

A detailed view of a Siemens industrial control cabinet. The cabinet is open, revealing a complex arrangement of electrical components. On the left, there are several terminal blocks with numerous wires connected. In the center, there are two large circuit breakers with black handles. To the right, there is a large orange cable bundle with a label that reads 'HELIXKABEL - TTIPSEPV 100 4'. Below this, there are more terminal blocks and a smaller circuit breaker. The cabinet door on the right has a Siemens logo, a fan, and a terminal block with several wires connected. The overall appearance is professional and industrial.

**SIEMENS**

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# 2014 Product Catalog

## Industrial Control

Answers for industry.



SIEMENS

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# Superior design meets rugged performance

With Siemens Command 52 and BlackMax 30mm pilot devices, you can be confident in the ability to handle every situation.

[www.usa.siemens.com/pushbuttons](http://www.usa.siemens.com/pushbuttons)

With Siemens innovative technology and design for rapid installation, our complete range of oil tight Pilot Devices provides a solution that will be aesthetically and functionally impressive. The extensive portfolio is modular, well-proven in practice, and is 100% fit for industrial environments.

Whether the application requires Chrome or BlackMax, incandescent or LED, standard duty or hazardous location, plastic or glass – Siemens has done the work for you.

See Section 10 of this catalog.

**Answers for industry.**

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



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## Things you should know about the 2014 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 <a href="http://www.usa.siemens.com/iccatalog">www.usa.siemens.com/iccatalog</a>
<b>Delivery time (DT)</b>	Preferred types are available from stock 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 1/2014. For up-to-the-minute information, please visit our Industry Mall website at <a href="http://www.usa.siemens.com/industrymall">www.usa.siemens.com/industrymall</a> <i>Note: Delivery Time (DT) does not appear on all selection pages due to space constraints or coil voltage variations.</i>
<ul style="list-style-type: none"> <li>▶ Preferred type</li> <li>A 9 to 10 working days</li> <li>B 11 to 13 working days</li> <li>C 14 to 23 working days</li> <li>D 24 to 38 working days</li> <li>X On request</li> </ul>		
<b>Price units (PU)</b>	The price unit defines the number of units, sets or lengths to which the price and weight apply.	
<b>Packaging sizes (PS)</b>	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.	

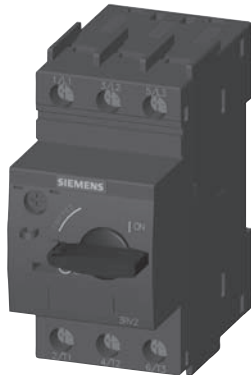
## Symbols

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

<b>Connections</b>	Combicon connection	
	Insulation piercing method	
	Fast Connect	
	Spring-type terminals	
	Flat connectors	
	Solder pin connections	
	Ring terminal lug connections	
	Screw terminals	
<b>Types of coordination</b>	Type of coordination "1"	
	Type of coordination "2"	
<b>Distinguishing between units</b>	Complete units	
	Modular system	
<b>Support function</b>	Configurator available in the Industry Mall	

## Section 1

## IEC Motor Starter Protectors



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.

**3RV10 / 20** 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

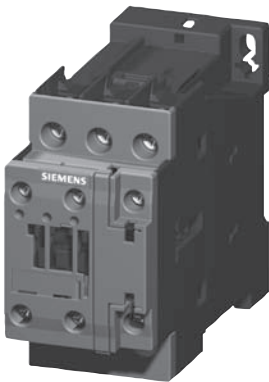
**3RV17 / 27** are UL listed as a Circuit Breaker for branch circuit protection of both motor and non-motor loads

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

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

## Section 2

## IEC Contactors



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)

**3RT\*5** – 4 Pole with 2 normally open & 2 normally closed poles

**3RT\*6** – 3 Pole for switching capacitors

**3RA\*9** – Contactor Accessories

**3RA\*3** – Reversing contactor assemblies

**3TB5** – 3 Pole with true DC coils

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

**3TF6** – 3 Pole Vacuum, 630 & 700A

## Section 3

## IEC Overload Relays



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

**3RU11 / 21** – Thermal OLR's, up to 100 A, are ambient compensated bimetallic in Trip Class 10

**3RB20 / 30** – 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

**3RB21 / 31** – Features of the 3RB20 / 30 plus adjustable Trip Class 5 to 30, ground fault detection, and remote reset

**3RB22 / 23** – Features of the 3RB21 / 31 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.

## IEC Combination Starters

## Section 4

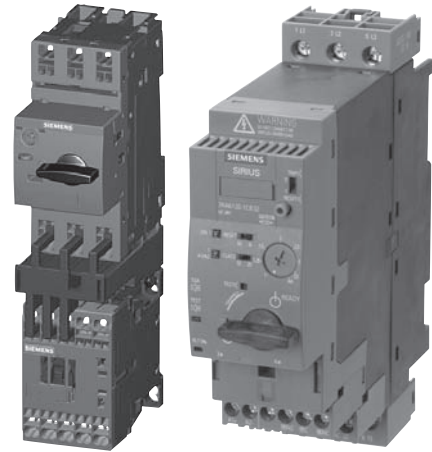
The SIRIUS 3RA1/2 Combination Starters consist of a pre-wired and mechanically connected 3RV MSP and 3RT contactor, allowing for quick installation of a complete branch circuit. The Non-Reversing or Reversing assemblies come on a Fast Bus mounting shoe or as a Panel Mount version.

