Eaton – convincing in terms of safety, performance and operational availability.

MCC

Innovations for the Motor Control Center MCC

Powering Business Worldwide

Safe. Smart. Soft.

Eaton upgrades its proven Motor Control Center MCC with a number of technical innovations. For panel builders, this means reliable switchgear systems with the highest personnel and plant protection - while integrating the latest communication technology.

Openable front

With a metal thickness of 2mm at both the front plate and the support plate, the steel front plate provides maximum stability. Both parts are available with a RAL7035 coated structure (on request also in a special colour) with an IP31 and IP55 degree of protection, and are provided with right-hand hinges.

In addition, the bolting of the support front plates to the body results in an extremely solid and robust structure. Perfect water protection is guaranteed by a 2-component foam sealant (2-component polyurethane).

The doors are equipped with heavy duty hinges and handles as well as a double-bit lock (3 mm) as closure system. The body of the individual modules, all the electrical components and the mechanical lock can be used with both versions of the fronts (steel or plastic).

Advantages

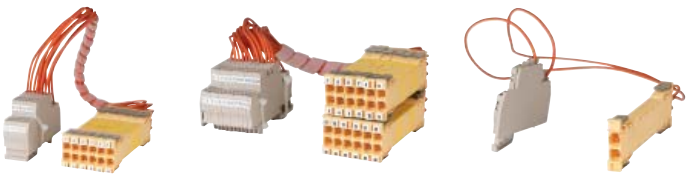
- **Front plates and doors can be opened at any time, even under normal operation conditions (with additional tools)**
- **Electrical components are accessible at all times and adjustable during ongoing operation**
- **Sturdy hinges at the fronts**
- **Stable structure with front plates and doors**
- **If necessary, additional sections can be added**

Coding system

The new coding system prevents accidental interchanging of drawout units by assigning each drawout unit to a particular shelf. Coding is performed using 5 fixable metal rollers which are tightly screwed on the shelf and on the underside of the body in the appropriate positions or combinations.

After applying the coding system it is thus impossible to position equal-height drawout units incorrectly.

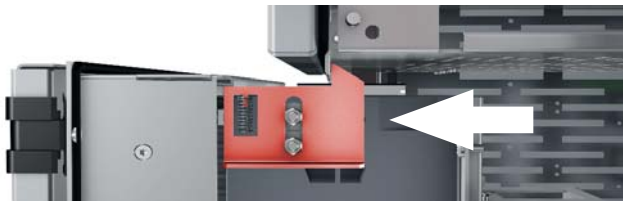
Control terminals with connection lines



As of now, 3 new assembly installation kits with 2-, 12- and 24-pole auxiliary current contacts are available. Included in the set is the appropriate wiring (orange colour, 0.75 mm 2) and 2-pole, double-level terminal blocks. Furthermore, a terminal side wall is included in the delivery of the 12- and 24-pole sets.

The side wall of the assembly installation kit is provided with four-square punchings through which the complete terminals package can be carried without prior disassembly. The matching recess is subsequently closed with AP45 (blank cover).

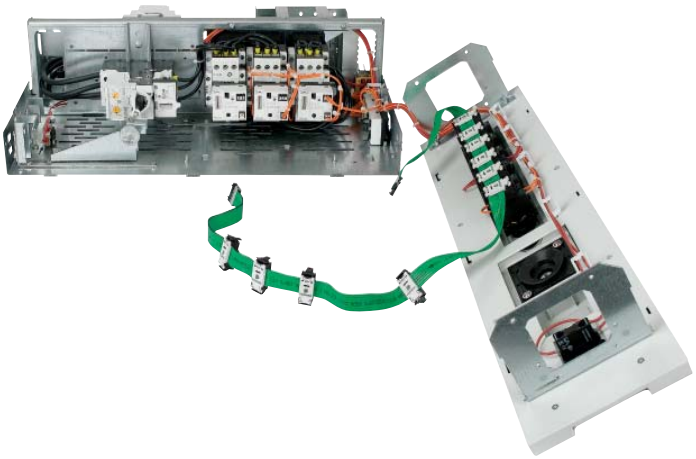
Catch hook



To prevent drawout units from being pulled completely out of the cabinet with a jolt, the newly developed catch hook can be used.

Thus, the drawout unit can be placed in the "Disconnect" position. To further pull out the drawout unit, it is sufficient to release the detent.

