# Closed Door Racking

Motor control center solution
for uptime and reliability

schneider-electric.us/CDR

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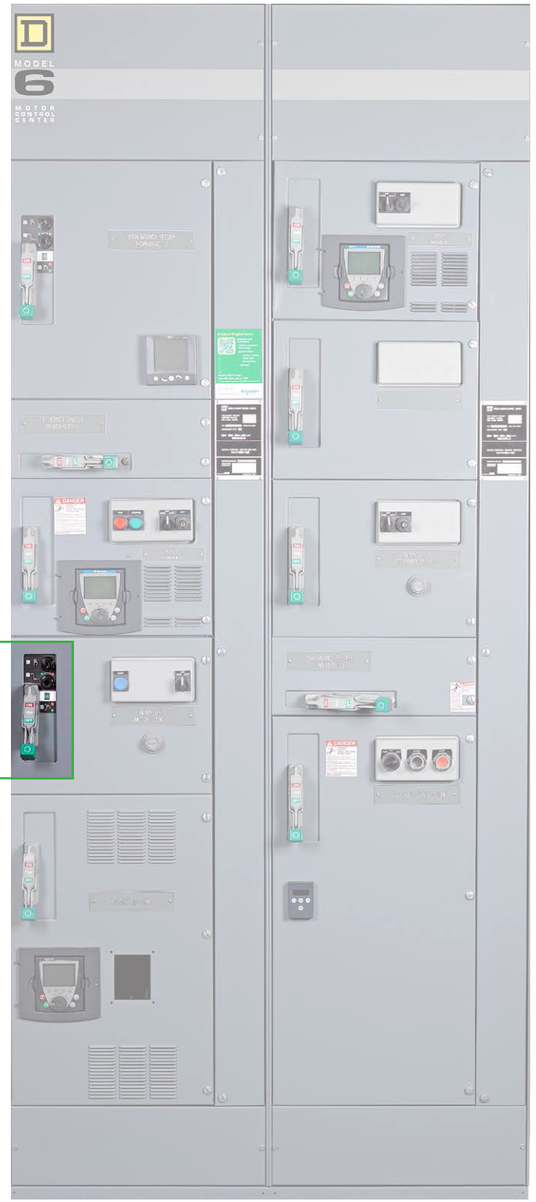
by Schneider Electric

# Closed Door Racking

Schneider Electric has designed a solution to enhance uptime by disengaging and isolating the motor control center (MCC) bucket from the power bus before opening the door. This solution is called Closed Door Racking, or CDR.

# Solution for increasing uptime and reliability

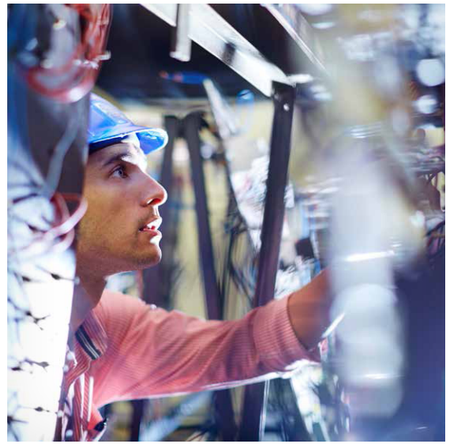
Like you, Schneider Electric views personnel safety with utmost importance followed by equipment protection, ease of operation, robustness, and flexibility. Our equipment is built to provide many years of service in clean industrial applications, as well as notoriously harsh environments, such as oil and gas, water and wastewater, food and beverage, and mining. Schneider Electric has designed a solution for uptime and reliability in our MCC called Closed Door Racking (CDR). The CDR device will disengage or engage the line side bus stabs of the MCC bucket with the door closed with approximately 12 revolutions of the racking handle.

## Arc flash hazards

Most arc flash events occur when maintenance is being performed on energized equipment. An arc flash hazard is defined as “a dangerous condition associated with the possible release of energy caused by an electric arc.”

An arcing fault is where short circuit current flows through hot ionized conductive gas from phase-to-phase or from phase-to-ground. (See NFPA 70E and IEEE 1584.)

Because of the high levels of fault current typically associated with electric power distribution systems, these arcing faults carry high levels of energy, releasing heat and pressure into the environment, which acts like an explosion.



