



Receiving, Handling, and Storing Motor Control Centers

Bulletin Number 2100

Topic	Page
Summary of Changes	1
Receiving	1
Standard Packing and Shipping	1
Export Packing and Shipping	2
Remove Shipping Bracket and Install Bottom Closing Plate	4
Handling	4
Storing	7

Summary of Changes

This publication contains new and updated information as indicated in the following table.

Topic	Page
Updated standard pack table, standard shipping and export shipping skid figures.	2 and 3

Receiving

IMPORTANT Delivery of equipment from Rockwell Automation to the carrier is considered delivery to the buyer. The carrier becomes liable for any damage that occurs during transit. It is then the buyer's responsibility to notify the proper party if damage is found. The buyer may forfeit any right to recovery for loss or damages by failing to comply with the following steps.

1. Upon delivery of the motor control center, inspect the shipment for lost items and any damage that may have occurred during transit. If the package appears to be damaged, it may be necessary to unpack the equipment and inspect it for further damage.
2. In the event that there is evidence of loss or damage, the buyer must follow this procedure:
 - Note on the delivery receipt that the equipment being received is damaged.
 - Contact the carrier that made the delivery and schedule an inspection.
 - Inform the local Rockwell Automation representative that the equipment is damaged.
 - Retain all product packaging for review by the carrier's inspector.
 - Concealed damage must be reported to the carrier and the local Rockwell Automation representative within 24 hours.
 - Rockwell Automation Field Service Engineers are not able to determine the degree of damage or recommended repairs. Only LVMCC Post Shipment Technical Support can make recommendations that will be supported by Rockwell Automation and the LVMCC Business unit.

For further assistance, contact Rockwell Automation support at (440) 646-5800. Navigate through the call tree by selecting option 2 for Allen-Bradley products, option 5 for motor control centers, and then option 1 for hardware support.

Standard Packing and Shipping

- As standard, CENTERLINE® MCCs are shipped upright in shipping blocks of one to three front-mounted sections or two to six back-to-back sections.
- Each shipping block of an MCC is provided with a lifting angle. The lifting angle is optional on NEMA Type 3R and Type 4 MCCs.
- Each vertical section in a shipping block is bolted to the shipping skid and covered with clear plastic wrap. Equipment that extends from the structures is also protected with the use of cardboard spacers. Protection is for upright shipping and is not waterproof or water-resistant. If necessary, other types of packaging are available. All MCC shipping blocks are labeled with customer shipping information, handling/safety instructions, and other special labels.
- Any unattached items, such as splice kits and installation hardware, are typically boxed, labeled, and packed together with the MCC. During receiving and handling, check for any boxed items that are not packed together with the MCC.

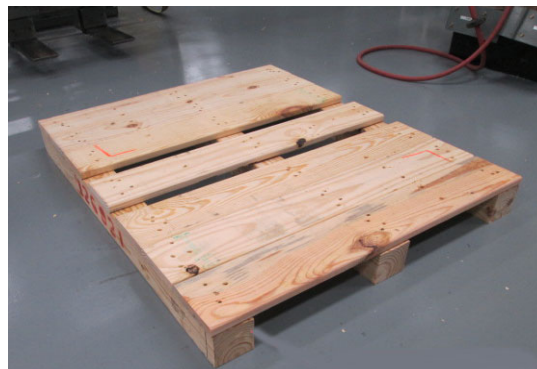
- As an option, desiccant packs are available for purchase for the evaporation of moisture in section during shipment. Seven packs are used per section.
- Unit orders are packed and shipped in boxes complete with shipping and customer information, and are placed in shipping skids if necessary.
- All standard shipping skids are heat-treated to meet government transport regulations.
- For standard truck freight, one strap is used to secure each individual shipping block.
- For customer pickups, we recommend that you bring and use an appropriate number of buckle and ratchet straps.
- For truck shipments, the number of shipping blocks that you can load into a truck depends on the dimensions of the shipping block. The typical trailer length is 53 ft. See the table for weights and dimensions.

Standard Pack: Transportation Weight and Dimensions (est.)

Sections ⁽¹⁾	Weight (lb)	Dimensions (LxWxH, in.) ⁽²⁾		
1 Section	550	43	36	98
2 Section	850	43	36	98
3 Section	1325	63	36	98
2 Back-to-Back, 15 in. Deep	900	43	41	98
4 Back-to-Back, 15 in. Deep	1350	43	41	98
6 Back-to-Back, 15 in. Deep	2100	63	41	98
2 Back-to-Back, 20 in. Deep	1370	43	51	98
4 Back-to-Back, 20 in. Deep	1850	43	51	98
6 Back-to-Back, 20 in. Deep	2400	63	51	98
1 Main ACB, 35 in. Deep	1700	60	44	98

(1) Optional bottom mounting channels supplied loose and bolted to skid.
 (2) The height of 98 inches includes shipping skid and 2.5 inches removable lifting angles.

