

SIEMENS



Totally Integrated Power – SENTRON

The 3VA Molded Case Circuit Breaker.

A complete system designed with you in mind.

www.siemens.com/3VA



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Totally Integrated Power

We bring power to the point.

Our products, systems, and solutions for the low- and medium-voltage range make power distribution efficient, reliable, and safe – in cities, infrastructure, buildings, and industrial plants. They can be linked to building and industrial automation, and are rounded out by comprehensive support throughout the entire lifecycle.

Within this framework, the 3VA molded case circuit breaker from the SENTRON portfolio is an integral component of cost-effective power distribution. It provides reliable protection of personnel and plants and is always the right choice for every field of application.



The 3VA molded case circuit breaker. A complete system designed with you in mind.

Set high standards when designing, planning, installing, and operating power distribution systems. Rely on a well-designed system: rely on the 3VA molded case circuit breaker.

As the 3VA molded case circuit breaker can be easily adapted to your individual needs, it provides optimal support during every phase of your project. Optimized in terms of selectivity and high breaking capacities, communication-capable, and with comprehensive accessories, it can meet any requirements.

A sophisticated system: Power distribution made to order.

More than 30 million molded case circuit breakers are installed each year worldwide. That's a significant number for one of the most important components in the modern field of low-voltage power distribution. Today's molded case circuit breakers must be flexibly expandable, efficient, safe, and reliable as well as capable of assuming a growing number of operationally relevant functions. At the same time, the electrical planning and installation chain is becoming increasingly complex as pressure from competitors and costs continue to grow.

Spotlight on the engineering process

Planners, design engineers, panel builders, installers, and operators must deal with this complex domain on a daily basis. To optimally support our customers, we have adapted the 3VA molded case circuit breaker to your requirements:

In every phase of the engineering process, we have paid close attention to the challenges you face and have developed solutions that precisely match your needs. The result: The 3VA molded case circuit breaker provides you with complete support in every process phase – from the planning to the daily operation of your electrical power distribution system.

Optimal support

Safe, flexible, and efficient – the 3VA molded case circuit breaker is ideally suited to the wide variety of functions inherent in all process phases:

- **Find solutions**
For all your individual requirements
- **Minimize effort**
From planning to installation and maintenance
- **Increase transparency**
Across all energy-relevant data
- **Ensure system availability**
Preventively and reliably

Unbeatable systematization

The 3VA molded case circuit breaker is more than just an individual device. In addition to a large number of basic devices, the system also comprises numerous accessories that allow it to be precisely adapted to your specific challenges.

The 3VA molded case circuit breaker. A complete system designed with you in mind.

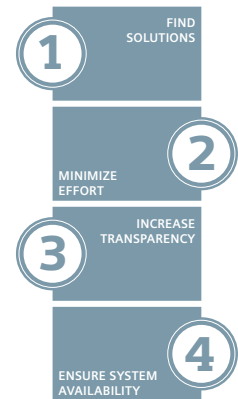
For more information:
www.siemens.com/3VA

Read the QR code
with your QR code
reader.



Highlights

- A modular, well thought-out, highly variable system
- Optimal support for all modern power distribution functions in every process phase
- Easy adaptation to individual requirements thanks to a comprehensive range of accessories



Two series.



Highlights

- Ideal for standard applications
- Reliable protection for systems and generators
- Minimal space requirements thanks to its extremely compact design
- Comprehensive accessories for function expansions

3VA1 molded case circuit breaker: Fundamentally effective.

A safe choice

The 3VA1 molded case circuit breaker is optimally suited to your standard applications in infrastructure and industrial plants. It is equipped with a thermal-magnetic tripping device and provides reliable protection for your systems and generators.

Its compact design gives you maximum flexibility in terms of space: Measuring only 130x76.2 mm with a depth of 70 mm, the 3VA1 molded case circuit breaker can also be used in confined spaces.

One system.



3VA2 molded case circuit breaker: Specialized in challenges.

A tailor-made solution

Master your technically challenging projects in industrial plants and infrastructure with ease: This is precisely where the 3VA2 molded case circuit breaker shows its true colors.

The 3VA2 molded case circuit breaker features a high switching capacity, various electronic trip units (ETUs), excellent selectivity properties, and many other functionalities.

Added benefits

You maintain maximum flexibility because the 3VA2 molded case circuit breaker can be integrated into higher-level energy management and automation systems via conventional bus systems.

The molded case circuit breaker with the ETU 8-series also acquires and transmits energy data – comparable to the well-known 7KM PAC measuring devices from the SENTRON portfolio.

