CONNECTING COMPETENCE.

SCHRACK TECHNIK

CIRCUIT BREAKERS UP TO 6300A

MC – MOULDED CASE CIRCUIT BREAKERS UP TO 2000A
MO – AIR CIRCUIT BREAKERS UP TO 6300A

PROJECT DEVELOPMENT – A COMPLETE SOLUTION

SCHRACK TECHNIK is a leader in the area of energy and data technology. We offer optimised, coordinated systems and solutions for private, commercial and industrial applications.

Thanks to many years of experience and involvement in standardisation and a wide range of committees, we are in the position to keep you informed about the latest technological developments and how to achieve the best possible return on your investment in building technology.

Our specialized technicians can help you in many areas, such as choosing the right technology, planning and project realisation.

ENERGY TECHNOLOGY

ENCLOSURES AND CABINETS FOR ENERGY DISTRIBUTION, MODULAR PROTECTION DEVICES
MODULAR CONTROLLERS, SWITCHES, OVERVOLTAGE PROTECTION
FUSES, CONNECTION & CABLING TECHNOLOGY

INDUSTRY & PANEL BUILDING

RELAYS, TRANSFORMERS, METERS AND MEASURING EQUIPMENT
CIRCUIT BREAKERS AND SWITCH DISCONNECTORS, CONTACTORS AND MOTOR CONTACTORS
MAIN SWITCHES, CONTROL UNITS

BUILDING INSTALLATION TECHNOLOGY

SWITCHES AND SOCKETS, INSTALLATION MATERIALS
BUILDING SYSTEMS TECHNOLOGY
AND ACCESS CONTROL SYSTEMS

EMERGENCY LIGHTING & SYSTEMS

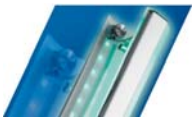
EMERGENCY LIGHTING
UPS SYSTEMS
COMPENSATION AND CO-DETECTION SYSTEMS

NETWORK TECHNOLOGY

COPPER AND FIBRE-OPTIC CABLING
ACTIVE COMPONENTS, NETWORK CABINETS
CABLING FOR DATA CENTRES

CABLES AND CONNECTIONS

PVC-, SINGLE-CORE, SHEATHED-, HOSE CABLES
PVC CONTROL LINES, REMOTE- AND FIRE ALARM CABLES
HIGH-CURRENT CABLES, COAXIAL CABLES, INDUSTRIAL CABLES, ELECTRONIC CABLES



