

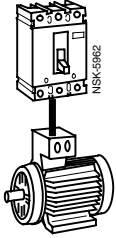


20/2	Glossary
20/6	Training
20/7	Ordering notes
20/11	Further documentation
20/12	Standards and approvals
20/27	Quality management
20/28	Siemens contacts
20/29	Online services
20/30	Customer support
20/31	Software licenses
20/32	Subject index
20/38	Order number index
20/44	Fax order
20/45	Terms and conditions of sale and delivery Export regulations
20/51	PDF-CD ROM Catalog LV 1 · 2006 Technical information LV 1 T · 2006

Appendix

Glossary

Requirements for circuit-breakers for motor protection



- Inrush immunity:
 - Response threshold of the short-circuit release up to $11 \times I_n$ or
 - Inrush current buffering due to tripping delay (approx. 10 ms to 20 ms)
- Temperature compensation
- Phase-failure sensitivity
- Adjustable trip class for matching the start-up response of the motor
- Thermal memory (repeated attempts at starting heat the motor)
- Overload release according to IEC 60947-4-1:
 - **Must not trip at 1.05 times load within two hours**
 - **Must trip at 1.2 times load within two hours** (at 1.15 times load with 2-phase loads).

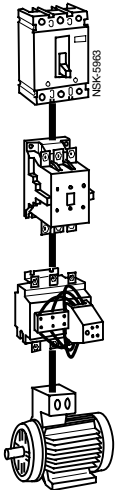
Circuit-breakers for motor protection

Switching

- Motor operating currents
- Short-circuit currents that flow in this load feeder.

When circuit-breakers are used with an adjustable time lag class, they can be matched to almost any motor starting current.

Circuit-breakers for starter combinations



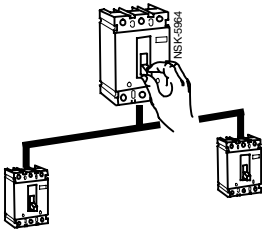
These circuit-breakers are only designed for short-circuit-protection of series-connected equipment and loads, they do not feature overload releases. The short-circuit release is adjustable.

In this case, overload protection must be implemented elsewhere. This can be a simple bi-metal relay or a convenient electronic motor control unit (SIMOCODE) between the load contactor and the load. In the event of a fault, it is then extremely easy to distinguish between an overload (checkback signal of the bi-metal relay) or short-circuit (acknowledgement signal from the circuit-breaker).

If a circuit-breaker with overload protection is chosen instead, the acknowledgement signals from the devices cannot always be clearly distinguished.

For information on the correct assignment of contactors, overload relays and circuit-breakers, please refer to the manual "Fuseless assembly of load feeders", Order No. E20002-A580-P302-V2 or the relevant tables in the Technical Information LV 1 T.

Non-automatic circuit-breakers



This type of circuit-breaker is used in applications in which different load circuits must be decoupled or connected together. They do not feature overload releases. The short-circuit release is not adjustable.

Current-limiting circuit-breakers



This symbol shows the form of the short-circuit current after the circuit-breaker. Because the let-through current of the circuit-breaker is lower than the maximum value of the short-circuit current (dotted line) they are known as current-limiting circuit-breakers.

The load on the series-connected devices, cables and wires is therefore significantly reduced (see the current limiting characteristic).

Requirements for circuit-breakers for system protection



- Compliance with IEC 60947-1 and IEC 60947-2 standards:
 - **Must not trip at 1.05 time** load **within two** hours
 - **Must trip at 1.3 time** load **within two** hours.
- Usual adjustment range:
 - It is usually not necessary to adjust the overload release;
 - Response threshold of the short-circuit release 1.25 to $10 \times I_n$ or
- A selectivity analysis is necessary.

Circuit-breaker for system protection with permanently set values

They have a permanently set overload release and a permanently set short-circuit release.

Current-limiting.

Example:

Circuit-breaker in outgoing feeder to subdistribution boards or switchboards.

Circuit-breakers for system protection with some permanently set values



They have a permanently set overload release and an adjustable short-circuit release.

Current-limiting.

Example:

Circuit-breaker in outgoing feeder to subdistribution boards or switchboards with special requirements for short-circuit releases.

Circuit-breakers for system protection with adjustable values



They have an adjustable overload release and an adjustable short-circuit release.

Current-limiting.

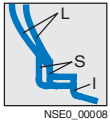
Example:

For direct protection of non-motor loads.

Appendix

Glossary

Circuit-breakers for system protection with adjustable values and short-time delayed release



The meaning of the symbols are as follows:

- L: Inverse-time delayed overload release or thermal overload release.
 - If the actual current rises above the value of set operational current (I_r), the circuit-breaker will trip within a certain time.
 - The time of the tripping operation is dependent on the current level.
 - The higher the current, the shorter the tripping delay.
- S: Short-time delayed short-circuit release.
 - The level of short-circuit current (I_{sd}) can be adjusted flexibly.
 - The short-circuit current that flows through the circuit-breaker excites the tripping mechanism (electromagnetic or solid-state).
 - The tripping operation is delayed for the set time (t_{sd}).
 - This means that time-selective grading can be implemented for the circuit-breakers.
- I: Instantaneous short-circuit release.
 - The short-circuit current that flows through the circuit-breaker excites the tripping mechanism (electromagnetic or solid-state).
 - The tripping operation is not delayed.

The value for the I-release (I_i) should be larger than the value for the S-release. In the case of the S-release, if the time (t_{sd}) is set to zero, the S-release responds in the same manner as the I-release, i.e. the tripping operation can be instantaneous, if required.

Example: Circuit-breaker in power distribution with total selectivity.

Circuit-breakers for motor protection with permanently set time lag class



They have an adjustable overload release, a permanently set short-circuit release and a permanently set time lag class.

Current-limiting.

Example:

For protecting motors in this starting class.

Circuit-breakers for motor protection with adjustable time lag class



They have an adjustable overload release, a permanently set short-circuit release and an adjustable time lag class.

Current-limiting.

With phase-failure sensitivity.

Example:

For the protection of motors of differing starting classes (one standard circuit-breaker for all motors), or for AC loads in hazardous areas (phase-failure sensitivity).

Circuit-breakers for starter combinations



They have an adjustable short-circuit release but no overload release.

Current-limiting.

Example:

In applications where a bi-metal relay is connected in series and a separate indication is required for short-circuits (from starter switch) and overloads (from bi-metal relay).

Non-automatic circuit-breakers, current-limiting



MCCB:

They have a permanently set short-circuit release but no overload release (VL160X to VL1600).

The let-through current is limited.

Example:

For disconnecting different load circuits.

Non-automatic circuit-breakers



ACB:

They have neither electronic trip units nor short-circuit releases (3W.).

Non current-limiting.

Example:

For disconnecting different load circuits.

Appendix

Training

Training is decisive for your success

SITRAIN® - the Siemens Training for Automation and Industrial Solutions - provides you with comprehensive support when solving your tasks.

Training by the market leader in automation, plant installation and support permits you to make your decisions with certainty and full command. Especially where the optimum and efficient use of products and plants are concerned. You can eliminate deficiencies in existing plants, and exclude expensive faulty planning right from the beginning.

All in all, this represent an enormous gain for your company: shortened startup times, optimized plant components, faster troubleshooting, reduced down times. In other words, increased profits and lower costs.



Top trainers

Our trainers know their topics in practice, and possess comprehensive didactic experience. Course developers have a direct wire to product development, and directly pass on their knowledge to the trainers.

Practical experience

The practical experience of our trainers makes it possible for them to pass on theoretical matter in a plausible manner. But since it is known that all theory is drab, we attach great importance to practical exercises which can comprise up to half of the course time. You can therefore immediately implement your new knowledge in practice. We train you on state-of-the-art methodically/didactically designed training equipment. You feel absolutely certain when trained in this manner.

Wide variety

With a total of approx. 300 local attendance courses, we train the complete range of A&D products and a large portion of the system solutions from I&S. Telecourses, teach-yourself software and seminars presented on the Web supplement our classical range of courses.

Close to our customers

The distance is short. You can find us approx. 60 times in Germany, and worldwide in 62 countries. You wish to have individual training instead of one of our 300 courses? No problem: we will provide a program tailored exactly to your personal requirements. Training can be carried out in our Training Centers or at your company.

The right mixture: Blended Learning

Blended learning is understood to be the combination of various training media and sequences. For example, a local attendance course in a Training Center can be optimally supplemented by a teach-yourself program as preparation or follow-up. Furthermore, SITRAIN utilizes supported online training for live instruction on the Internet at agreed times.

The right mixture is the solution. Therefore blended learning can convey complex topics well, and train networked thinking. Additional effect: reduced travelling costs and periods of absence through training sequences independent of location and time.

The international training portal

<http://www.siemens.com/sitrain>

All training facilities at a glance: search in the worldwide range of courses at leisure, call up all course dates online, utilize the daily updated display of vacant course spaces - and register directly.

Customer comments on Sitrain

"... the good course documents, competence and flexibility convinced me."

[Manfred Riek from Festo Systemtechnik, responsible for planning the basic and further training of project engineers]

"... represents effective training, constructive dialogs, and solutions which provide great help."

[Günter Niedermaier, electrical design manager at AMT, Aalen]

Contact

Visit us on the Internet at:

<http://www.siemens.com/sitrain>

or let us advise you personally. You can request our latest training catalog from:

Course office, Infoline Germany:
Tel.: +49 (0)1805 / 23 56 11 (0.12 €/Min)
Fax: +49 (0)1805 / 23 56 12

Logistics**General**

With regard to delivery service, communications and environmental protection, our logistics service ensures "quality from the moment of ordering right through to delivery". By designing our infrastructure according to customer requirements and implementing electronic order processing, we have successfully optimized our logistics processes.

We are proud of our personal consulting service, on-time deliveries and 1-day transport within Germany.

To achieve this, we supply the preferred types marked with ► ex warehouse.

We regard the DIN-ISO-9001 certification and consistent quality checks as an integral part of our services.

Electronic order processing is fast, cost-efficient and error-free. Please contact us if you want to benefit from these advantages.

Packing, packing units

The packaging in which our equipment is dispatched provides protection against dust and mechanical damage during transport, thus ensuring that you receive our products in a perfect state.

We select our packaging for maximum environmental compatibility and reusability (e.g. crumpled paper instead of polystyrene chips for protection during transport in packages up to 32 kg) and, in particular, with a view to reducing waste.

With our multi-unit packaging, we offer you specific types of packaging that are both kind to the environment and tailored to your requirements:

Your advantages at a glance:

- Lower order costs.
- Cost savings through uniform-type packaging: low/no disposal costs.
- Reduced time and cost thanks to short unpacking times.
- "Just-in-time" delivery directly to the production line helps reduce stock: cost savings through reduction of storage area.
- Fast assembly thanks to supply in sets.
- Standard Euro boxes - corresponding to the Euro pallet modular system - suitable for most conveyor systems.
- Active contribution to environmental protection.

Unless stated otherwise in the "Selection and ordering data" of this catalog, our products are supplied individually packed.

For small parts/accessories, we offer you economical packing units as standard packs containing more than one item, e.g. 5, 10, 50 or 100 units. It is essential that whole number multiples of these quantities be ordered to ensure satisfactory quality of the products and problem-free order processing.

The products are delivered in a neutral, white carton. The label includes warning notices, the CE mark, the open arrow recycling symbol, and product description information in English and German. In addition to the Order No. (MLFB) and the number of items in the packing, the Instr. Order No. is also specified for the operating instructions. It can be obtained from your local Siemens representative (you will find a list of your local Siemens representatives at <http://www.siemens.com/automation/partner>).

The device order nos. of most devices can also be acquired through the EAN barcode to simplify ordering and storage logistics. The order numbers are assigned electronically to the EAN code in the master data of low-voltage controls.

Appendix

Ordering notes

Multi-unit and reusable packs

The devices listed in the table on page 20/9 can be ordered in multi-unit or reusable packs (further models on request).

If ordering multi-unit or reusable packs for the first time, please first consult your local Siemens representative with regard to pack type, quantity, delivery time and the precise order designation.

For both pack types, the quantity of devices ordered (per Order No.) must be divisible by the pack quantity. If this is not the case, the electronic order processing system rounds up to the next integer multiple of packs.

Multi-unit packaging



Products in a quantity sufficient to fill a multi-unit pack: 1/2 (W96) and 1/4 (W97) ENK

As standard, multi-unit packs contain uniform-type, unpacked individual products (1 device type) in an appropriately sized carton made of recyclable cardboard. The products of the SIRIUS range can be ordered in units of 1/1, 1/2, 1/4 and 1/8 standard Euro boxes (ENK).

When ordering products in multi-unit packs, the Order No. of the product concerned must be supplemented with **"-Z"** and, in addition, the order code **X90**, or for products from the SIRIUS range, the order code **W9**.

Example:
3RT10 24-1AB00-Z W96
+ quantity: 48

Reusable packaging (uniform type)



Standard reusable packs contain uniform-type, non-packed individual products (1 device type) in a reusable standard Euro box (ENK) made of durable molded plastic with foam inserts for protection during transport.

The standard Euro box (ENK) also serves as transport packaging. Reusable transport containers (MTB) on request.

For products packed in reusable packaging, the Order No. must be supplemented with **"-Z"** and the order code **X95**.

Example:
3RT10 24-1AB00-Z X95
+ quantity: 96

Set deliveries (reusable, different devices)

On request, we also deliver order-related packs of larger quantities of different unpacked devices in standard Euro boxes.

Please contact your Siemens representative (you will find Siemens representatives at <http://www.siemens.com/automation/partner>) to clarify the delivery details or conditions for set supply and other delivery types such as container delivery/return, either in standard Euro boxes or reusable transport containers. They will work out what best suits your individual requirements.

Packaging dimensions

Packaging	Length mm	Height mm	Width mm
ENK	598	220	396
W95	576	192	380
W96	380	187	290
W97	290	187	190
W98	290	98	190

Multi-unit and reusable packaging, quantity in units, supplied in indivisible pack quantities

Instruments	Reusable	Multi-unit			
	X95 (1/1 ENK)	W95 (1/1 ENK)	W96 (1/2 ENK)	W97 (1/4 ENK)	W98 (1/8 ENK)
Contactors, sizes S00-S2					
3RT10 1...A/B..1/2	144	144	90	42	20
3RT10 2...A..0	96	96	48	24	12
3RT10 2...A..4	52	52	24	12	6
3RT10 2...B..0	66	66	35	17	10
3RT10 3...A..0/4	30	30	15	-	-
3RT10 3...B..0	27	27	15	-	-
3RT10 3...B..4	24	24	15	-	-
Snap-on auxiliary contact blocks, size S00:					
3RH19 11-1F./GA/HA..	600	600	280	140	70
Auxiliary contactors, size S00					
3RH11 ..-A/B..0	144	144	90	42	20
Motor starter protectors, sizes S00-S2:					
3RV10 11-....0	96	96	48	24	12
3RV10 21-....0	61	61	29	14	-
3RV10 31-....0	24	24	12	-	-
Thermally delayed overload relays, sizes S00-S2:					
3RU11 16-..B0	128	128	64	32	16
3RU11 26-..B0	88	88	45	22	14
3RU11 36-..B0	36	36	18	-	-
Fuseless load feeders up to 12 A, size S00:					
3RA11 10-..A..-1A0	52	52	26	12	6
3RA11 10-..A..-1BB4	52	52	26	12	6
Solid-state timing relays:					
3RP15 05-...30, 3RP15 60-..S.30	137	137	67	27	16
3RP15 1/2/4/5-..A.30	192	192	96	48	24
3RP15 2/4-..B.30	137	137	67	27	16
3RP15 3-..A.30	137	137	67	27	16
3RP15 74-..N.30	192	192	96	48	24

Instruments	Reusable	Multi-unit
	X95	X90
3SB pushbuttons and indicator lights		
Complete units and actuators (except EMERGENCY-STOP and key-operated switches)	-	50
Complete units and actuators (except EMERGENCY-STOP and key-operated switches)	-	20
Contact blocks	-	150
Holder	-	100
Support, blanking plug	-	50
3SE position switches		
3SE2 1..-1E..	81	-
3SE2 200-.C, -.XC, -.XN	540	-
3SE2 200-.D	440	-
3SE2 200-.E	420	-
3SE2 200-.G, -.U, -.XG	144	-
3SE2 200-.L, -.M	360	-
3SE2 210-.C	300	-
3SE2 210-.D	270	-
Safety combinations		
3TK28, 3TK29	23	-

Instruments	Reusable
	X95
Inductive proximity switches BERO	
3RG40/3RG41 1.-0...,-1...	80
3RG40/3RG41 1.-2...,-3...,-4...,-7...	200
3RG40/3RG41 2.-0...,-1...	80
3RG40/3RG41 2.-2...,-3...,-4...,-7...	200

Appendix

Ordering notes

Ag and Cu surcharges

Surcharges for copper (Cu) and silver (Ag) will be added to the prices of certain products. The amount of the surcharge depends on the percentage taken from the current list price.

Calculation of the surcharges is governed by the official Ag quotation for refined silver and the applicable Cu-DEL quotation on the date of receipt of order or of call-off.

You will find a current table with the percentages according to products on the Internet at (in German only):
<http://www.siemens.com/lowvoltage/zuschlagsfaktoren>.

The prices for products in chapters 10 and 11 of the catalog include the price of copper calculated on the basis of a list price of € 150/100 kg.

If the copper rate exceeds this price, a surcharge will be made on the basis of the current copper price in the month preceding the date of invoice.

Orders for special designs

For ordering products that differ from the versions listed in the catalog, the order number specified in the catalog must be supplemented with "-Z"; the required features must be specified by means of the alphanumeric order codes or in plain text.

Small orders

When small orders are placed, the costs associated with order processing are greater than the order value. We recommend therefore that you combine several small orders. Where this is not possible, we unfortunately find it necessary to charge a processing supplement of € 20.-- to cover our costs for order processing and invoicing for all orders with a net goods value of less than € 250.--.

Further documentation

Overview

You will find all the latest information material, such as brochures, catalogs, manuals and operating instructions on low-voltage, controls and distribution on the Internet at:

<http://www.siemens.com/lowvoltage/info>

Here you can order your copy of the available documentation or download it in common file formats (PDF, ZIP).