Highlights

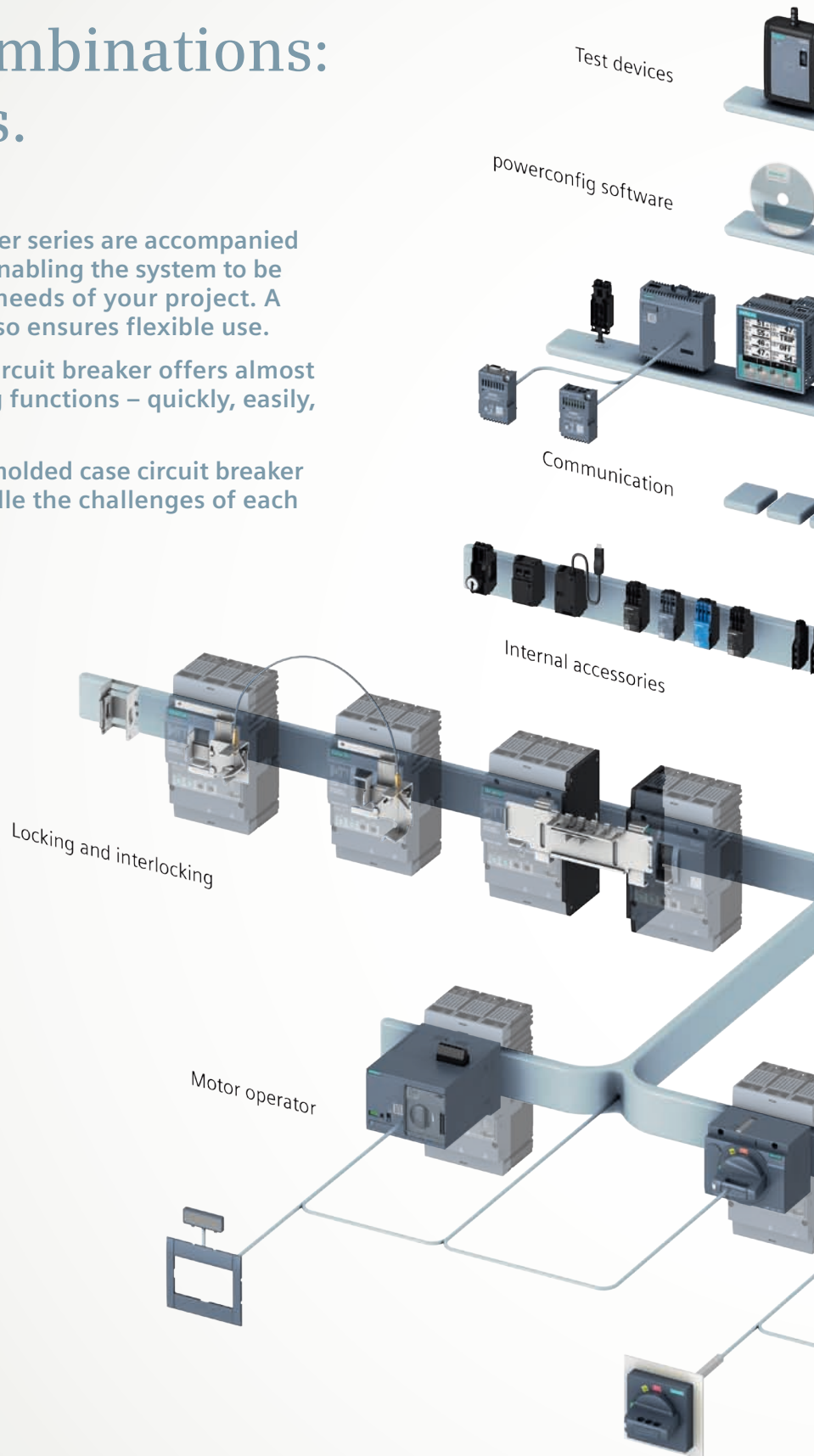
- Reliable, convenient solution that meets demanding technical requirements
- Excellent selectivity properties for high system availability
- Easy integration into energy management and automation systems
- Integrated measurement data acquisition with the ETU 8-series
- Wide range of accessory components

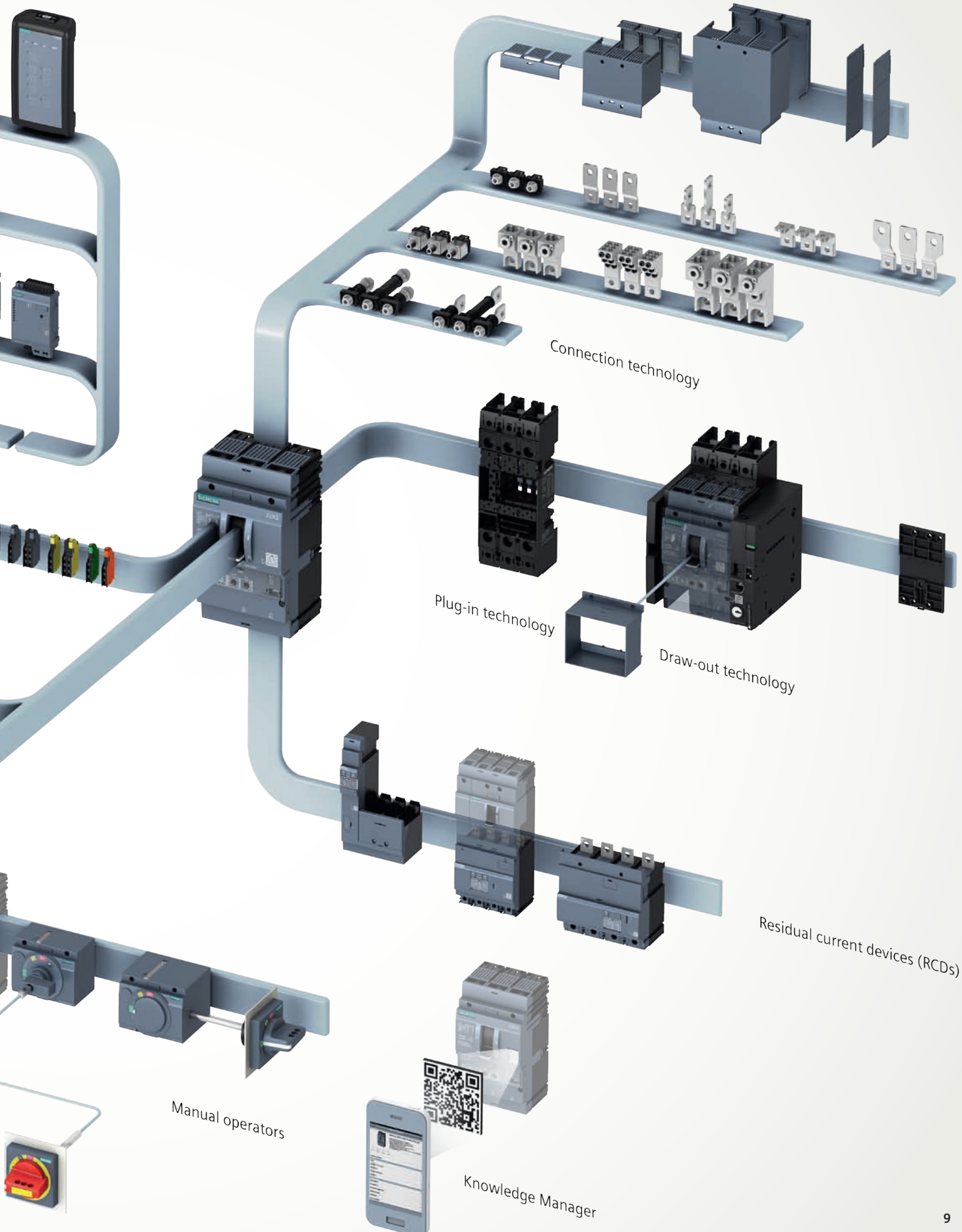
Unbeatable combinations: For both series.

Both 3VA molded case circuit breaker series are accompanied by a large number of accessories, enabling the system to be precisely matched to the specific needs of your project. A consistent, end-to-end portfolio also ensures flexible use.

