

NX Pocket Guide Ver. 2.0

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NX Network and SmartPORT Network Rules:



Wiring CAT5e:

Do not leave any cable end unplugged.
Do not loop a cable back into the same device.
Do not make a complete circuit.
Cat5e runs not to exceed 1000' in each Zone bus. 328' max between NX Network devices

·Test all Cat5 cables.
·Maximum of 500 NX Devices of any type per NX Zone
·Up to 32 NX Devices per FX Zone Segment
·Simple CAT5 in/out daisy chain connection between devices
·Always power room controllers with a constant hot (unswitched) circuit.



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Small Private Office





Sequence of Operation:

Manual On/Auto Off Lighting Control - Switch must be pressed for lighting to be turned on; lighting is turned off automatically based on occupancy. Auto On/Auto Off Plug Load Control - Outlets are enabled when the Zone becomes occupied and turned off when unoccupied. Zone may be stand alone or networked - Network bridge is optional, only required when ADR or BACnet points are required.

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Large Private Office





Sequence of Operation:

Manual On/Auto Off Lighting Control - Switch must be pressed for lighting to be turned on; lighting is turned off automatically based on occupancy. Auto On/Auto Off Plug Load Control - Outlets are enabled when the Zone becomes occupied and turned off when unoccupied. Zone may be stand alone or networked - Network bridge is optional, only required when ADR or BACnet points are required.

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Conference Room



Conference Room



Conference Room



Sequence of Operation:

Manual On/Auto Off Lighting Control - Switch must be pressed for lighting to be turned on; lighting is turned off automatically based on occupancy. Auto On/Auto Off Plug Load Control - Outlets are enabled when the Zone becomes occupied and turned off when unoccupied. Zone may be stand alone or networked - Network bridge is optional, only required when ADR or BACnet points are required.

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Large Room



0.0

1RD

1RD

2RD

a,b,c

⊞

a.b

MAIN

MAIN

' POWER

て POWER

' POWER



Large Room

V

Sequence of Operation:

Large Room

Manual On/Auto Off Lighting Control - Switch must be pressed for lighting to be turned on; lighting is turned off automatically based on occupancy. Auto On/Auto Off Plug Load Control - Outlets are enabled when the Zone becomes occupied and turned off when unoccupied. Daylight sensor for daylight harvesting capability when required by local code.

Zone may be stand alone or networked - Network bridge is optional, only required when ADR or BACnet points are required.





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Open Office > 250 sq ft.





Open Office

Sequence of Operation:

Open Office

Manual On/Auto Off Lighting Control - Switch must be pressed for lighting to be turned on; lighting is turned off automatically based on occupancy. Occupancy sensors control Zones/Groups should be limited to less than 600 square feet.

Auto On/Auto Off Plug Load Control - Outlets are enabled when the Zone becomes occupied and turned off when unoccupied.

Zone may be stand alone or networked - Network bridge is optional, only required when ADR or BACnet points are required.





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Classroom



MAIN

MAIN

イ POWER

POWER



Classroom

Sequence of Operation:

Classroom

Manual On/Auto Off Lighting Control - Switch must be pressed for lighting to be turned on; lighting is turned off automatically based on occupancy. Auto On/Auto Off Plug Load Control - Outlets are enabled when the Zone becomes occupied and turned off when unoccupied. Zone may be stand alone or networked - Network bridge is optional, only required when ADR or BACnet points are required

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Restroom Multi-Stall



NORMAL MAIN POWER

Sequence of Operation:

Automatic On/Auto Off Lighting Control - Lighting is turned off automatically based on occupancy. Zone may be stand alone or networked - Network bridge is optional, only required when ADR or BACnet points are required.





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Corridor





CORRIDOR

Sequence of Operation:

Automatic On/Partial Off with Grace Period Lighting Control - Switch must be pressed for lighting to be turned on; lighting is turned off automatically based on occupancy.

Zone may be stand alone or networked - Network bridge is optional, only required when ADR or BACnet points are required.





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0-10v Room Controllers



·NXRCFX2-1RD and NXRCFX2-2RD 0-10 wiring class 1

•Connect to J-box with 1/2" nipple

·0-10 wiring is polarity dependent; Violet +, Pink - (negative used to be Grey)

Room Controllers have internal timeclock and can run schedules with no additional devices required





Phase Dimming Controllers

•NXFRD-UNV used with 0-10 dimming room controllers to control phase dimming loads •NXFRD-UNV is a phase adaptive module •120V/277V input



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Radio Modules



Radios must be connected to FX port, this enables wireless communication to other radio modules or wireless enabled fixtures in the system
Can connect to and communicate with both interior and exterior fixtures with wireless radios or sensors installed seamlessly with just one system
Radio range for indoor applications is 100' to at least 3 other wireless nodes
Radio range for outdoor applications is 300' clear line of sight to at least 3 other wireless nodes
Radios are available in White, Gray, and Black



