nPP16 EFP
POWER / RELAY PACK
FAMILY INSTRUCTIONS

SPECIFICATIONS (NPP16 EFP)

Electrical Specifications	**Input Ratings**	120/277VAC, 50/60 Hz 220-240VAC, 50/60Hz (with 230 option) 120/347VAC, 50/60 Hz (with 347 option)
	Output Ratings	120/277VAC, 50/60 Hz 220-240VAC, 50/60Hz (with 230 option) 120/347VAC, 50/60 Hz (with 347 option) 16A - Tungsten, Standard Ballast, Electronic Ballast, General Purpose 120VAC, 50/60 Hz, 1/2 HP - Motor SCCR: 5KA 100mA, 0-10VDC Dimming Sink Current
	Relay Type	Latching
	Low Voltage Output Ratings	15VDC, 40mA per RJ-45 Port (80mA total)
	Class Rating	0-10V Dimming can be wired Class 1 or 2
	Standards/ Ratings	Energy Management Equipment, UL916 (E167435)
Mechanical	**Dimensions**	3.38" H x 2.53" W x 1.83" D (86mm x 64mm x 47mm) - does not include ½" chase nipple
	Mounting	1/2" Knockout (7/8" hole)
	Color	White
	Connection Type	RJ-45 nLight Network Ports (2) Non-Dimming Model: Line Voltage Leads Dimming Model: Line and Low Voltage Leads
Environmental	**Warrantied Operating Temperature**	Standard: 14º to 122º F (-10º to 50º C) LT Option: -4º to 122º F (-20º to 50º C)
	Relative Humidity	Up to 90%, Non-Condensing
	Standards/ Ratings	RoHS, Plenum UL2043

C UL US LISTED

WARRANTY
5-year limited warranty. Complete warranty terms located at
www.acuitybrands.com/CustomerResources/Terms_and_conditions.aspx

READ AND FOLLOW ALL SAFETY INSTRUCTIONS!
## SAVE THESE INSTRUCTIONS AND DELIVER TO OWNER AFTER INSTALLATION

nPP16 EFP
POWER / RELAY PACK
FAMILY INSTRUCTIONS

INSTALLATION INSTRUCTIONS

- Disconnect or turn off power before installing or servicing the nPP16 EFP.
- The nPP16 EFP includes a factory-installed fuse holder attached to the red wire. For ease of installation, pass the lead with the fuse holder through the KO or lock nut first, then pass the other leads through the KO or lock nut. Care should be taken not to nick the wires while threading through the knockout.
- Mount through a ½" knockout in a 4" square or larger steel junction box (deep box recommended) or luminaire. Secure with supplied lock nut.
- Following the applicable wiring diagram below, connect wires to line voltage feed, neutral, and load. Relay and power supply must be connected to the same input circuit.
- Fuse holder must be installed with slack in wire leads at all times. Failure to leave slack in wire leads may cause fuse holder to overheat.
- If applicable, connect low voltage violet and gray dimming wires to 0-10 VDC ballast/driver. Note: Wires have 600V rated insulation.
- If green wire is present, connect to earth ground.
- Interconnect unit (via RJ-45 ports) with other nLight devices in lighting zone using CAT-5e cables.
- Test all wiring for shorts prior to powering up the unit from the circuit breaker, and ensure that there are no loose or exposed wires that could short to other wires or components. Once wiring is confirmed, power up the unit from the circuit breaker.
- Once power is received via CAT-5e connection, all devices in zone will automatically begin functioning together according to each device's defaults.
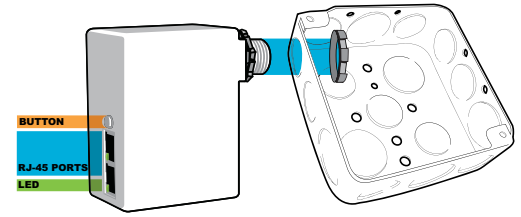
T568B pin/pair assignment is recommended for all CAT-5e cables. For Supply Connections, use 14 AWG or larger wires rated for at least 90° C.

Diagram for non-dimming units

DO NOT REMOVE, BYPASS, OR TAMPER WITH FACTORY-INSTALLED FUSE HOLDER ATTACHED TO RED WIRE.
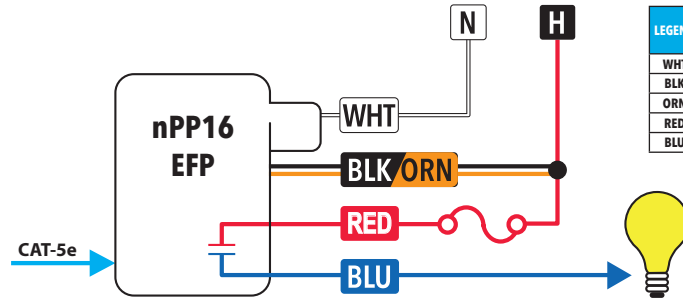
LEGEND	BASE (120/277VAC)	230 (220-240VAC)	347 (120/347VAC)
WHT	Neutral		
BLK	120VAC	N/A	120VAC
ORN	277VAC	220-240VAC	347VAC
RED	120/277VAC	220-240VAC	120/347VAC
BLU	Load (Switched Out)		

