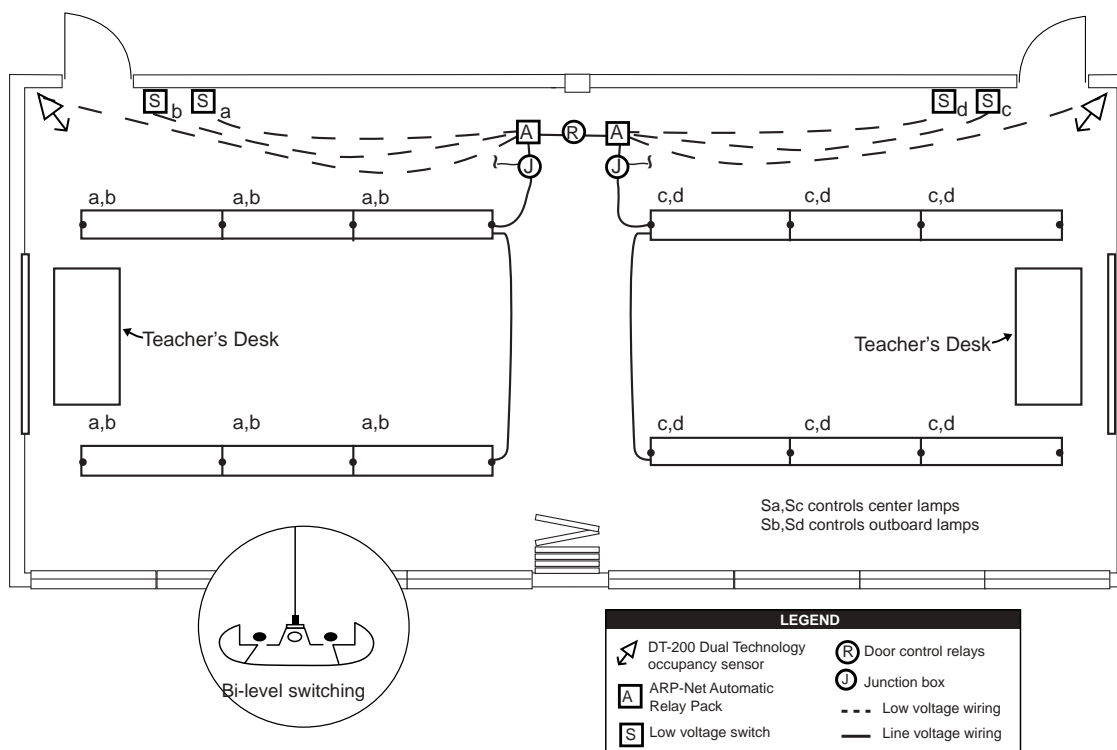


C2.1 Partitioned Classroom: occupancy sensing • bi-level switching

Control Needs	Solution	Application Description
Automatically turn lights ON/OFF based on occupancy	Corner-mounted dual technology occupancy sensor (DT series)	Space use: Classroom activities. Space is partitioned and can be used either as one large classroom or two individual classrooms
Bi-level switching	Tandem wired ballasts and wall switches	Dimensions: 28' x 60'
Manual override OFF	Low voltage wall switches	Ceiling height: 10'
Combined control of both rooms when partition is open, and separate control when partition is closed	Automatic Relay Pack (ARP-Net) with door control relay	Windows: Windows along one wall providing view to exterior and ventilation
Occupancy-based control of HVAC system	Isolated relay output on Automatic Relay Pack	Window blinds: Horizontal blinds
		Skylights: None
		Lighting
		Pendant mounted indirect/direct luminaires with isolated center lamp optics using three T5 lamps and 2-lamp, 277 volt electronic ballasts. Center lamps are tandem wired.

