

Controlled Receptacles

A GUIDE FOR BUILDING DESIGNERS

- 50% of receptacles in new construction must be controlled in offices, conference rooms, printing rooms, break rooms, workstations and classrooms. See Section C405.10 in the 2015 Seattle Energy Code.
- Timers, occupancy sensors, or a combination of both can be used for controlling receptacles.
- Controlled receptacles must be marked with the power symbol and the word “controlled.”
- Receptacles can be wired with only the top receptacles controlled (split), or a controlled outlet can be installed within 12 inches of each uncontrolled outlet (duplex).
- Seattle Energy Code Section C408.3.1.1 and C408.3.1.2 show required commissioning procedures for the controls and overrides.



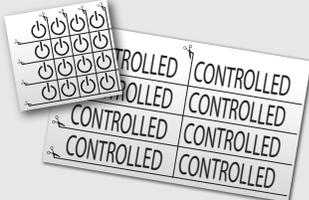
Design Considerations

| Design | Options | Considerations | Suggested Use |
|---|-------------------------|---|--|
| Receptacle Wiring Controlling 50% of the receptacles can be achieved through two methods | Split | <ul style="list-style-type: none"> ■ Installation cost may be slightly higher than for separate duplexes ■ Generally more intuitive for occupants ■ Accommodates a greater variety of furniture layouts | Split receptacles throughout a facility provide the most intuitive configuration for users. All Areas |
| | Duplex | <ul style="list-style-type: none"> ■ Separate duplex or quad receptacles may be useful for locations where many pieces of equipment need to be plugged in simultaneously | Any area where occupants may regularly need more equipment plugged in. |
| Control Integration Select control method based on space layout and expected occupant use | Timer | <ul style="list-style-type: none"> ■ May cost less overall ■ Can control up to 5,000 ft² of receptacles, per floor, at the panel level ■ A central system with software can allow the building to be divided into control zones | Applies to all areas but best for open layouts: Open Office Areas |
| | Occupancy Sensor | <ul style="list-style-type: none"> ■ Control is more directly aligned with occupant need providing greater energy savings potential. ■ Occupancy sensors that control lighting can simultaneously control receptacles | Areas with enclosed layouts and regularly fluctuating occupancy such as: Enclosed Offices / Breakrooms Conference Rooms Classrooms Printer/Copy Rooms |
| | Combination | <ul style="list-style-type: none"> ■ Cost is higher but can maximize energy savings ■ Energy savings occur outside of business hours, as well as when a space is vacant | All areas can benefit from central timer controls. Adding occupancy sensors to enclosed spaces in conjunction with timer controls in open spaces will provide greater control and savings |

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Design Considerations (Cont.)

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| <p>Override Manual override of timed controls must be accessible to the occupant</p> | <p>Wall Switch</p>  | <ul style="list-style-type: none"> Install in areas controlled by timers. Test override switches and ensure override time is set to a maximum of 2 hours The override switch should be adjacent to the override switch for lighting governing the same area, and labeled as such. It is possible to use the same override switch for both lighting and outlets in any one area. The maximum allowed area for lighting controlled by one override switch is 2,500 ft² | |
| <p>Marking Receptacles must be marked</p> | <p>Engraved and Colored Coverplates</p>  | <ul style="list-style-type: none"> Coverplates and outlets engraved with the word "controlled" and the power symbol can be installed. Use of marked different-colored coverplates can help occupants differentiate between controlled and uncontrolled outlets Select a color or finish that will work with current and future interior design throughout the facility. | <p>Permanently marked coverplates are recommended. Marked colored plates can be useful when choosing Duplex Wiring.</p> <p>Electrical suppliers in the Seattle area are now familiar with this code requirement and should have suitable outlets and coverplates on hand.</p> |
| | <p>Stickers</p>  | <ul style="list-style-type: none"> Not recommended Stickers can be applied to receptacles without permanent markings Stickers can fall off and therefore require periodic maintenance for the building operator | <p>Apply if permanently marked coverplates are not installed.</p> |