

HANDING OVER DOCUMENT



automation & controls
electrical engineering
workplace technology

PROJECT - **OXFORD RESIDENCES – 72 APARTMENTS,
BAVDHAN, PUNE**

AREA - **HOTEL RESIDENCE**

SYSTEM - **AUTOMATION SYSTEM**

VENDOR - **MESSUNG SYSTEMS PVT LTD**

CONTENTS

1. Introduction
2. System Architecture
3. Make and Model Numbers
4. Sequence of Operation
5. Commissioning Documents
6. Automation As Build Drawings

INTRODUCTION



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KNX INTRODUCTION

Current needs for energy saving and the finding of more comfort in buildings require the development of Automation systems, energy management and safety for home and buildings.

A system that ensures communication between all devices and allows all components to communicate through a common language would satisfy this requirement.

The automation system that meets these requirements is the KNX Standard, which allows, through a transmission medium (bus) to which all devices are connected, the control of all existing applications in a building, such as:

- Lighting
- Blinds/Shutters/Curtains
- Safety systems
- Energy management
- Heating, ventilation and air conditioning
- Monitoring systems and signage
- Interfaces to other services
- Measurement
- Control audio/video



The KNX standard is approved as:

- International Standard: **ISO/IEC 14543-3**
- European Standard: **CENELEC EN 50090, CEN EN 12321-1**
- China Standard: **GB/T 20965**

This gives KNX solution providers the following advantages:

- **Open system:** The system is independent of the manufacturer. Can be combined in the same installation, Products from different manufacturers.
- **Scalable system:** Fits any type of building and can be modified/extend at any time.
- **Reprogrammable system:** Devices can update and reprogram its functionality.
- **Distributed communication system:** If one device fails, doesn't fall the entire system.

SYSTEM ARCHITECTURE



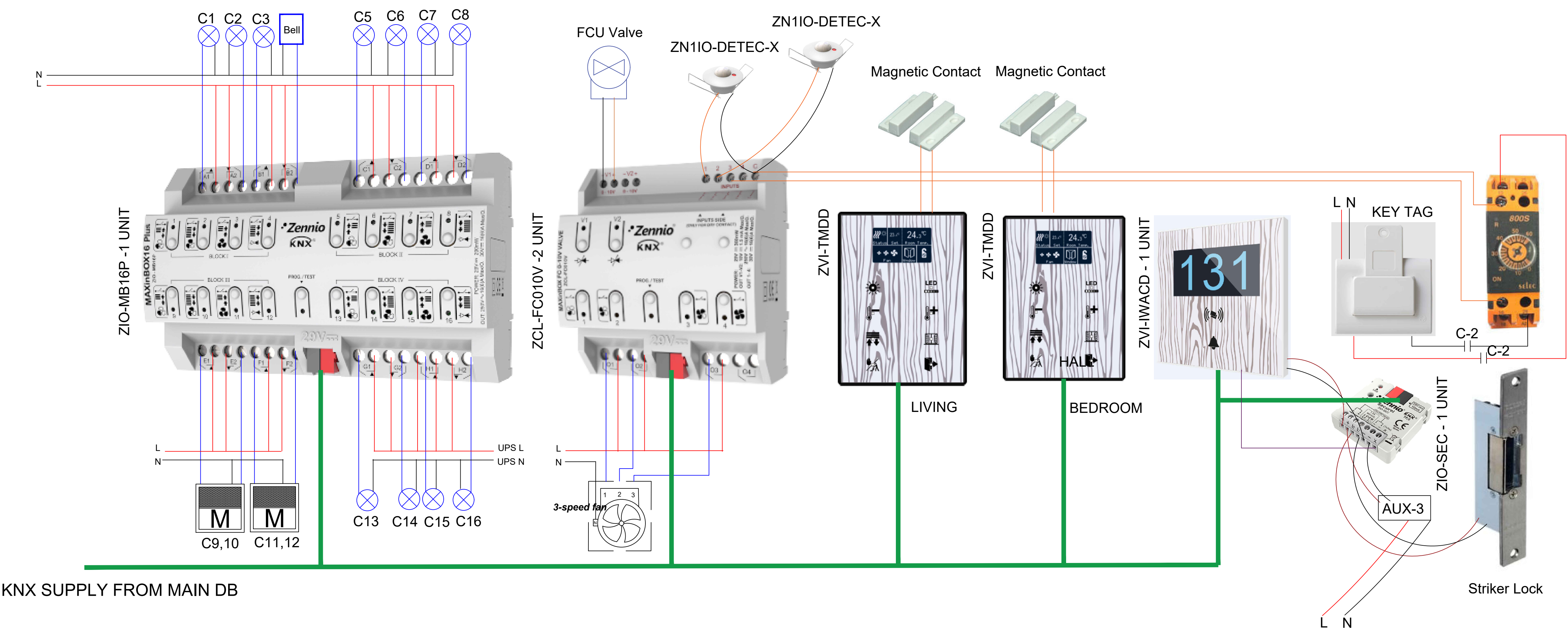
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For One Room Structure :

Oxford Residences, Pune							
Schedule:Room 101							
Controls	Outside	Living	Master Bedroom	Powder Room	Master Bathroom	Gallery	Total
Front End Devices							
IWACD	1						1
TMDD		1	1				2
Motion Sensor				1	1		2
Magnetic Contact		2	2				4
Back End Devices							
Lights On / Off		3	3	2	2	1	11
BELL	1						1
Striker	1						1
Curtains		1	1				2
FCU Control		1	1				2
KNX EIB Cable	50 mtrs						

Oxford Residences, Pune		
BOM: Room 101		
DEVICES	DESCRIPTION	UNITS
ZVI-IWACD	Access Control	1
ZIO-SEC	Encrypted relay for secured door opening (Access control)	1
ZVI-TMDD-CUS	KNX Capacitive Room Controller.	2
ZPS-AUX3	Power supply for access control 24 VDC/1A	1
ZIO-MB16P	MAXinBOX 16 Plus is a multifunction actuator	1
ZCL-FC010V	Fan-coil controller for a 2-Pipe or 4-Pipe fan coil with 0-10 VDC valves and up to 4 fan speeds.	2
ZN1IO-DETEC-X	Motion detector	2
Magnetic Contact	Window magnetic contact for AC On/Off	4
Timer Relay	Relay for converting Binary Inpts	1
KNX EIB Cable	50 mtrs	1

ONE ROOM STRUCTURE



KEYS & NOTES

	230V Phase Wiring
	Neutral Wiring
	Earth Wiring
	KNX Bus
	Output circuits
	Binary Wiring
	Curtain
	LAN/Cat 6
	IWACD - DC Wiring
	Communication Cable
C-2	Raw Supply Contactor

PROJECT: **Oxford Residences,Pune**

TITLE: **System Architecture**
- **For One Room**

DRAWN BY: Mr.Shridhar Deshpande

CHECK BY: Mr.Yatin Kolhe

REV: 0

DATE: 28-5-2019

REMARKS:



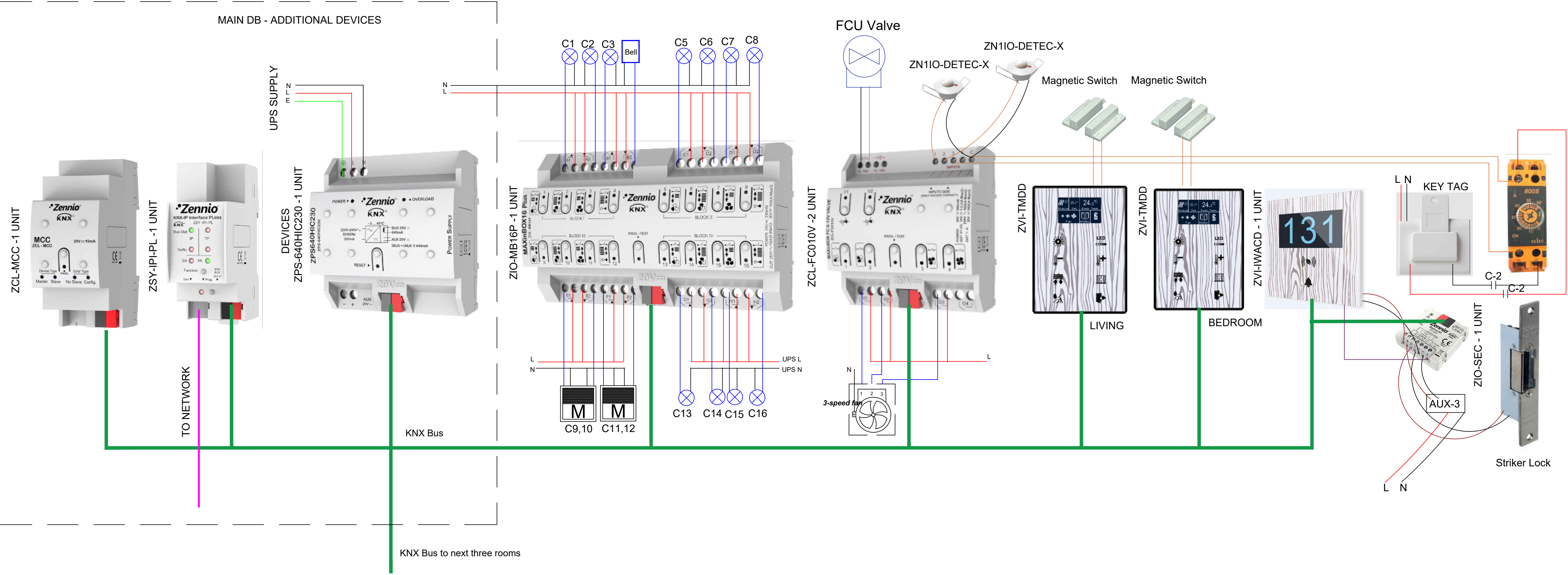
101

For Main Room Structure :

Oxford Residences, Pune							
Schedule:Room 101,102,111,112							
Controls	Outside	Living	Master Bedroom	Powder Room	Master Bathroom	Gallery	Total
Front End Devices							
IWACD	4						4
TMDD		4	4				8
Motion Sensor				4	4		8
Magnetic Contact		8	8				16
Back End Devices							
Lights On / Off		12	12	8	8	4	44
BELL	4						4
Striker	4						4
Curtains		4	4				8
FCU Control		4	4				8
KNX EIB Cable	200 mtrs						

Oxford Residences, Pune		
BOM: Room 101,102,111,112		
DEVICES	DESCRIPTION	UNITS
ZVI-IWACD	Access Control	4
ZIO-SEC	Encrypted relay for secured door opening (Access control)	4
ZVI-TMDD-CUS	KNX Capacitive Room Controller.	8
ZPS-640HIC230	KNX System Power Supply with additional 29VDC output.	1
ZSY-IPI-PL	KNX-IP interface without auxiliary power supply	1
ZCL-MCC	Controlling climate of multiple rooms	1
Bus Filter	For removing noise in KNX BUS	1
ZPS-AUX3	Power supply for access control 24 VDC/1A	4
ZIO-MB16P	MAXinBOX 16 Plus is a multifunction actuator	4
ZCL-FC010V	Fan-coil controller for a 2-Pipe or 4-Pipe fan coil with 0-10 VDC valves and up to 4 fan speeds.	8
ZN1IO-DETEC-X	Motion detector	8
Magnetic Contact	Window magnetic contact for AC On/Off	4
Timer Relay	Relay for converting Binary Inpts	4
KNX EIB Cable	200 mtrs	1

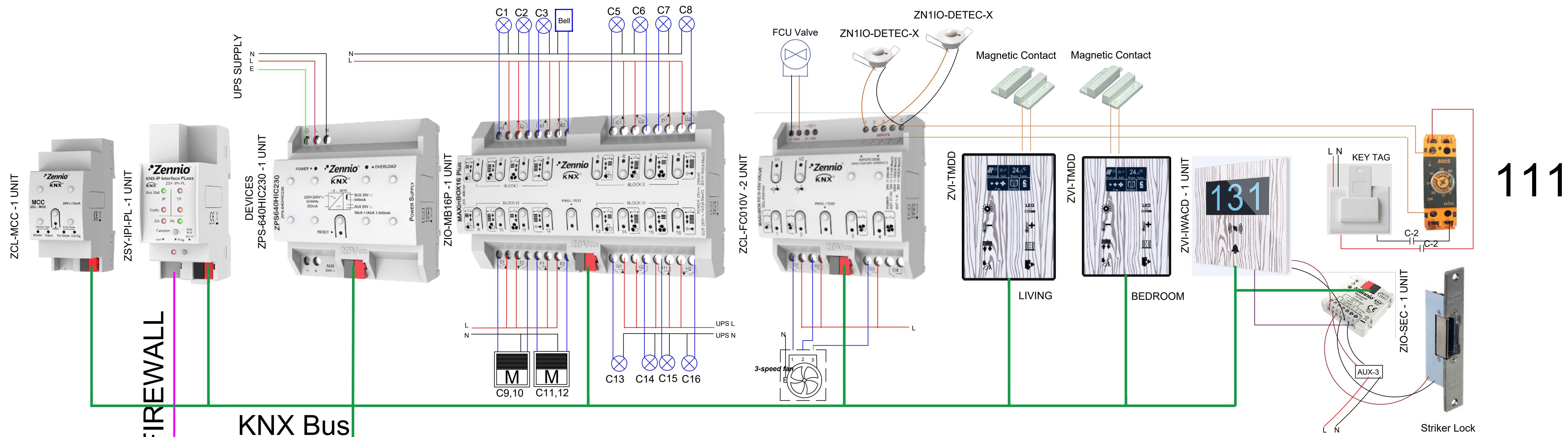
MAIN ROOM STRUCTURE



111

KEYS & NOTES	
	230V Phase Wiring
	Neutral Wiring
	Earth Wiring
	KNX Bus
	Output circuits
	Binary Wiring
	Curtain
	LAN/Cat 6
	IWACD - DC Wiring
	Communication Cable
C-2	Raw Supply Contactor
PROJECT: Oxford Residences,Pune	
TITLE: System Architecture - For Main Room	
DRAWN BY: Mr.Shridhar Deshpande	
CHECK BY: Mr.Yatin Kolhe	
REV: 0	DATE: 28-5-2019
REMARKS:	

FOUR ROOMS STRUCTURE



TO NETWORK SWITCH WITH FIREWALL

KNX Bus

Room Configuration As Above (knx power supply and interface is common for 4 rooms) 112

Room Configuration As Above (knx power supply and interface is common for 4 rooms) 102

Room Configuration As Above (knx power supply and interface is common for 4 rooms) 101

