Question & Answer #6

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PIER 4 PHASE 2 RECONFIGURATION
PROJECT NO. 091251 | CONTRACT NO. 070136

1. BIDDER QUESTION

Section 03 20 00 paragraph 3.04.C specifies weld processes. We request that the gas-shielded flux core process be allowed if welding is to occur in a shop facility under controlled conditions.

RESPONSE

See Addendum No. 6 for revisions to Section 03 20 00, paragraph 3.04.C to allow gas-shielded flux core processes in a shop facility under controlled conditions.

2. BIDDER QUESTION

Section 03 30 00 paragraph 3.04B prescribes curing for cast- in-place concrete. This specification is also referenced in the Precast Concrete (03 40 00) and Precast Pile (31 62 00) specifications. We request a clarification that section 03 30 00 paragraph 3.04B does not apply to curing for precast concrete components at a dedicated manufacturing facility.

RESPONSE

Paragraph 3.04.B of Section 03 30 00 applies to curing of all concrete whether cast-in-place in the field or at a dedicated manufacturing facility, unless accelerated curing methods for precast concrete are used per paragraph 3.01.E of Section 03 40 00. See Amendment #6 for modification of paragraph 3.01.E of Section 03 40 00.

3. BIDDER QUESTION

Section 03 40 00 paragraphs 3.01D and 3.01E prescribe curing requirements for precast components. We request that in addition to the curing references prescribed that the precast concrete manufacture be allowed to submit alternate curing procedures to the Engineer of Record for approval.

RESPONSE

Bids should be prepared based on the curing procedures indicated in the contract documents. It is the Contractor's risk to bid the project assuming that curing procedures other than those indicated in the contract documents will be accepted.

4. BIDDER QUESTION

Section 03 40 00 paragraph 3.01.J specifies rejection for precast concrete containing "honeycombed" sections, as determined by the Engineer of Record. We request that the precast manufacturer be allowed to submit a repair procedure satisfactory to the Engineer of Record prior to outright rejection.

RESPONSE

Paragraph 3.01.J of Section 03 40 00 has been modified to allow the contractor to submit a proposed repair procedure prior to outright rejection of the precast element. See Addendum #6.

5. BIDDER QUESTION

Section 31 62 00, paragraphs 2.03 and 3.03 and section 03 40 00 paragraph 3.03.A.3 specify that piles attain 28 day compressive strength AND 28 days of actual curing age, prior to driving. We request that the curing age requirement be lowered to 14 days minimum, as this will lower costs for stockpiling and transporting precast components.

RESPONSE

No change will be made to the contract documents regarding the minimum concrete strength and cure time for the piles prior to driving.

6. BIDDER QUESTION

Drawing Sheet S1.1, Reinforced Concrete Note 1.C – Are the pile dowels and spiral hoops, as shown on Drawing Sheet S8.1, to be epoxy coated? Please clarify.

RESPONSE

Reinforced Concrete note 1.C on Drawing Sheet 1.1 has been revised to clarify that pile dowels and spiral hoops embedded in stage 1 sections are excluded from epoxy coating requirement. See Addendum No. 6.

7. BIDDER QUESTION

Drawing Sheet S45.1 – We are unable to find information in the reference drawings for the light pole anchor bolts. Please provide the number, size, and length of anchor bolts required for the light poles.

RESPONSE

A note has been added to Drawing Sheet S45.1 to provide a quantity, size, and length of anchor bolts to assume for bidding purposes. See Addendum No. 6.

8. BIDDER QUESTION

Ref Drawing Sheet S8.1: Pile connection details 1/S8.1 and 3/S8.1 appear to show conflicting details. 1/S8.1 shows (1) W20 welded hoop placed around the top of the exterior of the pile, 1-inch below pile cut-off, as do all the pile cut-off details: 1/S8.1, 2/S8.1, and 4/S8.1. Conversely, the spiral detail (3/S8.1) appears to show the (1) W20 welded hoop placed above pile cut-off elevation, on the interior of the pile, appearing as an extension of the precast reinforcement (this is corroborated by spiral splice reference called out on 3/S7.1).

Please clarify whether the (1) W20 welded hoop shown below the bottom layers of cap reinforcement is intended to be placed above or below the pile cut-off elevation, and interior or exterior to the pile footprint. Second, if the intention is that the welded hoop be placed above cut-off EL. and inside the pile footprint, is the intention to expose precast pile reinforcement, and weld the hoop on as a continuation of that reinforcement per the splice detail 3/S7.1?

RESPONSE

Spiral Detail 3 on Sheet S8.1 has been revised. See Addendum No. 6 for revisions.

9. BIDDER QUESTION

RE: Vault SDV23

Sheet E3.3 indicates this vault as new and Sheet E6.20 provides coordinates as if it is new, yet no vault dimensions or Cat No. are provided. Please indicate the size of this vault.

RESPONSE

Refer to Addendum #4, sheet E6.20 for size of vault SDV23.

10. BIDDER QUESTION

E3.3 Key Note 6 indicates conduit schedule runs WS174, WS185 and WS196 on the land side, yet these runs are also shown along the edge of the pier. Please confirm these runs should not be shown on key note 6.

RESPONSE

Key Note 6 on Sheet E3.3 has been revised to delete conduit runs WS174, WS185 and WS196. See Addendum No. 5.

11. BIDDER QUESTION

Sheet E3.8, Key Note 10 – "See Civil/Structural drawings for slab and support structure details." I have reviewed civil and structural sheets and cannot find the information specific to this Yard Electrical area. Please provide the sheet or drawing number.

RESPONSE

See Addendum No. 6 for revisions to Key Note 10 on Sheet E3.8.

12. BIDDER QUESTION

We request the following addition to specification 03 30 00, paragraph 2.01.E, to allow the optional use of accelerating admixtures. This will aid the curing of concrete with no detrimental effect. Suggest language for incorporation as follows; "4. Accelerating admixtures shall be Type C per ASTM C494 (non-corrosive/non-chloride) at the dosage rates recommended by the manufacturer."

RESPONSE

Paragraph 2.01.E of Section 03 30 00 has been revised to include accelerating admixtures. See Addendum No 6.

13. BIDDER QUESTION

Reference Project Form – 00 43 13 Page 2. Items 3, 4, and 5 request the bidder and major Sub-Bidders to provide information as part of the responsibility criteria. Please provide how the Contractor is too determine who is classified as a "major Sub-Bidder".

RESPONSE

The Port defines 'major sub-bidder' as defined in Section 00 21 00 1.06 A 2.b. '…either a listed Sub-Bidder or a Sub-Bidder performing Work valued at least ten percent (10%) of the Base Bid'.

14. BIDDER QUESTION

Reference Specification Section 00 72 00 3.02A. Please confirm that the Contractor is not liable for costs, liabilities and/or damages under 00 70 00 3.02A where they are covered by the designer's professional liability and/or errors and omissions policies.

RESPONSE

Paragraph 00 72 00 3.02A is correct as written. Paragraph is in regards to the Contractors requirement to notify the Port.

15. BIDDER QUESTION

Reference Specification Section 00 72 00 General Conditions Page 3. Please clarify what documents provided by the Port are considered "Contract Documents" as stated in the specifications.

RESPONSE

See the Agreement Form Section 00 52 00 1.0 - CONTRACTOR TO FULLY PERFORM THE WORK for a description of the Contract Documents.

16. BIDDER QUESTION

Reference Specification Section 00 72 00 3.02A. Please confirm that the reference to "all costs, liabilities and damages attributable to the error, inconsistency, omission, or variance" in Contract Documents refers to the owner's own costs, liabilities and damages" and does not render the Contractor liable for third parties' costs, liabilities, and damages.

RESPONSE

Paragraph 00 72 00 3.02A is correct as written.

17. BIDDER QUESTION

Reference Specification 33 71 19-4 Section 3.04 B. This specification requires duct banks to fall in two directions between vaults. However drawing numbers C6.19-C6.21 "Electrical Alignment A" shows a continuously sloping duct bank profile in one direction at a depth ranging from 4 to 12 feet below grade and below MLLW water elevation through several vaults. Please confirm whether the drawings or specifications govern in this case.

RESPONSE

Section 33 71 19, paragraph 3.04.B has been modified to require ductbanks to be sloped between manholes/vaults to allow positive drainage to manholes/vaults. See Addendum No. 6.

18. BIDDER QUESTION

In the Marine Building drawings on Sheet S2.01 shows the slab at 18" from Grids 1 to 8 and A to D. This drawing shows the sidewalk at 4+ft around the building. On C4.17, the two cut sections A/C4.18 and B/C4.19 show the north and west sidewalk at 13+ft. I believe the Civil drawing is incorrect because the 18" slab has to carry the cantilever of the 2nd floor to the north and the exterior stairs on the west. The sidewalk around the entire building should only be 4+ft. Can you clarify?

RESPONSE

The 18" mat slab from Grids 1 to 8 and A to D shown on S2.01 is correct. The sidewalk extends over the 18" mat slab as correctly shown on S4.01 and on C4.17-C4.20. The North and West sidewalk is correct at 13+ft measured from the step in the mat slab (near grid line B and grid line 2) and is shown over top of the 18" mat slab (which carries the cantilever of the 2nd floor and the exterior stairs) in section E and F on Sheet S3.02. Section A on S4.01 also shows both surfaces and how the supports for the building tie in to the 18" mat slab.

19. BIDDER QUESTION

Specification 33 71 19 [3.04] (A) Directs the contractor to install conduit and Ducts as indicated on Drawings. The electrical drawings, by Elcon Associates, including the duct bank details [E6.2-E6.4], conflict with the Electrical Duct bank Profiles and Drainage profiles by KPFF.

As an example drawing C5.6, at SDMH#4, shows the electrical duct banks at elevation 9.4 (8'+ below finish grade). This KPFF drawing shows the middle electrical duct bank to be 4'w X 6.5' high. The Elcon Associates detail for this location shows that duct bank to be approx. 8.5' w X 2' high. With the Elcon Associates dimension, the noted duct bank could easily be located above the MLLW line and not be in a shoring required or dewatering required zone and could still meet the sloping requirements. Which drawings are to take precedence Civil, Drainage or Electrical to meet spec 33 71 19 [3.04] (A)?

RESPONSE

The contractor is to construct the electrical ductbanks as indicated on the drawings per Specification 33 71 19, 3.04.A. The height of the electrical crossing on C5.6 near SDMH#4 is shown correctly and agrees with E6.3. The profile SD Line C is drawn at a 5:1 vertical exaggeration. The electrical line is shown below the storm because sufficient vertical clearances could not be maintained while satisfying cover requirements shown on E6.2.

20. BIDDER QUESTION

Specification 33 71 19 [3.04] (E) providing conduit entrances to vaults with bell end spacing and grouting. These requirements appear to be in conflict with the Specification for Precast Vaults 33 71 19 [2.05] (F) which requires precast vaults to be provided with term-a-ducts for conduit entrances. Which specification takes precedence?

RESPONSE

Refer to Addendum No. 6 for revisions to Section 33 71 19, paragraph 3.04.E regarding duct entrances.

21. BIDDER QUESTION

Drawing Sheet S10.3, Detail D – The detail shows areas for conduits through the stage 2 concrete pour. The Electrical plans show 4" conduits running in the lower zone as shown in the referenced detail. The conduits will not be able to be extended through at the interferences with the strands from the precast panels and the pile dowels/spiral as shown in detail 1/S8.1. Please clarify how the conduits are to fit by the rebar interferences.

RESPONSE

The conduit and/or reinforcing will likely be adjusted on a case-by-case basis in the field as necessary.

22. BIDDER QUESTION

The typical duct bank, as shown in drawings E6.2, E6.3, E6.3 are approximately 4 feet deep. However, the electrical duct bank profile as showing in drawings C6.19, C6.20 and C6.21 range anywhere from 4-10 feet and in some locations below design groundwater elevation. Do you want the duct banks at these depths and below the design groundwater elevation? Please clarify.

RESPONSE

Construct electrical ductbanks per the Drawings and as shown in profile on Sheets C6.19-C6.21. Sheets E6.2-E6.4 show the ductbank sections, and Sheets C6.19-C6.21 show the anticipated depths required to accommodate the ductbank sections shown in Sheets E6.2-E6.4.

23. BIDDER QUESTION

Sheet E6.2 tells us to provide 30” minimum cover for the 15Kv, Comm and 600V trench. Even with additional conduits, one could still do this if using the ductbank sections shown on sheets E6.3 and E6.4 by spreading the conduits wider vs deeper.Then today I reviewed and noticed Civil sheets C6.19 thru C6.21 show completely different elevations for electrical ductbank. As an electrician, I can dig in ductbank as shown on E sheets, but I cannot dig to the depths indicated on the civil. Which sheets take precedence?

RESPONSE

Electrical conduits are to be constructed per the Drawings and as shown in profile on Sheets C6.19-C6.21. Sheet E6.2 shows minimum cover, and Sheets C6.19-C6.21 show the typical ductbank depths/elevations and vertical routing. Do not spread conduits wider than is shown in Sheets E6.3 & E6.4.

24. BIDDER QUESTION

If the Civil sheets take precedence, I do not see anything in the specs, on the vault schedule or the vault details to indicate the need/requirement for risers. Also, if there is indeed a need for the vaults to be set so deep with multiple risers, you should include verbiage in the specs in regards to ladders and vault access.

RESPONSE

Refer to Section 33 71 19, paragraph 2.05.F which says: "...Contractor to provide riser extensions and/or grade rings to adjust for manhole depths as indicated in the ductbank profiles as shown on the Civil drawings...". Permanent ladders are not required.

25. BIDDER QUESTION

E8.1 Conduit and Conductor schedule: Is it your intent to have conductors in runs CP57 and CP58?

RESPONSE

Conductors are not required in conduit runs CP57 and CP58. Both CP57 and CP58 conduits will be empty for future cranes. See Addendum No. 6 for revision to Sheet E8.1 to delete conductors from conduits CP57 and CP58.

26. BIDDER QUESTION

Attached is our lighting submittal for Port of Tacoma Pier 4.We have also sent a copy of this prior submittal to the engineer, Chuck Heaton with BCE Engineers. (Attachment A)

RESPONSE

Submitted Lighting Controls by Hubbell are approved equal. Fixture RL3 and RL3E - Disapproved, fixture shall have marine grade finish.

27. BIDDER QUESTION

On drawing E8.1 on the conduit and conductor schedule conduit number CP51 shows two different types of pipe but only one conduit. Please clarify what type of conduit should be used GRS or PVC.

RESPONSE

The keynotes listed in the Type column indicate the material for both the conduits and the bends. For example, for CP51:use PVC Schedule 80 conduit per Key Note 2, and PVC Coated GRS Conduit for bends only, per Key Note 10. Also see Section 33 71 19, paragraph 2.03.C states that "All conduit elbows 30 degrees or greater shall be factory made, PVC coated rigid steel.

28. BIDDER QUESTION

We would like to submit a bid to the general contractors requesting a proposal however in the specifications there is a requirement for AWI certification. Our company was a participant in the certification program in the past but the fees for re-certification had be come too costly to remain certified. The AWI requirement is unnecessarily restrictive. We build quality custom & commercial casework and have been for over 60 years.

Is there a chance we could get the AWI specification waived?

RESPONSE

The AWI certification will not be waived and it is too late to consider specific product date prior to bid opening.

29. BIDDER QUESTION

Sheet C2.1 shows existing rip rap slope between station 14+00 and 20+00.

Drawing S4.1 and S4.2 show the new piles being installed in the slope between bents 1 and 26 (Sta 14+00 to 20+00). The existing Rip rap will need to be removed to install the new piling per specification section 316200-1.06D “Existing Facilities”.

• What bid item should rip rap removal in this area be paid for, and what is the detail for replacement of removed riprap?

• After the riprap is removed, can it be cast to the side or should it be disposed of?

• After the pile is driven, does the rip rap need to be replaced? If so, can the existing material be used? If not, how will we be paid for the new replacement material and what is the specification for the material ?

• This scope has no quantity, and is not identified in any existing bid items. Please advise.

RESPONSE

Section 31 62 00 1.06.D does not call for removal of riprap in this area. The piles are to be installed through the riprap slope as indicated in paragraph 3.01.H in Section 31 62 00. The cost for spudding or localized removal/adjustment of riprap for pile installation shall be incidental to the cost for pile installation.

30. BIDDER QUESTION

Attachment list has Attachment E listed as Drawing S14.1 and the Sheet says S41.1

RESPONSE

See Addendum No. 6.

31. BIDDER QUESTION

Drawing number S28.2 – Detail 1 Lateral Slip clip.

Can you please provide us some more details with respect to the type of Weldable clips base for lateral slip clip and also some technical details. As the name goes lateral slip clip, the sides of the base clips is not flushing to against the rail. Hence functionality for lateral slip is not served, unless these are used to protect the rail from over turning.