As a result, the 3VA molded case circuit breaker offers almost limitless possibilities for expanding functions – quickly, easily, and extremely flexibly at all times.

Thanks to these factors, both 3VA molded case circuit breaker series are ideally equipped to handle the challenges of each process phase.





Connection technology

Plug-in technology

Draw-out technology

Residual current devices (RCDs)

Manual operators

Knowledge Manager

Find solutions: Meet every requirement.



Plan your power distribution system without restrictions: Choosing from a complete range of basic breakers and accessories, configure your 3VA molded case circuit breaker to match your own requirements. Our 3VA molded case circuit breaker assists you right from the start of planning – so that you can implement your ideas without any ifs, ands, or buts.

Flexible planning: fields of application
The 3VA molded case circuit breaker offers the right solution for your particular challenges, thanks to comprehensive accessories in a variety of versions. The modules can be individually assembled for any application. Thanks to the consistency of the portfolio, a flexible deployment and exchange of accessory components is ensured.

Functional:
Motor operators permit the remote switching of the molded case circuit breaker.

Convenient:
Manual operators are used wherever convenient manual operation of the molded case circuit breaker is required (for example, through a cabinet door).



3VA molded case circuit breaker with motor operator



3VA molded case circuit breaker with illuminated front mounted rotary operator

Free thinking: combinations

You can have all the functions you want: Add-on functions can be readily implemented with the help of motor and manual operators, RCDs, various interlocking options, and much more. The internal accessories also provide unbeatable combinations: a variety of auxiliary and alarm switches reliably signal breaker states and alarms.

Designed as plug-in modules, they are inserted into slots and are compatible with all 3VA molded case circuit breaker sizes.

Internal accessories are available in HQ and HP versions – a compact version and a version with a higher current-carrying capacity.

Space-saving: compact design

Extensive technology – available even for the smallest spaces: Thanks to its compact design, the 3VA molded case circuit breaker is always usable in limited spaces.

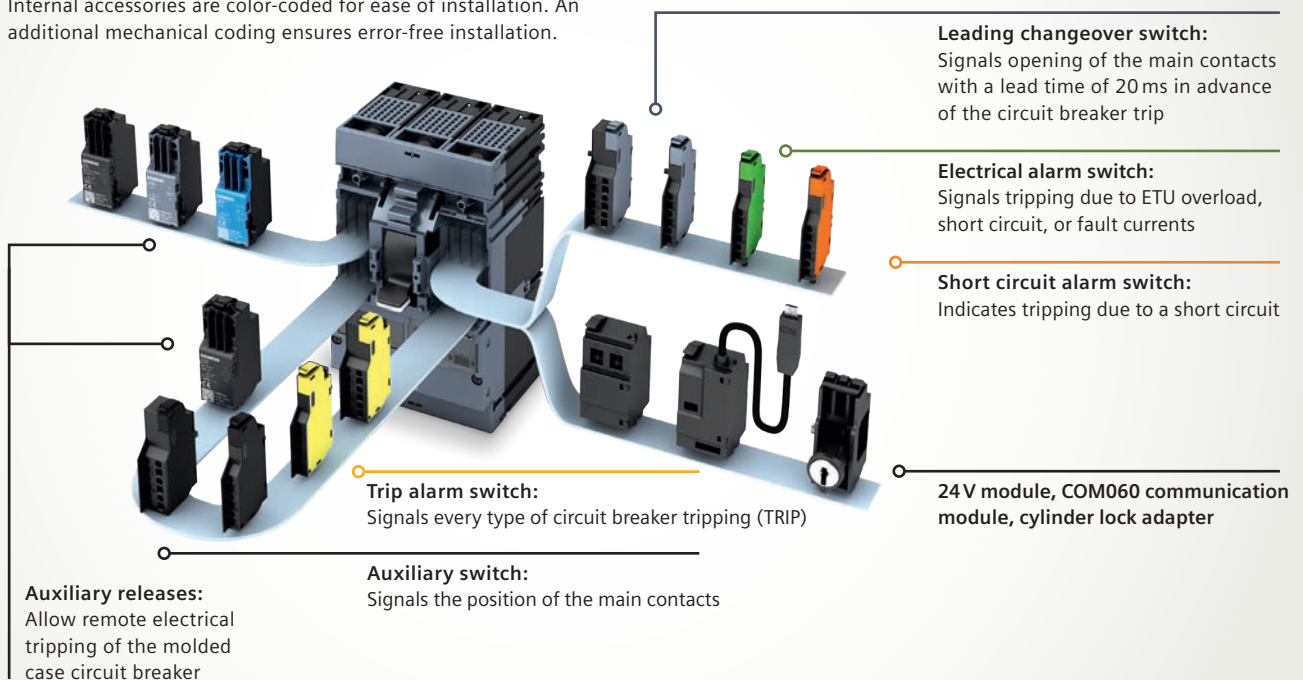
The 3VA1 molded case circuit breaker series – rated up to 160 A – is especially appropriate for use in distribution boards, thanks to its cap dimension of only 45 mm and its highly compact construction. When the 3VA1 molded case circuit breaker is combined with accessories like side mounted RCDs, a uniform overall depth facilitates planning and configuration.

Highlights

- Solutions for your individual planning
- Easy expansion of functions
- Internal accessories deployable in a wide variety of combinations
- Flexible use thanks to a consistent, end-to-end portfolio
- Compact design of 3VA1 molded case circuit breaker for space-saving installation

Internal accessories – multiple functions and easy installation

Internal accessories are color-coded for ease of installation. An additional mechanical coding ensures error-free installation.



Minimize effort: Plan efficiently.



Plan your power distribution system as efficiently as possible: The 3VA molded case circuit breaker supports you with many useful features. It allows you to precisely implement your system down to the last detail and according to your individual requirements – quickly and easily. Reduce your effort and save time in the planning, configuration, and documentation of your power distribution system.

Be selective: Planning Efficiency™

When planning and configuring your power distribution system with the 3VA molded case circuit breaker, you are supported by many intelligent tools. Spend less of your valuable time on product searches and

data transfers: Identify your ideal combination of basic devices and accessories quickly and easily – using the convenient product configurator.

