



CONTROLS WIRING DIAGRAM (WD23P)

DESCRIPTION:

- SINGLE CIRCUIT, 2 X TWO RELAY LIGHTING CONTROL WITH MANUAL DIMMING, RESTRICTED TO MANUAL ON AND MANUAL OFF
- NO RECEPTACLE CONTROL
- PHOTOSENSOR(S), LOW-VOLTAGE SWITCH(ES)

NOTES:

1. 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.
2. 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.
3. PROVIDE A SINGLE ZONE, CLOSED LOOP SENSOR. THE SENSOR IS TO BE PROGRAMMED TO CONTINUOUSLY DIM BASED ON DAYLIGHT CONTRIBUTION TO MAINTAIN THE REQUIREMENT OF ROOM AT TASK LEVEL.
4. IT IS THE INTENT OF THIS WIRING DIAGRAM TO REPRESENT SITUATIONS INVOLVING LUMINAIRES WITH MULTIPLE LIGHT LEVELS (FULL-DIMMING).

SEQUENCE OF OPERATION:

1. 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.
2. 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.
3. 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.
4. LIGHTING SYSTEM (LIGHTING LOAD 'd') TURNS "ON" WHEN LOCAL LOW-VOLTAGE SWITCH IS OPERATED. LIGHTING SYSTEM (LIGHTING LOAD 'd') TURNS "OFF" WHEN LOCAL LOW-VOLTAGE SWITCH IS OPERATED.
5. SYSTEM OUTPUT IS REDUCED WHEN PHOTOSENSOR DETECTS THAT THE AMBIENT LIGHT LEVEL MEETS OR EXCEEDS THE PROGRAMMED THRESHOLD.

GENERAL NOTES: (APPLICABLE TO ENTIRE SHEET)

- ① VERIFY WIRING REQUIREMENTS WITH MANUFACTURER. WIRING MAY DIFFER BETWEEN MANUFACTURERS.
- ② FOR QUANTITY OF SENSORS AND SWITCHES, REFER TO LIGHTING PLANS.
- ③ AUTOMATIC LIGHTING CONTROL SYSTEM MUST COMPLY WITH NFPA 101, 7.8.1, TO INCLUDE BUT NOT LIMITED TO THE FOLLOWING:
  1. THE AUTOMATIC LIGHTING CONTROL DEVICE MUST BE LISTED.
  2. THE AUTOMATIC LIGHTING CONTROL MUST BE EQUIPPED TO AUTOMATICALLY ENERGIZE THE CONTROLLED LIGHTS UPON LOSS OF NORMAL POWER. SEE FIRE PROTECTION DRAWINGS FOR REQUIREMENTS.
  3. THE AUTOMATIC LIGHTING CONTROL DEVICE IS ACTIVATED BY OCCUPANT MOVEMENT IN THE AREA SERVED.
  4. THE AUTOMATIC LIGHTING CONTROL DEVICE IS ACTIVATED BY ACTIVATION OF THE BUILDING FIRE ALARM SYSTEM.
  5. THE AUTOMATIC LIGHTING CONTROL DEVICE DOES NOT CAUSE THE DE-ENERGIZING OF EMERGENCY BATTERIES.
  6. PROVIDE ALL CONDUIT, WIRING DEVICES, AND CONNECTIONS REQUIRED.
- ④ SUBMIT SHOP DRAWING OF ENTIRE SYSTEM, TO INCLUDE BUT NOT LIMITED TO PRODUCT DATA AND WIRING/CONTROL DIAGRAMS FOR REVIEW AND APPROVAL.
- ⑤ 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

**TRMA**  
**Taniguchi Ruth Makio Architects**  
100 Cliff Business Center, P.O. Box EA, Agaña, GU 96910  
Tel.: (671) 475-8772 • Fax.: (671) 472-3381

Architecture  
Planning  
Interior Design

**EMCE** • Consulting engineers  
SUITE 201, 133 ANTONIA COURT  
P.O. BOX 8888 TAMUNING, GUAM 96931  
671 . 649-0166/7 Phone  
671 . 646-EMCE (3623) Fax

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

Project:  
NMC  
PACKAGE 1: STUDENT  
CENTER BUILDING

Title:  
MISCELLANEOUS  
DIAGRAMS - SHEET 25  
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.  
**E2.29**  
Sheet No. of