RESPONSE

Not at this time in the process, bid the project per the bidding documents.

32. BIDDER QUESTION

This revised specification has created a product that will be extremely costly to produce, if the requirement is all crushed rock, because of the need to screen and re-screen materials to achieve the desired gradation. The gradation can be achieved by allowing a blended material that combines both crushed rock and washed sand to meet the revised gradation, this will help reduce the turbidity concerns and allow a cost effective product to be utilized. The cost difference in producing the revised materials will exceed 400-500% if it can be produced within specification, in theoretical analysis it appears to be achievable but will be extremely difficult to produce in actual production. Please re-examine this material specification to allow a cost effective solution for the project.

RESPONSE

The filter blanket material specification has been revised. See Addendum #6.

33. BIDDER QUESTION

SECTION 34 11 13 - TRACK RAILS:

1.04 QUALITY ASSURANCE

Welders shall be currently certified by the American Welding Society (AWS), Washington Association of Building Officials (WABO), or the City of Tacoma for structural welding.

Q) Is Canadian Welding Bureau (CWB) certified welders and Welding procedures acceptable?

RESPONSE

No, Canadian Welding Bureau (CWB) certified welders and welding procedures are not acceptable.

34. BIDDER QUESTION

SECTION 05 50 00 - METAL FABRICATIONS

C. Welders shall be currently certified by the Washington Association of Building Officials (WABO) for structural welding.

Q) Is Canadian Welding Bureau certified welders and Welding procedures acceptable?

RESPONSE

No, Canadian Welding Bureau (CWB) certified welders and welding procedures are not acceptable.

35. BIDDER QUESTION

Within fiber optic pathway FOB7 from SV218 to HH #HCV1, sheet E8.2 shows that it is 12 strand singlemode fiber, should this be 6 strand singlemode?

RESPONSE

No it should not be a 6 strand singlemode fiber. Conduit FOB7 goes from HHWCV1 to FOV5 with (4) 12 fiber cables per key note 29 on sheet E8.2

36. BIDDER QUESTION

Sheet E2.4 shows communication cables to be cut in SV112, on sheets E3.2/E8.2 show the new 6 strand singlemode fiber only running to SV112. Is the intent to splice the 6 strand fiber at SV112 in lieu of running the cable back to YL08?

RESPONSE

Key note #16 on sheet E2.4 states to cut comm cables in vault SV112 and remove cables routed eastward. Key note #19 on Sheet E2.4 states to remove cables between vaults SV112 and control cabinet LS6. Fiber optic conduit FOB16 key note #18 on E8.2 indicates to provide (1) 6 fiber cable in conduit between SV112 and SV212. Sheet E3.4 has been revised to add FOB45 between vault SV112 and pole YL08 per Addendum #6.

37. BIDDER QUESTION

Clarify what is required for termination of the fiber optic cable in the Husky Admin Building, meaning does a new fiber optic enclosure need to be provided? Will it be the same enclosure (3RU) as shown in the Marine Building equipment rack elevation? Is there sufficient rack space available for the new fiber enclosure?

RESPONSE

Refer to Marine Ops Building drawings for electrical and communications work for work within the Marine Ops Building.

38. BIDDER QUESTION

Sheet E8.3 Conduit path WIFIC9 (Sv104-SV101) does not show cable/Maxcell associated to the pathway, however it would appear on sheet E3.2 that this section would need to be include for a complete pathway for the 144 strand fiber optic cable routing. Should this section be included?

RESPONSE

See Addendum No. 6 for revision to Sheet E8.3 to provide cabling as indicated as noted in key note #19.

39. BIDDER QUESTION

A 6 strand SM fiber is to be installed into Substation 8410, how is the to be terminated? Should a communications enclosure containing an SPH be included at this location?

RESPONSE

A separate enclosure is not required. The cable shall be terminated in the power monitoring cabinet furnished by the switchgear manufacturer. See Section 26 09 13.

40. BIDDER QUESTION

Sheet E2.5 shows communication cables to be cut in SV109 and demo'd back to the Husky bldg., sheet E8.2 shows installing a 12 pair copper cable from the Marine building It room to V114. What is to be done with the 12 pair in SV114? Should this cable go back to the Outage bldg or be spliced to another cable in SV114?

RESPONSE

12 pair copper cable is to be routed from the Husky building via conduits WIFIC1, WIFIC21, FOB36, FOB37 and FOB38. See Sheets E8.2 and E8.3.

41. BIDDER QUESTION

Sheet E8.2, should the Maxcell to be installed into the 2" ducts be 2" 3 cell Maxcell as recommended by the manufacturer? Confirm that only one 3cell Maxcell is required in the 2" ducts.

RESPONSE

Yes, only one 3-cell innerduct in a 2" conduit per Key Notes #14, #18, and #26 on Sheet E8.2.

42. BIDDER QUESTION

In addendum #4 sheet E6.7 for the crane power vault plan (detail 1) shows to add a Commscope splice closure in the vaults. Is the incoming fiber to be broken out into trays and left for future use? Or will it be spliced? If it is to be spliced, provide clarification on what it is to be spliced to.

RESPONSE

Fiber optic cable is to be broken out into trays and left to be spliced by others.

ATTACHMENTS:

ATTACHMENT A - Question No. 25 Substitution Requests

Transmittal

Lighting Group Northwest
5700 6th Ave South, Ste 215
Seattle WA 98108
Phone: (206) 298-9000
From: Chris Hamaker

Project **Port of Tacoma - Pier 4 - Phase 2 Marine Building Phase**
Quote# LGNW16-47554
Location Tacoma Wa
To BCE
6021 12th Street East
#200
Fife WA 98424
Contact: Chuck Heaton

ATTACHED WE ARE SENDING YOU 1 COPY OF THE FOLLOWING ITEM:

- ☐ Drawings
- ☐ Prints
- ☐ Plans
- ☐ Specifications
- ☐ Information
- ☒ Submittals

Other:

THESE ARE TRANSMITTED FOR:

- ☒ Prior Approval
- ☐ Approval
- ☐ Approval as Submitted
- ☐ Approval as Noted
- ☐ Resubmittal for Approval
- ☐ Corrections
- ☐ Your Use
- ☐ Review and Comment
- ☐ Record

Bids due on:
Other:

Type	MFG	Part
RL3	Prescolite	FT6QLIC-LB6LEDA10L-40K-XX
RL3E	Prescolite	FT6QLIC-LB6LEDA10L-40K-XX-LG2S
RC	HCS	NXRC-1RD-UNV NX Room Controller, 1 Relay, 0 - 10V Dimming, Power Monitoring, Universal Voltage
RC	HCS	NXRC-2RD-UNV NX Room Controller, 2 Relay, 0 - 10V Dimming, Power Monitoring, Universal Voltage
$D	HCS	NXSW-ORLO-XX NX Digital Switch Station, On/Raise/Lower/Off, Verify Color
$LV	HCS	NXSW-OO-XX NX Digital Switch Station, On/Off, Verify Color
PC	HCS	NXDS NX Daylight Sensor for Indoor Use, White
OS	HCS	NXOS-OMDT2 NX Occupancy Sensor with IntelliDAPT, Ceiling Mount, PIR and Ultrasonic, 2000 Sq. Ft.
BT	HCS	NXBTR Wireless bridge for Bluetooth radio communication with Room Controller Programming
PC	HCS	DLC7 Continuous Dimming Daylighting Control for 0-10V Dimming Ballasts
PP	HCS	UVPP Universal Voltage Power Pack, 100-277 VAC
$LV	HCS	LVSM1NP-XX Low Voltage Switch, Momentary, 1 Button, No Pilot, Verify Color
$OS	HCS	LHUSS1-G-XX LightHawk Ultrasonic Wall Switch Sensor with IntelliDAPT, Single Circuit, One Button, 120/277VAC, 400 Sq. Ft., Photocell, Verify Color

Transmittal

Lighting Group Northwest
5700 6th Ave South, Ste 215
Seattle WA 98108
Phone: (206) 298-9000
From: Chris Hamaker

Type	MFG	Part
CX	HCS	CX242S242NM
	CX Lighting Control Panel, 24 Relay 120/277V Input, with 24-20A/1P Elect. Held N/O Relays Nema 1 Sur. Encl. Master	
CAT5	HCS	CAT5-10F-OR
	NX CAT5 Pre Terminated Cable, 10 Feet, Plenum, Orange	
CAT5	HCS	CAT5-25F-OR
	NX CAT5 Pre Terminated Cable, 25 Feet, Plenum, Orange	
CAT5	HCS	CAT5-50F-OR
	NX CAT5 Pre Terminated Cable, 50 Feet, Plenum, Orange	
CAT5	HCS	CAT5-100F-OR
	NX CAT5 Pre Terminated Cable, 100 Feet, Plenum, Orange	

May 10, 2016

Chuck Heaton
BCE Engineers
6021 12th Street East
Fife WA 98424

RE: Port of Tacoma - Pier 4 - Phase 2 Marine Building Phase
Tacoma Wa

Dear Chuck

Type	MFG	Part
RL3	Prescolite	FT6QLIC-LB6LEDA10L-40K-XX
RL3E	Prescolite	FT6QLIC-LB6LEDA10L-40K-XX-LG2S
RC	HCS	NXRC-1RD-UNV
	NX Room Controller, 1 Relay, 0 - 10V Dimming, Power Monitoring, Universal Voltage	
RC	HCS	NXRC-2RD-UNV
	NX Room Controller, 2 Relay, 0 - 10V Dimming, Power Monitoring, Universal Voltage	
$D	HCS	NXSW-ORLO-XX
	NX Digital Switch Station, On/Raise/Lower/Off, Verify Color	
$LV	HCS	NXSW-OO-XX
	NX Digital Switch Station, On/Off, Verify Color	
PC	HCS	NXDS
	NX Daylight Sensor for Indoor Use, White	
OS	HCS	NXOS-OMDT2
	NX Occupancy Sensor with IntelliDAPT, Ceiling Mount, PIR and Ultrasonic, 2000 Sq. Ft.	
BT	HCS	NXBTR
	Wireless bridge for Bluetooth radio communication with Room Controller Programming	
PC	HCS	DLC7
	Continuous Dimming Daylighting Control for 0-10V Dimming Ballasts	
PP	HCS	UVPP
	Universal Voltage Power Pack, 100-277 VAC	
$LV	HCS	LVSM1NP-XX
	Low Voltage Switch, Momentary, 1 Button, No Pilot, Verify Color	
$OS	HCS	LHUSS1-G-XX
	LightHawk Ultrasonic Wall Switch Sensor with IntelliDAPT, Single Circuit, One Button, 120/277VAC, 400 Sq. Ft., Photocell, Verify Color	
CX	HCS	CX242S242NM
	CX Lighting Control Panel, 24 Relay 120/277V Input, with 24-20A/1P Elect. Held N/O Relays Nema 1 Sur. Encl. Master	
CAT5	HCS	CAT5-10F-OR
	NX CAT5 Pre Terminated Cable, 10 Feet, Plenum, Orange	
CAT5	HCS	CAT5-25F-OR
	NX CAT5 Pre Terminated Cable, 25 Feet, Plenum, Orange	
CAT5	HCS	CAT5-50F-OR
	NX CAT5 Pre Terminated Cable, 50 Feet, Plenum, Orange	
CAT5	HCS	CAT5-100F-OR
	NX CAT5 Pre Terminated Cable, 100 Feet, Plenum, Orange	

DIVISION 00 - PROCUREMENT AND CONTRACTING REQUIREMENTS
SECTION 00 43 25 – SUBSTITUTION REQUEST FORM – DURING BIDDING

Project Title Pier 4 Phase 2 Reconfiguration — **Project No.**
Submitted By: Lighting Group Northwest — Contract No.
Prime/Sub/Supplier: — Date: May 10, 2016

Specification Title: Pier 4 Phase 2 Reconfiguration — Section No. 260923 - 265100 - 265636
Description: Lighting prior submittals — Paragraph: 1-3
Page No.

Proposed Substitution: Attached
Trade Name: — Model No.:
Manufacturer: Attached
Address: — Phone No.:

Attached data includes product description, specifications, drawings, photographs, and performance and test data adequate for evaluation of the request; applicable portions of the data are clearly identified.

Attached data also includes a description of changes to the Contract Documents that the proposed substitution will require for its proper installation.

The Undersigned certifies:

- Proposed substitution has been fully investigated and determined to be equal or superior in all respects to specified product.
- Same warranty will be furnished for proposed substitution as for specified product.
- Same maintenance service and source of replacement parts, as applicable, is available.
- Proposed substitution will have no adverse effect on other trades and will not affect or delay progress schedule.
- Proposed substitution does not affect dimensions and functional clearances.
- Payment will be made for changes to building design, including A/E design, detailing, and construction costs caused by the substitution.

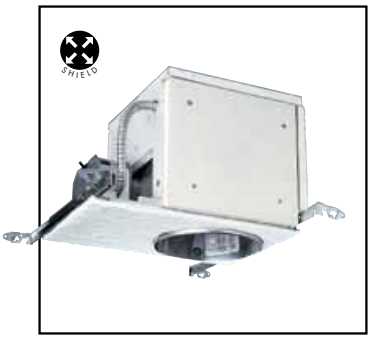
Submitted By: Chris Hamaker
Signed By:
Firm: Lighting Group Northwest
Address: 5700 6th Ave S
Seattle, Washington 98108
Telephone: 206-298-9000 — Email: chamaker@lightinggroupnw.com

Supporting Data Attached:
☒ Drawings ☒ Product Data ☐ Samples ☐ Tests ☐ Reports ☐ Other

ENGINEER'S REVIEW AND ACTION
☒ Substitution approved – HUBBELL LIGHTING CONTROLS
☐ Substitution approved as noted
☒ Substitution rejected - Use specified materials. – RL3 & RL3E
☐ Substitution Request received too late - Use specified materials.

Signed by: – HENRY SANTOS BCE ENGINEERS Date: 5/12/16

Submitted by Lighting Group NorthwestChris Hamaker			
lighting group northwest	**Job Name:** Port of Tacoma - Pier 4 - Phase 2 Marine Building Phase Architect: TCF Architecture (Tacoma) Engineer: BCE Engineers (Fife)	**Catalog Number:** FT6QLIC-LB6LEDA10L-40K-XX Notes:	**Type:** **RL3** LGNW16-47554



New Construction
FT6QLIC

6" Fire Resistant, AirShield
LED Recessed Downlight
IC Rated
120V

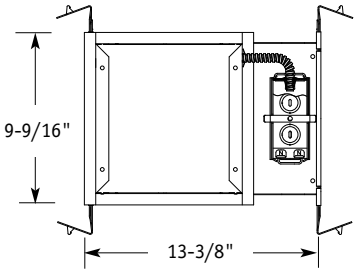
DATE: TYPE:

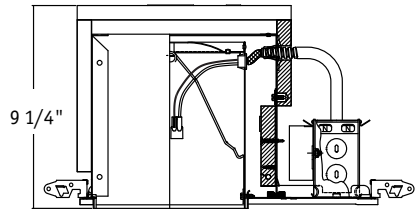
FIRM NAME:

PROJECT:

FireTight 6"

Aperture: Nominal 6"
Ceiling Cutout: $6^{7}/_{8}$"
Maximum Ceiling Thickness: 2"
For conversion to millimeters, multiply inches by 25.4
Weight: 14 lbs.
Not to Scale





APPLICATIONS:
The FT6QLIC housing is specifically designed for use in fire rated assembies in conjunction with the 6" LiteBox LED trim. Suitable for applications where relamping is limited to high efficacy requirements such as California Title 24. Suitable for new construction, whether or not insulation is present, including residential applications in a single story home or on the second level of a two story home; or commercial applications in spaces such as offices, single story retail, and hospitality enviroments.

AIR TIGHT REQUIREMENTS:
The FT6QLIC is AirShield™ rated in compliance with ASTM E283 and the Washington State Energy Code (W.S.E.C.).

INSTALLATION:
Bar hangers with integral T-Bar mounting clips and nail tab for wood joist construction. Accommodates up to 24" on center ceiling joists. Shipped with four clips for installation to furring channels.

HOUSING:
Galvanized steel outer housing with full wraparound galvanized steel plaster frame. Housing adjusts from ½" to 2" for thick ceilings. Notched mounting frame for easy alignment. Six pieces of UL classified fire resistant gypsum board attached to housing. Fiberglass gasket on bottom of frame to minimize heat transfer into ceiling cavity.

Housing includes knock-out free integral Romex clamps, overspray protection, universal J-box with snap-out sides, ½" and ¾" knock outs for rigid conduit or BX fittings, thermal protector, and a grounding pigtail. Rated for (8) #12 90° conductors (4 in/4 out). Access door in housing for field inspection of wiring.