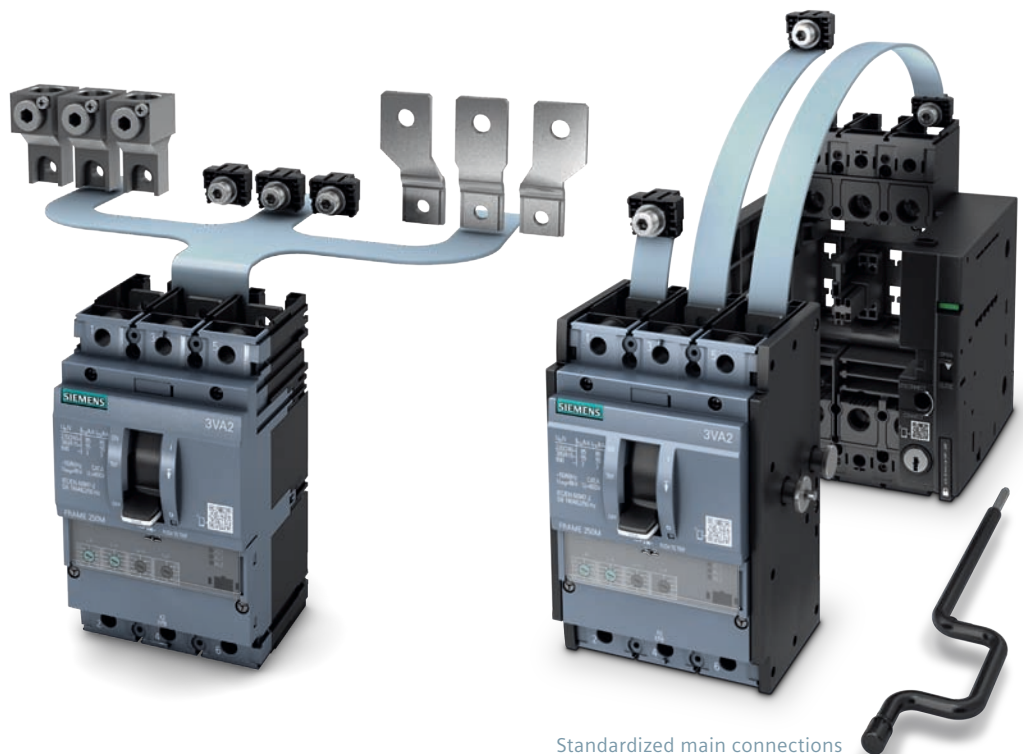
Save time: numerous data types

The CAx Download Manager provides you with all types of CAx data necessary for the product you choose. 2D dimension drawings and 3D models, product photos and even EPLAN Electric P8 macros: Siemens supports your engineering process with 12 different data types relevant to the 3VA molded case circuit breaker.

This helps you achieve up to 80 percent time savings in product selection and integration in your tools.

Flexible:
The different connection versions of the 3VA molded case circuit breaker meet all the requirements for convenient connection in distribution boards.

Standardized:
The same connection options are available for all installation types (fixed mounting, plug-in, and draw-out technology).



Varied connection technology

Standardized main connections for all installation types

Adapt flexibly: connection versions

Don't worry about compatibility with your installation: The 3VA molded case circuit breaker is always the right solution. It offers you a wide and varied range of connection technologies and so can be adapted to any installation requirements.

Install quickly: consistent technology

Plan on spending less time, because consistent, end-to-end connection technology greatly simplifies installation. It allows you to use the same connections for fixed mounting, plug-in technology, and draw-out technology. Identical dimensions for switch disconnectors and molded case circuit breakers also facilitate your planning.

Data on the go: Knowledge Manager

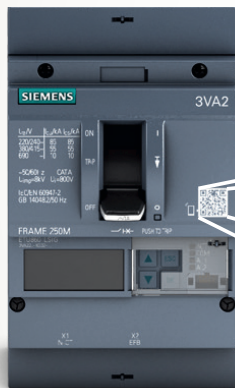
Whenever you need technical information – around the clock, during installation, parameterization, or maintenance – the Knowledge Manager is always at the ready. Technical product information can be retrieved directly at the system on the basis of article numbers via a QR code. This gives you convenient, continuous access to relevant product data, including characteristic curves, certificates, manuals, and even operating instructions.

Highlights

- Less time and effort needed for planning, configuration, and documentation
- Quick and easy selection of basic devices and accessories using configurators
- Suited to all installation requirements thanks to variable connection technology
- Knowledge Manager: Technical information can be retrieved directly at the installed device

Knowledge Manager – retrieve all the information directly at your system

If technical information is required during installation, parameterization, or maintenance, it can be retrieved directly at your system via a QR code. This gives you instant access to up-to-the-minute data – fail-safe, worldwide, and around the clock.



A QR code is clearly visible on every 3VA molded case circuit breaker.



Scan the QR code with a smartphone or tablet PC. Take advantage of the full range of services by using the free "Industry Support" app from Siemens.



You can directly view or download all relevant product information.

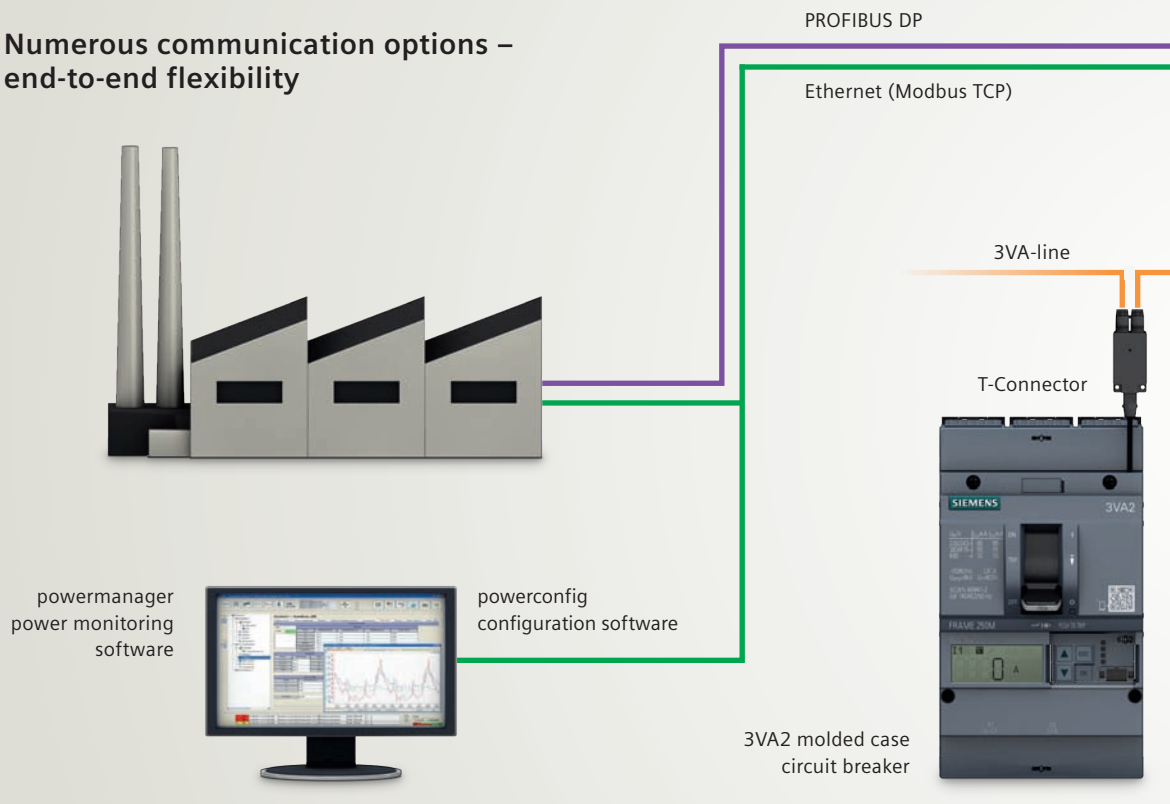
Increase transparency: Keep an eye on your system.