KEYS & NOTES

	230V Phase Wiring
	Neutral Wiring
	Earth Wiring
	KNX Bus
	Output circuits
	Binary Wiring
	Curtain
	LAN/Cat 6
	IWACD - DC Wiring
	Communication Cable
C-2	Raw Supply Contactor

PROJECT: Oxford Residences,Pune

TITLE: System Architecture
- For Four Rooms

DRAWN BY: Mr.Shridhar Deshpande

CHECK BY: Mr.Yatin Kolhe

REV: 0 DATE: 28-5-2019

REMARKS:

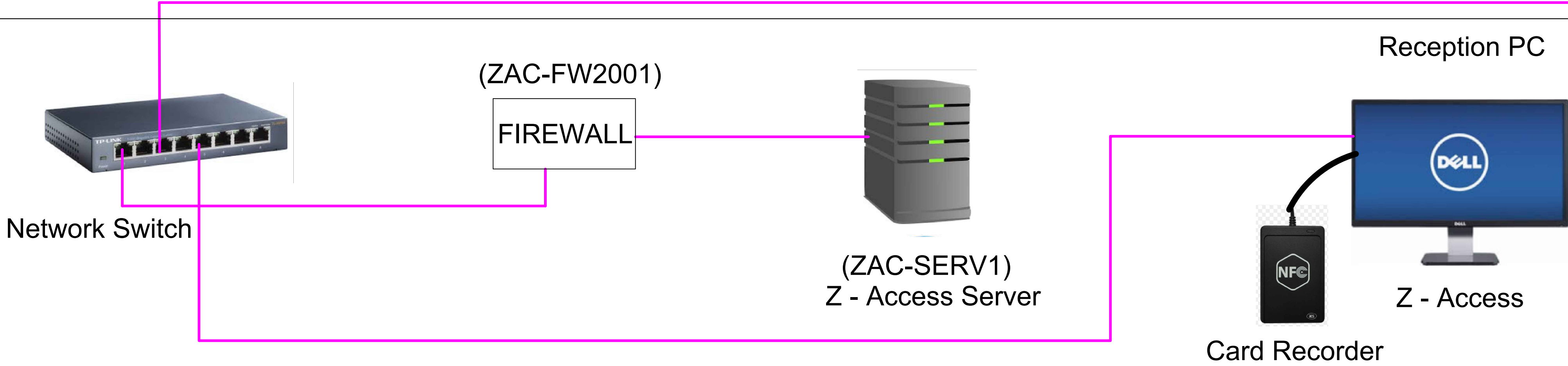
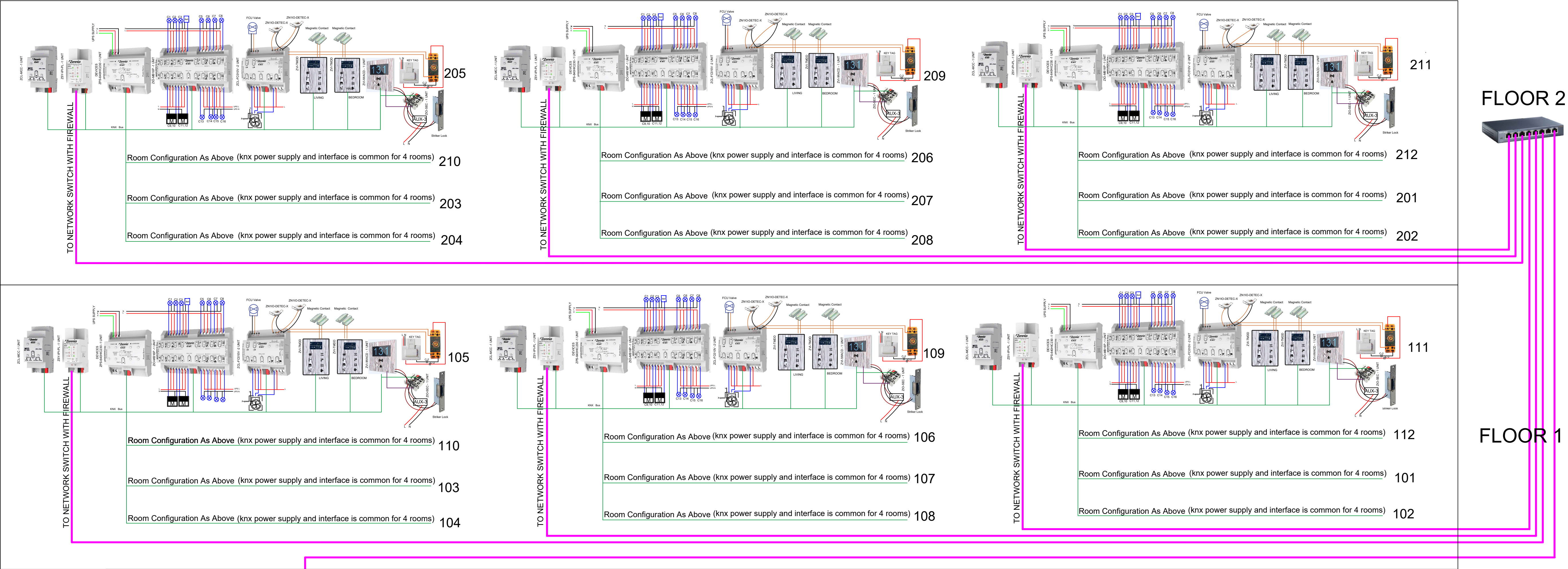


For 72 Rooms required Devices :

Oxford Residences, Pune				
BOM: Room for 72 Rooms				
DEVICES	DESCRIPTION	UNITS	Number of Structure	Total
ZVI-IWACD	Access Control	4	18	72
ZIO-SEC	Encrypted relay for secured door opening (Access control)	4	18	72
ZVI-TMDD-CUS	KNX Capacitive Room Controller.	8	18	144
ZPS-640HIC230	KNX System Power Supply with additional 29VDC output.	1	18	18
ZSY-IPI-PL	KNX-IP interface without auxiliary power supply	1	18	18
ZCL-MCC	Controlling climate of multiple rooms	1	18	18
Bus Filter	For removing noise in KNX BUS	1	18	18
ZPS-AUX3	Power supply for access control 24 VDC/1A	4	18	72
ZIO-MB16P	MAXinBOX 16 Plus is a multifunction actuator	4	18	72
ZCL-FC010V	Fan-coil controller for a 2-Pipe or 4-Pipe fan coil with 0-10 VDC valves and up to 4 fan speeds.	8	18	144
ZN1IO-DETEC-X	Motion detector	8	18	144
Timer Relay	Relay for converting Binary Inpts	4	18	72
KNX EIB Cable	200 mtrs	1	18	18

GRMS and Z-Access Control

-- FLOOR 6



KEYS & NOTES

	230V Phase Wiring
	Neutral Wiring
	Earth Wiring
	KNX Bus
	Output circuits
	Binary Wiring
	Curtain
	LAN/Cat 6
	IWACD - DC Wiring
	Communication Cable
C-2	Raw Supply Contactor

SINGLE LINE DIAGRAM

MAKE & MODEL



automation & controls
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Parts List

Project: **Oxford Residences - Four Rooms**

Import date: 20 April 2019

Print date: **20 April 2019**

Print time: 16:32:00

Status: Finished Design

*Attention! This part list doesn't include ALL necessary devices for this project.
Possibly not included devices are Serial device, Power supply, ... !*