LED MODULE INSTALLATION:
QuickLink LED housing easily connects to mating QuickLink connector on the LiteBox LB6LEDA module without a screw base adapter preventing the use of low efficacy incandescent sources.

LABELS:
IC rated. Wet location listed when used with LiteBox LED module. AirShield™ rated. Inherently thermally protected. STC rated to maintain sound ratings.

UL Classified to maintain fire rating up to 1 hour for all UL P200 and P500 series fire rated roof/ceiling assemblies; UL classified to maintain fire rating up to 2 hours on all UL D200, G200, L200, D500, G500, and L500 series fire rated floor/ceiling assemblies.

US Patent Nos. 6,357,891; 5,758,959; 6,004,011

CATALOG NUMBER: EXAMPLE: FT6QLIC-LB6LEDA30K WH

HOUSING	TRIM	LED COLOR TEMP	CRI	SPECIFY TRIM COLOR	ACCESSORIES
❑ **FT6QLIC**[1] 6" IC/Non-IC Fire Rated Housing with QuickLink Connector for use with LB6LEDA serie module.	❑ **LB6LEDA8L** 6" 800 Lumen LED module ❑ **LB6LEDA10L** 6" 1000 Lumen LED module	❑ **30K** 3000 Kelvin ❑ **40K** 4000 Kelvin	❑ **BLANK** 80+ CRI	❑ **WH** White ❑ **BL** Black ❑ **Z** Zet ❑ **BZ** Bronze	❑ **LG1S** Dual-Lite100 VA Surface Mount LiteGear Emergency Lighting Inverter ❑ **LG1R** Dual-Lite100 VA Recessed Mount LiteGear Emergency Lighting Inverter ❑ **LG1T** Dual-Lite100 VA Recessed Ceiling T-Grid Mount LiteGear Emergency Lighting Inverter ❑ **LG2S** Dual-Lite 250 VA Surface Mount LiteGear Emergency Lighting Inverter

[1]FT6QLIC must be used with LB6LEDA series trims. Refer to LB6LEDA spec sheet for details
[2]Not available for LB6LEDA8L

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In a continuing effort to offer the best product possible we reserve the right to change, without notice, specifications or materials that in our opinion will not alter the function of the product.
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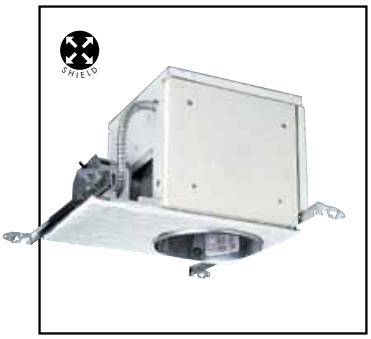
701 Millennium Blvd., Greenville, SC 29607 U.S.A. • Phone (864) 678-1000
Prescolite is a division of Hubbell Lighting, Inc., with representatives' offices throughout North America

FT-LED-006

Submitted by Lighting Group NorthwestChris Hamaker			
lighting group northwest	**Job Name:** Port of Tacoma - Pier 4 - Phase 2 Marine Building Phase Architect: TCF Architecture (Tacoma) Engineer: BCE Engineers (Fife)	**Catalog Number:** FT6QLIC-LB6LEDA10L-40K-XX-LG2S Notes:	**Type:** **RL3E** LGNW16-47554



New Construction
FT6QLIC

6" Fire Resistant, AirShield
LED Recessed Downlight
IC Rated
120V

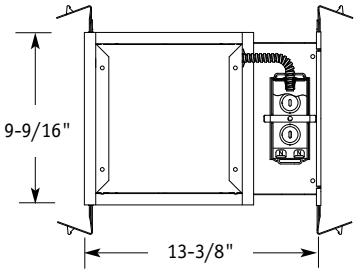
DATE: TYPE:

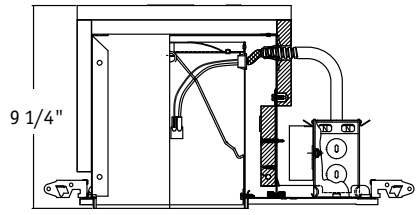
FIRM NAME:

PROJECT:

FireTight 6"

Aperture: Nominal 6"
Ceiling Cutout: 6 7/8"
Maximum Ceiling Thickness: 2"
For conversion to millimeters, multiply inches by 25.4
Weight: 14 lbs.
Not to Scale





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AIR TIGHT REQUIREMENTS:
The FT6QLIC is AirShield™ rated in compliance with ASTM E283 and the Washington State Energy Code (W.S.E.C.).

INSTALLATION:
Bar hangers with integral T-Bar mounting clips and nail tab for wood joist construction. Accommodates up to 24" on center ceiling joists. Shipped with four clips for installation to furring channels.

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Housing includes knock-out free integral Romex clamps, overspray protection, universal J-box with snap-out sides, ½" and ¾" knock outs for rigid conduit or BX fittings, thermal protector, and a grounding pigtail. Rated for (8) #12 90° conductors (4 in/4 out). Access door in housing for field inspection of wiring.

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QuickLink LED housing easily connects to mating QuickLink connector on the LiteBox LB6LEDA module without a screw base adapter preventing the use of low efficacy incandescent sources.

LABELS:
IC rated. Wet location listed when used with LiteBox LED module. AirShield™ rated. Inherently thermally protected. STC rated to maintain sound ratings.

UL Classified to maintain fire rating up to 1 hour for all UL P200 and P500 series fire rated roof/ceiling assemblies; UL classified to maintain fire rating up to 2 hours on all UL D200, G200, L200, D500, G500, and L500 series fire rated floor/ceiling assemblies.

US Patent Nos. 6,357,891; 5,758,959; 6,004,011

CATALOG NUMBER: EXAMPLE: FT6QLIC-LB6LEDA30K WH

HOUSING	TRIM	LED COLOR TEMP	CRI	SPECIFY TRIM COLOR	ACCESSORIES
❑ **FT6QLIC**[1] 6" IC/Non-IC Fire Rated Housing with QuickLink Connector for use with LB6LEDA serie module.	❑ **LB6LEDA8L** 6" 800 Lumen LED module ❑ **LB6LEDA10L** 6" 1000 Lumen LED module	❑ **30K** 3000 Kelvin ❑ **40K 4000 Kelvin**	❑ **BLANK** 80+ CRI	❑ **WH** White ❑ **BL** Black ❑ **Z** Zet ❑ **BZ** Bronze	❑ **LG1S** Dual-Lite100 VA Surface Mount LiteGear Emergency Lighting Inverter ❑ **LG1R** Dual-Lite100 VA Recessed Mount LiteGear Emergency Lighting Inverter ❑ **LG1T** Dual-Lite100 VA Recessed Ceiling T-Grid Mount LiteGear Emergency Lighting Inverter ❑ **LG2S** Dual-Lite 250 VA Surface Mount LiteGear Emergency Lighting Inverter

[1]FT6QLIC must be used with LB6LEDA series trims. Refer to LB6LEDA spec sheet for details
[2]Not available for LB6LEDA8L

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In a continuing effort to offer the best product possible we reserve the right to change, without notice, specifications or materials that in our opinion will not alter the function of the product.
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FT-LED-006

Submitted by Lighting Group NorthwestChris Hamaker			
lighting group northwest	**Job Name:** Port of Tacoma - Pier 4 - Phase 2 Marine Building Phase Architect: TCF Architecture (Tacoma) Engineer: BCE Engineers (Fife)	**Catalog Number:** NXRC-1RD-UNV Notes:	**Type:** **RC** LGNW16-47554

NX™ Room Controller

NX SERIES NETWORKED LIGHTING CONTROLS

TITLE 24 COMPLIANCE · UL LISTED · 0 -10V DIMMING · NETWORK

NX™ DISTRIBUTED INTELLIGENCE

NXRC-1RD-UNV

PROJECT INFORMATION

Project Name

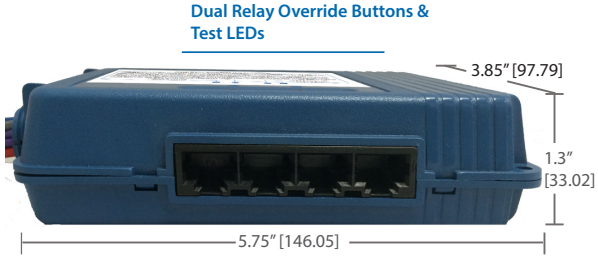
Catalog No. Date

Our *NX* Room Controller is a self contained intelligent power pack that provides stand-alone room level control that meets energy code requirements. It contains either one or two independently controlled relays that can alternately be configured for smart bi-level level switching. Dimming versions are available that provide one or two 0 - 10VDC control signal outputs for full range control of dimmable ballasts and LED drivers. The *NX* Room Controller features Smart Port technology that provides auto configuration of occupancy sensors and manual control switches. When devices are plugged into the Smart Port, the room controller automatically and intelligently responds to the devices to provide the most energy efficient operation.

More complex applications such as daylight harvesting, can be configured through the use of a free smart phone app that provides a simple but flexible user interface for a variety of room parameters. The app works in conjunction with an optional Bluetooth® radio module that is connected to an RJ45 port on any device in the room.The optional NXHB Network Adaptor allows additional functions to be accessed via the HubbNET™ network. These include power monitoring data from each room controller and the ability to download schedules for autonomous time based control.

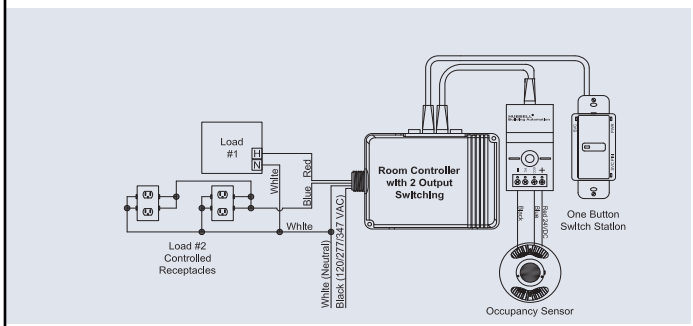
PRODUCT FEATURES

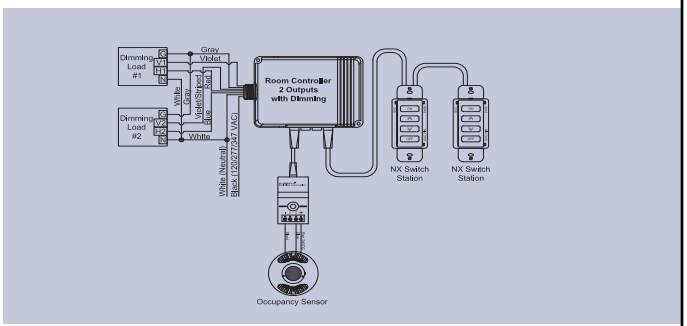
- Single or dual relay versions for On/Off or High/Low control
- Suitable for use with controlled receptacles
- Optional 0 – 10V interface for full range dimming control
- Override push button and status LED per relay/dimmer
- Auto config support for NX Occupancy Sensors, Daylight Sensors and Smart Switch Stations
- Advanced configuration with NXBTR Bluetooth® Radio Module and smart phone app
- Device intelligently and automatically responds to sensors and switches in the most energy- efficient manner
- Join *NX* Room Controllers with CAT5 for additional loads
- Schedules are held in the devices themselves (requires optional net-work connection)
- Retains data during power outages
- UL Listed
- Five-year limited warranty
- 120-277 Vac and 347 Vac models

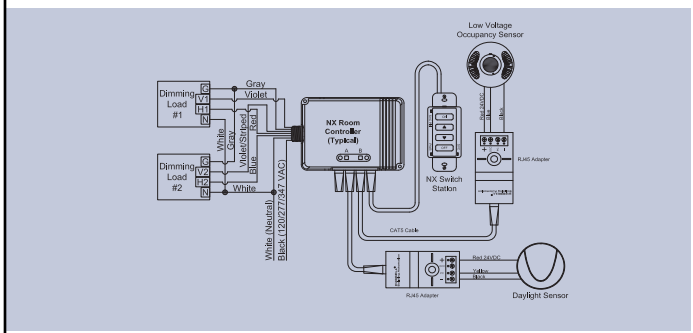


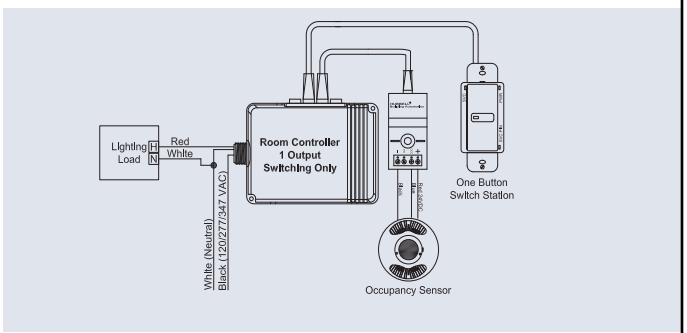
HUBBELL® HUBBELL Control Solutions

Submitted by Lighting Group NorthwestChris Hamaker			
lighting group northwest	**Job Name:** Port of Tacoma - Pier 4 - Phase 2 Marine Building Phase Architect: TCF Architecture (Tacoma) Engineer: BCE Engineers (Fife)	**Catalog Number:** NXRC-1RD-UNV Notes:	**Type:** **RC** LGNW16-47554









General Specifications

Electrical Ratings	Input: 120/277/347VAC, 20A Max, 60Hz 347VAC, 20A Max, 60Hz Output*: 20A, Tungsten, 120VAC only 20A, Magnetic Ballast 16A, Electronic Ballast 1 H.P. Motor @120V, 3/4 H.P. @277V; 1\2 H.P.@347V *For (2) relay models the maximum combined output of both relays: 20A Low Voltage Ports: Class 2 24VDC, 250mA MAX (all outputs combined)
Dimming	0-10V, 60mA per channel For use with low-voltage, two-wire dimming ballast and LED drivers.
Operating Environment	Operating Temperature: 32°F to 104°F [0°C to 40°C] Relative humidity (non-condensing): 0 to 95%
Construction	Housing: GSM UL Rated 94 HB Plastic
Plenum rated	Complies with requirements for use in a plenum area Plenum rated for external junction box mounting
Size and Weight	Size: 5.75" [146.05MM] L x 3.85" [97.79MM] W x 1.30" [33.02MM] H Weight: 4 oz [113.4 g]
Color	Blue
Mounting	Mounts directly to an external junction box through an extended ½" chase nipple.
Patents	Patent(s) Pending
Certifications	Conforms with UL916 and Certified to CAN/CSA C22.2 No. 205-M1983 IC Approved
Warranty	Five-year limited

Ordering Information

NXRC	–		–	
MODEL		**OUTPUT**		**INPUT VOLTAGE**
NXRC		**1R** 1 SPST Switched Output		**UNV** 120/277/347VAC
		1RD 1 SPST Switched, 1 0-10VDC Dimming Output		
		2R 2 SPST Switched Outputs		
		2RD 2 SPST Switched, 2 0-10VDC Dimming Outputs		

HUBBELL® **HUBBELL Control Solutions**

9601 Dessau Road | Building One | Austin, Texas 78754 | 512-450-1100 | 512-450-1215 fax | www.hubbell-automation.com

Submitted by Lighting Group NorthwestChris Hamaker			
lighting group northwest	**Job Name:** Port of Tacoma - Pier 4 - Phase 2 Marine Building Phase Architect: TCF Architecture (Tacoma) Engineer: BCE Engineers (Fife)	**Catalog Number:** NXRC-2RD-UNV Notes:	**Type:** **RC** LGNW16-47554

NX™ Room Controller

NX SERIES NETWORKED LIGHTING CONTROLS

TITLE 24 COMPLIANCE | UL LISTED | 0 -10V DIMMING | NETWORK

NX™ DISTRIBUTED INTELLIGENCE

NXRC-1RD-UNV

PROJECT INFORMATION

Project Name

Catalog No. Date

Our *NX* Room Controller is a self contained intelligent power pack that provides stand-alone room level control that meets energy code requirements. It contains either one or two independently controlled relays that can alternately be configured for smart bi-level level switching. Dimming versions are available that provide one or two 0 - 10VDC control signal outputs for full range control of dimmable ballasts and LED drivers. The *NX* Room Controller features Smart Port technology that provides auto configuration of occupancy sensors and manual control switches. When devices are plugged into the Smart Port, the room controller automatically and intelligently responds to the devices to provide the most energy efficient operation.