Keep a close watch on your system at all times and instantly identify energy-saving potentials. The 3VA2 molded case circuit breaker series is also ideal for meeting modern power distribution challenges and can be easily integrated into higher-level power and automation systems.

Optimize intelligently: data acquisition
Optimize your system's energy flows without wasting time or scattering losses: The 3VA2 molded case circuit breaker ensures that you always have an optimal view of all your data – thanks to the integrated acquisition of current, voltage, and energy values in the ETU 8-series. The circuit breaker status (ON, OFF, TRIPPED) and limit values are also acquired. You can keep a close watch on your system – while you also enjoy high system availability.

Numerous communication options – end-to-end flexibility



Communicative:
The 3VA2 molded case circuit breaker can be connected to higher-level management systems via conventional bus systems.

Take instant stock: communication

You can connect your communication-capable 3VA2 molded case circuit breaker to higher-level power management and automation systems via the conventional PROFIBUS, PROFINET, and Ethernet (Modbus TCP) bus systems. This keeps the processes in your system transparent at all times.

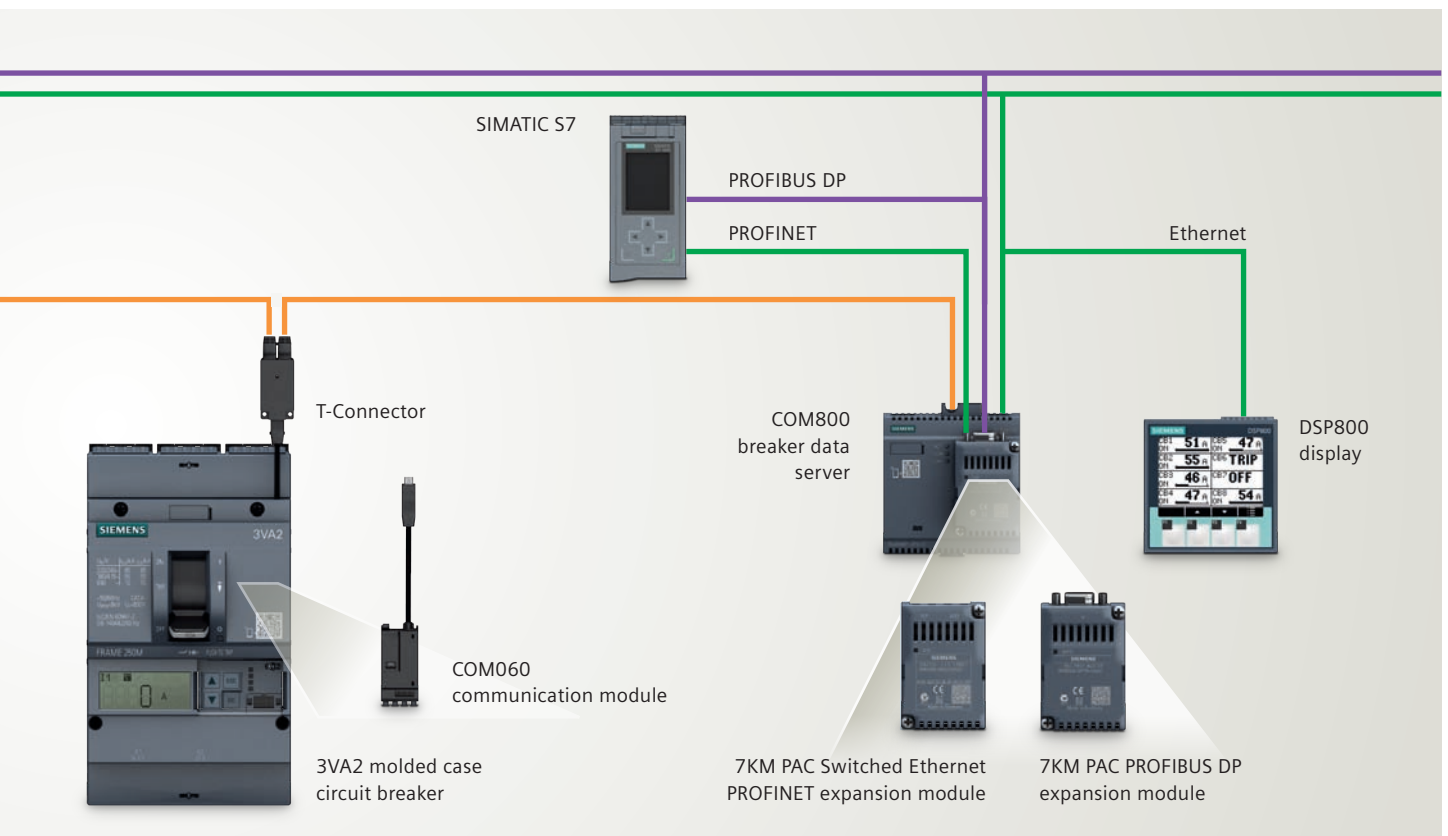
The COM800 data concentrator allows you to monitor more than one 3VA2 molded case circuit breaker: It collates and communicates data from up to eight breakers. Alternatively, if only one 3VA2 molded case circuit breaker is to be integrated into the communication landscape, the COM100 communication module can be used. The most recent values can also be conveniently viewed on the DSP800 display on the cabinet door.

