



KNX Automation Project Document

Project: **The Norval Foundation Gallery - Main Facility**

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Norval Foundation – Art Gallery.

Address: **4 Steenberg Road, Steenberg Estate, Cape Town, South Africa.**

Building Structure: **4 Levels.**

Manufactures Integrated: **GIRA, Eelectron, Theben, Intesis, BAB Technologie,**

Building Technology: **KNX Standard ETS5 (Professional) 5.6.5 build 1109**

Graphic User Interface: **GIRA HD / QuadClient – via GIRA Expert 4.5.0**

Equipment Distribution: **All Actuators & Gateways housed in Automation Distribution Boards.**

The systems integrated are:

1. **Lighting System** - The lighting system is divided into circuits that can be switched & dimmed. All circuits can be operated from the home automation system, enabling, disabling and controlling its functionality. The status of all circuits is also displayed.
2. **Scene Control** – The scene control, controls groups of functions within the KNX installation setup via the HomeSever. More info on page 31.
3. **Blinds / Curtains** - The blinds / curtains can be operated from the home automation system. They can be programmed to the wall controllers, configured as part of a scene or from a Smart phone or tablet with the GIRA application configured.
4. **Energy Metering** - The energy usage for areas where KNX energy meters have been installed can be monitored from the home automation system from a Smart phone or tablet with the GIRA application configured.
5. **Weather Station** - The real time weather values can be monitored from a Smart phone or tablet with the GIRA application configured.

2. KNX STANDARD

KNX Association is the creator and owner of the KNX technology: the worldwide STANDARD for all applications in home and building control, ranging from lighting and shutter control to various security systems, heating, ventilation, air conditioning, monitoring, alarming, water control, energy management, metering as well as household appliances, audio and lots more.

All products bearing the KNX logo are certified in order to guarantee system compatibility, interworking and interoperability.

KNX is approved as:

- ✓ European Standard (CENELEC EN 50090 and CEN EN 13321-1).
- ✓ International Standard (ISO/IEC 14543-3).
- ✓ Chinese Standard (GB/Z 20965).
- ✓ US Standard (ANSI/ASHRAE 135).

The KNX system is a decentralized network of devices, where each of them has a specific functionality. Therefore there is not a central computer that manages all the communications and actions. Each device has its own intelligence, and it is programmed to accomplish a specific task. Scene control is only possible via the GIRA HomeServer.

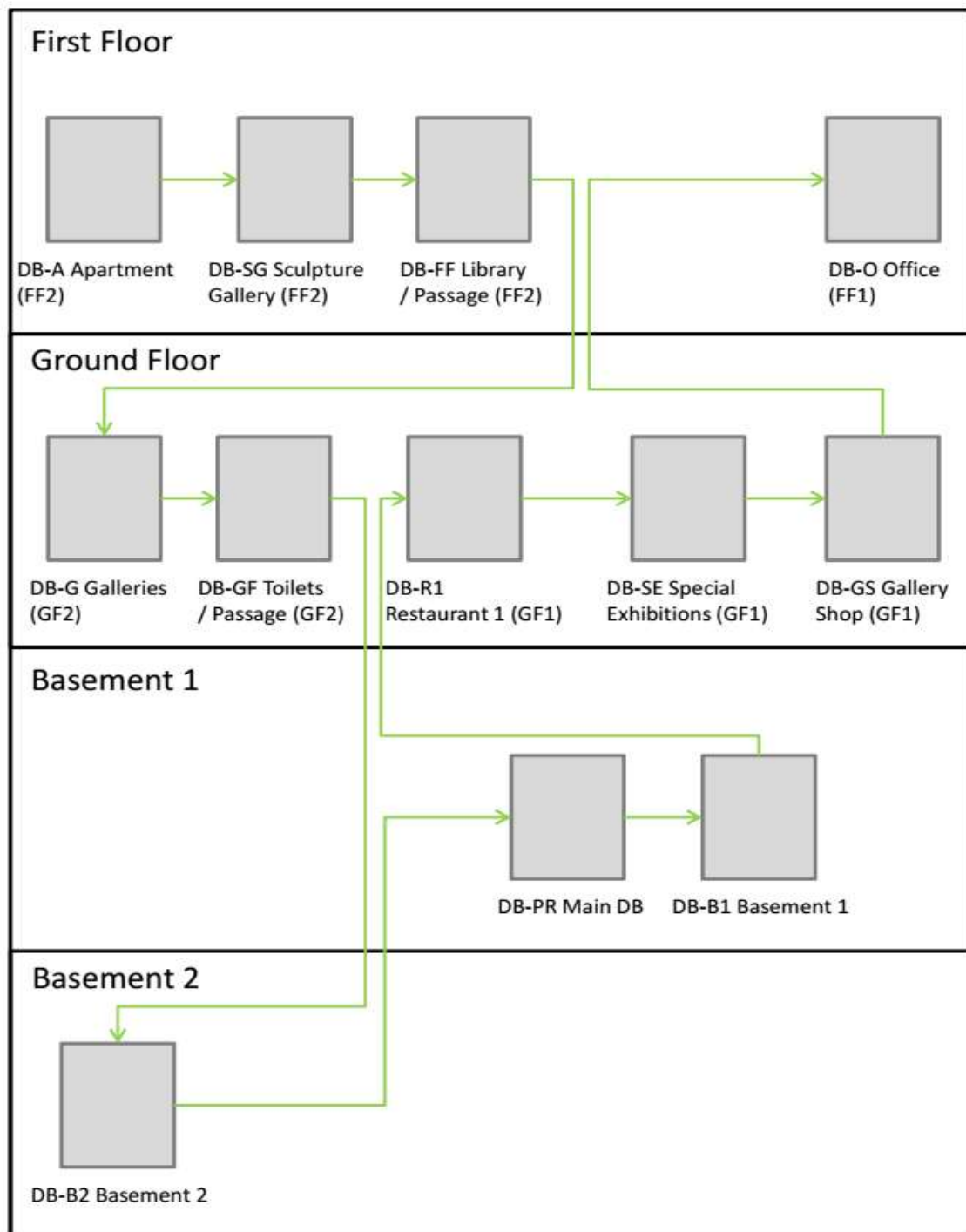
The devices present in the KNX network are:

- **Dimmer actuators.**
Managing the dimmable lighting circuits, switching on/off and dimming between 0% and 100%.
- **Dali Gateways.**
Managing the dimmable lighting circuits which have Dali ballasts, switching on/off and dimming between 0% and 100%.
- **DMX Gateways.**
Managing the RGB lighting circuits which have RGB DMX drivers, switching on/off and changing colour based on the configuration of the gateway.
- **Switch actuators.**
GIRA switch actuators for lighting (on/off) or any other action that consists of opening/close a contact – Under Floor Heating, Heated Towel Rails, Extractor Fans.
- **GIRA 3L Touch Sensors**
Wall mounted for control of the scenes and lighting
- **GIRA Mini Presence Detectors**
Ceiling mounted for presence based lighting control.
- **GIRA Brightness Controller**
Ceiling mounted for brightness level of lights based on the ambient light being measured.
- **Energy Meters.**
Monitors the usage of electric energy. Updating the KNX bus constantly and showing the measurements via the GIRA application.

3. IP, KNX NETWORK & DB LAYOUT

The IP network interacts with the KNX automation system making it possible to control the installation from a Smart phone, Tablet or PC. The KNX installation is connected to the Ethernet via a KNX/IP interface unit that sits in the KNX Automation Distribution Board called the IP Router

The figure below indicates how the home automation DB boards are linked via KNX bus cable.