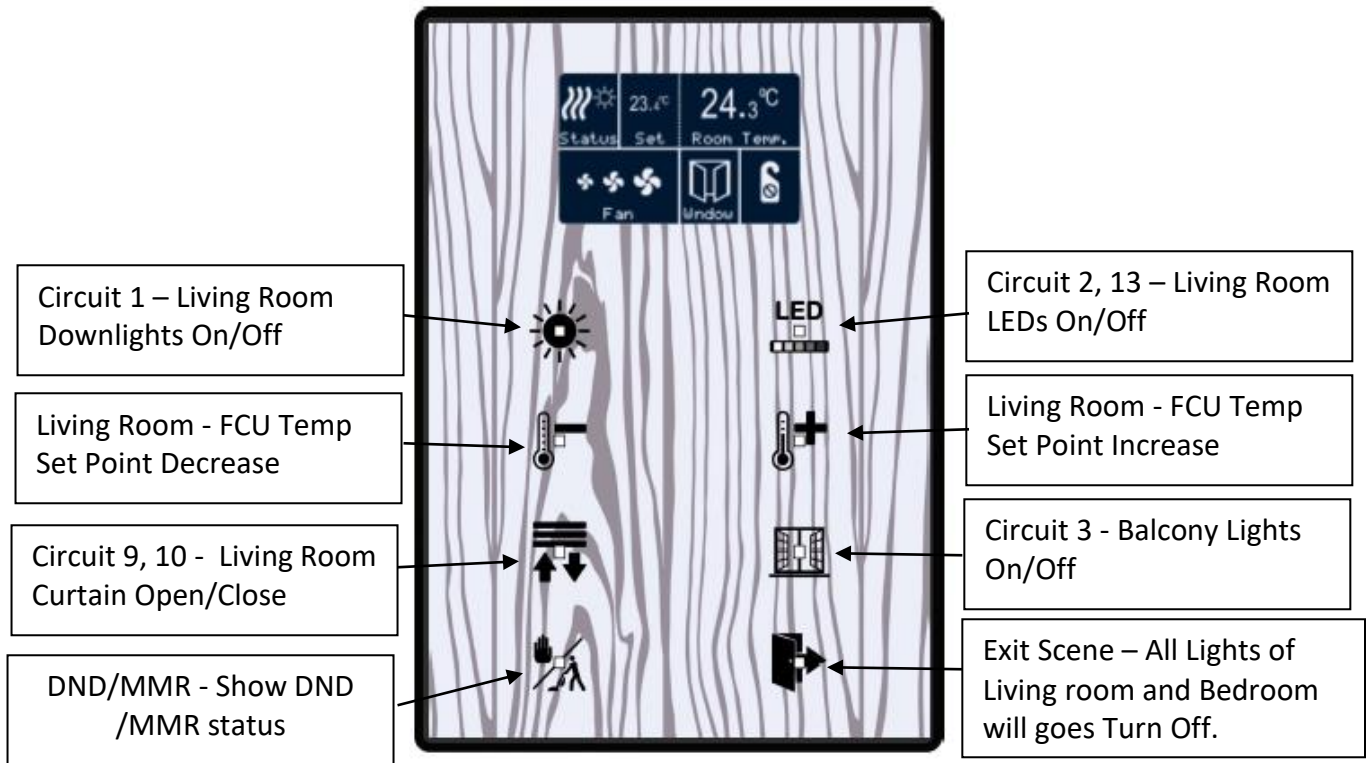
Parts List Oxford Residences - Four Rooms

Device Count	Order Number	Product	Color	Series	RailMounted ?	Width
Zennio						
8	ZCL-FC010V	MAXinBOX FC 0-10V VALVE			Yes	79.00 mm
1	ZCL-MCC	MCC			Yes	35.00 mm
4	ZIO-MB16P	MAXinBOX 16 Plus			Yes	140.00 mm
4	ZIO-SEC	Securel			No	
1	ZPS-640HIC230	ZPS640HIC230			Yes	79.00 mm
1	ZSY-IPI-PL	Zennio KNX-IP Interface PLess			Yes	35.00 mm
4	ZVI-IWACD	IWAC Display			No	
8	ZVI-TMDD	TMD-Display			No	

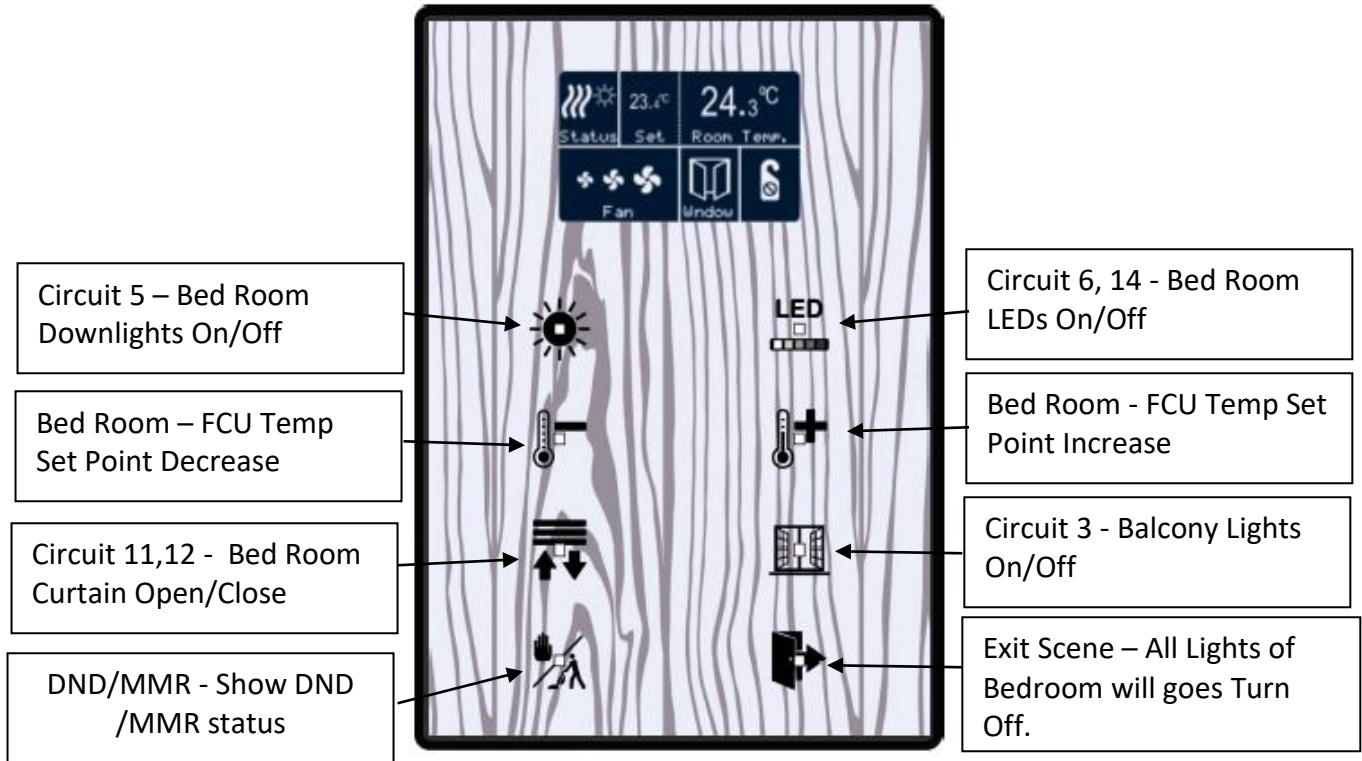
*Attention! This part list doesn't include ALL necessary devices for this project.
Possibly not included devices are Serial device, Power supply, ... !*