We also provide further support for SIRIUS - SENTRON - SIVACON



Brochures, catalogs and CDs offer fast and more in-depth information

We regard product support as just as important as the products and systems themselves. Visit our Support site on the Internet for a comprehensive range of material on SIRIUS, SENTRON and SIVACON, such as

- Catalogs available to order free of charge
- Operating instructions and manuals for direct download
- Online registration for seminars and events
- Up-to-date answers to your queries and problems
- Software upgrades and updates for fast download
- Telephone assistance in more than 190 countries
- Photos and graphics for external use

and much, much more - all conveniently and easily accessible

Appendix

Standards and approvals

Overview

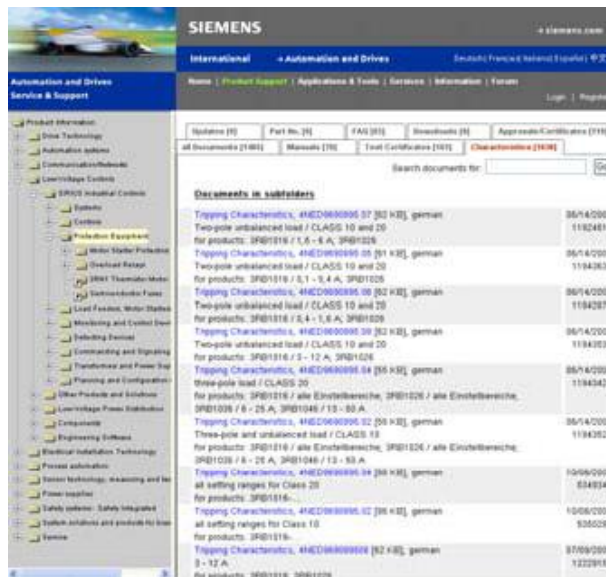
Verification certificates and characteristic curves

To find the latest overview of the certificates available for our low-voltage controls and distribution products, as well as other technical documentation, please visit our Internet site at:

<http://www.siemens.com/lowvoltage/support>



Product support: Approvals / Certificates



Product support: Characteristic curves

IEC	EN	DIN VDE	
IEC 60947-1	EN 60947-1	–	Low-voltage controlgear and switchgear: General requirements
IEC 60947-2	EN 60947-2	–	• Circuit-breakers
IEC 60947-3	EN 60947-3	–	• Load-break switches, disconnectors, switch disconnectors and fuse-combination units
IEC 60947-4-1	EN 60947-4-1	–	• Contactors and motor starters: Electromechanical contactors and motor starters:
IEC 60947-4-2	EN 60947-4-2	–	• Contactors and motor starters: Semiconductor motor controllers and starters
IEC 60947-4-3	EN 60947-4-3	–	• AC semiconductor controllers and contactors for loads other than motors
IEC 60947-5-1	EN 60947-5-1	–	• Control circuit devices and switching elements: Electromechanical control circuit devices
IEC 60947-5-2	EN 60947-5-2	–	• Control circuit devices and switching elements: Proximity switches
IEC 60947-5-3	EN 60947-5-3	–	• Proximity switches (specific behavior under fault conditions)
IEC 60947-5-5	EN 60947-5-5	–	• EMERGENCY-STOP devices with mechanical latching
IEC 60947-5-6	EN 60947-5-6	–	• DC interface for proximity switches and switching amplifier (NAMUR)
IEC 60947-5-7	EN 60947-5-7	–	• Proximity switch with analog output
IEC 60947-6-1	EN 60947-6-1	–	• Multifunctional controlgear and switchgear: Automatic transfer switches
IEC 60947-6-2	EN 60947-6-2	–	• Multifunctional controlgear and switchgear: Control and protection switchgear (CPS)
IEC 60947-7-1	EN 60947-7-1	–	• Ancillary equipment: Terminal blocks for copper conductors
IEC 60947-7-2	EN 60947-7-2	–	• Ancillary equipment: PE conductor terminal blocks for copper conductors
IEC 60947-7-3	EN 60947-7-3	–	• Ancillary equipment: Safety requirements for terminal blocks
IEC 60947-8	EN 60947-8	0660 - 302	• Tripping units for the integrated thermal protection (PTC) of rotating electric machines
IEC 62026-2	EN 50295	–	• Actuator-Sensor Interface (AS-i)
IEC 60269-1	EN 60269-1	–	Low-voltage fuses: General requirements
IEC 60269-4	EN 60269-4	–	Low-voltage fuses: Supplementary requirements for fuse links for protecting semiconductor components
IEC 60050-441	–	–	International dictionary / switchgear and / or switching devices and fuses
IEC 60439-1	EN 60439-1	–	Low-voltage switchgear and controlgear assemblies: Type-tested and partially type-tested assemblies
–	EN 60747-5-1	–	Optocouplers for safe electrical isolation: Requirements, tests
–	EN 50247	0660 - 514	Protection against electric shock: Location of actuators near live parts
–	EN 61140	0140 - 1	Protection against dangerous shock currents: Basic requirements for safe isolation in electrical equipment
IEC 60664-1	EN 60664-1	0110-1	Insulation coordination for electrical equipment in low-voltage systems; Principles, requirements and tests
IEC 60204-1	EN 60204-1	–	Electrical equipment of machines: General requirements
–	EN 50178	–	Equipment of electrical power installations with electronic equipment
–	EN 60079-14	–	Electrical apparatus in potentially explosive atmospheres
–	EN 60079-2	–	Electrical apparatus for potentially explosive atmospheres
–	EN 61810-1	–	Electrical relays without a fixed time response
IEC 61812-1	EN 61812-1	–	Electrical relays, specified-time relays
IEC 60999-1	EN 60999-1	–	Connecting materials: Safety requirements for screw terminals and screwless terminals for copper electrical conductors
IEC 61558-1	EN 61558-1	–	Safety of transformers, power supply units and similar:
IEC 61558-2-1	EN 61558-2-1	–	Particular requirements for line transformers for general use
IEC 61558-2-2	EN 61558-2-2	–	Particular requirements for control-power transformers
IEC 61558-2-4	EN 6158-2-4	–	Particular requirements for isolating transformers for general use
IEC 61558-2-6	EN 61558-2-6	–	Particular requirements for safety isolating transformers for general use
IEC 60726	EN 60076-11	0532-76-11	Power transformers
–	–	0552	Specifications for variable transformers with moving contacts perpendicular to the coiling direction
IEC 61000-4-1	EN 61000-4-1	–	Electromagnetic compatibility (EMC); Part 4: Testing and measuring techniques; Main Section 1: Overview of measuring techniques for interference immunity; Basic EMC standard
IEC 61000-6-3	EN 61000-6-3	–	Electromagnetic compatibility (EMC); Basic technical standard for emitted interference in residential and commercial environments as well as in light industry
IEC 61000-6-4	EN 61000-6-4	–	Electromagnetic compatibility (EMC); Basic technical standard for emitted interference in industrial environments
IEC 60044-1	EN 60044-1	0414 44-1	Instrument transformers: Current transformers
Other specifications			
UL 506			Special transformers
UL 508			Industrial controlling equipment, motor starters
UL 489			Molded case circuit-breakers, molded case switches, and circuit-breaker enclosures
UL 1561			General-purpose and power dry-type transformers
UL 1604			Devices for operation in hazardous areas
UL 1059			Terminal blocks
UL 486E			Internal wiring points for aluminum and / or copper
CSA C22.2 No. 66			Specialty transformers
CSA C22.2 No. 14			Industrial control equipment
CSA C22.2 No. 5			Molded case circuit breakers
ASME A17.5 / B 44.1			Elevator and escalator electrical equipment
JIS C 8201-4-1			Low-voltage switchgear and controlgear; Contactors and motor-starters

Appendix

Standards and approvals

Approval requirements valid in different countries

Siemens low-voltage switchgear and controlgear are designed, manufactured and tested according to the relevant German standards (DIN and VDE), ICE publications and European standards (EN) as well as CSA and UL standards. The standards assigned to the individual switchgear and controlgear components are stated in the relevant parts of this catalog.

As far as is economically viable, the requirements of the various regulations valid in other countries are also taken into account in the design of the equipment.

In some European countries and in North America (see table below), an approval is required for certain low-voltage switchgear and controlgear components. Depending on the market requirements, these components have been submitted for approval to the authorized testing institutes.




In some cases, CSA for Canada and UL for the USA only approve special switchgear designs. Such special types are listed separately from the standard types in the individual parts of this catalog.

For this equipment, partial limitations of the maximum permissible voltages, currents and ratings can be imposed, or special approval and, in some cases, special identification is required.

For use on board ship, the specifications of the marine classification societies must be observed (see table below). In some cases, they require type tests of the components to be approved.

The present state of approval is shown in the "Overview of approved equipment" tables on pages page 20/18 to page 20/26

Testing bodies, approval identification and approval requirements

Country	Canada ¹⁾	USA ¹⁾	China
Government-appointed or private, officially recognized testing bodies	CSA UL (USA)	UL	CQC
Approval symbol			
Approval requirements	+	+	+
Remarks	UL and CSA are authorized to grant approvals according to Canadian or US regulations. Please Note: these approvals are frequently not recognized and additional approval often has to be obtained from the national testing authority.		

For further details on UL and CSA see page 20/17.

1) For guide numbers and file numbers for approvals, please visit <http://www.siemens.com/automation/support> and select "Product Support".

Marine classification societies

Country	Germany	United Kingdom	France	Norway	CIS	Italy	Poland	USA
Name	Germanischer Lloyd	Lloyds Register of Shipping	Bureau Veritas	Det Norske Veritas	Russian Maritime Register of Shipping	Registro Italiano Navale	Polski Rejestr Statków	American Bureau of Shipping
Codes	GL	LRS	BV	DNV	RMRS	RINA	PRS	ABS

CE mark of conformity

Manufacturers of products which fall within the subject area to which EU directives apply must identify their products, instruction manuals or packaging with a CE mark of conformity.

The CE mark of conformity confirms that a product fulfills the appropriate basic requirements of all pertinent directives. The mark of conformity is a mandatory requirement for putting products into circulation throughout the EU.

All the products in this catalog are in conformance with the EU directives and bear the CE mark of conformity.

- Low-voltage directive (NS 73/23/EU)
- EMC directive (EMC 89/336/EU)

ALPHA/LOVAG

The Low Voltage Controls and Distribution Division of Siemens AG is a member of the "Gesellschaft zur Prüfung und Zertifizierung von Niederspannungsgeräten e.V. ALPHA" (Society for Testing and Certification of Low-Voltage Equipment), Frankfurt am Main.

The responsibility of manufacturers and the high quality of products are promoted by ALPHA by means of supportive procedural guidelines for testing equipment according to the currently valid standards.

Providing specific conditions are fulfilled, ALPHA can also issue officially recognized product certificates if required. As a member of LOVAG, ALPHA is also working towards obtaining international recognition for declarations of conformity and certificates.

LOVAG (Low-Voltage Agreement Group) is a body comprising international specialists from certification bodies and industry who are working together to create a standardized European certificate.

List of LOVAG members

ALPHA	Germany
ASEFA	France
ACAIE	Italy
CEBEC	Belgium
Intertek Semko AB	Sweden
APPLUSS	Spain



Accident prevention

Test certificates and approvals from the BIA (German statutory industrial accident insurance institution in Bonn) and from SUVA (Swiss institute for accident prevention) are available for some devices in safety control systems. For details, see the respective product descriptions.

Appendix

Standards and approvals

Ex protection certificates for SIRIUS controls

Motor protection devices that protect a motor installed in a potentially explosive atmosphere against overloading must comply with certain special requirements. These requirements are laid down in the following standards:

- EN 60947-1
- EN 60079-14
- EN 60947-4-1
- EN 60079-0
- EN 60079-7

Certification

July 1, 2003 saw the dawning of a new era in the field of explosion protection. Since this date, only those devices and protection systems that have been certified for operation in potentially explosive atmospheres according to directive 94/9/EU can be brought into circulation within the European Union.

Only those motor protection devices that have been constructed according to the above-mentioned standards and which have a conformity declaration from the manufacturer based on a prototype test certificate may be brought into circulation within the member states of the EU.

The quality management system of the manufacturer is also subjected to certain requirements and a "QM certificate" must be obtained for the manufacturer from a recognized authority.

Certification of the QM system

A certificate of approval for quality assurance production has been issued by EXAM¹⁾ with the EXAM¹⁾ number 02 ATEX ZQS/EM, according to Directive 94/9/EU.

This certificate is valid for equipment groups I and II and categories M2 and 2: Safety and control devices for electrical equipment.

Certificates

For the 3RV, 3RU, 3RB, 3UF5 and 3RN motor protection devices, the corresponding conformity declarations and prototype test certificates for Category 2G, and to some extent 2D, are available and can be supplied on request.

Identifying markings

All equipment must be marked in accordance with the ATEX guideline. The ATEX identification code contains the equipment group, the approved environment, the number of the certification authority and other technical data that was determined from the type test.

1) EXAM

The certification authority of the "EXAM BGG EXAM BGG Prüf und Zertifizierungsstelle" numbered as authority number 0158 in accordance with Article 9 of Directive 94/9/EU of the European Parliament dated March 23, 1994, certifies that Siemens Amberg and Cham maintains a quality system for production that satisfies Appendix IV of this Directive.

Certificate of the AS-International Association for AS-Interface products

AS-Interface products are tested and certified by the AS-International Association. The products have been tested in an approved test laboratory according to testing guidelines.

Special specifications for the USA and Canada

In the USA and Canada, for machine tools and processing machines in particular, supply lines are laid using rubber insulated conductors enclosed in heavy-duty steel piping similar to that used for gas or water pipe systems.

The tubing system must be completely watertight and electrically conductive (especially sleeving and elbows). Since the tubing system can also be grounded, the cable entries of enclosed units equipped with heavy-gauge or metric threads must be fitted with metal adapters between these threads and the tube thread. The necessary adapters are specified for the switchgear as accessories; they should be ordered separately unless otherwise specified.











Low-voltage switchgear and controlgear for auxiliary circuits (e.g. contactor relays, command and signaling devices and control switches/auxiliary contacts in general) are generally only

approved by CSA and UL for "**Heavy Duty**" or "**Standard Duty**" and are identified either with these specifications in addition to the maximum permissible voltage or by using an abbreviation.

The abbreviations are harmonized with IEC 60947-5-1 Appendix 1 Table A1 and correspond to the stated utilization categories.

For various switching devices detailed in the catalog, a note has been included to the effect that, above a certain voltage, the control switches/auxiliary contacts can only be used if they have the same polarity. This means that the input terminals can only be connected to the same pole of the control voltage, e.g. "600 V AC above 300 V AC same polarity".

Different features of UL approvals (for USA and Canada)

Recognized component	Listed product
UL issues yellow "Guide cards" with a Guide No. and a File No.	UL issues white "Guide cards" with a Guide No. and a File No.
Devices are identified on the rating plate using the "UL recognition mark": USA:   US Canada:   US	Devices are identified using the "UL listing mark" on the rating plate e.g. USA:  LISTED 165 C Canada:  LISTED 165 C IND. CONT. EQ. IND. CONT. EQ. (165 C stands for: Siemens, A & D CD Division, Amberg plant)
Devices are approved as modules for "factory wiring", i.e.: as devices for installation in control systems, which are selected, installed, wired and tested entirely by trained personnel in factories, workshops or elsewhere, according to the conditions of use .	Devices are approved for "field wiring", i.e.: <ul style="list-style-type: none"> As devices for installation in control systems, which are completely wired by trained personnel in factories, workshops or elsewhere. As single devices for sale in retail outlets in the USA/Canada.
If devices are  or  approved as "listed products", they are also approved as "recognized components" and allowed to be marked  or  .	

For further details on UL and CSA see Pagepage 20/14.

Special specifications for Russia, Australia and China

GOST approval for Russia



AR46

A GOST approval is required for all products that are to be sold in Russia. The GOST mark has been obligatory on the packaging of all devices since mid-1998.

All devices delivered to any part of the Russian Federation must have this customs certification.

C-Tick licensing for Australia



The C-Tick license is required for marketing Siemens components in Australia. Electronic devices must provide proof of EMC clearance in Australia, similar to the CE mark of conformity laid down by the EMC directive applicable in the EU and bear the "C-Tick" mark. These requirements have been in force since October 1, 1999.

CCC approval



A003617

Since August 1, 2003, CCC approval is required for all products that are marketed in China.

Appendix

Standards and approvals

Overview

Equipment	Type	Approvals				Marine classifications								
		Canada (2)	USA (1)	1)	China	Germany	United Kingdom	France	Norway	CIS	Italy	Poland	USA	
		Ⓢ	Ⓢ	Ⓢ	CCC	GL	LRS	BV	DNV	RMRS	RINA	PRS	ABS	
Motor starters	3RK1 322	+	+	x	+	+/ Δ	+/ Δ	+/ Δ	+/ Δ	O	+/ Δ	+/ Δ	+/ Δ	
ECOFAST motor starters (available soon)	3RK1 323	+	+	x	+	-	-	-	-	-	-	-	-	
	6EP16 32-1AL01	+	+	-	-	-	-	-	-	-	-	-	-	
PROFIBUS DP, ET 200X Motor Starters	3RK1 300	+	+	x	+	+	+	+	+	-	+	+	+	
ET 200S	3RK1 301	+	+	x	+	-	-	-	-	-	-	-	-	
ECOFAST	3RK1 303	+	+	x	+	-	-	-	-	-	-	-	-	
ECOFAST accessories ET 200X accessories	3RK1 9	+	+	x	+	+/ Δ	+/ Δ	+/ Δ	+/ Δ	-	+/ Δ	+/ Δ	+/ Δ	
SIMOCODE-DP	3UF5	+	+	x	+	+	+	-	+	-	-	-	-	
	3UF7	+	O	x	O	-	-	-	-	-	-	-	-	
Current transformers	3UF18	+	+	x	-	-	-	-	-	-	-	-	-	
LOGO! Basic variant	6ED1 052	+	+	x	-	+	+	+	+	-	-	+	+	
AS-1 variant	6ED1 055	+	+	x	-	+	+	+	+	-	-	+	+	
Expansion module														
SIRIUS motor starter protectors up to 100 A ⁴⁾	3RV10 11	+ ³⁾	+ ³⁾	+	+	+	+	+	+	+	+	+	-	
	3RV10 21	+ ³⁾	+ ³⁾	x	+	+	+	+	+	+	+	+	-	
	3RV10 31	+ ³⁾	+ ³⁾	x	+	+	+	+	+	+	+	+	-	
	3RV10 4.	+ ³⁾	+ ³⁾	x	+	+	+	+	+	+	+	+	-	
	3RV11 21	+	+	x	+	-	-	-	-	+	-	+	-	
	3RV11 31	+	+	x	+	-	-	-	-	+	-	+	-	
	3RV11 4.	+	+	x	+	-	-	-	-	+	-	+	-	
	3RV13 21	+	+	x	+	+	+	-	+	+	+	+	-	
	3RV13 31	+	+	x	+	+	+	-	+	+	+	+	-	
	3RV13 4.	+	+	x	+	+	+	-	+	+	+	+	-	
	3RV16 11.1	+	+	x	+	-	-	-	-	+	-	+	-	
	3RV14 21	+ ⁴⁾	+ ⁴⁾	x	+	+	+	-	+	+	+	+	-	
	3RV14 31	+ ⁴⁾	+ ⁴⁾	x	+	+	+	-	+	+	+	+	-	
	3RV17 42	+	+	x	O	-	-	-	-	-	-	-	-	
	Accessories for 3RV motor starter protectors ⁵⁾	3RV19 01	+	+	x	+	+	+	+	+	+	+	+	-
		3RV19 .2	+	+	x	+	+	+	+	+	+	+	+	-
3RV19 36/46		-	-	-	+	-	-	-	-	-	+	-	-	
3RV19 .7		+	+	-	+	-	-	-	-	-	-	-	-	
3RV19 .8-1A		-	-	-	+	-	-	-	-	-	-	-	-	
3RV19 08		-	-	-	+	-	-	-	-	-	-	-	-	
3RV19 13		-	-	-	+	-	-	O	-	O	+	-	-	
3RV19 18		-	-	-	+	-	-	O	+	-	-	-	-	
3RV19 23		-	-	-	+	-	-	O	-	O	+	-	-	
3RV19 28-1H		+	+	-	+	-	-	-	-	-	-	-	-	
3RV19 15		+	+	x	+	-	-	+	-	+	+	+	-	
3RV19 35		+	+	x	+	-	-	+	-	+	+	+	-	
3RV19 21-1M	+	+	x	+	+	-	+	+	+	+	+	-		

- + Standard version approved.
- Not yet submitted for approval.
- O Equipment submitted for approval, please inquire.
- x \mathcal{S} approval not required because \mathcal{S} approved.
- Δ Note remarks on marine products (AS-Interface) at <http://www.siemens.com/automation/support>.

- 1) For guide numbers and file numbers for the approvals, visit our website at <http://www.siemens.com/automation/support>.
- 2) \mathcal{S} and \mathcal{S} approvals are available in accordance with US approval.
- 3) Approval as "Type E" combination motor controller and as tap conductor protection device.
- 4) Approval for motorized loads only (not for transformers)
- 5) For approved rated data, please see chapter 5, "Protection equipment: Motor starter protectors".