4. KNX NETWORK DOCUMENTATION

Equipment in DB-A Apartment

Part Number	Description	Device Label	Address
212200	GIRA KNX Power Supply 320mA	PS	1.1.-
102300	GIRA Area/Line Coupler	LC	1.1.0
218000	GIRA Dali Gateway Plus	Dali 1	1.1.1
218000	GIRA Dali Gateway Plus	Dali 2	1.1.2
103800	GIRA 16ch Switch Actuator	Switch 1	1.1.3
PM30D01KNX	Eelectron Three Phase Energy Meter	EM1	1.1.21

Equipment in DB-SG Gallery 8

Part Number	Description	Device Label	Address
108700	GIRA KNX Power Supply 640mA	PS	1.2.-
102300	GIRA Area/Line Coupler	LC	1.2.0
4930270	Theben 2ch Dim Actuator	Dimmer 1	1.2.1
4930270	Theben 2ch Dim Actuator	Dimmer 2	1.2.2
4930270	Theben 2ch Dim Actuator	Dimmer 3	1.2.3
4930270	Theben 2ch Dim Actuator	Dimmer 4	1.2.4
4930270	Theben 2ch Dim Actuator	Dimmer 5	1.2.5
4930270	Theben 2ch Dim Actuator	Dimmer 6	1.2.6
4930270	Theben 2ch Dim Actuator	Dimmer 7	1.2.7
4930270	Theben 2ch Dim Actuator	Dimmer 8	1.2.8
4930270	Theben 2ch Dim Actuator	Dimmer 9	1.2.9

Equipment in DB-FF Library / Passage

Part Number	Description	Device Label	Address
108700	GIRA KNX Power Supply 640mA	PS	1.3.-
102300	GIRA Area/Line Coupler	LC	1.3.0
218000	GIRA Dali Gateway Plus	Dali 1	1.3.1
218000	GIRA Dali Gateway Plus	Dali 2	1.3.2
103600	GIRA 4ch Switch Actuator	Switch 1	1.3.18

Equipment in DB-G Galleries 2-7

Part Number	Description	Device Label	Address
216700	GIRA IP Router	IP/Router	1.0.0
108700	GIRA KNX Power Supply 640mA	PS	1.4.-
102300	GIRA Area/Line Coupler	LC	1.4.0
4930270	Theben 2ch Dim Actuator	Dimmer 1	1.4.1
4930270	Theben 2ch Dim Actuator	Dimmer 2	1.4.2
4930270	Theben 2ch Dim Actuator	Dimmer 3	1.4.3
4930270	Theben 2ch Dim Actuator	Dimmer 4	1.4.4
4930270	Theben 2ch Dim Actuator	Dimmer 5	1.4.5
4930270	Theben 2ch Dim Actuator	Dimmer 6	1.4.6
4930270	Theben 2ch Dim Actuator	Dimmer 7	1.4.7
4930270	Theben 2ch Dim Actuator	Dimmer 8	1.4.8
4930270	Theben 2ch Dim Actuator	Dimmer 9	1.4.9
4930270	Theben 2ch Dim Actuator	Dimmer 10	1.4.10
4930270	Theben 2ch Dim Actuator	Dimmer 11	1.4.11
4930270	Theben 2ch Dim Actuator	Dimmer 12	1.4.12
4930270	Theben 2ch Dim Actuator	Dimmer 13	1.4.13
4930270	Theben 2ch Dim Actuator	Dimmer 14	1.4.14
4930270	Theben 2ch Dim Actuator	Dimmer 15	1.4.15
4930270	Theben 2ch Dim Actuator	Dimmer 16	1.4.16
103700	GIRA 8ch Switch Actuator	Switch 2 In Ablutions DB	1.4.21
103800	GIRA 16ch Switch Actuator	Switch 1 In Ablutions DB	1.4.22

Equipment in DB-GF Toilets / Passage

Part Number	Description	Device Label	Address
108700	GIRA KNX Power Supply 640mA	PS	1.5.-
102300	GIRA Area/Line Coupler	LC	1.5.0
218000	GIRA Dali Gateway Plus	Dali 1	1.5.1
218000	GIRA Dali Gateway Plus	Dali 2	1.5.2
103700	GIRA 8ch Switch Actuator	Switch 1	1.5.4
12021	BAB Technologie DuoDMX Gateway	Foyer / WC	1.5.26
12021	BAB Technologie DuoDMX Gateway	Atrium	1.5.27

Equipment in DB-B2 Basement 2

Part Number	Description	Device Label	Address
212200	GIRA KNX Power Supply 320mA	PS	1.6.-
102300	GIRA Area/Line Coupler	LC	1.6.0
218000	GIRA Dali Gateway Plus	Dali 1	1.6.1
103600	GIRA 4ch Switch Actuator	Switch 1	1.6.2

Equipment in DB-PR Server Room

Part Number	Description	Device Label	Address
212200	GIRA KNX Power Supply 320mA	PS	1.7.-
102300	GIRA Area/Line Coupler	LC	1.7.0
108000	GIRA USB KNX/Data interface	USB	1.7.1

Equipment in DB-B1 Basement 1

Part Number	Description	Device Label	Address
212200	GIRA KNX Power Supply 320mA	PS	1.8.-
102300	GIRA Area/Line Coupler	LC	1.8.0
218000	GIRA Dali Gateway Plus	Dali 1	1.8.1
218000	GIRA Dali Gateway Plus	Dali 2	1.8.2
103700	GIRA 8ch Switch Actuator	Switch 1	1.8.3
103800	GIRA 16ch Switch Actuator	Switch 2 In SDB EXT 1.1	1.8.33
2CDG 110 083 R0011	ABB Energy Meter	ZS/S1.1	1.8.244

Equipment in DB-R Restaurant

Part Number	Description	Device Label	Address
108700	GIRA KNX Power Supply 640mA	PS	1.9.-
102300	GIRA Area/Line Coupler	LC	1.9.0
218000	GIRA Dali Gateway Plus	Dali 1	1.9.1
218000	GIRA Dali Gateway Plus	Dali 2	1.9.2
218000	GIRA Dali Gateway Plus	Dali 3	1.9.3
103800	GIRA 16ch Switch Actuator	Switch 1	1.9.4
4930270	Theben 2ch Dim Actuator	Dimmer 1	1.9.5
4930270	Theben 2ch Dim Actuator	Dimmer 2	1.9.6
4930270	Theben 2ch Dim Actuator	Dimmer 3	1.9.7
4930270	Theben 2ch Dim Actuator	Dimmer 4	1.9.8
4930270	Theben 2ch Dim Actuator	Dimmer 5	1.9.9
4930270	Theben 2ch Dim Actuator	Dimmer 6	1.9.10
217500	GIRA Energy Meter	EM2	1.9.14
4930270	Theben 2ch Dim Actuator	Dimmer 7	1.9.15
4930270	Theben 2ch Dim Actuator	Dimmer 8	1.9.16

Equipment in DB-SE Gallery 1

Part Number	Description	Device Label	Address
108700	GIRA KNX Power Supply 640mA	PS	1.10.-
102300	GIRA Area/Line Coupler	LC	1.10.0
4930270	Theben 2ch Dim Actuator	Dimmer 1	1.10.1
4930270	Theben 2ch Dim Actuator	Dimmer 2	1.10.2
4930270	Theben 2ch Dim Actuator	Dimmer 3	1.10.3
4930270	Theben 2ch Dim Actuator	Dimmer 4	1.10.4
4930270	Theben 2ch Dim Actuator	Dimmer 5	1.10.5
4930270	Theben 2ch Dim Actuator	Dimmer 6	1.10.6
4930270	Theben 2ch Dim Actuator	Dimmer 7	1.10.7
4930270	Theben 2ch Dim Actuator	Dimmer 8	1.10.8
4930270	Theben 2ch Dim Actuator	Dimmer 9	1.10.9
PM30D01KNX	Eelectron Three Phase Energy Meter	EM3	1.10.10
103800	GIRA 16ch Switch Actuator	Switch 1	1.10.11
218000	GIRA Dali Gateway Plus	Dali 3	1.10.12

Equipment in DB-GS Gallery Shop

Part Number	Description	Device Label	Address
108700	GIRA KNX Power Supply 640mA	PS	1.11.-
102300	GIRA Area/Line Coupler	LC	1.11.0
218000	GIRA Dali Gateway Plus	Dali 1	1.11.1
103700	GIRA 8ch Switch Actuator	Switch 1	1.11.2
PM30D01KNX	Eelectron Three Phase Energy Meter	EM4	1.11.5

Equipment in DB-O Office

Part Number	Description	Device Label	Address
212200	GIRA KNX Power Supply 320mA	PS	1.13.-
102300	GIRA Area/Line Coupler	LC	1.13.0
218000	GIRA Dali Gateway Plus	Dali 1	1.13.1
218000	GIRA Dali Gateway Plus	Dali 2	1.13.2
4930270	Theben 2ch Dim Actuator	Dimmer 1	1.13.3
4930270	Theben 2ch Dim Actuator	Dimmer 2	1.13.4
103700	GIRA 8ch Switch Actuator	Switch 1	1.13.5
PM30D01KNX	Eelectron Three Phase Energy Meter	EM5	1.13.22