Standard Shipping Skid - Forklift Opening Height 3.5 in.



Standard Packing and Shipping Examples

- MCC Section with Standard Packing (Front and Side) and MCC Section with Standard Packing and Unattached Item (Splice Kit)



- MCC Sections Loaded and Secured and Boxed Units for Truck Delivery



Export Packing and Shipping

- A maximum of three vertical sections standing upright can be shipped with export packaging together in one block.

- The MCC is bolted to a skid and wrapped in poly wrap suitable for occasional water-spray; a wooden frame and chipboard surround the sections. All MCC export packing and crating is labeled with customer shipping information, handling/safety instructions, and other special labels.
- Any unattached items, such as splice kits and installation hardware, are typically boxed, labeled, and packed together with the MCC. During receiving and handling, please check for any boxed items that may have not been packed together with the MCC.
- As an option, desiccant packs are available for purchase for the evaporation of moisture in section during shipment. Seven packs are used per section.
- Unit orders are packed and shipped in boxes complete with shipping and customer information, and are placed in shipping skids if necessary.
- All export shipping skids and wood crating are heat treated to meet government and international export regulations. Plastic export skids are preferred to facilitate shipping clearance.
- Export packaging is not watertight, waterproof, or intended for long-term storage.
- Extended storage may require space heaters and other considerations. Export packing adds extra weight to the shipping block.
- For truck shipments, the number of shipping blocks that you can load into a truck depends on the dimensions of the shipping block. The typical trailer length is 53 ft. See the table for weights and dimensions.
- For truck shipments, the forklift opening of the export shipping skid is 2 in. to preserve the 98 in. height standard needed to ensure that shipping blocks fit inside the truck during loading.
- Air and ocean freight is dependent on the logistics services used and the shipping destination.
- MCCs delivered by air or ocean freight use the same export packing and crating as those delivered by truck.

Export Shipping Skid - Forklift Opening Height 2 in.



Export Pack: Transportation Weight and Dimensions (est.)

Sections	Weight (lb)	Dimensions (LxWxH, in.) ⁽¹⁾		
1 Section	770	44	37	98
2 Section	1450	44	37	98
3 Section	1700	64	37	98
2 Back-to-Back, 15 in. Deep	1150	44	42	98
4 Back-to-Back, 15 in. Deep	1600	44	42	98
6 Back-to-Back, 15 in. Deep	2410	64	42	98
2 Back-to-Back, 20 in. Deep	1620	44	52	98
4 Back-to-Back, 20 in. Deep	2160	44	52	98
6 Back-to-Back, 20 in. Deep	2710	64	52	98

(1) Height of forklift opening is two inches. The height of 98 in. includes the height of shipping skid and crating.

Export Packing and Shipping Examples

- MCC Section with Export Packing and Crating



- MCC Sections Loaded and Secured for Delivery and Boxed Units with Plastic Export Skid

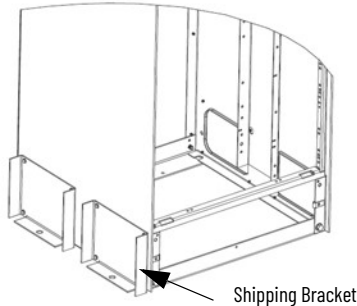


Remove Shipping Bracket and Install Bottom Closing Plate

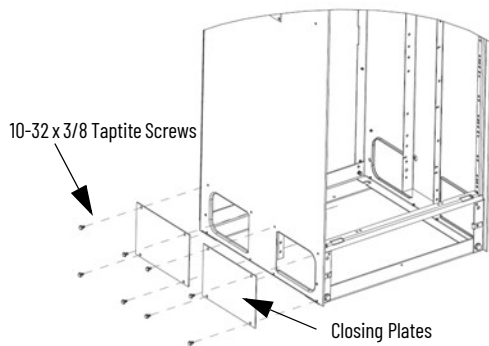


ATTENTION: Disconnect all sources of power to the motor control center before closing plate installation.

1. Locate the closing plate kit in the cabinet.
2. To remove the shipping brackets, remove the screws and discard the brackets.



3. To assemble the closing plates, use the 10-32 x 3/8 taptite screws and tighten to 32 lb•in (3.6 N•m).



Handling



ATTENTION: Motor control centers are top- and front-heavy. To avoid personal injury and structural damage to the motor control center, never attempt to lift or move the motor control center by any means other than those listed in this publication.

