup.exe self-installer

- *Installs LinkBoxXXX application & **documentation***

LinkBox common tasks (LinkBoxMB and LinkBoxEIB)

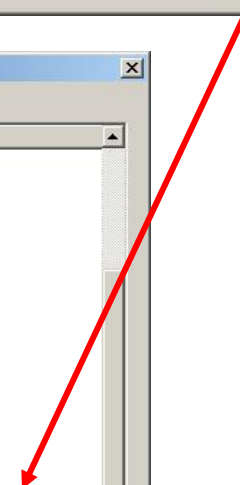
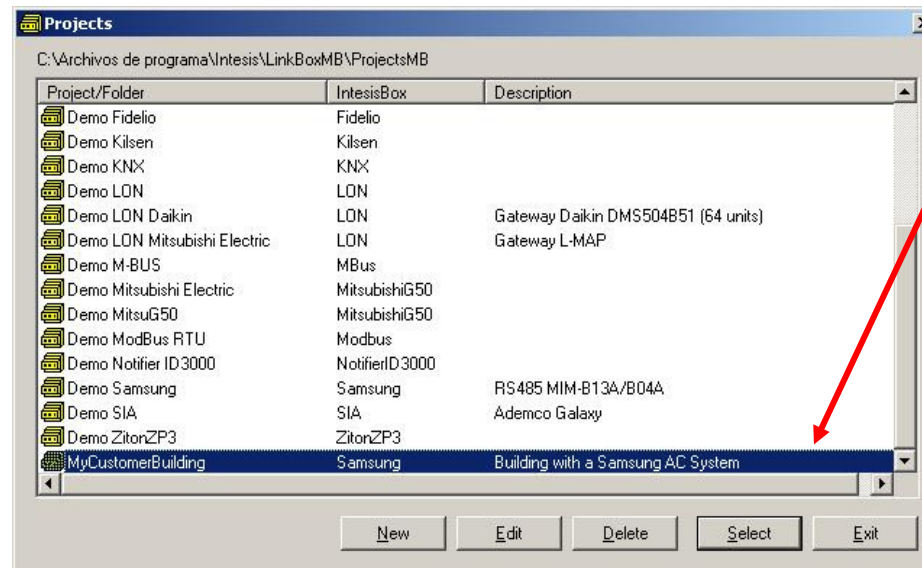
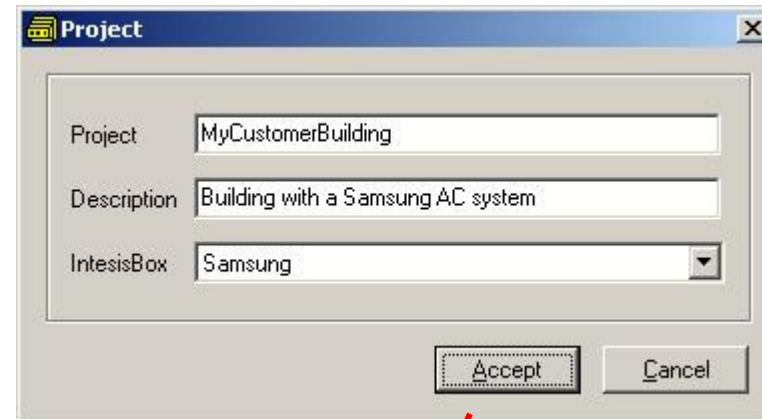
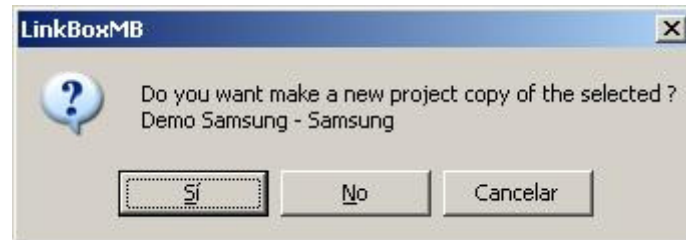


LinkBox common tasks

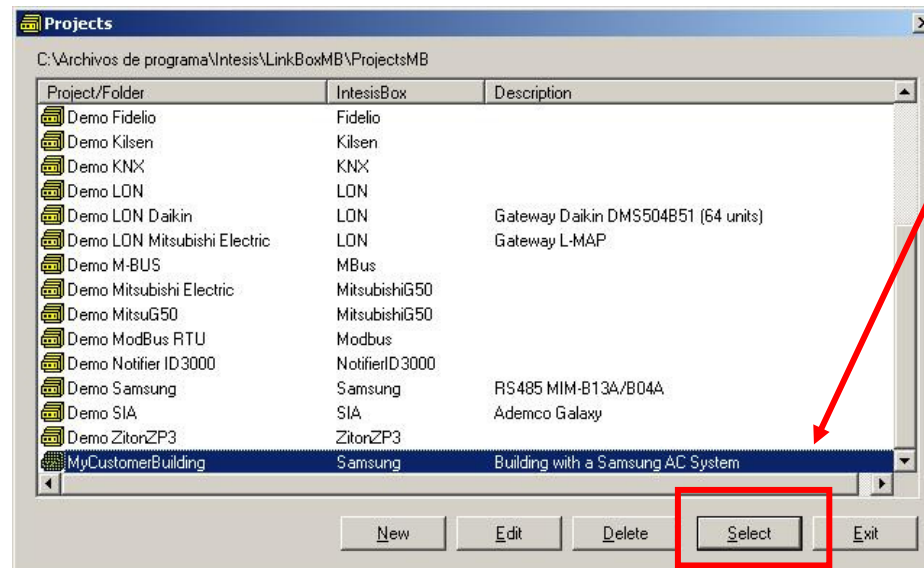
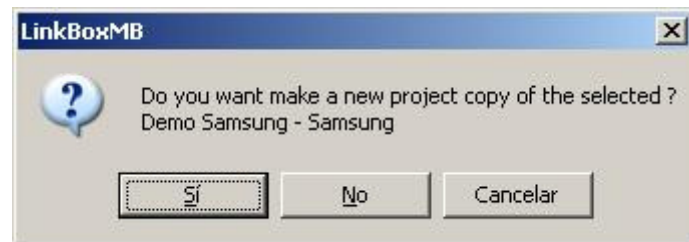


Selecting an existing project.. / creating a New project...

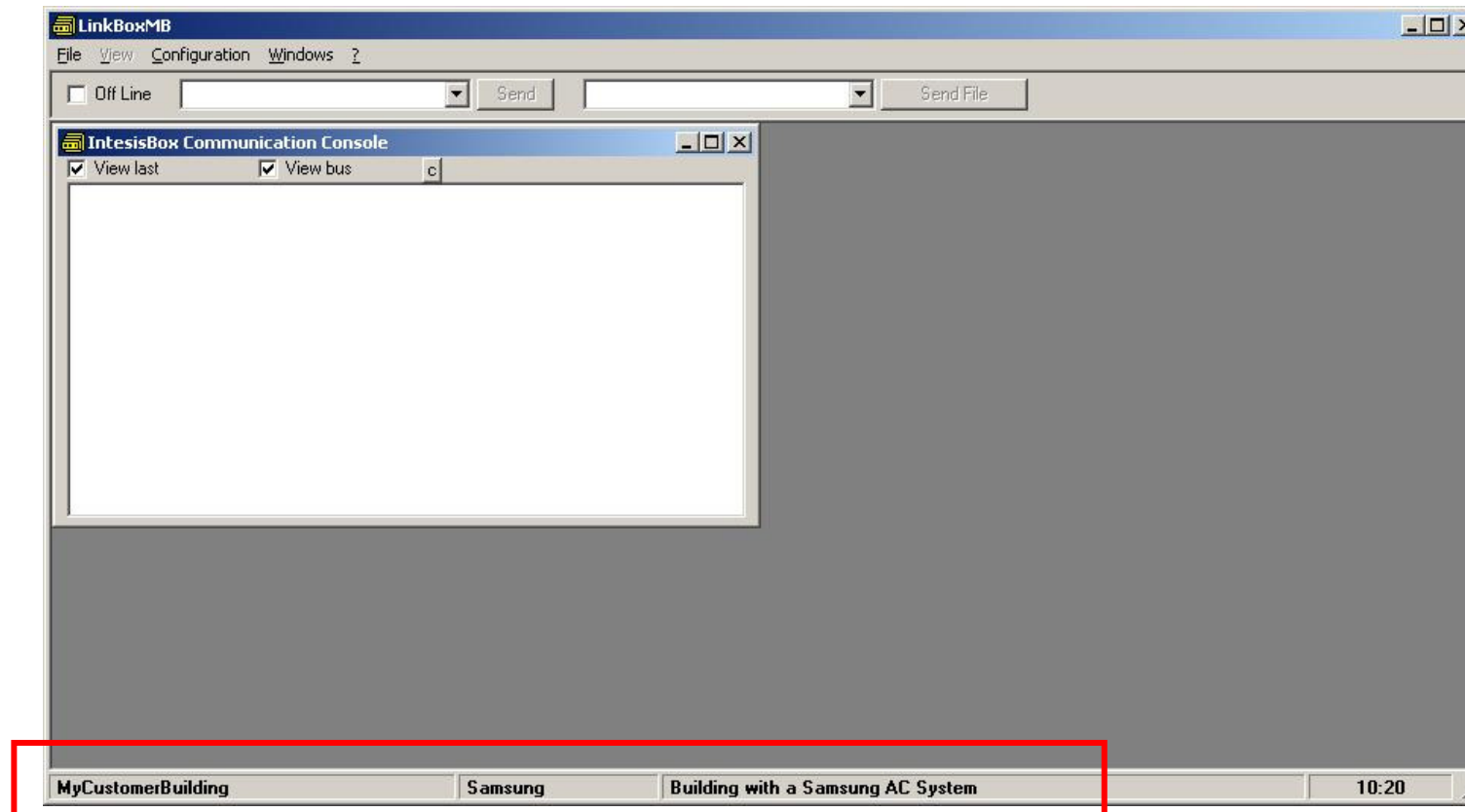
LinkBox common tasks



LinkBox common tasks



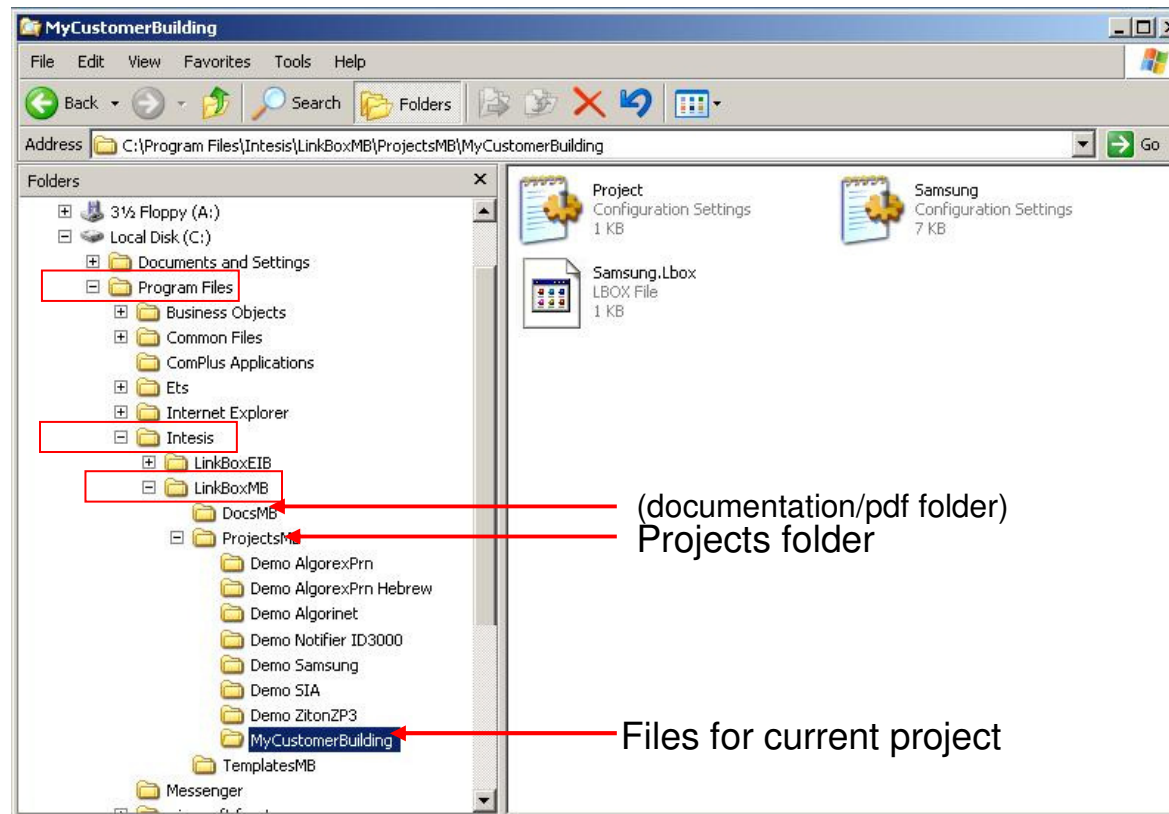
LinkBox common tasks



Current project →

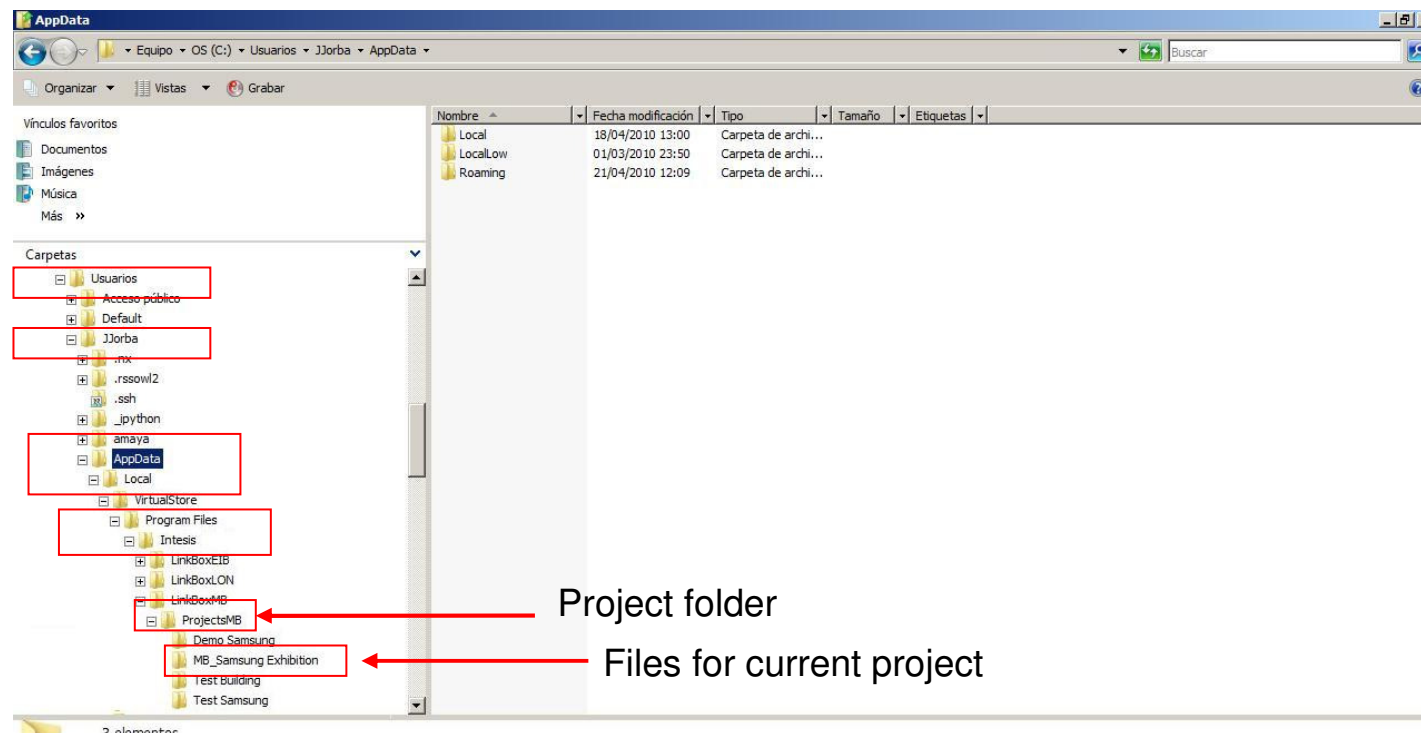
LinkBox common tasks

Project files location in Windows XP



LinkBox common tasks

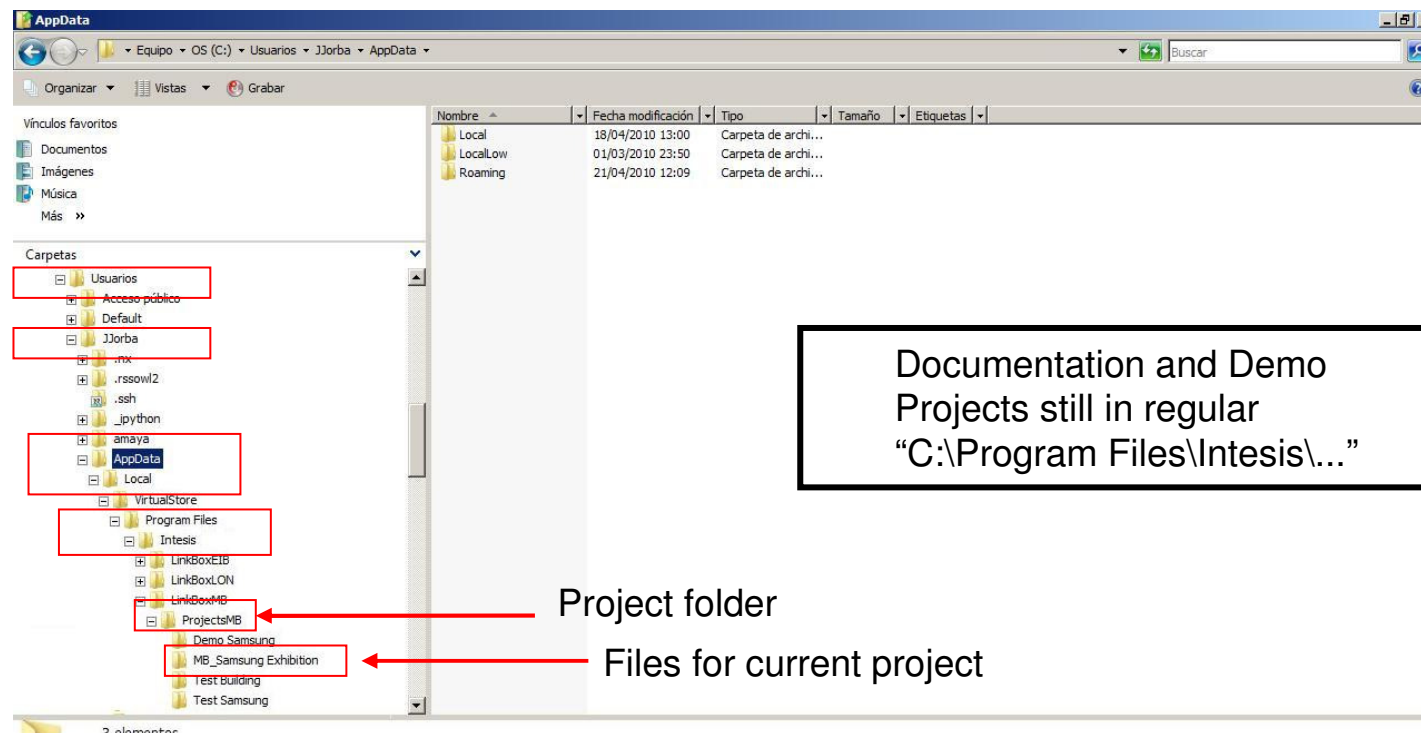
Project files location in Windows Vista or 7



C:\Users\<<your account>>\AppData\Local\VirtualStore\Program Files\Intesis\LinkBoxMB

LinkBox common tasks

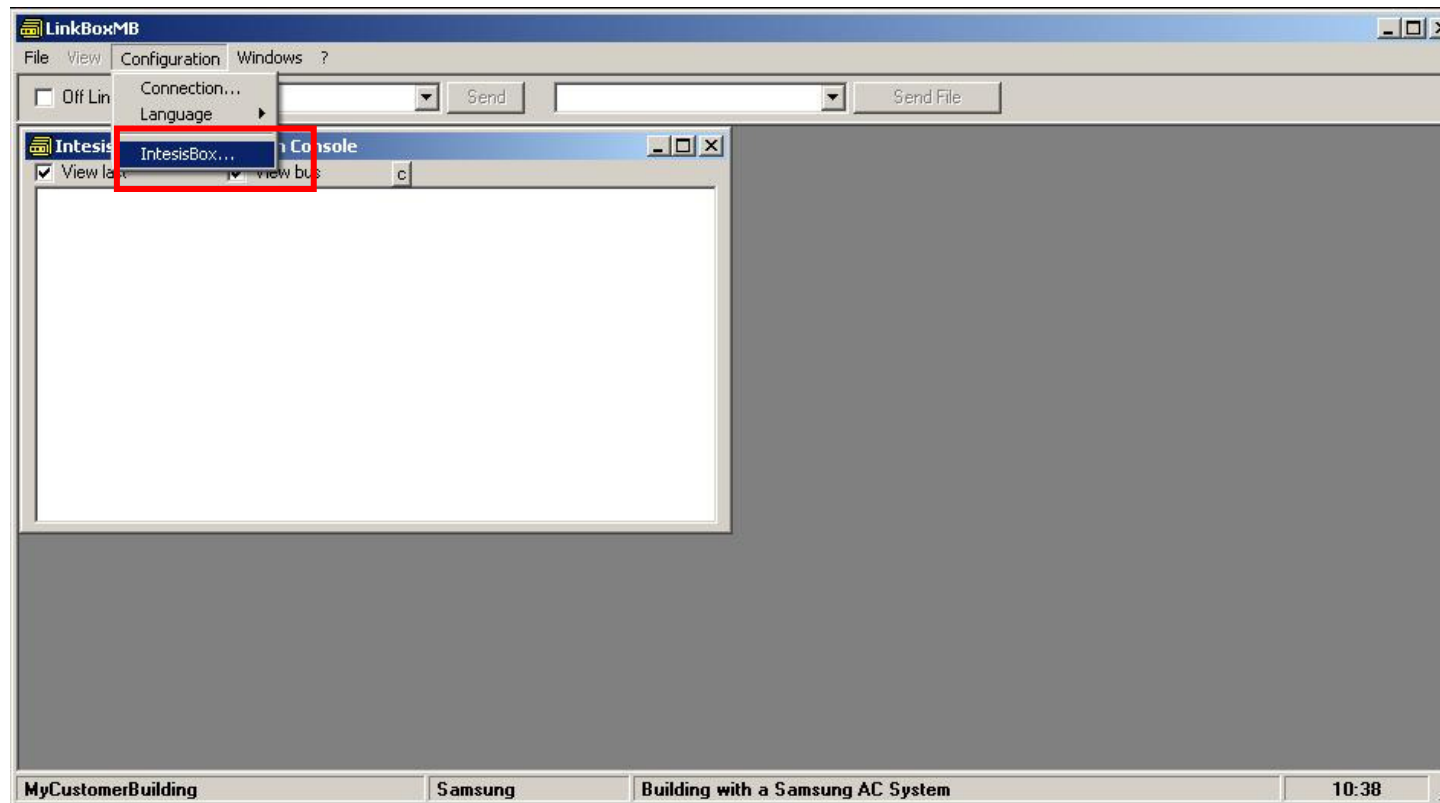
Project files location in Windows Vista or 7



C:\Users\<<your account>>\AppData\Local\VirtualStore\Program Files\Intesis\LinkBoxMB

LinkBox common tasks

Opening configuration editor window...



LinkBoxMB configuration window

LinkBoxMB

File View Configuration Windows ?

