



VANTAGE

Reference Design

hotel rooms



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hotel rooms

The Hotel guest experience drives the brand. When it comes to controlling their space, for guests, it's not just about lighting controls. Guests want to control their lighting, shades, temperature and entertainment easily to increase their enjoyment of their home away from home. A powerful but easy to use automation system will allow the guest to set all of these elements easily and intuitively from easy to use keypads or touchscreens.

In addition, other spaces within the hotel benefit from the use of the same controls; ballrooms, lobby, common spaces, conference rooms and back of the house, can all benefit from lighting and control systems.

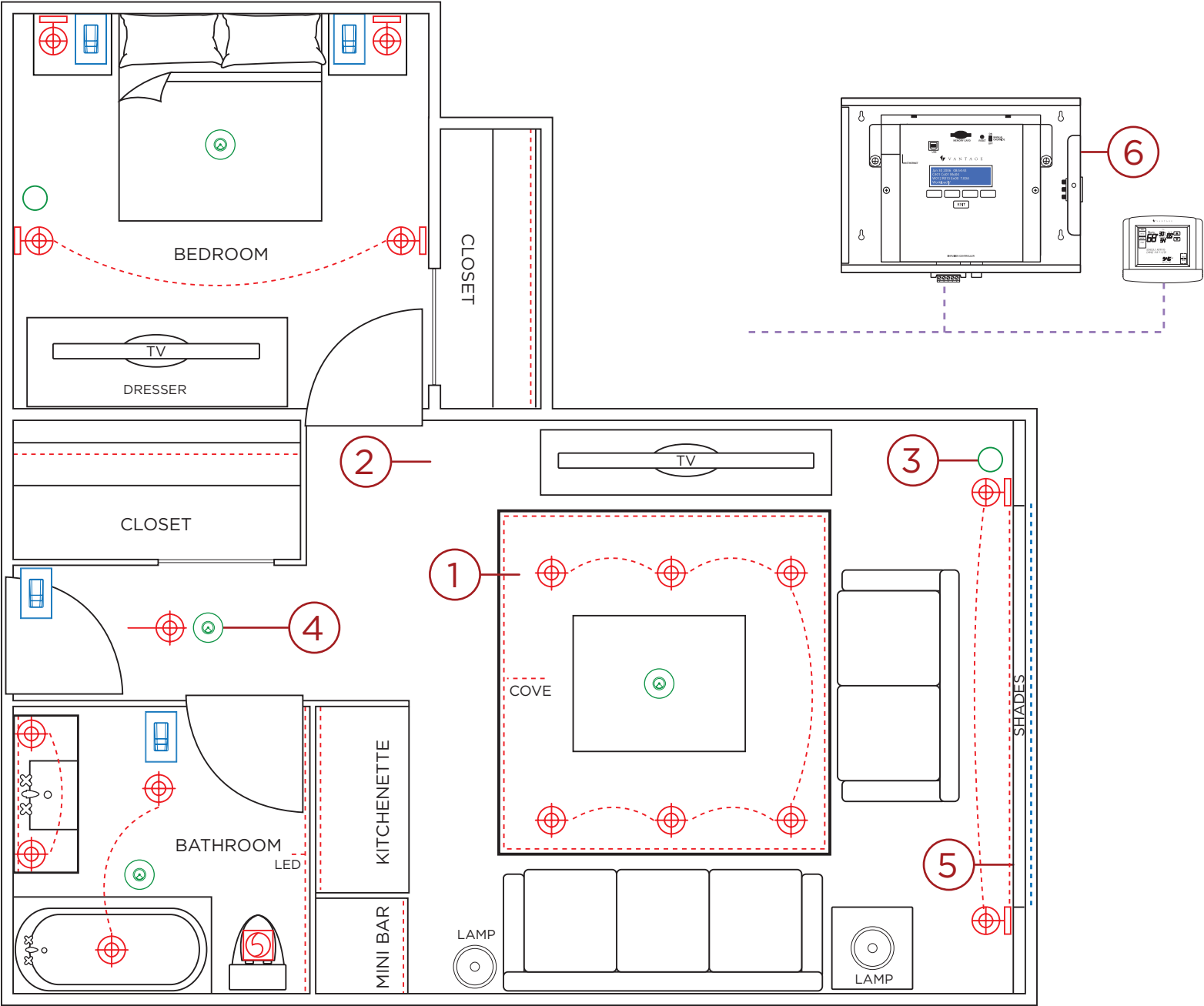
APPLICATION DESCRIPTION

SPACE USE	Hotel Room, Multiple Rooms (Living Area and Bedroom)
ACTIVITIES DIMENSIONS	20' x 35'
CEILING HEIGHT	8'
LIGHTING	Sconces By Bed, Entry Lighting, Wall Wash Lighting, Bathroom and Fan Lighting, Plugs Load Control (Floor and Table Lamps), Accent Lighting, Closet Lighting
LIGHTING APPS	Dimmed, On/Off, Scenes, Timers, Occupied, Motion