Equipment installed in the Apartment

Part Number	Description	Location	Device Label	Address
513300	GIRA 3 Push Button Sensor 3L	Foyer	LS1	1.1.4
513300	GIRA 3 Push Button Sensor 3L	Foyer	LS2	1.1.5
513300	GIRA 3 Push Button Sensor 3L	Guest WC	LS3	1.1.6
513300	GIRA 3 Push Button Sensor 3L	Kitchen & Dining	LS4	1.1.7
513300	GIRA 3 Push Button Sensor 3L	Kitchen & Dining	LS5	1.1.8
513300	GIRA 3 Push Button Sensor 3L	Living	LS6	1.1.9
513300	GIRA 3 Push Button Sensor 3L	Bedroom 1 Entrance	LS7	1.1.10
513300	GIRA 3 Push Button Sensor 3L	Bedroom 1 Bedside	LS8	1.1.11
513300	GIRA 3 Push Button Sensor 3L	Bedroom 1 Bedside	LS9	1.1.12
513300	GIRA 3 Push Button Sensor 3L	Bedroom 2 Entrance	LS10	1.1.13
513300	GIRA 3 Push Button Sensor 3L	Bedroom 2 Bedside	LS11	1.1.14
513300	GIRA 3 Push Button Sensor 3L	Bedroom 2 Bedside	LS12	1.1.15
513300	GIRA 3 Push Button Sensor 3L	Study	LS13	1.1.16
513300	GIRA 3 Push Button Sensor 3L	Bedroom 2 Dressing	LS14	1.1.17
513300	GIRA 3 Push Button Sensor 3L	Bedroom 1 Dressing	LS15	1.1.18
513100	GIRA 3 Push Button Sensor 1L	Living	LS16	1.1.19
513100	GIRA 3 Push Button Sensor 1L	Living	LS17	1.1.20
222500	GIRA Mini Presence Detector	Study	MS1	1.1.22
222500	GIRA Mini Presence Detector	Living/Kitchen	MS2	1.1.23

Equipment installed in the Library / Passage (First Floor)

Part Number	Description	Location	Device Label	Address
222500	GIRA Motion Detector Mini	FF Passage North	MS1	1.3.4
222500	GIRA Motion Detector Mini	FF Passage South	MS2	1.10.13
222500	GIRA Motion Detector Mini	FF Passage Office	MS3	1.3.6
222500	GIRA Motion Detector Mini	Library	MS4	1.3.7
222000	GIRA Motion Detector Mini	FF Passage South	MS5	1.10.14
513300	GIRA 3 Push Button Sensor 3L	Library	LS1	1.3.16

Equipment installed in the Toilets / Passage / Reception / Offices / Store Rooms (Ground Floor)

Part Number	Description	Location	Device Label	Address
222000	GIRA Motion Detector Mini	WC Wash Basin	MS1	1.5.5
222000	GIRA Motion Detector Mini	WC Female Lobby	MS2	1.5.6
222000	GIRA Motion Detector Mini	WC Male Lobby	MS3	1.5.7
222500	GIRA Motion Detector Mini	Goods Lift Lobby	MS4	1.5.20
222500	GIRA Motion Detector Mini	Passage in front of Lift	MS5	1.5.21
222500	GIRA Motion Detector Mini	Passage South	MS6	1.5.22
222000	GIRA Motion Detector Mini	Passage North	MS7	1.5.23
222000	GIRA Motion Detector Mini	Gallery Office	MS8	1.5.28
222000	GIRA Motion Detector Mini	Reception Store	MS9	1.5.29
222500	GIRA Motion Detector Mini	Curators Office	MS10	1.5.30
222000	GIRA Motion Detector Mini	Store Room 6	MS11	1.5.11
222000	GIRA Motion Detector Mini	Gantry	MS12	1.5.12
513300	GIRA 3 Push Button Sensor 3L	Gallery Office	LS1	1.5.24
513300	GIRA 3 Push Button Sensor 3L	Curators Office	LS2	1.5.25

Equipment installed in Basement 2

Part Number	Description	Location	Device Label	Address
222500	GIRA Motion Detector Mini	Lift Lobby	MS1	1.6.3
222500	GIRA Motion Detector Mini	Workshop	MS2	1.6.4
222500	GIRA Motion Detector Mini	Plant Room 1	MS3	1.6.5
222500	GIRA Motion Detector Mini	Vault A	MS4	1.6.6
222500	GIRA Motion Detector Mini	Vault B	MS5	1.6.7
222500	GIRA Motion Detector Mini	Lobby	MS6	1.6.8
222500	GIRA Motion Detector Mini	Painting Vault	MS9	1.6.11

Equipment installed in Basement 1

Part Number	Description	Location	Device Label	Address
222000	GIRA Motion Detector Mini	Parking Zone 1	MS2	1.8.4
222500	GIRA Motion Detector Mini	Parking Zone 1	MS4	1.8.7
222500	GIRA Motion Detector Mini	Parking Zone 1	MS5	1.8.8
222000	GIRA Motion Detector Mini	Parking Zone 3	MS6	1.8.9
222000	GIRA Motion Detector Mini	Parking Zone 3	MS7	1.8.10
222000	GIRA Motion Detector Mini	Parking Zone 3	MS8	1.8.12
222500	GIRA Motion Detector Mini	Parking Zone 5	MS9	1.8.13
222500	GIRA Motion Detector Mini	Parking Zone 5	MS11	1.8.14
222000	GIRA Motion Detector Mini	Parking Zone 6	MS12	1.8.15
222000	GIRA Motion Detector Mini	Parking Zone 6	MS13	1.8.16
222500	GIRA Motion Detector Mini	Parking Zone 6	MS16	1.8.19
222500	GIRA Motion Detector Mini	Parking Zone 4	MS20	1.8.23
222000	GIRA Motion Detector Mini	Parking Zone 2	MS21	1.8.24
222000	GIRA Motion Detector Mini	Parking Zone 1	MS17	1.8.25
222000	GIRA Motion Detector Mini	Parking Zone 2	MS23	1.8.26
222500	GIRA Motion Detector Mini	Parking Zone 4	MS24	1.8.27
222500	GIRA Motion Detector Mini	Parking Zone 4	MS25	1.8.28
222000	GIRA Motion Detector Mini	Refuse	MS1	1.8.245
222000	GIRA Motion Detector Mini	Store Room 4	MS3	1.8.246
222500	GIRA Motion Detector Mini	Store Room 5	MS10	1.8.247
222500	GIRA Motion Detector Mini	Plant Room 1	MS14	1.8.248
222500	GIRA Motion Detector Mini	Plant Room 1	MS15	1.8.249
222500	GIRA Motion Detector Mini	Passage to P.R. 1	MS18	1.8.250
222500	GIRA Motion Detector Mini	Service Lift	MS19	1.8.251
222500	GIRA Motion Detector Mini	Service Lift	MS22	1.8.252
222500	GIRA Motion Detector Mini	Parking Zone 3	MS26	1.8.253
222000	GIRA Motion Detector Mini	Parking Zone 5	MS27	1.8.254
222000	GIRA Motion Detector Mini	Parking Zone 4	MS28	1.8.255

Equipment installed Outdoors

Part Number	Description	Location	Device Label	Address
1019610	The LUXA P300 KNX Sensor	Walkway N/W	ES1	1.8.34
1019610	The LUXA P300 KNX Sensor	Walkway S/W	ES2	1.8.35
1019610	The LUXA P300 KNX Sensor	Walkway S/W	ES3	1.8.36
1019610	The LUXA P300 KNX Sensor	Garden East of building	ES4	1.8.37
1019610	The LUXA P300 KNX Sensor	Outdoor Parking S/E	ES5	1.8.38
1019610	The LUXA P300 KNX Sensor	Walkway S	ES6	1.8.39
1019610	The LUXA P300 KNX Sensor	Walkway S/W	ES7	1.8.40
1019610	The LUXA P300 KNX Sensor	Walkway N	ES8	1.4.17
1019610	The LUXA P300 KNX Sensor	Walkway N/E	ES9	1.4.18
215004	GIRA Weather Station	Roof Wall East	WS	1.2.10
2CDG 110 083 R0011	ABB Energy Meter	Roof PV DB Board	ZS/S1.1	1.2.11

Equipment installed in the Gallery Shop

Part Number	Description	Location	Device Label	Address
513300	GIRA 3 Push Button Sensor 3L	Sales Counter Wall	LS1	1.11.4
222500	GIRA Motion Detector Mini	Shop Front	MS1	1.11.6
222500	GIRA Motion Detector Mini	Shop Rear	MS2	1.11.7
222000	GIRA Motion Detector Mini	Store Room	MS5	1.11.10