☐ Off Line

Intesis Configuration Samsung

☒ View la

Connection Points

☒ ModBus TCP

192.168.100.105 IP IntesisBox

255.255.255.0 Net Mask

Gateway

502 Port

30 Timeout Keep Alive

☐ ModBus RTU RS232/485

RS232 Connection

8-P-1 9600 Baud rate

none Parity

1 Slave #

Samsung (MIM-B13A/B04A RS485 Card)

Indoor Units	MIM	AC	Name
<input checked="" type="checkbox"/> IU-1	0	0	Test Unit
<input type="checkbox"/> IU-2	0	1	
<input type="checkbox"/> IU-3	0	2	
<input type="checkbox"/> IU-4	0	3	
<input type="checkbox"/> IU-5	0	4	
<input type="checkbox"/> IU-6	0	5	
<input type="checkbox"/> IU-7	0	6	
<input type="checkbox"/> IU-8	0	7	
<input type="checkbox"/> IU-9	0	8	
<input type="checkbox"/> IU-10	0	9	
<input type="checkbox"/> IU-11	0	10	
<input type="checkbox"/> IU-12	0	11	
<input type="checkbox"/> IU-13	0	12	
<input type="checkbox"/> IU-14	0	13	
<input type="checkbox"/> IU-15	0	14	

MIM 0 AC 0

Name Test Unit

Advanced adjustments

30 Initial tracking time (sec)

20 Time waiting valid read after a write (sec)

100 Delay between Tx (milisec)

10 Maximum number of writes at once

10 Polling cycles per tracking

Gateway version

128AC

Access permission Read/Write.

MyCustomerBuilding Samsung Building with a Samsung AC System 11:06

LinkBoxMB configuration window

The screenshot shows the LinkBoxMB configuration window with two main sections highlighted by red boxes and labels:

- Modbus configuration (left box):**
 - ModBus TCP:**
 - IP IntesisBox: 192.168.100.105
 - Net Mask: 255.255.255.0
 - Gateway: (empty)
 - Port: 502
 - Timeout Keep Alive: 30
 - ModBus RTU RS232/485:**
 - Connection: RS232
 - Baud rate: 9600
 - Parity: none
 - Slave #: 1
- Samsung R1/R2 configuration (right box):**
 - Samsung (MIM-B13A/B04A RS485 Card):**
 - Indoor Units:**

Indoor Units	MIM	AC	Name
<input checked="" type="checkbox"/> IU-1	0	0	Test Unit
<input type="checkbox"/> IU-2	0	1	
<input type="checkbox"/> IU-3	0	2	
<input type="checkbox"/> IU-4	0	3	
<input type="checkbox"/> IU-5	0	4	
<input type="checkbox"/> IU-6	0	5	
<input type="checkbox"/> IU-7	0	6	
<input type="checkbox"/> IU-8	0	7	
<input type="checkbox"/> IU-9	0	8	
<input type="checkbox"/> IU-10	0	9	
<input type="checkbox"/> IU-11	0	10	
<input type="checkbox"/> IU-12	0	11	
<input type="checkbox"/> IU-13	0	12	
<input type="checkbox"/> IU-14	0	13	
<input type="checkbox"/> IU-15	0	14	
 - MIM AC:**
 - MIM: 0
 - AC: 0
 - Advanced adjustments:**
 - Initial tracking time (sec): 30
 - Time waiting valid read after a write (sec): 20
 - Delay between Tx (milisec): 100
 - Maximum number of writes at once: 10
 - Polling cycles per tracking: 10
 - Gateway version:** 128AC

At the bottom of the window, there are buttons for "Accept" and "Exit". The status bar at the very bottom shows "MyCustomerBuilding", "Samsung", "Building with a Samsung AC System", and the time "11:06".

LinkBoxEIB configuration window

LinkBoxEIB

File View Configuration Windows ?

Off Line Send Send File

Configuration Samsung - Max.Indoor Units 128 - Max.GroupsEIB:4000

Connection Signals

EIB

15.15.250 Physical Address

☐ Forzar actualizar después de un reset de bus EIB.

4 Delay for update after bus reset.

128AC Version

Samsung (MIM-B13A/B04A RS485 Card)

Indoor Units

Indoor Units	MIM	AC	Name
<input checked="" type="checkbox"/> IU-1	0	0	Test Unit
<input checked="" type="checkbox"/> IU-2	0	1	
<input checked="" type="checkbox"/> IU-3	0	2	
<input checked="" type="checkbox"/> IU-4	0	3	
<input checked="" type="checkbox"/> IU-5	0	4	
<input checked="" type="checkbox"/> IU-6	0	5	
<input checked="" type="checkbox"/> IU-7	0	6	
<input type="checkbox"/> IU-8	0	7	
<input type="checkbox"/> IU-9	0	8	
<input type="checkbox"/> IU-10	0	9	
<input type="checkbox"/> IU-11	0	10	
<input type="checkbox"/> IU-12	0	11	
<input type="checkbox"/> IU-13	0	12	
<input type="checkbox"/> IU-14	0	13	
<input type="checkbox"/> IU-15	0	14	

MIM 0 AC 0

Name Test Unit

Advanced adjustments

30 Initial tracking time (sec)

20 Time waiting valid read after a write (sec)

100 Delay between Tx (milisec)

10 Maximum number of writes at once

10 Polling cycles per tracking

Initial tracking time (sec) (1..300)

Accept Exit

Demo Samsung AC Samsung RS485 MIM-B13A/B04A 11:15

LinkBoxEIB configuration window

The screenshot shows the LinkBoxEIB configuration window with two main sections highlighted by red boxes and labels:

- KNX configuration (green box):** Located on the left, it includes the 'EIB' tab, a 'Physical Address' field (15.15.250), a checkbox for 'Forzar actualizar después de un reset de bus EIB.', a 'Delay for update after bus reset' field (4), and a 'Version' dropdown menu (128AC).
- Samsung R1/R2 configuration (red box):** Located on the right, it includes a 'Samsung (MIM-B13A/B04A RS485 Card)' section with a table of indoor units, 'MIM' and 'AC' fields, and 'Advanced adjustments' for tracking time and polling cycles.

Indoor Units Table:

Indoor Units	MIM	AC	Name
<input checked="" type="checkbox"/> IU-1	0	0	Test Unit
<input checked="" type="checkbox"/> IU-2	0	1	
<input checked="" type="checkbox"/> IU-3	0	2	
<input checked="" type="checkbox"/> IU-4	0	3	
<input checked="" type="checkbox"/> IU-5	0	4	
<input checked="" type="checkbox"/> IU-6	0	5	
<input checked="" type="checkbox"/> IU-7	0	6	
<input type="checkbox"/> IU-8	0	7	
<input type="checkbox"/> IU-9	0	8	
<input type="checkbox"/> IU-10	0	9	
<input type="checkbox"/> IU-11	0	10	
<input type="checkbox"/> IU-12	0	11	
<input type="checkbox"/> IU-13	0	12	
<input type="checkbox"/> IU-14	0	13	
<input type="checkbox"/> IU-15	0	14	

Advanced adjustments:

- Initial tracking time (sec): 30
- Time waiting valid read after a write (sec): 20
- Delay between Tx (milisec): 100
- Maximum number of writes at once: 10
- Polling cycles per tracking: 10

Buttons: Accept, Exit

Status bar: Demo Samsung AC | Samsung | RS485 MIM-B13A/B04A | 11:15

SM-AC-XXX model selection in config

Samsung (MIM-B13A/B04A RS485 Card)

Indoor Units

Indoor Units	MIM	AC	Name
<input checked="" type="checkbox"/> IU-1	0	0	Test Unit
<input type="checkbox"/> IU-2	0	1	
<input type="checkbox"/> IU-3	0	2	
<input type="checkbox"/> IU-4	0	3	
<input type="checkbox"/> IU-5	0	4	
<input type="checkbox"/> IU-6	0	5	
<input type="checkbox"/> IU-7	0	6	
<input type="checkbox"/> IU-8	0	7	
<input type="checkbox"/> IU-9	0	8	
<input type="checkbox"/> IU-10	0	9	
<input type="checkbox"/> IU-11	0	10	
<input type="checkbox"/> IU-12	0	11	
<input type="checkbox"/> IU-13	0	12	
<input type="checkbox"/> IU-14	0	13	
<input type="checkbox"/> IU-15	0	14	

MIM AC

0 0

Name

Test Unit

Advanced adjustments

30 Initial tracking time (sec)

20 Time waiting valid read after a write (sec)

100 Delay between Tx (milisec)

10 Maximum number of writes at once

*Selection of gateway version
(max number of AC units)*

Gateway version

128AC

32AC

64AC

128AC

SM-AC-MBS-32

SM-AC-MBS-64

SM-AC-MBS-128

Information that Samsung AC installer needs to provide

- MIM addresses (0..15)
- AC Unit Main Addresses (0..63) attached to each MIM / outdoor unit

Samsung (MIM-B13A/B04A RS485 Card)

Indoor Units				MIM	AC
Indoor Units	MIM	AC	Name		
<input checked="" type="checkbox"/> IU-1	0	0	Test Unit	0	0
<input type="checkbox"/> IU-2	0	1		Name	
<input type="checkbox"/> IU-3	0	2		Test Unit	
<input type="checkbox"/> IU-4	0	3			
<input type="checkbox"/> IU-5	0	4			
<input type="checkbox"/> IU-6	0	5			
<input type="checkbox"/> IU-7	0	6			
<input type="checkbox"/> IU-8	0	7			
<input type="checkbox"/> IU-9	0	8			
<input type="checkbox"/> IU-10	0	9			
<input type="checkbox"/> IU-11	0	10			
<input type="checkbox"/> IU-12	0	11			
<input type="checkbox"/> IU-13	0	12			
<input type="checkbox"/> IU-14	0	13			
<input type="checkbox"/> IU-15	0	14			

Advanced adjustments

30 Initial tracking time (sec)

20 Time waiting valid read after a write (sec)

100 Delay between Tx (milisec)

10 Maximum number of writes at once

10 Polling cycles per tracking

Gateway version

128AC

Information that Samsung AC installer needs to provide

- MIM addresses (0..15)
- AC Unit Main Addresses (0..63) attached to each MIM / outdoor unit

Samsung (MIM-B13A/B04A RS485 Card)

Indoor Units				MIM	AC
Indoor Units	MIM	AC	Name		
<input checked="" type="checkbox"/> IU-1	0	0	Test Unit	0	0
<input type="checkbox"/> IU-2	0	1		Name	
<input type="checkbox"/> IU-3	0	2		Test Unit	
<input type="checkbox"/> IU-4	0	3			
<input type="checkbox"/> IU-5	0	4			
<input type="checkbox"/> IU-6	0	5			
<input type="checkbox"/> IU-7	0	6			
<input type="checkbox"/> IU-8	0	7			
<input type="checkbox"/> IU-9	0	8			
<input type="checkbox"/> IU-10	0	9			
<input type="checkbox"/> IU-11	0	10			
<input type="checkbox"/> IU-12	0	11			
<input type="checkbox"/> IU-13	0	12			
<input type="checkbox"/> IU-14	0	13			
<input type="checkbox"/> IU-15	0	14			

Advanced adjustments

Initial tracking time (sec)

Time waiting valid read after a write (sec)

Delay between Tx (milisec)

Maximum number of writes at once

Polling cycles per tracking

Gateway version

Enable/disable
AC unit in config

Information that Samsung AC installer needs to provide

- MIM addresses (0..15)
- AC Unit Main Addresses (0..63) attached to each MIM / outdoor unit

Samsung (MIM-B13A/B04A RS485 Card)

Indoor Units	MIM	AC	Name
<input checked="" type="checkbox"/> IU-1	0	0	Test Unit
<input type="checkbox"/> IU-2	0	1	
<input type="checkbox"/> IU-3	0	2	
<input type="checkbox"/> IU-4	0	3	
<input type="checkbox"/> IU-5	0	4	
<input type="checkbox"/> IU-6	0	5	
<input type="checkbox"/> IU-7	0	6	
<input type="checkbox"/> IU-8	0	7	
<input type="checkbox"/> IU-9	0	8	
<input type="checkbox"/> IU-10	0	9	
<input type="checkbox"/> IU-11	0	10	
<input type="checkbox"/> IU-12	0	11	
<input type="checkbox"/> IU-13	0	12	
<input type="checkbox"/> IU-14	0	13	
<input type="checkbox"/> IU-15	0	14	

MIM: 0 AC: 0

Name: Test Unit

Initial tracking time (sec): 30

Time waiting valid read after a write (sec): 20

Delay between Tx (milisec): 100

Maximum number of writes at once: 10

Polling cycles per tracking: 10

Gateway version: 128AC

Enable/disable
AC unit in config

MIM addr (0..15)
of the selected unit

Information that Samsung AC installer needs to provide

- MIM addresses (0..15)
- AC Unit Main Addresses (0..63) attached to each MIM / outdoor unit (not RMC addr!)

Samsung (MIM-B13A/B04A RS485 Card)

Indoor Units	MIM	AC	Name
<input checked="" type="checkbox"/> IU-1	0	0	Test Unit
<input type="checkbox"/> IU-2	0	1	
<input type="checkbox"/> IU-3	0	2	
<input type="checkbox"/> IU-4	0	3	
<input type="checkbox"/> IU-5	0	4	
<input type="checkbox"/> IU-6	0	5	
<input type="checkbox"/> IU-7	0	6	
<input type="checkbox"/> IU-8	0	7	
<input type="checkbox"/> IU-9	0	8	
<input type="checkbox"/> IU-10	0	9	
<input type="checkbox"/> IU-11	0	10	
<input type="checkbox"/> IU-12	0	11	
<input type="checkbox"/> IU-13	0	12	
<input type="checkbox"/> IU-14	0	13	
<input type="checkbox"/> IU-15	0	14	

MIM: 0 AC: 0

Name: Test Unit

Initial tracking time (sec): 30

Time waiting valid read after a write (sec): 20

Gateway version: 128AC

Enable/disable AC unit in config

MIM addr (0..15) of the selected unit

Main Address (0..63) of the selected unit

Information that Samsung AC installer needs to provide

- MIM addresses (0..15)
- AC Unit Main Addresses (0..63) attached to each MIM / outdoor unit (not RMC addr!)

Samsung (MIM-B13A/B04A RS485 Card)

Indoor Units	MIM	AC	Name
<input checked="" type="checkbox"/> IU-1	0	0	Test Unit
<input type="checkbox"/> IU-2	0	1	
<input type="checkbox"/> IU-3	0	2	
<input type="checkbox"/> IU-4	0	3	
<input type="checkbox"/> IU-5	0	4	
<input type="checkbox"/> IU-6	0	5	
<input type="checkbox"/> IU-7	0	6	
<input type="checkbox"/> IU-8	0	7	
<input type="checkbox"/> IU-9	0	8	
<input type="checkbox"/> IU-10	0	9	
<input type="checkbox"/> IU-11	0	10	
<input type="checkbox"/> IU-12	0	11	
<input type="checkbox"/> IU-13	0	12	
<input type="checkbox"/> IU-14	0	13	
<input type="checkbox"/> IU-15	0	14	

Enable/disable AC unit in config

MIM addr (0..15) of the selected unit

AC

Initial tracking time (sec)

Time waiting valid read after a write (sec)

Main Address (0..63) of the selected unit

Descriptive name (not relevant for config)

Gateway version

128AC

Information that Samsung AC installer needs to provide

- MIM addresses (0..15)
- AC Unit Main Addresses (0..63) attached to each MIM / outdoor unit

Samsung (MIM-B13A/B04A RS485 Card)

Indoor Units

Indoor Units	MIM	AC	Name
<input checked="" type="checkbox"/> IU-1	0	0	
<input type="checkbox"/> IU-2	0	1	
<input type="checkbox"/> IU-3	0	2	
<input type="checkbox"/> IU-4	0	3	
<input type="checkbox"/> IU-5	0	4	
<input type="checkbox"/> IU-6	0	5	
<input type="checkbox"/> IU-7	0	6	
<input type="checkbox"/> IU-8	0	7	
<input type="checkbox"/> IU-9	0	8	
<input type="checkbox"/> IU-10	0	9	
<input type="checkbox"/> IU-11	0	10	
<input type="checkbox"/> IU-12	0	11	
<input type="checkbox"/> IU-13	0	12	
<input type="checkbox"/> IU-14	0	13	
<input type="checkbox"/> IU-15	0	14	

MIM: 0 AC: 0

Advanced adjustments

Initial tracking time (sec): 30

Maximum number of writes at once: 10

Polling cycles per tracking: 10

Gateway version: 128AC

*New numbering for AC units 1..128
(to be used later in the configuration)*

Advanced config parameters for R1/R2

Samsung (MIM-B13A/B04A RS485 Card)

Indoor Units				MIM	AC
Indoor Units	MIM	AC	Name		
<input checked="" type="checkbox"/> IU-1	0	0	Test Unit	0	0
<input type="checkbox"/> IU-2	0	1			
<input type="checkbox"/> IU-3	0	2			
<input type="checkbox"/> IU-4	0	3			
<input type="checkbox"/> IU-5	0	4			
<input type="checkbox"/> IU-6	0	5			
<input type="checkbox"/> IU-7	0	6			
<input type="checkbox"/> IU-8	0	7			
<input type="checkbox"/> IU-9	0	8			
<input type="checkbox"/> IU-10					
<input type="checkbox"/> IU-11					
<input type="checkbox"/> IU-12					
<input type="checkbox"/> IU-13	0	12			
<input type="checkbox"/> IU-14	0	13			
<input type="checkbox"/> IU-15	0	14			

Name
Test Unit

Advanced adjustments

- 30 Initial tracking time (sec)
- 20 Time waiting valid read after a write (sec)
- 100 Delay between Tx (milisec)
- 10 Maximum number of writes at once
- 10 Polling cycles per tracking

Gateway version
128AC

Default values are meant to fit most scenarios



Advanced config parameters for R1/R2

- Initial tracking time (s)
 - *Time performing discovery of MIM devices at start-up*
- Time waiting a valid read after a write (s)
 - *After sending a parameter change to an AC from IntesisBox, during this time, the AC status will be ignored (waiting for the parameter to take effect)*
- Delay between Tx (ms)
 - *Minimum delay between a RX and a TX frame in R1/R2 / minimum bus idle time*

Advanced adjustments

<input type="text" value="30"/>	Initial tracking time (sec)
<input type="text" value="20"/>	Time waiting valid read after a write (sec)
<input type="text" value="100"/>	Delay between Tx (milisec)
<input type="text" value="10"/>	Maximum number of writes at once
<input type="text" value="10"/>	Polling cycles per tracking



Advanced config parameters for R1/R2

- Maximum number of writes at once
 - *Max number of parameter changes that will be sent to AC units one after the other (to avoid large periods without polling status on large cmd bursts)*
- Polling cycles per tracking
 - *Each N poll cycles, a tracking cycle will be done (for periodic check of MIM status)*

Advanced adjustments

<input type="text" value="30"/>	Initial tracking time (sec)
<input type="text" value="20"/>	Time waiting valid read after a write (sec)
<input type="text" value="100"/>	Delay between Tx (milisec)
<input type="text" value="10"/>	Maximum number of writes at once
<input type="text" value="10"/>	Polling cycles per tracking

Saving the configuration...

LinkBoxMB

File View Configuration Windows ?

☐ Off Line

Intesis Configuration Samsung

☒ View la

Connection Points

☒ ModBus TCP

192.168.100.105 IP IntesisBox

255.255.255.0 Net Mask

Gateway

502 Port

30 Timeout Keep Alive

☐ ModBus RTU RS232/485

RS232 Connection

8-P-1 Baud rate

9600 Baud rate

none Parity

1 Slave #

Samsung (MIM-B13A/B04A RS485 Card)

Indoor Units	MIM	AC	Name
<input checked="" type="checkbox"/> IU-1	0	0	Test Unit
<input type="checkbox"/> IU-2	0	1	
<input type="checkbox"/> IU-3	0	2	
<input type="checkbox"/> IU-4	0	3	
<input type="checkbox"/> IU-5	0	4	
<input type="checkbox"/> IU-6	0	5	
<input type="checkbox"/> IU-7	0	6	
<input type="checkbox"/> IU-8	0	7	
<input type="checkbox"/> IU-9	0	8	
<input type="checkbox"/> IU-10	0	9	
<input type="checkbox"/> IU-11	0	10	
<input type="checkbox"/> IU-12	0	11	
<input type="checkbox"/> IU-13	0	12	
<input type="checkbox"/> IU-14	0	13	
<input type="checkbox"/> IU-15	0	14	