Standards and approvals

Equipment	Type	Approvals				Marine classifications							
		Canada 1)2)	USA 1)		China	Germany	United Kingdom	France	Norway	CIS	Italy	Poland	USA
		☉	☉	☉	CCC	GL	LRS	BV	DNV	RMRS	RINA	PRS	ABS
SIRIUS 3RT10 contactors	3RT10 1.	+	+	x	+	+	+	+	+	+	+	+	-
	3RT10 2.	+	+	x	+	+	+	+	+	+	+	+	-
	3RT10 3.	+	+	x	+	+	+	+	+	+	+	+	-
	3RT10 4.	+	+	x	+	+	+	+	+	+	+	+	-
	3RT10 5.-A	+	+	x	+	+	+	-	+	-	-	-	-
	3RT10 5.-N	+	+	x	+	+	+	-	+	-	-	-	-
	3RT10 5.-P	+	+	x	+	+	+	-	+	-	-	-	-
	3RT10 5.-Q	+	+	x	+	+	+	-	+	-	-	-	-
	3RT10 6.-A	+	+	x	+	+	+	-	+	-	-	-	-
	3RT10 6.-N	+	+	x	+	+	+	-	+	-	-	-	-
	3RT10 6.-P	+	+	x	+	+	+	-	+	-	-	-	-
	3RT10 6.-Q	+	+	x	+	+	+	-	+	-	-	-	-
	3RT10 7.-A	+	+	x	+	+	+	-	+	-	-	-	-
	3RT10 7.-N	+	+	x	+	+	+	-	+	-	-	-	-
3RT10 7.-P	+	+	x	+	+	+	-	+	-	-	-	-	
3RT10 7.-Q	+	+	x	+	+	+	-	+	-	-	-	-	
SIRIUS 3RT12 vacuum contactors	3RT12 6.-A	+	+	x	+	+	-	+	-	-	-	-	-
	3RT12 6.-N	+	+	x	+	+	-	+	-	-	-	-	-
	3RT12 7.-A	+	+	x	+	+	-	+	-	-	-	-	-
	3RT12 7.-N	+	+	x	+	+	-	+	-	-	-	-	-
SIRIUS 3RT14 contactors for switching resistive loads	3RT14 4.	+	+	x	+	+	-	+	-	-	-	-	-
	3RT14 56-A	+	+	x	+	+	-	+	-	-	-	-	-
	3RT14 56-N	+	+	x	+	+	-	+	-	-	-	-	-
	3RT14 56-P	+	+	x	+	+	-	+	-	-	-	-	-
	3RT14 56-Q	+	+	x	+	+	-	+	-	-	-	-	-
	3RT14 66-A	+	+	x	+	+	-	+	-	-	-	-	-
	3RT14 66-N	+	+	x	+	+	-	+	-	-	-	-	-
	3RT14 66-P	+	+	x	+	+	-	+	-	-	-	-	-
	3RT14 66-Q	+	+	x	+	+	-	+	-	-	-	-	-
	3RT14 76-A	+	+	x	+	+	-	+	-	-	-	-	-
3RT14 76-N	+	+	x	+	+	-	+	-	-	-	-	-	
3RT14 76-P	+	+	x	+	+	-	+	-	-	-	-	-	
3RT14 76-Q	+	+	x	+	+	-	+	-	-	-	-	-	
SIRIUS 3RT 4-pole contactors	3RT13	+	+	x	+	-	-	-	-	-	-	-	-
	3RT15	+	+	x	+	-	-	-	-	-	-	-	-
SIRIUS 3RT16 capacitor contactors	3RT16	○	+	x	+	-	-	-	-	-	-	-	-
SIRIUS 3RH contactor relays (extended operating range)	3RH11 22-2K	+	+	x	+	+	+	+	+	+	+	+	-
SIRIUS coupling relays	3RT10	+	+	x	+	+	+	+	+	+	+	+	-
	3RH11	+	+	x	+	+	+	+	+	+	+	+	-
Accessories for 3RT and 3RH	3RH19 11	+	+	x	+	+	+	+	+	+	+	+	-
	3RH19 21	+	+	x	+	+	+	+	+	+	+	+	-
	3RT19 .6-1....	+	+	x	+	+	+	+	+	+	+	+	-
	3RT19 .6-2....	+	+	x	+	+	+	+	+	+	+	+	-
	3RT19 46-4GH07	+	+	x	+	-	-	-	-	-	-	-	-


- + Standard version approved.
- Not yet submitted for approval.
- Equipment submitted for approval, please inquire.
- x ☉ approval not required because ☉ approved.
- △ Note remarks on marine products (AS-Interface) at <http://www.siemens.com/automation/support>.


- 1) For guide numbers and file numbers for the approvals, visit our website at <http://www.siemens.com/automation/support>.
- 2) ☉ and ☉ approvals are available in accordance with US approval.

Appendix

Standards and approvals

Equipment	Type	Approvals				Marine classifications							
		Canada 1)2)	USA 1)		China	Germany	United Kingdom	France	Norway	CIS	Italy	Poland	USA
		Ⓢ	Ⓢ	Ⓢ	CCC	GL	LRS	BV	DNV	RMRS	RINA	PRS	ABS
SIRIUS 3RA13 reversing contactors	3RA13 1.	+	+	x	+	+	+	+	+	+	+	+	-
SIRIUS 3RA14 wye-delta combinations	3RA14 1	+	+	x	+	+	+	+	+	+	+	-	-
Accessories for 3RA1	3RA19 13-2B	+	+	x	+	+	+	+	+	+	+	+	-
	3RA19 13-3K	+	+	x	+	+	+	+	+	+	+	+	-
	3RA19 23-2B	+	+	x	+	+	+	+	+	+	+	+	-
	3RA19 23-3B	+	+	x	+	+	+	+	+	+	+	+	-
	3RA19 24-...	+	+	x	+	+	+	+	+	+	+	+	-
	3RA19 33-2B	+	+	x	+	+	+	+	+	+	+	+	-
	3RA19 43-2B	+	+	x	+	+	+	+	+	+	+	+	-
	3RA19 .6-4B	+	+	x	+	+	+	+	+	+	+	+	-
3-phase EMC interference suppression module	3RT19 16	+	+	-	+	+	+	+	+	+	+	+	-
3TF68/3TF69 contactors	3TF68 ..-0C	+	+	x	+	+	+	+	+	+	-	-	-
	3TF68 ..-1D	+	+	x	+	+	+	+	+	+	-	-	-
	3TF68 ..-1Q	+	+	x	+	+	+	+	+	+	-	-	-
	3TF68 ..-8C	-	-	-	+	+	+	+	+	+	-	-	-
	3TF68 ..-8D	-	-	-	+	+	+	+	+	+	-	-	-
	3TF68 ..-8Q	-	-	-	+	+	+	+	+	+	-	-	-
	3TF69 ..-0C	+	+	x	+	+	+	+	+	+	-	-	-
	3TF69 ..-1D	+	+	x	+	+	+	+	+	+	-	-	-
	3TF69 ..-1Q	+	+	x	+	+	+	+	+	+	-	-	-
	3TF69 ..-8C	-	-	-	+	+	+	+	+	+	-	-	-
	3TF69 ..-8D	-	-	-	+	+	+	+	+	+	-	-	-
	3TF69 ..-8Q	-	-	-	+	+	+	+	+	+	-	-	-
3TG10 contactors	3TG10 ...-0	+	+	x	+	-	-	-	-	-	-	-	-
3TD reversing contactor assemblies	3TD68	+	+	x	○	-	-	-	-	-	-	-	-
Surge suppressors	3TX7 4, 3TX7 522	+	+	x	-	-	-	-	-	-	-	-	-
3TK1 contactors with 4 NO main-contactors	3TK1	+	+	x	+	-	-	-	-	-	-	-	-
3T contactors with extended operating range	3T... ..-0L	+	+	x	-	-	-	-	-	-	-	-	-
SIRIUS SC semiconductor switching devices	3RF2	+	+	x	m	-	-	-	-	-	-	-	-
Contactor relays	3RH11/12, 3RH14	+	+	x	+	+	+	+	+	+	+	+	-
	3TH42, 3TH43	+	+	x	+	+	+	+	+	+	+	+	-
3RU11 thermal overload relays	3RU11 1.	+	+	x	+	+	+	+	+	+	+	+	-
	3RU11 2.	+	+	x	+	+	+	+	+	+	+	+	-
	3RU11 3.	+	+	x	+	+	+	+	+	+	+	+	-
	3RU11 4.	+	+	x	+	+	+	+	+	+	+	+	-
3RB1 solid-state overload relays	3RB10	+	+	x	+	+	-	+	-	-	+	-	-
	3RB12	+	+	x	+	+	-	+	-	-	+	-	-
Accessories for 3RU11 + 3RB10	3RU19 .6-3A	+	+	x	+	+	+	+	+	+	+	+	-
	3RU19 00-1	+	+	x	+	+	+	+	+	+	+	+	-
	3RU19 00-2	+	+	x	+	+	+	+	+	+	+	+	-
3RA11/3RA12/3RA5 SIRIUS load feeders	3RA11, 3RA12	+ ³⁾ ○ ³⁾	+ ³⁾ ○ ³⁾	x	+	+	+	+	-	-	+	-	-
	3RA5	+ ³⁾ ○ ³⁾	+ ³⁾ ○ ³⁾	x	+	○	+	+	-	-	+	-	-
3RE encapsulated starters	3RE	-	-	-	-	-	-	-	-	-	-	-	-

- + Standard version approved.
- Not yet submitted for approval.
- Equipment submitted for approval, please inquire.
- x  approval not required because Ⓢ approved.
- m For exporting products to the People's Republic of China, CCC marking is not necessary.

- 1) For guide numbers and file numbers for the approvals, visit our website at <http://www.siemens.com/automation/support>.
- 2) Ⓢ and  approvals are available in accordance with US approval.
- 3) Single devices approved for assemblies.

Equipment	Type	Approvals				Marine classifications							
		Canada 1)2)	USA 1)	1)	China	Germany	United Kingdom	France	Norway	CIS	Italy	Poland	
		☉	☉	☉	CCC	GL	LRS	BV	DNV	RMRS	RINA	PRS	
SIKOSTART	3RW22 21 to 3RW22 31, 3RW34	+	+	x	+	-	-	-	-	-	-	+	
SIRIUS solid-state soft starters	3RW30, 3RW31 3RW30 03 3RW40 3RW44	+ + x x	+ + + +	x x x x	+ O + O	- - - O	+ - - O	- - - O	+ - - O	- - - -	- - - -	+ - - -	
SIRIUS timing relays	3RP15 3RP20	+ + ²⁾	+ +	x -	+ -	+ O	+ O	+ -	+ +	+ -	+ -	+ -	
	7PV3 7PV4	+ ²⁾ + ²⁾	- +	+ -	- -	- -	- -	- -	- -	- -	- -	- -	
SIRIUS temperature monitoring relays	3RS10 3RS11	+ +	+ +	- -	+ +	- -	- -	- -	- -	- -	- -	- -	
SIRIUS thermistor motor protection	3RN1	+	+	x	+	+	+	+	+	-	-	+	
SIRIUS monitoring relays	3UG3	+ ²⁾	+	+	O	-	-	-	-	-	-	-	
SIRIUS interfaces, slim design	3RS18 3TX7 01¹⁾ 3TX7 002, 3TX7 003 3TX7 004, 3TX7 005	+ + + +	+ + + +	x x x x	+ + + +	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	
SIRIUS plug-in relays, relay couplers	LZX : MT LZX : PT LZX : RT LZX : RY	+ ²⁾ + ²⁾ + ²⁾ + ²⁾	- - - -	+ + + +	O O O O	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	
SIRIUS power relays	3TG10 ...0	+	+	x	+	-	-	-	-	-	-	-	
Interface converters/ isolation amplifiers	3RS17	+ ²⁾	+	-	m	-	-	-	-	-	-	-	
Position switches	3SE2 100/120 3SE3 0	+ +	+ +	x +	+ +	• •	• •	• •	• •	- -	• •	• •	
	3SE2 200/210/230	+	+	x	+	•	•	•	•	-	•	•	
Safety position switches	3SE2 120-1X, 3SE2 120-6XX	+ +	+ +	x x	+ +	• •	• •	• •	• •	- -	• •	• •	
	3SE2 240 3SE2 243/253	+ +	+ +	x x	+ +	• •	• •	• •	• •	- -	• •	• •	
	3SE3 160/180 3SE3 7./8.	- +	+ +	x x	- -	- -	- -	- -	- -	- -	- -	- -	
	3SE2 83., 3SE2 84. 3SE2 9	+ +	+ +	x x	+ +	- -	- -	- -	- -	- -	- -	- -	
Signaling columns	8WD4/8WD5	+	+	x	-	•	•	•	•	-	•	•	
Magnetically operated switches	3SE6	+	+	x	-	-	-	-	-	-	-	-	
Cable-operated switches	3SE7	+	+	x	-	-	-	-	-	-	-	-	
Safety combinations	3TK28 21 to 24/30 3TK28 25, 3TK28 27/28 3TK28 34, 3TK28 35	+ + +	+ + +	x x x	m m m	- - -	- - -	- - -	- - -	- - -	- - -	- - -	
	3TK28 40 to 3TK28 45 3TK28 50 to 3TK28 57 3RA71	+ + +	+ + +	x x x	m m m	- - -	- - -	- - -	- - -	- - -	- - -	- - -	

- + Standard version approved.
- Not yet submitted for approval.
- O Equipment submitted for approval, please inquire.
- x ☉ approval not required because ☉ approved.
- Approved for operation in connection with AS-Interface, also approved by ABS (American Bureau of Shipping).
- m For exporting products to the People's Republic of China, CCC marking is not necessary.

- 1) For guide numbers and file numbers for the approvals, visit our website at <http://www.siemens.com/automation/support>.
- 2) ☉ or ☉ approval.

Appendix

Standards and approvals

Equipment	Type	Approvals				Marine classifications						
		Canada 1)2)	USA 1)	1)	China	Germany	United Kingdom	France	Norway	CIS	Italy	Poland
		☉	☉	☉	CCC	GL	LRS	BV	DNV	RMRS	RINA	PRS
Pushbuttons and indicator lights, mounting diameter 16 mm	Actuators with holders, complete units, lampholders, contact blocks and voltage reducers											
	3SB20	+	+	x	+	-	-	-	-	-	-	-
	3SB22	+	+	x	+	-	-	-	-	-	-	-
	3SB23	+	+	x	+	-	-	-	-	-	-	-
	3SB24	+	+	x	+	-	-	-	-	-	-	-
Pushbuttons and indicator lights³⁾, mounting diameter 22 mm, round type	Actuators with holders, complete units, switching elements, lampholders and transformers (screw-type and solder pin terminals)											
	3SB30	+	+	x	+	•	•	•	•	-	•	•
	3SB32	+	+	x	+	•	•	•	•	-	•	•
	3SB33	+	+	x	+	-	-	-	-	-	-	-
	3SB34 (screw-type)	+	+	x	+	•	•	•	•	-	•	•
	3SB34 (solder pin)	+	-	+	+	•	•	•	•	-	•	•
	3SB35/3SB36	+	+	x	+	-	-	-	-	-	-	-
	3SB38	+	+	x	+	•	•	•	•	-	•	•
Pushbuttons and indicator lights³⁾, mounting cutout 26 x 26 mm	Actuators with holders, complete units, switching elements, lampholders and transformers (screw-type and solder pin terminals)											
	3SB31	+	+	x	+	•	•	•	•	-	•	•
	3SB33	+	+	x	+	•	•	•	•	-	•	•

Footnotes to page 20/22.

- + Standard version approved.
 - Not yet submitted for approval.
 - Equipment submitted for approval, please inquire.
 - x ☉ approval not required because ☉ approved.
 - Approved for operation in connection with AS-Interface, also approved by ABS (American Bureau of Shipping).
- 1) For guide numbers and file numbers for the approvals, visit our website at <http://www.siemens.com/automation/support>.
 - 2) ☉ and ☉ approvals are available in accordance with US approval.
 - 3) A test certificate has been issued for EMERGENCY-STOP command devices and switching elements with screw-type or solder pin terminals by the BIA (German statutory industrial accident insurance institution).

Footnotes to page 20/23.

- + Standard version approved.
 - Not yet submitted for approval.
 - Equipment submitted for approval, please inquire.
 - x ☉ approval not required because ☉ approved.
- 1) For guide numbers and file numbers for the approvals, visit our website at <http://www.siemens.com/automation/support>.
 - 2) ☉ and ☉ approvals are available in accordance with US approval.
 - 3) Not for circuit-breakers for motor protection. Not for 3VF3 used with the standard switching capacity 25 kA.
 - 4) Also approved by the American Bureau of Shipping (ABS).
 - 5) Also approved by the China Classification Society (CCS).
 - 6) Also approved by Nippon Kaiji Kyokai (NK)
 - 7) Listed as an "Industrial control switch" (on request). According to UL508, can only be used as a "General use switch" in conjunction with UL/CSA back-up fuses, see chapter 16 "Compact circuit-breakers (MCCB)". Circuit-breakers according to UL489 on request.
 - 8) For 3VF6 rated current reduced to 600 A.
 - 9) Approved rated data, see chapter 17 "Switch Disconnectors and SENTRIC fuse switch disconnectors"
 - 10) Approved as fuse base.