LIGHT TECHNOLOGY

INDOOR AND OUTDOOR LIGHTING
TECHNICAL LIGHTING, DECORATIVE LIGHTING
SPECIAL LIGHTING, BULBS

GENERAL INFORMATION

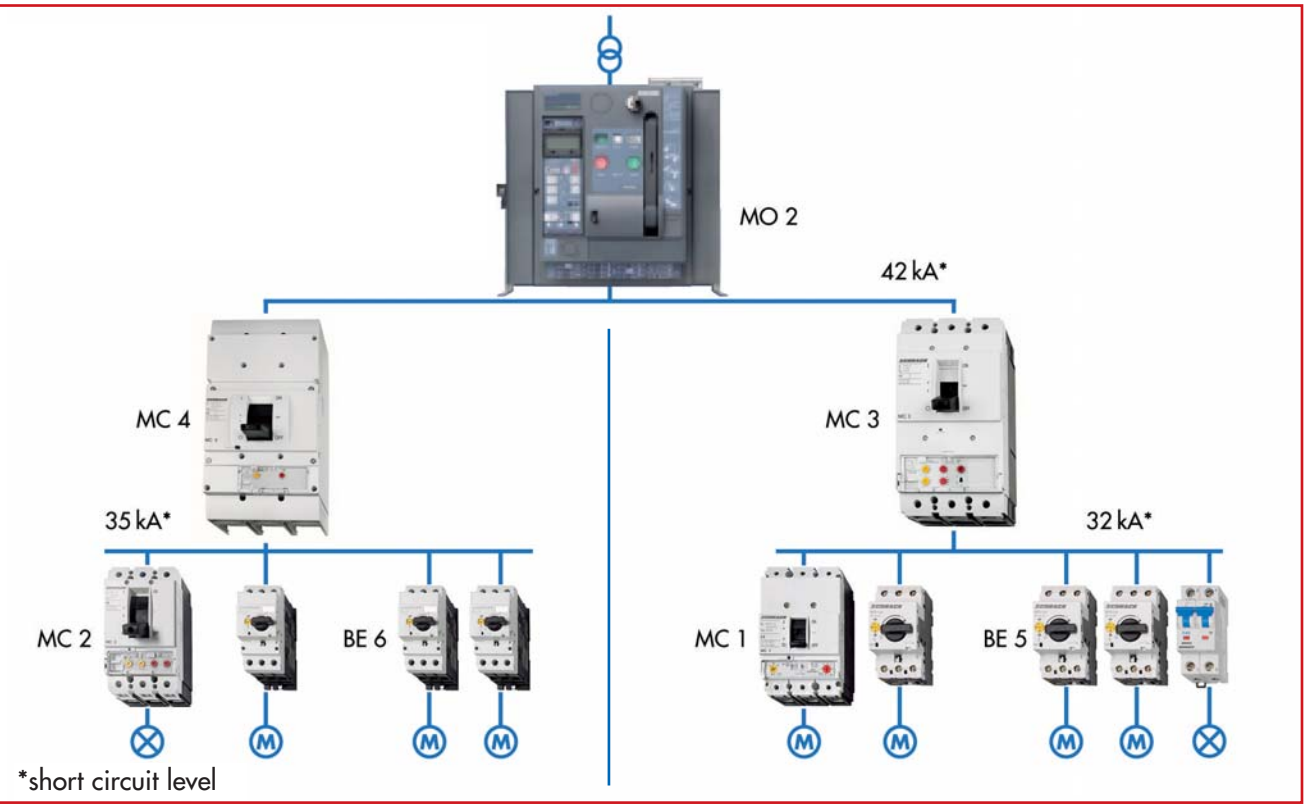
- All **dimensioned drawings** are displayed within the confines of available space on the page and are only intended as a guide.
- All **circuit diagrams** are schematic wiring diagrams which are intended to allow better understanding of the function, and will need to be edited/added to during the course of project planning.
- All **images** represent samples of the product and are intended for information purposes only.

Unless otherwise stipulated, the current version of the General Terms of Delivery issued by The Association of the Austrian Electrical and Electronics Industries "FEEI" shall apply.

No liability for errors in text, type or images; we reserve the right to make changes to technical specifications of the product range.

The user information contained in this catalogue reflects the opinion of the company at the time of writing. The information contained in it was assembled on the basis of published norms, specialist industry presentations, specialist literature and in-house expertise. The content is for informational purposes only and has no validity in law.

CIRCUIT BREAKERS – OVERVIEW



SELECTIVITY

Thanks to the way they are designed, MC circuit breakers have a high level of selectivity which enables you to construct a selective system.

OPTIMUM PROTECTION RANGE BETWEEN 0,16 A AND 6300 A

With the MC and MO circuit breaker concept, SCHRACK is now able to combine trusted technology with modern features. These circuit breakers work perfectly together and can communicate with each other. MC and MO circuit breakers have modern communication functions. They provide optimum protection between 0,16 A and 6300 A. MC and MO are part of a generation of circuit breakers whose modularity allows the use in any power distribution application. These circuit breakers are cost competitive providing flexibility for engineering and can also be integrated into higher-level system solutions. MC and MO circuit breakers are manufactured to international standards. Combining intelligent open and compact devices together with communication systems giving many benefits and solutions.