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PRODUCT FEATURES

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- Override push button and status LED per relay/dimmer
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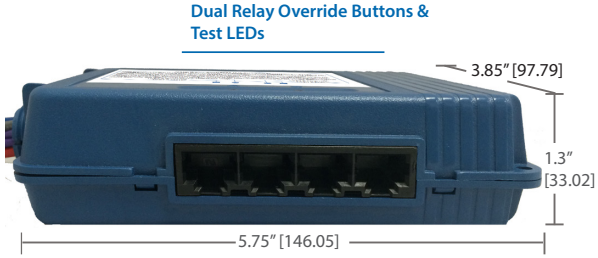
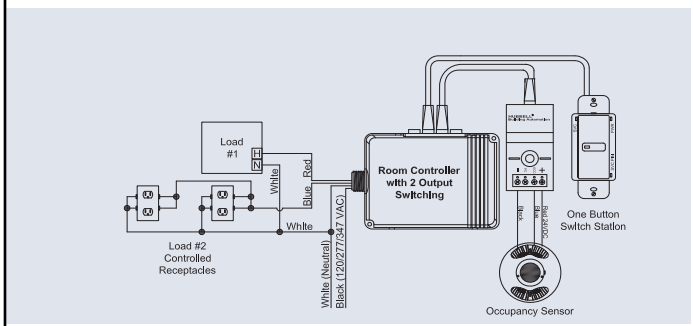
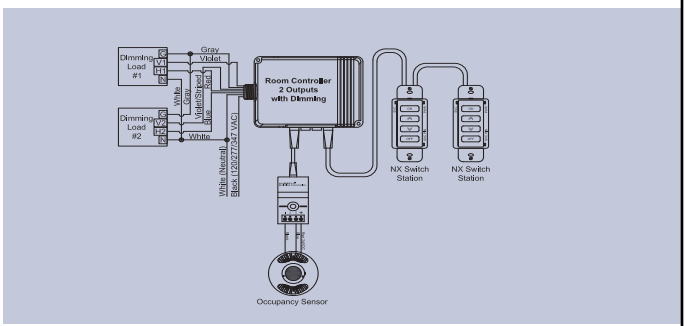
- Advanced configuration with NXBTR Bluetooth® Radio Module and smart phone app
- Device intelligently and automatically responds to sensors and switches in the most energy- efficient manner
- Join *NX* Room Controllers with CAT5 for additional loads
- Schedules are held in the devices themselves (requires optional net-work connection)
- Retains data during power outages
- UL Listed
- Five-year limited warranty
- 120-277 Vac and 347 Vac models

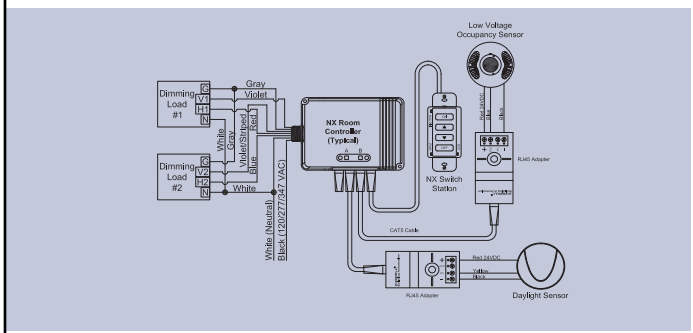


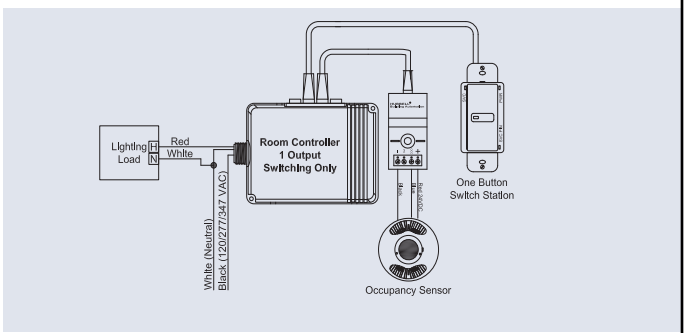
HUBBELL® HUBBELL Control Solutions

Submitted by Lighting Group NorthwestChris Hamaker			
lighting group northwest	**Job Name:** Port of Tacoma - Pier 4 - Phase 2 Marine Building Phase Architect: TCF Architecture (Tacoma) Engineer: BCE Engineers (Fife)	**Catalog Number:** NXRC-2RD-UNV Notes:	**Type:** **RC** LGNW16-47554









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Dimming	0-10V, 60mA per channel For use with low-voltage, two-wire dimming ballast and LED drivers.
Operating Environment	Operating Temperature: 32°F to 104°F [0°C to 40°C] Relative humidity (non-condensing): 0 to 95%
Construction	Housing: GSM UL Rated 94 HB Plastic
Plenum rated	Complies with requirements for use in a plenum area Plenum rated for external junction box mounting
Size and Weight	Size: 5.75" [146.05MM] L x 3.85" [97.79MM] W x 1.30" [33.02MM] H Weight: 4 oz [113.4 g]
Color	Blue
Mounting	Mounts directly to an external junction box through an extended ½" chase nipple.
Patents	Patent(s) Pending
Certifications	Conforms with UL916 and Certified to CAN/CSA C22.2 No. 205-M1983 IC Approved
Warranty	Five-year limited

Ordering Information

NXRC	–		–	
MODEL		**OUTPUT**		**INPUT VOLTAGE**
NXRC		**1R** 1 SPST Switched Output		**UNV** 120/277/347VAC
		1RD 1 SPST Switched, 1 0-10VDC Dimming Output		
		2R 2 SPST Switched Outputs		
		2RD 2 SPST Switched, 2 0-10VDC Dimming Outputs		

HUBBELL Control Solutions

9601 Dessau Road | Building One | Austin, Texas 78754 | 512-450-1100 | 512-450-1215 fax | www.hubbell-automation.com

Submitted by Lighting Group NorthwestChris Hamaker			
lighting group northwest	**Job Name:** Port of Tacoma - Pier 4 - Phase 2 Marine Building Phase Architect: TCF Architecture (Tacoma) Engineer: BCE Engineers (Fife)	**Catalog Number:** NXSW-ORLO-XX Notes:	**Type:** **$D** LGNW16-47554

NX Specialty Switch Stations

NX SERIES NETWORKED LIGHTING CONTROLS

LOW
24
VDC
VOLTAGE

NX NETWORKED™ Lighting Controls

PROJECT INFORMATION

Project Name

Catalog No. Date

Hubbell Building Automation's NX Specialty Switch Stations provide manual control of the NX System. The NX Switch Stations include an On/Off switch, an On/Raise/Lower/Off switch, a 4-button Preset switch for scene control, a Scene Switch with 4 presets plus Raise/Lower, a Raise/Lower dimmer switch and a Timed On switch. All Switch Stations provide plug and play integration with the NX Room Controllers or Smart Port Module.

NXSW-ORLO

NXSW-PRESET

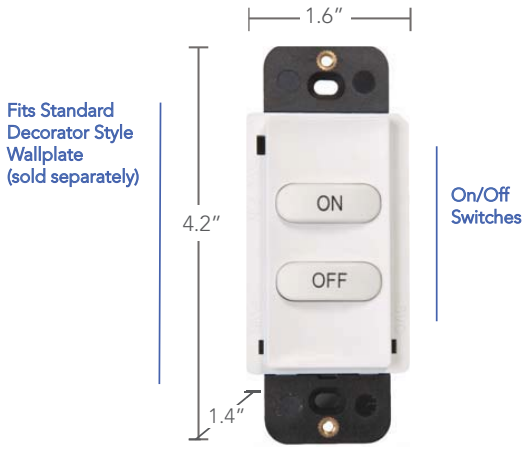

NXSW-RL

NXSW-TO


NXSW-SS

PRODUCT FEATURES

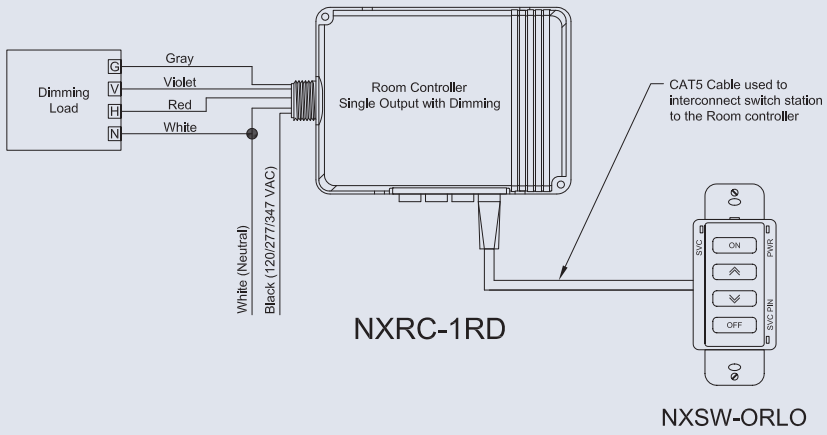
- Attractive, architecturally-pleasing decorator style design
- Multiple switch options available
- All switches mount to standard single or multi-gang wall boxes
- Plug and play integration with NX Room Controller
- Five-year limited warranty



NX-SW-OO

HUBBELL® Building Automation

Submitted by Lighting Group NorthwestChris Hamaker			
lighting group northwest	**Job Name:** Port of Tacoma - Pier 4 - Phase 2 Marine Building Phase Architect: TCF Architecture (Tacoma) Engineer: BCE Engineers (Fife)	**Catalog Number:** NXSW-ORLO-XX Notes:	**Type:** **$D** LGNW16-47554



General Specifications

Addressing	Eight position rotary switch
Power Requirements	Powered by NX Room Controller using plenum rated CAT5 cables (ordered separately)
Operating Environment	Indoor use only Operating Temperature: 0°C to 40°C Relative humidity (non-condensing): 0 to 95%
Construction	Housing – Rugged, high impact, injection molded plastic
Dimensions	4.2" L x 1.6" W x 1.4" D
Weight	1.6 oz
Color	White, Ivory, Light Almond, Gray, and Black
Mounting	Switches may be mounted individually in a single gang switch box or ganged together in a multi-gang switch box Decorator-style wall plates available separately
Patents	Patent(s) Pending
Warranty	Five-year limited

Ordering Information

NXSW	–		–	
MODEL		**SWITCH TYPE**		**COLOR**
NXSW		**OO** On/Off Switch		**WH** White
		ORLO On/Raise/Lower/Off Switch		**LA** Light Almond
		PRESET Preset/Scene Switch (4-button)		**GY** Gray
		RL Raise/Lower Switch		**Please specify standard finish**
		TO Timed On Switch		
		SS Scene Switch		

CAT5 System Cables

MODEL/DESCRIPTION	
CAT5-3F-OR	CAT5 Cable for NX Smart Port Devices, Plenum Rated, 3ft, Orange
CAT5-10F-OR	CAT5 Cable for NX Smart Port Devices, Plenum Rated, 10ft, Orange
CAT5-25F-OR	CAT5 Cable for NX Smart Port Devices, Plenum Rated, 25ft, Orange
CAT5-50F-OR	CAT5 Cable for NX Smart Port Devices, Plenum Rated, 50ft,Orange
CAT5-100F-OR	CAT5 Cable for NX Smart Port Devices, Plenum Rated, 100ft, Orange

HUBBELL Building Automation
9601 Dessau Road | Building One | Austin, Texas 78754 | {512} 450-1100 | {512} 450-1215 fax hubbell-automation.com

Submitted by Lighting Group NorthwestChris Hamaker			
lighting group northwest	**Job Name:** Port of Tacoma - Pier 4 - Phase 2 Marine Building Phase Architect: TCF Architecture (Tacoma) Engineer: BCE Engineers (Fife)	**Catalog Number:** NXSW-OO-XX Notes:	**Type:** **$LV** LGNW16-47554

NX Specialty Switch Stations

NX SERIES NETWORKED LIGHTING CONTROLS

LOW
24
VDC
VOLTAGE

NX NETWORKED™ Lighting Controls

PROJECT INFORMATION

Project Name

Catalog No. Date

Hubbell Building Automation's NX Specialty Switch Stations provide manual control of the NX System. The NX Switch Stations include an On/Off switch, an On/Raise/Lower/Off switch, a 4-button Preset switch for scene control, a Scene Switch with 4 presets plus Raise/Lower, a Raise/Lower dimmer switch and a Timed On switch. All Switch Stations provide plug and play integration with the NX Room Controllers or Smart Port Module.

NXSW-ORLO

NXSW-PRESET

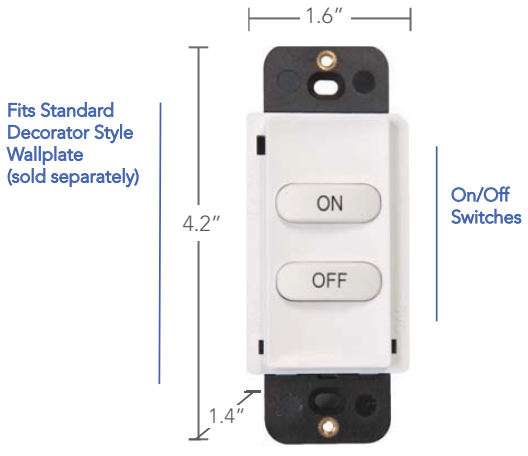

NXSW-RL

NXSW-TO


NXSW-SS

PRODUCT FEATURES

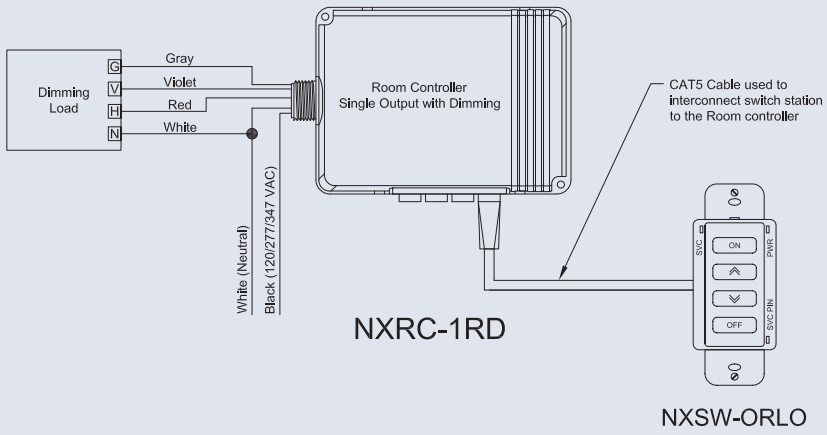
- Attractive, architecturally-pleasing decorator style design
- Multiple switch options available
- All switches mount to standard single or multi-gang wall boxes
- Plug and play integration with NX Room Controller
- Five-year limited warranty



NX-SW-OO

HUBBELL® Building Automation

Submitted by Lighting Group NorthwestChris Hamaker			
lighting group northwest	**Job Name:** Port of Tacoma - Pier 4 - Phase 2 Marine Building Phase Architect: TCF Architecture (Tacoma) Engineer: BCE Engineers (Fife)	**Catalog Number:** NXSW-OO-XX Notes:	**Type:** **$LV** LGNW16-47554



General Specifications

Addressing	Eight position rotary switch
Power Requirements	Powered by NX Room Controller using plenum rated CAT5 cables (ordered separately)
Operating Environment	Indoor use only Operating Temperature: 0°C to 40°C Relative humidity (non-condensing): 0 to 95%
Construction	Housing – Rugged, high impact, injection molded plastic
Dimensions	4.2" L x 1.6" W x 1.4" D
Weight	1.6 oz
Color	White, Ivory, Light Almond, Gray, and Black
Mounting	Switches may be mounted individually in a single gang switch box or ganged together in a multi-gang switch box Decorator-style wall plates available separately
Patents	Patent(s) Pending
Warranty	Five-year limited

Ordering Information

NXSW – [ ] – [ ]

MODEL	SWITCH TYPE		COLOR	
NXSW	**OO**	On/Off Switch	**WH**	White
	ORLO	On/Raise/Lower/Off Switch	**LA**	Light Almond
	PRESET	Preset/Scene Switch (4-button)	**GY**	Gray
	RL	Raise/Lower Switch	**Please specify standard finish**	
	TO	Timed On Switch		
	SS	Scene Switch		

CAT5 System Cables

[ ]

MODEL/DESCRIPTION	
CAT5-3F-OR	CAT5 Cable for NX Smart Port Devices, Plenum Rated, 3ft, Orange
CAT5-10F-OR	CAT5 Cable for NX Smart Port Devices, Plenum Rated, 10ft, Orange
CAT5-25F-OR	CAT5 Cable for NX Smart Port Devices, Plenum Rated, 25ft, Orange
CAT5-50F-OR	CAT5 Cable for NX Smart Port Devices, Plenum Rated, 50ft,Orange
CAT5-100F-OR	CAT5 Cable for NX Smart Port Devices, Plenum Rated, 100ft, Orange

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Submitted by Lighting Group NorthwestChris Hamaker			
lighting group northwest	**Job Name:** Port of Tacoma - Pier 4 - Phase 2 Marine Building Phase Architect: TCF Architecture (Tacoma) Engineer: BCE Engineers (Fife)	**Catalog Number:** NXDS Notes:	**Type:** **PC** LGNW16-47554

NX™ Daylight Sensors

NX SERIES NETWORKED LIGHTING CONTROLS

TITLE 24 COMPLIANCE · UL LISTED · DAYLIGHT HARVESTING · IP54

NX™ NETWORKED Lighting Controls

PROJECT INFORMATION

Project Name

Catalog No. Date

Hubbell Control Solutions' *NX* Daylight Sensors provide the necessary daylight-level information to the *NX* network. Using a photodiode element, the daylight sensor continuously measures daylight levels and sends the information to the network devices which then perform daylight switching or dimming functionality based on the amount of natural light in the area.