Standards and approvals

Equipment	Type	Approvals				Marine classifications									
		Canada (1)(2)	USA (1)	UK (1)	China CCC	Germany GL	United Kingdom LRS	France BV	Norway DNV	CIS RMRS	Italy RINA	Poland PRS	USA ABS		
SENTRON WL circuit-breakers up to 6300 A (ACB)	3WL1	-	-	-	+	+	+	+	+	-	+	+			
	3WL5	0	+	-	-	-	-	-	-	-	-	-			
	3WN6 ⁽³⁾⁽⁴⁾⁽⁵⁾⁽⁶⁾	-	-	-	+	+	+	+	-	+	+				
SENTRON VL circuit-breakers up to 1600 A (MCCB)	3VL4/6/7/8	-	-	-	+	+	+	+	+	+	+ +			
	3VL1/2/3/5/9	-	-	-	+	+	+	+	+	+	+ +			
	3VF2	-	-	-	+	-	-	-	-	-	-	-			
	3VF3 ⁽³⁾⁽⁴⁾ , 3VF4 ⁽⁴⁾	- ⁽⁷⁾	- ⁽⁷⁾	-	+	+	+	+	+	+	+	+			
	3VF5 ⁽³⁾⁽⁴⁾ , 3VF6 ⁽³⁾⁽⁴⁾	- ⁽⁷⁾	- ⁽⁷⁾	-	+	+	+	+	+	+	+	+			
Fuse switch disconnectors	3NP35/3NP40 1	-	-	+ ⁽¹⁰⁾	0	+	-	-	-	-	-	+			
	3NP35/3NP40 7	-	-	+ ⁽¹⁰⁾	0	-	-	-	-	-	-	-			
	3NP35/3NP4	-	-	-	0	-	-	-	-	-	-	+			
	3NP50 to 3NP54	-	-	-	0	-	-	-	-	-	-	+			
	3NP5. 6.-.H	-	-	-	0	-	-	-	-	-	-	+			
SENTRON WL circuit-breakers up to 6300 A (ACB)	3WL1	-	-	-	+	+	+	+	-	+	+	+			
	3WL5	0	+	-	-	-	-	-	-	-	-	-			
	3WN6 ⁽³⁾⁽⁴⁾⁽⁵⁾⁽⁶⁾	-	-	-	+	+	+	+	-	+	+	+			
	3VL4/6/7/8	-	-	-	0	0	+	-	0	-	-	-			
	3VL1/2/3/5/9	-	-	-	0	+	+	-	0	-	-	-			
SENTRON VL circuit-breakers up to 1600 A (MCCB)	3VF2	-	-	-	+	-	-	-	-	-	-	-			
	3VF3 ⁽³⁾⁽⁴⁾ , 3VF4 ⁽⁴⁾	- ⁽⁷⁾	- ⁽⁷⁾	-	+	+	+	+	+	+	+	+			
	3VF5 ⁽³⁾⁽⁴⁾ , 3VF6 ⁽³⁾⁽⁴⁾	- ⁽⁷⁾	- ⁽⁷⁾	-	+	+	+	+	+	+	+	+			
	3VF7 ⁽⁴⁾ , 3VF8 ⁽⁴⁾	-	-	-	+	+	+	+	+	+	+	+			
	3VF7 ⁽⁴⁾ , 3VF8 ⁽⁴⁾	-	-	-	+	+	+	+	+	+	+	+			
Switchable fuse switch disconnectors	3NJ4	-	-	-	0	-	-	-	-	-	-	-			
Switch disconnectors with fuses	3KL50, 3KM50	-	-	-	0	+	+	+	-	+	-	+			
	3KL52, 3KM52	+ ⁽⁹⁾	-	+ ⁽⁹⁾	0	+	+	-	-	-	-	+			
	3KL53, 3KM53	-	-	+ ⁽⁹⁾	0	-	-	-	-	-	-	+			
	3KL55, 3KM55	+ ⁽⁹⁾	-	+ ⁽⁹⁾	0	+	+	-	-	-	-	+			
	3KL57, 3KM57	+ ⁽⁹⁾	-	+ ⁽⁹⁾	0	+	+	-	-	-	-	+			
SITOR fuses	3NE	-	-	+	0	-	-	-	-	-	-	-			
	3NC	-	-	+	0	-	-	-	-	-	-	-			
	3NC1 09, 3NC1 49 3NC2 29	+	-	+	0	-	-	-	-	-	-	-			
LV HRC fuse links 500 V AC/440 V DC	3NA3 00., 3NA3 010 3NA3 012	-	-	-	-	-	-	-	-	-	+	-			
	3NA3 014, 3NA3 017 3NA3 02., 3NA3 03.	+	-	-	-	-	-	-	-	-	+	-			
	3NA3 10., 3NA3 110 3NA3 114, 3NA3 117	-	-	-	-	+	+	-	-	-	+	-			
	3NA3 12., 3NA3 13. 3NA3 14.	+	-	-	-	+	+	-	-	-	+	-			
	3NA3 214 3NA3 220, 3NA3 222 3NA3 224, 3NA3 23.	-	-	-	-	+	-	-	-	-	-	-			
	3NA3 240 3NA3 242, 3NA3 244	+	-	-	-	+	+	-	-	-	+	-			
	3NA3 250 3NA3 252, 3NA3 260 3NA3 254	+	-	-	-	+	-	-	-	-	+	-			
	3NA3 340, 3NA3 340 3NA3 35., 3NA3 360	-	-	-	-	+	-	-	-	-	+	-			
	3NA3 362, 3NA3 365 3NA3 372	-	-	-	-	+	-	-	-	-	+	-			
	3NA3 47., 3NA3 480 3NA3 6..	-	-	-	-	-	-	-	-	-	-	-			
	3NA3 801, 3NA3 803 3NA3 802, 3NA3 804 3NA3 805, 3NA3 807	-	-	-	-	+	+	-	-	-	+	-			
	3NA3 810 3NA3 812, 3NA3 814 3NA3 817, 3NA3 82.	-	-	-	-	+	+	-	-	-	+	-			
	3NA3 830 3NA3 832 3NA3 836	+	-	-	-	+	+	-	-	-	+	-			
	LV HRC fuse links 690 V AC	3NA3 1.. 3NA3 2.. 3NA3 3..	-	-	-	-	-	-	-	-	-	-	-		
		3NA3 80., 3NA3 810 3NA3 812, 3NA3 817	-	-	-	-	-	-	-	-	-	-	-		
		3NA3 814 3NA3 82., 3NA3 830	-	-	-	-	-	-	-	-	-	-	-		

Appendix

Standards and approvals

Equipment	Type	Approvals					Marine classifications								
		Canada 1)2)	USA 1)	1)	China	Germany	United Kingdom	France	Norway	CIS	Italy	Poland	USA		
		CE	cULUS	UL	CCC	GL	LRS	BV	DNV	RMRS	RINA	PRS	ABS		
Switch disconnectors	3KA50	-	-	-	O	+	+	+	-	+	-	+	-		
	3KA51, 3KA55, 3KA58	-	-	-	O	-	-	-	-	-	-	+	-		
	3KA53	+ ³⁾	x	+ ³⁾	x	O	+	-	-	-	-	+	-		
	3KA57	+ ³⁾	x	+ ³⁾	x	O	+	-	-	-	-	+	-		
	3KE4	-	-	-	-	-	-	-	-	+	-	+	-		
Busbar adapter systems	8US1	+	+	-	+	-	-	-	-	-	-	-	-		
Transformers	4AM, 4AP, 4AT, 4AU ⁴⁾	-	+	-	+	m	-	-	-	-	-	+	-		
	4BT, 4BU	-	+	-	+	m	-	-	-	-	-	-	-		
	4AX, 4FK	-	-	-	-	m	-	-	-	-	-	+	-		
DC power supplies	4AV21, 4AV23	-	+ ⁶⁾	-	+	m	-	-	-	-	-	+	-		
	4AV20, 4AV22, 4AV24, 4AV26	-	+	-	+	m	-	-	-	-	-	+	-		
	4AV30 to 4AV35 6EP1	+ ⁵⁾	+	-	+	m	+ ⁵⁾	+ ⁵⁾	-	+ ⁵⁾	-	+	+ ⁵⁾		
Load/system power supplies	4FD51	-	-	-	+	x	•	•	•	•	•	•	-		
Control switches and main control switches	3LD2	+	x	+	x	O	+	+	-	+	-	+	-		
Basic units and flush-mounting switches	3LD2. 64/65/66	+	x	+		O									
Molded-plastic distribution systems	8HP	-	-	O	-	-	-	-	-	-	-	-	-		

- + Standard version approved.
 - Not yet submitted for approval.
 - O Equipment submitted for approval, please inquire.
 - x **UL** approval not required because **UL** approved.
 - Approved for operation in connection with AS-Interface, also approved by ABS (American Bureau of Shipping).
- m For exporting products to the Peoples Republic of China, CCC marking is not necessary.

- 1) For guide numbers and file numbers for the approvals, visit our website at <http://www.siemens.com/automation/support>.
- 2) **cUL** and **cULUS** approvals are available in accordance with US approval, unless otherwise specified.
- 3) **UL**, **cUL** and **CE** approved rated data, see chapter 16, "Molded case circuit-breakers (MCCB)".
- 4) Transformers acc. to VDE 107 are not **UL**, **cUL** and **cULUS** approved.
- 5) Partly, see Catalog KT 10.1, power supply SITOP Power.
- 6) **UL/CE** approvals will be superseded by the **cULUS** approvals.

Standards and approvals

Equipment	Type	Approvals										Marine classifications							
		Canada 1)2)	USA 1)	1)	China	Czech Re- public	Slova- kia	Po- land	Hun- gary	Ger- many	United King- dom	France	Nor- way	CIS	Italy	Po- land	USA		
		©	c [®] US	®	c [®] US	®	CCC	EZU	SKTC	SEP	MEEI	GL	LRS	BV	DNV	RMRS	RINA	PRS	ABS
Terminal blocks For © and approved ratings of terminal blocks, see technical specifications	8WA1 010-1PH01	+	-	-	-	-	+	-	-	+	-	-	-	-	-	-	+	-	
	8WA1 010-1PQ00	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	8WA1 011-0D	+	-	+	+	+	-	+	+	+	+	+	+	-	-	-	+	+	
	8WA1 011-1BF21	+	-	+	+	+	-	+	+	+	+	+	+	-	-	-	+	+	
	8WA1 011-1BF22	+	-	+	+	+	-	+	+	+	+	+	+	-	-	-	+	+	
	8WA1 011-1BF23	+	-	+	+	+	-	+	+	+	+	+	+	-	-	-	+	+	
	8WA1 011-1BF24	+	-	+	-	-	-	-	-	+	+	+	+	-	-	-	-	-	
	8WA1 011-1BF25	+	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	8WA1 011-1BG11	+	-	+	+	+	-	+	+	+	+	+	+	-	-	-	+	+	
	8WA1 011-1BG21	+	-	+	+	+	-	+	+	+	+	+	+	-	-	-	+	+	
	8WA1 011-1BG22	+	-	+	+	+	-	+	+	+	+	+	+	-	-	-	+	+	
	8WA1 011-1BG24	+	-	+	-	-	-	-	-	+	+	+	+	-	-	-	-	+	
	8WA1 011-1BH23	+	-	+	+	+	-	+	+	+	+	+	+	-	-	-	-	+	
	8WA1 011-1BH24	+	-	+	-	-	-	-	-	+	+	+	+	-	-	-	-	+	
	8WA1 011-1BK11	+	-	+	+	+	-	+	+	+	+	+	+	-	-	-	+	+	
	8WA1 011-1BM11	+	-	+	+	+	-	+	+	+	+	+	+	-	-	-	+	+	
	8WA1 011-1BP11	-	-	-	+	+	-	+	+	+	+	+	+	-	-	-	+	+	
	8WA1 011-1DF11	+	-	+	+	+	-	+	+	+	+	+	+	-	-	-	+	+	
	8WA1 011-1DG11	+	-	+	+	+	-	+	+	+	+	+	+	-	-	-	+	+	
	8WA1 011-1DH11	+	-	+	+	+	-	+	+	+	+	+	+	-	-	-	+	+	
	8WA1 011-1DQ10	-	+	+	+	+	-	-	-	-	-	-	-	-	-	-	-	-	
	8WA1 011-1DS10	-	+	+	+	+	-	-	-	-	-	-	-	-	-	-	-	-	
	8WA1 011-1DU10	-	+	+	+	+	-	-	-	-	-	-	-	-	-	-	-	-	
	8WA1 011-1EF20	-	-	-	+	-	-	+	-	-	-	-	-	-	-	-	-	+	
	8WA1 011-1MH1.	+ ³⁾	-	+	+	+	-	+	+	+	+	+	+	+	+	-	-	+	
	8WA1 011-1EF28	-	-	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-	
	8WA1 011-1NF01	+	-	+	+	+	-	+	+	+	+	+	+	-	-	-	+	+	
	8WA1 011-1NF02	+	-	+	-	-	-	-	-	+	+	+	+	-	-	-	+	+	
	8WA1 011-1NG31	+	-	+	-	-	-	-	+	+	+	+	+	-	-	-	+	+	
	8WA1 011-1NG32	+	-	+	-	-	-	-	-	+	+	+	+	-	-	-	+	+	

- + Standard version approved.
- Not yet submitted for approval.

- 1) For guide numbers and file numbers for the approvals, visit our website at <http://www.siemens.com/automation/support>.
- 2) c[®] and c[®]US approvals are available in accordance with US approval, unless otherwise specified.
- 3) 600 A, 5 A, Type D or 300 V Type C.

Appendix

Standards and approvals

Equipment	Type	Approvals							Marine classifications							
		Canada 1)2)	USA 1)	1)	Czech Re- public	Slova- kia	Pol- and	Hun- gary	Ger- many	United King- dom	France	Nor- way	CIS	Italy	Poland	USA
		©	®	UL	EZU	SKTC	SEP	MEEI	GL	LRS	BV	DNV	RMRS	RINA	PRS	ABS
Terminal blocks For © and UL approved ratings of terminal blocks, see technical specifications	8WA1 011-1NH01	+	-	+	+	+	-	+	+	+	+	+	-	-	+	+
	-1NH02	+	-	+	-	-	-	-	+	+	+	+	-	-	+	+
	-1NK02	-	-	+	-	+	-	-	+	+	+	+	-	-	+	+
	8WA1 011-1PF00	+	-	+	+	+	-	+	+	+	+	+	-	-	+	+
	-1PF01	+	-	+	+	+	-	+	+	+	+	+	-	-	+	+
	-1PF11	+	-	+	+	+	-	+	+	+	+	+	-	-	+	+
	8WA1 011-1PG00	+	-	+	+	+	-	+	+	+	+	+	-	-	+	+
	-1PG01	+	-	+	+	+	-	+	+	+	+	+	-	-	+	+
	-1PG11	+	-	+	+	+	-	+	+	+	+	+	-	-	+	+
	8WA1 011-1PH00	+	-	+	+	+	-	+	+	+	+	+	-	-	+	+
	-1PH11	+	-	+	+	+	-	+	+	+	+	+	-	-	+	+
	-1PK00	+	-	+	-	-	-	+	+	+	+	+	-	-	+	+
	-1PM00	+	-	+	-	-	-	+	+	+	+	+	-	-	+	+
	8WA1 011-1SF12	+	-	+	+	+	-	+	+	+	+	+	-	-	+	+
	-1SF2.	+	-	+	-	-	-	-	-	-	-	-	-	-	+	-
	8WA1 011-2BG11	+	-	+	+	-	-	-	+	+	+	+	-	-	+	+
	-2DG11	+	-	+	+	+	-	+	+	+	+	+	-	-	+	+
	-2SF2.	+	-	+	-	+	-	-	-	-	-	-	-	-	+	-
	8WA1 011-3D.21	+	-	+	+	+	-	+	+	+	+	+	-	-	+	+
	8WA1 011-3JF16 to 8WA1 011-3JF20	+	-	+	+	+	-	+	-	-	-	-	-	-	-	-
8WA1 011-4SF2.	+	-	+	-	+	-	-	-	-	-	-	-	-	+	-	
-6SF2.	-	-	-	-	+	-	-	-	-	-	-	-	-	+	-	
-8SF2.	-	-	-	-	+	-	-	-	-	-	-	-	-	+	-	
8WA1 011-6BG11	+	-	+	+	-	-	-	+	+	+	+	-	-	+	+	
-6DG11	+	-	+	+	+	-	+	+	+	+	+	-	-	+	+	
-6EG..	-	-	+	+	+	-	+	-	-	-	-	-	-	+	-	
8WA1 012-1DK10	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	
-1D.14	+	-	+	-	-	-	-	-	-	-	-	-	-	-	-	
8WA1 204 to 206	+	-	+	+	+	-	+	+	+	+	+	-	-	+	+	
8WA1 211, 8WA1 221 8WA1 232	-	-	-	-	+	-	-	-	-	-	-	-	-	+	-	
8WA1 304, 8WA1 305 8WA1 501 8WA1 604	+	-	+	+	+	-	+	+	+	+	+	-	-	+	+	
8WA2 011-1.F2.	+	-	+	-	-	-	+	+	+	+	+	-	-	-	+	
-1.G2.	+	-	+	-	-	-	+	+	+	+	+	-	-	-	+	
-1.H2.	+	-	+	-	-	-	+	+	+	+	+	-	-	-	+	
-1.J2.	+	-	+	-	-	-	+	+	+	+	+	-	-	-	+	
-1.K2.	+	-	+	-	-	-	+	+	+	+	+	-	-	-	+	
8WA2 011-1.F3.	+	-	+	-	-	-	+	+	+	+	+	-	-	-	+	
-1.G3.	+	-	+	-	-	-	+	+	+	+	+	-	-	-	+	
-2.G4.	+	-	+	-	-	-	+	+	+	+	+	-	-	-	+	
8WA2 011-3JG1 -3JG30	+	-	+	-	-	-	-	+	+	+	+	-	-	-	+	
8WA2 011-1NK23 -3JG11 -1EF20 -6EG2.	+	-	+	-	-	-	-	-	-	-	-	-	-	-	-	
8WA2 011-3KE..	+	-	+	-	-	-	-	-	-	-	-	-	-	-	-	
8WA2 511-....	+	+	-	-	-	-	-	-	-	-	-	-	-	-	-	
8WA3 011-....	+	+	-	-	-	-	-	-	-	-	-	-	-	-	-	
8WA2 511, 8WA3 011	+	+	-	-	-	-	-	-	-	-	-	-	-	-	-	
8WA9 200, 8WA9 203	+	-	+	-	-	-	-	-	-	-	-	-	-	-	+	

- + Standard version approved.
- Not yet submitted for approval.

- 1) For guide numbers and file numbers for the approvals, visit our website at <http://www.siemens.com/automation/support>.
- 2) © and UL approvals are available in accordance with US approval.

More information

For further information on standards and approvals, please visit our website at <http://www.siemens.com/automation/support> and select "Product Support".

In the event of queries regarding UL/CSA approvals, please contact: Technical Assistance +49 (0)911-895 59 00.

Quality management

The quality management system of our A&D division complies with the international standard EN ISO 9001.

The products and systems described in this catalog are sold under application of a quality management system certified by DQS and TÜV Management Service GmbH in accordance with ISO 9001. The certificates are recognized in all IQ Net countries.

DQS Registered Certificate Nos.:

Siemens AG
Automation and Drives

- Industrial Automation Systems
Reg. No.: 001323 QM
- Industrial Communication SIMATIC NET
Reg. No.: 002613 QM.

TÜV (German Technical Inspectorate) Registered Certificate No.:

Siemens AG
Automation and Drives

- Low-Voltage Controls
Reg. No.: 12 100 16950 TMS.

BVQI Registered Certificate No.:

Siemens AG
Automation and Drives

- Electrical Installation Technology
Reg. No.: 117779

Certificates

An overview of the certificates available for SIMATIC NET products (CE, UL, CSA, FM, shipping authorizations) can be found on the Internet at:

<http://www.siemens.com/simatic-net>

Other certificates for SIMATIC products can be found on the Internet at:

<http://www.siemens.com/simatic>

These lists are continuously revised and updated and data for products not yet included in the overview are continuously collected and prepared for subsequent editions.

You can find certificates, approvals, verification certificates and characteristic curves at:

Support\Infomaterial\Certificates



or by going directly to the Link Box:



Appendix

Siemens contacts

Siemens contacts worldwide



At:

<http://www.siemens.com/automation/partner>

you can find details of Siemens contact partners worldwide responsible for particular technologies.

You can obtain in most cases a contact partner for

- Technical Support,
- Spare parts/repairs,
- Service,
- Training,
- Sales or
- Consultation/engineering.

You start by selecting a

- Country,
- Product or
- Sector.

By further specifying the remaining criteria you will find exactly the right contact partner with his/her respective expertise.

Online services

A&D in the WWW



A detailed knowledge of the range of products and services available is essential when planning and configuring automation systems. It goes without saying that this information must always be fully up-to-date.

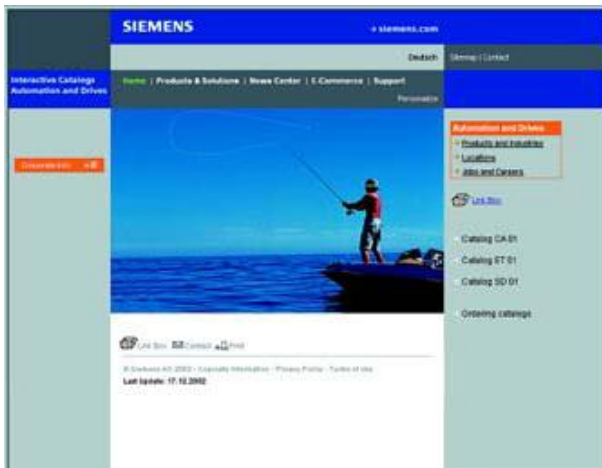
The Siemens Automation and Drives Group (A&D) has therefore built up a comprehensive range of information in the World Wide Web, which offers quick and easy access to all data required.

Under the address

<http://www.siemens.com/automation>

you will find everything you need to know about products, systems and services.

Product selection using the interactive catalog



Detailed information together with convenient interactive functions:

The interactive catalog CA 01 covers more than 80,000 products and thus provides a full summary of the Siemens Automation and Drives product base.

Here you will find everything that you need to solve tasks in the fields of automation, switchgear, installation and drives. All information is linked into a user interface which is easy to work with and intuitive.

After selecting the product of your choice you can order at the press of a button, by fax or by online link.

Information on the interactive catalog CA 01 can be found on the Internet under

<http://www.siemens.com/automation/ca01>

or on CD-ROM or DVD.