SEQUENCE OF OPERATION

Living Room TMDD



Bed Room TMDD



COMMISSIONING SHEETS



automation & controls
electrical engineering
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Topology

Project: **Oxford Residences - Four Rooms**

Import date: 20 April 2019

Print date: **20 April 2019**

Print time: 16:30:14

Status: Finished Design

Topology Oxford Residences - Four Rooms

Address Description Room Comments Installation Notes	Manufacturer	Order Number	Product Trade	Application	Status
 0	Backbone area				
 0.0	IP	Backbone line			
 1	New area				
 1.0	IP	Main line			
 1.1	TP	New line			
31 devices in line					
 1.1.- - ROOOM 111	Zennio	ZPS-640HIC230	ZPS640HIC230		
 1.1.11 - ROOOM 101	Zennio	ZVI-TMDD	TMD-Display	TMD-Display One 2.2	Finished Design
 1.1.12 - ROOOM 101	Zennio	ZCL-FC010V	MAXinBOX FC 0-10V VALVE	MAXinBOX FC 0-10V VALVE 1.2	
 1.1.13 - ROOOM 101	Zennio	ZVI-IWACD	IWAC Display	IWAC Display 1.0	Finished Design
 1.1.14 - ROOOM 101	Zennio	ZIO-SEC	Securel	Securel 1.1	Finished Design
 1.1.15 - ROOOM 101	Zennio	ZIO-MB16P	MAXinBOX 16 Plus	MAXinBOX 16 Plus 1.2	
 1.1.16 - ROOOM 101	Zennio	ZVI-TMDD	TMD-Display	TMD-Display One 2.2	Finished Design
 1.1.17 - ROOOM 101	Zennio	ZCL-FC010V	MAXinBOX FC 0-10V VALVE	MAXinBOX FC 0-10V VALVE 1.2	
 1.1.21 - ROOOM 102	Zennio	ZVI-TMDD	TMD-Display	TMD-Display One 2.2	Finished Design
 1.1.22 - ROOOM 102	Zennio	ZCL-FC010V	MAXinBOX FC 0-10V VALVE	MAXinBOX FC 0-10V VALVE 1.2	
 1.1.23 - ROOOM 102	Zennio	ZVI-IWACD	IWAC Display	IWAC Display 1.0	Finished Design
 1.1.24 - ROOOM 102	Zennio	ZIO-SEC	Securel	Securel 1.1	Finished Design
 1.1.25 - ROOOM 102	Zennio	ZIO-MB16P	MAXinBOX 16 Plus	MAXinBOX 16 Plus 1.2	
 1.1.26 - ROOOM 102	Zennio	ZVI-TMDD	TMD-Display	TMD-Display One 2.2	Finished Design
 1.1.27 - ROOOM 102	Zennio	ZCL-FC010V	MAXinBOX FC 0-10V VALVE	MAXinBOX FC 0-10V VALVE 1.2	
 1.1.31 - ROOOM 111	Zennio	ZVI-TMDD	TMD-Display	TMD-Display One 2.2	Finished Design

Topology Oxford Residences - Four Rooms

Address Description Room Comments Installation Notes	Manufacturer	Order Number	Product Trade	Application	Status
 1	New area				
 1.1	TP	New line			
 1.1.32	Zennio	ZCL-FC010V	MAXinBOX FC 0-10V VALVE	MAXinBOX FC 0-10V VALVE 1.2	
- ROOOM 111					
 1.1.33	Zennio	ZVI-IWACD	IWAC Display	IWAC Display 1.0	Finished Design
- ROOOM 111					
 1.1.34	Zennio	ZIO-SEC	Securel	Securel 1.1	Finished Design
- ROOOM 111					
 1.1.35	Zennio	ZIO-MB16P	MAXinBOX 16 Plus	MAXinBOX 16 Plus 1.2	
- ROOOM 111					
 1.1.36	Zennio	ZVI-TMDD	TMD-Display	TMD-Display One 2.2	Finished Design
- ROOOM 111					
 1.1.37	Zennio	ZCL-FC010V	MAXinBOX FC 0-10V VALVE	MAXinBOX FC 0-10V VALVE 1.2	
- ROOOM 111					
 1.1.41	Zennio	ZVI-TMDD	TMD-Display	TMD-Display One 2.2	Finished Design
- ROOOM 112					
 1.1.42	Zennio	ZCL-FC010V	MAXinBOX FC 0-10V VALVE	MAXinBOX FC 0-10V VALVE 1.2	
- ROOOM 112					
 1.1.43	Zennio	ZVI-IWACD	IWAC Display	IWAC Display 1.0	Finished Design
- ROOOM 112					
 1.1.44	Zennio	ZIO-SEC	Securel	Securel 1.1	Finished Design
- ROOOM 112					
 1.1.45	Zennio	ZIO-MB16P	MAXinBOX 16 Plus	MAXinBOX 16 Plus 1.2	
- ROOOM 112					
 1.1.46	Zennio	ZVI-TMDD	TMD-Display	TMD-Display One 2.2	Finished Design
- ROOOM 112					
 1.1.47	Zennio	ZCL-FC010V	MAXinBOX FC 0-10V VALVE	MAXinBOX FC 0-10V VALVE 1.2	
- ROOOM 112					
 1.1.240	Zennio	ZSY-IPI-PL	Zennio KNX-IP Interface PLess	Zennio KNX-IP Interface PLess 1.0	
- ROOOM 111					
 1.1.251	Zennio	ZCL-MCC	MCC	Multiroom Climate Controller 1.5	
V-1.5-PI Control-Cooling					
- ROOOM 111					