Equipment installed in Office

Part Number	Description	Location	Device Label	Address
513300	GIRA 3 Push Button Sensor 3L	Meeting Room 1	LS1	1.13.6
513300	GIRA 3 Push Button Sensor 3L	Board Room 1	LS2	1.13.7
513300	GIRA 3 Push Button Sensor 3L	Office	LS3	1.13.8
513300	GIRA 3 Push Button Sensor 3L	Hallway Entrance/Exit	LS4	1.13.9
210200	GIRA Brightness Controller	Open Offices	DH1	1.13.10
222500	GIRA Motion Detector Mini	Quiet Room 1	MS1	1.13.11
222500	GIRA Motion Detector Mini	Quiet Room 2	MS2	1.13.12
222500	GIRA Motion Detector Mini	Quiet Room 3	MS3	1.13.13
222500	GIRA Motion Detector Mini	Printing Room	MS4	1.13.14
222500	GIRA Motion Detector Mini	Print/Kitchen Passage	MS5	1.13.15
222500	GIRA Motion Detector Mini	Kitchen	MS6	1.13.16
222500	GIRA Motion Detector Mini	Store Room	MS7	1.13.17
222500	GIRA Motion Detector Mini	WC Entrance	MS8	1.13.18
222500	GIRA Motion Detector Mini	WC1 Disabled	MS9	1.13.19
222500	GIRA Motion Detector Mini	WC2 Male/Female	MS10	1.13.20
222500	GIRA Motion Detector Mini	Board Room	MS11	1.13.23
222000	GIRA Motion Detector Mini	Meeting Room	MS12	1.13.24
222000	GIRA Motion Detector Mini	Louis Office	MS13	1.13.25

Equipment installed in the Restaurant

Part Number	Description	Location	Device Label	Address
513300	GIRA 3 Push Button Sensor 3L	Restaurant Office	LS1	1.9.11
222000	GIRA Motion Detector Mini	Restaurant Bar	MS6	1.10.15
222000	GIRA Motion Detector Mini	Restaurant Bar	MS7	1.10.16
222000	GIRA Motion Detector Mini	Restaurant Kitchen	MS8	1.10.17

Equipment installed in Galleries 2-7

Part Number	Description	Location	Device Label	Address
222000	GIRA Motion Detector Mini	Gallery 2	MS1	1.4.23
222000	GIRA Motion Detector Mini	Gallery 3	MS2	1.4.24
222000	GIRA Motion Detector Mini	Gallery 4	MS3	1.4.25
222000	GIRA Motion Detector Mini	Gallery 5	MS4	1.4.26
222000	GIRA Motion Detector Mini	Gallery 6	MS5	1.4.27
222000	GIRA Motion Detector Mini	Gallery 7	MS6	1.4.28

Equipment installed in Gallery 8

Part Number	Description	Location	Device Label	Address
222000	GIRA Motion Detector Mini	Gallery 8	MS7	1.4.29

Equipment installed in Gallery 9

Part Number	Description	Location	Device Label	Address
222500	GIRA Motion Detector Mini	Gallery 9	MS7	1.10.18
222500	GIRA Motion Detector Mini	Gallery 9	MS8	1.10.19

5. ELECTRICAL SCHEDULE

Steenberg Gallery - Apartment Electrical Schedule

Dali Lighting

DB	Terminal Connector	Level	Circuit Reference	Location	Circuit Name
DB-A	21	Apartment Floor	C1	Foyer / Kitchen & Dining	Downlights
DB-A	22	Apartment Floor	C2	Kitchen & Dining omit	Pendants
DB-A	23	Apartment Floor	C3	Bedroom Lobbies	Downlights
DB-A	24	Apartment Floor	C4	Guest WC	Downlights
DB-A	25	Apartment Floor	C5	Kitchen & Dining moved to TC18	LED 1
DB-A	26	Apartment Floor	C6	Kitchen & Dining moved to TC18	LED 2
DB-A	27	Apartment Floor	C7	Living	LED
DB-A	28	Apartment Floor	C8	Living	Downlights
DB-A	29	Apartment Floor	C9	Living	Bulkhead DL
DB-A	30	Apartment Floor	C10	Bedroom 1	LED
DB-A	31	Apartment Floor	C11	Bedroom 1	Downlights
DB-A	32	Apartment Floor	C12	Bedroom 1 Dressing / Ensuite	Downlights
DB-A	33	Apartment Floor	C13	Bedroom 2	LED
DB-A	34	Apartment Floor	C14	Bedroom 2	Downlights
DB-A	35	Apartment Floor	C15	Bedroom 2 Dressing / Ensuite	Downlights
DB-A	36	Apartment Floor	C16	Study	LED
DB-A	37	Apartment Floor	C17	Study	Downlights
DB-A	38	Apartment Floor	C18	Study	Feature Light
DB-A	40	Apartment Floor	C19	Balcony moved to TC20	Wall Lights
DB-A	40	Apartment Floor	C20	Balcony moved to TC19	Downlights

Curtains / Switched Lighting

DB	Terminal Connector	Level	Circuit Reference	Location	Circuit Name
DB-A	5	Apartment Floor	B1	Bedroom 1	Curtain Open
DB-A	6	Apartment Floor	B1	Bedroom 1	Curtain Close
DB-A	7	Apartment Floor	B2	Bedroom 2	Curtain Open
DB-A	8	Apartment Floor	B2	Bedroom 2	Curtain Close
DB-A	9	Apartment Floor	B3	Living	Curtains Open
DB-A	10	Apartment Floor	B3	Living	Curtains Close
DB-A	11	Spare	Spare	Spare	Spare
DB-A	12	Spare	Spare	Spare	Spare
DB-A	13	Apartment Floor	C18	Study	Feature Light
DB-A	14	Spare	Spare	Spare	Spare
DB-A	15	Apartment Floor	C21	Bedroom 1	Mirror LED
DB-A	16	Apartment Floor	C22	Bedroom 2	Mirror LED
DB-A	17	Spare	Spare	Spare	Spare
DB-A	18	Apartment Floor	C5/6	Kitchen & Dining	LED 1/2
DB-A	19	Apartment Floor	C20	Balcony	Downlights
DB-A	20	Apartment Floor	C19	Balcony	Wall Lights

KNX Bus

DB	Terminal Connector
DB-A	41
DB-A	42
DB-A	43
DB-A	44
DB-A	45

Steenberg Gallery – Gallery 8 Electrical Schedule

Standard Dimmed Lighting

DB	Terminal Connector	Level	Circuit Reference	Location	Circuit Name
DB-SG	1	Ground Floor	L10	Sculpture Gallery	Track 1 A
DB-SG	2	Ground Floor	L11	Sculpture Gallery	Track 1 B
DB-SG	3	Ground Floor	L12	Sculpture Gallery	Track 1 C
DB-SG	4	Ground Floor	L13	Sculpture Gallery	Track 2 A
DB-SG	5	Ground Floor	L14	Sculpture Gallery	Track 2 B
DB-SG	6	Ground Floor	L27	Sculpture Gallery	Track 2 C
DB-SG	7	Ground Floor	L15	Sculpture Gallery	Track 3 A
DB-SG	8	Ground Floor	L25	Sculpture Gallery	Track 3 B
DB-SG	9	Ground Floor	L26	Sculpture Gallery	Track 3 C
DB-SG	10	Ground Floor	L16	Sculpture Gallery	Track 4 A
DB-SG	11	Ground Floor	L23	Sculpture Gallery	Track 4 B
DB-SG	12	Ground Floor	L24	Sculpture Gallery	Track 4 C
DB-SG	13	Ground Floor	L17	Sculpture Gallery	Track 5 A
DB-SG	14	Ground Floor	L18	Sculpture Gallery	Track 5 B
DB-SG	15	Ground Floor	L22	Sculpture Gallery	Track 5 C
DB-SG	16	Ground Floor	L19	Sculpture Gallery	Track 6 A + B + C
DB-SG	17	First Floor	P4	Atrium	Track Light
DB-SG	18	First Floor	D2	Atrium	Downlights

KNX Bus

DB	Terminal Connector
DB-SG	19
DB-SG	20
DB-SG	21
DB-SG	22
DB-SG	23

**Steenberg Gallery – First Floor Passage / Library
Electrical Schedule**

Dali Lighting

DB	Terminal Connector	Level	Circuit Reference	Location	Circuit Name
DB-FF	5	First Floor	C1	Library	Perimeter Downlights
DB-FF	6	First Floor	C2	Library	Bulkhead LED
DB-FF	7	First Floor	C3	Plant Room	LED Profile
DB-FF	8	First Floor	C4	Passage Foot	LED Strip
DB-FF	9	First Floor	C5	Library	Bulkhead DL
DB-FF	10	First Floor	C6	Passage	Downlights
DB-FF	11	First Floor	C7	Passage	Cove LED
DB-FF	12	First Floor	C8	Atrium	LED 1
DB-FF	13	First Floor	C9	Atrium	LED 2

