



CONTROLS WIRING DIAGRAM (WD21)

DESCRIPTION:

- SINGLE CIRCUIT, THREE RELAY LIGHTING CONTROL WITH MANUAL DIMMING, RESTRICTED TO MANUAL ON, MANUAL OFF
- NO RECEPTACLE CONTROL
- LOW-VOLTAGE SWITCH(ES)

NOTES:

- PROVIDE ONE ROOM CONTROLLER FOR THE SET OF LUMINAIRES IN THE ROOM DESIGNED TO BE CONTROLLED SEPARATELY, OR FOR EACH CIRCUIT TO BE CONTROLLED. PROVIDE OCCUPANCY SENSORS AS INDICATED ON PLANS. PROVIDE ONE OR MORE LOW-VOLTAGE SWITCHES FOR EACH SPACE TO BE CONTROLLED. SEE PROGRAMMING NOTES.
- PROGRAMMING OF LOAD CONTROL BUTTONS: ON LEFT SIDE, PROGRAM THE TOP TWO (2) BUTTONS AS RAISE/ON (AT 100% PRESET LEVEL) - LOWER/OFF CONTROLS FOR DIMMABLE LIGHTING LOAD 'a' AND BOTTOM TWO (2) BUTTONS AS RAISE/ON (AT 100% PRESET LEVEL) - LOWER/OFF CONTROLS FOR DIMMABLE LIGHTING LOAD 'b'. ON THE RIGHT SIDE, PROGRAM THE TOP TWO (2) BUTTONS AS RAISE/ON (AT 100% PRESET LEVEL) - LOWER/OFF CONTROLS FOR DIMMABLE LIGHTING LOAD 'c' AND PROGRAM THE BOTTOM TWO (2) BUTTONS AS SCENE SELECTION BUTTONS IN ACCORDANCE WITH USER DIRECTION.
- IT IS THE INTENT OF THIS WIRING DIAGRAM TO REPRESENT SITUATIONS INVOLVING LUMINAIRES WITH MULTIPLE LIGHT LEVELS (FULL-DIMMING).

SEQUENCE OF OPERATION:

- LIGHTING SYSTEM (LIGHTING LOAD 'a') TURNS "ON" WHEN LOCAL LOW-VOLTAGE SWITCH IS OPERATED. LIGHTING SYSTEM (LIGHTING LOAD 'a') TURNS "OFF" WHEN LOCAL LOW-VOLTAGE SWITCH IS OPERATED.
- LIGHTING SYSTEM (LIGHTING LOAD 'b') TURNS "ON" WHEN LOCAL LOW-VOLTAGE SWITCH IS OPERATED. LIGHTING SYSTEM (LIGHTING LOAD 'b') TURNS "OFF" WHEN LOCAL LOW-VOLTAGE SWITCH IS OPERATED.
- LIGHTING SYSTEM (LIGHTING LOAD 'c') TURNS "ON" WHEN LOCAL LOW-VOLTAGE SWITCH IS OPERATED. LIGHTING SYSTEM (LIGHTING LOAD 'c') TURNS "OFF" WHEN LOCAL LOW-VOLTAGE SWITCH IS OPERATED.

GENERAL NOTES: (APPLICABLE TO ENTIRE SHEET)

- VERIFY WIRING REQUIREMENTS WITH MANUFACTURER. WIRING MAY DIFFER BETWEEN MANUFACTURERS.
- FOR QUANTITY OF SENSORS AND SWITCHES, REFER TO LIGHTING PLANS.
- AUTOMATIC LIGHTING CONTROL SYSTEM MUST COMPLY WITH NFPA 101, 7.8.1, TO INCLUDE BUT NOT LIMITED TO THE FOLLOWING:
  - THE AUTOMATIC LIGHTING CONTROL DEVICE MUST BE LISTED.
  - THE AUTOMATIC LIGHTING CONTROL MUST BE EQUIPPED TO AUTOMATICALLY ENERGIZE THE CONTROLLED LIGHTS UPON LOSS OF NORMAL POWER. SEE FIRE PROTECTION DRAWINGS FOR REQUIREMENTS.
- THE AUTOMATIC LIGHTING CONTROL DEVICE IS ACTIVATED BY OCCUPANT MOVEMENT IN THE AREA SERVED.
- THE AUTOMATIC LIGHTING CONTROL DEVICE IS ACTIVATED BY ACTIVATION OF THE BUILDING FIRE ALARM SYSTEM.
- THE AUTOMATIC LIGHTING CONTROL DEVICE DOES NOT CAUSE THE DE-ENERGIZING OF EMERGENCY BATTERIES.
- PROVIDE ALL CONDUIT, WIRING DEVICES, AND CONNECTIONS REQUIRED.
- SUBMIT SHOP DRAWING OF ENTIRE SYSTEM, TO INCLUDE BUT NOT LIMITED TO PRODUCT DATA AND WIRING/CONTROL DIAGRAMS FOR REVIEW AND APPROVAL.
- INSTALL ALL CABLES IN CONDUIT. MINIMUM CONDUIT SIZE AS PER SPECIFICATION 16402.

IF SHEET IS LESS THAN 24" X 36"  
REDUCED PRINT - USE GRAPHIC SCALES

REVISIONS		
No.	Description	Date

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REGISTERED PROFESSIONAL ENGINEER  
373  
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED  
BY ME OR UNDER MY DIRECT SUPERVISION  
DATE: 10/7/2022

Project:

NMC  
PACKAGE 1: STUDENT  
CENTER BUILDING

Title:

MISCELLANEOUS  
DIAGRAMS - SHEET 23

CONSTRUCTION  
DOCUMENTS

Designed: JF/LB

Drawn: NP/RS

Checked: IA/AM

Supv: AM

Scale: AS INDICATED

Date: 10/07/2022

Project No.

File

Drawing No.

E2.27  
Sheet No. \_\_\_\_\_ of \_\_\_\_\_