Schneider Electric recommends placing electrical equipment in an electrically safe work condition before work is done on or near it. While this is also the basic requirement in NFPA 70E, that standard does allow for some exceptions to this general rule. If any workers are to be exposed to flash or shock hazards, they should wear appropriate PPE and employ proper safe work practices based on the results of the risk assessments performed prior to work. See NFPA 70E for more details.





# Solution for increasing uptime and reliability

## Arc flash occurrences

Five to 10 arc flash events occur in electric equipment every day in the United States, according to statistics compiled by CapSchell, Inc., a Chicago-based research and consulting firm that specializes in preventing workplace injuries and deaths. This number doesn’t include the unreported cases or near misses estimated to be many times this number. Instead, these reported incidents only involve injuries so severe that the victims required treatment from a special burn center.

## Designed reliability

All metal handle clearly indicates status, including a “tripped” circuit breaker. The racking mechanism is constructed using all metal components for a long, dependable life.

The back, side, and bottom plates of our MCC bucket are painted white, allowing greater visibility of components.

By using the remote racking device, the disconnect is controlled by maintenance personnel from outside the arc flash protection boundary of the MCC.

The bus stabs are protected during the entire process with integral shrouds that not only help align the stabs, but protect them when the bucket is outside the MCC section undergoing maintenance or being moved to another location in the MCC.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## Innovative features

### How it works

The CDR unit is operated from the outside of the MCC (with the door closed and the circuit breaker operator mechanism in the off position). By pressing the CDR pushbutton and inserting the racking handle into the racking handle socket, the internal mechanism draws the stabs away from or into the vertical bus with a clean, direct movement in only 12 revolutions.

### Construction

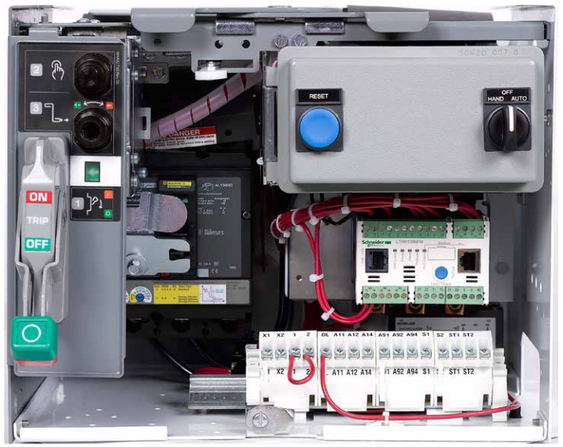
- Interlocks to help prevent unintended operation
- Racking mechanism — Sealed all-metal construction for long, dependable life
- Color-coded “Stabs Disengaged” or “Stabs Engaged” symbols are visible through the indicator window
- On-front status indicator
- All metal handle clearly indicates status, including a tripped circuit breaker
- The interior walls of the solid bottom, side, and rear plates are painted white for optimal visibility
- IPXXB barrier to prevent access to live vertical bus when the CDR is engaged

### Simplicity of design

- 12 revolutions to engage or disengage
- No extra tools or tooling needed
- Same footprint/space requirements as standard bucket
- Rack with any power driver using any 10 mm hex bit
- No maintenance required on CDR racking mechanism, which means no regreasing

### Flexibility

- Available for standard, arc-resistant, and intelligent MCCs
- Starters sizes 1 – 4, Altistart™ 22 and 48, Altivar™ 61 and 71
- Compatible with Model 5 legacy MCCs
- NEMA Type 12 (indoor) certification
- RoHS and REACH compliant — Green Focused




### Backward compatibility is crucially important

Available for new MCC construction and existing MCC bucket replacement





# Closed Door Racking

## Operation

### Two different ways to operate CDR device at the front of the MCC


Racking handle
(same as Masterpact™ NT/NW breakers)


Electric screwdriver
(10 mm hex with 10N-m torque)

The NFPA 70E safety standards note that one of the methods to reduce the exposure of high-level energy sources is remote racking. The remote racking device provides maintenance personnel the ability to rack an MCC bucket from a remote location. This allows the personnel to be clear of the arc flash boundary area.

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For more information, call 888-SQUARED (888-778-2733), contact your local Square D™ by Schneider Electric authorized distributor, or visit schneider-electric.com/us.

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