Switched Lighting

DB	Terminal Connector	Level	Circuit Reference	Location	Circuit Name
DB-FF	1	Spare	Spare	Spare	Spare
DB-FF	2	Spare	Spare	Spare	Spare
DB-FF	3	Spare	Spare	Spare	Spare
DB-FF	4	Roof	External	Roof East	Spot Lights

KNX Bus

DB	Terminal Connector
DB-FF	14
DB-FF	15
DB-FF	16
DB-FF	17
DB-FF	18

Steenberg Gallery – Galleries 2-7 Electrical Schedule

Standard Dimmed Lighting

DB	Terminal Connector	Level	Circuit Reference	Location	Circuit Name
DB-G	1	Ground Floor	L11	Gallery 5	Track 1 A
DB-G	2	Ground Floor	L11.1	Gallery 5	Track 1 B
DB-G	3	Ground Floor	L12	Gallery 5	Track 1 C
DB-G	4	Ground Floor	L13	Gallery 5	Track 2 A
DB-G	5	Ground Floor	L14	Gallery 5	Track 2 B
DB-G	6	Ground Floor	L15	Gallery 5	Track 2 C
DB-G	7	Ground Floor	L16	Gallery 6	Track 3 A
DB-G	8	Ground Floor	L17	Gallery 6	Track 3 B
DB-G	9	Ground Floor	L18	Gallery 6	Track 3 C
DB-G	10	Ground Floor	L19	Gallery 7	Track 4 A
DB-G	11	Ground Floor	L20	Gallery 7	Track 4 B
DB-G	12	Ground Floor	L21	Gallery 7	Track 4 C
DB-G	13	Ground Floor	L22	Gallery 2	Track 5 A
DB-G	14	Ground Floor	L23	Gallery 2	Track 5 B
DB-G	15	Ground Floor	L24	Gallery 2	Track 5 C
DB-G	16	Ground Floor	L25	Gallery 2	Track 6 A
DB-G	17	Ground Floor	L26	Gallery 2	Track 6 B
DB-G	18	Ground Floor	L27	Gallery 2	Track 6 C
DB-G	19	Ground Floor	L28	Gallery 3	Track 7 A
DB-G	20	Ground Floor	L29	Gallery 3	Track 7 B
DB-G	21	Ground Floor	L30	Gallery 3	Track 7 C
DB-G	22	Ground Floor	L31	Gallery 4	Track 8 A
DB-G	23	Ground Floor	L32	Gallery 4	Track 8 B
DB-G	24	Ground Floor	L33	Gallery 4	Track 8 C
DB-G	25	Ground Floor	L34	Gallery 3	Track 9 A
DB-G	26	Ground Floor	L35	Gallery 3	Track 9 B
DB-G	27	Ground Floor	L36	Gallery 3	Track 9 C
DB-G	28	Spare	Spare	Spare	Spare
DB-G	29	Spare	Spare	Spare	Spare

DB-G	30	Spare	Spare	Spare	Spare
DB-G	31	Spare	Spare	Spare	Spare
DB-G	32	Ground Floor	FH25	Ground Floor WC Wash Basin	Chandelier

KNX Bus

DB	Terminal Connector
DB-G	37
DB-G	38
DB-G	39
DB-G	40
DB-G	41

Steenberg Gallery – Garden Lights Electrical Schedule

Switched Lighting

DB	Actuator / Output	Level	Circuit Reference	Location	Circuit Name
Ablutions DB	S1-1	Ground Floor	Garden Lights	N Walkway	Lights
Ablutions DB	S1-2	Ground Floor	Garden Lights	Public Toilet Walkway	Bollards
Ablutions DB	S1-3	Ground Floor	Garden Lights	Main Walkway	Bollards + Trees
Ablutions DB	S1-4	Ground Floor	Garden Lights	Sculpture Light Future	N/A
Ablutions DB	S1-5	Ground Floor	Garden Lights	Garden	Running chicken (back)
Ablutions DB	S1-6	Ground Floor	Garden Lights	Garden	Running chicken (front)
Ablutions DB	S1-7	Ground Floor	Garden Lights	Sculpture Light Future	N/A
Ablutions DB	S1-8	Ground Floor	Garden Lights	Sculpture Light Future	N/A
Ablutions DB	S1-9	Ground Floor	Garden Lights	Sculpture Light Future	N/A
Ablutions DB	S1-10	Ground Floor	Garden Lights	Garden	Bull (front)
Ablutions DB	S1-11	Spare	Spare	Spare	Spare
Ablutions DB	S1-12	Ground Floor	Garden Lights	Garden	Bull (back)
Ablutions DB	S1-13	Ground Floor	Garden Lights	Garden	Ashes
Ablutions DB	S1-14	Ground Floor	Garden Lights	Sculpture Light Future	N/A
Ablutions DB	S1-15	Ground Floor	Garden Lights	Sculpture Light Future	N/A
Ablutions DB	S1-16	Ground Floor	Garden Lights	N/W Walkway	Bollards
Ablutions DB	S2-1	Ground Floor	Garden Lights	N/W Walkway	Tree Lights
Ablutions DB	S2-2	Ground Floor	Garden Lights	W Walkway	Tree Lights
Ablutions DB	S2-3	Spare	Spare	Spare	Spare
Ablutions DB	S2-4	Spare	Spare	Spare	Spare
Ablutions DB	S2-5	Spare	Spare	Spare	Spare
Ablutions DB	S2-6	Spare	Spare	Spare	Spare
Ablutions DB	S2-7	Spare	Spare	Spare	Spare
Ablutions DB	S2-8	Spare	Spare	Spare	Spare

Steenberg Gallery – Ground Floor Electrical Schedule

Dali Lighting

DB	Dali Gateway	Level	Circuit Reference	Location	Circuit Name
DB-GF	1	Ground Floor	C1	Front of lift	Downlights
DB-GF	1	Ground Floor	C2	Female WC Lobby	Downlights
DB-GF	1	Ground Floor	C3	Passage outside gallery shop	LED wall wash
DB-GF	1	Ground Floor	C4	Family Toilet 2	Downlight
DB-GF	1	Ground Floor	C5	Passage opposite WC	LED wall wash
DB-GF	1	Ground Floor	C6	Reception	LED Cove
DB-GF	1	Ground Floor	C7	Passage	LED Cove
DB-GF	1	Ground Floor	C8	Passage opposite reception	LED wall wash
DB-GF	1	Ground Floor	C9	WC Lobby	LED Mirror
DB-GF	1	Ground Floor	C10	WC Male Toilets	LED
DB-GF	1	Ground Floor	C11	WC Male Urinals	LED
DB-GF	1	Ground Floor	C12	Reception	Downlights Cove
DB-GF	1	Ground Floor	C13	Passage	Downlights Cove
DB-GF	1	Ground Floor	C14	Reception	LED wall wash
DB-GF	1	Ground Floor	C15	Atrium	LED
DB-GF	2	Ground Floor	C16	WC Store Room	Downlight
DB-GF	2	Ground Floor	C17	Passage	Pod Lights 1
DB-GF	2	Ground Floor	C18	Passage	Pod Lights 2
DB-GF	2	Ground Floor	C19	Passage	Pod Lights 3
DB-GF	2	Ground Floor	C20	Curators Office	Downlights
DB-GF	2	Ground Floor	C21	Gallery Office	Downlights
DB-GF	2	Ground Floor	C22	Reception Counter	LED
DB-GF	2	Ground Floor	C23	Gallery Office	LED
DB-GF	2	Ground Floor	C24	Reception Store	Downlight
DB-GF	2	Ground Floor	C25	Curators Office	LED
DB-GF	2	Ground Floor	C26	Reception Counter	Pod Lights
DB-GF	2	Ground Floor	C27	Passage	Pod Lights 4
DB-GF	2	Ground Floor	C28	Family Toilet 1	Downlight
DB-GF	2	Ground Floor	C29	WC Male Urinal	Downlights

Switched Lighting

DB	Terminal Connector	Level	Circuit Reference	Location	Circuit Name
DB-GF	1	Ground Floor	C30	North of Building	Up lights 1
DB-GF	2	Ground Floor	C31	North of Building	Up lights 2
DB-GF	3	Ground Floor	C32	West of Building	Bollards + ULs
DB-GF	4	Ground Floor	C33	Lift Lobby 1	LED
DB-GF	5	Ground Floor	C34	Lift Lobby 2	LED
DB-GF	6	Ground Floor	C35	WC Wash Basin	LED
DB-GF	7	Ground Floor	C36	South of Building Entrance	Downlights
DB-GF	8	Spare	Spare	Spare	Spare