These guidelines are provided to help avoid personal injury and equipment damage during handling and facilitate moving the motor control center at the job site.

Due to varying motor control center configurations, a number of different shipping skids are used. To prevent distortion and minimize tipping of the motor control center during the moving process, keep the shipping skid bolted to the motor control center until the motor control center is delivered to its final installation area.

Handle the motor control center carefully in order to avoid damage to the components, sections, and finish. Keep the motor control center in an upright position. During shipment, do not tip or lay flat the motor control center. Before moving the motor control center, make sure that the route is clear of all obstructions and that fellow workers are a safe distance away.

Only a qualified person, as defined by NEMA standards, can handle the motor control center. For this definition and other references on the handling of motor control centers, see NEMA standards publication number ICS 2.3, Instructions for the Handling, Installation, Operation, and Maintenance of Motor Control Centers.

Use a Forklift Truck

Standard motor control centers, front-mounted (15 in. or 20 in. deep) in 20...60 in. widths, have shipping skids that facilitate the insertion of lift truck forks, with fork access from the narrow end.

Non-standard motor control centers have flat shipping skids. Forklift flat shipping skids from the front or broad side. When you use a forklift on a flat shipping skid, use a pry bar (Johnson bar) to lift the skid enough to insert the forks under it.

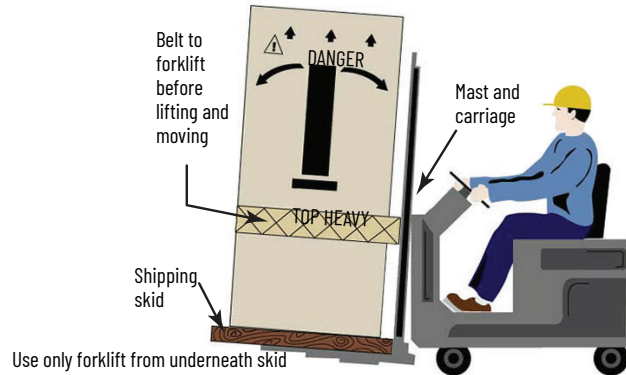
1. Verify that the forklift truck can handle the weight and size of the motor control center safely.
2. Forklift only from underneath the shipping skid, by using the skid to support the load.

- a. Carefully position the motor control center on the forks for proper balance, noting that motor control centers are top- and front-heavy.
 - b. Make sure that the forks support the load.
 - c. Keep the load against the carriage.
 - d. Tilt the load backward toward the mast of the forklift truck.
3. Use a belt to secure the motor control center to the lift truck.

IMPORTANT Start and stop the lift truck gradually and slowly and avoid jerky movements. When traveling with the load, drive slowly with the forks carried as low as possible, consistent with safe operation.

For further information on the use of forklift trucks, refer to National Safety Council Data Sheet I-653.

Figure 1 - Use a Forklift Truck to Move a Standard Motor Control Center



Overhead Lifting

Overhead lifting provides a convenient method for moving motor control centers. This handling method is recommended for motor control centers supplied with lifting angles (including NEMA Type 3R construction with optional lifting angle). See [Figure 2](#) and follow the overhead lifting procedure.

1. Attach rigging to lifting means.



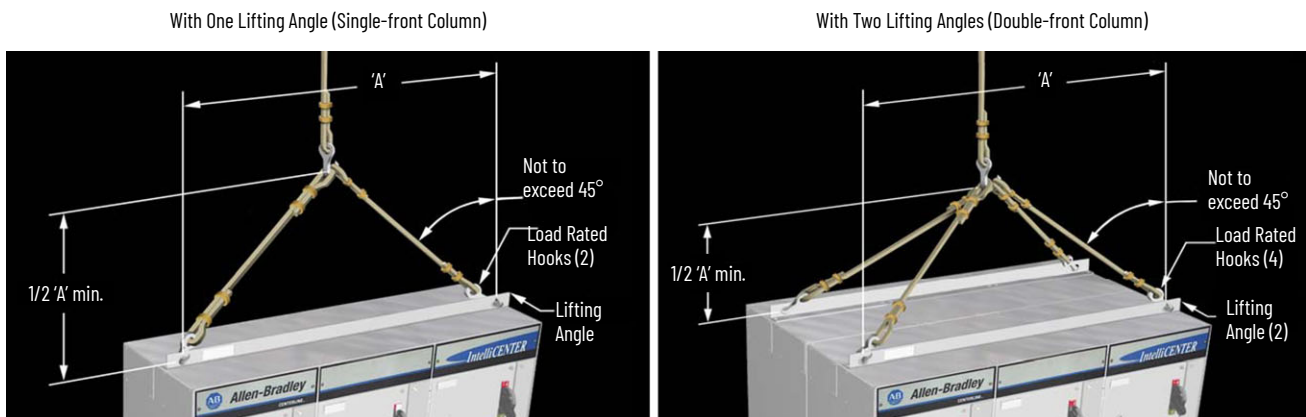
ATTENTION: Verify that the load rating of the lifting device is sufficient to handle the load safely. See the shipping weights on the packing slip enclosed in the shipment.

