

# Index

Things to Know About the Catalog  
Product Overview

<p><b>SIRIUS Control</b> IEC Power Control</p>	<p><b>MSPs</b> – 3RV10 Motor Starter Protectors 3RV17, 3RV27, 3RV28 Circuit Breakers 3RA19/29 &amp; 3RV19/29 Accessories</p>	<p><b>1</b></p>
	<p><b>Contactors</b> – 3RT, 3TF, 3TC Contactors 3RA13/23 Reversing Contactors 3RH Control Relays; 3RA19/29 &amp; 3RT19/29 Accessories</p>	<p><b>2</b></p>
	<p><b>Overload Relays</b> – 3RU Thermal Overload Relays 3RB Solid State Overload Relays 3UF SIMOCODE pro Intelligent Motor Protection</p>	<p><b>3</b></p>
	<p><b>Starters</b> – 3RA2 Combination Starters 3RA6 Compact Combination Starters 3RE4 Enclosed HP Rated Starters</p>	<p><b>4</b></p>
	<p><b>Power Distribution Systems</b> – 8US Fast Bus Busbar Power Distribution System</p>	<p><b>5</b></p>
<p><b>SIRIUS Hybrid</b> Solid State Control</p>	<p><b>Hybrid Motor Starters</b> – 3RM1 Motor Starters ET 200SP &amp; ET 200pro Motor Starters M200D Motor Starters</p>	<p><b>6</b></p>
	<p><b>Soft Starters</b> – 3RW30, 3RW40, 3RW50, 3RW52 &amp; 3RW55 Soft Starters Class 73 &amp; 74 Enclosed Soft Starters</p>	<p><b>7</b></p>
	<p><b>Drives</b> – SINAMICS G120X Drives, 6SL32</p>	
	<p><b>Solid-State Relays &amp; Contactors</b> – 3RF20 45mm Relays; 3RF21 22.5mm Relays; 3RF22 3-Phase Relays; 3RF23 Contactors; 3RF24 &amp; 34 3-Phase Contactors; 3RF29 Modules</p>	<p><b>8</b></p>
<p><b>General Purpose Control</b></p>	<p>Manual Starters &amp; Switches; NEMA Contactors &amp; Starters; Overload relays; Duplex Controllers; Pump Panels; Reduced Voltage Starters; DP Contactors; Lighting Contactors; Transformers</p>	<p><b>9</b></p>
<p><b>SIRIUS Command &amp; SIRIUS Monitor</b> Control Circuit Components</p>	<p><b>Pilot Devices</b> – 3SB2, 3SU1, 52 Pushbuttons, Selector Switches, Pilot Lights &amp; Stations; 8WD Signal Columns</p>	<p><b>10</b></p>
	<p><b>Function Relays</b> – 3RN Thermistor Motor Protection; 3RP &amp; 7PV Timers; 3RS Temperature Monitoring Relays &amp; Converters; 3RQ Coupling Relays; 3UG Monitoring Relays; 3TG Power Relays; 3TX71 &amp; LZS Plug-in Relays</p>	<p><b>11</b></p>
	<p><b>Terminal blocks</b> – 8WA / 8WH Terminal Blocks 8WA Special Label Marking Instructions</p>	<p><b>12</b></p>
	<p><b>Limit Switches</b> – 3SE5 (IEC) &amp; 3SE03 (NEMA) <b>Safety</b> – 3SE5 Hinge &amp; Interlock, 3SE6 Magnet, and 3SE7 Cable-operated Switches; 3SK &amp; 3TK28 Safety Relays; 3RK3 MSS</p>	<p><b>13</b></p>
	<p><b>AS-Interface</b> – 6GK7 Masters; 3RK Slaves, I/O Modules, &amp; Safety Modules; 3SF2 Cable Pull, 3SF1 Limit &amp; Interlock Switches <b>IO-Link</b> – 6ES7 Masters; 3RK Input Modules</p>	<p><b>14</b></p>
	<p><b>Programmable Relays</b> – LOGO! 6ED Modular Relays <b>Power Supplies</b> – SITOP 6EP Power Supplies <b>Ethernet Switches</b> – 6GK Unmanaged Ethernet Switches</p>	<p><b>15</b></p>
<p><b>Control Circuit Protection</b></p>	<p>5SJ4 Miniature Circuit Breakers to UL 489 5SP &amp; 5SY Supplementary Protectors to UL 1077 3NW7 &amp; 3NC1038 Fuse Holders to UL 512</p>	<p><b>16</b></p>
<p><b>Circuit Breakers</b></p>	<p>120/240 V Lug In/Lug Out and DIN Rail Breakers 15 to 3200A Molded Case Circuit Breakers</p>	<p><b>17</b></p>
<p><b>Switches</b></p>	<p><b>Safety Switches</b> – VBII <b>Enclosed Switches</b> – VBII &amp; 3LD2 <b>Disconnect Switches</b> – 3LD2, CFS, MCS &amp; VBII</p>	<p><b>18</b></p>
<p><b>Appendix - General Information</b></p>	<p>UL and CSA File &amp; Guide Numbers; On-line References; General Information; Spring-Loaded Terminal Overview; ICE Quick Reference List</p>	<p><b>19</b></p>