KNX Bus

DB	Terminal Connector
DB-GF	24
DB-GF	25
DB-GF	26
DB-GF	27
DB-GF	28

Steenberg Gallery – Basement 2 Electrical Schedule

Dali Lighting

DB	Dali Gateway	Level	Circuit Reference	Location	Circuit Name
DB-B2	1	Basement Floor	C1	Lift Lobby	Downlights
DB-B2	1	Basement Floor	C2	Workshop	LED Profiles
DB-B2	1	Basement Floor	C3	Plant Room 1	LED Profiles
DB-B2	1	Basement Floor	C4	General Art Vault A	Track Lights
DB-B2	1	Basement Floor	C5	General Art Vault B	Track Lights
DB-B2	1	Basement Floor	C6	Lobby	Downlights
DB-B2	1	Basement Floor	C8	Quarantine	LED Profiles
DB-B2	1	Basement Floor	C9	Painting Vault	Track Lights

Switched Lighting

DB	Terminal Connector	Level	Circuit Reference	Location	Circuit Name
DB-B2	4	Basement Floor	C2	Workshop	Lights
DB-B2	5	Spare	Spare	Spare	Spare
DB-B2	6	Spare	Spare	Spare	Spare
DB-B2	7	Spare	Spare	Spare	Spare

KNX Bus

DB	Terminal Connector
DB-B2	16
DB-B2	17
DB-B2	18
DB-B2	19
DB-B2	20

Steenberg Gallery – Basement 1 Electrical Schedule

Dali Lighting

DB	Dali Gateway	Level	Circuit Reference	Location	Circuit Name
DB-B1	1	Basement 1	C1	Basement Parking	Zone 1
DB-B1	1	Basement 1	C2	Basement Parking	Zone 2
DB-B1	1	Basement 1	C3	Basement Parking	Zone 3
DB-B1	1	Basement 1	C4	Basement Parking	Zone 4
DB-B1	1	Basement 1	C5	Basement Parking	Zone 5
DB-B1	1	Basement 1	C6	Basement Parking	Zone 6
DB-B1	2	Basement 1	C7	Passage to Plant Room 1	Light
DB-B1	2	Basement 1	C8	Store 5	Lights
DB-B1	2	Basement 1	C9	Plant Room 1	Lights
DB-B1	2	Basement 1	C10	Refuse	Lights
DB-B1	2	Basement 1	C11	Store 4	Lights

Switched Lighting

DB	Terminal Connector	Level	Circuit Reference	Location	Circuit Name
DB-B1	5	Ground Floor	C12	Garden	Spot Lights 1
DB-B1	6	Ground Floor	C13	Garden	Spot Lights 2
DB-B1	7	Ground Floor	C14	Garden	Lights
DB-B1	8	Ground Floor	C15	Parking	Lights
DB-B1	9	Ground Floor	C16	Entrance Walkway	Bollards
DB-B1	10	Basement 1	C17	Ramp	Wall Lights
DB-B1	11	Ground Floor	C18	Atrium	Pod Lights
DB-B1	12	Mezzanine	C19	Staircase	LED + Spot Lights

KNX Bus

DB	Terminal Connector
DB-B1	28
DB-B1	29
DB-B1	30
DB-B1	31
DB-B1	32

Steenberg Gallery – Garden Lights Electrical Schedule

Switched Lighting

DB	Actuator / Output	Level	Circuit Reference	Location	Circuit Name
SDB-EXT 1.1	S2-1	Spare	Spare	Spare	Spare
SDB-EXT 1.1	S2-2	Spare	Spare	Spare	Spare
SDB-EXT 1.1	S2-3	Ground Floor	Garden Lights	Garden	Man on bull (front)
SDB-EXT 1.1	S2-4	Ground Floor	Garden Lights	Garden	Sw Walkway Bollards + Trees
SDB-EXT 1.1	S2-5	Spare	Spare	Spare	Spare
SDB-EXT 1.1	S2-6	Spare	Spare	Spare	Spare
SDB-EXT 1.1	S2-7	Ground Floor	Garden Lights	Garden	Man on bull (back)
SDB-EXT 1.1	S2-8	Ground Floor	Garden Lights	Garden	Sculpture TBC
SDB-EXT 1.1	S2-9	Spare	Spare	Spare	Spare
SDB-EXT 1.1	S2-10	Spare	Spare	Spare	Spare
SDB-EXT 1.1	S2-11	Ground Floor	Garden Lights	Garden	SW Trees
SDB-EXT 1.1	S2-12	Ground Floor	Garden Lights	Garden	Drum
SDB-EXT 1.1	S2-13	Spare	Spare	Spare	Spare
SDB-EXT 1.1	S2-14	Spare	Spare	Spare	Spare
SDB-EXT 1.1	S2-15	Spare	Spare	Spare	Spare
SDB-EXT 1.1	S2-16	Spare	Spare	Spare	Spare

Steenberg Gallery – Restaurant / Gallery 9 Electrical Schedule

Dali Lighting

DB	Dali Gateway	Level	Circuit Reference	Location	Circuit Name
DB-R	1	Ground Floor	C1	Kitchen	LED Panels 1
DB-R	1	Ground Floor	C2	Kitchen	LED Panels 2
DB-R	1	Ground Floor	C3	Restaurant Walkway	LED
DB-R	1	Ground Floor	C4	Restaurant Wine Cabinet	LED

Switched Lighting

DB	Terminal Connector	Level	Circuit Reference	Location	Circuit Name
DB-R	1	Ground Floor	4	Kitchen / Kitchen DB Room	Downlights
DB-R	2	Ground Floor	13	Bar / Counter	LED Tube
DB-R	3	Ground Floor	16	Kiosk	Track Lights
DB-R	4	Ground Floor	4	Kitchen	Counter LED 1
DB-R	5	Ground Floor	4	Kitchen	Counter LED 2
DB-R	6	Spare	Spare	Spare	Spare
DB-R	7	Spare	Spare	Spare	Spare
DB-R	8	Ground Floor	17	Restaurant	Stair Foot Lights
DB-R	9	Ground Floor	28	Restaurant	LED Tube
DB-R	10	Spare	Spare	Spare	Spare
DB-R	11	Ground Floor	25	Restaurant WC	Downlights + LED
DB-R	12	First Floor	23+24	Walkway + Bar	DL + Spot Lights +Pendants
DB-R	13	First Floor	19+19+19	Restaurant + Kitchen	LED Strip Lighting + Kitchen DL
DB-R	14	First Floor	N/A	Bar Counter Front	LED Strip
DB-R	15	Spare	Spare	Spare	Spare
DB-R	16	Spare	Spare	Spare	Spare

Standard Dimmed Lighting

DB	Terminal Connector	Level	Circuit Reference	Location	Circuit Name
DB-R	17	First Floor	L5+L6+L7+L8	Gallery 9	Tracks Vertical
DB-R	18	First Floor	L4+L9	Gallery 9	Tracks Horizontal
DB-R	19	First Floor	L5+L6+L7+L8	Gallery 9	Tracks Vertical
DB-R	20	First Floor	L4+L9	Gallery 9	Tracks Horizontal
DB-R	21	Ground Floor	1+2	Restaurant	Seating Downlights
DB-R	22	Ground Floor	3	Restaurant	Counter / Bar Downlights
DB-R	23	Ground Floor	10	Restaurant Seating	Pendants
DB-R	24	Ground Floor	10	Restaurant Seating	Pendants
DB-R	25	First Floor	L5+L6+L7+L8	Gallery 9	Tracks Vertical
DB-R	26	First Floor	L4+L9	Gallery 9	Tracks Horizontal
DB-R	27	First Floor	18	Restaurant	Pendants + Downlights
DB-R	28	Spare	Spare	Spare	Spare
DB-R	Connect to output	Spare	Spare	Spare	Spare
DB-R	Connected to output	Ground Floor	9	Restaurant	Feature Pendant
DB-R	Connect to output	Spare	Spare	Spare	Spare
DB-R	Connect to output	Spare	Spare	Spare	Spare