Easy shopping with the A&D Mall



The A&D Mall is the virtual department store of Siemens AG in the Internet. Here you have access to a huge range of products presented in electronic catalogs in an informative and attractive way.

Data transfer via EDIFACT allows the whole procedure from selection through ordering to tracking of the order to be carried out online via the Internet.

Numerous functions are available to support you.

For example, powerful search functions make it easy to find the required products, which can be immediately checked for availability. Customer-specific discounts and preparation of quotes can be carried out online as well as order tracking and tracing.

Please visit the A&D Mall on the Internet under:

<http://www.siemens.com/automation/mall>

Appendix

Customer support



In the face of harsh competition you need optimum conditions to keep ahead all the time: A strong starting position. A sophisticated strategy and team for the necessary support - in every phase. Service & Support from Siemens provides this support with a complete range of different services for automation and drives.

In every phase: from planning and startup to maintenance and upgrading.

Our specialists know when and where to act to keep the productivity and cost-effectiveness of your system running in top form.

Configuration and software engineering



Support in configuring and developing with customer-oriented services from actual configuration to implementation of the automation project.²⁾

Technical support



Competent consulting in technical questions covering a wide range of customer-oriented services for all our products and systems.

Tel.: +49 (180) 50 50 222
Fax: +49 (180) 50 50 223

E-Mail: ad.support@siemens.com

Online support



The comprehensive information system available round the clock via Internet ranging from Product Support and Service & Support services to Support Tools in the Shop.

<http://www.siemens.com/automation/service&support>

Service on site



With Service On Site we offer services for startup and maintenance, essential for ensuring system availability.

Tel.: +49 (180) 50 50 442²⁾

Technical consulting



Support in the planning and designing of your project from detailed actual-state analysis, target definition and consulting on product and system questions right to the creation of the automation solution.²⁾

Repairs and spare parts



In the operating phase of a machine or automation system we provide a comprehensive repair and spare parts service ensuring the highest degree of operating safety and reliability.

Tel.: +49 (180) 50 50 446²⁾

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Expert technical assistance¹⁾ for Low-voltage controls and electrical installation.

Tel.: +49 (9 11) 8 95-59 00
Fax: +49 (9 11) 8 95-59 07

E-Mail: technical-assistance@siemens.com

Optimization and upgrading



To enhance productivity and save costs in your project we offer high-quality services in optimization and upgrading.²⁾

1) Contact:

Technical assistance for product selection · Old/new coding · Competitor coding · Special versions · Special requirements · Sales promotion (Infoline).
Your regional contacts for sales support (prices, discounts, delivery times).
Technical Support for commissioning support and after-sales services.

2) For country-specific telephone numbers go to our Internet site at: <http://www.siemens.com/automation/service&support>

Overview**Software types**

Software requiring a license is categorized into types. The following software types have been defined:

- Engineering software
- Runtime software

Engineering software

This includes all software products for creating (engineering) user software, e.g. for configuring, programming, parameterizing, testing, commissioning or servicing. Data generated with engineering software and executable programs can be duplicated for your own use or for use by third-parties free-of-charge.

Runtime software

This includes all software products required for plant/machine operation, e.g. operating system, basic system, system expansions, drivers, etc. The duplication of the runtime software and executable programs created with the runtime software for your own use or for use by third-parties is subject to a charge. You can find information about license fees according to use in the ordering data (e.g. in the catalog). Examples of categories of use include per CPU, per installation, per channel, per instance, per axis, per control loop, per variable, etc. Information about extended rights of use for parameterization/configuration tools supplied as integral components of the scope of delivery can be found in the readme file supplied with the relevant product(s).

License types

Siemens Automation & Drives offers various types of software license:

- Floating license
- Single license
- Rental license
- Trial license

Floating license

The software may be installed for internal use on any number of devices by the licensee. Only the concurrent user is licensed. The concurrent user is the person using the program. Use begins when the software is started. A license is required for each concurrent user.

Single license

Unlike the floating license, a single license permits only one installation of the software. The type of use licensed is specified in the ordering data and in the Certificate of License (CoL). Types of use include for example per device, per axis, per channel, etc. One single license is required for each type of use defined.

Rental license

A rental license supports the "sporadic use" of engineering software. Once the license key has been installed, the software can be used for a specific number of hours (the operating hours do not have to be consecutive). One license is required for each installation of the software.

Trial license

A trial license supports "short-term use" of the software in a non-productive context, e.g. for testing and evaluation purposes. It can be transferred to another license.

Certificate of License

The Certificate of License (CoL) is the licensee's proof that the use of the software has been licensed by Siemens. A CoL is required for every type of use and must be kept in a safe place.

Downgrading

The licensee is permitted to use the software or an earlier version/release of the software, provided that the licensee owns such a version/release and its use is technically feasible.

Delivery versions

Software is constantly being updated. The following delivery versions

- PowerPack
- Upgrade

can be used to access updates.

Existing bug fixes are supplied with the ServicePack version.

PowerPack

PowerPacks can be used to upgrade to more powerful software.

The licensee receives a new license agreement and CoL (Certificate of License) with the PowerPack. This CoL, together with the CoL for the original product, proves that the new software is licensed.

A separate PowerPack must be purchased for each original license of the software to be replaced.

Upgrade

An upgrade permits the use of a new version of the software on the condition that a license for a previous version of the product is already held.

The licensee receives a new license agreement and CoL with the upgrade. This CoL, together with the CoL for the previous product, proves that the new version is licensed.

A separate upgrade must be purchased for each original license of the software to be upgraded.

ServicePack

ServicePacks are used to debug existing products. ServicePacks may be duplicated for use as prescribed according to the number of existing original licenses.

License key

Siemens Automation & Drives supplies software products with and without license keys.

The license key serves as an electronic license stamp and is also the "switch" for activating the software (floating license, rental license, etc.).

The complete installation of software products requiring license keys includes the program to be licensed (the software) and the license key (which represents the license).



Detailed explanations concerning license conditions can be found in the "Terms and Conditions of Siemens AG" or under <http://www.siemens.com/automation/mail> (A&D Mail Online-Help System)

Appendix

Subject index

	Page		Page		Page
Numerics					
19" withdrawable fan unit	14/34	40 mm busbar system		Adapters	5/27
3KA, 3KE switch disconnectors up to 1000 A	17/4 ... 17/13	for extended technical requirements	17/59	Busbars	6/44
3LD main and EMERGENCY-STOP switches up to 125 A	17/14 ... 17/31	for extended technical requirements with fuse monitoring by circuit-breaker	17/61	Standard mounting rail	6/43, 6/44
Distribution board mounting	17/24, 17/25	for extended technical requirements with fuse monitoring by electronic circuit-breaker	17/63	Additional components	19/54
Floor mounting	17/20 ... 17/23	for power distribution	17/48	Air conditioners/cooling equipment	14/31
Front mounting	17/15 ... 17/19	for power distribution with fuse monitoring by circuit-breaker	17/51	Alarm switches	5/2, 5/17
Molded-plastic enclosure	17/26, 17/27	60 mm busbar system		ALPHA 630-DIN	
3NJ6 in-line switch disconnectors with fuses up to 630 A	17/43 ... 17/45	for extended technical requirements	17/59	Floor-mounted distribution boards	14/36
3RN1 thermistor motor protection for PTC sensors	7/65 ... 7/68	for extended technical requirements with fuse monitoring by circuit-breaker	17/61	- Accessories	14/50 ... 14/57
3RP, 7PV timing relays	7/30 ... 7/42	for extended technical requirements with fuse monitoring by electronic circuit-breaker	17/63	- Assembly kits	14/40 ... 14/49
3RP15 timing relays in industrial enclosure	7/30 ... 7/35	for power distribution	17/49	- Marshalling boxes	14/39
3RP20 timing relays, 45 mm	7/36?? ... 7/39	for power distribution with fuse monitoring by circuit-breaker	17/52	- Unequipped cubicles	14/37, 14/38
3RS17 interface converters	7/82 ... 7/84	7PV timing relay for panel mounting	7/40	Analog measuring devices	19/122
3RT19 timing relay for mounting to contactors	7/41, 7/42	8HP molded-plastic distribution systems	14/58 ... 14/80	Arc chutes	3/133, 3/142
3RV1 motor starter protectors	5/2 ... 5/30	Accessories		AS-Interface	2/9 ... 2/52
Alarm switches	5/2	- Enclosures	14/71 ... 14/73	A/B technology	2/11
Auxiliary switches	5/2	- Installation	14/74 ... 14/77	ASIsafe	2/12 ... 2/16
Busbar adapters for motor starter protectors	5/2	- Support rack and cable space cover	14/78 ... 14/80	Communication overview	2/10
Cage Clamp infeed systems	5/2	Complete enclosures	14/61, 14/62	Masters	2/17, 2/18
Distance protection	5/13	Infeed enclosures	14/64, 14/65	Power supply units	2/42 ... 2/44
Distance protection, voltage transformer circuit-breakers	5/2	Meter enclosures	14/63	Routers	2/19, 2/20
Door-coupling rotary mechanisms	5/2	Single enclosures	14/60	Slaves	2/21 ... 2/41
Enclosures for flush mounting	5/2	8US busbar systems	14/81 ... 14/103	System components and accessories	
Enclosures for surface mounting	5/2	40 mm	14/83 ... 14/90	- Accessories	2/51 ... 2/52
Front plates	5/2	- Connections	14/85	- Addressing unit	2/47
Fuse monitoring	5/2, 5/11	- Device adapters	14/86 ... 14/90	- Analyzer	2/48 ... 2/50
Insulated three-phase busbar systems	5/2	- Infeed	14/85	- Extension plug	2/46
Isolator modules	5/2	- Switching device holders	14/86 ... 14/90	Transmission media	
Link modules	5/2	60 mm	14/91 ... 14/103	- Shaped cable	2/45
Motor protection	5/2, 5/5 ... 5/7	- Bar-mounting fuse base	14/102	Transmission technology	2/9
Motor protection with overload relay function	5/2, 5/8	- Base assemblies	14/92 ... 14/94	AS-Interface connection for LOGO!	7/25
Plant protection	5/2	- Connections	14/95, 14/96	ASIsafe	
Plant protection according to UL	5/12	- Device adapters	14/97 ... 14/101	Safe modules	2/15, 2/16
Remote motorized operating mechanisms	5/2	- Infeed	14/95, 14/96	Safety monitors	2/14
Shunt releases	5/2	- Switching device holders	14/97 ... 14/101	Assembly frames	14/57
Starter combinations	5/2, 5/9	A		Assembly kits	
Transformer protection	5/2, 5/10	Accessories and spare parts		Accessories	14/52, 14/53, 14/55, 14/56
Undervoltage releases	5/2	for contactors and contactor relays	3/107 ... 3/146	for bus-mounting fuse bases	14/49
3SE2, 3SE3 foot switches	9/111	- Arc chutes	3/133, 3/142	for circuit-breakers	14/47
3SE7, 3SF2 cable-operated switches	9/107	- Auxiliary switch blocks	3/110 ... 3/113, 3/142, 3/144	for fuse switch disconnectors	14/45, 14/46
3TK28 safety relays	7/69 ... 7/79	- Box terminal	3/124	for in-line fuse switch disconnectors	14/48
with contactor relay enabling circuits	7/73 ... 7/76, 7/77 ... 7/79	- Covers	3/124	for installation equipment	14/40
with electronic enabling circuits	7/71, 7/72	- Laterally mountable auxiliary switch blocks	3/114	for modular terminals	14/41, 14/42
3UF18 current transformers for overload protection	7/15	- LED module for indicating contactor operation	3/122	for unequipped sections	14/44
3UL22 summation current transformer	7/16	- Magnetic coils	3/126 ... 3/129, 3/142, 3/144	with mounting plates	14/43
		- OFF-delay devices	3/136, 3/140	Assembly kits for distribution boards	17/55 ... 17/57
		- Solid-state compatible auxiliary switch blocks	3/115, 3/116	Autotransformers	10/47, 10/48, 10/50, 10/61, 10/84, 10/85
		- Solid-state time-delay auxiliary switch blocks	3/117	for matching purposes	10/86, 10/87
		- Solid-state time-delay blocks	3/118	Auxiliary switch blocks	3/110 ... 3/113, 3/142, 3/144
		- Surge suppressors	3/134, 3/137, 3/139, 3/141	Laterally mountable	3/114
		- Surge suppressors without LED	3/119, 3/120	Solid-state compatible	3/115, 3/116
		- Withdrawable coils	3/130 ... 3/132	Solid-state time-delay	3/117
				Auxiliary switches	5/2, 5/16
				Auxiliary terminals	5/25

Page	Page	Page
B		
Backup module	11/11	
Barrier	12/23, 12/38, 12/40	
Barriers	12/25	
Bases, LV HRC	19/28 ... 19/31	
Battery modules	11/14	
Blank labeling plates	12/36	
Bolt-type terminals	12/37	
Box terminal	3/124	
Box terminal blocks	5/50	
Branch terminals	12/33	
Bridge	12/38	
Busbar adapters	6/44	
Busbar adapters for motor starter protectors	5/2	
Busway systems		
8PS	14/11 ... 14/20	
- BD01 system	14/18	
- BD2 system	14/19, 14/20	
- CD-K system	14/16, 14/17	
Components for	14/70	
C		
Cable releases with holder for RESET	5/49, 5/55	
Cage Clamp infeed systems	5/2	
Capacitor contactors	3/66	
Circuit-breaker terminals for auxiliary circuits	12/46	
Coding elements	12/27	
Communications modules	2/36, 2/37	
Compact starters	6/56 ... 6/58	
Connecting combs	12/7, 12/10, 12/40	
Connecting leads	5/48	
Connection for LOGO!	2/41	
Contactors assemblies		
Reversing contactor assemblies	3/38 ... 3/45, 3/54	
- Complete units	3/38 ... 3/42	
- Components for customer assembly	3/43 ... 3/45	
Wye-delta assemblies	3/55	
- Complete units	3/46 ... 3/52	
- Components for customer assembly	3/53	
Contactors relays	3/78 ... 3/89	
with auxiliary switch block	3/79, 3/80	
Coupling relays		
- for switching auxiliary circuits	3/88, 3/89	
Contactors		
for special applications		
- Capacitor contactors	3/66	
- for switching DC voltage	3/75 ... 3/77	
- for switching resistive loads	3/56 ... 3/61	
- with extended operating range, for railway applications	3/67 ... 3/74	
for switching motors	3/4 ... 3/37	
- Vacuum contactors	3/30 ... 3/33	
- with auxiliary switch block	3/12 ... 3/24, 3/36	
- with DC solenoid system	3/34	
Control devices	7/1 ... 7/84	
Control transformers	10/5 ... 10/48, 10/57 ... 10/62	
Converter transformers	10/50, 10/84, 10/85	
Converters	4/22	
Copper rails	12/49	
Counter modules	2/38	
Coupling relays		
for switching auxiliary circuits	3/88, 3/89	
for switching motors	3/90 ... 3/94	
Narrow design	3/95 ... 3/100	
- Plug-in design	3/97, 3/98	
with industrial housing		
- Relay couplers	3/101	
with warning arrow	12/7, 12/10, 12/11	
Cover plates	12/7, 12/8, 12/10, 12/11	
Covers	3/124, 12/17, 12/25, 12/27, 12/36, 12/38	
for neutral busbar	12/33	
Current measuring modules	5/48	
Current monitoring	7/49, 7/50	
Current transformers	14/116 ... 14/120, 19/129	
Customized versions	12/48	
Cylindrical fuses		
Bases	19/33, 19/34	
Fuse links	19/32	
- for motor circuits	19/45	
Fuse system	19/32 ... 19/34	
SITOR	19/40, 19/41	
D		
DC UPS modules	11/13	
Device identification labels	12/36, 12/50	
DIAZED		
Fuse bases	19/17 ... 19/21	
Fuse links	19/15, 19/16	
- SILIZED	19/43	
Fuse system	19/15 ... 19/21	
Digital measuring devices	19/122	
Diode terminals	12/21, 12/40	
Direct-on-line starters	6/24 ... 6/31, 6/121 ... 6/122	
Encapsulated	6/122	
for busbar systems	6/28 ... 6/31, 6/63 ... 6/64	
for snapping onto a standard mounting rail or for screw mounting	6/24 ... 6/27	
Disconnecting link	12/38	
Distance protection	5/13	
Distance protection, voltage transformer circuit-breakers	5/2	
Distance sleeves	12/38, 12/49	
Door-coupling rotary mechanisms	5/2	
Door-coupling rotary operating mechanisms	5/22 ... 5/23, 14/104 ... 14/115	
for circuit-breakers	14/110 ... 14/113	
for switch disconnectors	14/106 ... 14/109	
Individual parts	14/114	
Operating mechanisms for fixed mounting	14/115	
E		
ECOFAST	2/53 ... 2/55	
E-counters	19/125 ... 19/127	
Encapsulated starters		
Direct-on-line starters	6/121 ... 6/124	
Reversing starters	6/121 ... 6/124	
Enclosed transformers	10/51, 10/52	
Enclosures, accessories	5/28 ... 5/30	
Enclosures for flush mounting	5/2	
Enclosures for surface mounting	5/2	
End labels	12/58	
End plate	12/38	
End retainers	12/25, 12/36, 12/59	
Engineering software	18/1 ... 18/6	
ET 200S Solutions safety motor starters		
Local	6/88 ... 6/97	
PROFIsafe	6/88 ... 6/97	
Evaluation modules	5/47	
F		
Feed-in terminal	12/47	
for neutral busbar	12/36	
Feed-in terminals	12/17, 12/23, 12/25	
for neutral busbar	12/33	
Female multipoint connectors	12/27	
Filter fans	14/30	
Fixing parts	12/60	
Flat connector	12/38	
Flat-type terminals	12/37	
Floor mounting		
3LD main and EMERGENCY-STOP switches up to 125 A	17/20 ... 17/23	
Switch disconnectors	17/5 ... 17/9	
Front covers, accessories	14/54	
Front mounting		
3LD main and EMERGENCY-STOP switches up to 125 A	17/15 ... 17/19	
Switch disconnectors with fuses	17/35	
Front plates	5/2	
Accessories	5/28 ... 5/30	
Function expansion modules	5/47	
Function modules	4/17 ... 4/24	
Fuse bases		
Cylindrical	19/33, 19/34	
DIAZED	19/17 ... 19/21	
NEOZED	19/6 ... 19/10	
Fuse disconnectors NEOZED	19/11	