CONTROL NEEDS & SOLUTIONS

LIGHTING	<ul style="list-style-type: none">• On/Off in most rooms, dimming in suites. Most loads on ScenePoint Dimmers/Relays for default function in case of system outage. (n.1)
INTERFACE	<ul style="list-style-type: none">• EasyTouch II Keypads/ScenePoints at entrances and in bathrooms, Equinox 40 in areas with HVAC zones separate from the main area (Bedrooms), Equinox 73 in main area of suites for overall lighting and HVAC control. Matching wiring and connectivity devices for guest facing applications (Night light GFCI in bathrooms, duplex receptacles, data ports). (n.2)
HVAC	<ul style="list-style-type: none">• Flush Mount Temperature Sensor in each HVAC zone, thermostats remotely located or hidden, all HVAC user interface on Equinox devices. HVAC also controlled by sensors (occupancy) and timers (setback). (n.3)
SENSORS	<ul style="list-style-type: none">• Motion sensors used for occupancy in main areas, bedrooms. Also used for motion to activate lights in bathrooms and large closets. Door sensors used for small closets, mini bars, and any cabinetry lighting in kitchenette areas. (n.4)
SHADES	<ul style="list-style-type: none">• Motorized shades in suites. Controlled via user, timer, sensors (occupancy). (n.5)
INFRASTRUCTURE	<ul style="list-style-type: none">• Multiple rooms on a single controller – saves cost, centralizes control function. Most loads distributed via ScenePoints. Any centralized loads located with Controller via Modules or DIN Dimmers and Relays. (n.6)

HOTEL SUITE FLOOR PLAN





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DESIGN CONSIDERATIONS

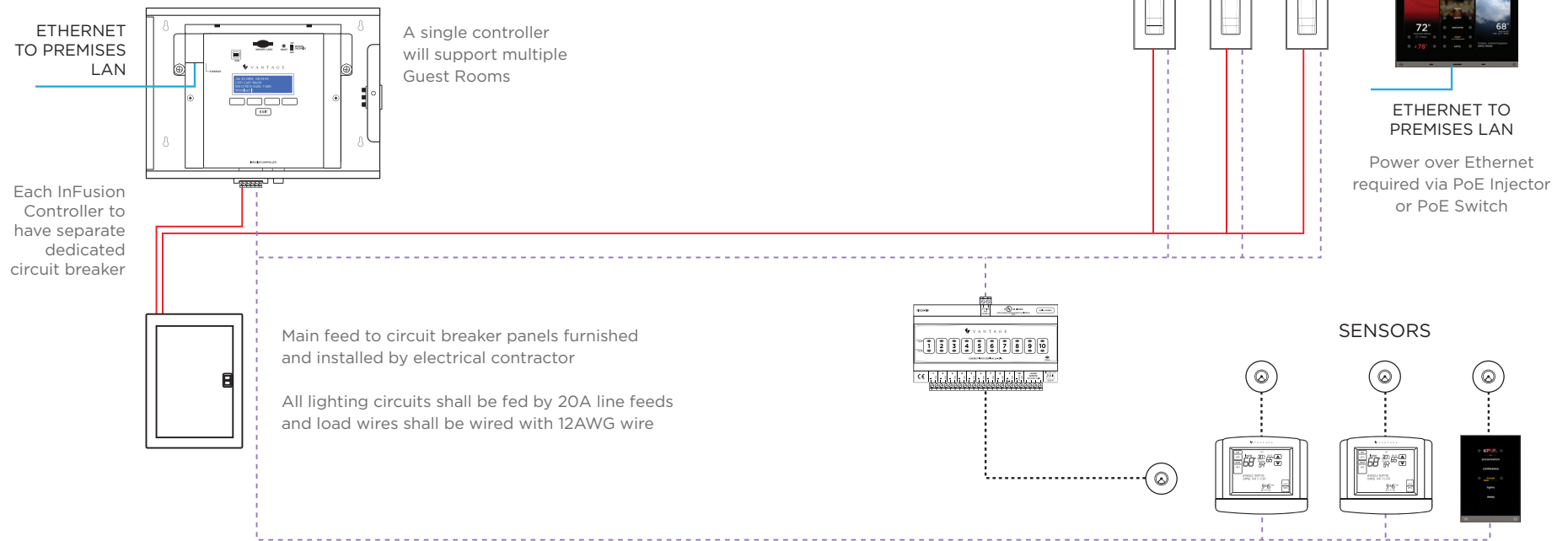
- The Vantage system can increase the guest experience and satisfaction while at the same time reduce energy consumption by providing enhanced control of lighting, temperature and window shading. Providing dimming capability to the guest allows for a more satisfying guest experience, as he or she can set the lighting levels according to individual preference, which will typically vary dependent on time of day or ambient light from windows.
- From a single user interface, the guest can alter lighting levels, comfort setpoints and shade positions. A “Welcome” button on the entrance keypad provides an inviting atmosphere, while an “All Off” button on the same keypad enables the guest to exit the room with assured energy savings.
- Occupancy sensors allow for hands-free lighting at appropriate levels as the guest enters an area, as well as for turning lights off when no one is in the area. Using all of the suite’s occupancy sensors together allows the system to detect when the suite is unoccupied and can apply temperature setbacks, as well as set shade positions to optimize seasonally varying heat load objectives.
- In this application an InFusion Controller is typically centralized and can provide control of multiple guest rooms.
- It is important to note that the Vantage system configuration is extremely flexible and variations on this design can accommodate for the specific requirements of any project.