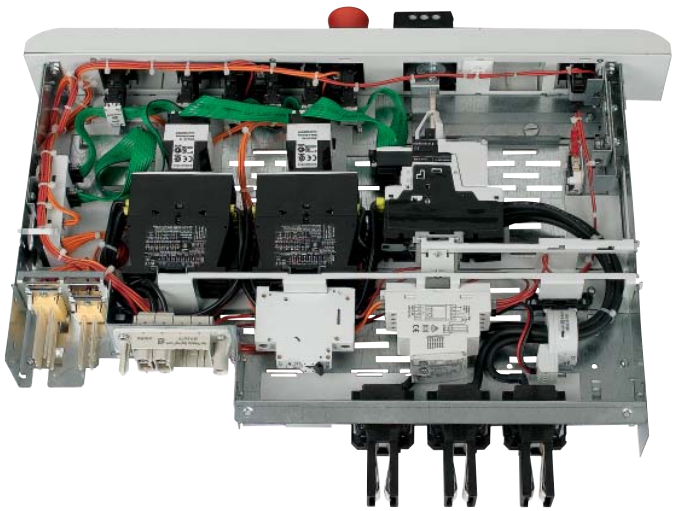
SmartWire-DT™



For communication within the control cabinet, Eaton's communication and connection system Smart Wire-DT™ is used.
It replaces the existing control wiring in the MCC drawout units and cabling for control and status information of the drawout units in the cabinet. Standard field bus systems such as Profibus-DP, CANopen, Modbus-TCP or Ethernet/IP allow data to be transferred from the control cabinet to the higher-level PLC.

Advantages

- **No downtime through early detection of errors**
- **Time and cost savings in control wiring**
- **Higher availability**
- **All parameters can be continuously recorded**
- **Complete tests of individual drawout units can be carried out with the SWD-Assist planning and startup software - without PLC**
- **Easy assembly and disassembly**
- **The connection of the power line wiring from the drawout unit to the cable terminal compartment is identical for all drawout unit versions (SWDT or conventionally wired ones)**



Continuously communicating – without conventional control wiring

- Smart Wire-DT™ replaces the conventional control wiring to operating elements, switchgear, circuit breakers, other inputs and outputs (such as auxiliary switches) as well as from drawout units to the PLC
- Data of all drawout units is transferred to the Fieldbus Interface via Smart Wire-DT™

Available drawout units

- Direct starters (0.06 – 160kW)
- Reversing starters (0.06 – 110kW)
- Star Delta starters (5,5 – 75kW)
- Power outgoer 3/4 p (16/20 - 400A)
- Soft starters up to 32A

Available drawout units with SWD

- Basic: Use of a conventional circuit breaker with thermo-magnetic release
  - Only status recorded
  - CB type: PKZ, NZM1-3
- Complete: Use of a circuit breaker with electronic release
  - Status, power, overload, settings are recorded
  - CB type: PKE12/32/65, NZM2-3 (ME/AE/VE) (with electronic release unit)

DS7 Soft Starter

AC motors are used as the ideal drive in various industrial and commercial machines. In many cases, however, direct starting or star-delta starting is not always the best choice. At least then it is time for soft starters to be used. With soft starters you do not have high starting currents or an abrupt insertion of full torque, but you can properly ramp up time, inrush current and torque.

The two-phase controlled DS7 soft starter is available in 2 sizes for applications in the power spectrum of 3 - 32A (1.1 and 15kW at 400V).

Typical application examples
- Centrifugal pumps
- Luggage conveyor belts
- Mixers

All components from one source

- **Circuit breakers: PKZM0, PKE12/32, NZM1-2**
- **Protection: DILM7/9/12 /17/25/32 (230V/AC, 24V/DC), DILA (24V/DC)**
- **Soft starter: DS7 size 1 (4A/7A/9A/12A), DS7 size 2 (16A/24A/32A)**

Versions
- Standard drawout unit
  - Circuit breakers with thermomagnetic release unit
  - Reversing contactor circuit with 230V/AC coil
  - Standard control wiring
- Basic version (A) with SmartWire-DT™ (SW-DT)
  - Circuit breakers with thermomagnetic release unit
  - Reversing contactor circuit with 24V/DC coil up to DILM32, 230V/AC coil up to DILM50, DILA (24V/DC)
  - Connection of the contactor circuit and components control wiring by means of SW-DT data cable (without circuit breaker)
- Complete version (B) with SmartWire-DT™ (SW-DT)
  - Access to all parameters
  - Circuit breaker with electronic release unit
  - Contactor circuit with 230V/AC coil up to DILM50, DILA (24V/DC)
  - Connection of the contactor circuit and components control wiring by means of SW-DT data cable

Technical data
Standard, basic version SW-DT-A, complete version SW-DT-B
- Direct-on-line (DOL) and Forward Reverse (FR)
- Power range of 1.5 – 15kW
- Assignment type 2
- Low cycle fatigue assessment 50kA and 80kA
- IP31 and IP55 degree of protection
- Ambient temperature 35°C
- Module height 75mm, 150mm, 225mm (drawout compartment)

Order data – MCC individual parts

Order no. per P.U. (P.U. = 1 set)

Metal fronts to be opened for drawout unit, PKZ design

Consisting of: front plate incl. locks, hinges, screw material and handles
A factory-applied foam gasket is used for sealing in IP55. Precuts for a total of 7 x RMQ-Titan command and signalling devices available up to a 22.5 diameter. Opening for the mechanical lock push-button available. In addition, holes/indentations for the door coupling rotary handle have been already set. If not all precuts are used, they must be sealed with blanking caps.
Please see MCC accessories.