## Things you should know about the 2021 Industrial Catalog

This Catalog contains all selection and order-relevant data.

More information can be found on the on-line version of this catalog at [usa.siemens.com/iccatalog](http://usa.siemens.com/iccatalog)

### Navigation

All page references are linked. Click on the page number to navigate to that page.

For accessories, see page [2/66](#)

Clicking on the Page Number square at the bottom of each page will return you to the Table of Contents for that section.



Clicking on the Catalog Reference at the bottom of a page will return you to the Table of Contents for the Catalog.

Smart Infrastructure, Industrial Control Catalog 2021

### Delivery time (DT) or Standard delivery time (SD)

- ▶ Preferred type
- A 9 to 10 working days
- B 11 to 13 working days
- C 14 to 23 working days
- D 24 to 38 working days
- X On request

Normal quantities of the products are usually delivered within the specified time following receipt of an order.

In exceptional cases, the actual delivery time may differ from that specified.

The delivery times specified here represent the state as of 10/2020. For up-to-the-minute information, please visit our Industry Mall website at [www.usa.siemens.com/industrymall](http://www.usa.siemens.com/industrymall)

Note: Delivery times do not appear on all selection pages due to space constraints or coil voltage variations.

### Price units (PU)

The price unit defines the number of units, sets or lengths to which the price and weight apply.

### Packaging sizes (PS)

The packaging size defines the number of units, sets or length, for outer packaging. Only the quantity defined by the packaging size or a multiple thereof can be ordered.

## Symbols

On many selection pages in this catalog, you will find these symbols to aid in the quick identification of critical product features.

#### Connections

Combicon connection	
Insulation piercing method	
Fast Connect	
Spring-type terminals	
Flat connectors	
Solder pin connections	
Ring terminal lug connections	
Screw terminals	

#### Types of coordination

Type of coordination "1"	
Type of coordination "2"	

#### Distinguishing between units

Complete units	
Modular system	

#### Support function

Configurator available in the Industry Mall	
---	--

## IEC Motor Starter Protectors

## Section 1

SIRIUS 3RV Motor Starter Protectors (MSPs) are built for a wide range of applications and meet the requirements of control users worldwide. Each MSP features a manual ON/OFF switch, a Class 10 adjustable bimetallic overload relay (Class 20 available in the two largest frame sizes), and magnetic trip elements for short circuit protection.

**3RV20** MSPs can be used in a variety of applications:

- \* Manual Motor Starter
- \* Manual Self-Protected Combination Motor Controller, Type E
- \* Combination Motor Controller Type F when combined with a 3RT contactor
- \* IEC Circuit Breaker for export applications

**3RV27** are UL listed as a Circuit Breaker for branch circuit protection of both motor and non-motor loads

**3RV28** is UL listed as a Circuit Breaker for transformer protection

**3RV29** is an infeed system for quick installation of MSP and contactor assemblies



## IEC Contactors

## Section 2

High contact reliability, a narrow design, long life time, and the ability to operate under extreme conditions (up to 60° C), ensure that SIRIUS 3RT Contactors are suited for almost any application. A large array of easily installed, standard accessories may be used to customize the contactors for different applications.