CONTINUOUS COVERAGE BETWEEN 0,16 A AND 6300 A

MC and MO cover a rated current range from 0,16 A to 6300 A. With their four classes of switching capacity up to 150 kA, they provide a safe and, at the same time, the most efficient solution – from standard applications to the most demanding of requirements.

COMMUNICATION OPENS UP NEW POSSIBILITIES

MC and MO circuit breakers open up new possibilities for power distribution and automation with their communication capability. They record all the important data you need, indicate them locally and can pass this data on to higher level systems. In this way, system transparency is increased and reaction times to critical states such as over-current, phase imbalance or phase failure are reduced. Targeted intervention can help avoid system breakdowns and preventative maintenance can be planned. This enhances system and machine availability, avoiding costly production downtimes.

SYSTEMS WITH CIRCUIT BREAKERS – THE BENEFITS

- Circuit breakers offer protection, contacting and disconnection capabilties.
- Contacts always use 3-pole triggering, thus preventing 2-phase motor operation.
- In the event of the circuit breaker being triggered by a fault, the circuit breaker is simply reset once the fault is removed.
- Remote on/off switching including appropriate indications is easy.
- Ageing / replace all three fuses / characteristic curve shift.

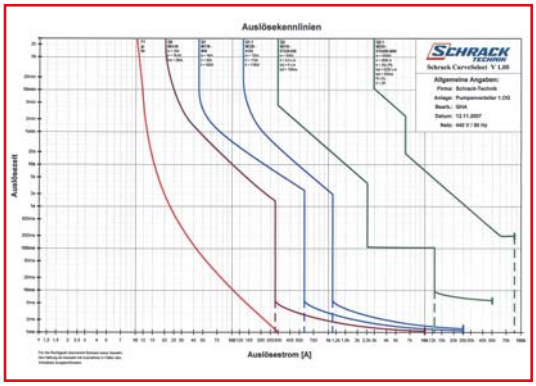
A COMPACT DESIGN IN 4 FRAME SIZES FOR HIGH-PERFORMANCE APPLICATIONS

MCCBs - Enclosed compact circuit breakers from 15 to 2.000 A with only four frame sizes. These circuit breakers can be used universally – from the smallest of service distribution boards, to machine controls or motor starter combinations, up to large energy distribution systems with a maximum short-circuit breaking capacity of 150 kA. Special versions are available for smaller power ratings with phase failure sensitivity protection for motor and motor-related applications. The range of CBs is rounded off nicely with switch actuation using toggle-lever, rotary- or remote operators. Shunt-, undervoltage- and earth fault- and residual-current releases complete the range. The MCCBs can be used universally for DC applications thanks to their high utilization category, DC-3: ranging from photovoltaics to emergency generator batteries to sophisticated switching and protection of DC shunt-wound motors in reverse- and jog mode. The new MC-A circuit breakers are the ideal protection devices for DC current networks with operating voltages up to 750 V and operating currents up to 500 A. The feature with thermomagnetic release systems guarantees exact r.m.s detection of operating and fault currents. These contacts feature a double break system which enables safe switching in high-energy networks with shortcircuit currents of up to 70.000 amps.