Appendix

Subject index

	Page		Page		Page
Fuse links		I		Link rails	12/36, 12/38, 12/47
American/Canadian	19/46	I/O modules		Linking accessories	12/24
Cylindrical		for use in the control cabinet	2/32 ... 2/41	Load feeders	4/5
- for motor circuits	19/45	- F90 module	2/35	Fuseless	6/23 ... 6/49
- SITOR	19/40, 19/41	- Flat module	2/35	Module	6/10
Cylindrical fuses	19/32	- SlimLine	2/33, 2/34	- AS-Interface	6/61 ... 6/62
DIAZED	19/15, 19/16	for use in the field		with safety integrated	6/50 ... 6/55
LV HRC		- analog	2/30, 2/31	Load monitoring	4/23
- for motor circuits	19/44	- digital	2/22 ... 2/29	Lockouts	12/17, 12/23, 12/25
NEOZED	19/5	Infeed system	6/46 ... 6/49	LOGO!	
SILIZED	19/43	Initiator/actuator terminals	12/26	AS-Interface connection	2/41
SITOR	19/35 ... 19/41	Insta terminals	12/22, 12/35	CM EIB/KNX communications module	7/24
for special applications		Insulated three-phase busbar systems	5/2	Contact	7/26
- SITOR	19/42	Insulation carriers	12/36, 12/60	Modular basic variants	7/18, 7/19
Fuse monitoring	5/2, 5/11	Insulation monitoring		Modular extension modules	7/22, 7/23
Fuse switch disconnectors		for ungrounded AC networks	7/52	Modular pure variants	7/20, 7/21
3NJ4, 3NJ5 in-line version, up to 1250 A	17/66 ... 17/69	for ungrounded DC voltage networks	7/53	Software	7/27
3NP up to 630 A	17/46 ... 17/65	Insulation plates	12/25, 12/38	LOGO! Logic Modules	7/17 ... 7/27
Assembly kits for distribution boards	17/55 ... 17/57	Insulation stop	12/27	LOGO!Power	11/9
for extended technical requirements	17/58 ... 17/65	for conductors	12/25	LV HRC	
for extended technical requirements with fuse monitoring	17/60 ... 17/63	Interface modules	6/77 ... 6/87	Bases	19/28 ... 19/31
for power distribution	17/47 ... 17/49	Interface, DP/AS	2/19, 2/20	Fuse links	19/22 ... 19/27
for power distribution with fuse monitoring	17/50 ... 17/52	Isolating terminals	12/40	- for motor circuits	19/44
Fuse terminals	12/19, 12/42	Isolating transformers 10/5 ... 10/48, 10/57 ... 10/62		- SITOR	19/35
Fuseless load feeders	6/23 ... 6/49	Isolator modules	5/2, 5/17	Fuse system	19/22
Direct-on-line starters				Signal detectors	19/31
- for busbar systems	6/28 ... 6/31				
- for snapping onto standard mounting rail or for screw mounting	6/24 ... 6/27	J		M	
Infeed system	6/46 ... 6/49	Jumper plugs	12/40	Magnetic coils	3/126 ... 3/129, 3/142, 3/144
Reversing starters				Mains transformers	10/5 ... 10/48, 10/57 ... 10/62
- for busbar systems	6/36 ... 6/39			Marshalling boxes,	
- for snapping onto standard mounting rail or for screw mounting	6/32 ... 6/35			Surface-mounting design	14/39
Fuse links				Masters	
LV HRC	19/22 ... 19/27	L		CP 243-2	2/17
Fuses		Label holders	12/25, 12/33, 12/58	CP 243-2 P	2/18
Class CC	19/46	for identification of wires	12/58	Matching transformers	10/50, 10/64, 10/73, 10/84, 10/85
Cylindrical	19/32 ... 19/34	Labeling accessories	12/50	with cURus Approval	10/74 ... 10/83
DIAZED	19/15 ... 19/21	Labeling plates	12/50	with selectable voltages	10/84, 10/85
LV HRC	19/22 ... 19/31	Customized inscriptions	12/57	Measuring instruments	19/118 ... 19/130
NEOZED	19/4 ... 19/14	for individual wires	12/50	Analog	19/122
Semiconductor	19/35 ... 19/41	Type 1	12/51	Current transformers	19/129
		Type 2	12/52	Digital	19/122
G		Type 3a	12/53	E-counters	19/125 ... 19/127
Ground fault detection modules	2/39	Type 3b	12/54	LAN couplers	19/128
Group labels	12/25, 12/58	Type 3c	12/55	Measuring selector switches	19/128
		Type 3d	12/56	Multicounters	19/124
H		without inscription	12/57	Multimeters	19/123
Heat exchangers	14/32	Labeling plates for wires	12/58	Pulse counters	19/120
Heaters	14/33	Labeling plates, without inscription	6/9	Time counters	19/120
Heating current monitoring	4/23	Labels	4/5, 12/60	- for front mounting	19/121
Heating fans	14/33	LAN couplers	19/128	Measuring selector switches	19/128
Holding blocks	12/49	LED module		Measuring transformer terminals	12/44
		for indicating contactor operation	3/122	Mechanical RESET	5/49, 5/55
		Level monitoring	7/54, 7/55	Miniature circuit-breakers	19/52 ... 19/82
		Lightning arresters	19/109, 19/110	Accessories	19/77 ... 19/80
		Combination arresters	19/110	AC/DC product range	19/70
		Line monitoring	7/43 ... 7/46		
		Link modules	5/2, 5/26, 6/9, 6/42, 6/44		

	Page		Page		Page
Additional components	19/54, 19/72 ... 19/76	N		R	
High-capacity product range	19/60 ... 19/69	NEOZED		RC socket outlets	19/105, 19/106
High-current product range	19/71	Fuse bases	19/6 ... 19/10	RC units for miniature circuit-breakers	19/72, 19/73, 19/102 ... 19/104
Power supply company product range	19/81 ... 19/82	Fuse disconnectors	19/11	Reduction plugs	12/40, 12/59
RC units	19/72, 19/73	Fuse links	19/5	Reduction sleeve	12/7, 12/8
RCCB modules	19/102 ... 19/104	- SILIZED	19/43	Redundancy module	11/11
Standard product range	19/53 ... 19/59	Fuse system	19/4 ... 19/14	Relay couplers	3/95, 3/96, 3/101 ... 3/105
MINIZED		Neutral busbar ends	12/17, 12/23, 12/25	Relays	
Switch disconnectors	19/12 ... 19/14	Neutral busbar supports	12/17, 12/23, 12/25	Analog adjustable	7/57 ... 7/59
Miscellaneous accessories	12/25	Neutral busbars	12/17, 12/25, 12/33, 12/36	Digital adjustable	
Modular power supplies	11/11	Neutral isolating terminals	12/17, 12/23, 12/33	- acc. to DIN 3440	7/60 ... 7/62
Molded-plastic enclosure		Non-stabilized power supplies		- for up to 3 sensors	7/63, 7/64
3LD main and EMERGENCY-STOP switches up to 125 A	17/26, 17/27	Filtered	11/3 ... 11/6	Remote motorized operating mechanisms	5/2, 5/22 ... 5/23
Switch disconnectors	17/10	Single-phase	11/3, 11/4, 11/7	Remote RESET	5/55
Monitoring devices	7/1 ... 7/84	Three-phase	11/5, 11/6, 11/8	Residual current operated circuit-breakers	
Monitoring relays for electrical and additional measurements		Unfiltered	11/7, 11/8	RC units for miniature circuit-breakers	19/72, 19/73
Current monitoring	7/49, 7/50	O		Residual current protective devices	19/83 ... 19/107
Insulation monitoring	7/52, 7/53	OFF-delay devices	3/136, 3/140	Leakage current measurement unit	19/94
Level monitoring	7/54, 7/55	Operating devices	12/27	RC socket outlets	19/105, 19/106
Line monitoring	7/43 ... 7/46	Overvoltage protection module	2/39, 2/40	RC units for miniature circuit-breakers	19/102 ... 19/104
Power factor monitoring	7/51	P		RCCBs	19/95 ... 19/97
Speed monitoring	7/56	PE terminals	12/8, 12/11, 12/18, 12/34	- Additional components/accessories	19/98 ... 19/101
Voltage monitoring	7/47, 7/48	PE/ground identification	12/27	- with integral overcurrent protection (RCCBs)	19/96
Motor contactors	3/69 ... 3/73	PEN terminals	12/34	Residual current operated circuit-breakers	19/84 ... 19/90
Motor management and control devices		Pillar-type variable-ratio transformers	10/2, 10/3	- (RCCBs)	19/84 ... 19/89
SIMOCODE pro 3UF7	7/5 ... 7/16	Planning, design and management with SIMARIS	18/1 ... 18/6	- (RCCBs) SIQUENCE	19/90
Motor protection	5/2, 5/5 ... 5/7	Plant protection	5/2	- Additional components/accessories	19/91 ... 19/94
Motor protection and control devices		Plant protection according to UL	5/12	Retaining plates	12/25
SIMOCODE-DP 3UF5	7/11 ... 7/14	Plug connectors	12/27	Reversing contactor assemblies	3/38 ... 3/42
Motor protection with overload relay function	5/2, 5/8	Plug-in relays, relay couplers	3/102 ... 3/105	Reversing starters	6/32 ... 6/39, 6/124
Motor starters	6/59 ... 6/60	Power controllers	4/24	Encapsulated	6/123
ET 200pro	6/98 ... 6/108	Power distribution boards	14/7 ... 14/10	for busbar systems	6/65 ... 6/66
- High Feature	6/98, 6/99	8P	14/9, 14/10	for snapping onto a standard mounting rail or for screw mounting	6/32 ... 6/35
- Isolator modules	6/100	8PV	14/8	Rotary operating mechanisms	5/22 ... 5/23
- Safety modules local	6/101	Power modules for ET 200S motor starters	6/73	Routers, DP/AS-Interface	2/19, 2/20
- Standard	6/98, 6/99	Power relays/minature contactors	3/106	S	
ET 200S	6/67 ... 6/87	Power supplies	11/1 ... 11/14	Safety modules Local	6/91 ... 6/94
- Power modules	6/73	Filtered	11/3 ... 11/6	Safety modules PROFIsafe	6/95 ... 6/97
- Terminal modules	6/74 ... 6/76	LOGO!Power	11/9	Safety transformers	10/5 ... 10/48, 10/57 ... 10/62
ET 200S failsafe	6/89 ... 6/90	Modular	11/11	Resin-enclosed	10/51, 10/52
ET 200X	6/109 ... 6/114	Non-stabilized	11/3 ... 11/8	Screwdrivers	12/25, 12/27
- Basic modules	6/113 ... 6/115	Single-phase	11/3, 11/4, 11/7	Sealable covers	5/50
- Expansion modules	6/113 ... 6/115	SITOP	11/11, 11/13, 11/14	Semiconductor couplers	3/99, 3/100
Motor starters and load feeders		SITOP power	11/10 ... 11/13	Semiconductor fuses	
IP20	6/61 ... 6/66	Stabilized	11/9, 11/11, 11/13, 11/14	SILIZED	19/43
IP65/67	6/56 ... 6/60	Three-phase	11/5, 11/6, 11/8	SITOR	19/35 ... 19/41
Motor starters and soft starters		Unfiltered	11/7, 11/8	Series of switchgear cubicles, SIKUS	14/35
AS-Interface	6/56 ... 6/66	Uninterruptible	11/13, 11/14	Shield terminals	12/49
ECOFAS	6/120	Power supply units AS-Interface	2/42 ... 2/44	Shunt releases	5/2, 5/18
Mounting accessories	12/59	Power transformers	10/49, 10/50, 10/63 ... 10/85		
Mounting brackets	12/60	with selectable voltages	10/49, 10/50, 10/61, 10/62, 10/84, 10/85		
Mounting rails	12/49	PROFIBUS	2/60 ... 2/69		
Multicounters	19/124	Push-in lugs	5/50		
Multimeters	19/123				

Appendix

Subject index

	Page		Page		Page
Signal detectors, LV HRC	19/31	Special integrated solutions		Switch disconnectors	
Signaling module	11/11	- Communications modules	2/36, 2/37	3KA	17/5
SIKUS, series of switchgear cubicles	14/35	User modules	2/29	3KE	17/10
SILIZED				Floor mounting	17/5 ... 17/9
Fuse links	19/43	Sliding-link terminals	12/22	Fuse switch, 3NP up to 630 A	17/46 ... 17/65
Semiconductor fuses	19/43			MINIZED	19/12 ... 19/14
SIMARIS		Snapping onto busbars		Molded-plastic enclosure	17/10
Design	18/1 ... 18/6	Switch disconnectors with fuses and isolating plug connector	17/40		
Management	18/1 ... 18/6	Socket outlets	19/115, 19/117	Switch disconnectors with fuses	
Planning	18/1 ... 18/6	Soft starters	6/2, 6/4 ... 6/21	3KL up to 800 A	17/32 ... 17/38
SIMARIS design	18/3	for High Feature applications	6/15 ... 6/21	3NJ6 up to 630 A, in-line	17/43 ... 17/45
SIMARIS manager	18/5, 18/6	- Box terminal block	6/19	Double-break	17/45
SIMOCODE		- Covers	6/19	Double-break with fuse monitoring	17/45
-DP 3UF5	7/11 ... 7/14	- Fans	6/19	Front mounting	17/35
pro 3UF7	7/5 ... 7/16	for standard applications	6/5 ... 6/14	Single-break	17/44
Single-phase power supplies		- Box terminal block	6/13	Single-break with fuse monitoring	17/44
Filtered	11/3, 11/4	- Covers	6/13	Surface mounting and installation	17/33, 17/34
Unfiltered	11/7	- Fans	6/13		
Single-phase transformers	10/5 ... 10/48	- Modules for RESET	6/13	Switch disconnectors with fuses and isolating plug connector	
Autotransformers	10/47, 10/48, 10/50	Soft starters for standard applications		3KM up to 400 A	17/39 ... 17/42
Control transformers	10/5 ... 10/48	Covers	6/8	for snapping onto busbars	17/40
Converter transformers	10/50	Fans	6/8	Switch ES Power	18/4
Isolating transformers	10/5 ... 10/48	Soldering tags	12/38		
Mains transformers	10/5 ... 10/48	Soldering terminal	5/24, 5/25	System components and accessories	
Matching transformers	10/50	Solid-state contactors	4/11 ... 4/16	Accessories	2/51 ... 2/52
Power transformers	10/49, 10/50	3RF23	4/12 ... 4/16	Addressing unit	2/47
Safety transformers	10/5 ... 10/48	Solid-state modules	6/77 ... 6/87	Analyzer	2/48, 2/50
Variable-ratio transformers	10/2	Solid-state overload relays	5/35 ... 5/50	Extension plug	2/46
Voltage regulators		3RB20	5/38 ... 5/41, 5/43		
- Solenoid-type	10/56	3RB21	5/42	System cubicles	
- Transformer-type	10/55	for High-Feature applications	5/44 ... 5/48	SICUBE	
		for standard applications	5/35 ... 5/43	- Cubicle air-conditioning	14/30 ... 14/34
SIQUENCE		Solid-state relays	4/6	- Non-ventilated	14/21 ... 14/29
RCBOs	19/95	3RF20	4/10		
Residual current operated circuit-breakers	19/90	3RF21	4/7 ... 4/9		
SIRIUS		Spacer brackets	12/60		
Modular system	2/70 ... 2/72	Spacers	12/60		
Safety integrated	2/56 ... 2/59	Speed monitoring	7/56		
SIRIUS SC solid-state switching devices	4/3	SR60 busbar system	19/47 ... 19/51		
SITOP		Stabilized power supplies			
LOGO!Power	11/9	LOGO!Power	11/9		
power	11/9 ... 11/14	SITOP	11/9, 11/11, 11/13, 11/14		
Uninterruptible	11/13, 11/14	Standard mounting rail	12/59		
SITOP power	11/9 ... 11/14	Standard mounting rail adapters	6/10, 6/43, 6/44		
SITOP select	11/12	Starter combinations	5/2, 5/9		
Diagnostics modules	11/12	Starters, encapsulated	6/121 ... 6/124		
SITOR		Surface mounting and installation			
for special applications	19/42	for extended technical requirements with fuse monitoring by circuit-breaker	17/58, 17/60		
Semiconductor fuses	19/35 ... 19/41	for extended technical requirements with fuse monitoring by electronic circuit-breaker	17/62		
SIVACON motor control centers	14/7 ... 14/10	for power distribution	17/47		
8PT	14/9, 14/10	for power distribution with fuse monitoring by circuit-breaker	17/50		
8PV	14/8	Switch disconnectors with fuses	17/33, 17/34		
Slaves		Surface-mounting distribution boards	14/37 ... 14/39		
Connection for LOGO!	2/41	Surge arresters	19/111 ... 19/116		
I/O modules		Surge suppressors	3/134, 3/137, 3/139, 3/141, 6/10, 6/41		
- for use in the control cabinet	2/32 ... 2/35	without LED	3/119, 3/120		
- for use in the field	2/21 ... 2/31				
Modules with special functions					
- Counter modules	2/38				
- Ground fault detection modules	2/39				
- Overvoltage protection module	2/39, 2/40				

T

Temperature monitoring relays	
3RS10, 3RS11	7/57 ... 7/64
Terminal brackets	5/49, 5/55
Terminal covers	5/50, 5/55
Terminal modules for ET 200S motor starters	6/74 ... 6/76
Terminal strip	12/48
Terminal strip labels	12/58
Terminals	
Bolt-type	12/37
Branch	12/33
Circuit-breakers for auxiliary circuits	12/46
Diode	12/21, 12/40
Feed-in	12/17, 12/23, 12/25, 12/47
Feed-in for neutral busbar	12/33, 12/36
Flat-type	12/37
for components	12/20, 12/41
Fuse	12/19, 12/42
Initiator/actuator	12/26
Insta	12/22, 12/35
Isolating	12/40
Measuring transformer	12/44
Neutral isolating	12/17, 12/23, 12/33
PE	12/8, 12/11, 12/18, 12/34
PEN	12/34
Shield	12/49
Sliding-link	12/22
Three-tier	12/22, 12/35
Through-type	12/7, 12/9, 12/14, 12/30, 12/43
Transformer	12/48
Two-tier	12/16, 12/38, 12/39

	Page		Page		Page
Terminals for "Self-Protected Combination Motor Controller (Type E)" according to UL508	5/24, 5/25	Transmission media, shaped cable	2/45	V	
Test adapter	12/7, 12/8, 12/10	Two-tier terminals	12/16, 12/38, 12/39	Vacuum contactors	3/30 ... 3/33
Test plugs	12/40, 12/59			Variable-ratio transformers	
Test socket	12/38, 12/59	U		Pillar-type variable-ratio transformers	10/2, 10/3
Thermal overload relays	5/51 ... 5/55	Undervoltage releases	5/2, 5/18	Toroidal-core variable-ratio transformers	10/2, 10/3
3RU11	5/52 ... 5/54	Unequipped cubicles		Voltage converter circuit-breakers	5/13
for standard applications	5/51 ... 5/54	Accessories	14/50, 14/51	Voltage monitoring	7/47, 7/48
Thermostats	14/34	Assembly kits for	14/40 ... 14/49	Voltage regulators	
Three-phase busbar system	5/19 ... 5/21	Surface mounting design	14/37, 14/38	Solenoid-type	10/56
Three-phase power supplies		Uninterruptible power supplies	11/13, 11/14	Transformer-type	10/55, 10/88
Filtered	11/5, 11/6	Unit labeling plates	4/5		
Unfiltered	11/8	User modules	2/29	W	
Three-phase transformers	10/57 ... 10/62			Withdrawable coils	3/130 ... 3/132
Autotransformers	10/61, 10/62			Wye-delta assemblies	3/46 ... 3/53
- for matching purposes	10/86, 10/87				
Control transformers	10/57 ... 10/62				
Isolating transformers	10/57 ... 10/62				
Mains transformers	10/57 ... 10/62				
Matching transformers	10/64 ... 10/84				
- with cURus approval	10/74 ... 10/83				
- with selectable voltages	10/84				
Power transformers	10/63 ... 10/85				
Safety transformers	10/57 ... 10/62				
Transformers with selectable voltages	10/61, 10/62				
Variable-ratio transformers	10/3				
Voltage regulators	10/88				
Three-tier terminals	12/22, 12/35				
Through-type terminals	12/7, 12/9, 12/14, 12/30, 12/43				
Time counters	19/120				
for front mounting	19/121				
Time-delay blocks, solid-state	3/118				
Toroidal-core variable-ratio transformers	10/2, 10/3				
Transformer protection	5/2, 5/10				
Transformer terminals	12/48				
Transformers	10/1 ... 10/88				
Autotransformers	10/47, 10/48, 10/50, 10/61, 10/84, 10/85				
- for matching purposes	10/86, 10/87				
Control transformers	10/5 ... 10/48, 10/57 ... 10/62				
Converter transformers	10/50, 10/84, 10/85				
Enclosed transformers	10/51, 10/52				
Isolating transformers	10/48, 10/57 ... 10/62				
Mains transformers	10/5 ... 10/48, 10/57 ... 10/62				
Matching transformers	10/50, 10/64, 10/73				
- with cURus approval	10/74 ... 10/83				
- with selectable voltages	10/84, 10/85				
Power	10/50				
Power transformers	10/49, 10/63 ... 10/85				
Safety transformers	10/5 ... 10/48, 10/51, 10/52, 10/57 ... 62				
Three-phase transformers	10/57 ... 10/88				
Variable-ratio	10/2, 10/3				
Voltage regulators					
- Solenoid-type	10/56				
- Transformer-type	10/55, 10/88				
with selectable voltages	10/49, 10/50, 10/61, 10/62, 10/84, 10/85				
Transformers					
Isolating transformers	10/5 ... 10/48				