Diagram for units with a dimming option (-D or -DS suffix)

For further troubleshooting guidance, please contact the Controls Technical Support Team

1(800)-535-2465

0-10 VDC Ballast or LED Driver
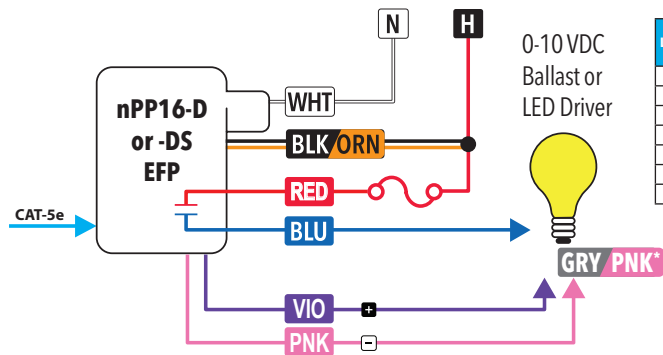
LEGEND	BASE (120/277VAC)	230 (220-240VAC)	347 (120/347VAC)
WHT	Neutral		
BLK	120VAC	N/A	120VAC
ORN	277VAC	220-240VAC	347VAC
RED	120/277VAC	220-240VAC	120/347VAC
BLU	Load (Switched Out)		
VIO	0-10V Dim(+)		
PNK*	0-10V Com (–)		

NOTE: If there is a GREEN wire present, connect to earth ground.

*0-10V Dimming Common from luminaire may be pink or as otherwise indicated per section 410.69 of the 2020 NEC.

TROUBLESHOOTING (NPP16 EFP)

Additional nLight devices do not show power from nPP16 EFP device	• Confirm line voltage power is present to the nPP16 EFP unit • Confirm line voltage power is connected to the correct line voltage input wire, as identified in the wiring diagram • Confirm all line voltage wiring connections • Confirm RJ45 pinout connections
RJ45 LEDs are showing rapid flash for 1 second, followed by two blinks	• Confirm there is no debris or bent pins within the RJ45 connections on all devices in the daisy-chain, and that all connectors are properly snapped into the RJ45 port • Use a CAT5 cable tester to confirm all cables are properly terminated • Confirm no CAT5 cables are kinked or held with cable ties that are overtightened
Restore Factory Defaults	1. Press and hold button until LED flashes rapidly 2. Press button 9 times 3. During LED flash back (3 individual flashes), press the button twice 4. LED will flash twice to confirm reset, press and hold button until LED flashed rapidly 5. Press button 9 times. LED wil blink twice to show successful factory reset

nPP16 EFP
POWER / RELAY PACK
FAMILY INSTRUCTIONS

Operational settings can be changed via the push-button sequence outlined below and right. Addtional settings can also be configured via SensorView software.

A-LEVEL PROGRAMMING INSTRUCTIONS

Please read all 3 steps before programming

1. Enter a specific programming function by pressing button the number of times as the desired function number from the A-Level Detailed Function Tables (e.g., press 23 times for function 23, Occupied Bright Level).

2. LED will flash back the selected function's current setting (e.g., 11 times for 100%). To change setting, proceed to step 3 before flash back sequence repeats 3 times. To exit the current function or to change to a different function, wait for sequence to repeat 3 times then return to step 1.

3. Press button the number of times indicated in the particular function's detailed table for the NEW desired setting. As confirmation of setting change, LED flashes back the NEW setting 3 times before exiting.

A-LEVEL DETAILED FUNCTION TABLES

17 = Secondary Zone Dimming Offset
Percentage voltage difference of unit's dimming output from primary dimming output (Function 26, Follow Photocell Mode, must be enabled)

1	- 100%	8	-30%	15	40%
2	- 90%	9	-20%	16	50%
3	- 80%	10	-10%	17	60%
4	- 70%	11	0%*	18	70%
5	-60%	12	10%	19	80%
6	-50%	13	20%	20	90%
7	-40%	14	30%	21	100%

23 = Occupied Bright Level
The percentage of the controllable dimming range that the dimming output rises to when occupancy is detected. Setting is not applicable if Follow Photocell Mode is enabled. Note: Adjusting the dim level using a WallPod changes this setting when Follow Photocell Mode is disabled.

1	1%	5	40%	9	80%
2	10%	6	50%	10	90%
3	20%	7	60%	11	100%*
4	30%	8	70%		

24 = Unoccupied Dim Level
The percentage of the controllable dimming range that a dimming output drops the lights to after the Idle Time Until Dim timer expires

1	1%*	5	40%	9	80%
2	10%	6	50%	10	90%
3	20%	7	60%	11	100%
4	30%	8	70%		

26 = Follow Photocell Mode
Directs how a device's dimming output reacts relative to a photocell (ADC)

1	Disable*	2	Enabled (- only)	3	Enabled +/-

B-LEVEL PROGRAMMING INSTRUCTIONS

Please read all 4 steps before programming

1. Enter B-Level programming mode by holding down button until LED flashes rapidly, release, hold down until rapid flash again, release, then immediately enter programming function as described in step 2.