KNX Bus

DB	Terminal Connector
DB-R	29
DB-R	30
DB-R	31
DB-R	32
DB-R	33

Steenberg Gallery – Gallery 1 Electrical Schedule

Standard Dimmed Lighting

DB	Terminal Connector	Level	Circuit Reference	Location	Circuit Name
DB-SE	1	Ground Floor	L14	Gallery 1	Track 1 A
DB-SE	2	Ground Floor	L15	Gallery 1	Track 1 B
DB-SE	3	Ground Floor	L16	Gallery 1	Track 1 C
DB-SE	4	Ground Floor	L11	Gallery 1	Track 2 A
DB-SE	5	Ground Floor	L12	Gallery 1	Track 2 B
DB-SE	6	Ground Floor	L13	Gallery 1	Track 2 C
DB-SE	7	Ground Floor	L9	Gallery 1	Track 3 A
DB-SE	8	Ground Floor	L24	Gallery 1	Track 3 B
DB-SE	9	Ground Floor	L10	Gallery 1	Track 3 C
DB-SE	10	Ground Floor	L7	Gallery 1	Track 4 A
DB-SE	11	Ground Floor	L23	Gallery 1	Track 4 B
DB-SE	12	Ground Floor	L8	Gallery 1	Track 4 C
DB-SE	13	Ground Floor	L17	Gallery 1	Track 5 A
DB-SE	14	Ground Floor	L18	Gallery 1	Track 5 B
DB-SE	15	Ground Floor	L19	Gallery 1	Track 5 C
DB-SE	16	Ground Floor	L20	Gallery 1	Track 6 A
DB-SE	17	Ground Floor	L21	Gallery 1	Track 6 B
DB-SE	18	Ground Floor	L22	Gallery 1	Track 6 C

Switched Lighting

DB	Actuator / Output	Level	Circuit Reference	Location	Circuit Name
DB-SE	S1-1	Ground Floor	External Lights	Front of Entrance	Wall Lights
DB-SE	S1-2	Ground Floor	External Lights	Front of Restaurant	Up lights
DB-SE	S1-3	Ground Floor	External Lights	Front of Entrance	In-ground LED
DB-SE	S1-4	Ground Floor	External Lights	Walkway	Up light
DB-SE	S1-5	Ground Floor	External Lights	Roof East	Spot Lights
DB-SE	S1-6	Spare	Spare	Spare	Spare

DB-SE	S1-7	Spare	Spare	Spare	Spare
DB-SE	S1-8	Spare	Spare	Spare	Spare
DB-SE	S1-9	Spare	Spare	Spare	Spare
DB-SE	S1-10	Spare	Spare	Spare	Spare
DB-SE	S1-11	Spare	Spare	Spare	Spare
DB-SE	S1-12	Spare	Spare	Spare	Spare
DB-SE	S1-13	Spare	Spare	Spare	Spare
DB-SE	S1-14	Spare	Spare	Spare	Spare
DB-SE	S1-15	Spare	Spare	Spare	Spare
DB-SE	S1-16	Spare	Spare	Spare	Spare

Dali Lighting

DB	Dali Gateway	Level	Circuit Reference	Location	Circuit Name
DB-SE	1	First Floor	C4	Passage	Foot LED
DB-SE	1	First Floor	C7	Passage	Cove LED
DB-SE	1	First Floor	C6	Passage	Downlights

KNX Bus

DB	Terminal Connector
DB-SE	19
DB-SE	20
DB-SE	21
DB-SE	22
DB-SE	23

Steenberg Gallery – Gallery Shop Electrical Schedule

Dali Lighting

DB	Dali Gateway	Level	Circuit Reference	Location	Circuit Name
DB-GS	1	Ground Floor	C2	Gallery Shop	Track Light 2
DB-GS	1	Ground Floor	C3	Gallery Shop	Track Light 3
DB-GS	1	Ground Floor	C4	Gallery Shop	Track Light 4
DB-GS	1	Ground Floor	C6	Gallery Shop	Bulkhead LED
DB-GS	1	Ground Floor	C1	Gallery Shop	Bulkhead Downlights
DB-GS	1	Ground Floor	C5	Gallery Shop	Track Light 1

Switched Lighting

DB	Terminal Connector	Level	Circuit Reference	Location	Circuit Name
DB-GS	1	Ground Floor	C7	Sales Counter	Counter LED
DB-GS	2	Ground Floor	C8	Display 1	Display LED 1
DB-GS	3	Ground Floor	C9	Store Room	Lights
DB-GS	4	Ground Floor	C10	Display 2	Display LED 2
DB-GS	5	Ground Floor	C11	Display 3	Display LED 3
DB-GS	6	Spare	Spare	Spare	Spare
DB-GS	7	Spare	Spare	Spare	Spare
DB-GS	8	Ground Floor	C12	Sales Counter	Willow Lamp

KNX Bus

DB	Terminal Connector
DB-GS	15
DB-GS	16
DB-GS	17
DB-GS	18
DB-GS	19

Steenberg Gallery – Offices Electrical Schedule

Dali Lighting

DB	Dali Gateway	Level	Circuit Reference	Location	Circuit Name
DB-O	1	First Floor	C1	Office moved to gateway 2	Downlights 1
DB-O	1	First Floor	C2	Office/Lounge Coffee Pod	Downlights 2
DB-O	1	First Floor	C3	Office moved to gateway 2	Cove LED
DB-O	1	First Floor	C4	Meeting Room	Light Panel
DB-O	1	First Floor	C5	Meeting Room	Cove Lights
DB-O	1	First Floor	C6	Board Room	Light Panel
DB-O	1	First Floor	C7	Board Room	Cove Lights
DB-O	1	First Floor	C8	Board Room	Downlights
DB-O	1	First Floor	C9	Quiet Room 1	Downlight
DB-O	1	First Floor	C10	Quiet Room 2	Downlight
DB-O	1	First Floor	C11	Quiet Room 3	Downlight
DB-O	1	First Floor	C12	Office Seating	Seating 1
DB-O	1	First Floor	C13	Office Seating	Seating 2
DB-O	1	First Floor	C14	Office Seating	Seating 3
DB-O	1	First Floor	C15	Office Seating	Seating 4
DB-O	1	First Floor	C16	Office Seating	Seating 5
DB-O	1	First Floor	C17	Office Seating	Seating 6
DB-O	2	First Floor	C18	Office Seating	Downlights
DB-O	2	First Floor	C19	Office Passage	Downlights
DB-O	2	First Floor	C20	Louis Office	Downlights
DB-O	2	First Floor	C21	Louis Office	Cove Lights
DB-O	2	First Floor	C22	Louis Office moved to TC15	Track Light
DB-O	2	First Floor	C23	Louis Office moved to TC16	Coffee Table Spot
DB-O	2	First Floor	C24	Printing Room	Downlights
DB-O	2	First Floor	C25	Kitchen/Printing Room Passage	Downlights
DB-O	2	First Floor	C26	Kitchen	Downlights
DB-O	2	First Floor	C27	Store Room	Downlights
DB-O	2	First Floor	C28	WC Entrance	Downlight
DB-O	2	First Floor	C29	Disabled Toilet	Downlights

DB-O	2	First Floor	C30	Toilet	Downlights
DB-O	2	First Floor	C1	Office/Lounge Coffee Pod	Downlights
DB-O	2	First Floor	C3	Office/Lounge Coffee Pod	Cove Light

Blinds

DB	Terminal Connector	Level	Circuit Reference	Location	Circuit Name
DB-O	7	First Floor	B1	Louis Office	Blind 1 Open
DB-O	8	First Floor	B1	Louis Office	Blind 1 Close
DB-O	9	First Floor	B2	Louis Office	Blind 2 Open
DB-O	10	First Floor	B2	Louis Office	Blind 2 Close
DB-O	11	Spare	Spare	Spare	Spare
DB-O	12	Spare	Spare	Spare	Spare
DB-O	13	Spare	Spare	Spare	Spare
DB-O	14	Spare	Spare	Spare	Spare

Standard Dimmed Lighting

DB	Terminal Connector	Level	Circuit Reference	Location	Circuit Name
DB-O	15	First Floor	C22	Louis Office	Track Light
DB-O	16	First Floor	C23	Louis Office	Coffee Table Spot
DB-O	17	Spare	Spare	Spare	Spare
DB-O	18	Spare	Spare	Spare	Spare

KNX Bus

DB	Terminal Connector
DB-O	51
DB-O	52
DB-O	53
DB-O	54
DB-O	55

The GIRA HomeServer is the device that allows IP control of the home automation. It is responsible amongst other tasks, to serve a visualization environment so the home automation functions can be managed from tablets or smartphones. The HomeServer also controls the scenes & timers within the installation, and provides the KNX installation with Date and Time.

Manufacturer.	Part Nr.	Function
GIRA	0529 00	Home Server 4

- **Visualization / Application.**

The main function in the installation is to provide a visual environment where the end user can control the entire building management system. This function pairs with the application GIRA HD, which must be downloaded on the devices (iPad or iPhone) via the 'App-store'.

- **Logic.**

The HomeServer is responsible for some logic that takes place in the controlling procedures within the KNX installation specifically the scene controls & feedback for dimmable LED.