**3RT\*0** – 3 Pole Standard

**3RT12** – 3 Pole Vacuum

**3RT\*3** – 4 Pole with 4 normally open poles for switching Resistive loads (AC-1)

**3RT\*4** – 3 Pole for switching Resistive loads (AC-1)

**3RT25** – 4 Pole with 2 normally open & 2 normally closed poles

**3RT26** – 3 Pole for switching capacitors

**3RA\*9** – Contactor Accessories

**3RA23** – Reversing contactor assemblies

**3RH2** – Coupling Relays

**3TB5** – 3 Pole with true DC coils

**3TC** – 2 Pole for switching DC loads

**3TF6** – 3 Pole Vacuum, 630 & 700A



## IEC Overload Relays

## Section 3

Complete motor protection can be achieved through the SIRIUS family of overload relays (OLR's).

**3RU21** – Thermal OLR's, up to 100 A, are ambient compensated bimetallic in Trip Class 10

**3RB30 / 20** – Solid State OLR's, up to 630 A, with an internal power supply and 4:1 FLA adjustment range in Trip Class 10 or 20

**3RB31 / 21** – Features of the 3RB30 / 20 plus adjustable Trip Class 5 to 30, ground fault detection, and remote reset

**3RB22 / 23** – Features of the 3RB31 / 21 plus status LED's and external power supply

**3RB24** – Features of the 3RB23 plus communication via IO-Link

**3UF7** – SIMOCODE pro intelligent motor protection is more than just a programmable overload relay. By linking the motor and automated control circuits, SIMOCODE allows for predictive and conditional maintenance on critical systems.



**Section 4**

**IEC Starters**



The SIRIUS 3RA1/2 Combination Starters consist of a pre-wired and mechanically connected 3RV MSP and 3RT contactor, allowing for quick installation of a complete branch circuit. The Non-Reversing or Reversing assemblies come on a Fast Bus mounting shoe or as a Panel Mount version.

The SIRIUS 3RA6 Compact Starters provide the functionality of an MSP, Contactor and Electronic Overload Relay in one easy to install housing, saving wiring and installation time. The SIRIUS 3RA6 Infeed system further saves line side wiring in multiple motor panels.

The 3RE4 enclosed IEC family includes contactors and starters in NEMA 1, 3/3R/4/12 or 4X enclosures.

- 3RA2** – Combination Starters
- 3RA6** – Compact Non-Reversing & Reversing Combination Starters
- 3RE4** – Enclosed HP Rated Starters & Contactors

**Section 5**

**Fast Bus Power Distribution System**



The UL508A Fast Bus Multi-Motor Control System is a 3 phase insulated busbar system used to reduce wire connections and hole drilling when building control panels. Quickly mount Sirius 3RA combination starters and/or Siemens circuit breaker assemblies.

The Siemens Fast Bus system uses standard off-the-shelf components, with both domestic and international approvals, to allow for economical installation, compact panel designs, touch safe equipment, that allow for easy expansion and maintenance.

- FB** – Installation kits for quick ordering & installation
- FBCB** – Circuit breakers pre-assembled on Fast Bus adapter shoes
- 3RA** – Combination starters for Fast Bus mounting (see section 4)
- 8US** – Fast Bus components for Field assembly

**Section 6**

**Hybrid Motor Starters**



Hybrid technology provides reduced size, lower heat losses and longer service life in motor starter applications by combining relay contacts, power semiconductors and a solid-state overload relay.

The SIRIUS 3RM motor starters are compact, 22.5mm wide devices for mounting in the control cabinet. The failsafe versions eliminate the need for redundant controllers in safety applications. The ET 200SP motor starters are an integral part of the ET 200SP I/O system and mount directly to the rack.

The ET 200pro and SIRIUS M200D are enclosed controllers that connect to a variety of communication protocols.

- 3RM** – Non-reversing starters
- 3RK1308** – ET 200SP motor starters
- 3RK1304** – ET 200pro enclosed motor starters
- 3RK13\*5** – SIRIUS M200D enclosed motor starters

## Solid State Soft Starters & Variable Frequency Drives

### Section 7

SIRIUS Soft Starters and SINAMICS Drives are designed to ramp up your efficiency at every turn. Easy to specify, integrate, operate, and maintain, our controls fulfill your need for more thoughtful system-wide solutions.