NXDS

PRODUCT FEATURES

- Indoor and Outdoor models available
- Architecturally attractive design
- Open loop operation
- Foot-candle range: 3-6,000fc
- Mounts vertically or horizontally
- Color coded, plug-and-play integration with *NX* Room Controller
- UL and cUL listed
- Five-year limited warranty

General Specifications

Electrical	Four jumper-selectable foot candle ranges: 0.3-30fc; 3-300fc; 30-3,000fc; 60-6,000fc Powered by *NX* Room Controller using plenum rated CAT5 cables (ordered separately)
Operating Environment	NXDS: Indoor use only. Operating Temperature: 0°C to +40°C NXDS-O: Outdoor Use - IP54. Operating Temperature: -40°C to +50°C
Construction	Protective hard plastic cover and housing
Dimension	2"D x 1.2"H
Certifications	UL and cUL listed
Warranty	Five-year limited

Ordering Information

MODEL / DESCRIPTION	
NXDS	*NX* Daylight Sensor
NXDS-O	*NX* Daylight Sensor for Outdoors

HUBBELL Control Solutions

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Submitted by Lighting Group NorthwestChris Hamaker			
lighting group northwest	**Job Name:** Port of Tacoma - Pier 4 - Phase 2 Marine Building Phase Architect: TCF Architecture (Tacoma) Engineer: BCE Engineers (Fife)	**Catalog Number:** NXOS-OMDT2 Notes:	**Type:** **OS** LGNW16-47554

NX Ceiling Mount and Wall Mount Sensors

NX SERIES NETWORKED LIGHTING CONTROLS

CALIFORNIA TITLE 24 CEC COMPLIANT | UL LISTED | LOW 24 VDC VOLTAGE

NX NETWORKED™ Lighting Controls

NXOS-OMDT2

NXOS-LODT

PROJECT INFORMATION

Project Name

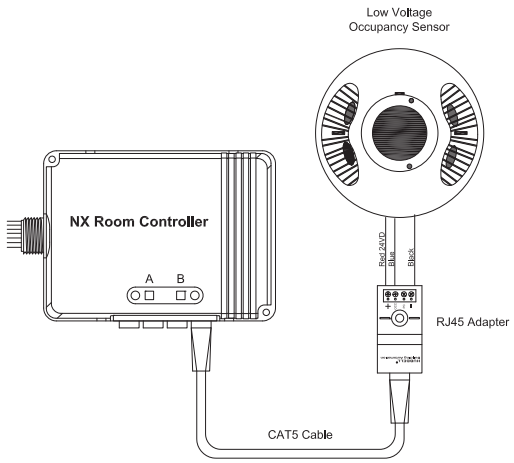
Catalog No. Date

Hubbell Building Automation's NX Ceiling Mount and Wall Mount Occupancy Sensors employ Passive Infrared and Ultrasonic sensing technologies to turn lighting on and off based on occupancy. These sensors represent the state-of-the-art in sensor technology and are designed to provide accurate turn-on while virtually eliminating false-offs.

The sensors feature Hubbell Building Automation's patented IntelliDAPT® technology, which makes all the sensor adjustments automatically. Throughout the product's lifespan, smart software analyzes the controlled area and makes digital adjustments to sensitivity and timer settings. Occupancy sensors with IntelliDAPT provide a maintenance-free, install and forget operation. All NX Series Occupancy Sensors provide plug-and-play integration with the wired and wireless NX Room Controllers.

PRODUCT FEATURES

- IntelliDAPT® self-adaptive technology – no manual adjustment required
- All-digital sensor
- Non-volatile memory for sensor settings
- 500 to 2,000 square-foot coverage area (based on model)
- Plug and play integration with NX Room Controller
- UL and cUL listed
- Five-year limited warranty



HUBBELL® Building Automation

Submitted by Lighting Group NorthwestChris Hamaker			
lighting group northwest	**Job Name:** Port of Tacoma - Pier 4 - Phase 2 Marine Building Phase Architect: TCF Architecture (Tacoma) Engineer: BCE Engineers (Fife)	**Catalog Number:** NXOS-OMDT2 Notes:	**Type:** **OS** LGNW16-47554

General Specifications

IntelliDAPT	Auto reset from test setting Self-adjusting timer Self-adjusting ultrasonic and passive infrared thresholds Automatic false-on, false-off corrections
LED Indicators	Red: motion detected by Passive Infrared sensing technology Green: motion detected by Ultrasonic sensing technology
Timer Timeout	Automatic mode: 8-30 min. (self-adjusts based on occupancy) Test mode: 8 seconds (for an easy check at installation)
Ultrasonic Output	Maximum amount of radiation output allowed: 115dB @ 1 ft. from source Frequency: 32.768kHz or 40kHz (based on model)
Passive Infrared	Dual element pyrometer and 12 element cylindrical rugged lens
Coverage	Ceiling mount sensor: 500 sq. ft. (Major motion) / 250 sq. ft. (Minor motion) to 2000 sq. ft. (Major motion) / 1000 sq. ft. (Minor motion) –(based on model) Wall mount sensor: 1600 sq. ft. (Major motion) / 800 sq. ft. (Minor motion)
Power Requirements	Powered by NX Room Controller using plenum rated CAT5 cables (ordered separately)
Operating Environment	Indoor use only Operating Temperature: 0°C to +40°C Relative humidity (non-condensing): 0 to 95%
Construction	Casing – rugged, high-impact, injection-molded plastic KJB ABS Cycolac (UV-945VA) flame class rating, UV inhibitors
Dimensions	4.5"D, 1.5"H
Weight	5.0 oz (142g)
Color	Off White
Mounting	Mounting base provided Recommended MAX mounting height: 12 ft.
Patents	U.S. Patents: 6151529, 5946209, 5699243, 5640143, 6415205, 6078253, D404326, 6222191, 5986357, 6759954 Patent(s) Pending
Certifications	UL and cUL listed
Warranty	Five-year limited

Ordering Information

NXOS	–	
MODEL		SENSOR TYPE
NXOS		**OMNIDT2** Ceiling mount, PIR and Ultrasonic, 2000 Sq. Ft. **OMUS2** Ceiling mount, Ultrasonic, 2000 Sq. Ft. **OMIRL** Ceiling mount, PIR, extended range 1500 Sq. Ft. **OMIR** Ceiling mount, PIR, high density, 450 Sq. Ft. **LODT** Wall mount, PIR and Ultrasonic, 1600 Sq. Ft. **LOIRWV** Wall mount, PIR, 2500 Sq. Ft.

All NXOS sensors include CAT5 adapter, model RJ45ADAPTER

Note: other HBA sensors may be used with the NXRC room controllers. Order RJ45ADAPTER separately.

Submitted by Lighting Group NorthwestChris Hamaker			
lighting group northwest	**Job Name:** Port of Tacoma - Pier 4 - Phase 2 Marine Building Phase Architect: TCF Architecture (Tacoma) Engineer: BCE Engineers (Fife)	**Catalog Number:** NXBTR Notes:	**Type:** **BT** LGNW16-47554

NX™ Bluetooth Bridge Module

NX SERIES NETWORKED LIGHTING CONTROLS

CALIFORNIA TITLE 24 CEC COMPLIANT

LOW 24 VDC VOLTAGE

NX NETWORKED™ Lighting Controls

PROJECT INFORMATION

Project Name

Catalog No. Date

The NXBTR Bluetooth Radio Module provides a wireless communication bridge between the NX Room Controller and an IOS or Android smart phone app. The compact module plugs into an RJ45 Smart Port jack either directly on the NX Room Controller or on a NX Smart Switch that is in turn connected to the NX Room Controller. The NXBTR uses the Bluetooth LE technology allowing the radio to easily pair with the smart phone when placed in close proximity. Communication with the RC for setup and control requires installation of the NX Android App or NX IOS App on the smart phone.

NXBTR

Bluetooth

PRODUCT FEATURES

- Simple plug in connection to RJ45 port on Room Controller or Smart Switch
- Self powered from the Smart Port
- LED status indicates successful connection
- Easily pairs with smart phone
- Bidirectional communication for set up of lighting control functions
- Five-year limited warranty

Ordering Information

NXBTR

MODEL	
NXBTR	Wireless bridge for Bluetooth radio communication with Room Controller

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Submitted by Lighting Group NorthwestChris Hamaker			
lighting group northwest	**Job Name:** Port of Tacoma - Pier 4 - Phase 2 Marine Building Phase Architect: TCF Architecture (Tacoma) Engineer: BCE Engineers (Fife)	**Catalog Number:** DLC7 Notes:	**Type:** **PC** LGNW16-47554

Continuous Dimming Control

DAYLIGHTING CONTROLS

DLC7

PROJECT INFORMATION

Project Name

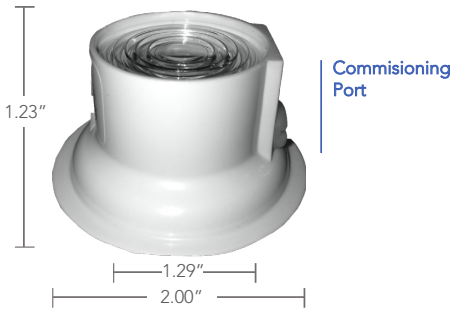
Catalog No. Date

Hubbell Building Automation's DLC7 is the ideal system for providing continuous dimming control for 2-wire 0–10V dimming ballasts based on natural daylight. This control maintains constant, undisturbed, fluorescent light levels during peak use times. Through continuous monitoring of ambient light levels, the DLC7 dims the associated lighting fixtures to a user's predefined foot-candle setting. The DLC7 dimming photocell provides precise control of the actual amount of lighting on the work surface (e.g. desktop, floor) within its field of view. Measured light levels are converted into a linear, proportional, analog voltage that controls the ballast-dimming range. This achieves maximum energy savings by efficiently blending natural and artificial light to maintain a comfortable visual environment.

The sensor head adjustment sets the maximum output of the controlled ballast. The sensor also provides a short and long delay. The short delay provides faster sensor response. The long delay slows the sensor response and maintains a more stable signal to the ballast, accomodating for brief changes in light due to passing clouds.

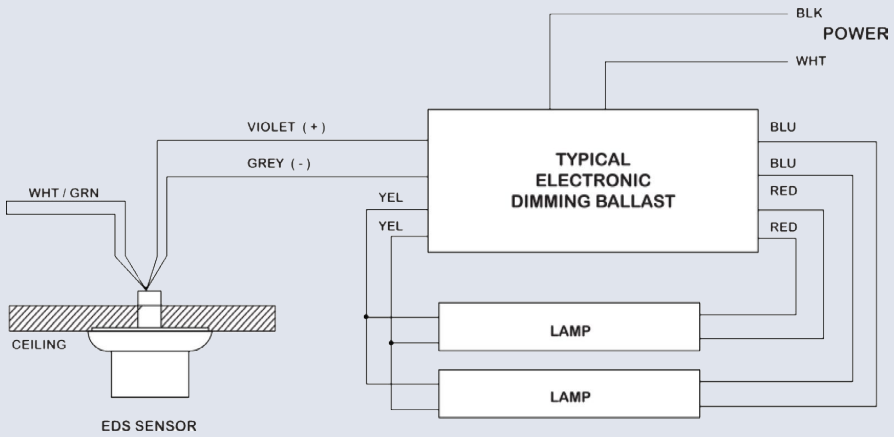
PRODUCT FEATURES

- Controls 2-wire 0–10V dimming ballasts
- Light-sensitivity range of 0–500FC
- Selectable 3- or 8-second dimming rate
- Multiple calibration options
- Low-profile design
- Five-year limited warranty



HUBBELL® Building Automation

Submitted by Lighting Group NorthwestChris Hamaker			
lighting group northwest	**Job Name:** Port of Tacoma - Pier 4 - Phase 2 Marine Building Phase Architect: TCF Architecture (Tacoma) Engineer: BCE Engineers (Fife)	**Catalog Number:** DLC7 Notes:	**Type:** **PC** LGNW16-47554



General Specifications

Accuracy	+/-1% @ 70°F (21°C); Derated to +/-5% when above 120°F or below 50°F (18° to 49°C)
Operating environment	-13°F to 140°F (-11°C to 60°C)
Sensitivity ranges	0–500FC
Adjustment range	10–140FC
Input voltage	10V (supplied by ballast)
Current:	Sink up to 25mA
Output voltage	1V (light) - 10 V (dark)
Wire leads	22 gauge Gray and violet to the Advance ballast White-green 2-wire loop cut for 10-second delay. Leave intact for 20-second delay to ballast
Sensor type	Blue enhanced photodiode
Size	Base diameter: 2.00″ Sensor diameter: 1.29″ Height: 1.23″
Mounting	Mounting hole: 3/8″ Mounting medium: 3M™ double adhesive tape
Construction	Sensor housing meets flame-retardant requirements of UL standard 94HB
Certifications	ETL/UL 916
Warranty	Five-year limited

Ordering Information

DCL7

MODEL	
DCL7	Continuous Dimming Control

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Submitted by Lighting Group NorthwestChris Hamaker			
lighting group northwest	**Job Name:** Port of Tacoma - Pier 4 - Phase 2 Marine Building Phase Architect: TCF Architecture (Tacoma) Engineer: BCE Engineers (Fife)	**Catalog Number:** UVPP Notes:	**Type:** **PP** LGNW16-47554

Universal Voltage Power Packs

Power Packs and Relays

TITLE 24 COMPLIANCE

UL® LISTED

PROJECT INFORMATION

Project Name

Catalog No. Date

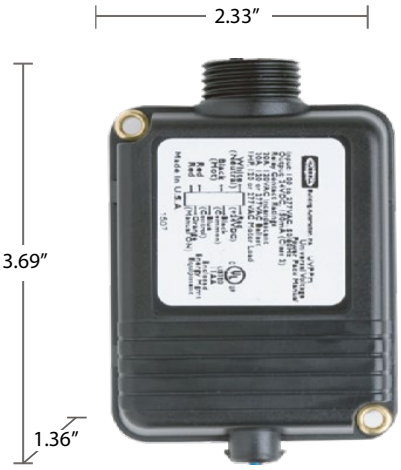
UVPP

The Universal Voltage Power Pack (UVPP) is a self-contained transformer and relay designed for low-voltage 24VDC occupancy sensors. The power pack supports and automatically detects the line-voltage input within the 100–277VAC range. This eliminates the need for voltage-specific power packs. The Universal Voltage Power Pack with Manual ON/OFF control (UVPPM) provides a unique solution for lighting applications where users require both manual ON/OFF control as well as automatic OFF control.

Both power packs are capable of switching 20A loads and feature Zero Arc Point Switching, minimizing relay-contact wear from high inrush loads. A single power pack can power either 4 sensors or 3 sensors and the MPSA auxiliary relay for multiple circuits. The power packs are plenum rated and easily mount inside or outside of a junction box or inside a fixture.