MIM AC

0 0

Name

Test Unit

Advanced adjustments

30 Initial tracking time (sec)

20 Time waiting valid read after a write (sec)

100 Delay between Tx (milisec)

10 Maximum number of writes at once

10 Polling cycles per tracking

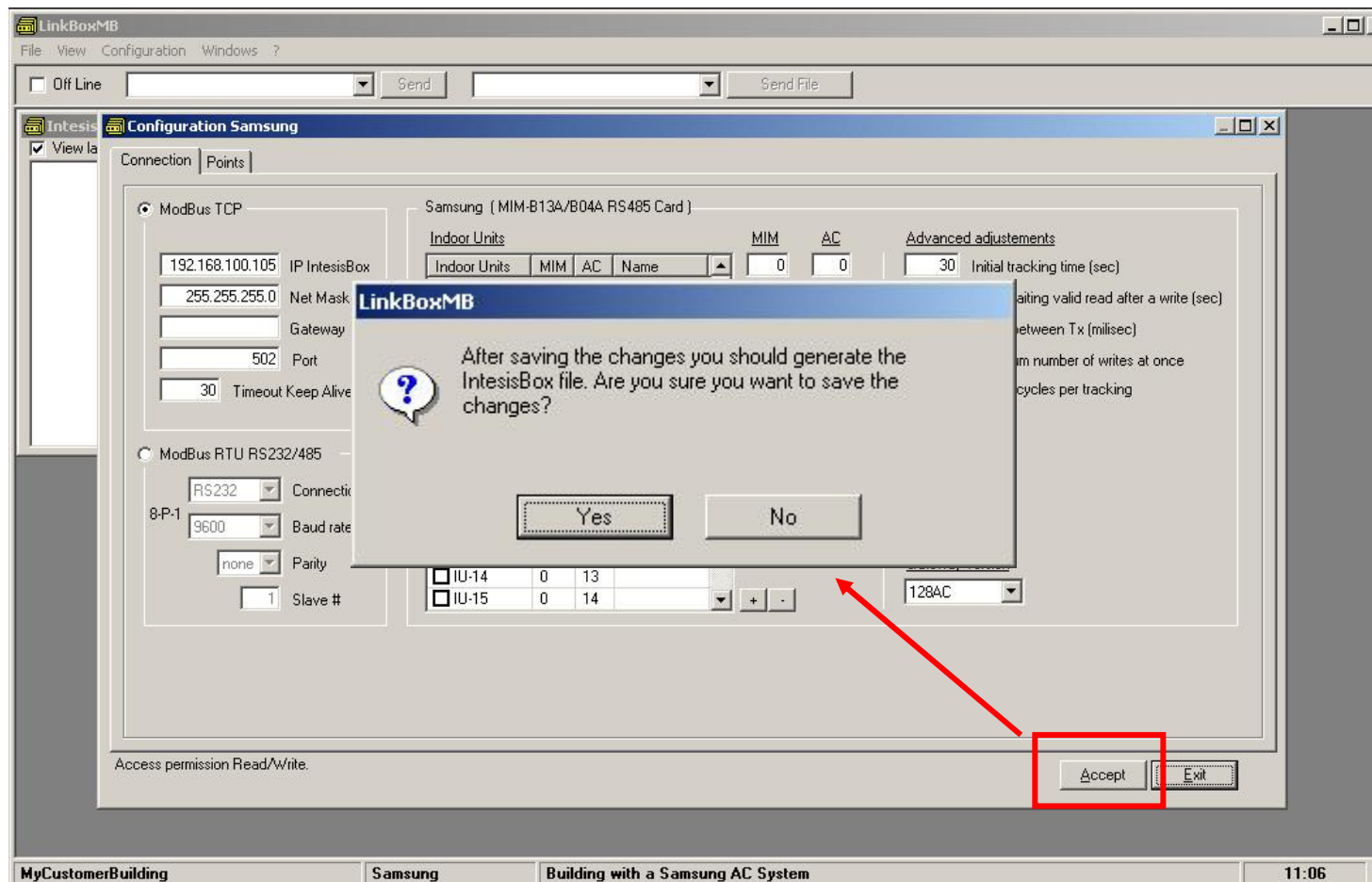
Gateway version

128AC

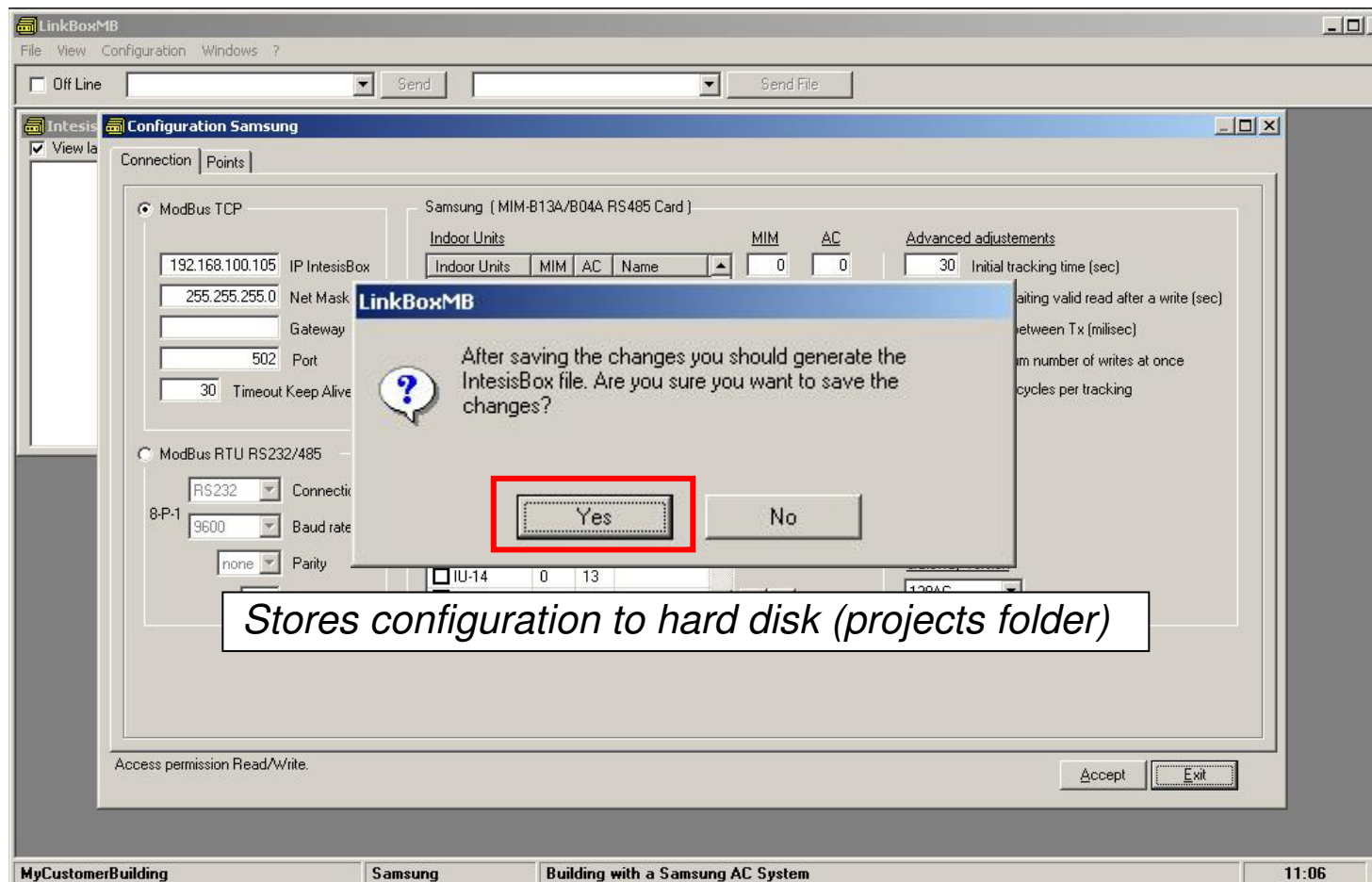
Access permission Read/Write.

MyCustomerBuilding Samsung Building with a Samsung AC System 11:06

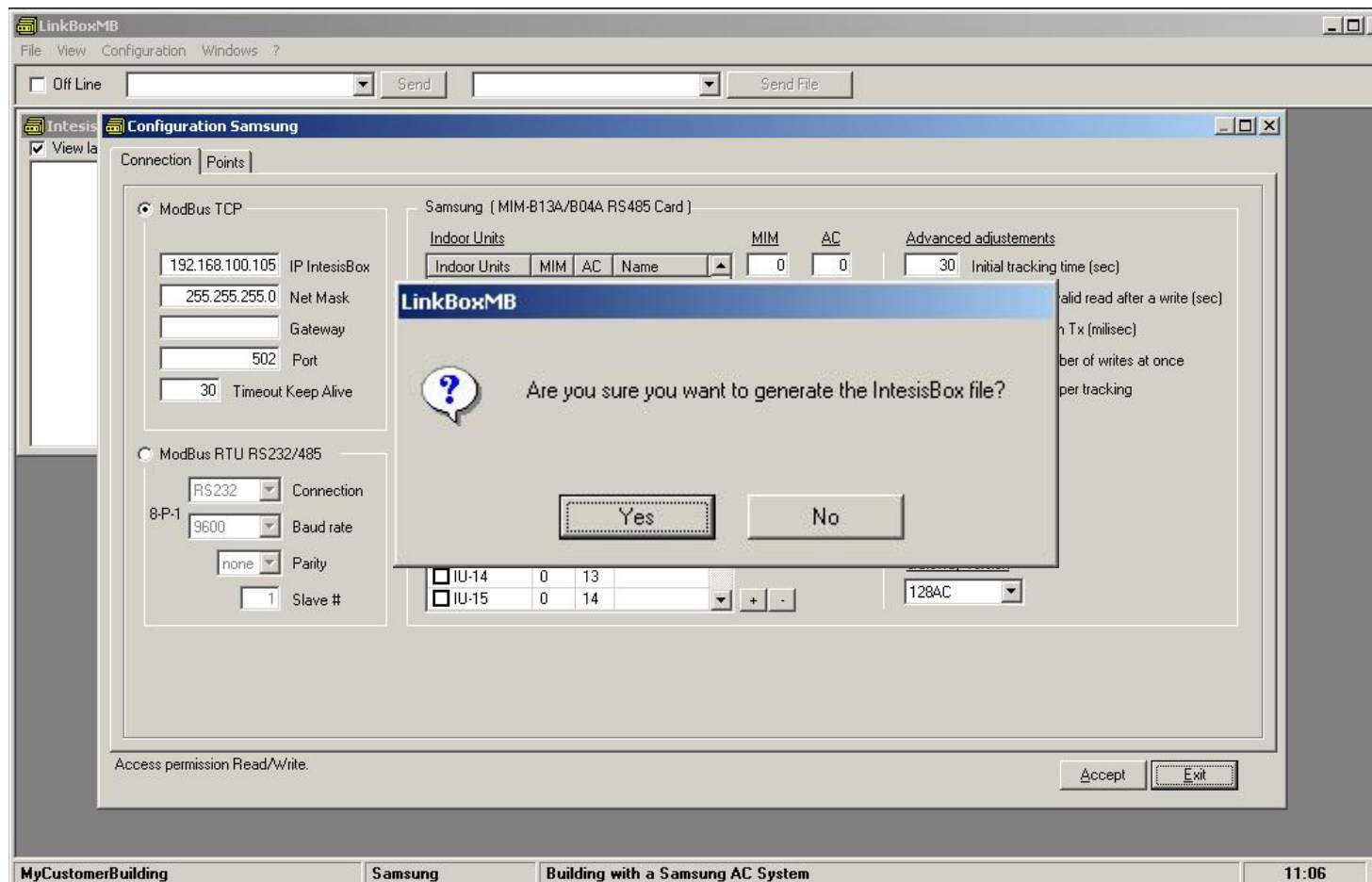
Saving the configuration...



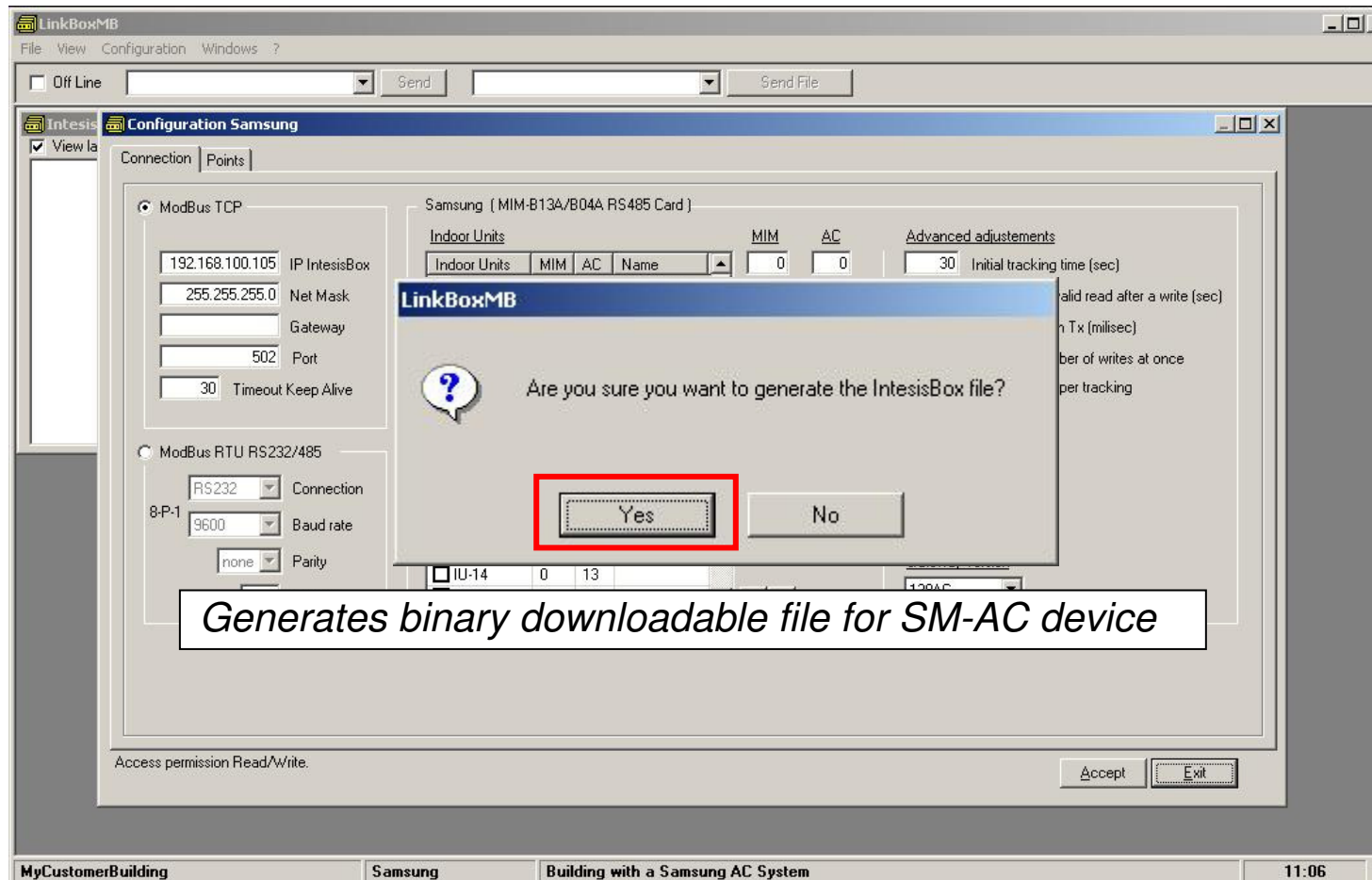
Saving the configuration...



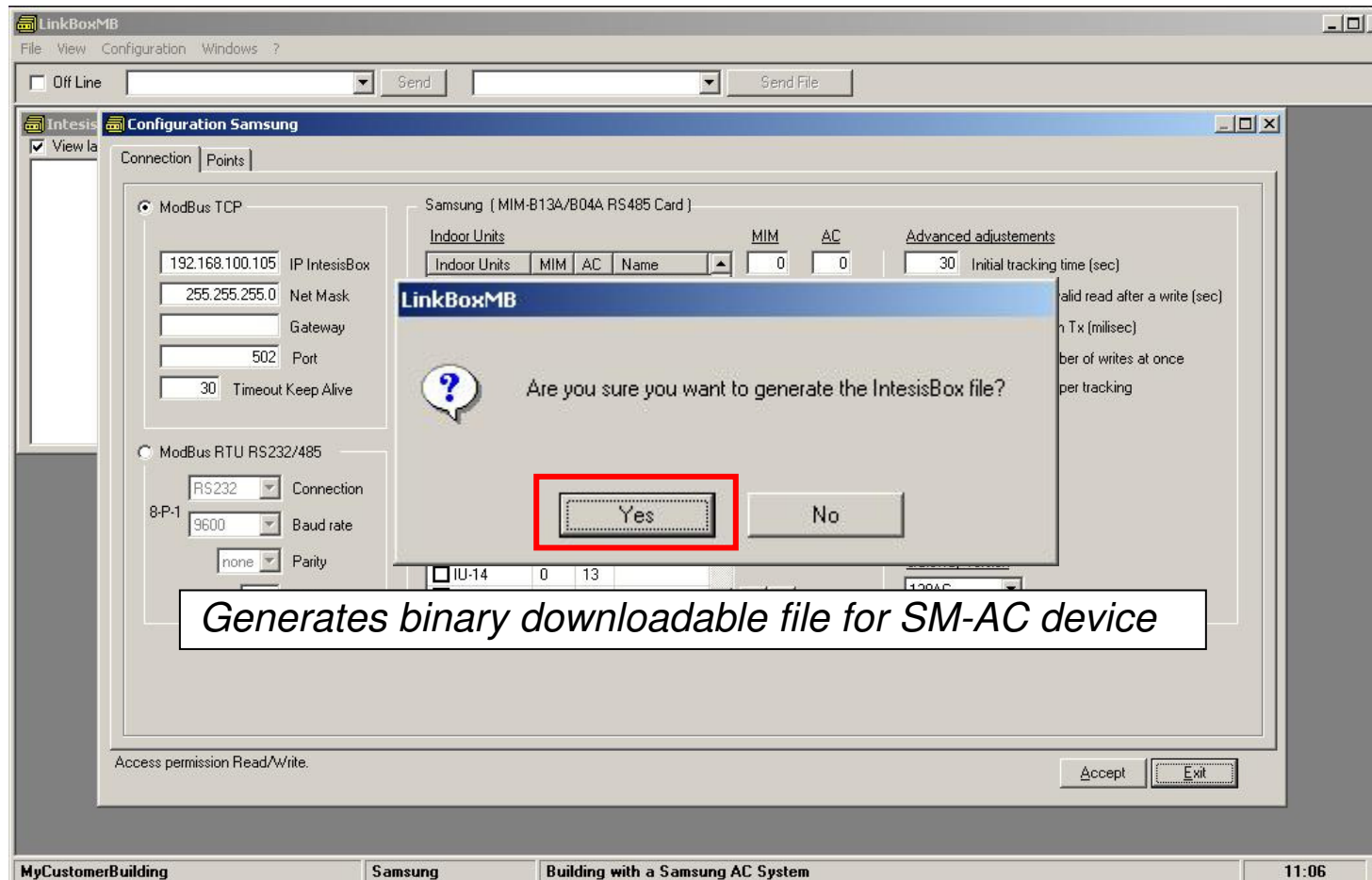
Saving the configuration...



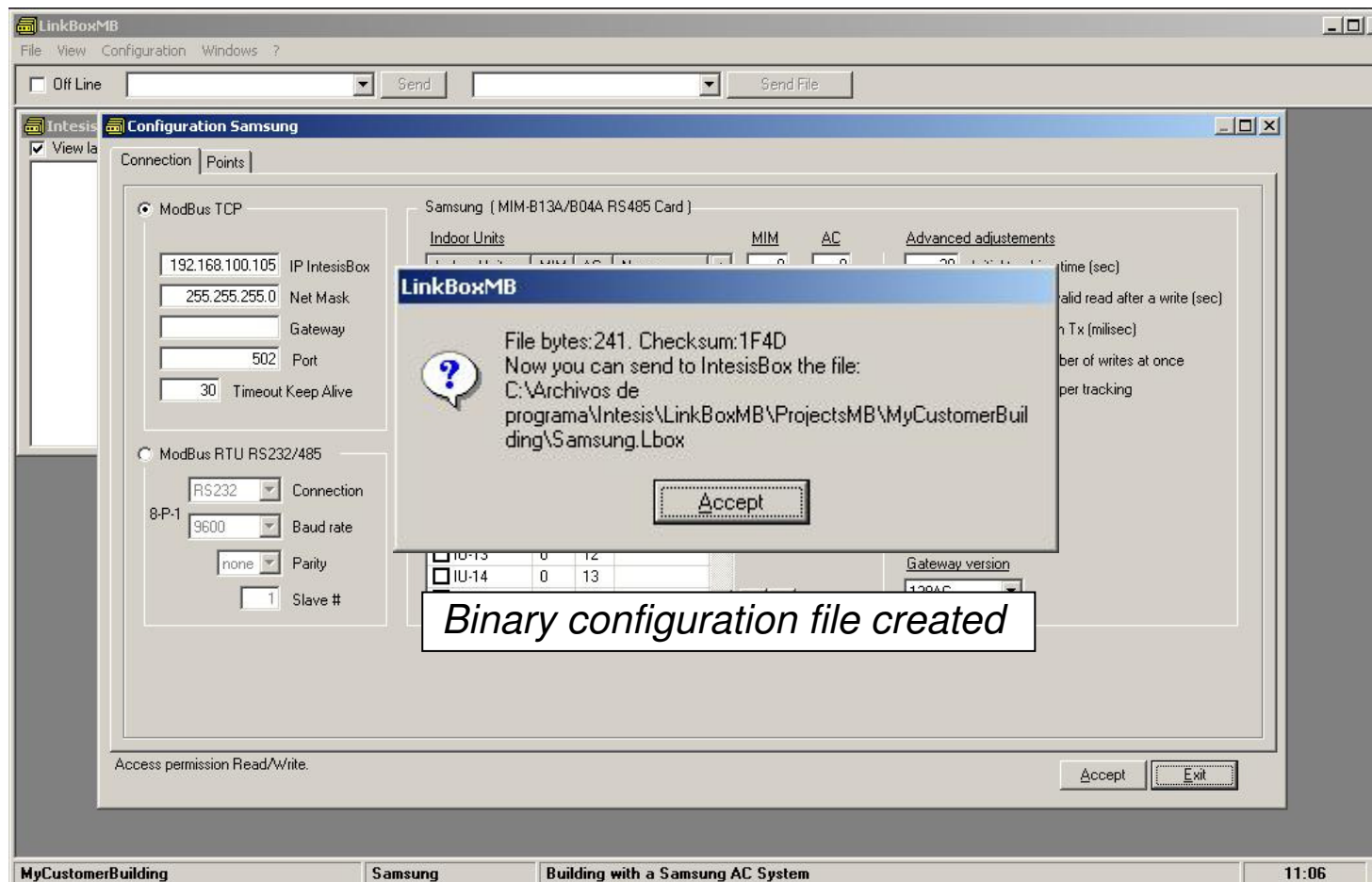
Saving the configuration...



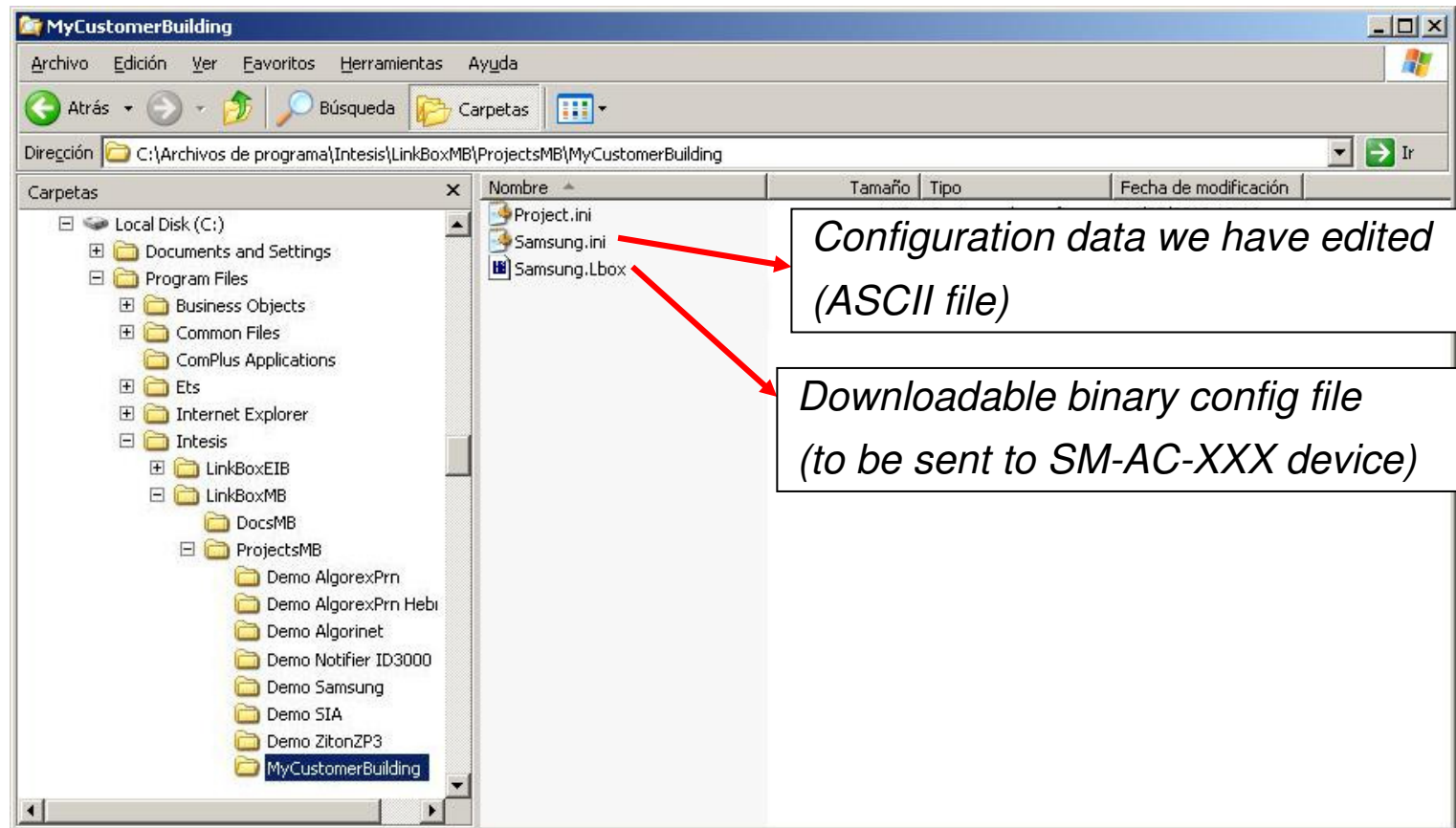
Saving the configuration...



Saving the configuration...