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NX Lighting Controls App



Universal programming device for all NX devices
Available on the Apple App and Google Play stores
Communicate through Bluetooth with NX Digital Sensors, NX Radio Module, and NXBTC dongle



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NXSW-TH3 Single Gang Touchscreen

Mounts to standard single gang back box
Custom splash screen logos can be uploaded
Control up to 16 groups
Optional password access control



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NXAC2 and NX Network



NX Network Wiring:

Each segment can have up to 24 NX networked devices Bridges to be connected in daisy chain topology

·NXAC2 allows for ADR (Automatic Demand Response), timeclock functions, and BACnet integration with BMS systems ·NXAC2 allows for (1) NX Network connection (RJ45) and can be connected to a PoE switch to utilize multiple segments. ·Up to 3 NXPOE Switches can be connected together.



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LIGHTING CONTROLS

Room Controller Ports:

·Up to 32 FX devices can be connected together through the FX ports
·NX Room controllers, enabled fixtures, network bridges, and radio modules must be connected to the FX ports
·Analog sensors which require an RJ45ADAPTER must be connected to SmartPORTs (SP ports)
·NX digital sensors*, wall stations, NXBTC, and other auxiliary components can be connected to either FX or SP ports



*If utilizing wireless mesh radio, sensor must be connected to FX port

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Lighting Control Panels

•NXP2 Panels available in 8, 16, 24, 32 and 48 relay panel sizes

Equal number of 0-10V dimming channels to relay spaces

(4) SmartPORTs for connection of NX switches, sensors, and other NX accessories*

·(4) Low voltage 3-wire dry contact inputs for connection of low voltage switches or sensors

·(2) SPDT (N.O./N.C.) dry contact outputs

(2) NX Network ports for connection to other NXP2 Panels, Bridges, or an Area Controller if in a networked system

·Programmable via NX Lighting Controls mobile app using the included NX Bluetooth Radio Bridge

Single pole and double pole relays available

·Optional UL924 option for control of emergency lighting circuits

·Voltage barrier for use between relays available

Panel can be used as a standalone or networked device

UL924 panel

Normal panel



*Panel SmartPORTs do not support connection of NX actuators, bridges, and radios

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Emergency Fixtures

•The NX Lighting Controls system offers a completely integrated UL924 solution for emergency lighting controls that is less complicated and easier to install than classic standalone ALCR and BCELTS solutions. The NX UL924 Load Controller removes the need for complicated installations and wiring normally associated with UL924 solutions. The NX UL924 Load Controller senses normal power using a standard CAT5 connection to a NX Room Controller connected to normal power. In the event there is a loss of normal power the NX UL924 Load Controller will automatically bring the lights to full brightness, regardless of their current state. When normal power is restored all lighting returns to normal operation.

- UL924 Listed emergency lighting control device
- Meets NFPA Article 700 requirements for emergency lighting
- Single relay version with dual 0-10V interface for full range dimming control
- · Automatically overrides lighting to emergency state upon loss of normal power
- Utilizes CAT5 connection to standard NX room controller for normal power sensing
- Full range continuous dimming defaults to full ON in emergency mode
- FX bus enabled and compatible with NXRCFX room controllers
- Provision for remote test button or fire alarm interface
- Advanced configuration, power metering, and control through either NX Area



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In the NX system, there are devices that supply power, and those that consume power. To keep things simple, we calculate power based on Power Budget Units, or PBUs. PBUs are a pre-calculated value assigned to every NX low voltage device. This allows for quick determination of power requirements without the need for lengthy calculations. Devices shown below with a positive (+) PBU value supply power to devices, while those with a negative (-) PBU value consume power.

NX Devices that Supply Power

Device	Number of Ports	PBUs
NX Panel 2.0, NXP2	4 (SmartPORT)	+140
NX Room Controller	4 (2-FX/2-SmartPORT)	+30
NX In-Fixture Module, NXFM2-I	1 (FX)	+30
NX In-Fixture Module, NXFM2-O	1 (FX)	+30
NX In-Fixture Module, NXFM2-LV	1 (FX)	* Dependent upon supply

NX Devices that Consume Power

Accessory Device	PBUs Used to Power Device
NXSW(R) Switch Station	-1
NXSW2 Switch Station	-2
NX SimpleTouch	-15
Analog Daylight Sensor (photocell)	-1
Analog PIR only Occupancy sensor	-1
Analog PIR only Occupancy sensor with RP option	-2
Analog Dual Technology and Ultrasonic Occupancy sensor	-3
Analog Dual Technology and Ultrasonic Occupancy sensor with RP option	-4
NXSMP2 Digital PIR Occupancy and Daylight Sensors	-3
NXSMDT-OMNI Digital Dual Tech OMNI	-7
NXSMDT/IR-LightHAWK	-5
NXCI Single Contact Closure Input Module	-1
NXRM-H Legacy Radio Module	-15
NXRM2-H Radio Module	-3
NX Audio Video Module	-1



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