PRODUCT FEATURES

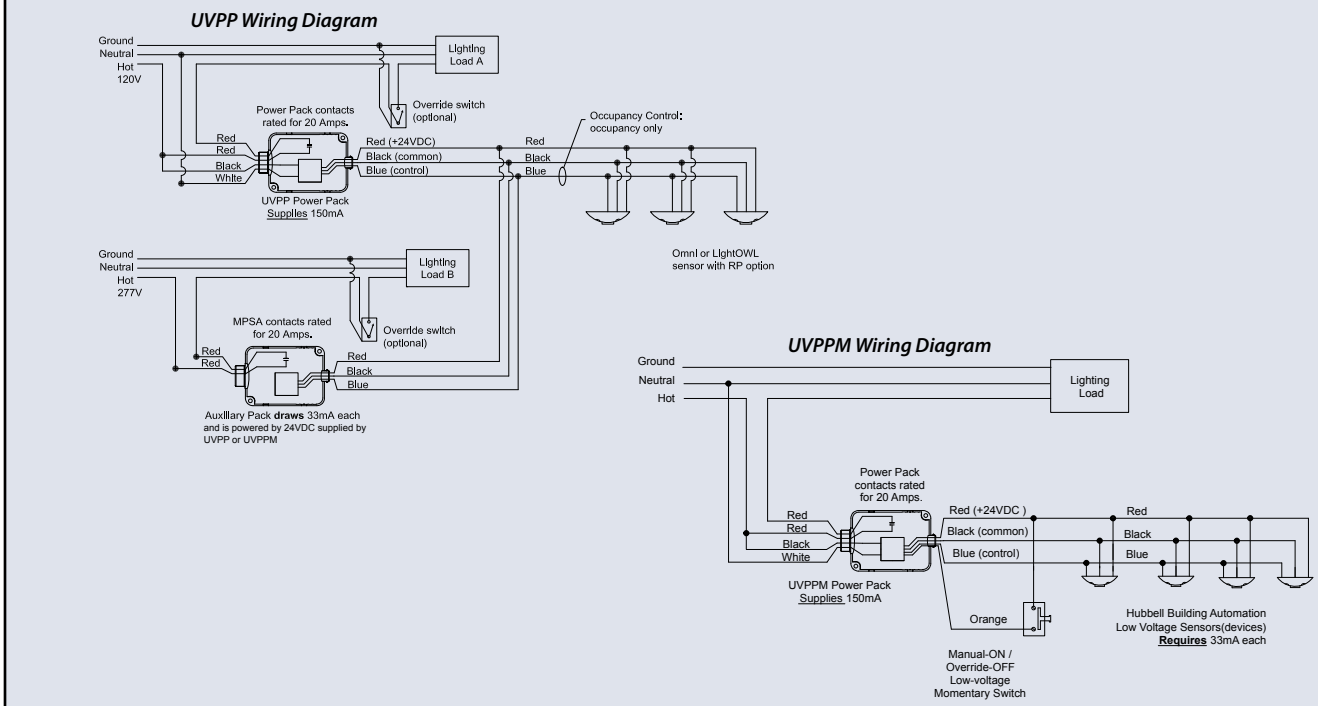
- Universal voltage: 100–277VAC; 50/60Hz
- Automatic voltage detection
- Electrical load switching capability: maximum of 20 Amps
- Regulated 24VDC current; 150mA output
- Zero Arc Point Switching
- Plenum rated
- Mounts: inside or outside a junction box; inside a fixture
- Available with exclusive Quick-to-Install (QTI) connector
- Companion auxiliary relay device available (MPSA)
- UL and cUL listed
- Five-year limited warranty
- Low voltage device: 24 Vdc



UVPPM

HUBBELL® HUBBELL Control Solutions

Submitted by Lighting Group NorthwestChris Hamaker			
lighting group northwest	**Job Name:** Port of Tacoma - Pier 4 - Phase 2 Marine Building Phase Architect: TCF Architecture (Tacoma) Engineer: BCE Engineers (Fife)	**Catalog Number:** UVPP Notes:	**Type:** **PP** LGNW16-47554



General Specification

Power requirements	100–277VAC; 50/60Hz
Output (UVPP/UPPM)	24VDC; 150mA nominal, isolated, and regulated
Relay contact rating	20A: 120VAC Incandescent 20A: 120 or 277VAC Ballast 1HP: 120 or 277VAC Motor Load
Plenum rated	Complies with requirements for use in a plenum area Plenum rated for external junction box mounting
Operating environment	Indoor use only Operating temperature: 32° to 104°F (0° to 40°C) Relative humidity (non-condensing): 0% to 95%
Dimensions	3.69″ x 2.33″ x 1.36″
Weight	15 oz.
Color	Black
Certifications	UL and cUL listed
Warranty	Five-year limited

Ordering Information

MODEL	
UVPP	Universal Voltage Power Pack
UVPPQTI	Universal Voltage Power Pack with QTI Connector
MPSA	Auxiliary Relay Device
UVPPM	Universal Voltage Power Pack with Manual ON/OFF Control

Submitted by Lighting Group NorthwestChris Hamaker			
lighting group northwest	**Job Name:** Port of Tacoma - Pier 4 - Phase 2 Marine Building Phase Architect: TCF Architecture (Tacoma) Engineer: BCE Engineers (Fife)	**Catalog Number:** LVSM1NP-XX Notes:	**Type:** **$LV** LGNW16-47554

LV Series Low Voltage Switches

WALL SWITCH OCCUPANCY SENSORS

PROJECT INFORMATION

Project Name

Catalog No. Date

LVSM1NP

LVSM1PL

Hubbell Controls' Low Voltage Wall Switches are designed for virtually any area. The soft contours of its architecturally-pleasing design fit easily into any décor. Switches are available in both momentary and latching versions and feature multiple button configurations making them the perfect switch solution for low voltage occupancy sensors, daylighting controls and networked lighting control panels.

PRODUCT FEATURES

- Attractive, architecturally pleasing design
- Momentary and latching versions available
- 1-4 buttons with or without LED
- Mounts to standard single-gang box
- California Title 24 compliant
- Five-year limited warranty
- Low voltage device: 24 Vdc

General Specifications

Electrical Ratings	Each switch: 100mA @ 30VDC Max Each pilot LED: 18-30VDC, internal 2.2kohm, ½ Watt resistor
Configurations	1 - 4 buttons, with or without pilot LED Momentary or latching (sustained)
Operating environment	Indoor use only Operating temperature: 32° to 122°F (0° to 50°C) Relative humidity (non-condensing): 10%-90%
Construction	Housing – Rugged, high-impact, injection-molded plastic Color-coded leads
Dimensions	1.88"W x 4.25"H x 1.56"D (47.75mm x 107.95mm diameter x 39.63mm deep)
Weight	3.0 oz
Color	White, Ivory, Light Almond, Gray
Mounting	Single-gang NEMA-style switch box (average switch box) Decorator-style wall plate not included
Warranty	Five-year limited

Ordering Information

LVS				
SENSOR MODEL	SENSOR TYPE	NUMBER OF BUTTONS	PILOT	COLOR
LVS	**M** Momentary **L** Latching	1	**PL** w/ Pilot LEDS **NP** No Pilot	**WH** White **IV** Ivory **LA** Light Almond **G** Gray

SPECIFY STANDARD FINISH

HUBBELL® HUBBELL Control Solutions

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Submitted by Lighting Group NorthwestChris Hamaker			
lighting group northwest	**Job Name:** Port of Tacoma - Pier 4 - Phase 2 Marine Building Phase Architect: TCF Architecture (Tacoma) Engineer: BCE Engineers (Fife)	**Catalog Number:** LHUSS1-G-XX Notes:	**Type:** **$OS** LGNW16-47554

LightHAWK®2 Ultrasonic Wall Switch Sensor

WALL SWITCH OCCUPANCY SENSORS

TITLE 24 COMPLIANCE | OCCUPANCY SENSING | IntelliDAPT | DAYLIGHT HARVESTING

Light HAWK®2

LHUSS1

PROJECT INFORMATION

Project Name

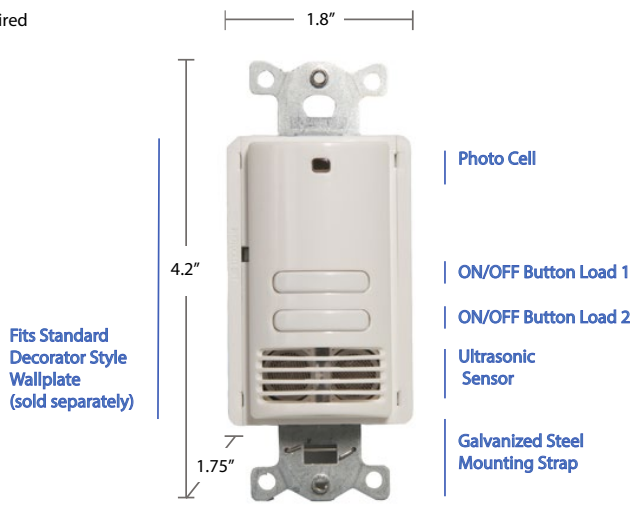
Catalog No. Date

The *LightHAWK*2 Ultrasonic Wall Switch Sensor uses ultrasonic (US) technology for detecting minor movement in areas with line-of-sight obstacles such as cubicles and stalls. Because ultrasonic technology is volumetric in nature, its coverage pattern can adapt itself to fill oddly shaped spaces such as alcoves, recesses, and nooks. This sensor has a coverage area of up to 400 square feet and 180° of detection.

LHUS sensors feature Hubbell Controls' patented IntelliDAPT® technology, which makes all the sensor adjustment decisions automatically. Throughout the product's lifespan, smart software analyzes the controlled area and makes digital adjustments to sensitivity and timer settings. Occupancy sensors with *IntelliDAPT* technology provide a maintenance-free install-and-forget operation. With selectable operating modes—automatic ON/OFF or manual ON/automatic OFF—and a built-in photosensor for automatic daylight harvesting, the LHUSS sensors are the most capable choice in today's market place.

PRODUCT FEATURES

- Digital Ultrasonic (US) sensor
- *IntelliDAPT* self-adaptive technology—no manual adjustment required
- 1 or 2 relay models for single-level switching or bi-level switching
- Occupancy (auto-on) and Vacancy (manual-on) operating modes
- Available with or without Neutral
- 400 square-foot, 180° coverage area
- 120/277VAC operation
- No minimum load requirement
- Zero Arc Point Switching
- Five-year limited warranty
- 120-277 Vac and 347 Vac models
- Low voltage device: 24 Vdc



LHUSD2

HUBBELL® Control Solutions

Submitted by Lighting Group NorthwestChris Hamaker			
lighting group northwest	**Job Name:** Port of Tacoma - Pier 4 - Phase 2 Marine Building Phase Architect: TCF Architecture (Tacoma) Engineer: BCE Engineers (Fife)	**Catalog Number:** LHUSS1-G-XX Notes:	**Type:** **$OS** LGNW16-47554

General Specifications

IntelliDAPT® Technology	Self-adjusting timer Self-adjusting ultrasonic (US) sensitivity Automatic false-on/false-off corrections No manual adjustments required
Time Delay	Auto mode: 4–30 minutes; self-adjusts based on occupancy Fixed mode: 4, 8, 15, and 30 minutes Test mode: 5 seconds
Ultrasonic (US) Output	40kHz output
Photocell	Natural light override range: 10–500 foot-candles
Coverage	400 square-foot, 180° coverage area
Power Requirements	120/277VAC; 50/60Hz 347VAC; 50/60Hz 24VDC (requires UVPP)
Electrical Ratings	120VAC: 800W Incandescent/ Electronic Ballast/ LED Driver 1,000W Magnetic Ballast 1/6 HP Motor 277VAC: 1,800W Magnetic Ballast /Electronic Ballast/ LED Driver; 1/6 HP Motor 347VAC: 1,500W Magnetic Ballast /Electronic Ballast/ LED Driver 1/6 HP MotorMinimum Load Requirements None
Operating Environment	Indoor use only Operating temperature: 32° to 104°F (0° to 40°C) Relative humidity (non-condensing): 0% to 95%
Construction	Casing—high-impact injection-molded plastic (UL-94-5V) Color-coded leads are 6" long Wrap-around galvanized steel mounting strap
Dimensions	4.2" x 1.8" x 1.75"; .37" extension
Weight	2.9 oz
Color	White; Ivory; Light Almond; Gray; Black
Mounting	Single-gang NEMA-style switch box (standard switch box) Decorator-style wall plate sold separately
Certifications	Listed UL, cUL
Warranty	Five-year limited

Ordering Information

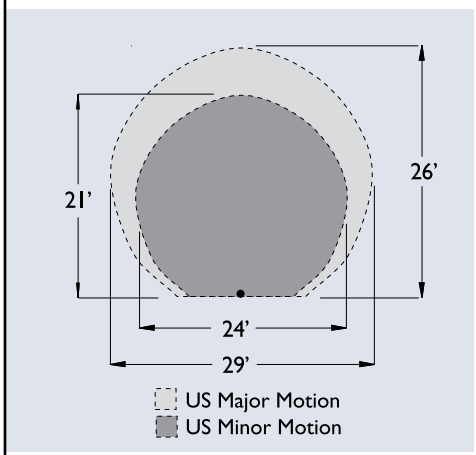
		–	–	–
MODEL	**BUTTONS**	**WIRING**	**COLOR**	**MODE**
LHUSS LightHAWK®2 Ultrasonic Single Relay	**0**	**G** Ground (120/277V)	**WH** White	**Blank** Switchable Vacancy or Occupancy Mode
LHUSD *LightHAWK*2 Ultrasonic Dual Relay	**1***	**N** Neutral (120/277V)	**IV** Ivory	**M** Vacancy Mode Only
	2†	**24V** Low Voltage	**LA** Light Almond	
		G347 Ground (347V)	**GY** Gray	
		N347 Neutral (347V)	**BK** Black	

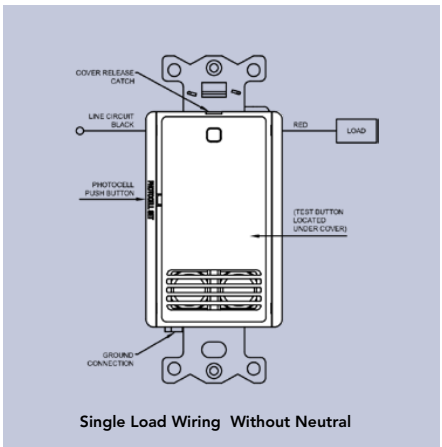
SPECIFY STANDARD FINISH

NOTE: * Only available with *LightHAWK*2 Ultrasonic Single Relay.
† Only available with *LightHAWK*2 Ultrasonic Dual Relay.
- Low voltage sensors require a power pack that is sold separately.

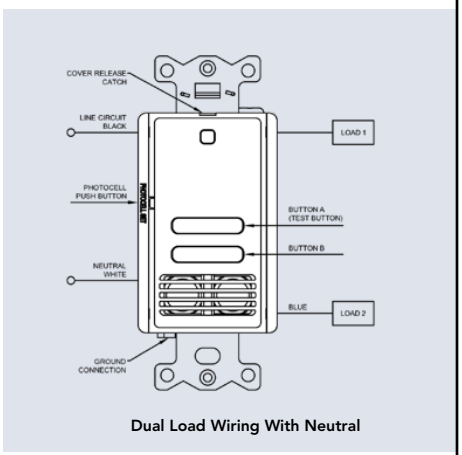
HUBBELL® HUBBELL Control Solutions

Submitted by Lighting Group NorthwestChris Hamaker			
lighting group northwest	**Job Name:** Port of Tacoma - Pier 4 - Phase 2 Marine Building Phase Architect: TCF Architecture (Tacoma) Engineer: BCE Engineers (Fife)	**Catalog Number:** LHUSS1-G-XX Notes:	**Type:** **$OS** LGNW16-47554

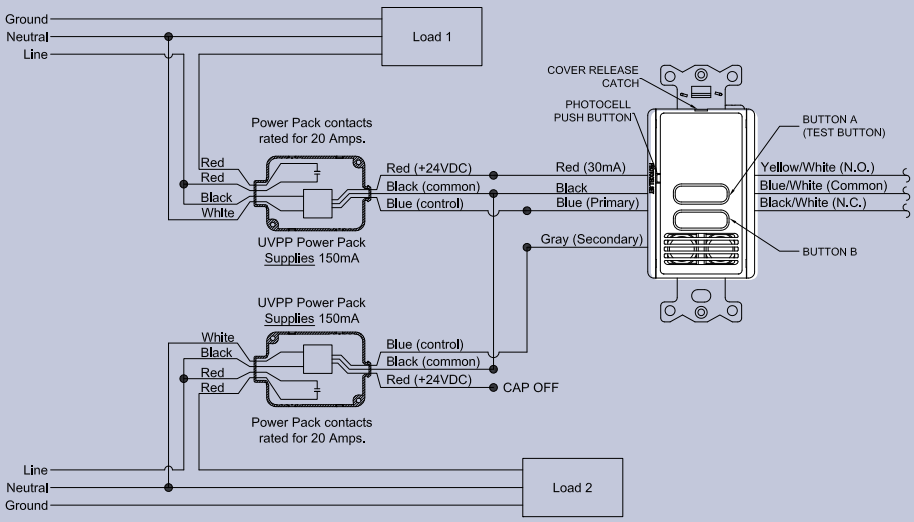




Single Load Wiring Without Neutral



Dual Load Wiring With Neutral



Low Voltage Dual Level Control with Two Power Packs

Submitted by Lighting Group NorthwestChris Hamaker			
lighting group northwest	**Job Name:** Port of Tacoma - Pier 4 - Phase 2 Marine Building Phase Architect: TCF Architecture (Tacoma) Engineer: BCE Engineers (Fife)	**Catalog Number:** CX242S242NM Notes:	**Type:** **CX** LGNW16-47554

CX Lighting Control Panels - 16 and 24 Relays

CX COMMERCIAL LIGHTING CONTROL PANELS

CX Commercial Lighting Control Panels

PROJECT INFORMATION

Project Name

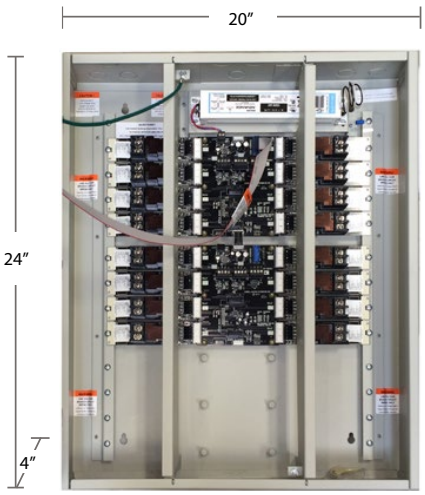
Catalog No. Date

The Hubbell Controls CX Commercial Lighting Control Panels provide feature-rich and cost-effective lighting control for maximum energy savings. The LCD User interface is located in the door and utilized simple and intuitive scrolling menus to program, check status or update the panel. The easy-to-use Pre-Programmed Scenarios Menu makes project commissioning simple and fast.