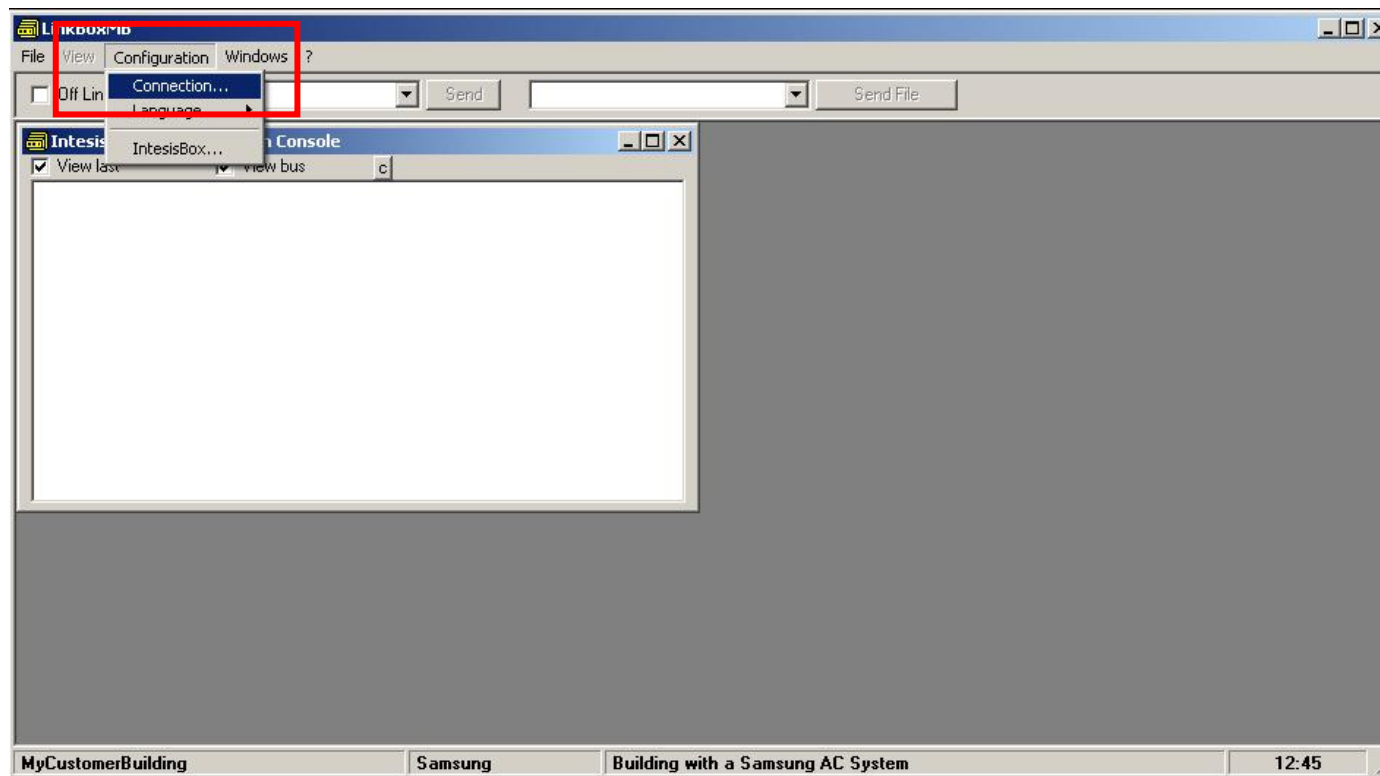


Generated files in the filesystem...



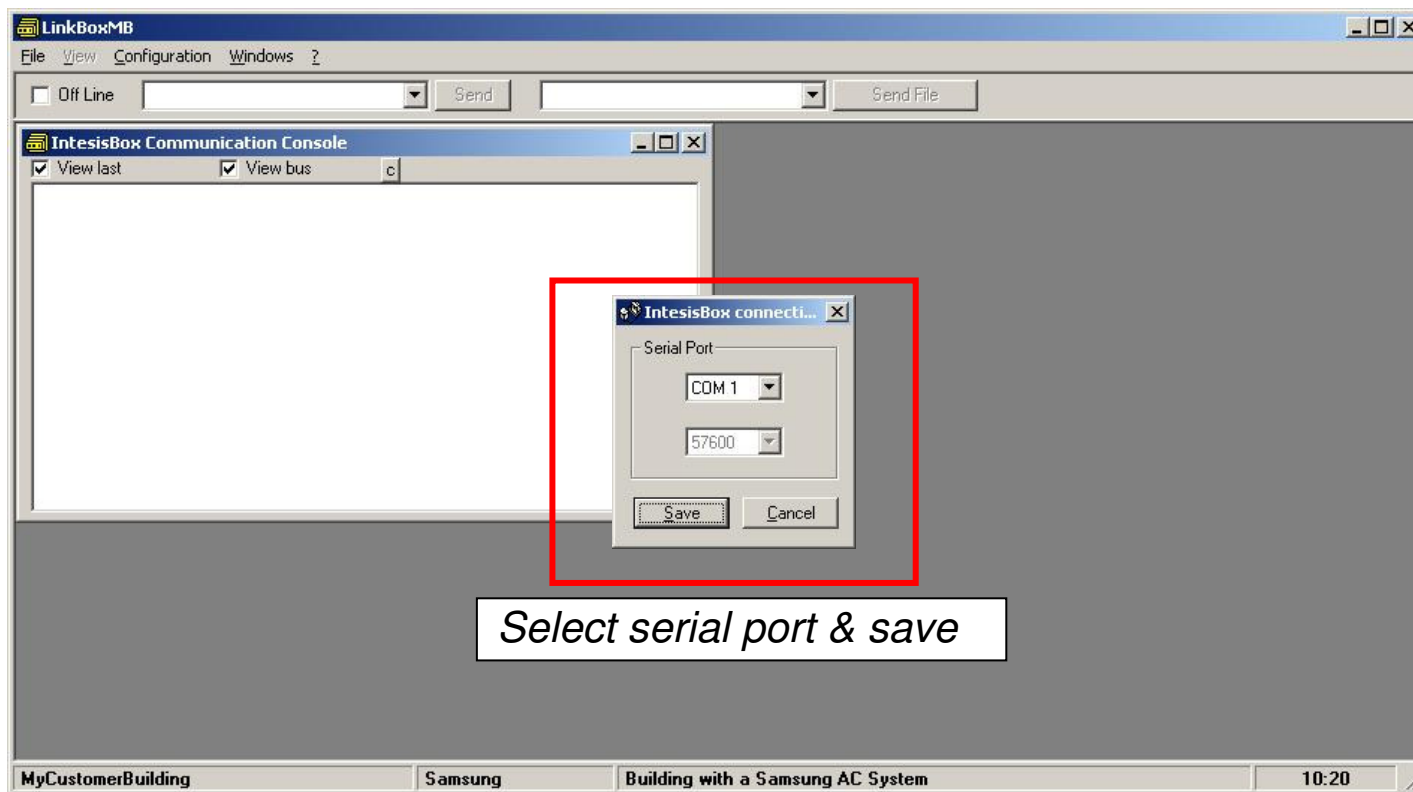
Connecting to SM-AC-XXX device

Serial port setup...



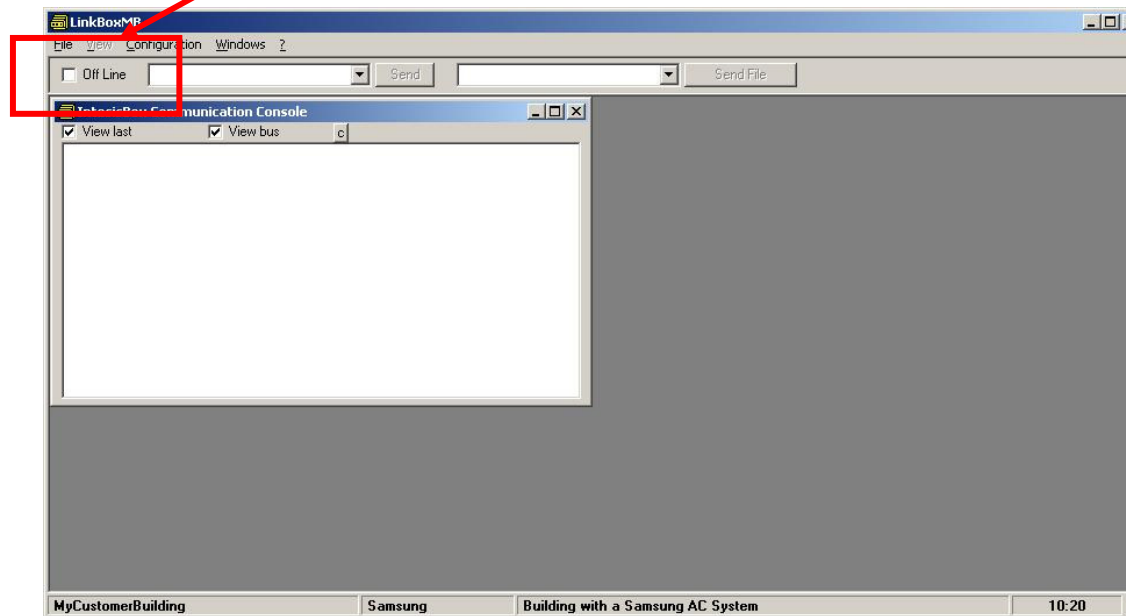
Connecting to SM-AC-XXX device

Serial port setup...



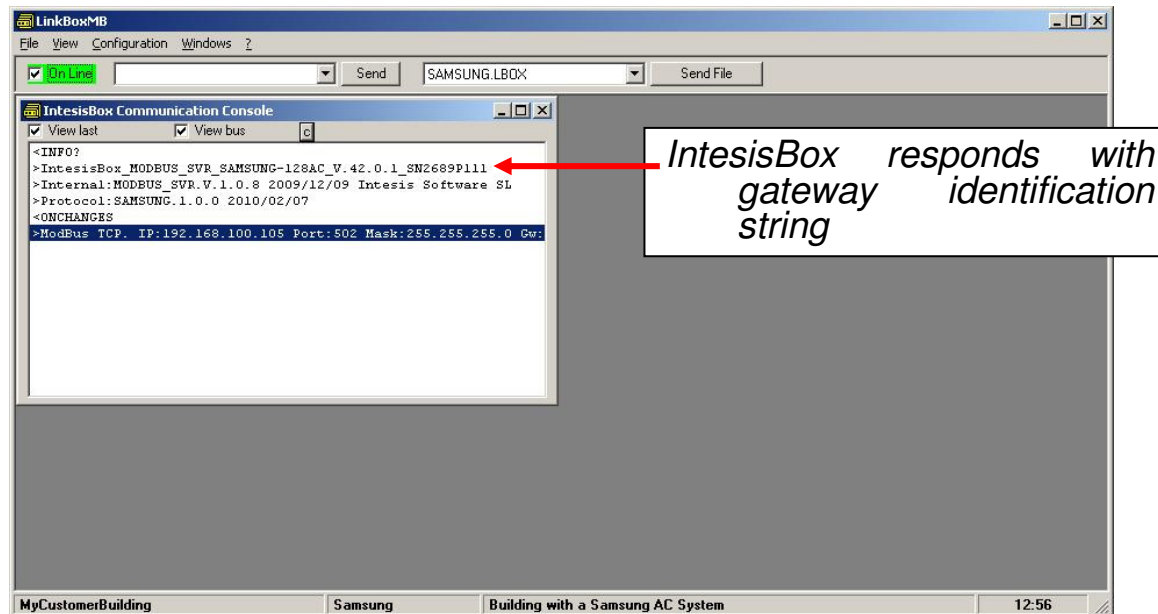
Connecting to SM-AC-XXX device

- *Ensure SM-AC-XXX is powered and connected to PC with the serial cable*
- *Change from “Offline” to “Online”*



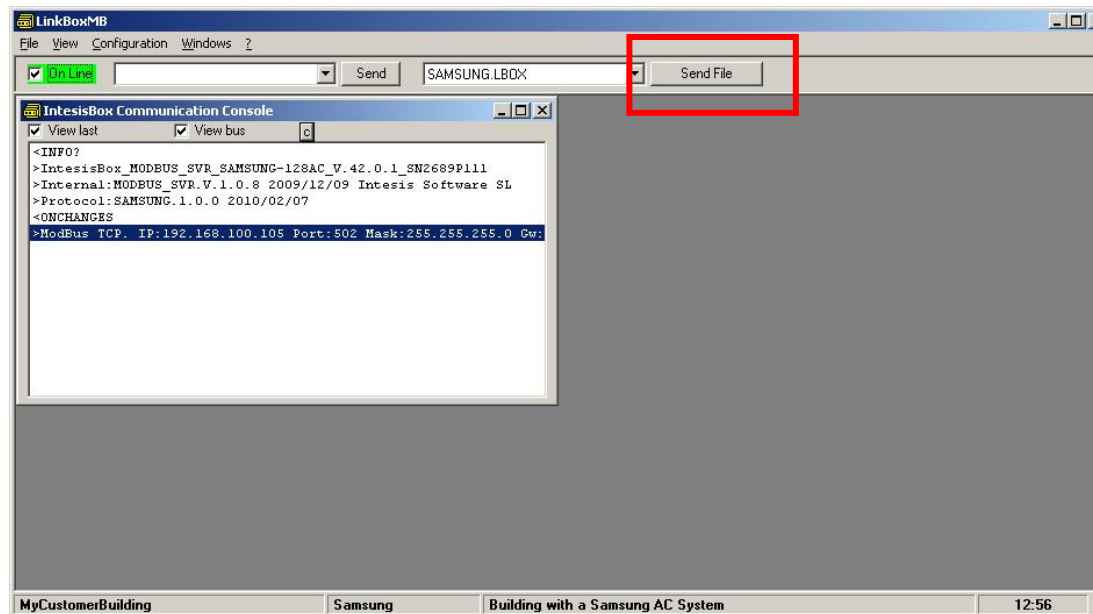
Connecting to SM-AC-XXX device

- *Ensure SM-AC-XXX is powered and connected to PC with the serial cable*
- *Change from “Offline” to “Online”*



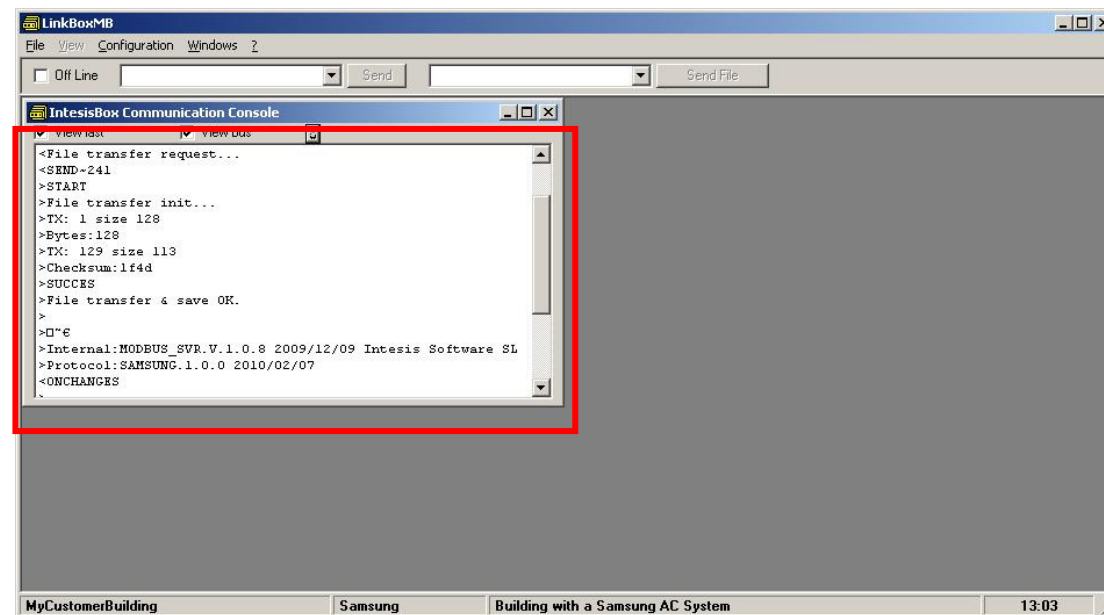
Downloading binary configuration to SM-AC-XXX

- *Once “Online”, press button “Send File”*
- *Communication Console informs on the download process*
- *Then restarts with the new configuration*



Downloading binary configuration to SM-AC-XXX

- *Once “Online”, press button “Send File”*
- *Communication Console informs on the download process*
- *Then it will restart with the new configuration*



Monitoring of R1/R2 tracking phase & status

```

LinkBoxMB
File View Configuration Windows ?
[On Line] [Send] SAMSUNG.LBOX

IntesisBox Communication Console
[View last] [View bus] [3]

>>>>>>> *** Configured mim[0] is not present
>>>>>>> *** Configured mim[0] is not present
>>>>>>> *** Configured mim[0] is not present
>MVA00001=0
>MVA01794=1
>>>>>>> *** Configured mim[0] present but not ready
>>>>>>> *** Configured mim[0] present but not ready
>>>>>>> *** Configured mim[0] present but not ready
>>>>>>> *** Configured mim[0] present but not ready
>>>>>>> *** Configured mim[0] present but not ready
>>>>>>> *** Configured mim[0] present and ready
>MVA01795=1
>MVA01939=1
>MVA00002=1
>MVA00003=1
>MVA01940=1
    
```

(configured) Interface module not detected

- Msg shown periodically

(configured) Interface module detected, but still not ready

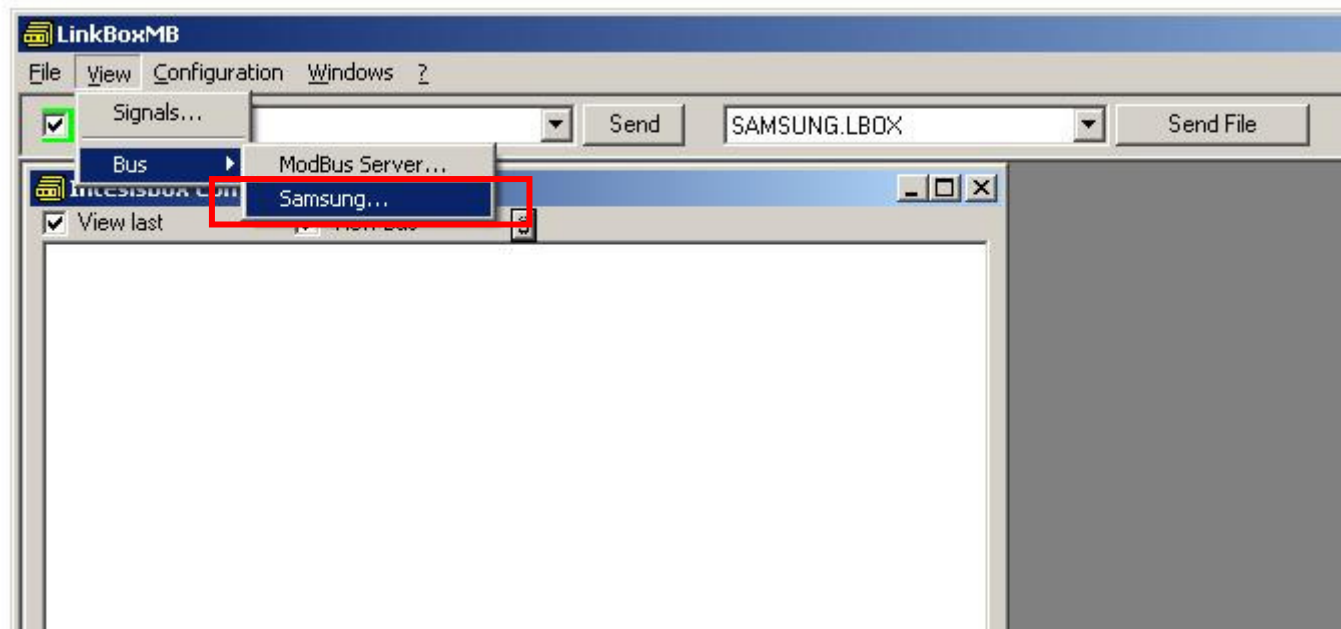
- Scanning F1/F2 network, or F1/F2 network down
- Msg shown periodically

Interface module detected and ready

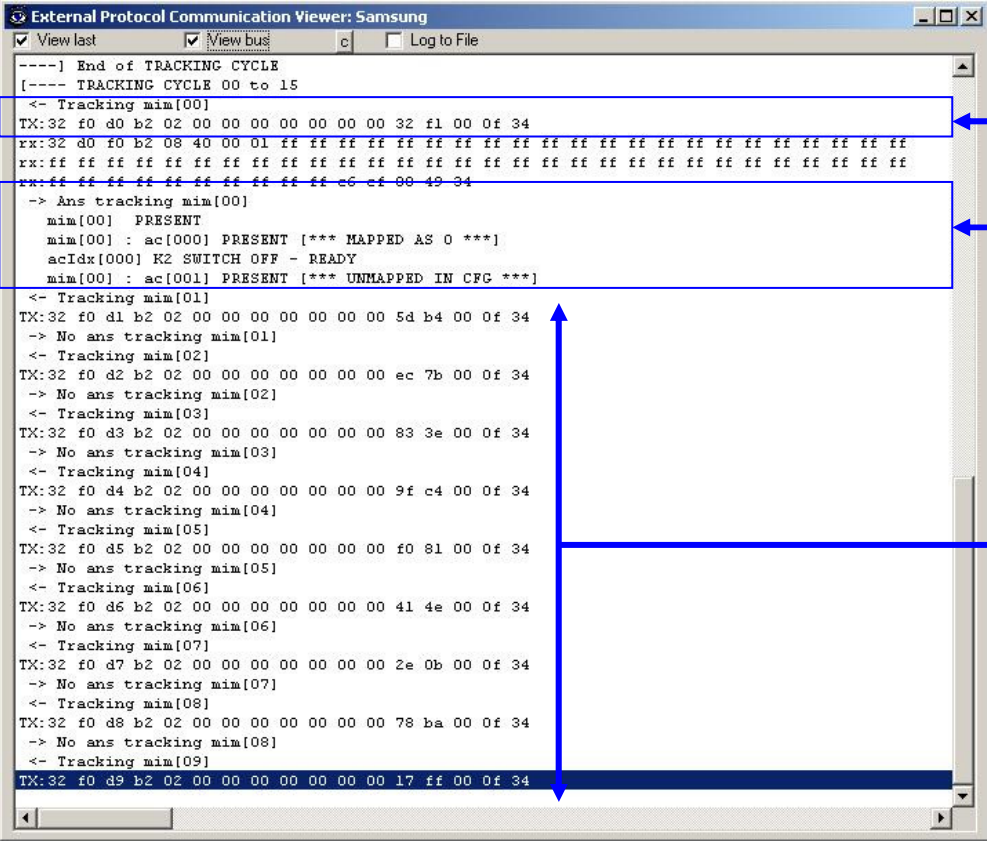
- Now starts monitoring status of AC units under this Interface Module

Monitoring of R1/R2 tracking phase & status

Using R1/R2 bus viewer...