- 3RW30** – Basic performance Soft Starters up to 75HP with built-in bypass contacts.
- 3RW40** – Basic performance Soft Starters up to 75HP with overload protection and device self protection
- 3RW50** – Basic performance Soft Starters from 100 to 400 HP with soft torque and communication options
- 3RW52** – General performance Soft starters from 100 to 400 HP with options for plug-in HMI and communication modules
- 3RW55** – High performance Soft starters from 7.5 to 1000 HP with HMI, autotuning and plug-in communication modules
- Class 73** – Non-Combination Enclosed Soft Starters
- Class 74** – Combination Enclosed Soft Starters with circuit breaker or fusible disconnect
- 6SL32** – SINAMICS G120X Variable Frequency Drives



## Solid State Switching Devices

### Section 8

Designed for high operating switching frequency the Sirius Solid State Relays and Contactors feature a long lifespan of rugged reliability in adverse conditions, quiet operation, compact size, and snap on function modules for convenient flexible use.

- 3RF20** – 1-Phase Relays in a 45mm wide “hockey-puck” design
- 3RF21** – 1-Phase Relays in a 22.5mm narrow width design
- 3RF22** – 3-Phase Relays in a 45mm wide design
- 3RF23** – 1-Phase Contactors, a 22.5mm wide relay mounted to a heat sink
- 3RF24** – 3-Phase Contactors, a 45mm wide relay mounted to a heat sink
- 3RF29** – Function Modules, such as, converters, load monitors and power controllers
- 3RF34** – 3-Phase non-reversing and reversing Contactors for switching



## General Purpose Control

### Section 9

Siemens NEMA controls are built rugged to withstand the most severe and demanding industrial and continuous duty commercial applications. Siemens offers the most complete and diverse product line in the world of NEMA. This includes standard full NEMA sizes and motor matched half sizes exclusive to Siemens. All are available as open or enclosed devices with a wide selection of accessories and spare parts.

- Manual Starters & Switches
- Non-Reversing & Reversing Starters & Contactors
- Combination Starters
- Duplex, Multi-Speed and Reduced Voltage Starters
- Definite Purpose contactors
- Pump Controllers
- Overload Relays – Solid State & Bimetallic with Replaceable Heaters
- Current Sensitive Relays
- Definite Purpose Contactors
- Lighting & Heating Contactors
- Control Power Transformers



## Section 10

## Pilot Devices



Siemens offers an extensive array of Pilot Devices and Signal Columns for a wide variety of applications.

- 3SB2** – 16mm SIRIUS Pilot Devices for applications where panel space is a premium
- 3SU1** – 22mm SIRIUS ACT Pilot Devices offer maximum flexibility, industry best time install savings and environmental ratings in round-metal and round-plastic versions
- Class 52** – 30mm is the classic pushbutton design for the NEMA markets offering both standard die cast metal and the ultra rugged BLACK MAX for corrosion resistant applications
- 8WD** – Signal Columns offer twist and connect technology in both 50mm and 70mm diameter styles. Single element signal beacons add additional options for OEMs and panel builders

## Section 11

## Function Relays

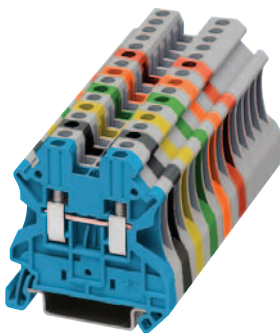


The SIRIUS family of compact, DIN rail mountable function relays offers complete solutions for monitoring, switching, interfacing and timing applications.

- 3RN** – Thermistor Motor Protection
- 3RP / 7PV** – Solid State Timing with single or multiple timing functions
- 3RS1 / 2** – Temperature Monitoring in solid, liquid and gaseous media
- 3RQ** – Coupling Relays and Interfaces
- 3RS18** – Relay Interfaces
- 3RS70** – Interface Converters
- 3TG10** – Compact Power Relays/Contactors
- 3TX71 & LZS** – Plug-in Relays & Timers
- 3UG4** – Line Monitoring of voltage and insulation or load monitoring of Current & Cos Phi, Level Monitoring of conductive liquids, and under speed monitoring

## Section 12

## Terminal Blocks



For the wiring of machines and control systems, Siemens Terminal Blocks meet or exceed the requirements of CSA, IEC, NEMA, UL, VDE and other international standards. Meeting these requirements, combined with worldwide acceptability and availability, enables Siemens Terminal Blocks to be used domestically, as well as, in equipment which will be exported.

- 8WA1 / 8WH1** – Terminals with Screw Connection
- 8WH2** – Terminals with Spring-Loaded Connection
- 8WH3** – Terminals with Insulation Displacement Connection
- 8WH5** – Terminals with Combination Plug-in Connection
- 8WH6** – Terminals with iPo Plug-in and Installation Connections

Section 12 contains the 'Table of Contents' of the Terminal Block Supplemental Catalog, Order No. PDCA-TERMB-1013; Labeling Plates for Ink Plotter System.