The CX Panels can save up to 50% in labor and materials when used in place of conventional time clock and contactor combinations. The use of the astronomical clock instead of roof-mounted photocells increases cost savings, lowers maintenance, and improves reliability.

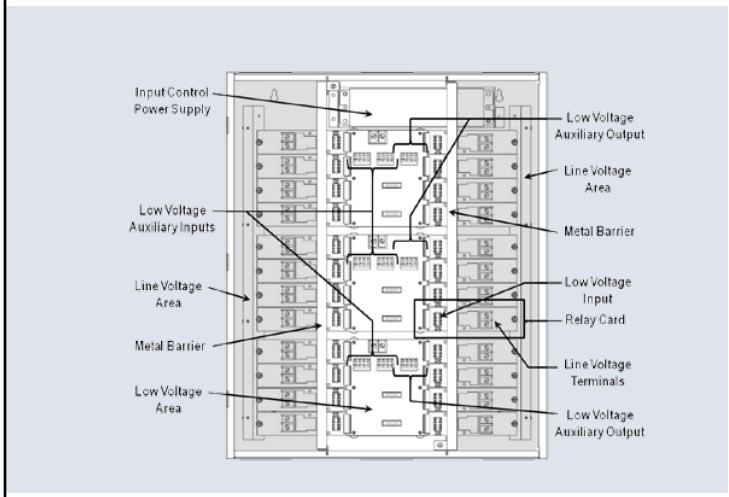
PRODUCT FEATURES

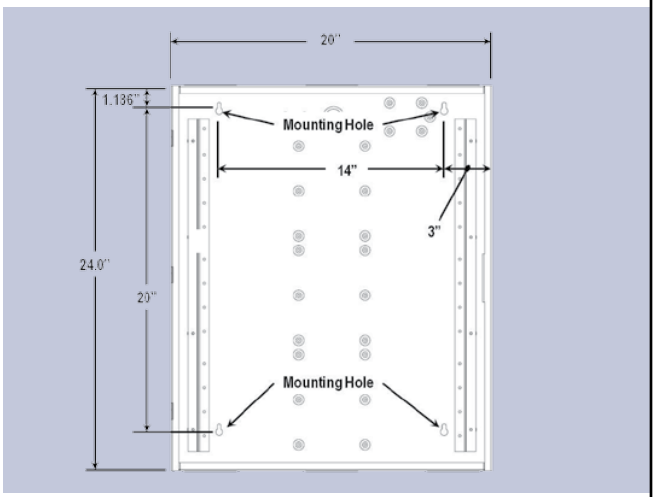
- Two Relay panel sizes – 16 and 24 relay spaces
- Four types of relays – 20A/1P, N/O, 20A/2P, N/O, N/C (14K SSCR) and 30A/1P latching (18K SCCR)
- LCD user interface with keypad
- 365 day programming with 64 schedules
- Astronomical and real time clock
- 20 Programmable dry contact inputs for 16 relay panel; 30 programmable dry contact inputs for 24 relay panel
- Selectable pre-programmed scenarios
- Programmable inputs accept low voltage switches, photocells, or motion sensors
- Two low voltage dry contact output relays on 16 relay panel; three for 24 relay panel
- Program uploads via removable SD memory card
- Listed to UL916, UL924 and cUL
- Five-year limited warranty
- 120-277 Vac



HUBBELL Control Solutions

Submitted by Lighting Group NorthwestChris Hamaker			
lighting group northwest	**Job Name:** Port of Tacoma - Pier 4 - Phase 2 Marine Building Phase Architect: TCF Architecture (Tacoma) Engineer: BCE Engineers (Fife)	**Catalog Number:** CX242S242NM Notes:	**Type:** **CX** LGNW16-47554





General Specifications

Programming and configuration	Programmable via user interface mounted on door Fully programmable by users with door closed and locked
Physical	NEMA 1 surface enclosure Pre-drilled mounting holes for mounting to wall, KOs provided on top and bottom 16 and 24 relay enclosures with hinged locking door
Electrical input	120-277VAC Standard, 347/480VAC Optional
Relays	120 and 277VAC 20 Amp Single Pole Relays (14K SCCR) 120 and 277VAC 30 Amp Single Pole Relays (18K SCCR) 347VAC, 20A, IP Relay (14K SCCR) 208, 240, and 480VAC 20 Amp Double Pole Relays(14K SCCR)
Operating environment	Location: interior space Operating temperature: 0° to 50°C (32° to 112°F) Relative humidity (non-condensing): 10% to 90%
Certifications	Listed to UL916, UL924 and cUL
Warranty	Five-year limited

Ordering Information

CX			S	
MODEL	**SPACES**	**INPUT VOLTAGE**	**ENCLOSURE**	**RELAY QUANTITY**
CX CX Lighting Control Panel	**16** 16 Relay Spaces **24** 24 Relay Spaces	**2** 120-277V Universal **3** 347/480V	**S** NEMA 1 Surface	**00** No Relays - Spaces Only **16** 16 Relays Installed **24** 24 Relays Installed

RELAY TYPE	**OPTIONS**
SP Space Only **2N** 20A 1-Pole Electrically Held N.O. 120-277V 14KSCCR @ 277VAC **3L** 30A 1-Pole Latching 120-277-347V 18KSCCR @ 277VAC, 14KSCCR @ 347VAC **TN** 20A 2-Pole Electrically Held N.O. 480V 14KSCCR @ 480VAC **TC** 20A 2-Pole Electrically Held N.C. 480V 14KSCCR @ 480VAC	**M** Master Panel **S** Secondary Panel (Note 4)

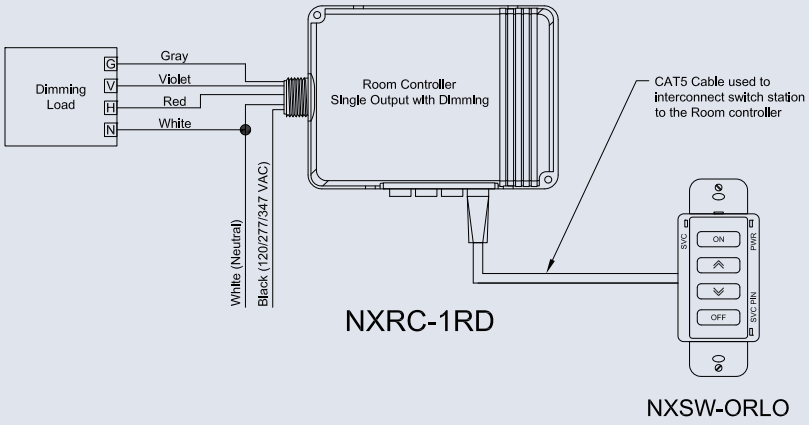
NOTES:

1. 2-Pole relays take the same amount of space as 1-Pole relays.
2. Installed relays must be all of the same type. Relay Type TC and TN not available in fully populate panels and must be ordered separately to be installed in the field. See Relay Specification Sheet.
3. "00" option has no relays, all must be installed in the field.
4. Secondary panel includes (2) master/secondary panel interface cards.

HUBBELL Control Solutions

9601 Dessau Road | Building One | Austin, Texas 78754 | 512-450-1100 | 512-450-1215 fax | www.hubbell-automation.com

Submitted by Lighting Group NorthwestChris Hamaker			
lighting group northwest	**Job Name:** Port of Tacoma - Pier 4 - Phase 2 Marine Building Phase Architect: TCF Architecture (Tacoma) Engineer: BCE Engineers (Fife)	**Catalog Number:** CAT5-10F-OR Notes:	**Type:** **CAT5** LGNW16-47554



General Specifications

Addressing	Eight position rotary switch
Power Requirements	Powered by NX Room Controller using plenum rated CAT5 cables (ordered separately)
Operating Environment	Indoor use only Operating Temperature: 0°C to 40°C Relative humidity (non-condensing): 0 to 95%
Construction	Housing – Rugged, high impact, injection molded plastic
Dimensions	4.2" L x 1.6" W x 1.4" D
Weight	1.6 oz
Color	White, Ivory, Light Almond, Gray, and Black
Mounting	Switches may be mounted individually in a single gang switch box or ganged together in a multi-gang switch box Decorator-style wall plates available separately
Patents	Patent(s) Pending
Warranty	Five-year limited

Ordering Information

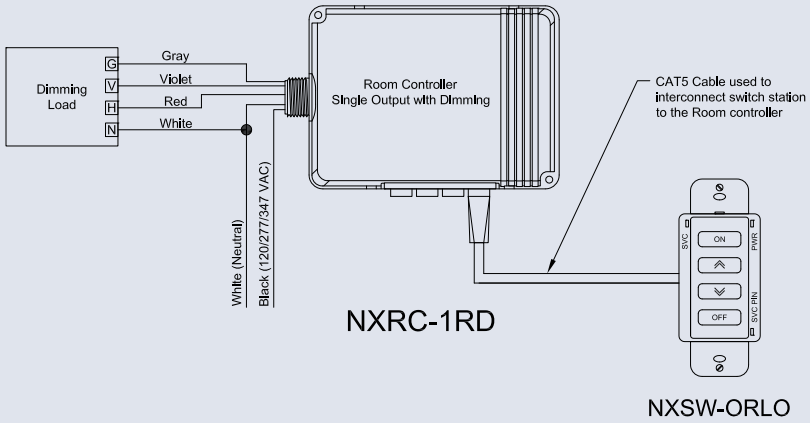
NXSW	–		–	
MODEL		**SWITCH TYPE**		**COLOR**
NXSW		**OO** On/Off Switch		**WH** White
		ORLO On/Raise/Lower/Off Switch		**LA** Light Almond
		PRESET Preset/Scene Switch (4-button)		**GY** Gray
		RL Raise/Lower Switch		
		TO Timed On Switch		
		SS Scene Switch		

CAT5 System Cables

MODEL/DESCRIPTION	
CAT5-3F-OR	CAT5 Cable for NX Smart Port Devices, Plenum Rated, 3ft, Orange
CAT5-10F-OR	CAT5 Cable for NX Smart Port Devices, Plenum Rated, 10ft, Orange
CAT5-25F-OR	CAT5 Cable for NX Smart Port Devices, Plenum Rated, 25ft, Orange
CAT5-50F-OR	CAT5 Cable for NX Smart Port Devices, Plenum Rated, 50ft,Orange
CAT5-100F-OR	CAT5 Cable for NX Smart Port Devices, Plenum Rated, 100ft, Orange

HUBBELL Building Automation
9601 Dessau Road | Building One | Austin, Texas 78754 | {512} 450-1100 | {512} 450-1215 fax hubbell-automation.com

Submitted by Lighting Group NorthwestChris Hamaker			
lighting group northwest	**Job Name:** Port of Tacoma - Pier 4 - Phase 2 Marine Building Phase Architect: TCF Architecture (Tacoma) Engineer: BCE Engineers (Fife)	**Catalog Number:** CAT5-25F-OR Notes:	**Type:** **CAT5** LGNW16-47554



General Specifications

Addressing	Eight position rotary switch
Power Requirements	Powered by NX Room Controller using plenum rated CAT5 cables (ordered separately)
Operating Environment	Indoor use only Operating Temperature: 0°C to 40°C Relative humidity (non-condensing): 0 to 95%
Construction	Housing – Rugged, high impact, injection molded plastic
Dimensions	4.2" L x 1.6" W x 1.4" D
Weight	1.6 oz
Color	White, Ivory, Light Almond, Gray, and Black
Mounting	Switches may be mounted individually in a single gang switch box or ganged together in a multi-gang switch box Decorator-style wall plates available separately
Patents	Patent(s) Pending
Warranty	Five-year limited

Ordering Information

NXSW – [SWITCH TYPE] – [COLOR]

MODEL	SWITCH TYPE		COLOR	
NXSW	**OO**	On/Off Switch	**WH**	White
	ORLO	On/Raise/Lower/Off Switch	**LA**	Light Almond
	PRESET	Preset/Scene Switch (4-button)	**GY**	Gray
	RL	Raise/Lower Switch		
	TO	Timed On Switch		
	SS	Scene Switch		

CAT5 System Cables

MODEL/DESCRIPTION	
CAT5-3F-OR	CAT5 Cable for NX Smart Port Devices, Plenum Rated, 3ft, Orange
CAT5-10F-OR	CAT5 Cable for NX Smart Port Devices, Plenum Rated, 10ft, Orange
CAT5-25F-OR	CAT5 Cable for NX Smart Port Devices, Plenum Rated, 25ft, Orange
CAT5-50F-OR	CAT5 Cable for NX Smart Port Devices, Plenum Rated, 50ft,Orange
CAT5-100F-OR	CAT5 Cable for NX Smart Port Devices, Plenum Rated, 100ft, Orange

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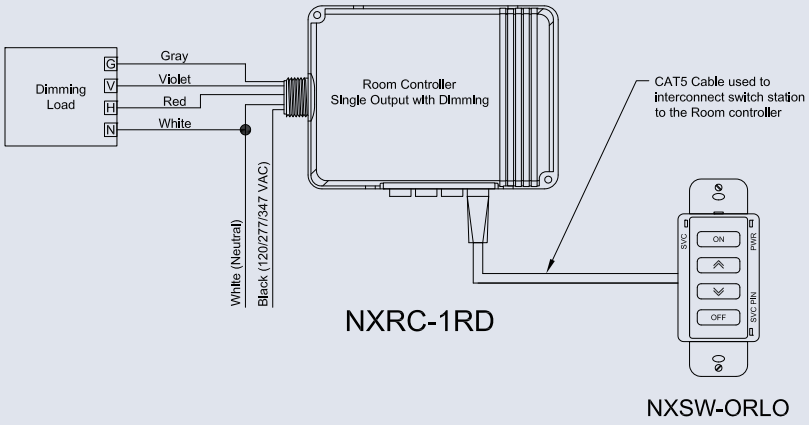
Submitted by Lighting Group NorthwestChris Hamaker			
lighting group northwest	**Job Name:** Port of Tacoma - Pier 4 - Phase 2 Marine Building Phase Architect: TCF Architecture (Tacoma) Engineer: BCE Engineers (Fife)	**Catalog Number:** CAT5-50F-OR Notes:	**Type:** **CAT5** LGNW16-47554



General Specifications

Addressing	Eight position rotary switch
Power Requirements	Powered by NX Room Controller using plenum rated CAT5 cables (ordered separately)
Operating Environment	Indoor use only Operating Temperature: 0°C to 40°C Relative humidity (non-condensing): 0 to 95%
Construction	Housing – Rugged, high impact, injection molded plastic
Dimensions	4.2" L x 1.6" W x 1.4" D
Weight	1.6 oz
Color	White, Ivory, Light Almond, Gray, and Black
Mounting	Switches may be mounted individually in a single gang switch box or ganged together in a multi-gang switch box Decorator-style wall plates available separately
Patents	Patent(s) Pending
Warranty	Five-year limited

Ordering Information

NXSW	–		–	
MODEL		**SWITCH TYPE**		**COLOR**
NXSW		**OO**	On/Off Switch	**WH** White
		ORLO	On/Raise/Lower/Off Switch	**LA** Light Almond
		PRESET	Preset/Scene Switch (4-button)	**GY** Gray
		RL	Raise/Lower Switch	
		TO	Timed On Switch	
		SS	Scene Switch	

CAT5 System Cables

MODEL/DESCRIPTION	
CAT5-3F-OR	CAT5 Cable for NX Smart Port Devices, Plenum Rated, 3ft, Orange
CAT5-10F-OR	CAT5 Cable for NX Smart Port Devices, Plenum Rated, 10ft, Orange
CAT5-25F-OR	CAT5 Cable for NX Smart Port Devices, Plenum Rated, 25ft, Orange
CAT5-50F-OR	CAT5 Cable for NX Smart Port Devices, Plenum Rated, 50ft,Orange
CAT5-100F-OR	CAT5 Cable for NX Smart Port Devices, Plenum Rated, 100ft, Orange

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Submitted by Lighting Group NorthwestChris Hamaker			
lighting group northwest	**Job Name:** Port of Tacoma - Pier 4 - Phase 2 Marine Building Phase Architect: TCF Architecture (Tacoma) Engineer: BCE Engineers (Fife)	**Catalog Number:** CAT5-50F-OR Notes:	**Type:** **CAT5** LGNW16-47554

RJ45 Adapter and CAT5 System Cables

wiHUBB® AND ZONE5 LIGHTING CONTROLS

LOW 24 VDC VOLTAGE

zone5 wiHUBB

RJ45ADAPTER

PROJECT INFORMATION

Project Name

Catalog No. Date

Hubbell Building Automation's RJ45 Adapter and CAT5 system cables are designed to be used with HBA low voltage occupancy and daylight sensors. The adapter replaces the Quick-To-Install™ (QTI) connectors previously used by the wiHUBB® and Zone5™ occupancy and daylight sensors and enables devices to connect to HBA control modules (e.g. wiHUBB Smart Pack, Zone5 Control Module, etc) using standard CAT5 cable.