Buildings

Project: **Oxford Residences - Four Rooms**

Import date: 20 April 2019

Print date: **20 April 2019**

Print time: 16:28:34

Status: Finished Design

Buildings Oxford Residences - Four Rooms

Address Description Comments Installation Notes	Manufacturer	Order Number	Product	Application	Status
 02_STANDARD_ROOM_v1					
 - ROOOM 101					
 1.1.11	Zennio	ZVI-TMDD	TMD-Display	TMD-Display One 2.2	Finished Design
 1.1.12	Zennio	ZCL-FC010V	MAXinBOX FC 0-10V VALVE	MAXinBOX FC 0-10V VALVE 1.2	
 1.1.13	Zennio	ZVI-IWACD	IWAC Display	IWAC Display 1.0	Finished Design
 1.1.14	Zennio	ZIO-SEC	Securel	Securel 1.1	Finished Design
 1.1.15	Zennio	ZIO-MB16P	MAXinBOX 16 Plus	MAXinBOX 16 Plus 1.2	
 1.1.16	Zennio	ZVI-TMDD	TMD-Display	TMD-Display One 2.2	Finished Design
 1.1.17	Zennio	ZCL-FC010V	MAXinBOX FC 0-10V VALVE	MAXinBOX FC 0-10V VALVE 1.2	
 - ROOOM 102					
 1.1.21	Zennio	ZVI-TMDD	TMD-Display	TMD-Display One 2.2	Finished Design
 1.1.22	Zennio	ZCL-FC010V	MAXinBOX FC 0-10V VALVE	MAXinBOX FC 0-10V VALVE 1.2	
 1.1.23	Zennio	ZVI-IWACD	IWAC Display	IWAC Display 1.0	Finished Design
 1.1.24	Zennio	ZIO-SEC	Securel	Securel 1.1	Finished Design
 1.1.25	Zennio	ZIO-MB16P	MAXinBOX 16 Plus	MAXinBOX 16 Plus 1.2	
 1.1.26	Zennio	ZVI-TMDD	TMD-Display	TMD-Display One 2.2	Finished Design
 1.1.27	Zennio	ZCL-FC010V	MAXinBOX FC 0-10V VALVE	MAXinBOX FC 0-10V VALVE 1.2	
 - ROOOM 111					
 1.1.-	Zennio	ZPS-640HIC230	ZPS640HIC230		
 1.1.31	Zennio	ZVI-TMDD	TMD-Display	TMD-Display One 2.2	Finished Design
 1.1.32	Zennio	ZCL-FC010V	MAXinBOX FC 0-10V VALVE	MAXinBOX FC 0-10V VALVE 1.2	
 1.1.33	Zennio	ZVI-IWACD	IWAC Display	IWAC Display 1.0	Finished Design
 1.1.34	Zennio	ZIO-SEC	Securel	Securel 1.1	Finished Design
 1.1.35	Zennio	ZIO-MB16P	MAXinBOX 16 Plus	MAXinBOX 16 Plus 1.2	
 1.1.36	Zennio	ZVI-TMDD	TMD-Display	TMD-Display One 2.2	Finished Design
 1.1.37	Zennio	ZCL-FC010V	MAXinBOX FC 0-10V VALVE	MAXinBOX FC 0-10V VALVE 1.2	
 1.1.240	Zennio	ZSY-IPI-PL	Zennio KNX-IP Interface PLess	Zennio KNX-IP Interface PLess 1.0	

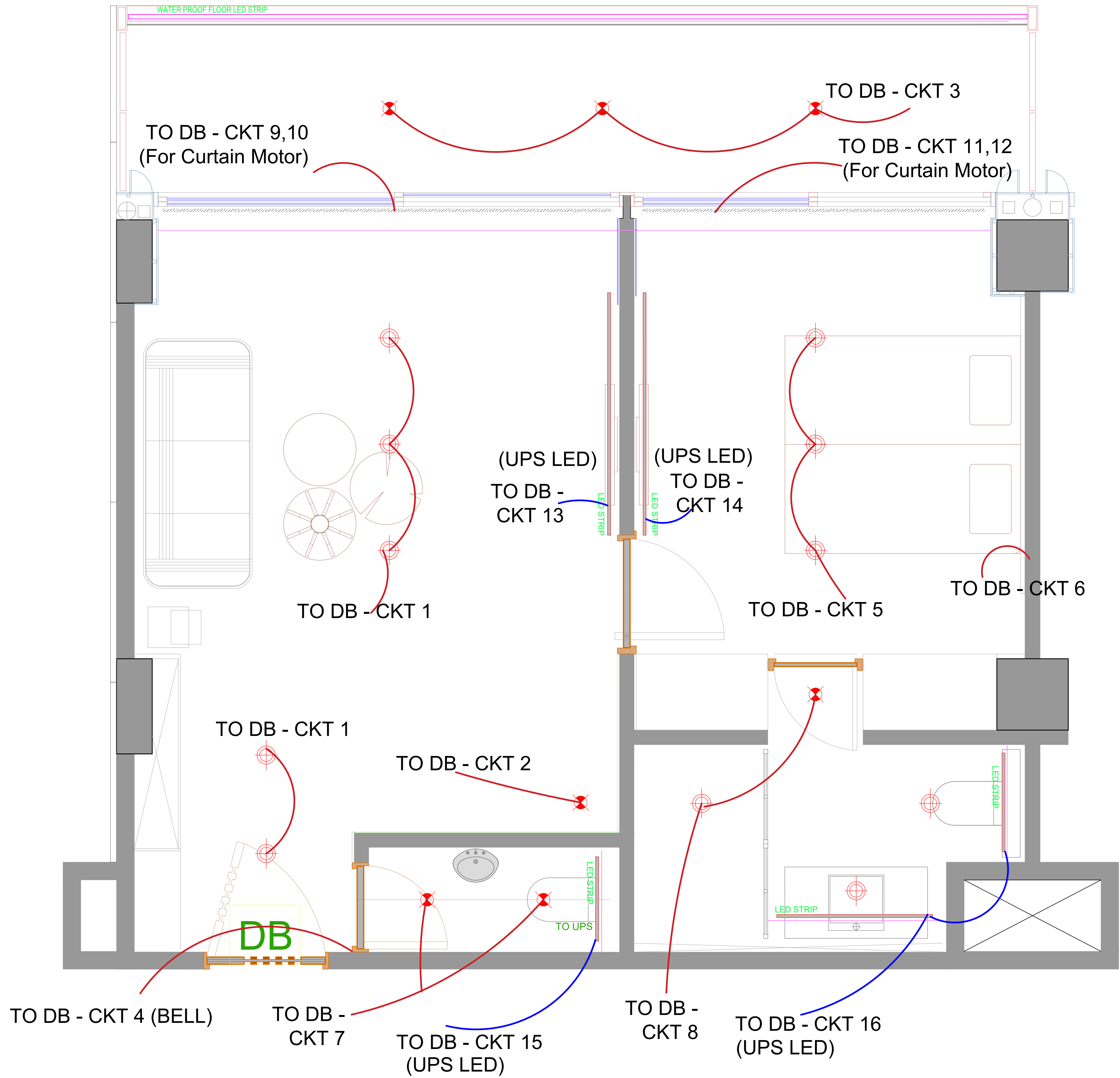
Buildings Oxford Residences - Four Rooms

Address Description Comments Installation Notes	Manufacturer	Order Number	Product	Application	Status
 02_STANDARD_ROOM_v1					
 - ROOOM 111					
 1.1.251	Zennio	ZCL-MCC	MCC	Multiroom Climate Controller 1.5	
V-1.5-PI Control-Cooling					
 - ROOOM 112					
 1.1.41	Zennio	ZVI-TMDD	TMD-Display	TMD-Display One 2.2	Finished Design
 1.1.42	Zennio	ZCL-FC010V	MAXinBOX FC 0-10V VALVE	MAXinBOX FC 0-10V VALVE 1.2	
 1.1.43	Zennio	ZVI-IWACD	IWAC Display	IWAC Display 1.0	Finished Design
 1.1.44	Zennio	ZIO-SEC	Securel	Securel 1.1	Finished Design
 1.1.45	Zennio	ZIO-MB16P	MAXinBOX 16 Plus	MAXinBOX 16 Plus 1.2	
 1.1.46	Zennio	ZVI-TMDD	TMD-Display	TMD-Display One 2.2	Finished Design
 1.1.47	Zennio	ZCL-FC010V	MAXinBOX FC 0-10V VALVE	MAXinBOX FC 0-10V VALVE 1.2	