2. Do not pass ropes or cables through the support holes in the lifting angle. Use slings with load-rated hooks or shackles.
3. Select or adjust the rigging lengths to compensate for any unequal weight distribution of the load and support the motor control center in an upright position.
4. Reduce tension on the rigging and compression on the lifting angle by ensuring the angle between the lifting cables and vertical plane does not exceed 45°.



ATTENTION: Some motor control centers contain heavy, mounted equipment, such as transformers, that could be adversely affected if tilted.

Figure 2 - Overhead Lifting of a Motor Control Center



Lifting Sling

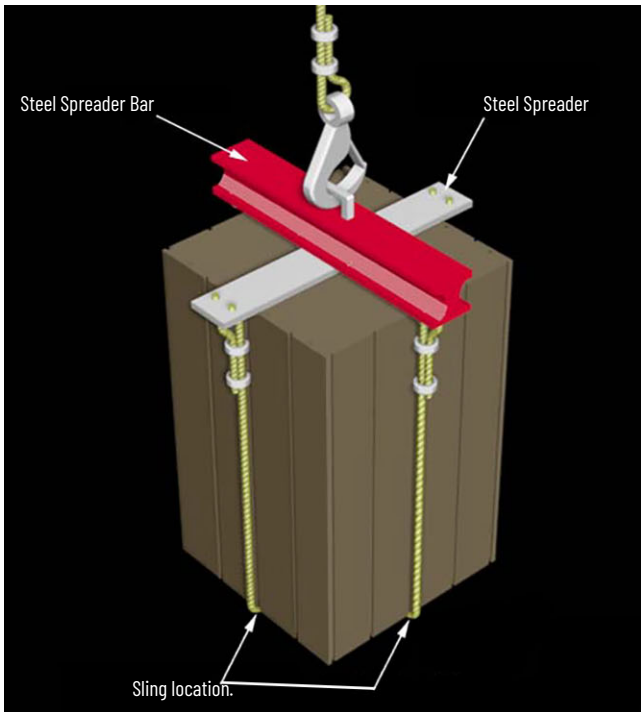
The use of a lifting sling is the preferred method for overhead lifting of export packaged sections, but you can use this method for all types of sections, including NEMA Type 3R without a lifting angle. See [Figure 3](#) and follow the lifting sling procedure.

1. Place the lifting sling under the shipping platform.
2. The spreader bar must have a larger span (overhang) than the motor control center load.
3. Carefully stabilize the motor control center during handling.

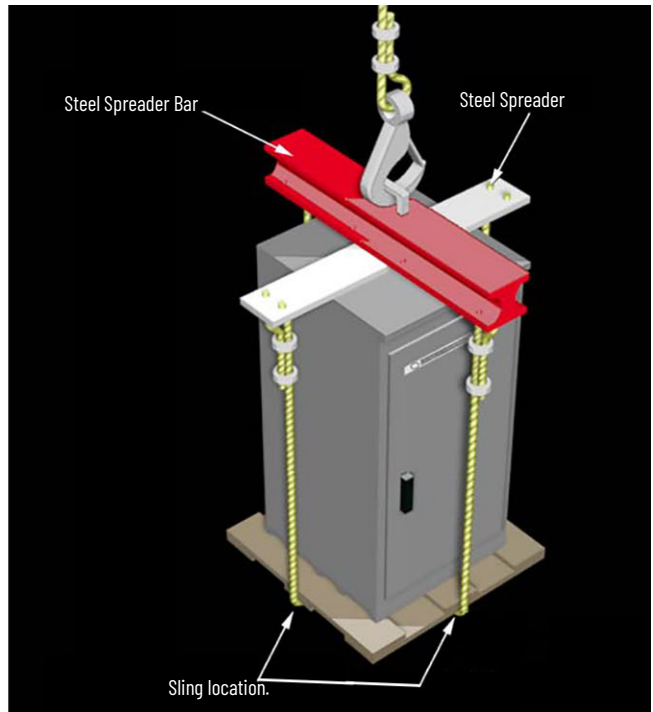
IMPORTANT All rigging must be designed to support the load (see the shipping weights) with the appropriate safety factor.