	Height 75mm	Height 150mm	Height 225mm
Design IP31 ventilated	**XMW0306CDV** 172190 / 172334*	**XMW0606CDV** 172191 / 172335*	**XMW0906CDV** 172193 / 172319*
Design IP55 closed	**XMW0606CDC** 172182 / 172326*	**XMW0606CDC** 172183 / 172327*	**XMW0906CDC** 172185 / 172329*

Metal fronts to be opened for drawout unit, NZM design

BConsisting of: front plate incl. locks, hinges, screw material and handles
A factory-applied foam gasket is used for sealing in IP55. Precuts for a total of 7 x RMQ-Titan command and signalling devices available up to a 22.5 diameter. Opening for the mechanical lock push-button available. In addition, holes/indentations for the door coupling rotary handle have been already set. If not all precuts are used, they must be sealed with blanking caps.
Please see MCC accessories.

	Height 150mm	Height 225mm	Height 300mm	Height 450mm Ausnehmung für Hauptschalter-drehgriff im unteren Drittel	Height 450mm Ausnehmung für Hauptschalter-drehgriff ist mittig
Design IP31 ventilated	**XMW0606CDV-NZM** 172192 / 172318*	**XMW0906CDV-NZM** 172194 / 172320*	**XMW1206CDV-NZM** 172195 / 172321*	**XMW1806CDV-NZM-0** 172196 / 172322*	**XMW0606CDV-NZM-190** 172197 / 172323*
Design IP55 closed	**XMW0606CDC-NZM** 172184 / 172328*	**XMW0906CDC-NZM** 172186 / 172330*	**XMW1206CDC-NZM** 172187 / 172331*	**XMW1806CDC-NZM-0** 172188 / 172332*	**XMW0606CDC-NZM-190** 172189 / 172333*

Coding system

XMW-CP
172198

Control terminals with connection lines

2-pole terminal incl. connection cable (orange, 0.75 mm²) and 2-pole auxiliary current contacts	6 x 2-pole terminal incl. connection cable (orange, 0.75 mm²), end plate, 6 x 2-pole auxiliary current contacts and numbering	12 x 2-pole terminal incl. connection cable (orange, 0.75 mm²), end plate, 12 x 2-pole auxiliary current contacts and numbering
XMW-AC-1-2 171641	**XMW-AC-1-12** 171642	**XMW-AC-1-24** 171643

Catch hook

Consisting of: metal hooks, springs, screws

XMW-L
172177

Upgrade kits for SWD

Consisting of: various DIN rails and mounting brackets, adapted to the drawout unit height, including total screw material

Upgrade kit H = 75mm	Upgrade kit H = 150mm	Upgrade kit H = 225mm	Upgrade kit H = 300mm	Upgrade kit H = 450mm
XMW0306SWD 169875	**XMW0606SWD** 169876	**XMW0906SWD** 169877	**XMW1206SWD** 169878	**XMW1806SWD** 169879

Upgrade kit for Soft Starter

Consisting of: var. DIN rails incl. screw material

Upgrade kit H = 75mm	Upgrade kit H = 150mm	Upgrade kit H = 225mm
XMW0306SS 172204	**XMW0606SS** 172205	**XMW0906SS** 172206

Note

Article number xxxxxx

Eaton is dedicated to ensuring that reliable, efficient and safe power is available when it's needed most. With unparalleled knowledge of electrical power management across industries, experts at Eaton deliver customized, integrated solutions to solve our customers' most critical challenges.

Our focus is on delivering the right solution for the application. But, decision makers demand more than just innovative products. They turn to Eaton for an unwavering commitment to personal support that makes customer success a top priority.

For more information, visit **www.eaton.eu/electrical**

To contact an Eaton salesperson
or local distributor/agent, please visit
www.eaton.eu/electrical/customersupport

Eaton Industries (Austria) GmbH
Scheydgasse 42
1215 Wien
Austria

Eaton Industries Manufacturing GmbH
EMEA Headquarters
Route de la Longeraie
1110 Morges
Switzerland

Printed in Austria (01/14)
Publication number

Grafics: SRA
DigiPics, Lithos:
Print:

Powering Business Worldwide