Appendix

Order number index

Order No.	Page	Order No.	Page	Order No.	Page
3		3LD2 72	17/19	3RA13	3/39 ... 42
3KA	17/5	3LD2 73	17/24 ... 25	3RA14	3/48 ... 52
3KE	14/65, 17/7 ... 9	3LD2 76	17/26 ... 27	3RA19 0	6/43
3KL	17/33 ... 34	3LD2 80	17/15 ... 16	3RA19 11	5/26 ... 27, 6/9, 6/42, 6/44
3KM	17/40	3LD2 81	17/20 ... 22	3RA19 12	3/45
3KX2	17/7, 17/12 ... 13	3LD2 83	17/24 ... 25	3RA19 13	3/44 ... 45, 3/53, 6/42, 6/45
3KX3 1	17/11, 17/37, 17/42	3LD2 86	17/26	3RA19 21	5/26, 6/9, 6/42
3KX3 50	17/36 ... 37, 17/41 ... 42	3LD9 200	17/16 ... 18, 17/21 ... 22, 17/24 ... 26, 17/28 ... 31	3RA19 22	3/45, 5/27, 6/10, 6/43 ... 44
3KX3 51	17/6, 17/11, 17/35 ... 36, 17/41	3LD9 201	17/28	3RA19 23	3/43 ... 45, 3/53, 6/42 ... 43, 6/45
3KX3 52	17/35 ... 36, 17/41	3LD9 220	17/17 ... 18, 17/20 ... 22, 17/24 ... 26, 17/29	3RA19 24	3/43, 6/42
3KX3 53	17/6, 17/11, 17/35 ... 36, 17/41	3LD9 221	17/29	3RA19 31	5/26, 6/9, 6/42
3KX3 552	17/11, 17/36 ... 37, 17/41 ... 42	3LD9 224	17/28 ... 29	3RA19 32	3/45, 3/53, 6/43
3KX3 553	17/11, 17/36, 17/41	3LD9 250	17/15 ... 16, 17/20 ... 22, 17/24 ... 26, 17/30	3RA19 33	3/44 ... 45, 3/53, 6/42 ... 43, 6/45
3KX3 556	17/6, 17/35	3LD9 251	17/30	3RA19 4	5/26, 6/9, 6/42 ... 43
3KX3 557	17/11 ... 12, 17/37, 17/42	3LD9 280	17/15 ... 16, 17/20 ... 22, 17/24 ... 26, 17/31	3RA19 5	3/43 ... 45, 3/53
3KX3 56	17/38	3LD9 281	17/31	3RA19 6	3/43 ... 45, 3/53
3KX3 6	17/38	3LD9 284	17/30 ... 31	3RA19 7	3/43 ... 44, 3/53
3KY	17/12 ... 13	3LD9 286	17/28 ... 31	3RA5	6/64 ... 65
3LD2 00	17/15 ... 16	3NA	19/23 ... 27	3RA7	6/51 ... 55
3LD2 01	17/20 ... 21, 17/23	3NC	19/35, 19/40 ... 42	3RB1	5/25, 6/44, 7/10, 7/14
3LD2 02	17/17	3ND	19/44	3RB20	5/38 ... 41
3LD2 03	17/24 ... 25	3NE	19/35 ... 39, 19/42	3RB21	5/42 ... 43
3LD2 04	17/20, 17/22	3NG1	19/31	3RB22	5/47
3LD2 05	17/15 ... 16, 17/18	3NH	19/28 ... 29, 19/50	3RB23	5/47
3LD2 06	17/26	3NJ	17/44 ... 45, 17/67 ... 69	3RB29	5/47 ... 50
3LD2 10	17/15 ... 16, 17/19	3NP40 1	14/88, 14/100, 17/47 ... 49, 19/50	3RE	6/122 ... 124
3LD2 11	17/20 ... 21, 17/23	3NP40 70	17/47, 17/50	3RF20	4/10
3LD2 12	17/17, 17/19	3NP40 75	14/88 ... 89, 17/48, 17/51	3RF21	4/7 ... 9
3LD2 13	17/24 ... 25	3NP40 76	14/100 ... 101, 17/49, 17/52, 19/50	3RF23	4/12 ... 16
3LD2 14	17/20, 17/22	3NP42 70	17/47, 17/50	3RF29	4/9, 4/16, 4/22 ... 24
3LD2 15	17/15 ... 16, 17/18	3NP42 75	14/88 ... 89, 17/48, 17/51	3RG	2/35, 2/37, 2/52
3LD2 16	17/26 ... 27	3NP42 76	14/100 ... 101, 17/49, 17/52, 19/50	3RH11	3/67, 3/79 ... 80, 3/88 ... 89
3LD2 20	17/15 ... 16, 17/19	3NP43	14/100 ... 101, 17/47, 17/49 ... 50, 17/52, 19/50	3RH12	3/79 ... 80
3LD2 21	17/20 ... 21, 17/23	3NP44	14/100 ... 101, 17/47, 17/49 ... 50, 17/52, 19/50	3RH14	3/82
3LD2 22	17/17, 17/19	3NP5	17/58 ... 63	3RH19 1	3/110 ... 111, 3/113, 3/115 ... 116, 6/40
3LD2 23	17/24 ... 25	3NW	19/32 ... 33, 19/45 ... 46, 19/50	3RH19 21	3/110 ... 112, 3/114 ... 116, 6/40
3LD2 24	17/20, 17/22	3NX	19/30 ... 31	3RH19 24	3/122
3LD2 25	17/15 ... 16, 17/18	3NY	17/53 ... 57, 17/64 ... 65	3RK1 1	2/14, 2/22, 2/27, 2/31, 2/34
3LD2 26	17/26 ... 27	3RA11 10	6/24 ... 31	3RK1 2	2/16, 2/22, 2/27, 2/31, 2/34, 2/37 ... 38
3LD2 50	17/15 ... 16, 17/19	3RA11 20	6/24 ... 31	3RK1 30	6/69 ... 70, 6/90, 6/99 ... 101, 6/120
3LD2 51	17/20 ... 21, 17/23	3RA11 3	6/24, 6/26	3RK1 32	6/57, 6/120
3LD2 52	17/19	3RA12 10	6/32 ... 39	3RK1 400	2/22, 2/26 ... 27, 2/34 ... 35, 2/37, 2/41, 6/10, 6/60, 6/62, 7/25
3LD2 53	17/24 ... 25	3RA12 20	6/32 ... 39	3RK1 402	2/34, 6/10, 6/62
3LD2 54	17/20, 17/22			3RK1 405	2/16
3LD2 55	17/15 ... 16			3RK1 408	2/39
3LD2 56	17/26 ... 27			3RK1 7	2/31, 6/10, 6/58, 6/66
3LD2 70	17/15 ... 16			3RK1 8	2/14
3LD2 71	17/20 ... 22				

Appendix

Order number index

Order No.	Page	Order No.	Page	Order No.	Page
3RK1 901	2/14, 2/16, 2/23, 2/26, 2/28, 2/31, 2/40, 2/46 ... 47, 2/51 ... 52, 6/10, 6/66, 6/110	3RT19 22	3/45	3RX9 0	2/45
3RK1 902	2/23, 2/28, 2/31, 6/58, 6/102, 6/111 ... 112, 6/115, 6/119	3RT19 24	3/126 ... 127	3RX9 3	2/42
3RK1 903	6/70 ... 71, 6/73, 6/75 ... 76, 6/90, 6/93 ... 94, 6/97	3RT19 26	3/53, 3/117 ... 120, 3/122 ... 124, 6/41, 7/39 ... 40	3RX9 5	2/43
3RK1 904	2/47, 2/50	3RT19 34	3/126 ... 129, 3/133	3RX9 801	2/46, 2/50 ... 51
3RK1 91	6/102	3RT19 35	3/126 ... 127, 3/133	3RX9 802	6/57, 6/102, 6/104, 6/106 ... 107, 6/114 ... 117
3RK1 92	6/102	3RT19 36	3/53, 3/120, 3/123 ... 124, 3/133, 5/24, 5/50, 5/55, 6/8, 6/41	3RX9 805	2/51
3RK110	2/14	3RT19 44	3/128 ... 129, 3/133	3RX9 806	2/51
3RK19	3/121	3RT19 45	3/128 ... 129, 3/133	3RX9 807	2/51
3RK2	2/22, 2/27, 2/34	3RT19 46	3/53, 3/122 ... 124, 3/133, 5/24 ... 25, 5/50, 5/55, 6/8	3RX9 808	2/51
3RN	7/64 ... 65	3RT19 54	3/133	3RX9 81	2/35, 2/51
3RP15	7/29 ... 32	3RT19 55	3/124, 3/130 ... 133, 5/50, 6/13, 6/19	3SB10	9/26
3RP19	2/14, 2/34, 6/8, 7/10	3RT19 56	3/53, 3/120, 3/123 ... 124, 3/133, 5/50, 6/13, 6/19	3SB14	9/29, 17/11, 17/36 ... 37, 17/41 ... 42
3RP19 01	7/33, 7/37	3RT19 64	3/133	3SB19 01	9/69, 9/73, 9/100
3RP19 02	7/33, 7/44, 7/46, 7/48, 7/74	3RT19 65	3/130 ... 133	3SB19 02	9/78 ... 81, 9/83, 9/101
3RP19 03	7/33, 7/44, 7/46, 7/48, 7/60, 7/62, 7/66, 7/74	3RT19 66	3/53, 3/121, 3/123 ... 124, 3/130, 3/132 ... 133, 5/50, 6/13, 6/19	3SB19 04	9/75
3RP2	7/35 ... 36	3RT19 7	3/130 ... 133	3SB19 06	9/29, 9/74
3RS10	7/56 ... 57, 7/59 ... 60, 7/62	3RU	5/49, 5/52 ... 55, 6/13	3SB19 1	9/79
3RS11	7/56 ... 57, 7/59 ... 60	3RV10	5/7	3SB20	9/7 ... 8
3RS17	7/81 ... 82	3RV11	5/8	3SB22	9/5 ... 6
3RS18	3/101	3RV13	5/9	3SB23	9/9
3RS19	7/60, 7/62	3RV14	5/10	3SB24	9/9 ... 10
3RS2	7/59 ... 60	3RV16	5/11, 5/13	3SB29 01	9/11 ... 15
3RT10 15	3/12 ... 13, 3/20 ... 21, 3/90 ... 93	3RV17	5/12	3SB29 02	9/15, 9/17
3RT10 16	3/12 ... 13, 3/20 ... 21, 3/90 ... 93	3RV19 0	5/11, 5/13, 5/16, 5/18, 5/24, 5/30, 6/40	3SB29 08	9/9 ... 10, 9/16 ... 17, 9/79
3RT10 17	3/12 ... 13, 3/20 ... 21, 3/70, 3/90 ... 93	3RV19 12	5/18	3SB29 1	9/16
3RT10 23	3/14 ... 15, 3/22 ... 23	3RV19 13	5/29 ... 30	3SB30 00	5/49, 5/55, 6/13, 9/26, 9/30 ... 37
3RT10 24	3/14 ... 15, 3/22 ... 23, 3/94	3RV19 15	3/53, 5/20 ... 21	3SB30 01	9/30 ... 32, 9/37
3RT10 25	3/14 ... 15, 3/22 ... 23, 3/70 ... 72, 3/94	3RV19 17	6/48 ... 49	3SB31	9/38, 9/41 ... 45
3RT10 26	3/14 ... 15, 3/22 ... 23, 3/70 ... 72, 3/94	3RV19 18	5/25	3SB32	9/20 ... 26
3RT10 3	3/16 ... 17, 3/24 ... 25, 3/70 ... 72	3RV19 21	5/17	3SB33	9/39 ... 40
3RT10 4	3/18 ... 19, 3/24 ... 25, 3/70 ... 72	3RV19 22	5/18	3SB34	9/61 ... 64, 9/97 ... 98, 16/41
3RT10 5	3/26 ... 28	3RV19 23	5/29 ... 30	3SB35 00	9/51 ... 59
3RT10 6	3/26 ... 28	3RV19 25	5/20 ... 21	3SB35 01	9/51 ... 55, 9/60
3RT10 7	3/26 ... 28	3RV19 26	5/20 ... 21, 5/23, 5/29	3SB36	9/46 ... 50
3RT12	3/30	3RV19 27	6/48 ... 49	3SB38	9/85 ... 88, 9/104
3RT13	3/58 ... 60	3RV19 28	5/17, 5/25	3SB39 01	9/16, 9/64, 9/68, 9/78 ... 79, 9/82 ... 83, 9/97 ... 98, 9/101, 9/104
3RT14	3/56 ... 57	3RV19 3	3/53, 5/17, 5/20 ... 21, 5/23, 5/29	3SB39 02	9/68, 9/72
3RT15	3/64 ... 65	3RV19 4	5/23	3SB39 03	9/68, 9/74
3RT16	3/66	3RW2	7/14	3SB39 05	9/68, 9/75
3RT19	6/107	3RW3	6/6 ... 8	3SB39 06	9/68, 9/99
3RT19 00	3/125, 4/5, 5/50, 5/56, 6/9, 7/33, 7/37, 7/44, 7/46, 7/48, 7/57, 7/60, 7/62, 7/66	3RW4	6/12 ... 13, 6/16 ... 19	3SB39 1	9/79
3RT19 16	3/53, 3/117 ... 125, 3/138, 6/41, 7/39 ... 40	3RX1 5	8/42	3SB39 21	9/38, 9/77, 9/80 ... 83, 9/101
		3RX1 6	6/57, 6/107, 6/110, 6/114 ... 117	3SB39 22	9/38, 9/73
		3RX8	2/47, 2/50	3SB39 23	9/74

Appendix

Order number index

Order No.	Page	Order No.	Page	Order No.	Page
3SE2 10	8/21 ... 26, 8/52	3TE	3/55	3VL47 40	16/6 ... 11, 16/17, 16/20 ... 21, 16/24 ... 27, 16/33
3SE2 120	8/21 ... 30, 8/47, 8/52	3TF	3/32, 3/35 ... 36	3VL57 31	16/6 ... 7, 16/10 ... 11, 16/20 ... 21, 16/24 ... 25
3SE2 200	8/5 ... 11, 8/45, 8/60	3TG	3/106	3VL57 4	16/6 ... 7, 16/20 ... 21, 16/24 ... 25
3SE2 21	8/5 ... 7, 8/10	3TH	3/68, 3/83 ... 84, 3/86 ... 87	3VL57 50	16/6 ... 11, 16/20 ... 21, 16/24 ... 25
3SE2 23	8/13 ... 18	3TK1	3/61, 3/145	3VL57 63	16/6 ... 11, 16/17, 16/20 ... 21, 16/24 ... 27, 16/33
3SE2 24	8/46	3TK2	3/62, 7/70, 7/72 ... 74, 7/76 ... 77	3VL67 80	16/8 ... 11, 16/17, 16/26 ... 27, 16/33
3SE2 25	8/46	3TX2	3/144	3VL77 10	16/8 ... 9, 16/26 ... 27
3SE2 28	8/60	3TX4 0	3/139	3VL77 12	16/8 ... 11, 16/17, 16/26 ... 27, 16/33
3SE2 3	8/31 ... 34	3TX4 1	3/139	3VL87 16	16/8 ... 11, 16/17, 16/26 ... 27, 16/33
3SE2 4	8/35 ... 37	3TX4 2	3/139, 9/83, 12/33, 12/36, 12/50, 12/58	3VL9 000	16/45 ... 50, 16/58 ... 63, 16/70
3SE2 8	8/51	3TX4 4	3/136 ... 137, 3/140 ... 141	3VL9 1	16/45, 16/51 ... 52
3SE2 9	9/110	3TX4 7	3/140, 16/38 ... 39	3VL9 2	16/18, 16/46, 16/51 ... 53, 16/65
3SE3	8/40 ... 41, 8/43, 8/45, 8/49 ... 50, 9/110	3TX6	3/135, 17/65	3VL9 300	16/42, 16/45 ... 47, 16/52 ... 53, 16/58 ... 59, 16/66 ... 67
3SE6	8/62	3TX7 0	3/95 ... 100, 3/135	3VL9 32	16/18, 16/51, 16/58 ... 59, 16/65
3SE7	9/105 ... 107	3TX7 4	3/134, 3/139, 6/10, 7/15	3VL9 40	16/38, 16/40, 16/43, 16/47, 16/54, 16/60, 16/66
3SF2	9/108	3TX7 5	3/124, 3/134 ... 135, 7/14 ... 15	3VL9 42	16/18
3SF3	8/54 ... 59	3TX7 6	3/135, 7/14 ... 15	3VL9 43	16/18
3SF5	9/65, 9/96	3TY	3/135 ... 136, 3/142 ... 145	3VL9 44	16/18, 16/51, 16/65
3SF6	6/83	3UF1	7/14 ... 15	3VL9 5	16/18, 16/48, 16/55, 16/60 ... 61, 16/65
3SF7	6/83	3UF5	7/12 ... 14	3VL9 60	16/43, 16/48 ... 49, 16/54 ... 55, 16/61, 16/67
3SR	9/78	3UF7	7/7 ... 9, 16/70	3VL9 68	16/65
3SX1	5/49, 5/55, 6/13, 9/78, 9/83	3UG3	7/49 ... 54	3VL9 70	16/56, 16/59 ... 63
3SX3 0	8/39	3UG4	7/42 ... 43, 7/46, 7/48	3VL9 71	16/58 ... 63, 16/65
3SX3 10	8/38	3UL	7/16	3VL9 800	16/39, 16/44, 16/49 ... 50, 16/56 ... 57, 16/62 ... 63, 16/68 ... 69
3SX3 11	8/39	3VF	14/76, 16/71 ... 72	3VL9 81	16/40, 16/65
3SX3 12	8/38 ... 39	3VL17 0	16/6 ... 7, 16/20 ... 23	3WL11 06	15/5 ... 6, 15/8 ... 9, 15/11 ... 12, 15/14 ... 15
3SX3 13	8/39	3VL17 10	16/6 ... 7, 16/10 ... 11, 16/20 ... 23, 16/26 ... 27	3WL11 08	15/5 ... 6, 15/8 ... 9, 15/11 ... 12, 15/14 ... 15
3SX3 16	8/19	3VL17 12	16/6 ... 7, 16/20 ... 23	3WL11 10	15/5 ... 6, 15/8 ... 9, 15/11 ... 12, 15/14 ... 15
3SX3 17	8/12	3VL17 16	16/6 ... 7, 16/10 ... 11, 16/20 ... 23, 16/26 ... 27	3WL11 12	15/5 ... 6, 15/8 ... 9, 15/11 ... 12, 15/14 ... 15
3SX3 18	8/12	3VL17 2	16/6 ... 7, 16/20 ... 23	3WL11 16	15/5 ... 6, 15/8 ... 9, 15/11 ... 12, 15/14 ... 15
3SX3 19	8/45, 8/47, 8/51, 8/56 ... 57, 8/59	3VL17 9	16/6 ... 7, 16/20 ... 23	3WL12 08	15/6 ... 7, 15/9 ... 10, 15/12 ... 13, 15/15 ... 16
3SX3 20	8/47, 8/51, 8/57, 8/59	3VL27 05	16/6 ... 7, 16/20 ... 21, 16/24 ... 25	3WL12 10	15/6 ... 7, 15/9 ... 10, 15/12 ... 13, 15/15 ... 16, 15/42 ... 43
3SX3 21	8/19 ... 20, 8/39, 8/46, 8/56	3VL27 06	16/6 ... 11, 16/20 ... 21, 16/24 ... 27	3WL12 12	15/6 ... 7, 15/9 ... 10, 15/12 ... 13, 15/15 ... 16
3SX3 22	8/45 ... 46, 8/56, 8/60	3VL27 08	16/6 ... 7, 16/20 ... 21, 16/24 ... 25	3WL12 16	15/6 ... 7, 15/9 ... 10, 15/12 ... 13, 15/15 ... 16
3SX3 23	8/39, 8/46, 8/56, 9/106	3VL27 10	16/6 ... 11, 16/20 ... 21, 16/24 ... 27	3WL12 20	15/5 ... 16, 15/42 ... 43
3SX3 25	8/45 ... 46, 8/49 ... 50, 8/56, 8/58 ... 59	3VL27 12	16/6 ... 7, 16/20 ... 21, 16/24 ... 25	3WL12 25	15/5 ... 16
3SX3 26	8/12, 8/19 ... 20, 8/38 ... 39, 8/62	3VL27 16	16/6 ... 7, 16/10 ... 11, 16/20 ... 21, 16/24 ... 27, 16/33	3WL12 32	15/6 ... 7, 15/9 ... 10, 15/12 ... 13, 15/15 ... 16
3SX3 27	8/12, 8/20, 8/38 ... 39	3VL37 20	16/6 ... 9, 16/20 ... 21, 16/24 ... 27	3WL12 4	15/42 ... 43
3SX3 28	8/19 ... 20, 8/38 ... 39	3VL37 25	16/6 ... 11, 16/17, 16/20 ... 21, 16/24 ... 27, 16/33	3WL13	15/7, 15/10, 15/13, 15/16
3SX3 30	8/12, 8/20, 8/39, 8/47, 8/51, 8/57, 8/59	3VL47 20	16/6 ... 7, 16/10 ... 11, 16/20 ... 21, 16/24 ... 25		
3SX3 31	8/12, 8/19, 8/38	3VL47 25	16/6 ... 7, 16/10 ... 11, 16/20 ... 21, 16/24 ... 25		
3SX9	8/42	3VL47 31	16/6 ... 11, 16/20 ... 21, 16/24 ... 27		
3SY	8/39, 8/41 ... 42, 9/79				
3TB	3/34, 3/73				
3TC	3/74, 3/76 ... 77				
3TD	3/54				