Figure 3 - Lifting Sling a Motor Control Center

Lifting Sling on Export Packaged Motor Control Center



Lifting Sling on Motor Control Center Without Lifting Angle



Rod or Pipe Rollers

IMPORTANT Sling must be placed under skid and located at cross member of the skid.

With the aid of pinch bars, pipe rolling provides a simple method of moving motor control centers on one floor level if there is no significant incline. This method of handling can be used for all types of sections. See [Figure 4](#) and follow these steps.

1. Carefully ease the shipping platform over the pipes until the pipes support the full weight of the motor control center.
2. Roll the motor control center to its designated location.



ATTENTION: Use extreme caution to steady the load and prevent it from tipping.

Figure 4 - Pipe Rolling a Motor Control Center with Back-to-Back Construction



Storing

If it is necessary to store the motor control center for any length of time, take the following precautions:

- Wrap the motor control center in a covering of heavy-duty plastic or similar material to help prevent the entry of dirt and dust.
- Store in a clean, dry place motor control centers not installed and energized immediately. Maintain a storage temperature between $-30...+65$ °C ($-22...+149$ °F). If the storage temperature fluctuates or humidity exceeds 60%, use a space heater to prevent condensation. We recommend that you store a motor control center in a heated building that offers adequate air circulation and protection from dirt and water.
- Motor control centers that are designed for indoor applications do not have sufficient packaging for outdoor storage. If they are to be stored outdoors, install temporary electrical heating to help prevent condensation and add packaging for protection from the outside elements. A space heater that is rated at 200 watts per section is adequate for the average motor control center. Remove all loose packaging and flammable materials before you energize space heaters.
- Keep dry internally all unenergized motor control centers for outdoor use by installing temporary heating or energizing optional self-contained space heaters.
- You can order space heater and thermostat kits (kit number 2100-NH1) from your local Rockwell Automation sales office or Allen-Bradley distributor.

Rockwell Automation Support

Use these resources to access support information.

Technical Support Center	Find help with how-to videos, FAQs, chat, user forums, Knowledgebase, and product notification updates.	rok.auto/support
Local Technical Support Phone Numbers	Locate the telephone number for your country.	rok.auto/phonesupport
Technical Documentation Center	Quickly access and download technical specifications, installation instructions, and user manuals.	rok.auto/techdocs
Literature Library	Find installation instructions, manuals, brochures, and technical data publications.	rok.auto/literature
Product Compatibility and Download Center (PCDC)	Download firmware, associated files (such as AOP, EDS, and DTM), and access product release notes.	rok.auto/pcdc

Documentation Feedback

Your comments help us serve your documentation needs better. If you have any suggestions on how to improve our content, complete the form at rok.auto/docfeedback.





Waste Electrical and Electronic Equipment (WEEE)



At the end of life, this equipment should be collected separately from any unsorted municipal waste.

Rockwell Automation maintains current product environmental compliance information on its website at rok.auto/pec.

Rockwell Otomasyon Ticaret A.Ş. Kar Plaza İş Merkezi E Blok Kat:6 34752 İçerenköy, İstanbul, Tel: +90 (216) 5698400 EEE Yönetmeliğine Uygundur

Connect with us.    

rockwellautomation.com — expanding human possibility®

AMERICAS: Rockwell Automation, 1201 South Second Street, Milwaukee, WI 53204-2496 USA, Tel: (1) 414.382.2000, Fax: (1) 414.382.4444

EUROPE/MIDDLE EAST/AFRICA: Rockwell Automation NV, Pegasus Park, De Kleetlaan 12a, 1831 Diegem, Belgium, Tel: (32) 2 663 0600, Fax: (32) 2 663 0640

ASIA PACIFIC: Rockwell Automation, Level 14, Core F, Cyberport 3, 100 Cyberport Road, Hong Kong, Tel: (852) 2887 4788, Fax: (852) 2508 1846

UNITED KINGDOM: Rockwell Automation Ltd. Pitfield, Kiln Farm Milton Keynes, MK11 3DR, United Kingdom, Tel: (44)(1908) 838-800, Fax: (44)(1908) 261-917

Allen-Bradley, CENTERLINE, expanding human possibility, and Rockwell Automation are trademarks of Rockwell Automation, Inc. Trademarks not belonging to Rockwell Automation are property of their respective companies.



PN-698277

Publication 2100-IN040E-EN-P - June 2023 | Supersedes Publication 2100-IN040D-EN-P - June 2022
Copyright © 2023 Rockwell Automation, Inc. All rights reserved. Printed in the U.S.A.