## Safety Systems

## Section 13

Siemens Switches and Machine Safety devices provide the means for protecting workers and equipment where hazardous conditions exist. Compliance with NEMA, OSHA and international standards (IEC) are a critical requirement for machine OEMs and end users. Siemens has provided safety relay and contactor products to the international community for almost 50 years.

- 3SB38** – Two-Hand Control Stations
- 3SE03** – North American (NEMA) Limit Switches
- 3SE5** – International (IEC) Limit Switches
- 3SE5 / 3SE2** – Interlock Switches & Hinge Switches
- 3SE6** – RFID Non-Contact Safety Switches & Magnetic Monitoring Systems
- 3SE7** – Cable-Operated Switches
- 3SK** – Modular Safety Relays
- 3TK28** – Safety Relays with special functions.
- 3RK3** – Modular Safety System (MSS)



## AS-Interface & IO-Link Systems

## Section 14

**Actuator-Sensor Interface** is the simple and effective networking system for the field level. It is extremely rugged even under the toughest of conditions. With compatible safety components, AS-Interface offers safety applications according to Safety Category 4. AS-Interface is easily linked to higher-level networks for a complete automation solution — simple, safe and fast in the field.

**IO-Link** is an open communication standard based on point-to-point connection between a Master and up to 4 devices. For an OEM wiring multiple motor starters, IO-Link technology can greatly reduce control cabinet wiring for motor starters while increasing diagnostics. For End Users, IO-Link provides a cost effective way in to monitor common analog values such as motor current, power consumption, temperature and voltage without adding an additional network.



## Programmable Relays & Power Supplies

## Section 15

The LOGO! Programmable Relay is a compact, easy to use and low cost solution for simple control tasks. Functions can be changed at the touch of a button through the integrated operator panel or remote display.

SITOP offers a broad offering of compact single- and 3-phase switched mode power supplies and 24VDC power security components, which provide reliable solutions for the most common power interruptions, helping to minimize downtimes and increase the efficiency of production.

SCALENCE Managed and Unmanaged Industrial Ethernet Switches with up to eight RJ45 ports.

- 6ED1** – LOGO! Programmable Relays
- 6EP1** – SITOP Power Supplies and Power Security Components
- 6GK5** – SCALENCE Industrial Ethernet Switches



## Section 16

## Control Circuit Protection



Siemens UL 489 miniature circuit breakers and accessories are designed to provide branch circuit and feeder protection.

Siemens UL 1077 Supplementary Protectors are designed to provide additional protection where branch circuit protection is already provided or, not required at all. Since Siemens Supplementary protectors are made to trip faster than other components, they are able to provide additional protection for more sensitive devices inside a panel.

**5SJ4** – Miniature Circuit Breakers up to 480Y / 277 VAC, 63A

**5SY** – High feature Supplementary Protectors from 0.3 to 63A

**5SP** – High amperage Supplementary Protectors from 80 to 125A

**3NW7** – Cylindrical Fuse Holders meeting UL 512 and IEC 60269-1, -2, -3

**3NC1** – Open type Cylindrical Fuse Holders meeting UL 512

## Section 17

## Circuit Breakers



Siemens offers a full line of interchangeable and non-interchangeable thermal-magnetic trip circuit breakers with a wide variety of interrupting ratings from 10KAIC to 200KAIC. These circuit breakers are available with multi-functional internal accessories, which are field installable on most breakers, and a full line of external accessories. Electronic trip circuit breakers are available for 150A through 1600A breakers.

Molded Case Circuit Breakers

**3VA** – 600VAC Breakers

**BQ and QR** – 240VAC Breakers

**CQD** – 480VAC Breakers

**GG, Sentron, and VL** – 600VAC Breakers

## Section 18

## Switches



Siemens offers a complete line of both enclosed and open style switches to meet a wide range of applications.

**HF & HNF** – Heavy Duty Safety Switches with Side Mounted Operating Handle

**3LD2** – Rotary Switches in Non-metallic Enclosures

**VBF & VBNF** – Open Switches with Flange Mounted Operating Handle

**MCS** – Open Switches with Flange or Rotary Operating Handle

**CFS** – Open Compact Fusible Switches with Rotary Operating Handle