WIRING DIAGRAM

ELECTRICAL ROOM

WIRE LEGEND		
Unswitched Power		
Switched Power		
Station Bus		AWG16-C, 25pF Reference Vantage VDA-0143
Ethernet		UTP, AWG22-8C, CAT6e
Speaker Wire		AWG16-4C
Balanced A/V		UTP, AWG22-8C, CAT6e
Misc. (as labeled)		

GUEST ROOM or SUITE



BILL OF MATERIALS

CATEGORY	PART NUMBER	DESCRIPTION	QTY
Enclosures	ISME-36	InFusion Surface Mount Enclosure 36V	1
Controller	IC-36-1	InFusion Controller - 36V Station Bus	1
Load Control	LVOS-0-10-PWM	Low-voltage 1-10 PWM Station (w/Enclosure)	3
Sensors	EM-LIGHTSENSOR	Ambient Light Level Sensor	3
	FL-MS-MINI-360-16	PIR Motion Sensor - 16 ft Radius	3
	VDA-0015	Auxiliary Pigtail Cable Assemblies Each	3
Keypads (Standard EasyTouch II)	KS15TE-AWYA	KS EasyTouch II 5 Btn w/Trim AW Engraved	9
	FP1DTE-AWNP	FP EasyTouch II 1-G Dec TrimLine II Plastic AW	9
Integration/Misc	LVRS8-DIN	Low-voltage Relay Station 8 - DIN	3
HVAC	CC-STAT-WL-KIT	Contains STAT plus Q-ETS3	3
	FLUSHSENSOR	Flush Mount Thermostat Sensor	3



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INSTALLATION NOTES

- Install the InFusion Controller remote from the guest room in a temperature conditioned electrical closet. Each controller will manage from two to six guest rooms.
- Vantage two-conductor station bus cabling is run from the controller to keypads, ScenePoints and thermostats. Topology is completely open, but total bus length limitations and maximum distance limitations exist (2000' maximum per bus, 1000' maximum distance).
- Occupancy Sensors wire either to low-voltage keypads or Equinox 40s via 22AWG cable with a minimum of three conductors.
- ScenePoint dimmers and relays require deep wallboxes to accommodate for depth of dimmer and wires. Two-gang wallboxes with single-gang mud ring are often used.
- Thermostats are located remotely with local flush wall-mount temperature sensor (maximum run 160 ft, 18AWG 2C).
- A variety of window shade motor control options exist. Whether line-voltage or low-voltage, direct drive or serial port controlled, the hardware to affect the solution will vary accordingly.
- Multiple InFusion Controllers will typically be needed for covering all guest rooms in a hotel. Each controller would be programmed independent of the others with its connected devices forming a separate system.
- An Ethernet port to each controller allows for centralized and remote system access as well as enabling interface apps on portable devices.

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Part# 1000000 Rev_A DM/DC 6/13

The content in Vantage reference designs for hotel rooms is intended to provide a starting point for designers that are contemplating a hotel project with lighting control and integrated automation. The photos included, unless labeled, are not exact project replicas but are representative of this type of project.