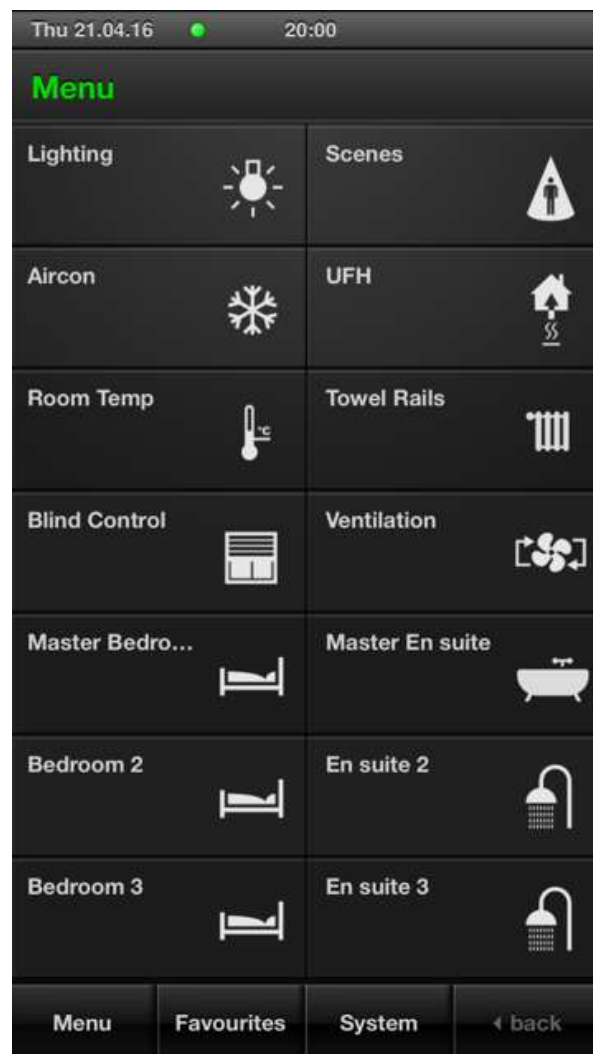
- **Remote access.**

This can be achieved in a couple of ways, 1. Using a Dynamic DNS server (www.dyndns.com) that monitors the incoming ip address and automatically updates it, or 2. Having a static IP address assigned for the internet connection from the service provider.

Another important point is that some ports must be opened on the router in order to establish a connection. This means that the router of the network that is connected to the web must allow specific connections through specific ports. Usually, the port used is 80 by default.

QuadClient Example Menu Layout

1. Lighting control for the all areas
2. Scene controls for the all areas
3. Aircon control for all areas
4. Under floor heating control for all areas
5. Blind control
6. Extractor fan control
7. Control of all functions in the master bedroom
8. Control of all functions in the master en-Suite
9. Control of all functions in bedroom 2
10. Control of all functions in bathroom 2



QuadClient User Profiles

1. Administrator

Description: Control of the entire building's lighting, sensor control, blinds, curtains (where connected to the BMS system), monitoring of electrical energy and monitoring real time weather values via the GIRA weather station.

User name: admin

Password: A#dmin12

2. Apartment

Description: Control of the apartment's lighting, curtains, monitoring of electrical energy and monitoring real time values weather via the GIRA weather station.

User name: apart

Password: A#part123

3. Library

Description: Control of the library's lighting.

User name: Library

Password: L#ibrary12

4. Offices

Description: Control of the office's lighting, curtains (Louis office), monitoring of electrical energy and monitoring real time weather values via the GIRA weather station.

User name: office

Password: O#ffice1

5. First Floor

Description: Control of the passage and atrium lighting,

User name: FirstFloor

Password: F#fl1234

6. Ground Floor

Description: Control of the passage, rest rooms, atrium, reception, gallery office, curator's office lighting.

User name: GroundFloor

Password: Gr#f1234

7. Malize / Oliver

Description: Control of the ground floor, first floor lighting and monitoring real time weather values via the GIRA weather station.

User name: Robyn

Password: R#obin12

8. Gallery Shop

Description: Control of the gallery shop lighting and monitoring of electrical energy.

User name: Gallery

Password: G#allery1

9. Restaurant

Description: Control of the restaurant lighting and monitoring of electrical energy.

User name: Res

Password: R#es1234

10. Gallery 1

Description: Control of gallery 1 lighting and monitoring of electrical energy.

User name: se123

Password: S#e123123

11. Galleries 2-7

Description: Control of galleries 2 to 7 lighting.

User name: Galleries

Password: G#alleries123

12. Gallery 8

Description: Control of gallery 8 lighting.

User name: Sculpture

Password: S#culpture1

13. Gallery 9

Description: Control of gallery 9 lighting.

User name: Special

Password: S#pecial1

14. Basement 1

Description: Control of basement 1 lighting and monitoring of electrical energy.

User name: base1

Password: B#ase1234

15. Basement 2

Description: Control of basement 2 lighting.

User name: base2

Password: B#ase2123

16. Outdoor Lighting

Description: Control of all outdoor lighting.

User name: Outdoor

Password: O#utdoor1

17. Energy Metering

Description: Monitoring of all the KNX energy meters installed.

User name: Energy

Password: E#nergy1

18. Sensor Control

Description: Control of all KNX motion sensors installed. From this profile sensors can be enabled and disabled via the time clocks. They can also be manually enabled or disabled at the press of a button relative to the sensor to be controlled.

User name: MSC

Password: MS#c1234

7. SCENES

All areas in the building have the following pre-defined scenes.

- **Welcome**
- **All off**

These scenes control a group of light circuits in the area at different values (0-100%) that can be pre-set or adjusted by the end user depending on the program setup.

Welcome: **Lighting at 25% - 100% for that area**

All off: **All off for the area**

Logic Dependence of the HomeServer

The logic functions of the installation are controlled by the HomeServer, because the scenes are setup this way, the HomeServer has to be on and connected to the KNX network in order to be able to control the same scenes from the wall switches.

- **Saving scenes when the option is enabled in the program.**

If the option is enabled, the end user can record new scenes, always with the same group of lighting circuits involved in the scene subject to change.

Let's say there is a programmed scene, like the scene number 10, where there are 3 lighting circuits involved, and where the saving option is enabled (YES).

In that scene, by the moment the installation has been handed to the client, the action is:

Scene	Name	Circuit Code	Actuator	Output	Touch Sensor	Rocker	Saving
10	L1 + L2 + L3 ON	L1	DIM1	1	1.1.20	ROCKER 1	YES
		L2	SW4	1			
		L3	SW4	2			

If the end user desires to change this behavior, for example, excluding the lighting circuit L3 from the scene, so that only circuits L1 and L2 will be switched ON, the instructions are as follows:

1. Play scene by pressing the rocker or button that plays the scene number 10.
2. Switch OFF the circuit L3 (for example, from the iPad).
3. Press and hold the same rocker from step 1 for 5 seconds.

Now, every time the scene number 10 is played, it will play the new configuration

The following program files and documentation will be handed over on completion of the project.

Documents:

- **Project document.**

The present project contains all the information referred to the KNX installation.

File name: Norval Foundation – Steenberg Art Gallery.pdf

Program files:

- **ETS configuration.**

ETS is the programming tool for KNX installations for certified KNX products only. This program file contains the latest configuration of all the individual devices installed, in ETS language.

File name: Steenberg Art Gallery.knxproj

Software: ETS5 Professional

Software version: 5.6.5 (Build 1109)

- **HomeServer configuration.**

The GIRA HomeServer is customized for each installation, and is configured with specific tools developed by GIRA. The software is available from the GIRA website www.gira.com/download

File name: Norval_Foundation_Steenberg_Art_Gallery.hs3

Software: HS Expert

Software version: 4.5

- **DMX Configurator.**

DMX Configurator is the programming tool for DMX installation products only. This program file contains the latest configuration of the device installed, in the following file extensions.

.dx1

File names: Norval Foundation Art Gallery DMX Lift Gateway.dx1

Norval Foundation Art Gallery DMX Foyer + WCs Gateway.dx1

Software: DMX Configurator

Software version: 1.7.0.5

Router Information

Manufacturer:

IP Address:

User Name:

Password:

Home Server Information

IP Address: 192.168.2.254

User Name: admin

Password: A#dmin123

Port: 8002

GIRA IP Router

IP Address: 192.168.2.253

Port: 3671

Company Responsible for the internet connection

Company Name:

Contact Person:

Package Details:

KNX Installation & Maintenance

KNX Africa

Unit B36 Milnerton business park

Cnr Koeberg & Racecourse Road

Milnerton, Cape Town, South Africa

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