UNIFORM ACCESSORIES / UNIVERSAL CONNECTION SYSTEM

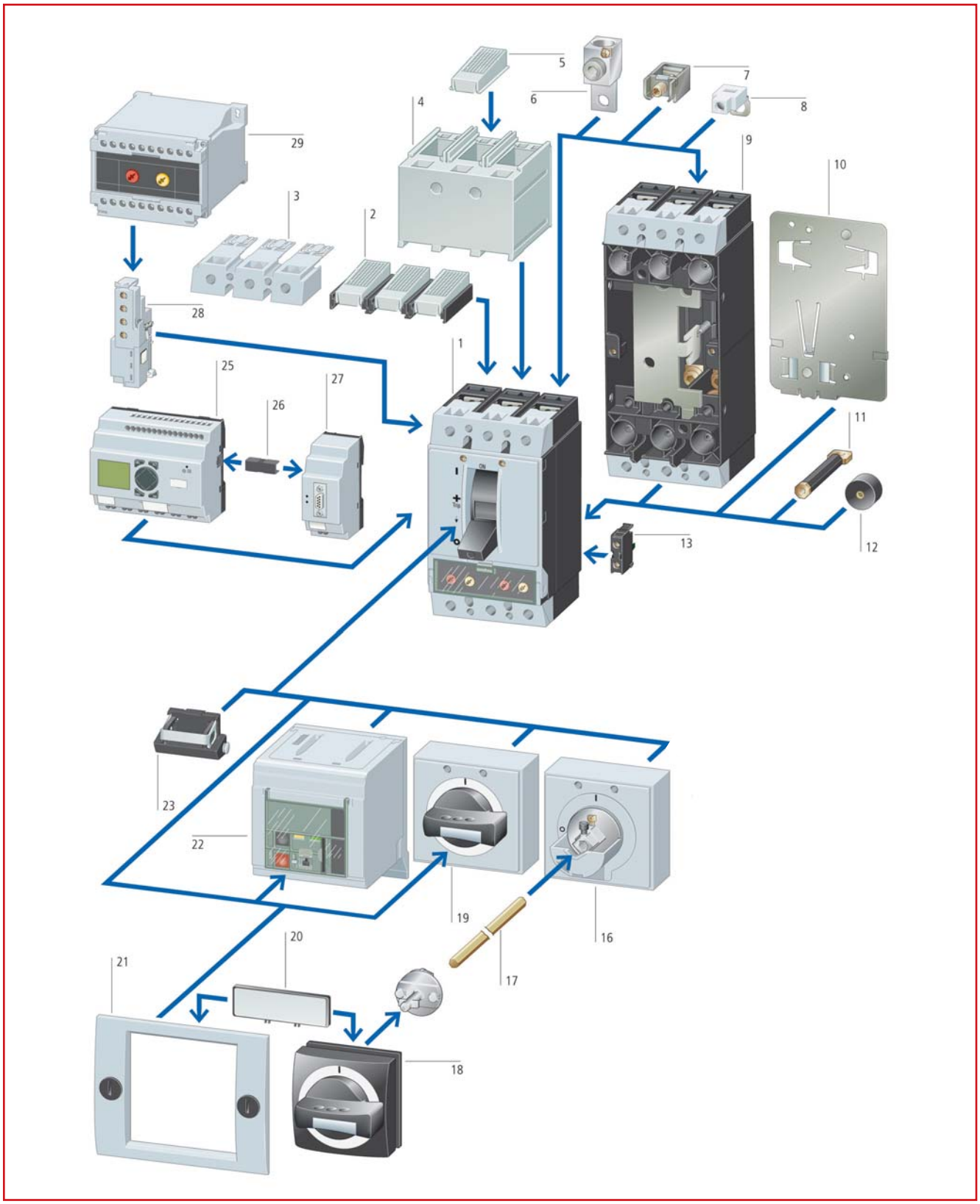
Front mountable retrofitable accessories. The installation location is the same for all frame sizes. The auxiliary contacts and trip-indicating modules are contact elements part of the RMQ Titan range of control switches. They are available in screw- or tension spring technology. This reduces assembly times and cuts costs. Effective shunt- and undervoltage releases, also available combined with earlymake auxiliary contacts for Emergency Stop functions or load-shedding circuits offer elegant solutions for a broad spectrum of applications. The connection features of MCCBs enable you to respond effectively to your system's demands, whatever they may be. Whether using copper or aluminium cables or copper busbars, these MCs have the right solution for any connection type. An add-on part gives the circuit breaker IP (finger-proof) protection.

EASIER VISUALISATION, COMPARISON AND DOCUMENTATION OF CHARACTERISTIC CURVES



This characteristic curve program - available free-of-charge - supports the documentation of circuit-breakers used in completed switchgear systems. All setting parameters are easy to set, display in graphical form and print with the tripping characteristics. A direct comparison of MC circuit breaker with MO circuit breaker in combination with H.R.C. fuses for example enables you to assess the selectivity class for the overload- and time-delayed overcurrent range.