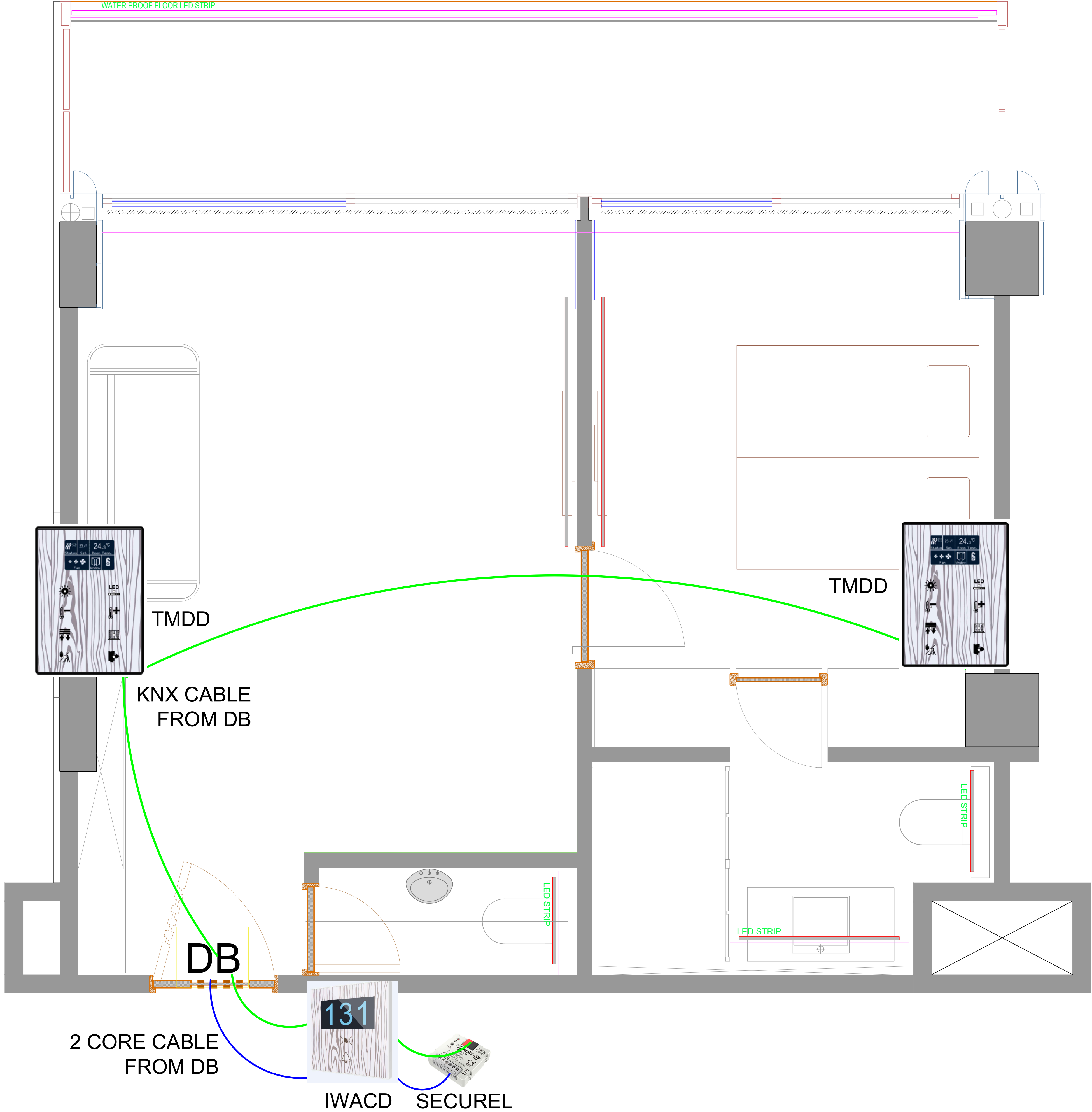
AUTOMATION AS BUILT DRAWINGS



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KEYS & NOTES	
	On/Off Light
	LED
	Motion Detector
	Curtain
	Phase wiring (Raw) - 2 CORE 1.5 Sq mm
	Phase wiring for (UPS) - 2 CORE 1.5 Sq mm
PROJECT: Oxford Residences,Pune	
Title: Electrical Wiring	
Drawn By: Shridhar Deshpande	
Check By : Yatin Kolhe	
Date : 20-Apr-19	
REV: 0.1	
REMARKS:	