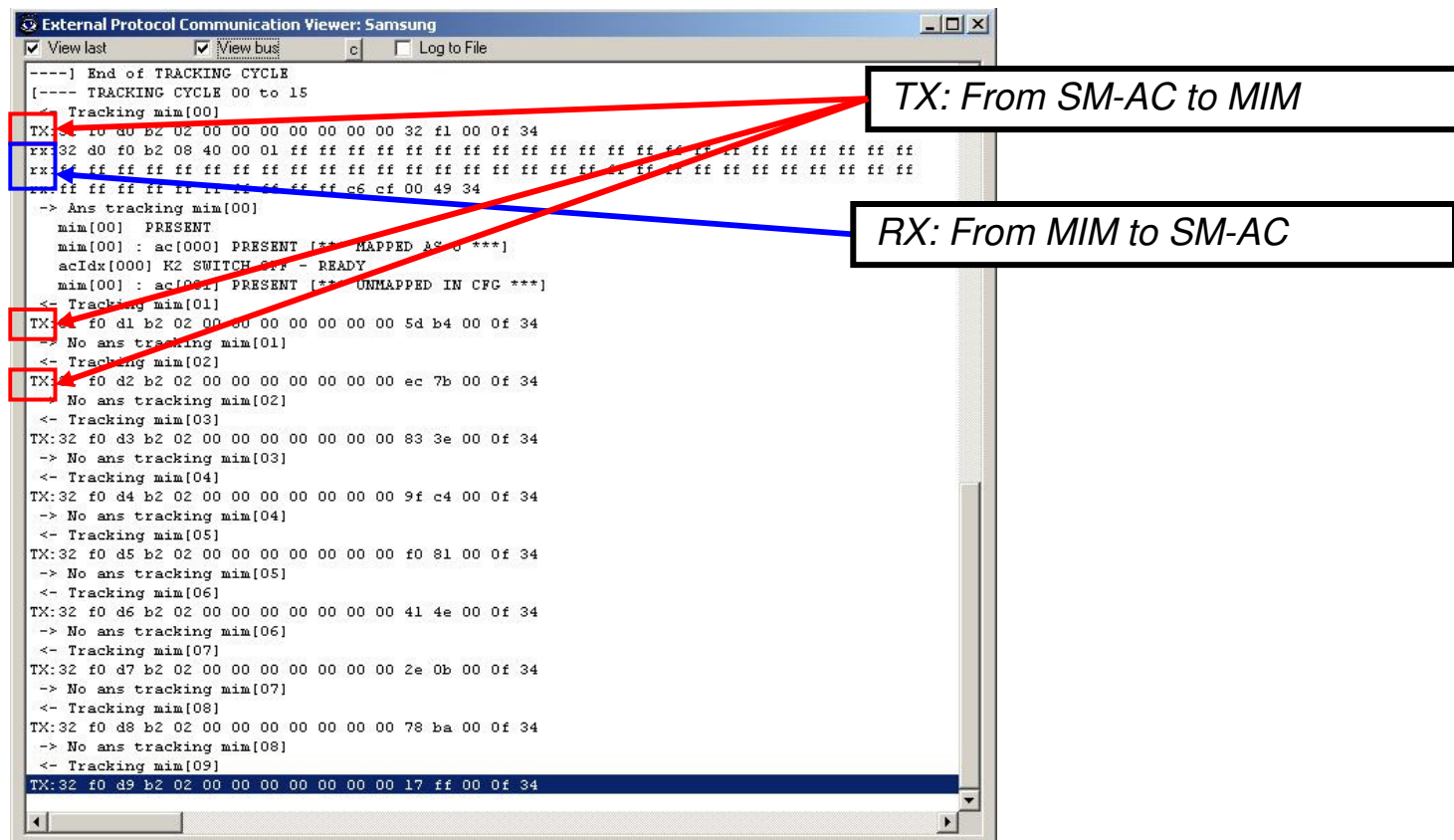
Using R1/R2 bus viewer...



Tracking answer from MIM addr 0

- 30s during startup or when communication error is detected

Using the R1/R2 bus viewer...



Monitoring of R1/R2 tracking phase & status

Using the R1/R2 bus viewer...

The screenshot displays the 'External Protocol Communication Viewer: Samsung' interface. The log window shows the following data:

```

----] End of TRACKING CYCLE
[---- TRACKING CYCLE 00 to 15
<- Tracking mim[00]
TX:32 f0 d0 b2 02 00 00 00 00 00 00 32 f1 00 04 34
rx:32 d0 f0 b2 08 40 00 01 ff ff ff ff ff ff ff ff ff ff
rx:ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
rx:ff ff ff ff ff ff ff ff ff ff c6 cf 00 49 34
-> Ans tracking mim[00]
mim[00] PRESENT
mim[00] : ac[000] PRESENT [*** MAPPED AS 0 ***]
acIdx[000] K2 SWITCH OFF - READY
mim[00] : ac[001] PRESENT [*** UNMAPPED IN CFG ***]
<- Tracking mim[01]
TX:32 f0 d1 b2 02 00 00 00 00 00 00 5d b4 00 0f 34
-> No ans tracking mim[01]
  
```

Annotations with blue arrows point to specific fields:

- Interface Module Address (0..15)**: Points to the 'View bus' checkbox.
- Indoor Unit Main Address (0..63)**: Points to the 'ac[000]' field in the log.
- Indoor Unit index in config (0..127)**: Points to the 'IU-1' checkbox in the 'Indoor Units' table.

The 'Indoor Units' configuration window shows the following table:

Indoor Units	MIM	AC	Name
<input checked="" type="checkbox"/> IU-1	0	0	Test Unit
<input type="checkbox"/> IU-2	0	1	
<input type="checkbox"/> IU-3	0	2	

Additional controls on the right include 'MIM' and 'AC' dropdowns (both set to 0), and a 'Name' field containing 'Test Unit'.

Using the R1/R2 bus viewer...

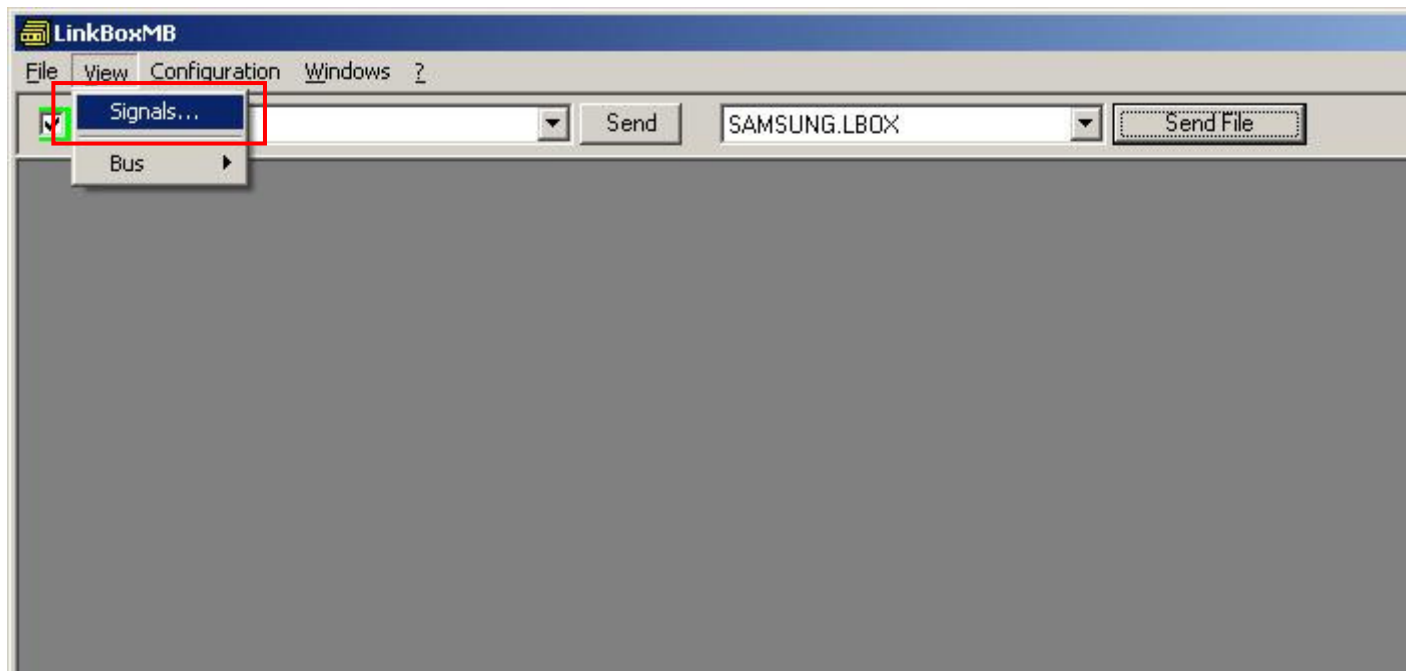
The screenshot displays the 'External Protocol Communication Viewer' window from Samsung. The interface includes tabs for 'View last' and 'View bus', and a 'Log to File' checkbox. The main area shows a log of CAN bus messages:

- [----- STATE POLLING CYCLE OF ACTIVE MIMs]**
- <- Polling state mim[00]**
- TX:32 f0 d0 b5 ff ff ff ff ff ff 20 10 a3 c5 00 0f 34**
- RX:32 d0 f0 b5 00 02 00 49 4f 3d 3e fd 68 00 00 95 e0 01 49 4f 3d 3e fd 70 01 00 95 e0 01 00**
- RX:10 00 00 00 47 55 bc 2b 54 31 49 00 00 00 00 00 00 dl 2f 00 33 34**
- > Ans state mim[00]**
- End of POLLING CYCLE**
- [----- STATE POLLING CYCLE OF ACTIVE MIMs]**
- <- Polling state mim[00]**
- TX:32 f0 d0 b5 ff ff ff ff ff ff 20 10 a3 c5 00 0f 34**
- RX:32 d0 f0 b5 00 02 00 49 4f 3d 3e fd 68 00 00 95 e0 01 49 4f 3d 3e fd 70 01 00 95 e0 01 00**
- RX:10 00 00 00 47 55 bc 2b 54 31 49 00 00 00 00 00 00 dl 2f 00 33 34**
- > Ans state mim[00]**
- End of POLLING CYCLE**
- [----- STATE POLLING CYCLE OF ACTIVE MIMs]**
- <- Polling state mim[00]**
- TX:32 f0 d0 b5 ff ff ff ff ff ff 20 10 a3 c5 00 0f 34**
- RX:32 d0 f0 b5 00 02 00 49 4f 3d 3e fd 68 00 00 95 e0 01 49 4f 3d 3e fd 70 01 00 95 e0 01 00**
- RX:10 00 00 00 47 55 bc 2b 54 31 49 00 00 00 00 00 00 dl 2f 00 33 34**
- > Ans state mim[00]**
- End of POLLING CYCLE**
- [----- STATE POLLING CYCLE OF ACTIVE MIMs]**
- <- Polling state mim[00]**
- TX:32 f0 d0 b5 ff ff ff ff ff ff 20 10 a3 c5 00 0f 34**
- RX:32 d0 f0 b5 00 02 00 49 4f 3d 3e fd 68 00 00 95 e0 01 49 4f 3d 3e fd 70 01 00 95 e0 01 00**
- RX:10 00 00 00 47 55 bc 2b 54 31 49 00 00 00 00 00 00 dl 2f 00 33 34**
- > Ans state mim[00]**
- End of POLLING CYCLE**
- [----- STATE POLLING CYCLE OF ACTIVE MIMs]**
- <- Polling state mim[00]**
- TX:32 f0 d0 b5 ff ff ff ff ff ff 20 10 a3 c5 00 0f 34**

Continuous polling of
AC unit status under
the configured (and
online) Interface
Modules

AC Signals viewer

Used for monitoring & control of AC signals values at setup time



(application needs to be in the "Online" status)

AC Signals viewer

Used for monitoring & control of AC signals values at setup time

The screenshot shows the IntesisBoxMB software interface. The main window is titled "Signals Viewer" and displays a table of signals. The table has columns for #, ID, Signal, RW, Point, Value, and Values description. The signals are listed in a table with 20 rows. The 17th row is highlighted in blue, showing "MIM 0" with the signal "MIM Present" and a value of 0. The 18th row is highlighted in yellow, showing "MIM 0" with the signal "MIM Ready" and a value of 0. The 19th row is highlighted in light blue, showing "MIM 0" with the signal "Outdoor unit Compressor status" and a value of 0. The 20th row is highlighted in light blue, showing "MIM 0" with the signal "Outdoor unit Discharge temperature" and a value of 0. The status bar at the bottom shows "MyCustomerBuilding", "Samsung", "Building with a Samsung AC System", and the time "16:27".

#	ID	Signal	RW	Point	Value	Values description
1		Communication error	R	1	0	0-No error, 1-Error
2		Doing tracking	R	1938	0	0-Polling, 1-Tracking
3	MIM 00 - AC 00 - IU 1 Test Unit	Present	R	2	0	0-Not present, 1-Present
4	MIM 00 - AC 00 - IU 1 Test Unit	K2 Switch Off	R	3	0	0-K2 On, 1-K2 Off (READY)
5	MIM 00 - AC 00 - IU 1 Test Unit	On/Off	RW	4	0	0-Off, 1-On
6	MIM 00 - AC 00 - IU 1 Test Unit	Mode	RW	5	0	0-Cool, 1-Heat, 2-Dry, 3-Fan
7	MIM 00 - AC 00 - IU 1 Test Unit	Mode when Auto	R	6	0	0-Auto cooling, 1-Auto heat
8	MIM 00 - AC 00 - IU 1 Test Unit	Setpoint temperature	RW	7	0	Celsius value, 16 to 30
9	MIM 00 - AC 00 - IU 1 Test Unit	Ambient temperature	R	8	0	Celsius value -55 to 200
10	MIM 00 - AC 00 - IU 1 Test Unit	Fan direction	RW	9	0	0-Stop, 1-Up/Down, 2-Left/Right
11	MIM 00 - AC 00 - IU 1 Test Unit	Fan speed	RW	10	0	0-Auto, 1-Low, 2-Middle, 3-High
12	MIM 00 - AC 00 - IU 1 Test Unit	Remote Control	RW	11	0	0-Enabled, 1-Disabled
13	MIM 00 - AC 00 - IU 1 Test Unit	Filter alarm	R	12	0	0-Normal, 1-Alarm
14	MIM 00 - AC 00 - IU 1 Test Unit	Error code	R	13	0	0-No error, X-Error (100 to 999)
15	MIM 00 - AC 00 - IU 1 Test Unit	Filter reset	RW	14	0	1-Filter reset
16	MIM 00 - AC 00 - IU 1 Test Unit	Last command execution	RW	15	0	0-Ok, 1-Fail
17	MIM 0	MIM Present	R	1794	0	0-Not present, 1-Present
18	MIM 0	MIM Ready	R	1795	0	0-Not ready, 1-Ready
19	MIM 0	Outdoor unit Compressor status	R	1796	0	0-Off, 1-On
20	MIM 0	Outdoor unit Discharge temperature	R	1797	0	Celsius value -55 to 200

Signal's machine/panel/device number.

Update Close

MyCustomerBuilding Samsung Building with a Samsung AC System 16:27

AC Signals viewer

Used for monitoring & control of AC signals values at setup time

The screenshot shows the LinkBoxMB interface with the Signals Viewer window open. The window displays a table of signals with columns for ID, Signal, RW, Point, Value, and Values description. The 'Update' button is highlighted with a red box, and a callout box points to it with the text: "Need to click update to get current values for AC parameters".

#	ID	Signal	RW	Point	Value	Values description
1		Communication error	R	1	0	0-No error, 1-Error
2		Doing tracking	R	1938	0	0-Polling, 1-Tracking
3	MIM 00 - AC 00 - IU 1 Test Unit	Present	R	2	0	0-Not present, 1-Present
4	MIM 00 - AC 00 - IU 1 Test Unit	K2 Switch Off	R	3	0	0-K2 On, 1-K2 Off (READY)
5	MIM 00 - AC 00 - IU 1 Test Unit	On/Off	RW	4	0	0-Off, 1-On
6	MIM 00 - AC 00 - IU 1 Test Unit	Mode	RW	5	0	0-Cool, 1-Heat, 2-Dry, 3-Fan
7	MIM 00 - AC 00 - IU 1 Test Unit	Mode when Auto	R	6	0	0-Auto cooling, 1-Auto heat
8	MIM 00 - AC 00 - IU 1 Test Unit	Setpoint temperature	RW	7	0	Celsius value, 16 to 30
9	MIM 00 - AC 00 - IU 1 Test Unit	Ambient temperature	R	8	0	Celsius value -55 to 200
10	MIM 00 - AC 00 - IU 1 Test Unit	Fan direction	RW	9	0	0-Stop, 1-Up/Down, 2-Left/Right
11	MIM 00 - AC 00 - IU 1 Test Unit	Fan speed	RW	10	0	0-Auto, 1-Low, 2-Medium, 3-High
12	MIM 00 - AC 00 - IU 1 Test Unit	Remote Control	RW	11	0	0-Enabled, 1-Disabled
13	MIM 00 - AC 00 - IU 1 Test Unit	Filter alarm	R	12	0	0-Normal, 1-Alarm
14	MIM 00 - AC 00 - IU 1 Test Unit	Error code	R	13	0	0-No error, X-Error
15	MIM 00 - AC 00 - IU 1 Test Unit	Filter reset	RW	14	0	1-Filter reset
16	MIM 00 - AC 00 - IU 1 Test Unit	Last command execution	RW	15	0	0-Ok, 1-Fail
17	MIM 0	MIM Present	R	1794	0	0-Not present, 1-Present
18	MIM 0	MIM Ready	R	1795	0	0-Not ready, 1-Ready
19	MIM 0	Outdoor unit Compressor status	R	1796	0	0-Off, 1-On
20	MIM 0	Outdoor unit Discharge temperature	R	1797	0	Celsius value -55 to 200

Signal's machine/panel/device number.

Update Close

MyCustomerBuilding Samsung Building with a Samsung AC System 16:27

AC Signals viewer

Used for monitoring & control of AC signals values at setup time

Signals Viewer

Signals

#	ID	Signal	R/W	Point	Value	Values description
1		Communication error	R	1	0	0-No error, 1-Error
2		Doing tracking	R	1938	0	0-Polling, 1-Tracking
3	MIM 00 - AC 00 - IU 1 Test Unit	Present	R	2	1	0-Not present, 1-Present
4	MIM 00 - AC 00 - IU 1 Test Unit	K2 Switch Off	R	3	1	0-K2 On, 1-K2 Off (READY)
5	MIM 00 - AC 00 - IU 1 Test Unit	On/Off	R/W	4	1	0-Off, 1-On
6	MIM 00 - AC 00 - IU 1 Test Unit	Mode	R/W	5	2	0-Cool, 1-Heat, 2-Dry, 3-Fan, 4-Auto
7	MIM 00 - AC 00 - IU 1 Test Unit	Mode when Auto	R	6	0	0-Auto cooling, 1-Auto heating
8	MIM 00 - AC 00 - IU 1 Test Unit	Setpoint temperature	R/W	7	18	Celsius value, 16 to 30
9	MIM 00 - AC 00 - IU 1 Test Unit	Ambient temperature	R	8	24	Celsius value -55 to 200
10	MIM 00 - AC 00 - IU 1 Test Unit	Fan direction	R/W	9	0	0-Stop, 1-Up/Down, 2-Left/Right, 3-Both
11	MIM 00 - AC 00 - IU 1 Test Unit	Fan speed	R/W	10	3	0-Auto, 1-Low, 2-Middle, 3-High
12	MIM 00 - AC 00 - IU 1 Test Unit	Remote Control	R/W	11	0	0-Enabled, 1-Disabled
13	MIM 00 - AC 00 - IU 1 Test Unit	Filter alarm	R	12	0	0-Normal, 1-Alarm
14	MIM 00 - AC 00 - IU 1 Test Unit	Error code	R	13	0	0-No error, X-Error (100 to 999)
15	MIM 00 - AC 00 - IU 1 Test Unit	Filter reset	R/W	14	0	1-Filter reset
16	MIM 00 - AC 00 - IU 1 Test Unit	Last command execution	R/W	15	0	0-Ok, 1-Fail
17	MIM 0	MIM Present	R	1794	1	0-Not present, 1-Present
18	MIM 0	MIM Ready	R	1795	1	0-Not ready, 1-Ready
19	MIM 0	Outdoor unit Compressor status	R	1796	0	0-Off, 1-On
20	MIM 0	Outdoor unit Discharge temperature	R	1797	71	Celsius value -55 to 200
21	MIM 0	Outdoor unit CondOut temperature	R	1798	30	Celsius value -55 to 200

Signal's machine/panel/device number.

Update Close

Actual value of signals

Possible values for each
signal

AC Signals viewer

Used for monitoring & control of AC signals values at setup time

Signals Viewer

Signals

#	ID	Signal	RW	Point	Value	Values description
1		Communication error	R	1	0	0-No error, 1-Error
2		Doing tracking	R	1938	0	0-Polling, 1-Tracking
3	MIM 00 - AC 00 - IU 1 Test Unit	Present	R	2	1	0-Not present, 1-Present
4	MIM 00 - AC 00 - IU 1 Test Unit	K2 Switch Off	R	3	1	0-K2 On, 1-K2 Off
5	MIM 00 - AC 00 - IU 1 Test Unit	On/Off	RW	4	1	0-Off, 1-On
6	MIM 00 - AC 00 - IU 1 Test Unit	Mode	RW	5	2	0-Cool, 1-Heat, 2-Auto
7	MIM 00 - AC 00 - IU 1 Test Unit	Mode when Auto	R	6	0	0-Auto, 1-Off
8	MIM 00 - AC 00 - IU 1 Test Unit	Setpoint temperature	RW	7	18	Celsius value, 16 to 30
9	MIM 00 - AC 00 - IU 1 Test Unit	Ambient temperature	R	8	24	Celsius value -55 to 200
10	MIM 00 - AC 00 - IU 1 Test Unit	Fan direction	RW	9	0	0-Stop, 1-Up/Down, 2-Left/Right, 3-Both
11	MIM 00 - AC 00 - IU 1 Test Unit	Fan speed	RW	10	3	0-Auto, 1-Low, 2-Middle, 3-High
12	MIM 00 - AC 00 - IU 1 Test Unit	Remote Control	RW	11	0	0-Enabled, 1-Disabled
13	MIM 00 - AC 00 - IU 1 Test Unit	Filter alarm	R	12	0	0-Normal, 1-Alarm
14	MIM 00 - AC 00 - IU 1 Test Unit	Error code	R	13	0	0-No error, X-Error (100 to 999)
15	MIM 00 - AC 00 - IU 1 Test Unit	Filter reset	RW	14	0	1-Filter reset
16	MIM 00 - AC 00 - IU 1 Test Unit	Last command execution	RW	15	0	0-Ok, 1-Fail
17	MIM 0	MIM Present	R	1794	1	0-Not present, 1-Present
18	MIM 0	MIM Ready	R	1795	1	0-Not ready, 1-Ready
19	MIM 0	Outdoor unit Compressor status	R	1796	0	0-Off, 1-On
20	MIM 0	Outdoor unit Discharge temperature	R	1797	71	Celsius value -55 to 200
21	MIM 0	Outdoor unit CondOut temperature	R	1798	30	Celsius value -55 to 200

Signal's machine/panel/device number.

Update Close

Double-click value for changing it (only for write-enabled signals)

AC Signals viewer

Used for monitoring & control of AC signals values at setup time

Signals Viewer

#	ID	Signal	RW	Point	Value	Values description
1		Communication error	R	1	0	0-No error, 1-Error
2		Doing tracking	R	1938	0	0-Polling, 1-Tracking
3	MIM 00 - AC 00 - IU 1 Test Unit	Present	R	2	1	0-Not present, 1-Present
4	MIM 00 - AC 00 - IU 1 Test Unit	K2 Switch Off	R	3	1	0-K2 On, 1-K2 Off (READY)
5	MIM 00 - AC 00 - IU 1 Test Unit	On/Off	RW	4	1	0-Off, 1-On
6	MIM 00 - AC 00 - IU 1 Test Unit	Mode	RW	5	2	0-Cool, 1-Heat, 2-Dry, 3-Fan, 4-Auto
7	MIM 00 - AC 00 - IU 1 Test Unit				0	0
8	MIM 00 - AC 00 - IU 1 Test Unit				18	Ce
9	MIM 00 - AC 00 - IU 1 Test Unit				24	Ce
10	MIM 00 - AC 00 - IU 1 Test Unit				0	0-
11	MIM 00 - AC 00 - IU 1 Test Unit				3	0-Auto, 1-Low, 2-Middle, 3-High
12	MIM 00 - AC 00 - IU 1 Test Unit				0	0-Enabled, 1-Disabled
13	MIM 00 - AC 00 - IU 1 Test Unit				0	0-Normal, 1-Alarm
14	MIM 00 - AC 00 - IU 1 Test Unit	Error code	R	13	0	0-No error, X-Error (100 to 999)
15	MIM 00 - AC 00 - IU 1 Test Unit	Filter reset	RW	14	0	1-Filter reset
16	MIM 00 - AC 00 - IU 1 Test Unit	Last command execution	RW	15	0	0-Ok, 1-Fail
17	MIM 0	MIM Present	R	1794	1	0-Not present, 1-Present
18	MIM 0	MIM Ready	R	1795	1	0-Not ready, 1-Ready
19	MIM 0	Outdoor unit Compressor status	R	1796	0	0-Off, 1-On
20	MIM 0	Outdoor unit Discharge temperature	R	1797	71	Celsius value -55 to 200
21	MIM 0	Outdoor unit CondOut temperature	R	1798	30	Celsius value -55 to 200

Signal's machine/panel/device number.