Quickly up-to-date: monitoring

Take the easiest route to maximum system availability – with the 3VA2 molded case circuit breaker and its communication capability. It continuously transmits status, error, and alarm signals to higher-level management systems. If the 3VA2 molded case circuit breaker is installed in the draw-out frame, its position (CONNECT, TEST, DISCONNECT) can also be transmitted to the system. This seamlessly ensures that you always have an eye on your system.

Highlights

- ETU 8-series: integrated measuring function for current voltage, and energy values
- Constant overview of the circuit breaker status (ON, OFF, TRIPPED) and limit values
- Communication capability via PROFIBUS, PROFINET, and Ethernet (Modbus TCP)
- DSP800 display for viewing measuring data from up to eight molded case circuit breakers, for installation in a cabinet door
- Early identification of fault currents



Ensure system availability: Respond instantly.



You can rely on the trouble-free operation of your system, because the 3VA molded case circuit breaker sets the standard for reliability. An intuitive operating concept, excellent selectivity properties, and accessory components for extended protection functions ensure high availability, security, and protection of your systems.

Operate smoothly: protection functions
Always be on the safe side during operation: The 3VA molded case circuit breaker promptly identifies critical system states, enabling it to respond quickly to prevent unscheduled system shutdowns. Reports from the trip unit combined with reports

from auxiliary and alarm switches ensure quick and easy fault diagnosis as well as smooth operation.

Direct protection: selectivity

Avoid unnecessary costs and maintain availability: thanks to the sophisticated selectivity concept from Siemens. Full selectivity enables the 3VA molded case circuit breaker to disconnect the specific system component that is malfunctioning – even in the dynamic tripping range – which prevents a complete shutdown of your entire system.



3VA2 molded case circuit breaker with loadside mounted RCD820



3VA1 molded case circuit breaker with side mounted RCD510

Safe:
RCDs reliably disconnect fault currents for increased personnel, fire, and ground-fault protection.

Protect consistently: operational safety

Enjoy the security of increased personnel and line protection – without effort but with high reliability – thanks to residual current devices (RCDs) mounted on the 3VA molded case circuit breaker. RCDs continuously detect fault and differential currents and ensure disconnection in the event of an emergency.

Operate conveniently: identification

The intuitive operation of the 3VA molded case circuit breaker leaves nothing to chance: it's clear and simple to handle as well as safe and time-saving during daily operation. For example, you can clearly

identify the switch position regardless of visibility, thanks to the clever illumination kit. The safety of system operators was also a major consideration in the development of the 3VA molded case circuit breaker. The result: a high level of protection against unauthorized operation, front and rear interlocking, and securing of the actuator in the ON or OFF position.

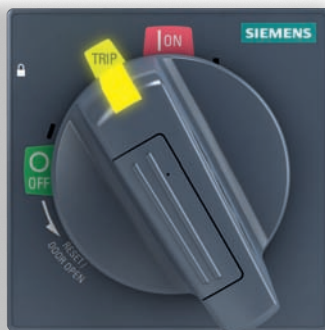
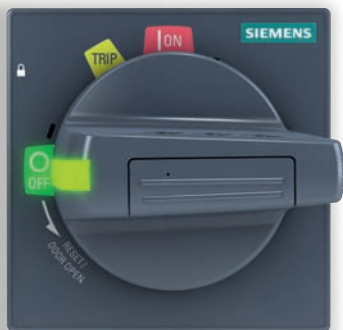
Short downtimes are assured, even for critical applications: The 3VA molded case circuit breaker can be quickly and easily exchanged – especially when installed with plug-in or draw-out technology.

Highlights

- Maximum safety for personnel and systems
- Prompt response thanks to fast and reliable fault diagnosis
- Prevent shutdown by means of a sophisticated selectivity concept
- Easy and intuitive operation

Clear identification even in poor visibility

Illumination of the actuator indicates the molded case circuit breaker's switch position even when visibility is poor. The illumination changes along with the switch position indicator. The illumination kit can be used with front, door, and side wall mounted rotary operators.