MCCB – SYSTEM OVERVIEW



1. MC circuit breaker, MC.-PN, MC.-N Switch disconnector
3. Terminal cover
5. IPX2 Finger protection for cover
6. Tunnel terminal for Al cable
7. Box terminal
8. Control circuit terminal
9. Plug-in and withdrawable unit
10. Clip plate
11. Reverse-side connection
12. Spacer
13. Standard auxiliary contact, Trip-indicating auxiliary contact
16. Rotary operator with shaft support
17. Extension shaft
18. Door coupling rotary handle
19. Rotary handle with rotary operator
20. Type plate
21. Insulating surround
22. Remote operator
23. Toggle-lever interlock device
25. Communication module (DMI)
26. Data plug
27. Profibus interface
28. Voltage release or early-make auxiliary contact
29. Time-delay unit for voltage release

MO AIR CIRCUIT BREAKERS

NOMINAL CURRENT MAX 6300 A, 3 SWITCHING CAPACITY CLASSES, 6 ELECTRONIC RELEASES, 3- AND 4-POLE VERSIONS

MO air circuit breakers offer full coverage of the 630 - 6300A range with just three contact frame sizes. The nominal current of all contacts can be optimally adjusted to the expansion stage using rating plugs. The smallest rating plug has 250A and at that even with a setting range of 0.4 to 1xI_n.

STANDARD DIMENSIONS, EASY TO PLAN

The MO has a uniform frame height and -depth for all current ranges. Only the width of the circuit breaker varies, depending on the number of poles and the frame size. MOs for permanent installation and withdrawable models have identical widths.

CONNECTION SYSTEM

MO circuit breakers up to 5000A come with horizontal connections as standard. The MO 6300A is fitted with vertical connections. The following connections are available as optional extras: Vertical connections, front-side connections and flange connections.

RATED CURRENT MODULE

This replaceable module allows the user to reduce the nominal current of the device for optimal system adjustment, e.g. when commissioning a sub-system. The correct rating plug to choose is one which most closely matches the system's nominal current.