PRODUCT FEATURES

- Supports wiHUBB and Zone5 occupancy and daylight sensors
- Plenum rated
- Five-year limited warranty

General Specifications

Electrical	4 Terminal Connections - Red: +24V - Blue: Occupancy Sensor Input - Yellow: Photocell/Daylight Sensor Input - Black: Common Class 2 device Max Cable Length Supported: 300-ft from device to control module
Plenum Rated	Complies with requirements for use in a plenum area
Construction	Material: SABIC NORYL HS2000X
Dimensions	Size: 2.168"L x 1.093"W x 0.995"H
Weight	0.8 oz
Color	Gray
Mounting	Adapter may be mounted using a zip-tie (not included) or with a #8 or #10 mounting screw (not included)
Warranty	Five-year limited

HUBBELL® Building Automation

Submitted by Lighting Group NorthwestChris Hamaker			
lighting group northwest	**Job Name:** Port of Tacoma - Pier 4 - Phase 2 Marine Building Phase Architect: TCF Architecture (Tacoma) Engineer: BCE Engineers (Fife)	**Catalog Number:** CAT5-50F-OR Notes:	**Type:** **CAT5** LGNW16-47554

Ordering Information

RJ45 Adapter

MODEL/DESCRIPTION	
RJ45ADAPTER	RJ45 Adapter for wiHUBB & Zone5 Occupancy and Daylight Sensors
RJ45ADAPTER-10	RJ45 Adapter for wiHUBB & Zone5 Occupancy and Daylight Sensors - 10 Pack
RJ45ADAPTER-50	RJ45 Adapter for wiHUBB & Zone5 Occupancy and Daylight Sensors - 50 Pack

CAT5 System Cables

MODEL/DESCRIPTION	
CAT5-3IN-BL	CAT5 Jumper Cable for wiHUBB & Zone5 Lighting Control Switches, Plenum Rated, 3in, Blue
CAT5-10F-BL	CAT5 Cable for wiHUBB & Zone5 Lighting Control Switches, Plenum Rated, 10ft, Blue
CAT5-50F-BL	CAT5 Cable for wiHUBB & Zone5 Lighting Control Switches, Plenum Rated, 50ft, Blue
CAT5-100F-BL	CAT5 Cable for wiHUBB & Zone5 Lighting Control Switches, Plenum Rated, 100ft, Blue
CAT5-10F-WH	CAT5 Cable for wiHUBB & Zone5 Occupancy & WASP2 Sensors, Plenum Rated, 10ft, White
CAT5-50F-WH	CAT5 Cable for wiHUBB & Zone5 Occupancy & WASP2 Sensors, Plenum Rated, 50ft, White
CAT5-100F-WH	CAT5 Cable for wiHUBB & Zone5 Occupancy & WASP2 Sensors, Plenum Rated, 100ft, White
CAT5-10F-GN	CAT5 Cable for wiHUBB & Zone5 Daylight Sensors, Plenum Rated, 10ft, Green
CAT5-50F-GN	CAT5 Cable for wiHUBB & Zone5 Daylight Sensors, Plenum Rated, 50ft, Green
CAT5-100F-GN	CAT5 Cable for wiHUBB & Zone5 Daylight Sensors, Plenum Rated, 100ft, Green
CAT5-3IN-YL	CAT5 Jumper Cable for Zone5 Master/Row Control Switches, Plenum Rated, 3in, Yellow
CAT5-50F-YL	CAT5 Cable for Zone5 Master/Row Control Switches, 50ft, Yellow
CAT5-100F-YL	CAT5 Cable for Zone5 Master/Row Control Switches, 100ft, Yellow

wiHUBB & Zone5 Cable Cross Reference

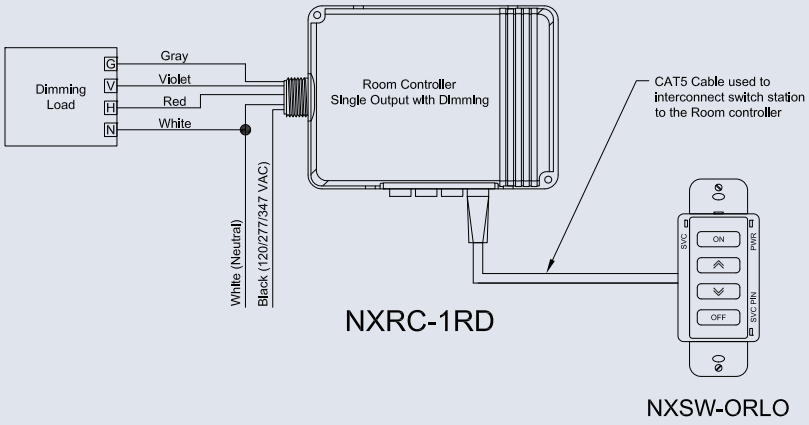
PREVIOUS WIHUBB & ZONE5 CABLE PART NUMBERS	NEW CABLE PART NUMBER
WIH-CAB-3IN-BL **Z5-CAB-3IN-BL**	CAT5-3IN-BL
WIH-CAB-10F-BL **Z5-CAB-10F-BL**	CAT5-10F-BL
WIH-CAB-50F-BL **Z5-CAB-50F-BL**	CAT5-50F-BL
WIH-CAB-100F-BL **Z5-CAB-100F-BL**	CAT5-100F-BL
WIH-CAB-10F-WSP	CAT5-10F-WH
WIH-CAB-50F-WH **WIH-CAB-50F-WSP** **Z5-CAB-50F-WH** **Z5-CAB-50F-WSP**	CAT5-50F-WH
WIH-CAB-100F-WH **WIH-CAB-100F-WSP** **Z5-CAB-100F-WH** **Z5-CAB-100F-WSP**	CAT5-100F-WH
Z5-CAB-10F-GN	CAT5-10F-GN
WIH-CAB-50F-GN **Z5-CAB-50F-GN**	CAT5-50F-GN
WIH-CAB-100F-GN **Z5-CAB-100F-GN**	CAT5-100F-GN
Z5-CAB-3IN-YL	CAT5-3IN-YL
Z5-CAB-50F-YL	CAT5-50F-YL
Z5-CAB-100F-YL	CAT5-100F-YL

SPECIAL NOTES:

1. When cutting CAT5 cable to specific lengths, the cable pin out is as follows:

PIN NO.	WIRE COLOR
1	WHITE with ORANGE STRIPE
2	ORANGE
3	WHITE with GREEN STRIPE
4	BLUE
5	WHITE with BLUE STRIPE
6	GREEN
7	WHITE with BROWN STRIPE
8	BROWN

Submitted by Lighting Group NorthwestChris Hamaker			
lighting group northwest	**Job Name:** Port of Tacoma - Pier 4 - Phase 2 Marine Building Phase Architect: TCF Architecture (Tacoma) Engineer: BCE Engineers (Fife)	**Catalog Number:** CAT5-100F-OR Notes:	**Type:** **CAT5** LGNW16-47554



General Specifications

Addressing	Eight position rotary switch
Power Requirements	Powered by NX Room Controller using plenum rated CAT5 cables (ordered separately)
Operating Environment	Indoor use only Operating Temperature: 0°C to 40°C Relative humidity (non-condensing): 0 to 95%
Construction	Housing – Rugged, high impact, injection molded plastic
Dimensions	4.2" L x 1.6" W x 1.4" D
Weight	1.6 oz
Color	White, Ivory, Light Almond, Gray, and Black
Mounting	Switches may be mounted individually in a single gang switch box or ganged together in a multi-gang switch box Decorator-style wall plates available separately
Patents	Patent(s) Pending
Warranty	Five-year limited

Ordering Information

NXSW	–		–	
MODEL		**SWITCH TYPE**		**COLOR**
NXSW		**OO**	On/Off Switch	**WH** White
		ORLO	On/Raise/Lower/Off Switch	**LA** Light Almond
		PRESET	Preset/Scene Switch (4-button)	**GY** Gray
		RL	Raise/Lower Switch	
		TO	Timed On Switch	
		SS	Scene Switch	

CAT5 System Cables

MODEL/DESCRIPTION	
CAT5-3F-OR	CAT5 Cable for NX Smart Port Devices, Plenum Rated, 3ft, Orange
CAT5-10F-OR	CAT5 Cable for NX Smart Port Devices, Plenum Rated, 10ft, Orange
CAT5-25F-OR	CAT5 Cable for NX Smart Port Devices, Plenum Rated, 25ft, Orange
CAT5-50F-OR	CAT5 Cable for NX Smart Port Devices, Plenum Rated, 50ft,Orange
CAT5-100F-OR	CAT5 Cable for NX Smart Port Devices, Plenum Rated, 100ft, Orange

HUBBELL Building Automation
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Submitted by Lighting Group NorthwestChris Hamaker			
lighting group northwest	**Job Name:** Port of Tacoma - Pier 4 - Phase 2 Marine Building Phase Architect: TCF Architecture (Tacoma) Engineer: BCE Engineers (Fife)	**Catalog Number:** CAT5-100F-OR Notes:	**Type:** **CAT5** LGNW16-47554

RJ45 Adapter and CAT5 System Cables

wiHUBB® AND ZONE5 LIGHTING CONTROLS

LOW 24 VDC VOLTAGE

zone5 wiHUBB

RJ45ADAPTER

PROJECT INFORMATION

Project Name

Catalog No. Date

Hubbell Building Automation's RJ45 Adapter and CAT5 system cables are designed to be used with HBA low voltage occupancy and daylight sensors. The adapter replaces the Quick-To-Install™ (QTI) connectors previously used by the wiHUBB® and Zone5™ occupancy and daylight sensors and enables devices to connect to HBA control modules (e.g. wiHUBB Smart Pack, Zone5 Control Module, etc) using standard CAT5 cable.

PRODUCT FEATURES

- Supports wiHUBB and Zone5 occupancy and daylight sensors
- Plenum rated
- Five-year limited warranty

General Specifications

Electrical	4 Terminal Connections - Red: +24V - Blue: Occupancy Sensor Input - Yellow: Photocell/Daylight Sensor Input - Black: Common Class 2 device Max Cable Length Supported: 300-ft from device to control module
Plenum Rated	Complies with requirements for use in a plenum area
Construction	Material: SABIC NORYL HS2000X
Dimensions	Size: 2.168"L x 1.093"W x 0.995"H
Weight	0.8 oz
Color	Gray
Mounting	Adapter may be mounted using a zip-tie (not included) or with a #8 or #10 mounting screw (not included)
Warranty	Five-year limited

HUBBELL® Building Automation

Submitted by Lighting Group NorthwestChris Hamaker			
lighting group northwest	**Job Name:** Port of Tacoma - Pier 4 - Phase 2 Marine Building Phase Architect: TCF Architecture (Tacoma) Engineer: BCE Engineers (Fife)	**Catalog Number:** CAT5-100F-OR Notes:	**Type:** **CAT5** LGNW16-47554

Ordering Information

RJ45 Adapter

MODEL/DESCRIPTION	
RJ45ADAPTER	RJ45 Adapter for wiHUBB & Zone5 Occupancy and Daylight Sensors
RJ45ADAPTER-10	RJ45 Adapter for wiHUBB & Zone5 Occupancy and Daylight Sensors - 10 Pack
RJ45ADAPTER-50	RJ45 Adapter for wiHUBB & Zone5 Occupancy and Daylight Sensors - 50 Pack

CAT5 System Cables

MODEL/DESCRIPTION	
CAT5-3IN-BL	CAT5 Jumper Cable for wiHUBB & Zone5 Lighting Control Switches, Plenum Rated, 3in, Blue
CAT5-10F-BL	CAT5 Cable for wiHUBB & Zone5 Lighting Control Switches, Plenum Rated, 10ft, Blue
CAT5-50F-BL	CAT5 Cable for wiHUBB & Zone5 Lighting Control Switches, Plenum Rated, 50ft, Blue
CAT5-100F-BL	CAT5 Cable for wiHUBB & Zone5 Lighting Control Switches, Plenum Rated, 100ft, Blue
CAT5-10F-WH	CAT5 Cable for wiHUBB & Zone5 Occupancy & WASP2 Sensors, Plenum Rated, 10ft, White
CAT5-50F-WH	CAT5 Cable for wiHUBB & Zone5 Occupancy & WASP2 Sensors, Plenum Rated, 50ft, White
CAT5-100F-WH	CAT5 Cable for wiHUBB & Zone5 Occupancy & WASP2 Sensors, Plenum Rated, 100ft, White
CAT5-10F-GN	CAT5 Cable for wiHUBB & Zone5 Daylight Sensors, Plenum Rated, 10ft, Green
CAT5-50F-GN	CAT5 Cable for wiHUBB & Zone5 Daylight Sensors, Plenum Rated, 50ft, Green
CAT5-100F-GN	CAT5 Cable for wiHUBB & Zone5 Daylight Sensors, Plenum Rated, 100ft, Green
CAT5-3IN-YL	CAT5 Jumper Cable for Zone5 Master/Row Control Switches, Plenum Rated, 3in, Yellow
CAT5-50F-YL	CAT5 Cable for Zone5 Master/Row Control Switches, 50ft, Yellow
CAT5-100F-YL	CAT5 Cable for Zone5 Master/Row Control Switches, 100ft, Yellow

wiHUBB & Zone5 Cable Cross Reference

PREVIOUS WIHUBB & ZONE5 CABLE PART NUMBERS	NEW CABLE PART NUMBER
WIH-CAB-3IN-BL **Z5-CAB-3IN-BL**	CAT5-3IN-BL
WIH-CAB-10F-BL **Z5-CAB-10F-BL**	CAT5-10F-BL
WIH-CAB-50F-BL **Z5-CAB-50F-BL**	CAT5-50F-BL
WIH-CAB-100F-BL **Z5-CAB-100F-BL**	CAT5-100F-BL
WIH-CAB-10F-WSP	CAT5-10F-WH
WIH-CAB-50F-WH **WIH-CAB-50F-WSP** **Z5-CAB-50F-WH** **Z5-CAB-50F-WSP**	CAT5-50F-WH
WIH-CAB-100F-WH **WIH-CAB-100F-WSP** **Z5-CAB-100F-WH** **Z5-CAB-100F-WSP**	CAT5-100F-WH
Z5-CAB-10F-GN	CAT5-10F-GN
WIH-CAB-50F-GN **Z5-CAB-50F-GN**	CAT5-50F-GN
WIH-CAB-100F-GN **Z5-CAB-100F-GN**	CAT5-100F-GN
Z5-CAB-3IN-YL	CAT5-3IN-YL
Z5-CAB-50F-YL	CAT5-50F-YL
Z5-CAB-100F-YL	CAT5-100F-YL

SPECIAL NOTES:

1. When cutting CAT5 cable to specific lengths, the cable pin out is as follows:

PIN NO.	WIRE COLOR
1	WHITE with ORANGE STRIPE
2	ORANGE
3	WHITE with GREEN STRIPE
4	BLUE
5	WHITE with BLUE STRIPE
6	GREEN
7	WHITE with BROWN STRIPE
8	BROWN