KEYS & NOTES

- UPS Supply from DB
- KNX Bus

PROJECT: **Oxford Residences,Pune**

TITLE:
KNX Wiring

Drawn By: Shridhar Deshpande

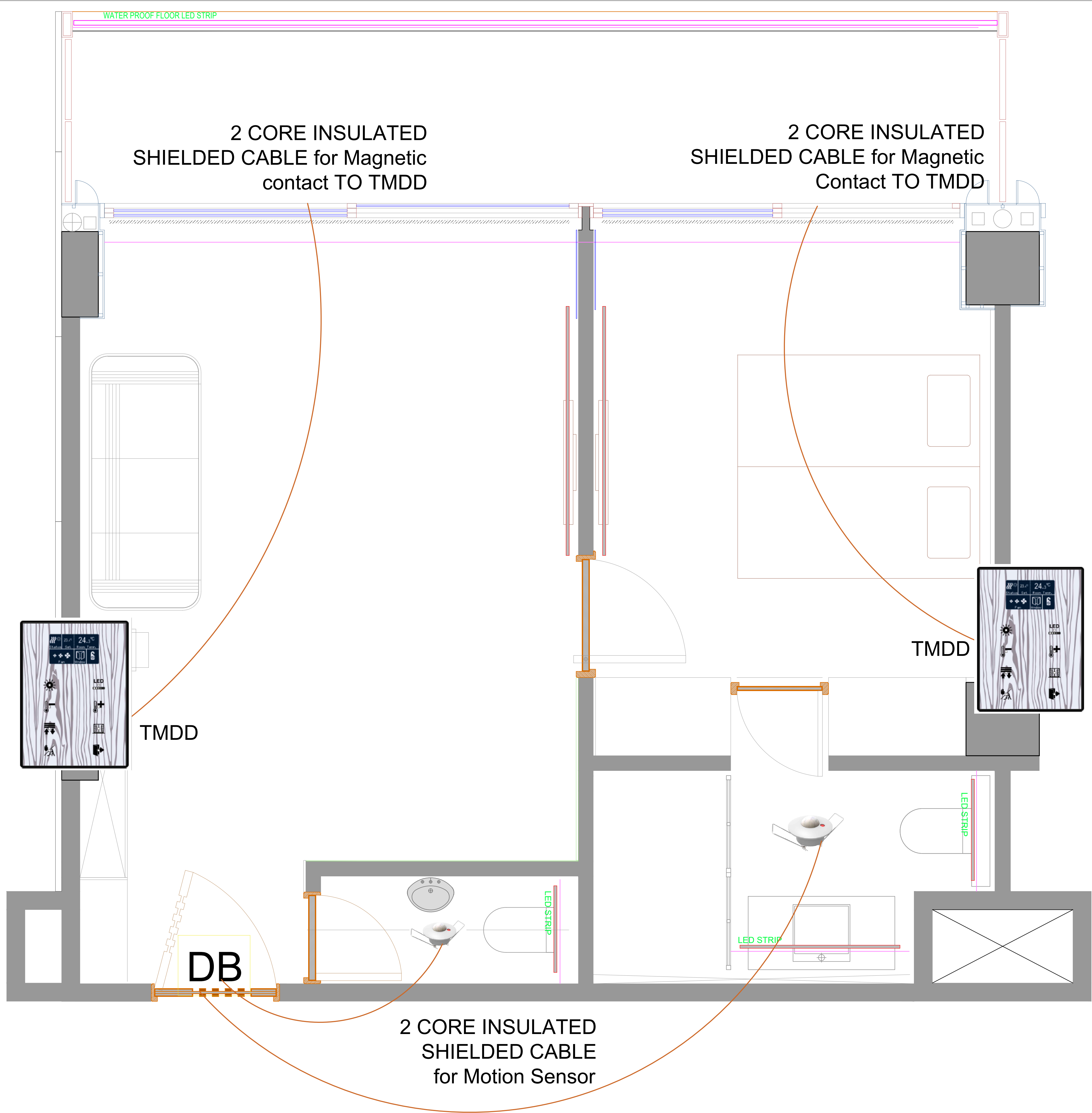
Check By : Yatin Kolhe

Date : 20-Apr-19

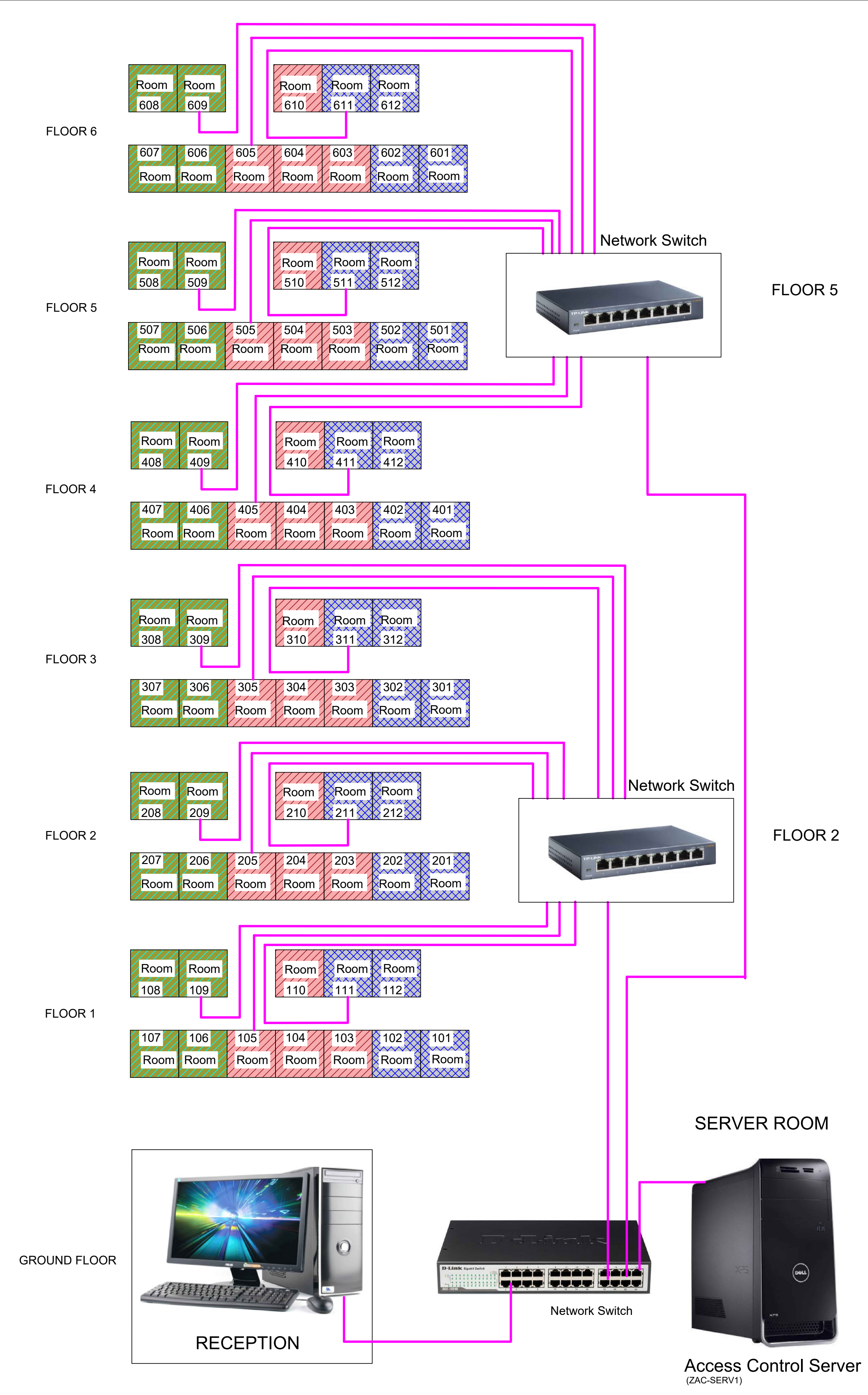
REV: 0.1

REMARKS:





KEYS & NOTES	
	BINARY wiring 2 CORE 1.5 Sqmm INSULATED SHIELDED CABLE
PROJECT: Oxford Residences,Pune	
TITLE: Binary Wiring	
Drawn By: Shridhar Deshpande Check By : Yatin Kolhe Date : 20-Apr-19 REV: 0.1	
REMARKS:	
	



KEYS & NOTES	
	LAN CABLE
PROJECT: Oxford Residences , Pune	
TITLE: LAN Layout	
DRAWN BY: Shridhar Deshpande	
CHECK BY: Yatin Kolhe	
REV: 0 DATE: 2-3-2018	
REMARKS:	
 MESSUNG	

PROJECT CLOSEOUT FORM

MESSUNG TO CLIENT PROJECT HANDOVER REPORT

CLIENT NAME	Oxford Residences,Bavdhan, Pune
PROJECT NAME	Oxford Residences,72 Apartments,Bavdhan, Pune
AREA	Hotel-Residence
DATE OF CONFIRMATION	1/11/2017
SYSTEM	Automation System
LOCATION	Oxford Residences, Bavdhan, Pune

This Document to certify that the above PROJECT has achieved practical completion (With the exception listed in Attachment2). The defect liability period starts on 1/1/2019 and ends on 1/1/2020.(As per attachment1).

Project Handover has been accepted by the client as indicated by the signatures below

For: Messung Systems Pvt. Ltd, Pune. Name: Mr.Yatin Kolhe Designation: Manager Projects Date:	For: Oxford Residences,Bavdhan, Pune Name: Designation: Date:
For: Messung Systems Pvt. Ltd, Pune. Name: Mr.Shridhar Deshpande Designation: Jr. Engineer Date:	For: Oxford Residences,Bavdhan, Pune Name: Designation: Date:

Attachment1:

TERMS & CONDITIONS OF WARRANTY:

The warranty covers repairing / replacement of any defective hardware items from the configuration contingent to these defects having arisen only out of faulty design or workmanship and if brought to the notice of Messung Systems Pvt. Ltd. In writing, on or before 1/1/2020. (The expire date of the said warranty period).

This standard warranty clause excludes the following items: software, all consumables and supply items such as but not limited to floppy/CD diskettes, USB drives, printer stationery, print heads, printer ribbons, fuses & any other items specified by Messung Systems Pvt. Ltd. The warranty is void if failure of the items has resulted from accident, abuse or misapplication etc. or has been tempered with.

Attachment2:**Statement of Final Documentation:**

The FINAL AS-BUILT documentation as per Master Document List has been updated and handed over to **Oxford Residences,Pune** on.....as indicated by the signatures below:

S/No.	Description of Item	Remarks
1.	Introduction	
2.	System Architecture	
3.	SLD Designed	
4.	Make & Model Numbers	
5.	Sequence of Operation	
6.	Commissioning Documents	
7.	Automation As-Built Drawings	
8.	Handover Certificate	
9.		
10.		
* In accordance with standard procedures, customers required to maintain backup of Documents.		