2. Enter a programming function by pressing button the number of times as the desired function number from the table labeled B-Level Functions (e.g., 12 times for function 12, Occupancy Tracking Channel).

3. LED will flash back the selected function's current setting (e.g., 1 flash for channel 1). To change setting, proceed to step 4 before flash back sequence repeats 3 times. To exit the current function or to change to a different function, wait for sequence to repeat 3 times then return to step 1.

4. Press button the number of times indicated in the particular function's detailed table for the NEW desired setting (e.g., press 2 times for channel 2). As confirmation of setting change, LED flashes back the NEW setting 3 times before exiting.

B-LEVEL DETAILED FUNCTION TABLES

12 = Occupancy Tracking Channel
The local channel on which a device's relay and/or dimming output receives occupancy information

1 - 16 (e.g., **1** = Channel 1*, **2** = Channel 2; etc.)

14 = Photocell Tracking Channel
The local channel on which a device's relay and/or dimming output receives photocell information

1 - 16 (e.g., **1** = Channel 1*, **2** = Channel 2; etc.)

16 = Switch Tracking Channel
The local channel on which a device's relay and/or dimming output receives switch information.

1 - 16 (e.g., **1** = Channel 1*, **2** = Channel 2; etc.)

Note: Normal default is channel 1, units with SW2 and SA2 options are defaulted to channel 2

17 = Override (Relay / Dimming)
Indicates whether a device's relay is forced on/off and/or dimming output is forced to max/min

1	Not forced*	2	Override On	3	Override Off

18 = Special Operating Mode
Unique defined behaviors of relays and/or dimming outputs, see right for function definitions

1	Normal*	5	Predictive Off
2	Manual On	6	Manual to Override On
3	Auto to Override On	7	Manual to Normal
4	Manual to Full Auto On		

19 = Invert Relay Logic
Reverses functionality of relays

1	Normal Logic*	2	Inverse Logic

21 = WallPod Dimming Adjustments
Defines whether user dimming adjustments are maintained after lights are cycled, whether they revert to default levels, or whether they temporarily disable a connected dimming photocell (until lights cycle)

1	Permanent*	2	Temporary	3	Photocell Temp Override

22 = Maintain Dim Level when Vacant
Prevents lights from turning fully off once in unoccupied state

1	No*	2	Yes

23 = Special Switch Tracking Mode
Defines unique behavior related to how relays respond to particular switch information

1	Disable*	3	Ignore Ons
2	Ignore Offs	4	Ignore Ons & Offs

27 = Relay Always On
Forces relay to stay closed even in off state

1	No*	2	Yes

28 = Dimming Always On
Maintains unoccupied dim level when in off state. Does not affect relay.

1	No*	2	Yes

29 = Occupancy Expiration of Manual Off
When enabled, operation of device will revert from a push-button triggered override off state to Normal mode once the Occupancy Time Delay (adjustable via SensorView or push-button) expires. Not used with Manual On operating modes.

1	Disable*	2	Enable

31 = High End Trim**
Maximum voltage level of the device's dimming output. Commonly used for task tuning where absolute light level is not to be increased via a Wallpod or scene. When output is at high end trim, the reported control percentage will be 100%. Corresponding lumen output % is dependent on ballast/ driver capabilities.

1	0.7 V	4	3V	7	6V	10	9V
2	1V	5	4V	8	7V	11	10V
3	2V	6	5V	9	8V		

32 = Low End Trim**
Minimum voltage level of the device's active dimming range. Level can not be reduced via a WallPod or scene. When output is at low end trim, the reported control percentage will be 1%. Corresponding lumen output % is dependent on ballast/driver capabilities.

1	0.7 V	4	3V	7	6V	10	9V
2	1V	5	4V	8	7V	11	10V
3	2V	6	5V	9	8V		

** Setting precision of 0.1V is available via SensorView. Device status LED blinks out current value rounded to nearest selection above.

FUNCTION 18 DEFINITIONS

NORMAL
Operating Mode where occupancy sensors are capable of turning lights both on/off

AUTO TO OVERRIDE ON
Special Mode where lights are turned on initially by occupant detection but then left in the Override On state

MANUAL ON TO FULL AUTO
Special Mode that initially requires the occupant to manually turn on the lights, after which the sensor assumes full on/off control

MANUAL ON
Special Mode that always requires the occupant to manually turn the lights on, while having them turn off automatically by a sensor (default on models with SA and SA2 options)

PREDICTIVE OFF
When lights are switched off, this Special Mode determines whether occupants remained or left the room, so as to leave the lights in either the Override Off or Auto On state

MANUAL TO TIMED OVERRIDE ON
Special Mode where lights are initially turned on manually but remain in the Override On state for a pre-determined period (Timed Override Delay)

MANUAL TO NORMAL
Special Mode where lights are initially turned on manually but remain in the Normal State (enabling auto-dimming) for a pre-determined period (Timed Override Delay)

For further troubleshooting guidance, please contact the Controls Technical Support Team
1(800)-535-2465