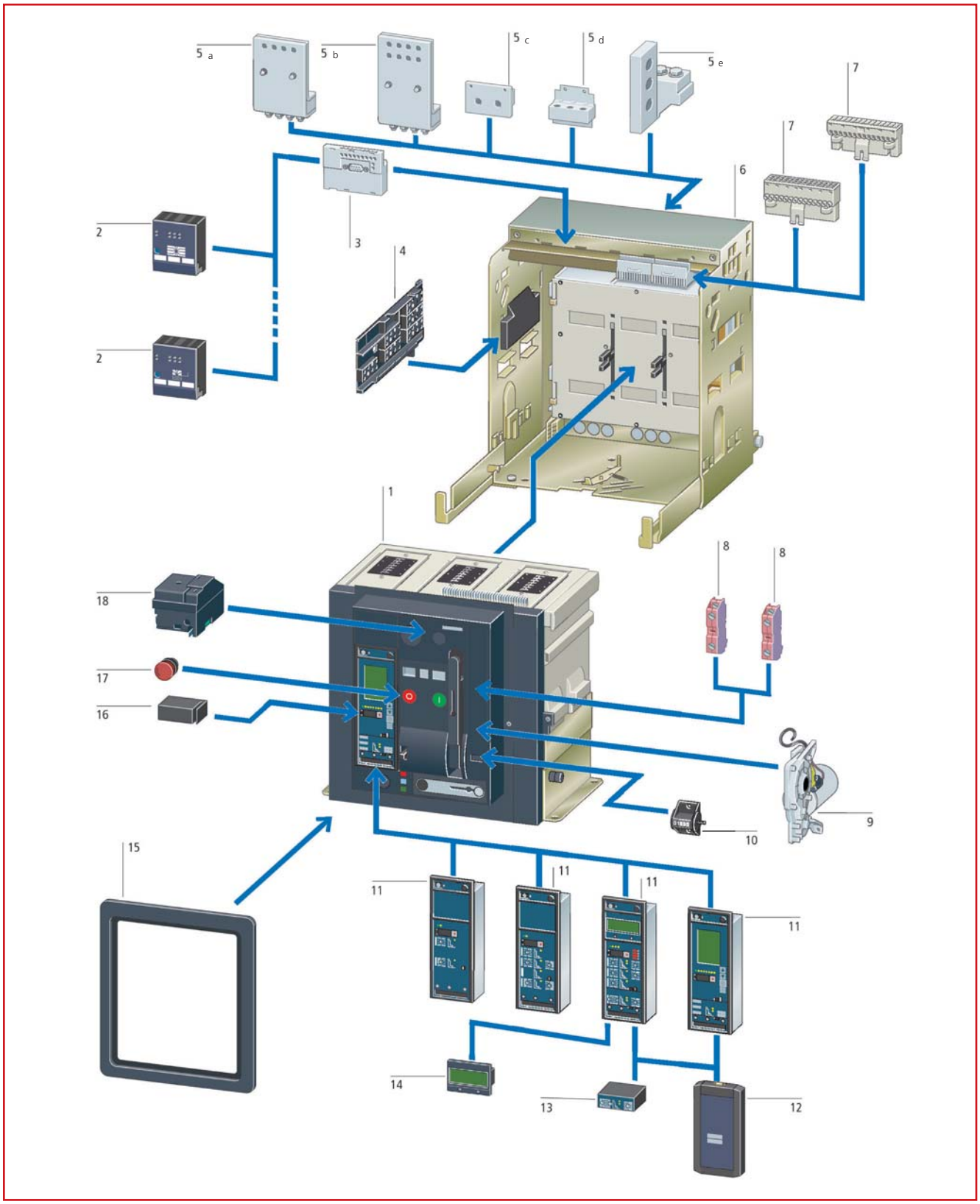
FRAME SIZE AND SHORT-CIRCUIT BREAKING CAPACITY

FRAME SIZE 1	FRAME SIZE 2	FRAME SIZE 3
250A	250A	
315A	315A	
400A	400A	
500A	500A	
630A	630A	
700A	700A	
800A	800A	
1000A	1000A	
1250A	1250A	1250A
1600A	1600A	1600A
	2000A	2000A
	2500A	2500A
	3200A	3200A
		4000A
		5000A
		6300A

RATED BREAKING CAPACITY
I_{cu} at AC 500V (kA) / I_{cu} at DC 300V (kA):

Frame Size 1: B = 55 kA, N = 66 kA
Frame Size 2: B = 55 kA, N = 80 kA
Frame Size 3: H = 100 kA

MO AIR CIRCUIT BREAKERS – SYSTEM OVERVIEW



1. MO circuit breaker, between 630A and 6.300 A
2. External expansion modules
3. Communication module for PROFIBUS
4. Position indicator contact: Module for withdrawable unit
5. Main connection elements:
   a. Front connection
   b. Front connection, double hole
   c. Flange connection
   d. Horizontal connection, rear-side
   e. Vertical connection, rear-side
6. Withdrawable unit
7. Control circuit plug
8. Auxiliary contact
9. Motor operator
10. Operating cycle counter
11. Electronic release
12. Parametric device
13. Earth-fault protection module
14. 4-line LCD display
15. Door sealing frame
16. Rated current module
17. EMERGENCY STOP mushroom push button
18. Closing release, voltage release

CONNECTING COMPETENCE.

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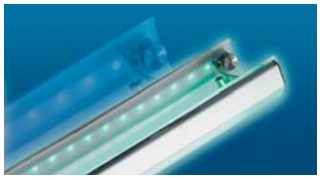

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