Appendix

Order number index

Order No.	Page	Order No.	Page	Order No.	Page
3WL5	15/38 ... 39	4BU47 43	10/74 ... 83	5SJ	19/55, 19/59 ... 60
3WL9 111	15/26 ... 36, 15/41, 16/38 ... 39	4BU47 52	10/64 ... 73	5SM1	19/94, 19/105
3WL9 2	15/24 ... 25, 15/40, 15/44	4BU47 53	10/74 ... 83	5SM2	19/72 ... 73, 19/103 ... 104
3WL9 3	15/26, 15/41	4BU52 32	10/64 ... 73	5SM3	19/85 ... 90, 19/95
3ZS1	7/9, 13/2 ... 4, 16/70	4BU52 33	10/74 ... 83	5SP	19/71, 19/82
3ZS2	15/32, 18/4, 18/6	4BU53 32	10/64 ... 73	5ST1	12/59, 19/82
4		4BU53 33	10/74 ... 83	5ST2	19/9, 19/11, 19/80, 19/107
4AM23 42	10/20 ... 23, 10/42 ... 46	4BU53 42	10/64 ... 73	5ST3 0	19/13, 19/54, 19/74 ... 76, 19/91, 19/98 ... 100
4AM26 42	10/20 ... 23, 10/42 ... 46	4BU53 43	10/74 ... 83	5ST3 6	19/78 ... 79, 19/93, 19/101
4AM32 42	10/6 ... 19, 10/24 ... 41	4BU54 32	10/64 ... 73	5ST3 7	19/9, 19/11, 19/13, 19/34, 19/41, 19/77 ... 78, 19/93, 19/101
4AM34 42	10/6 ... 19, 10/24 ... 41	4BU54 33	10/74 ... 83	5ST3 8	19/80, 19/92, 19/100 ... 101
4AM38 42	10/6 ... 19, 10/24 ... 41	4BU54 42	10/64 ... 73	5SU1	19/95, 19/97
4AM40 42	10/6 ... 19, 10/24 ... 41	4BU54 43	10/74 ... 83	5SW	19/91 ... 92, 19/107
4AM43 42	10/6 ... 19, 10/24 ... 41	4BU55 32	10/64 ... 69	5SY4	19/61 ... 64
4AM46 42	10/6 ... 19, 10/24 ... 41	4BU55 33	10/74 ... 79	5SY5	19/70
4AM48 42	10/6 ... 19, 10/24 ... 41	4BU56 32	10/64 ... 69	5SY6	19/53, 19/55 ... 58
4AM52 42	10/6 ... 19, 10/24 ... 41	4BU56 33	10/74 ... 79	5SY7	19/65 ... 67
4AM55 42	10/6 ... 19, 10/24 ... 41	4BU56 42	10/64 ... 69	5SY8	19/68 ... 69
4AM57 42	10/6 ... 19, 10/24 ... 41	4BU56 43	10/74 ... 79	5SZ9	19/105 ... 106
4AM61 42	10/24 ... 41	4BU58 32	10/64 ... 69	5TE	19/117
4AM64 42	10/24 ... 41	4BU58 33	10/74 ... 79	5TG8	19/80
4AM65 42	10/24 ... 41	4BU58 42	10/64 ... 69	6	
4AP	10/58 ... 60, 10/86 ... 87	4BU58 43	10/74 ... 79	6BK	7/24
4AT30 1	10/54	4BU58 52	10/64 ... 69	6ED1 050	7/19, 7/21, 7/23 ... 24
4AT30 32	10/24 ... 36, 10/39 ... 41	4BU58 53	10/74 ... 79	6ED1 052	7/18, 7/20
4AT36 0	10/54	4BU59 32	10/64 ... 69	6ED1 055	7/22
4AT36 12	10/24 ... 36, 10/39 ... 41, 10/54	4BU59 33	10/74 ... 79	6ED1 056	7/19, 7/21, 7/23
4AT36 32	10/24 ... 36, 10/39 ... 41	4BU60 32	10/64 ... 69	6ED1 057	6/70, 7/19, 7/21, 7/23, 7/26
4AT39 0	10/54	4BU60 33	10/74 ... 79	6ED1 058	7/19, 7/21, 7/23, 7/27
4AT39 12	10/24 ... 36, 10/39 ... 41, 10/54	4FK	10/56	6EP	2/42, 11/9 ... 14
4AT39 32	10/24 ... 36, 10/39 ... 41	4FL	10/55, 10/88	6ES5	6/78 ... 80
4AT4	10/54	4NC	14/118 ... 119	6ES7 13	6/79 ... 85
4AU	10/58 ... 59, 10/86 ... 87	5		6ES7 141	6/107, 6/114 ... 116
4AV	11/3 ... 8	5SA	19/15	6ES7 142	6/107, 6/114, 6/116
4AX	10/52 ... 53	5SB	19/15	6ES7 143	6/115, 6/117
4BU43 32	10/64 ... 73	5SC	19/15	6ES7 144	6/107, 6/118
4BU43 33	10/74 ... 83	5SD	19/16, 19/43, 19/109 ... 116	6ES7 145	6/107, 6/118
4BU43 42	10/64 ... 73	5SE	19/5, 19/43	6ES7 147	6/113
4BU43 43	10/74 ... 83	5SF	14/102, 19/17 ... 18, 19/48	6ES7 148	6/117, 6/119
4BU43 52	10/64 ... 73	5SG	14/102, 19/6 ... 7, 19/11 ... 12, 19/48, 19/50	6ES7 15	6/77 ... 80, 6/103, 6/106
4BU43 53	10/74 ... 83	5SH	14/92 ... 93, 14/102, 19/8 ... 10, 19/13 ... 14, 19/19 ... 21, 19/34, 19/41, 19/47, 19/49 ... 51	6ES7 193	6/73, 6/77 ... 87
4BU45 32	10/64 ... 73			6ES7 194	2/51, 6/57, 6/102 ... 108, 6/110, 6/112 ... 117, 6/119
4BU45 33	10/74 ... 83			6ES7 195	6/77
4BU45 42	10/64 ... 73			6ES7 198	6/110, 6/113 ... 119
4BU45 43	10/74 ... 83				
4BU47 32	10/64 ... 73				
4BU47 33	10/74 ... 83				
4BU47 42	10/64 ... 73				

Appendix

Order number index

Order No.	Page	Order No.	Page	Order No.	Page
6ES7 3	2/18, 6/83	8HA	14/73	8UC61 21	14/76, 14/109, 17/5, 17/11, 17/34, 17/36, 17/40 ... 41
6ES7 7	6/79 ... 80	8HC	14/72, 14/75 ... 76	8UC61 22	14/113, 16/72
6ES7 8	6/80, 6/82 ... 83	8HP1 1	14/60, 14/65	8UC61 6	14/107
6ES7 90	6/72, 6/113	8HP1 2	14/60, 14/65	8UC62 1	14/76, 14/107, 14/111, 14/114, 17/11, 17/36, 17/41
6ES7 95	6/78 ... 80, 6/106	8HP1 3	14/61	8UC62 20	14/114
6ES7 97	16/70	8HP1 4	14/73	8UC62 22	14/76, 14/109, 14/113, 17/5, 17/11, 17/34, 17/36, 17/40 ... 41
6ES7 98	6/83	8HP1 5	14/71 ... 72	8UC62 6	14/107, 14/111
6ES7 991	6/105	8HP1 7	14/66 ... 69	8UC62 7	14/113
6ES7 998	6/77 ... 78, 6/82, 6/105 ... 106, 6/108, 6/114, 6/116 ... 119	8HP1 8	14/72 ... 73, 14/75	8UC63 10	14/114
6ES714	6/108	8HP2	14/60 ... 65, 17/10	8UC63 13	14/76, 14/107, 17/11, 17/37, 17/42
6ES715	6/77	8HP5	14/65	8UC63 14	14/76, 14/107, 14/111, 17/9, 17/12
6FX	6/84	8HP6 1	14/75	8UC63 20	14/114
6GK1 2	2/46	8HP6 2	14/75	8UC63 23	14/76, 14/109, 17/5, 17/11, 17/34, 17/37, 17/40, 17/42
6GK1 4	2/20	8HP6 3	14/60, 14/72 ... 73	8UC63 24	14/76, 14/109, 14/113, 17/7, 17/9, 17/12
6GK1 90	6/77 ... 78, 6/103 ... 104, 6/106, 6/108, 6/113	8HP6 4	14/64, 17/56	8UC64 1	14/76, 14/107, 14/114, 17/9, 17/13, 17/38
6GK1 97	2/18, 2/20, 6/118	8HP6 5	14/73 ... 74	8UC64 20	14/114
6GK7	2/17 ... 18, 6/118	8HP6 6	14/68, 14/73 ... 74	8UC64 24	14/76, 14/109, 17/7, 17/9, 17/13, 17/34, 17/38
6GT	6/118	8HP9	14/76 ... 77, 14/79 ... 80	8UC65	14/107, 14/109, 14/111, 14/113 ... 114, 17/12 ... 13
6SL	6/71 ... 72	8JH	14/66, 14/68 ... 70, 14/73 ... 74, 19/19, 19/47	8UC92	14/114, 17/34, 17/38
6XV	6/78, 6/103 ... 104, 6/106, 6/108, 6/113	8JK	14/66 ... 70, 14/73, 19/47	8UC93	14/115, 17/7 ... 9, 17/12 ... 13
7		8MC	14/22 ... 23	8UC95	17/8 ... 9
7KT	19/120 ... 129	8ME	14/32	8UC96	17/8 ... 9
7PV	7/38	8MF	14/24 ... 29	8US10	5/21, 5/27, 6/44, 14/86 ... 87, 16/64
7PX	7/38	8MR	14/30 ... 34	8US11	5/21, 14/87, 14/98
8		8UB	17/8 ... 9	8US12 0	14/95
8GD	14/51, 14/53	8UC60 1	14/114	8US12 1	5/21, 14/98 ... 99, 16/64, 17/65
8GE	14/47	8UC60 2	14/114, 17/11, 17/36 ... 38, 17/41 ... 42	8US12 5	5/21, 5/27, 6/44, 14/97, 14/99
8GF	12/33, 12/36, 14/68	8UC60 31	14/114, 17/11, 17/36, 17/41	8US12 6	5/21, 6/44, 14/97 ... 99
8GK1	14/37 ... 39	8UC60 32	14/114, 17/11, 17/36, 17/42	8US12 9	14/99, 17/65
8GK4 3	14/40	8UC60 33	14/114, 17/11, 17/37, 17/42	8US19 0	14/84
8GK4 4	14/41 ... 43	8UC60 34	14/114, 17/12 ... 13, 17/38	8US19 21	14/53, 14/66, 14/85, 14/90, 14/95 ... 96, 14/103, 19/47
8GK4 5	14/44 ... 45	8UC60 35	14/114	8US19 22	14/68, 14/84 ... 85, 14/92 ... 94, 14/96, 19/51
8GK4 6	14/46	8UC60 81	14/114, 17/11, 17/36, 17/41	8US19 23	14/68, 14/92, 19/47
8GK4 7	14/47 ... 48	8UC60 82	14/114, 17/11, 17/36, 17/42	8US19 27	14/98, 16/64
8GK4 8	14/37 ... 39, 14/49	8UC60 83	14/114, 17/11, 17/37, 17/42	8US19 4	14/94 ... 96, 14/103, 19/47
8GK9 1	14/50, 14/53	8UC60 84	14/114, 17/12 ... 13, 17/38	8US19 98	5/27, 6/44 ... 45, 14/86 ... 87, 14/90, 14/97 ... 99, 14/103
8GK9 3	14/53	8UC61 10	14/114	8WA1 010	12/34
8GK9 5	14/50 ... 51, 14/53	8UC61 11	14/76, 14/107, 17/11, 17/36, 17/41	8WA1 011	12/30 ... 34, 12/36, 12/38 ... 42, 12/45, 12/47
8GK9 6	14/54 ... 55	8UC61 12	14/111, 16/72	8WA1 012	12/37
8GK9 7	14/52	8UC61 20	14/114	8WA1 2	12/30 ... 32, 12/43
8GK9 9	14/50 ... 53, 14/56 ... 57			8WA1 3	12/31

Appendix

Order number index

Order No.	Page	Order No.	Page	Order No.	Page
8WA1 5	12/40	8WA2 860	14/69	E	
8WA1 6	12/33			E20	15/32
8WA1 7	12/30, 12/48	8WA2 861	14/69		
8WA1 80	12/31, 12/36, 12/58 ... 59	8WA2 862	12/27	L	
8WA1 81	12/30 ... 32, 12/36, 12/38, 12/43, 12/60	8WA2 863	12/27	LZX	3/102 ... 105, 7/38
		8WA2 864	12/27		
8WA1 820	12/30, 12/40	8WA2 865	12/27	Z	
8WA1 821	12/31, 12/43			Z23	2/47
8WA1 822	12/19 ... 20, 12/30 ... 33, 12/36 ... 38, 12/40 ... 43, 12/45, 12/47, 12/59	8WA2 866	12/27		
8WA1 823	12/31, 12/38	8WA2 867	12/17, 12/25, 12/33, 12/36		
8WA1 824	12/32	8WA2 868	6/81, 6/83, 6/87, 12/17, 12/25, 12/33, 12/36		
		8WA2 87	12/17, 12/25, 12/33, 12/36		
8WA1 825	12/30 ... 31, 12/36, 12/38, 12/45	8WA2 88	4/9, 4/16, 12/25		
8WA1 828	12/31				
8WA1 83	12/38	8WA3	12/7 ... 8		
8WA1 84	12/31	8WA4	12/49		
8WA1 85	12/30 ... 31, 12/36, 12/38, 12/60, 14/74	8WA7	12/31, 12/38, 12/45, 12/59 ... 60		
		8WA8 0	12/34		
8WA1 860	12/30	8WA8 5	12/7, 12/10 ... 11		
8WA1 862	12/31, 12/36, 12/38, 12/43				
8WA1 864	12/60, 14/74	8WA8 80	12/57		
8WA1 865	12/30 ... 31, 12/38	8WA8 82	12/58		
8WA1 867	12/40	8WA8 846	12/58		
		8WA8 847	12/48, 12/53 ... 57		
8WA1 868	12/40, 12/59	8WA8 848	6/83, 6/87, 12/36, 12/48, 12/53 ... 57		
8WA1 87	12/40, 12/59				
8WA1 88	12/31, 12/38, 12/45, 12/58 ... 59	8WA8 85	12/50		
8WA1 89	12/19, 12/30 ... 31, 12/38, 12/42	8WA8 86	6/83, 6/87, 12/51 ... 52		
8WA1 9	12/48	8WA9	12/48		
8WA2 011	12/14 ... 23, 12/25, 12/27	8WC	12/33, 12/36, 14/69, 14/84, 14/93		
8WA2 5	12/9, 12/11				
8WA2 803	3/125, 5/27, 5/56, 12/25, 12/27	8WD	9/112 ... 117		
8WA2 804	3/125, 5/27, 5/56				
8WA2 805	12/17, 12/25				
8WA2 806	6/49, 12/25				
8WA2 807	2/34, 5/56				
8WA2 808	12/25				
8WA2 81	12/14 ... 16, 12/23, 12/25				
8WA2 82	12/23, 12/25, 12/27				
8WA2 830	12/14 ... 16, 12/20 ... 22, 12/24				
8WA2 831	12/14 ... 16, 12/20 ... 22, 12/24				
8WA2 832	12/14 ... 16, 12/20 ... 22, 12/24				
8WA2 835	12/14 ... 16, 12/25				
8WA2 836	12/14 ... 16, 12/25				
8WA2 837	12/17, 12/25				
8WA2 838	12/25, 12/58				
8WA2 842	6/81, 6/83, 6/87, 12/17, 12/25, 12/49				
8WA2 843	12/17, 12/23, 12/25				
8WA2 844	12/14, 12/25				
8WA2 845	12/14, 12/25				
8WA2 847	12/27				
8WA2 848	12/17, 12/23, 12/25				
8WA2 85	12/14, 12/16, 12/18, 12/24 ... 25, 12/58				

Appendix

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Pos.	Order No.	Product name	Quantity	Indiv. price	Total price
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Appendix

Notes

Appendix

Notes

Appendix

Notes

Appendix

Notes

Appendix

Notes

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The CD-ROM supplied contains the following:

- Catalog LV 1 · 2006 and
- Technical Information LV 1 T · 2006

for Low-Voltage Controls and Distribution
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Appendix

Notes

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Printed in Germany

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SINAMICS G110 Inverter Chassis Units	D 11.1	
SINAMICS GM150/SINAMICS SM150	D 12	
Medium-Voltage Converter 0.6 MVA to 28 MVA		
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SINAMICS S120 Servo Control Drive System	D 21.2	
SINAMICS S150 Drive Converter Cabinet Units	D 21.3	
Asynchronous Motors Standardline	D 86.1	
DC Motors	DA 12	
SIMOREG DC MASTER 6RA70 Digital Chassis Converters	DA 21.1	
SIMOREG K 6RA22 Analog Chassis Converters	DA 21.2	
SIMOREG DC MASTER 6RM70 Digital Converter Cabinet Units	DA 22	
SIMOVERT PM Modular Converter Systems	DA 45	
SIEMOSYN Motors	DA 48	
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MICROMASTER 411/COMBIMASTER 411	DA 51.3	
SIMOVERT MASTERDRIVES Vector Control	DA 65.10	
SIMOVERT MASTERDRIVES Motion Control	DA 65.11	
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