On/Off

Test Data

1

Accept Cancel

Possible values for this signal

Update Close

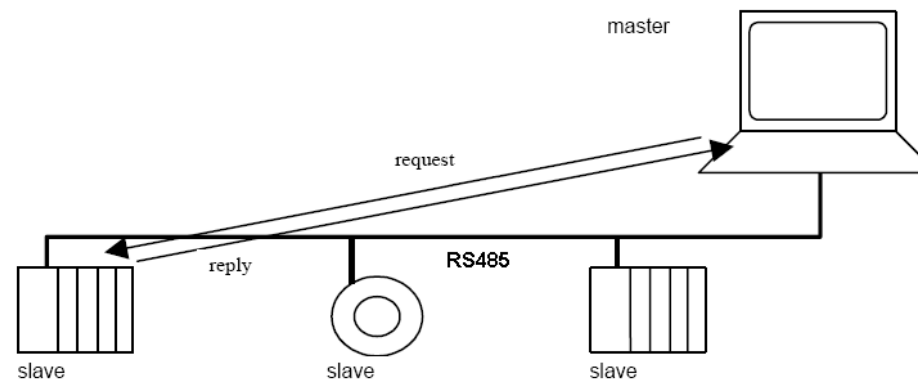
Introduction to Modbus

- Dated 1979 (company *modicon*)
- Currently an Open Protocol
 - Specification can be freely downloaded at www.modbus-ida.org
- Master/slave architecture
 - Master continuously polls slaves. Typically:
 - Masters will be the monitoring / controlling systems (PLCs, Supervisory applications, ...)
 - Slaves will be the systems under monitoring / control (SM-AC-MBS)
- Easy to implement on programmable systems (PLCs)

Introduction to Modbus

- Defined physical layers (*communication media*):
 - *Modbus RTU*: RS232 and RS485
 - *Modbus TCP*: (mainly) Ethernet/IP
 - (*Modbus ASCII*: RS232 and RS485) (rarely used)
- Main current usages:
 - Communication of *foreign* control systems, PLCs...
 - Centralized monitoring / control concepts

Supported by SM-AC-MBS



Modbus RTU

- Physical layer is a serial line: RS232 / RS485
 - Several baudrates: 2400, 4800, 9600, 19200, ...
 - 8 data bits, parity (even / odd / none), 1 or 2 stop bits
- Only 1 master is possible:
 - Up to 32 slaves in RS485
 - Must be wired in *bus* topology (no loops)
 - Only 1 slave in RS232 (point-to-point physical connection)
- Each slave in the network is identified by a *slave number* (1..254)

Configuration parameters in
LinkBoxMB for SM-AC-MBS

ModBus RTU RS232/485

8-P-1

Connection: RS232

Baud rate: 9600

Parity: none

Slave #: 1

Modbus TCP

- Physical layer is any IP channel
 - Most commonly used in building automation is Ethernet
- Several masters (clients) are possible in the same (IP) channel:
 - SM-AC-MBS supports up to 4 masters polling it
- Each slave (server) in the network is identified by its own IP, and Port on which they offer the Modbus TCP service. IP:port identifies the server

*Configuration parameters in
LinkBoxMB for SM-AC-MBS*

ModBus TCP

192.168.100.105	IP IntesisBox
255.255.255.0	Net Mask
	Gateway
502	Port
30	Timeout Keep Alive

Modbus channel configuration in LinkBoxMB

Configuration Samsung

Connection | Points

☒ ModBus TCP

192.168.100.105 IP IntesisBox
255.255.255.0 Net Mask
Gateway
502 Port
30 Timeout Keep Alive

☐ ModBus RTU RS232/485

8-P-1 RS232 Connection
9600 Baud rate
none Parity
1 Slave #

Samsung (MIM-B13A/B04A RS485 Card)

Indoor Units	MIM	AC	Name
<input checked="" type="checkbox"/> IU-1	0	0	Test Unit
<input type="checkbox"/> IU-2	1	0	
<input type="checkbox"/> IU-3	1	0	
<input type="checkbox"/> IU-4	0	3	
<input type="checkbox"/> IU-5	0	4	
<input type="checkbox"/> IU-6	0	5	
<input type="checkbox"/> IU-7	0	6	
<input type="checkbox"/> IU-8	0	7	
<input type="checkbox"/> IU-9	0	8	
<input type="checkbox"/> IU-10	0	9	
<input type="checkbox"/> IU-11	0	10	
<input type="checkbox"/> IU-12	0	11	
<input type="checkbox"/> IU-13	0	12	
<input type="checkbox"/> IU-14	0	13	
<input type="checkbox"/> IU-15	0	14	

MIM 0 AC 0
Name Test Unit

Advanced adjustments

30 Initial tracking time (sec)
20 Time waiting valid read after a write (sec)
100 Delay between Tx (milisec)
10 Maximum number of writes at once
10 Polling cycles per tracking

Gateway version
128AC

Access permission Read/Write.

Accept Exit



Introduction to Modbus

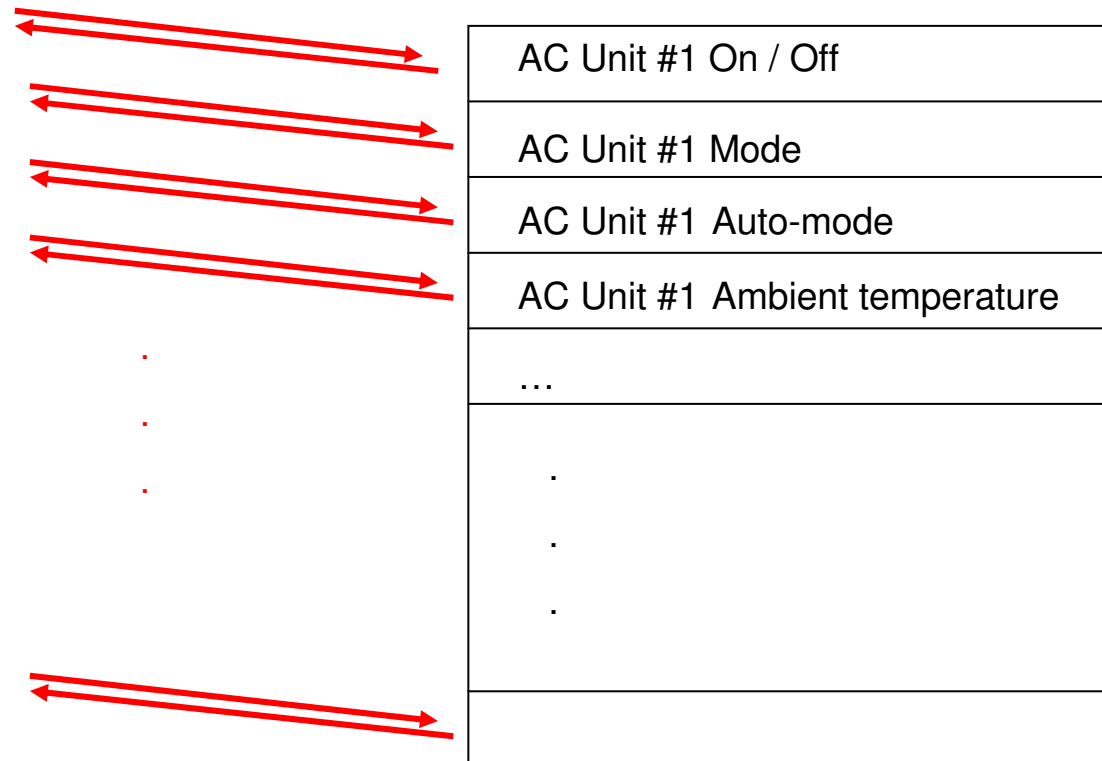
- Data that each slave exchanges to/from bus is based on *registers*

AC Unit ON / OFF
AC Unit Mode
Auto-mode
Ambient temperature
...
.
.
.

Introduction to Modbus

- Data that each slave exchanges to/from bus is based on *registers*

A modbus master periodically polls these registers, and can also write them



Introduction to Modbus

- Each register is defined in the slave by
 - A register address
 - A supported modbus function code (type of request) – it relates to data-type
- In the case of SM-AC-MBS
 - Implements up to 1937 registers (SM-AC-MBS-128)
 - 14 registers per IDU
 - 9 registers per ODU / MIM
 - Allows function codes:
 - “03”, “04”: for polling (up to 125 modbus registers can be read on a single request)
 - “06”: for writing (1 single write per request)
 - 16-bit registers

View of register addresses in LinkBoxMB

Configuration Samsung

Connection: **Points**

☒ ModBus TCP

192.168.100.105 IP IntesisBox
255.255.255.0 Net Mask
Gateway
502 Port
30 Timeout Keep Alive

☐ ModBus RTU RS232/485

8-P-1 RS232 Connection
9600 Baud rate
none Parity
1 Slave #

Samsung (MIM-B13A/B04A RS485 Card)

Indoor Units	MIM	AC	Name
<input checked="" type="checkbox"/> IU-1	0	0	Test Unit
<input type="checkbox"/> IU-2	1	0	
<input type="checkbox"/> IU-3	1	0	
<input type="checkbox"/> IU-4	0	3	
<input type="checkbox"/> IU-5	0	4	
<input type="checkbox"/> IU-6	0	5	
<input type="checkbox"/> IU-7	0	6	
<input type="checkbox"/> IU-8	0	7	
<input type="checkbox"/> IU-9	0	8	
<input type="checkbox"/> IU-10	0	9	
<input type="checkbox"/> IU-11	0	10	
<input type="checkbox"/> IU-12	0	11	
<input type="checkbox"/> IU-13	0	12	
<input type="checkbox"/> IU-14	0	13	
<input type="checkbox"/> IU-15	0	14	

MIM: 0 AC: 0
Name: Test Unit

Advanced adjustments

30 Initial tracking time (sec)
20 Time waiting valid read after a write (sec)
100 Delay between Tx (milisec)
10 Maximum number of writes at once
10 Polling cycles per tracking

Gateway version: 128AC

Access permission Read/Write.

Accept Exit

View of register addresses in LinkBoxMB

Configuration Samsung

Connection Points

Address/Formula	R/W	Signal	Values
1	R	Communication error	0-No error, 1-Error
$1 + ((\text{IndoorUnit}[1..128] - 1) * 14) + 1$	R	Present	0-Not present, 1-Present
$1 + ((\text{IndoorUnit}[1..128] - 1) * 14) + 2$	R	K2 Switch Off	0-K2 On, 1-K2 Off (READY)
$1 + ((\text{IndoorUnit}[1..128] - 1) * 14) + 3$	R/W	On/Off	0-Off, 1-On
$1 + ((\text{IndoorUnit}[1..128] - 1) * 14) + 4$	R/W	Mode	0-Cool, 1-Heat, 2-Dry, 3-Fan, 4-Auto
$1 + ((\text{IndoorUnit}[1..128] - 1) * 14) + 5$	R	Mode when Auto	0-Auto cooling, 1-Auto heating
$1 + ((\text{IndoorUnit}[1..128] - 1) * 14) + 6$	R/W	Setpoint temperature	Celsius value, 16 to 30
$1 + ((\text{IndoorUnit}[1..128] - 1) * 14) + 7$	R	Ambient temperature	Celsius value -55 to 200
$1 + ((\text{IndoorUnit}[1..128] - 1) * 14) + 8$	R/W	Fan direction	0-Stop, 1-Up/Down, 2-Left/Right, 3-Both
$1 + ((\text{IndoorUnit}[1..128] - 1) * 14) + 9$	R/W	Fan speed	0-Auto, 1-Low, 2-Middle, 3-High
$1 + ((\text{IndoorUnit}[1..128] - 1) * 14) + 10$	R/W	Remote Control	0-Enabled, 1-Disabled
$1 + ((\text{IndoorUnit}[1..128] - 1) * 14) + 11$	R	Filter alarm	0-Normal, 1-Alarm
$1 + ((\text{IndoorUnit}[1..128] - 1) * 14) + 12$	R	Error code	0-No error, X-Error (100 to 999)
$1 + ((\text{IndoorUnit}[1..128] - 1) * 14) + 13$	R/W	Filter reset	1-Filter reset
$1 + ((\text{IndoorUnit}[1..128] - 1) * 14) + 14$	R/W	Last command execution	0-Ok, 1-Fail
$1793 + (\text{OutdoorUnit}[0..15] * 9) + 1$	R	MIM Present	0-Not present, 1-Present
$1793 + (\text{OutdoorUnit}[0..15] * 9) + 2$	R	MIM Ready	0-Not ready, 1-Ready
$1793 + (\text{OutdoorUnit}[0..15] * 9) + 3$	R	Outdoor unit Compressor status	0-Off, 1-On
$1793 + (\text{OutdoorUnit}[0..15] * 9) + 4$	R	Outdoor unit Discharge temperature	Celsius value -55 to 200
$1793 + (\text{OutdoorUnit}[0..15] * 9) + 5$	R	Outdoor unit CondOut temperature	Celsius value -55 to 200
$1793 + (\text{OutdoorUnit}[0..15] * 9) + 6$	R	Outdoor unit Oil temperature	Celsius value -55 to 200
$1793 + (\text{OutdoorUnit}[0..15] * 9) + 7$	R	Outdoor unit Suction temperature	Celsius value -55 to 200
$1793 + (\text{OutdoorUnit}[0..15] * 9) + 8$	R	Outdoor unit Exterior temperature	Celsius value -55 to 200
$1793 + (\text{OutdoorUnit}[0..15] * 9) + 9$	R	Outdoor unit Error code	0-No error, X-Error
1938	R	Doing tracking	0-Polling, 1-Tracking

Integration points configuration

Copy to clipboard (tab separated)

Accept Exit

Content in this window cannot be edited / is informative only

Introduction to Modbus

What it looks like in LinkBoxMB bus viewer...

Bus ModBus Server

☒ View last ☒ View bus ☐ Log to File

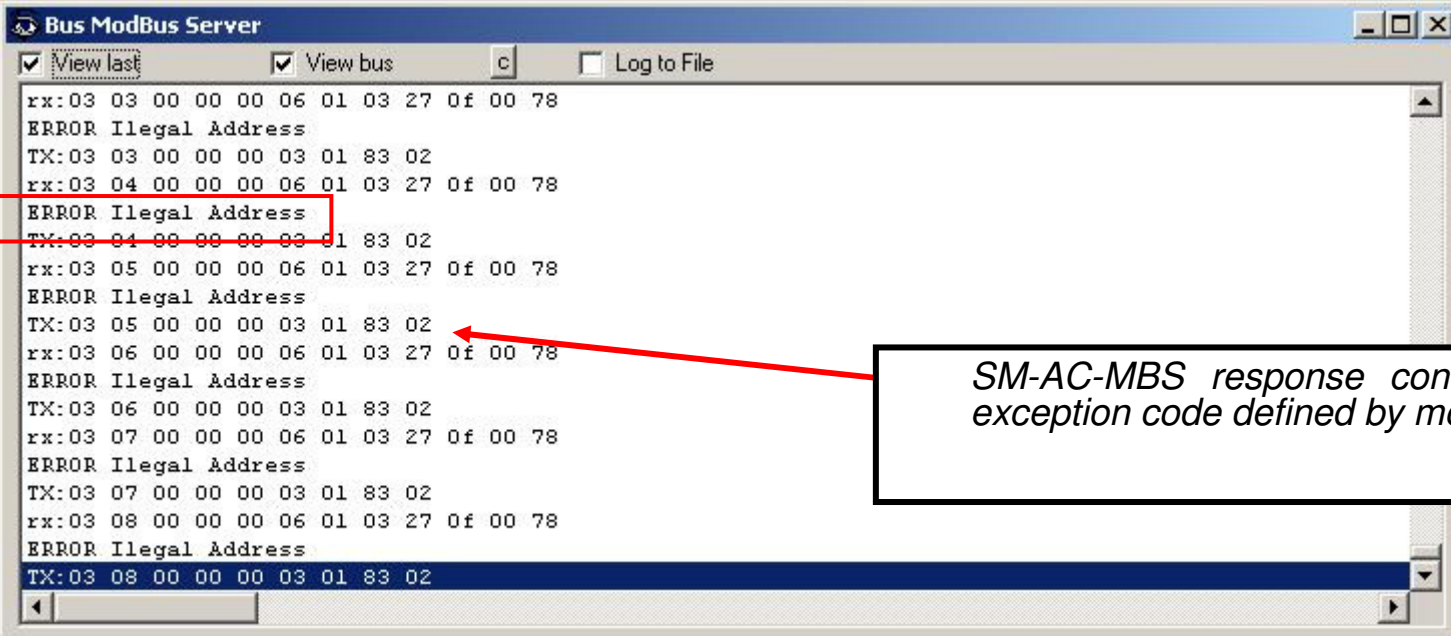
rx:01	be 00 00 00 06 01 03 00 00 00 0a
TX:01	be 00 00 00 17 01 03 14 00 00 00 01 00 01 00 01 00 00 00 00 12 00 18 00 00 00 03
rx:01	bf 00 00 00 06 01 03 00 00 00 0a
TX:01	bf 00 00 00 17 01 03 14 00 00 00 01 00 01 00 01 00 00 00 00 12 00 18 00 00 00 03
rx:01	c0 00 00 00 06 01 03 00 00 00 0a
TX:01	c0 00 00 00 17 01 03 14 00 00 00 01 00 01 00 01 00 00 00 00 12 00 18 00 00 00 03
rx:01	c1 00 00 00 06 01 03 00 00 00 0a
TX:01	c1 00 00 00 17 01 03 14 00 00 00 01 00 01 00 01 00 00 00 00 12 00 18 00 00 00 03
rx:01	c2 00 00 00 06 01 03 00 00 00 0a
TX:01	c2 00 00 00 17 01 03 14 00 00 00 01 00 01 00 01 00 00 00 00 12 00 18 00 00 00 03
rx:01	c3 00 00 00 06 01 03 00 00 00 0a
TX:01	c3 00 00 00 17 01 03 14 00 00 00 01 00 01 00 01 00 00 00 00 12 00 18 00 00 00 03
rx:01	c4 00 00 00 06 01 03 00 00 00 0a
TX:01	c4 00 00 00 17 01 03 14 00 00 00 01 00 01 00 01 00 00 00 00 12 00 18 00 00 00 03
rx:01	c5 00 00 00 06 01 03 00 00 00 0a
TX:01	c5 00 00 00 17 01 03 14 00 00 00 01 00 01 00 01 00 00 00 00 12 00 18 00 00 00 03
rx:01	c6 00 00 00 06 01 03 00 00 00 0a
TX:01	c6 00 00 00 17 01 03 14 00 00 00 01 00 01 00 01 00 00 00 00 12 00 18 00 00 00 03

RX: Received requests from the master

TX: SM-AC-MBS answers to these requests

Introduction to Modbus

Common mistakes: Polling wrong addresses



```

Bus ModBus Server
[View last] [View bus] [Log to File]
rx:03 03 00 00 00 06 01 03 27 0f 00 78
ERROR Illegal Address
TX:03 03 00 00 00 03 01 83 02
rx:03 04 00 00 00 06 01 03 27 0f 00 78
ERROR Illegal Address
TX:03 04 00 00 00 03 01 83 02
rx:03 05 00 00 00 06 01 03 27 0f 00 78
ERROR Illegal Address
TX:03 05 00 00 00 03 01 83 02
rx:03 06 00 00 00 06 01 03 27 0f 00 78
ERROR Illegal Address
TX:03 06 00 00 00 03 01 83 02
rx:03 07 00 00 00 06 01 03 27 0f 00 78
ERROR Illegal Address
TX:03 07 00 00 00 03 01 83 02
rx:03 08 00 00 00 06 01 03 27 0f 00 78
ERROR Illegal Address
TX:03 08 00 00 00 03 01 83 02
    
```

SM-AC-MBS response contains an exception code defined by modbus

(master is polling addresses >10000 – whereas max modbus address on SM-AC-MBS is <2000)

Introduction to Modbus

Common mistakes: Using unsupported modbus function

Bus ModBus Server

☒ View last ☒ View bus ☐ Log to File

```

TX:03 a9 00 00 00 f3 01 03 f0 00 00 00 01 00 01 00 01 00 02 00 00 00 12 00 18 00 00 00 03 00 00 00
rx:03 aa 00 00 00 06 01 03 00 00 00 78
TX:03 aa 00 00 00 f3 01 03 f0 00 00 00 01 00 01 00 01 00 02 00 00 00 12 00 18 00 00 00 03 00 00 00
rx:03 ab 00 00 00 06 01 03 00 00 00 78
TX:03 ab 00 00 00 f3 01 03 f0 00 00 00 01 00 01 00 01 00 02 00 00 00 12 00 18 00 00 00 03 00 00 00
rx:03 ac 00 00 00 06 01 03 00 00 00 78
TX:03 ac 00 00 00 f3 01 03 f0 00 00 00 01 00 01 00 01 00 02 00 00 00 12 00 18 00 00 00 03 00 00 00
rx:03 ad 00 00 00 f7 01 10 00 00 00 78 f0 00 00 00 01 00 01 00 01 00 02 00 00 00 12 00 18 00 00 00
ERROR Illegal function
TX:03 ad 00 00 00 03 01 90 01
rx:03 ae 00 00 00 06 01 03 00 00 00 78
TX:03 ae 00 00 00 f3 01 03 f0 00 00 00 01 00 01 00 01 00 02 00 00 00 12 00 18 00 00 00 03 00 00 00
rx:03 af 00 00 00 06 01 03 00 00 00 78
TX:03 af 00 00 00 f3 01 03 f0 00 00 00 01 00 01 00 01 00 02 00 00 00 12 00 18 00 00 00 03 00 00 00
rx:03 b0 00 00 00 06 01 03 00 00 00 78
TX:03 b0 00 00 00 f3 01 03 f0 00 00 00 01 00 01 00 01 00 02 00 00 00 12 00 18 00 00 00 03 00 00 00
rx:03 b1 00 00 00 06 01 03 00 00 00 78
TX:03 b1 00 00 00 f3 01 03 f0 00 00 00 01 00 01 00 01 00 02 00 00 00 12 00 18 00 00 00 03 00 00 00
  
```

SM-AC-MBS response contains an exception code defined by modbus

(master is trying to write multiple registers at once with function code "10")



Introduction to KNX

- Open protocol
 - Covered by several worldwide standards (CENELEC, ISO, ASHRAE, ...)
 - Convergence of former standards (BatiBUS, EHS, EIB)
- Standard maintained by The KNX Association (www.knx.org)
- KNX installations are planned by specifically trained professionals
 - *KNX partners* are required to pass an exam in KNX-certified training centres
- Intesis Software is member of the KNX Association, as manufacturer
- Distributed philosophy. Focus on the concept of *smart house*.
- Widely used at *field* level