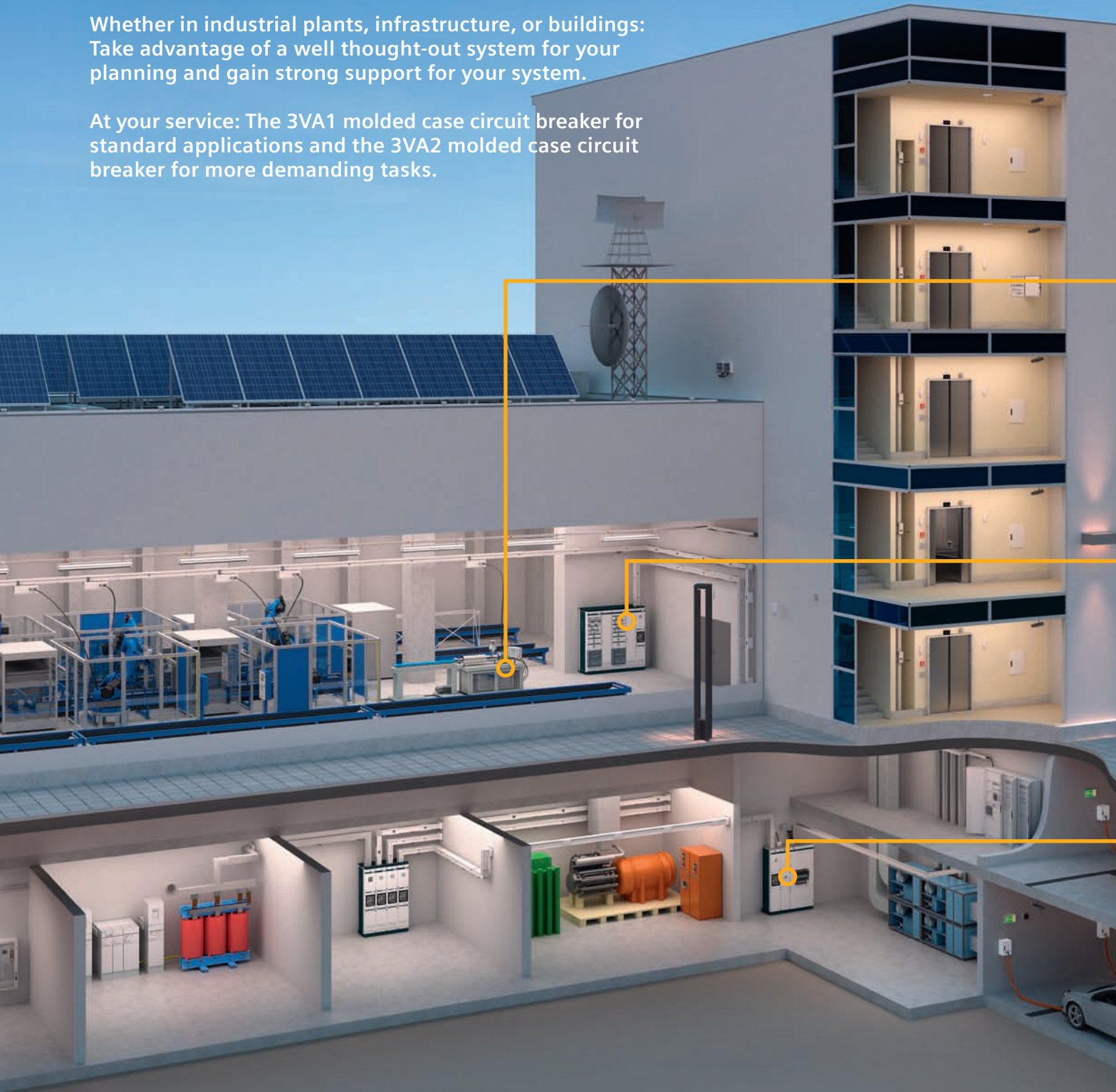


Also for your application: Simply perfect.

Simplify your search for the best solution: The 3VA molded case circuit breaker is optimally suited to your power distribution system.

Whether in industrial plants, infrastructure, or buildings: Take advantage of a well thought-out system for your planning and gain strong support for your system.

At your service: The 3VA1 molded case circuit breaker for standard applications and the 3VA2 molded case circuit breaker for more demanding tasks.

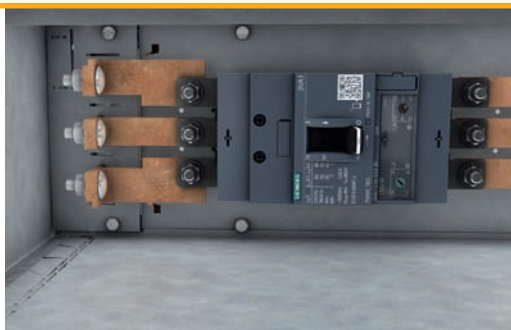




3VA1 molded case circuit breaker, 160 A, with TMTU and side mounted RCD – installed in a distribution board.



3VA1 switch disconnecter in a molded case circuit breaker design, 160 A, with side wall mounted rotary operator – used in a switchboard.



3VA1 molded case circuit breaker, 100 A, with TMTU – installed in a low-voltage power distribution board.



3VA2 molded case circuit breaker, 250 A, with ETU 8-series – installed in a control cabinet.



3VA2 molded case circuit breaker, 250 A, with ETU 8-series and door mounted rotary operator – installed in a low-voltage power distribution board.



Molded case circuit breaker for line, personnel, and fire protection inside the building.



Molded case circuit breaker as main switch with remote switching function.



Switch disconnecter with side mounted operator as incoming circuit breaker, main switch, or isolating switch in machine engineering.



Molded case circuit breaker for protecting industrial plants with door mounted rotary operator.



Molded case circuit breaker for line protection in the main power distribution system of buildings.

Broad spectrum:
With a rated current of 16 A to 160 A, the 3VA1 molded case circuit breaker is appropriate for many standard applications – whether in industrial plants or infrastructure.



3VA1 molded case circuit breaker: Sets the standard.

Highlights

- Performs standard functions in residential and public buildings and in infrastructure
- Its extremely compact design makes it ideal for use in small distribution boards
- Also available as a switch disconnecter in a molded case circuit breaker design for simple industrial applications
- Molded case circuit breaker available in 1-, 2-, 3-, and 4-pole versions

Especially designed for your standard applications: The 3VA1 molded case circuit breaker convinces with a broad range of potential applications. Thanks to a rated current of 16 A to 160 A and a switching capacity of up to 70 kA, it is suitable for functions in residential and public buildings, infrastructure, and industrial plants.

Space-saving design

It has the perfect size for distribution boards: The 3VA1 molded case circuit breaker rated up to 160 A impresses with a cap dimension of only 45 mm and highly compact construction. The 1- and 2-pole versions are especially suited for small distribution boards and are used for the central power supply.

Adaptable as line protection





The 3VA1 molded case circuit breaker provides overload and short-circuit protection for cables, lines, and non-motorized consumers. Their thermal-magnetic trip units have an extended setting range (0.7 to $1.0I_n$), making them extremely flexible in terms of your choice of basic device.

Cost-efficient as a switch disconnector

The new 3VA1 switch disconnector to IEC 60947-3 in a molded case circuit breaker design allows you to safely disconnect individual machine groups from the network. With its additional functionalities, it is the perfect complement to the breaker series – in a consistent, end-to-end design and with the same accessories.



Safe electrical installation in the smallest space: The 3VA1 molded case circuit breaker is ideal for use in distribution boards.

					
3VA1 molded case circuit breaker		100 A	160 A	160 A	160 A
Line protection		■	■	■	■
Switch disconnector		–	–	–	■
DC applications		■	■	■	■
Number of poles		3, 4	1	2	3, 4
Rated current	I_n 50 °C [A]	16 ... 100	16 ... 160	16 ... 160	16 ... 160
Rated operational voltage	U_e AC [V]	690	415	415	690
Rated ultimate short-circuit breaking capacity	I_{cu} 380 ... 415 V [kA]	16, 25, 36	25, 36*	25, 36	25, 36, 55, 70
Trip unit	thermal	fixed	fixed	fixed	fixed / adjustable
Trip unit	magnetic	fixed	fixed	fixed	fixed / adjustable

* at 240V AC

High functionality:
With a rated current of 25 A to 630 A, the 3VA2 molded case circuit breaker is designed for demanding applications.