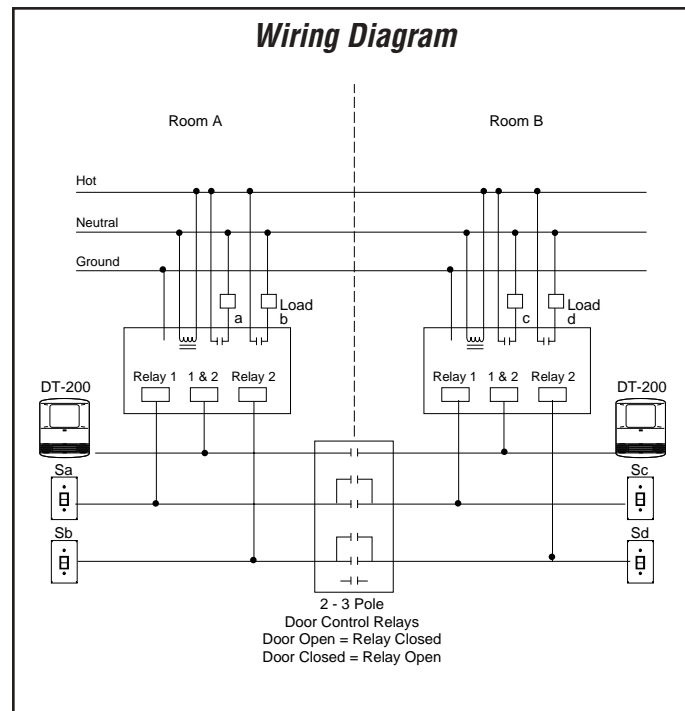
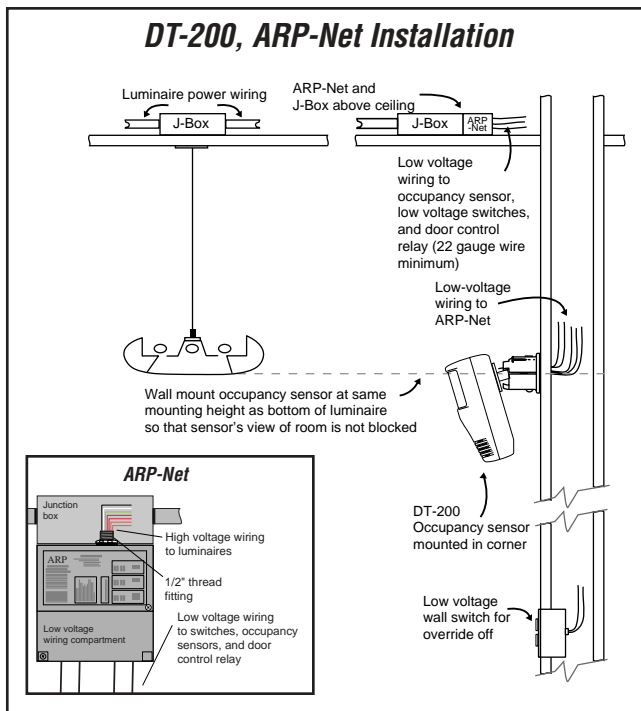
Design Considerations

The DT-200 Dual Technology occupancy sensors are used to automatically turn lights off when the classroom is unoccupied, and turn lights on upon occupancy. Each sensor is positioned near a teacher's desk to ensure detection when a teacher is at the desk and classes are not in session. The sensors are corner-mounted to prevent a view out the doorway that might otherwise result in false activations. A door control relay, low voltage wall switches, and Automatic Relay Packs (ARP-Net) are used for bi-level control, operating the center lamp and outboard lamps as two separate lighting groups in each room when the partition is closed. When the partition is open, the door control relay closes, and bi-level control of the center and outboard lamps is maintained for the entire space (from either switching location). The ARP-Net powers the occupancy sensors as well as switching the lighting loads. Low voltage switches are used for manually overriding lights off. In most classrooms, the DT Dual Technology occupancy sensor will provide the best coverage and detection. In cases where hanging objects exist, such as mobiles, artwork or teaching aids, a CX-100 passive infrared sensor should be used (see C1.0.5).



C2.1 Installation Notes

1. Mount DT-200 occupancy sensor at same height as luminaire so that sensor view is not blocked.
2. Mount DT-200 in corner and aim at opposing corner to provide a full view of the room but not the corridor.
3. DT-200 is shipped with a factory preset time delay of 18 minutes, the recommended minimum for classrooms and with sensitivity setting at maximum. Refer to installation instructions if adjustments are necessary.
4. Locate the ARP-Net in an accessible ceiling space, or an accessible location close to the load (directly above the controlling switches if convenient). Mount the ARP-Net to a standard junction box using the provided 1/2" nipple and locknut.
5. Wire low voltage switches to the ARP-Net through the door control relays.
6. Do not directly connect conduit runs to low voltage section of the ARP-Net. Do not use ARP-Net's low voltage wiring compartment as a raceway or junction box for low voltage wiring.
7. Use a minimum of 22 gauge wire for low voltage wiring. See Technical Bulletin TB-124 on Voltage Loss at www.wattstopper.com.
8. ARP-Net isolated relay can provide status information to the BAS and/or control HVAC loads.
9. Use stainless steel switch plates to facilitate cleaning and minimize damage from impact.
10. Install door control relays in separate enclosure above ceiling. Connect door control switch to close relay when partition doors are opened.



Equipment Schedule

Catalog No.	Qty	Description
DT-200	2	Dual technology occupancy sensor, isolated relay, wide angle lens
ARP-Net	2	Automatic Relay Pack, 120/277 VAC
RS2-36	4	2 button low voltage momentary switch, stainless steel finish
RP2-126	2	Wall plate, single-gang for 2 switches, stainless steel finish
RH3B--U-DC24V	2	Door control relay, 3-pole with 24 VDC coil, DIN rail mounted, Idec Corp. or equivalent
SH-3B-05	2	Relay socket, Idec Corp. or equivalent