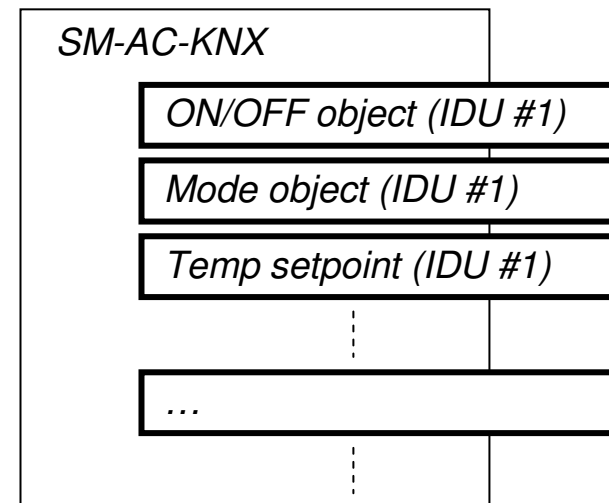
Introduction to KNX

- Several physical channels
 - Powerline, radio
 - Ethernet/IP (KNXnet/IP)
 - Twisted pair (KNX TP-1)
 - 24 VDC power supply on bus
 - Physical communication done at 9600bps
 - Free topology
- Communication mainly based on *signal changes*
 - Any device can initiate communication (collision avoidance mechanism)

Supported by SM-AC-KNX

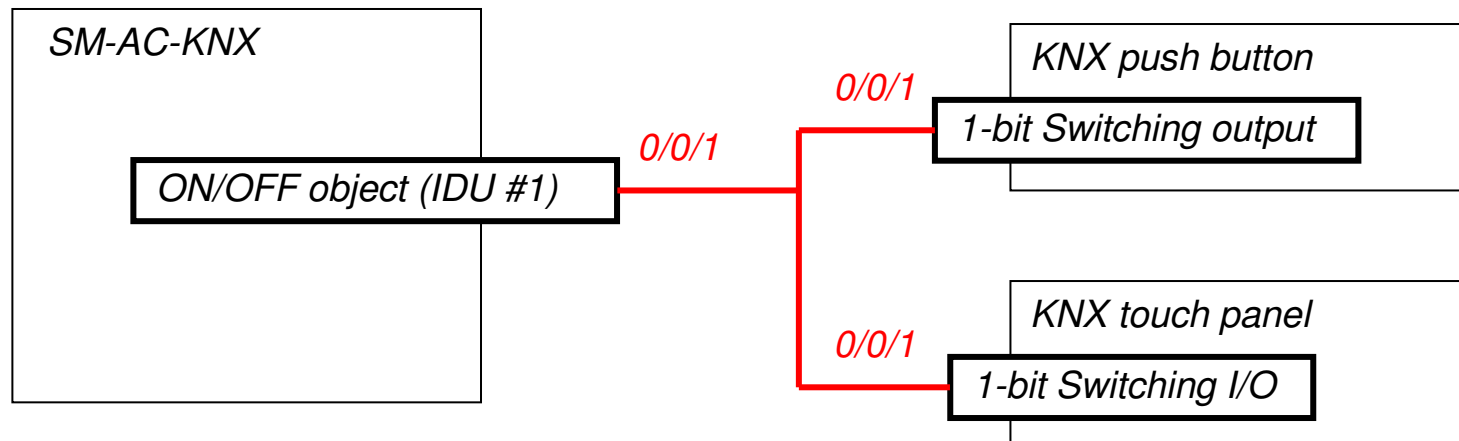
Introduction to KNX

- A KNX device is abstracted as a set of *communication objects*
- Each *communication object* has a defined *EIS type*.
 - 1-bit Switching (EIS 1): 0-Off, 1-On
 - 8-bit Scaling (EIS 6): 0 – 0%, 255 – 100%
 - 8-bit Counter (EIS 14): 0..255
 - 16-bit float value (EIS 5)
- E.g., an indoor unit in SM-AC-KNX
 - On / Off (1-bit Switching / EIS 1)
 - Mode (8-bit Counter / EIS 14)
 - Temperature setpoint (16-bit float / EIS 5)
 - Filter alarm (1-bit Switching / EIS 1)



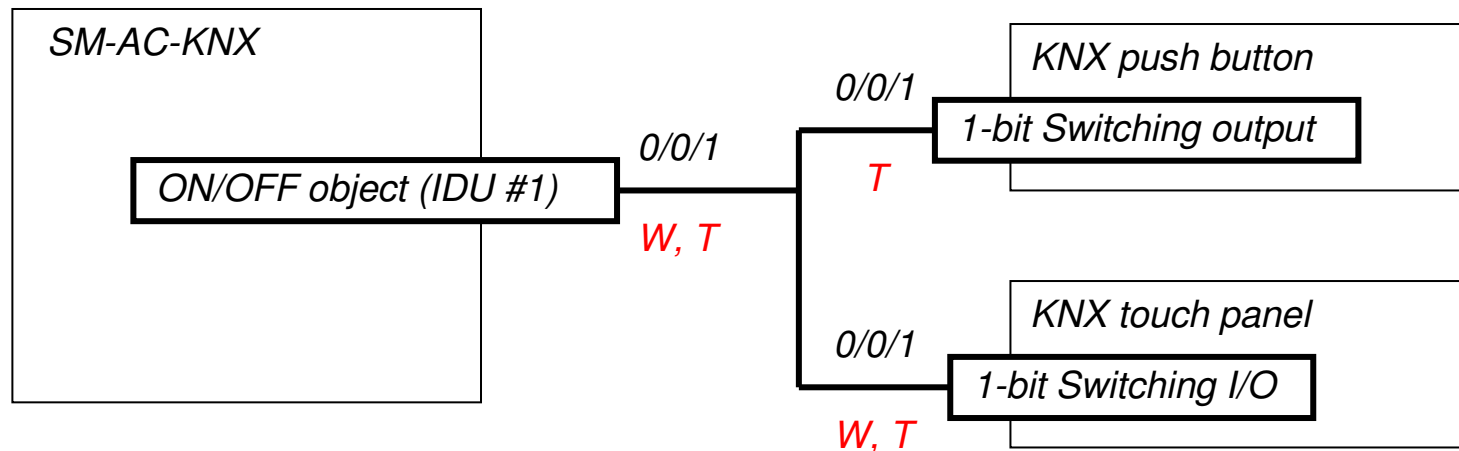
Introduction to KNX

- Communication objects on devices are logically bound by means of *group addresses*
- Group addresses have format “*Main Group*” / “*Middle group*” / “*Subgroup*”
- Bound objects need to use the same EIS type



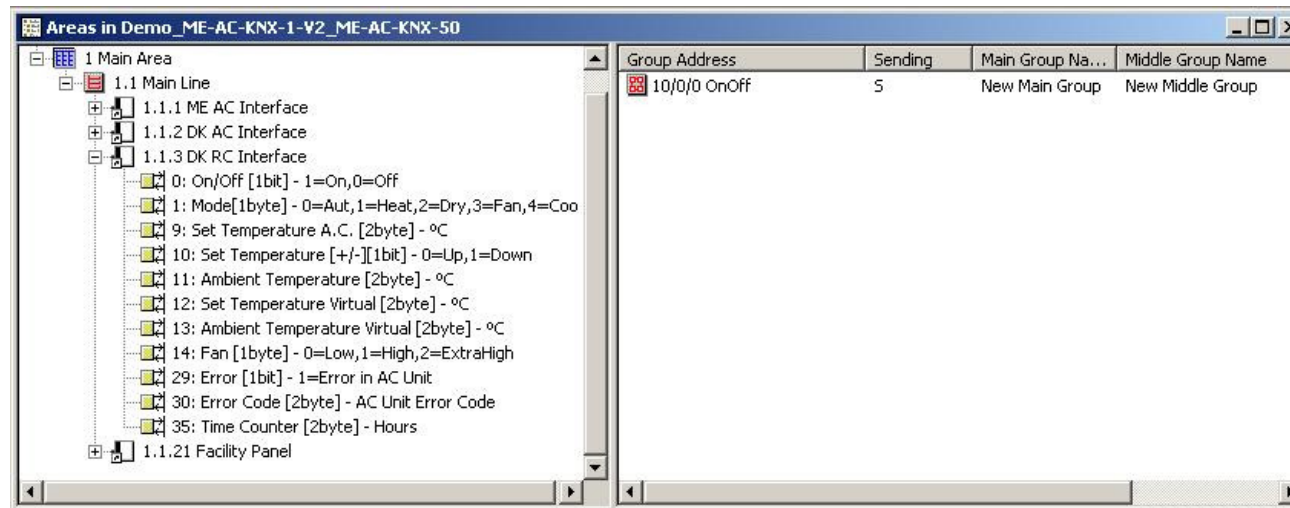
Introduction to KNX

- Integrator needs to define the *direction* of the signals
- Done by means of flags:
 - T: The communication object updates this value to bus on signal change
 - W: Value allows being written from bus



Introduction to KNX

- Most of this configuration is done with software tool *ETS*
 - The tool used for designing KNX networks
 - Each manufacturer provides a file with a “description” of its device (ETS database entry) so that the integrator can use it on ETS
 - Used also for *downloading* the configuration to the devices



Introduction to KNX

- SM-AC-KNX does not use ETS
- Configuration needs to be edited and downloaded with a separate tool (LinkBoxEIB)

Configuration Samsung - Max.Indoor Units 128 - Max.GroupsEIB:4000

Connection Signals

EIB

15.15.250 Physical Address

☐ Forzar actualizar después de un reset de bus EIB.

4 Delay for update after bus reset.

128AC Version

Samsung (MIM-B13A/B04A RS485 Card)

Indoor Units

Indoor Units	MIM	AC	Name
<input checked="" type="checkbox"/> IU-1	0	0	
<input checked="" type="checkbox"/> IU-2	0	1	
<input checked="" type="checkbox"/> IU-3	0	2	
<input checked="" type="checkbox"/> IU-4	0	3	
<input checked="" type="checkbox"/> IU-5	0	4	
<input checked="" type="checkbox"/> IU-6	0	5	
<input type="checkbox"/> IU-7	0	6	
<input type="checkbox"/> IU-8	0	7	
<input type="checkbox"/> IU-9	0	8	
<input type="checkbox"/> IU-10	0	9	
<input type="checkbox"/> IU-11	0	10	
<input type="checkbox"/> IU-12	0	11	
<input type="checkbox"/> IU-13	0	12	
<input type="checkbox"/> IU-14	0	13	
<input type="checkbox"/> IU-15	0	14	

MIM 0 AC 0

Name

Advanced adjustments

30 Initial tracking time (sec)

20 Time waiting valid read after a write (sec)

100 Delay between Tx (milisec)

10 Maximum number of writes at once

10 Polling cycles per tracking

Accept Exit

Configuration of SM-AC-KNX in LinkBoxEIB

Configuration Samsung - Max.Indoor Units 128 - Max.GroupsEIB:4000

Connection Signals

	IU	Cod	Signal	EIS	Group	Listening addresses	R	W	T	U	Active
1	1	00-Communication Err	Communication Error General: 0-Ok, 1-Error (R)	01 - Switching (1 bit)			R		T		0-No
2	1	02 - OnOff	On/Off: 0-Off, 1-On (R/W)	01 - Switching (1 bit)	5/1/6		R	W	T		1-Yes
3	1	03 - Mode	Mode: 0-Cool, 1-Heat, 2-Dry, 3-Fan, 4-Auto (R/W)	14 - Counter (8 bit)			R	W	T		0-No
4	1	04 - Cool	Mode: 1- Cool (R/W)	01 - Switching (1 bit)	5/1/2		R	W	T		1-Yes
5	1	05 - Heat	Mode: 1- Heat (R/W)	01 - Switching (1 bit)	5/1/5		R	W	T		1-Yes
6	1	06 - Dry	Mode: 1- Dry (R/W)	01 - Switching (1 bit)	5/1/3		R	W	T		1-Yes
7	1	07 - Fan	Mode: 1- Fan (R/W)	01 - Switching (1 bit)	5/1/4		R	W	T		1-Yes
8	1	08 - Auto	Mode: 1- Auto (R/W)	01 - Switching (1 bit)	5/1/1		R	W	T		1-Yes
9	1	09 - ModeAuto	Mode when Auto: 0-Auto cooling, 1-Auto heating (R)	14 - Counter (8 bit)			R		T		0-No
10	1	10 - Auto Cool	Mode when Auto: 1- Auto Cool (R)	01 - Switching (1 bit)			R		T		0-No
11	1	11 - Auto Heat	Mode when Auto: 1- Auto Heat (R)	01 - Switching (1 bit)			R		T		0-No
12	1	12 - Setpoint	Setpoint temperature: Celsius value, 16 to 30 (R/W)	05 - Float (16 bit)	5/1/14		R	W	T		1-Yes
13	1	13 - Temperature	Ambient temperature: Celsius value -55 to 200 (R)	05 - Float (16 bit)	5/1/13		R		T		1-Yes
14	1	14 - FanDir	Fan direction: 0-Stop, 1-Up/Down, 2-Left/Right, 3-Both (R/W)	14 - Counter (8 bit)			R	W	T		0-No
15	1	15 - Up/Down	Fan direction: 0-Stop/1-Moving- Up/Down (R/W)	01 - Switching (1 bit)	5/1/12		R	W	T		1-Yes
16	1	16 - Left/Right	Fan direction: 0-Stop/1-Moving- Left/Right (R/W)	01 - Switching (1 bit)	5/1/11		R	W	T		1-Yes
17	1	17 - FanSpeed	Fan speed: 0-Auto, 1-Low, 2-Middle, 3-High (R/W)	14 - Counter (8 bit)			R	W	T		0-No
18	1	18 - Auto	Fan speed: 1- Auto (R/W)	01 - Switching (1 bit)	5/1/7		R	W	T		1-Yes

Integration signals configuration

Accept Exit

Configuration of SM-AC-KNX in LinkBoxEIB

Configuration Samsung - Max.Indoor Units 128 - Max.GroupsEIB:4000

Connection Signals

	IU	Cod	Signal	EIS	Group	Listening addresses	R	W	T	U	Active
1	1	00-Communication Err	Communication Error General: 0-Ok, 1-Error (R)	01 - Switching (1 bit)			R		T		0-No
2	1	02 - OnOff	On/Off: 0-Off, 1-On (R/W)	01 - Switching (1 bit)	5/1/6		R	W	T		1-Yes
3	1	03 - Mode	Mode: 0-Cool, 1-Heat, 2-Dry, 3-Fan, 4-Auto (R/W)	14 - Counter (8 bit)			R	W	T		0-No
4	1	04 - Cool	Mode: 1- Cool (R/W)	01 - Switching (1 bit)	5/1/2		R	W	T		1-Yes
5	1	05 - Heat	Mode: 1- Heat (R/W)	01 - Switching (1 bit)	5/1/5		R	W	T		1-Yes
6	1	06 - Dry	Mode: 1- Dry (R/W)	01 - Switching (1 bit)	5/1/3		R	W	T		1-Yes
7	1	07 - Fan	Mode: 1- Fan (R/W)	01 - Switching (1 bit)	5/1/4		R	W	T		1-Yes
8	1	08 - Auto	Mode: 1- Auto (R/W)	01 - Switching (1 bit)	5/1/1		R	W	T		1-Yes
9	1	09 - ModeAuto	Mode when Auto: 0-Auto cooling, 1-Auto heating (R)	14 - Counter (8 bit)			R		T		0-No
10	1	10 - Auto Cool	Mode when Auto: 1- Auto Cool (R)	01 - Switching (1 bit)			R		T		0-No
11	1	11 - Auto Heat	Mode when Auto: 1- Auto Heat (R)	01 - Switching (1 bit)			R		T		0-No
12	1	12 - Setpoint	Setpoint temperature: Celsius value, 16 to 30 (R/w)	05 - Float (16 bit)	5/1/14		R	W	T		1-Yes
13	1	13 - Temperature	Ambient temperature: Celsius value -55 to 200 (R)	05 - Float (16 bit)	5/1/13		R		T		1-Yes
14	1	14 - FanDir	Fan direction: 0-Stop, 1-Up/Down, 2-Left/Right, 3-Both (R/W)	14 - Counter (8 bit)			R	W	T		0-No
15	1	15 - Up/Down	Fan direction: 0-Stop/1-Moving- Up/Down (R/W)	01 - Switching (1 bit)	5/1/12		R	W	T		1-Yes
16	1	16 - Left/Right	Fan direction: 0-Stop/1-Moving- Left/Right (R/W)	01 - Switching (1 bit)	5/1/11		R	W	T		1-Yes
17	1	17 - FanSpeed	Fan speed: 0-Auto, 1-Low, 2-Middle, 3-High (R/W)	14 - Counter (8 bit)			R	W	T		0-No
18	1	18 - Auto	Fan speed: 1- Auto (R/W)	01 - Switching (1 bit)	5/1/7		R	W	T		1-Yes

Integration signals configuration

Accept Exit

*Description of com. Objects
(cannot be edited)*

Configuration of SM-AC-KNX in LinkBoxEIB

Configuration Samsung - Max.Indoor Units 128 - Max.GroupsEIB:4000

Connection Signals

	IU	Cod	Signal	EIS	Group	Listening addresses	R	W	T	U	Active
1	1	00-Communication Err	Communication Error General: 0-Ok, 1-Error (R)	01 - Switching (1 bit)			R		T		0-No
2	1	02 - OnOff	On/Off: 0-Off, 1-On (R/W)	01 - Switching (1 bit)	5/1/6		R	W	T		1-Yes
3	1	03 - Mode	Mode: 0-Cool, 1-Heat, 2-Dry, 3-Fan, 4-Auto (R/W)	14 - Counter (8 bit)			R	W	T		0-No
4	1	04 - Cool	Mode: 1- Cool (R/W)	01 - Switching (1 bit)	5/1/2		R	W	T		1-Yes
5	1	05 - Heat	Mode: 1- Heat (R/W)	01 - Switching (1 bit)	5/1/5		R	W	T		1-Yes
6	1	06 - Dry	Mode: 1- Dry (R/W)	01 - Switching (1 bit)	5/1/3		R	W	T		1-Yes
7	1	07 - Fan	Mode: 1- Fan (R/W)	01 - Switching (1 bit)	5/1/4		R	W	T		1-Yes
8	1	08 - Auto	Mode: 1- Auto (R/W)	01 - Switching (1 bit)	5/1/1		R	W	T		1-Yes
9	1	09 - ModeAuto	Mode when Auto: 0-Auto cooling, 1-Auto heating (R)	14 - Counter (8 bit)			R		T		0-No
10	1	10 - Auto Cool	Mode when Auto: 1- Auto Cool (R)	01 - Switching (1 bit)			R		T		0-No
11	1	11 - Auto Heat	Mode when Auto: 1- Auto Heat (R)	01 - Switching (1 bit)			R		T		0-No
12	1	12 - Setpoint	Setpoint temperature: Celsius value, 16 to 30 (R/w)	05 - Float (16 bit)	5/1/14		R	W	T		1-Yes
13	1	13 - Temperature	Ambient temperature: Celsius value -55 to 200 (R)	05 - Float (16 bit)	5/1/13		R		T		1-Yes
14	1	14 - FanDir	Fan direction: 0-Stop, 1-Up/Down, 2-Left/Right, 3-Both (R/W)	14 - Counter (8 bit)			R	W	T		0-No
15	1	15 - Up/Down	Fan direction: 0-Stop/1-Moving- Up/Down (R/W)	01 - Switching (1 bit)	5/1/12		R	W	T		1-Yes
16	1	16 - Left/Right	Fan direction: 0-Stop/1-Moving- Left/Right (R/W)	01 - Switching (1 bit)	5/1/11		R	W	T		1-Yes
17	1	17 - FanSpeed	Fan speed: 0-Auto, 1-Low, 2-Middle, 3-High (R/W)	14 - Counter (8 bit)			R	W	T		0-No
18	1	18 - Auto	Fan speed: 1- Auto (R/w)	01 - Switching (1 bit)	5/1/7		R	W	T		1-Yes

Integration signals configuration

Accept Exit

Indoor unit (1..128)
related to these
objects

Description of com. Objects
(cannot be edited)

Configuration of SM-AC-KNX in LinkBoxEIB

Configuration Samsung - Max.Indoor Units 128 - Max.GroupsEIB:4000

Connection Signals

	IU	Cod	Signal	EIS	Group	Listening addresses	R	W	T	U	Active
1	1	00-Communication Err	Communication Error General: 0-Ok, 1-Error (R)	01 - Switching (1 bit)			R		T		0-No
2	1	02 - OnOff	On/Off: 0-Off, 1-On (R/W)	01 - Switching (1 bit)	5/1/6		R	W	T		1-Yes
3	1	03 - Mode	Mode: 0-Cool, 1-Heat, 2-Dry, 3-Fan, 4-Auto (R/W)	14 - Counter (8 bit)			R	W	T		0-No
4	1	04 - Cool	Mode: 1- Cool (R/W)	01 - Switching (1 bit)	5/1/2		R	W	T		1-Yes
5	1	05 - Heat	Mode: 1- Heat (R/W)	01 - Switching (1 bit)	5/1/5		R	W	T		1-Yes
6	1	06 - Dry	Mode: 1- Dry (R/W)	01 - Switching (1 bit)	5/1/3		R	W	T		1-Yes
7	1	07 - Fan	Mode: 1- Fan (R/W)	01 - Switching (1 bit)	5/1/4		R	W	T		1-Yes
8	1	08 - Auto	Mode: 1- Auto (R/W)	01 - Switching (1 bit)	5/1/1		R	W	T		1-Yes
9	1	09 - ModeAuto	Mode when Auto: 0-Auto cooling, 1-Auto heating (R)	14 - Counter (8 bit)			R		T		0-No
10	1	10 - Auto Cool	Mode when Auto: 1- Auto Cool (R)	01 - Switching (1 bit)			R		T		0-No
11	1	11 - Auto Heat	Mode when Auto: 1- Auto Heat (R)	01 - Switching (1 bit)			R		T		0-No
12	1	12 - Setpoint	Setpoint temperature: Celsius value, 16 to 30 (R/w)	05 - Float (16 bit)	5/1/14		R	W	T		1-Yes
13	1	13 - Temperature	Ambient temperature: Celsius value -55 to 200 (R)	05 - Float (16 bit)	5/1/13		R		T		1-Yes
14	1	14 - FanDir	Fan direction: 0-Stop, 1-Up/Down, 2-Left/Right, 3-Both (R/W)	14 - Counter (8 bit)			R	W	T		0-No
15	1	15 - Up/Down	Fan direction: 0-Stop/1-Moving- Up/Down (R/W)	01 - Switching (1 bit)	5/1/12		R	W	T		1-Yes
16	1	16 - Left/Right	Fan direction: 0-Stop/1-Moving- Left/Right (R/W)	01 - Switching (1 bit)	5/1/11		R	W	T		1-Yes
17	1	17 - FanSpeed	Fan speed: 0-Auto, 1-Low, 2-Middle, 3-High (R/W)	14 - Counter (8 bit)			R	W	T		0-No
18	1	18 - Auto	Fan speed: 1- Auto (R/W)	01 - Switching (1 bit)	5/1/7		R	W	T		1-Yes

Integration signals configuration

Accept Exit

Group address
associated to each
com. Object
(MAIN address)