3VA2 molded case circuit breaker: Meets high demands.

Highlights

- Meets the highest technical requirements of infrastructure and industry
- Excellent selectivity characteristics for high system availability
- Flexible communication options for transparency in your power distribution system

In the switchboard, in the power distribution system: The demanding functions waiting there are child's play for the 3VA2 molded case circuit breaker. With its electronic trip units, comprehensive communication options, and integrated measuring function, it is fully equipped for your specific application. Its increased switching capacity and excellent selective protection characteristics also add important value.

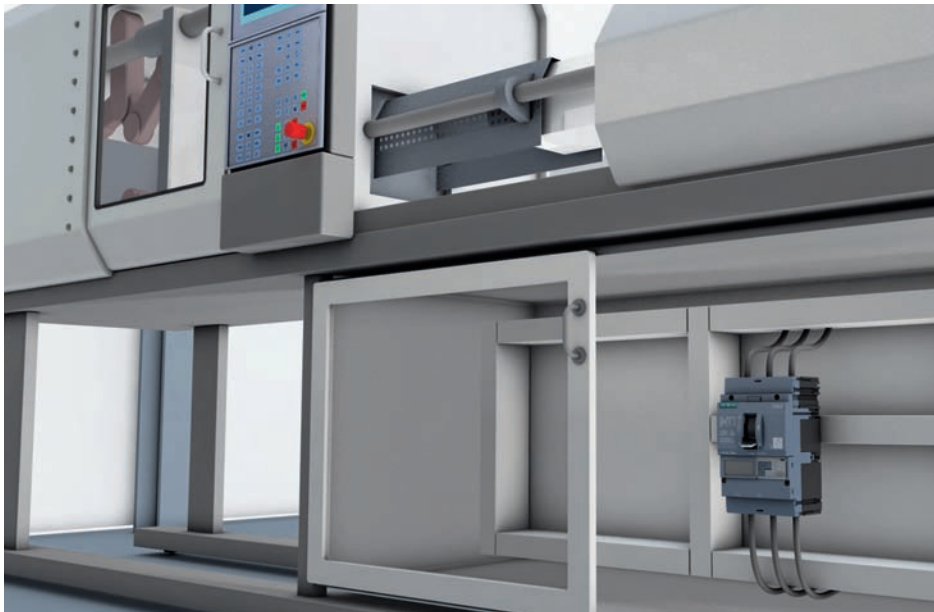
Always at the ready

The 3VA2 molded case circuit breaker provides reliable line protection and optimal system availability in the process and automation industries, in industrial buildings,






and in infrastructure. Comprehensive accessories, including varied connection technologies, various operators, and internal accessories, permit flexible use – especially in machine engineering.

Flexible communication

Thanks to its flexible communication capabilities, the 3VA2 molded case circuit breaker helps you optimize your system utilization and identify potential energy savings. It reliably reports system states and measured values to higher-level energy management and automation systems, which provides major efficiency benefits, particularly in industrial plants.



Increased efficiency:
The 3VA2 molded case circuit breaker reliably monitors energy flows in industrial environments, which ensures optimal system availability.

3VA2 molded case circuit breaker							
3VA2 molded case circuit breaker			100 A	160 A	250 A	400 A	630 A
Number of poles			3, 4	3, 4	3, 4	3, 4	3, 4
Rated current	I_n 50 °C [A]		25 ... 100	25 ... 160	160 ... 250	250 ... 400	400 ... 630
Rated operational voltage	U_e AC [V]		690	690	690	690	690
Rated ultimate short-circuit breaking capacity	I_{cu} 380 ... 415 V [kA]		55, 85, 110, 150	55, 85, 110, 150	55, 85, 110, 150	55, 85, 110, 150	55, 85, 110, 150
Trip unit (electronic)							
Line protection	LI	ETU320	■	■	■	■	■
	LIG	ETU330	■	■	■	■	■
	LSI	ETU350/550/850	■	■	■	■	■
	LSIG	ETU560/860	■	■	■	■	■
Communication (optional)			■	■	■	■	■
Energy data acquisition			available with all ETUs 8-series				

High quality – evident in the design.

Let yourself be seduced by innovative technology and high quality: Experience the elegant design and intuitive operating concept of the new 3VA molded case circuit breaker while enjoying its modern design and ease of handling.

KA lcs/KA

ON

85
55
3

85
55
3

TRIP



Elegant and safe: The manual rotary operators can be optionally equipped with an illumination kit – for a clear indication of the switch position under all viewing conditions.



User-friendly: The tripping characteristics can be set directly via the ETU – both the setting parameters and the measured values are clearly visible at all times on the display with background illumination.



Unambiguous: The switch position in the guide frame is color-coded for instant identification.

Tremendous time savings thanks to valuable CAx data



Efficient engineering processes make a decisive contribution to your company's competitive edge. With CAx data for all conventional configuration tools, you can complete the process steps of your mechanical and electrical planning in up to 80 percent less time, which saves you money.

Wide range of data





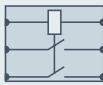




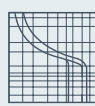


We provide you with one of the most comprehensive data offerings: Up to 12 CAx data types actively support you throughout the entire engineering process.

Your benefits

- *24/7 service:* The CAx Download Manager provides you with quick and easy access to up to 12 data types – free of charge and around the clock.
- *Within seconds:* You can flexibly compile the requisite data, download it within seconds, and seamlessly integrate it into all conventional configuration tools, for time savings of up to 80 percent compared with a manual data search.
- *Error-free:* The central provision of high-quality data replaces manual acquisition and, for example, the generation of 2D dimensional drawings and connection diagrams, preventing errors that can result from manual data compilation.

Take advantage of our extensive data offering and benefit from significantly shorter development times, reduced effort, greater planning quality, and the resultant reduced costs.

The 12 CAx data types in detail

			
Commercial and technical data	Dimension drawings	3D models	Connection diagrams
			
Circuit diagrams	EPLAN Electric P8 macros	Operating instructions	Manuals
			
Product data sheets	Characteristic curves	Certificates	Product images

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Any questions? One click – well-informed

LV Explorer – discover low voltage in 3D

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Always at your disposal: our extensive support



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Industry Sector
Industry Automation
Control Components and Systems Engineering
R&D Technology Centre
Thane Belapur Road, Airoli
Navi Mumbai - 400 708
E-mail: lvsg-r-mktg.india@siemens.com

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