Configuration of SM-AC-KNX in LinkBoxEIB

Configuration Samsung - Max.Indoor Units 128 - Max.GroupsEIB:4000

Connection Signals

	IU	Cod	Signal	EIS	Group	Listening addresses	R	W	T	U	Active
1	1	00-Communication Err	Communication Error General: 0-Ok, 1-Error (R)	01 - Switching (1 bit)			R		T		0-No
2	1	02 - OnOff	On/Off: 0-Off, 1-On (R/W)	01 - Switching (1 bit)	5/1/6		R	W	T		1-Yes
3	1	03 - Mode	Mode: 0-Cool, 1-Heat, 2-Dry, 3-Fan, 4-Auto (R/W)	14 - Counter (8 bit)			R	W	T		0-No
4	1	04 - Cool	Mode: 1- Cool (R/W)	01 - Switching (1 bit)	5/1/2		R	W	T		1-Yes
5	1	05 - Heat	Mode: 1- Heat (R/W)	01 - Switching (1 bit)	5/1/5		R	W	T		1-Yes
6	1	06 - Dry	Mode: 1- Dry (R/W)	01 - Switching (1 bit)	5/1/3		R	W	T		1-Yes
7	1	07 - Fan	Mode: 1- Fan (R/W)	01 - Switching (1 bit)	5/1/4		R	W	T		1-Yes
8	1	08 - Auto	Mode: 1- Auto (R/W)	01 - Switching (1 bit)	5/1/1		R	W	T		1-Yes
9	1	09 - ModeAuto	Mode when Auto: 0-Auto cooling, 1-Auto heating (R)	14 - Counter (8 bit)			R		T		0-No
10	1	10 - Auto Cool	Mode when Auto: 1- Auto Cool (R)	01 - Switching (1 bit)			R		T		0-No
11	1	11 - Auto Heat	Mode when Auto: 1- Auto Heat (R)	01 - Switching (1 bit)			R		T		0-No
12	1	12 - Setpoint	Setpoint temperature: Celsius value, 16 to 30 (R/w)	05 - Float (16 bit)	5/1/14		R	W	T		1-Yes
13	1	13 - Temperature	Ambient temperature: Celsius value -55 to 200 (R)	05 - Float (16 bit)	5/1/13		R		T		1-Yes
14	1	14 - FanDir	Fan direction: 0-Stop, 1-Up/Down, 2-Left/Right, 3-Both (R/W)	14 - Counter (8 bit)			R	W	T		0-No
15	1	15 - Up/Down	Fan direction: 0-Stop/1-Moving- Up/Down (R/W)	01 - Switching (1 bit)	5/1/12		R	W	T		1-Yes
16	1	16 - Left/Right	Fan direction: 0-Stop/1-Moving- Left/Right (R/W)	01 - Switching (1 bit)	5/1/11		R	W	T		1-Yes
17	1	17 - FanSpeed	Fan speed: 0-Auto, 1-Low, 2-Middle, 3-High (R/W)	14 - Counter (8 bit)			R	W	T		0-No
18	1	18 - Auto	Fan speed: 1- Auto (R/W)	01 - Switching (1 bit)	5/1/7		R	W	T		1-Yes

Integration signals configuration

Accept Exit

W, T flags enablement

Configuration of SM-AC-KNX in LinkBoxEIB

Configuration Samsung - Max.Indoor Units 128 - Max.GroupsEIB:4000

Connection Signals

	IU	Cod	Signal	EIS	Group	Listening addresses	R	W	T	U	Active
1	1	00-Communication Err	Communication Error General: 0-Ok, 1-Error (R)	01 - Switching (1 bit)			R		T		0-No
2	1	02 - OnOff	On/Off: 0-Off, 1-On (R/W)	01 - Switching (1 bit)	5/1/6		R	W	T		1-Yes
3	1	03 - Mode	Mode: 0-Cool, 1-Heat, 2-Dry, 3-Fan, 4-Auto (R/W)	14 - Counter (8 bit)			R	W	T		0-No
4	1	04 - Cool	Mode: 1- Cool (R/W)	01 - Switching (1 bit)	5/1/2		R	W	T		1-Yes
5	1	05 - Heat	Mode: 1- Heat (R/W)	01 - Switching (1 bit)	5/1/5		R	W	T		1-Yes
6	1	06 - Dry	Mode: 1- Dry (R/W)	01 - Switching (1 bit)	5/1/3		R	W	T		1-Yes
7	1	07 - Fan	Mode: 1- Fan (R/W)	01 - Switching (1 bit)	5/1/4		R	W	T		1-Yes
8	1	08 - Auto	Mode: 1- Auto (R/W)	01 - Switching (1 bit)	5/1/1		R	W	T		1-Yes
9	1	09 - ModeAuto	Mode when Auto: 0-Auto cooling, 1-Auto heating (R)	14 - Counter (8 bit)			R		T		0-No
10	1	10 - Auto Cool	Mode when Auto: 1- Auto Cool (R)	01 - Switching (1 bit)			R		T		0-No
11	1	11 - Auto Heat	Mode when Auto: 1- Auto Heat (R)	01 - Switching (1 bit)			R		T		0-No
12	1	12 - Setpoint	Setpoint temperature: Celsius value, 16 to 30 (R/w)	05 - Float (16 bit)	5/1/14		R	W	T		1-Yes
13	1	13 - Temperature	Ambient temperature: Celsius value -55 to 200 (R)	05 - Float (16 bit)	5/1/13		R		T		1-Yes
14	1	14 - FanDir	Fan direction: 0-Stop, 1-Up/Down, 2-Left/Right, 3-Both (R/W)	14 - Counter (8 bit)			R	W	T		0-No
15	1	15 - Up/Down	Fan direction: 0-Stop/1-Moving- Up/Down (R/W)	01 - Switching (1 bit)	5/1/12		R	W	T		1-Yes
16	1	16 - Left/Right	Fan direction: 0-Stop/1-Moving- Left/Right (R/W)	01 - Switching (1 bit)	5/1/11		R	W	T		1-Yes
17	1	17 - FanSpeed	Fan speed: 0-Auto, 1-Low, 2-Middle, 3-High (R/W)	14 - Counter (8 bit)			R	W	T		0-No
18	1	18 - Auto	Fan speed: 1- Auto (R/W)	01 - Switching (1 bit)	5/1/7		R	W	T		1-Yes

Integration signals configuration

Accept Exit

Whether signal is "active" or not

Not active \leftrightarrow As if not implemented in the device

Configuration of SM-AC-KNX in LinkBoxEIB

Configuration Samsung - Max.Indoor Units 128 - Max.GroupsEIB:4000

Connection Signals

	IU	Cod	Signal	EIS	Group	Listening addresses	R	W	T	U	Active
1	1	00-Communication Errc	Communication Error General: 0-Ok, 1-Error (R)	01 - Switching (1 bit)			R		T		0-No
2	1	02 - OnOff	On/Off: 0-Off, 1-On (R/W)	01 - Switching (1 bit)	5/1/6	5/0/0, 5/0/1, 5/0/2	R	W	T		1-Yes
3	1	03 - Mode	Mode: 0-Cool, 1-Heat, 2-Dry, 3-Fan, 4-Auto (R/W)	14 - Counter (8 bit)			R	W	T		0-No
4	1	04 - Cool	Mode: 1- Cool (R/W)	01 - Switching (1 bit)	5/1/2		R	W	T		1-Yes
5	1	05 - Heat	Mode: 1- Heat (R/W)	01 - Switching (1 bit)	5/1/5		R	W	T		1-Yes
6	1	06 - Dry	Mode: 1- Dry (R/W)	01 - Switching (1 bit)	5/1/3		R	W	T		1-Yes
7	1	07 - Fan	Mode: 1- Fan (R/W)	01 - Switching (1 bit)	5/1/4		R	W	T		1-Yes
8	1	08 - Auto	Mode: 1- Auto (R/W)	01 - Switching (1 bit)	5/1/1		R	W	T		1-Yes
9	1	09 - ModeAuto	Mode when Auto: 0-Auto cooling, 1-Auto heating (R)	14 - Counter (8 bit)			R		T		0-No
10	1	10 - Auto Cool	Mode when Auto: 1- Auto Cool (R)	01 - Switching (1 bit)			R		T		0-No
11	1	11 - Auto Heat	Mode when Auto: 1- Auto Heat (R)	01 - Switching (1 bit)			R		T		0-No
12	1	12 - Setpoint	Setpoint temperature: Celsius value, 16 to 30 (R/W)	05 - Float (16 bit)	5/1/14		R	W	T		1-Yes
13	1	13 - Temperature	Ambient temperature: Celsius value -55 to 200 (R)	05 - Float (16 bit)	5/1/13		R		T		1-Yes
14	1	14 - FanDir	Fan direction: 0-Stop, 1-Up/Down, 2-Left/Right, 3-Both (R/W)	14 - Counter (8 bit)			R	W	T		0-No
15	1	15 - Up/Down	Fan direction: 0-Stop/1-Moving- Up/Down (R/W)	01 - Switching (1 bit)	5/1/12		R	W	T		1-Yes
16	1	16 - Left/Right	Fan direction: 0-Stop/1-Moving- Left/Right (R/W)	01 - Switching (1 bit)	5/1/11		R	W	T		1-Yes
17	1	17 - FanSpeed	Fan speed: 0-Auto, 1-Low, 2-Middle, 3-High (R/W)	14 - Counter (8 bit)			R	W	T		0-No
18	1	18 - Auto	Fan speed: 1- Auto (R/W)	01 - Switching (1 bit)	5/1/7		R	W	T		1-Yes

Indicates if signal is active for the integration. (0-No 1-Yes)

Accept Exit

Additional group addresses that will write-to that comm. object

Configuration of SM-AC-KNX in LinkBoxEIB

Configuration Samsung - Max.Indoor Units 128 - Max.GroupsEIB:4000

Connection Signals

	IU	Cod	Signal	EIS	Group	Listening addresses	R	W	T	U	Active
1	1	00-Communication Err	Communication Error General: 0-Ok, 1-Error (R)	01 - Switching (1 bit)			R		T		0-No
2	1	02 - OnOff	On/Off: 0-Off, 1-On (R/W)	01 - Switching (1 bit)	5/1/6	5/0/0, 5/0/1, 5/0/2		W	T	U	1-Yes
3	1	03 - Mode	Mode: 0-Cool, 1-Heat, 2-Dry, 3-Fan, 4-Auto (R/W)	14 - Counter (8 bit)			R	W	T		0-No
4	1	04 - Cool	Mode: 1- Cool (R/W)	01 - Switching (1 bit)	5/1/2			W	T	U	1-Yes
5	1	05 - Heat	Mode: 1- Heat (R/W)	01 - Switching (1 bit)	5/1/5		R	W	T		1-Yes
6	1	06 - Dry	Mode: 1- Dry (R/W)	01 - Switching (1 bit)	5/1/3		R	W	T		1-Yes
7	1	07 - Fan	Mode: 1- Fan (R/W)	01 - Switching (1 bit)	5/1/4		R	W	T		1-Yes
8	1	08 - Auto	Mode: 1- Auto (R/W)	01 - Switching (1 bit)	5/1/1		R	W	T		1-Yes
9	1	09 - ModeAuto	Mode when Auto: 0-Auto cooling, 1-Auto heating (R)	14 - Counter (8 bit)			R		T		0-No
10	1	10 - Auto Cool	Mode when Auto: 1- Auto Cool (R)	01 - Switching (1 bit)			R		T		0-No
11	1	11 - Auto Heat	Mode when Auto: 1- Auto Heat (R)	01 - Switching (1 bit)			R		T		0-No
12	1	12 - Setpoint	Setpoint temperature: Celsius value, 16 to 30 (R/W)	05 - Float (16 bit)	5/1/14		R	W	T		1-Yes
13	1	13 - Temperature	Ambient temperature: Celsius value -55 to 200 (R)	05 - Float (16 bit)	5/1/13		R		T		1-Yes
14	1	14 - FanDir	Fan direction: 0-Stop, 1-Up/Down, 2-Left/Right, 3-Both (R/W)	14 - Counter (8 bit)			R	W	T		0-No
15	1	15 - Up/Down	Fan direction: 0-Stop/1-Moving- Up/Down (R/W)	01 - Switching (1 bit)	5/1/12		R	W	T		1-Yes
16	1	16 - Left/Right	Fan direction: 0-Stop/1-Moving- Left/Right (R/W)	01 - Switching (1 bit)	5/1/11		R	W	T		1-Yes
17	1	17 - FanSpeed	Fan speed: 0-Auto, 1-Low, 2-Middle, 3-High (R/W)	14 - Counter (8 bit)			R	W	T		0-No
18	1	18 - Auto	Fan speed: 1- Auto (R/W)	01 - Switching (1 bit)	5/1/7		R	W	T		1-Yes

Indicates if a Group read will be made to KNX when the Gateway inits. If U2, the read will be made to the first listening address !!

Accept Exit

U flag: Request update to bus on bus recovery / startup, on his own associated group address (Main group address)

Configuration of SM-AC-KNX in LinkBoxEIB

Configuration Samsung - Max.Indoor Units 128 - Max.GroupsEIB:4000

Connection Signals

	IU	Cod	Signal	EIS	Group	Listening addresses	R	W	T	U	Active
1	1	00-Communication Err	Communication Error General: 0-Ok, 1-Error (R)	01 - Switching (1 bit)			R		T		0-No
2	1	02 - OnOff	On/Off: 0-Off, 1-On (R/W)	01 - Switching (1 bit)	5/1/6	5/0/0, 5/0/1, 5/0/2		W	T	U	1-Yes
3	1	03 - Mode	Mode: 0-Cool, 1-Heat, 2-Dry, 3-Fan, 4-Auto (R/W)	14 - Counter (8 bit)			R	W	T		0-No
4	1	04 - Cool	Mode: 1- Cool (R/W)	01 - Switching (1 bit)	5/1/2			W	T	U	1-Yes
5	1	05 - Heat	Mode: 1- Heat (R/W)	01 - Switching (1 bit)	5/1/5		R	W	T		1-Yes
6	1	06 - Dry	Mode: 1- Dry (R/W)	01 - Switching (1 bit)	5/1/3		R	W	T		1-Yes
7	1	07 - Fan	Mode: 1- Fan (R/W)	01 - Switching (1 bit)	5/1/4		R	W	T		1-Yes
8	1	08 - Auto	Mode: 1- Auto (R/W)	01 - Switching (1 bit)	5/1/1		R	W	T		1-Yes
9	1	09 - ModeAuto	Mode when Auto: 0-Auto cooling, 1-Auto heating (R)	14 - Counter (8 bit)			R		T		0-No
10	1	10 - Auto Cool	Mode when Auto: 1- Auto Cool (R)	01 - Switching (1 bit)			R		T		0-No
11	1	11 - Auto Heat	Mode when Auto: 1- Auto Heat (R)	01 - Switching (1 bit)			R		T		0-No
12	1	12 - Setpoint	Setpoint temperature: Celsius value, 16 to 30 (R/W)	05 - Float (16 bit)	5/1/14		R	W	T		1-Yes
13	1	13 - Temperature	Ambient temperature: Celsius value -55 to 200 (R)	05 - Float (16 bit)	5/1/13		R		T		1-Yes
14	1	14 - FanDir	Fan direction: 0-Stop, 1-Up/Down, 2-Left/Right, 3-Both (R/W)	14 - Counter (8 bit)			R	W	T		0-No
15	1	15 - Up/Down	Fan direction: 0-Stop/1-Moving- Up/Down (R/W)	01 - Switching (1 bit)	5/1/12		R	W	T		1-Yes
16	1	16 - Left/Right	Fan direction: 0-Stop/1-Moving- Left/Right (R/W)	01 - Switching (1 bit)	5/1/11		R	W	T		1-Yes
17	1	17 - FanSpeed	Fan speed: 0-Auto, 1-Low, 2-Middle, 3-High (R/W)	14 - Counter (8 bit)			R	W	T		0-No
18	1	18 - Auto	Fan speed: 1- Auto (R/W)	01 - Switching (1 bit)	5/1/7		R	W	T		1-Yes

Indicates if a Group read will be made to KNX when the Gateway inits. If U2, the read will be made to the first listening address !!

Accept Exit

R flag: Communication object responds to read/update requests triggered from other devices on bus

Configuration of SM-AC-KNX in LinkBoxEIB

Configuration Samsung - Max.Indoor Units 128 - Max.GroupsEIB:4000

Connection | Signals

EIB

15.15.250 Physical Address

☒ Forzar actualizar después de un reset de bus EIB.

4 Delay for update after bus reset.

128AC Version

Samsung (MIM-B13A/B04A RS485 Card)

Indoor Units

Indoor Units	MIM	AC	Name
<input checked="" type="checkbox"/> IU-1	0	0	Indoor Unit 1
<input checked="" type="checkbox"/> IU-2	0	1	Indoor Unit 2
<input checked="" type="checkbox"/> IU-3	0	2	Indoor Unit 3
<input type="checkbox"/> IU-4	0	3	
<input type="checkbox"/> IU-5	0	4	
<input type="checkbox"/> IU-6	0	5	
<input type="checkbox"/> IU-12	0	11	
<input type="checkbox"/> IU-13	0	12	
<input type="checkbox"/> IU-14	0	13	

MIM 0 AC 0

Name Indoor Unit 1

Advanced adjustments

30 Initial tracking time (sec)

5 Time waiting valid read after a write (sec)

100 Delay between Tx (milisec)

10 Maximum number of writes at once

10 Polling cycles per tracking

Update on bus recovery/startup
U flag on Com. Obj's only has effect if this option is checked

Affects to the KNX groups with feature U and type of signal 1-In and 2-I/O

Accept Exit

Configuration of SM-AC-KNX in LinkBoxEIB

Configuration Samsung - Max.Indoor Units 128 - Max.GroupsEIB:4000

Connection | Signals

EIB

15.15.250 Physical Address

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<input type="checkbox"/> IU-4	0	3	
<input type="checkbox"/> IU-5	0	4	
<input type="checkbox"/> IU-6	0	5	
<input type="checkbox"/> IU-7	0	6	
<input type="checkbox"/> IU-13	0	12	
<input type="checkbox"/> IU-14	0	13	

MIM 0 AC 0

Name Indoor Unit 1

Advanced adjustments

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5 Time waiting valid read after a write (sec)

100 Delay between Tx (milisec)

10 Maximum number of writes at once

10 Polling cycles per tracking

Affects to the KNX groups with feature U and type of signal 1-In and 2-I/O

Accept Exit

Delay (in seconds) after bus recovery that will wait, before sending the update requests

Configuration of SM-AC-KNX in LinkBoxEIB

Configuration Samsung - Max.Indoor Units 128 - Max.GroupsEIB:4000

Connection | Signals

EIB

15.15.250 Physical Address

☒ Forzar actualizar después de un reset de bus EIB.

4 Delay for update after bus reset.

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<input type="checkbox"/> IU-4	0	3	
<input type="checkbox"/> IU-5	0	4	
<input type="checkbox"/> IU-6	0	5	
<input type="checkbox"/> IU-7	0	6	
<input type="checkbox"/> IU-13	0	12	
<input type="checkbox"/> IU-14	0	13	

MIM 0 AC 0

Name Indoor Unit 1

Advanced adjustments

30 Initial tracking time (sec)

5 Time waiting valid read after a write (sec)

100 Delay between Tx (milisec)

10 Maximum number of writes at once

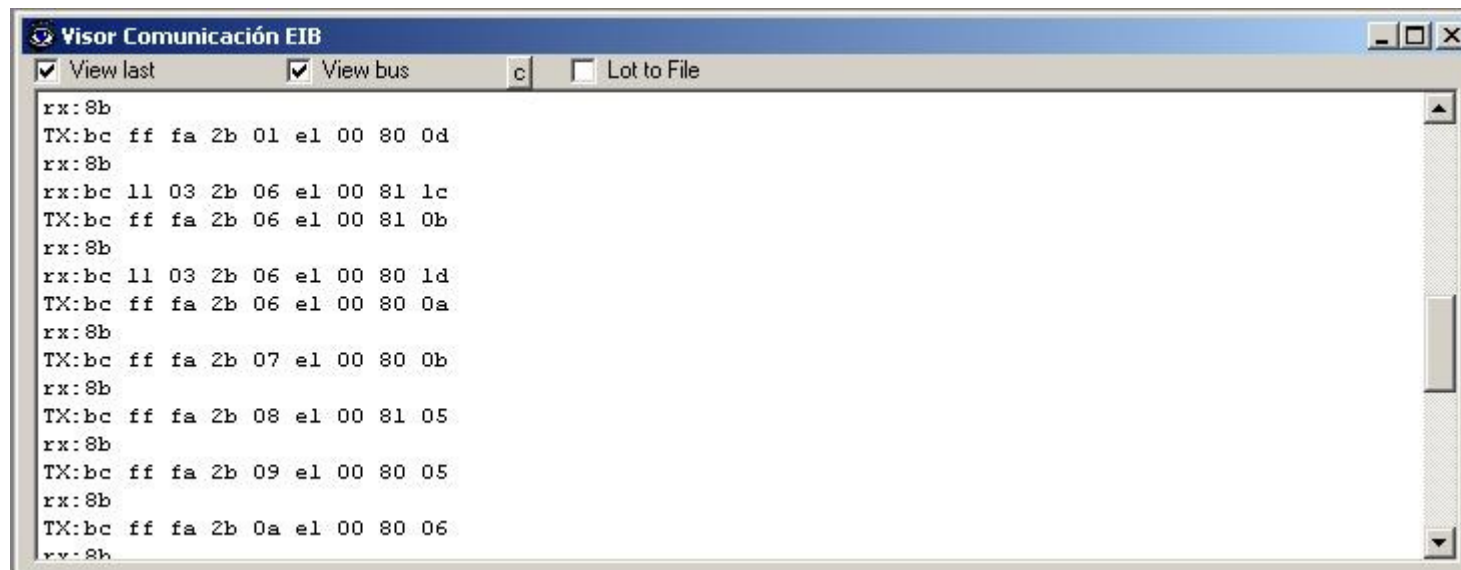
10 Polling cycles per tracking

Affects to the KNX groups with feature U and type of signal 1-In and 2-I/O

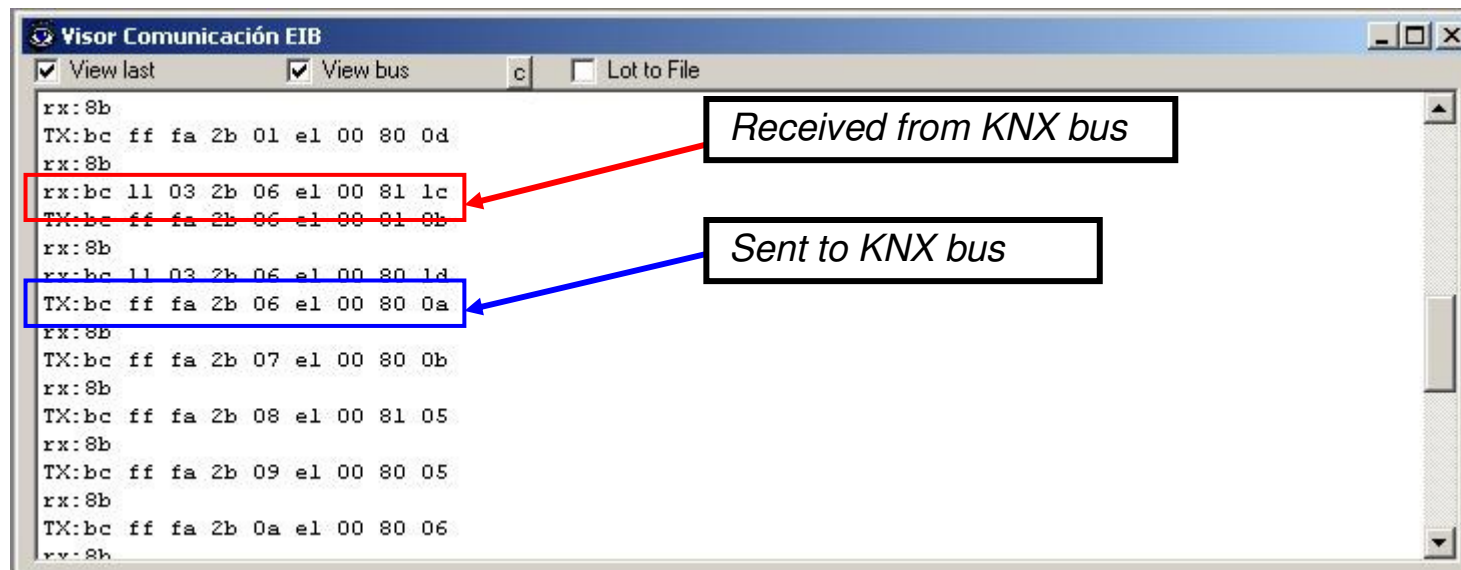
Accept Exit

Physical address: it is not relevant for SM-AC-KNX (related to programming with ETS)

KNX bus on LinkBoxEIB bus viewer



KNX bus on LinkBoxEIB bus viewer



Thanks for your attention!



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