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. Available in both non-reversing and reversing starters that can be mounted on a Fast Bus shoe. The SIRIUS 3RA6 Infeed system further saves line side wiring in multiple motor panels.

**3RA11 / 21** – Non-Reversing Combination Starters

**3RA12 / 22** – Reversing Combination Starters

**3RA6** – Compact Non-Reversing & Reversing Combination Starters



## Fast Bus Power Distribution System

## Section 5

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



## Hybrid Motor Starters

## Section 6

SIRIUS 3RM1 motor starters are compact devices with a width of 22.5 mm, combining a large number of functions in a single unit. They consist of combinations of relay contacts, power semiconductors (hybrid technology), and a solid state overload relay for operational switching of three phase motors up to 3 HP @ 480 V.

Hybrid technology provides reduced size, lower heat losses and longer service life in motor starter applications. Even the reversing units are only 22.5mm wide.

**3RM10** – Non-reversing starters

**3RM11** – Non-reversing starters with safety related shutdown

**3RM20** – Reversing starters

**3RM21** – Reversing starters with safety related shutdown



## Section 7

## Solid State Soft Starters



SIRIUS Solid State Soft Starters 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. With innovations, such as 2 phase control up to 300HP@ 480V to a high end Profibus DP capable soft starter, Siemens is your trusted source for soft start control.

**3RW30** – Soft Starters in compact frame sizes up to 75HP for standard applications

**3RW40** – A compact Soft Starter from 7.5 to 300HP, with built-in bypass contacts, overload protection and device self protection

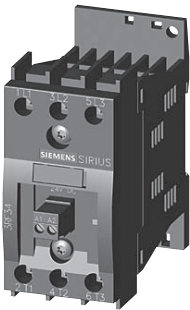
**3RW44** – A high feature Soft Starter offering, from 15HP to 900HP, with built-in bypass contacts, overload protection, torque control functionality, multiple parameter settings, braking and slow speed capability, programmable inputs and outputs, and kick start and multiple starting and stopping modes

**Class 73** – Non-Combination Enclosed Soft Starters

**Class 74** – Combination Enclosed Soft Starters with circuit breaker or fusible disconnect

## Section 8

## Solid State Switching Devices



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

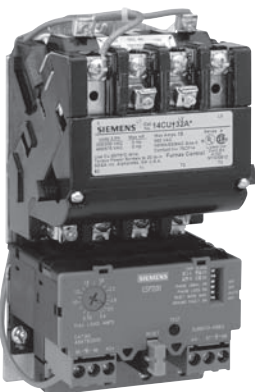
**3RF24** – 3-Phase Contactors, a 45mm wide relay mounted to a heat sink

**3RF29** – Function Modules, such as, converters, load monitors and power controllers

**3RF34** – 3-Phase non-reversing and reversing Contactors for switching

## Section 9

## General Purpose Control



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

Multi-Speed Starters

Reduced Voltage Starters – Autotransformer and Wye-Delta

Combination Starters

Pump Controllers

Overload Relays – Solid State & Bimetallic with Replaceable Heaters

Current Sensitive Relays

Lighting & Heating Contactors

Control Power Transformers



## Pilot Devices

## Section 10

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

**3SB3** – 22mm SIRIUS Pilot Devices offer maximum flexibility, industry best time install savings and environmental ratings in round-metal and round & square-plastic versions

**Class 50** – Standard Duty Control Stations

**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

**Class 51** – 30mm in NEMA 7 & 9 for hazardous locations

**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



## Function Relays

## Section 11

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** – Solid State Timing with single or multiple timing functions

**3RS10 / 20** – Temperature Monitoring in solid, liquid and gaseous media

**3RS17** – Interface Converters

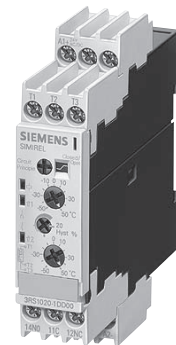
**3RS18** – Relay Interfaces

**3TG10** – Compact Power Relays/Contactors

**3TX70** – Interface Relays & Semiconductor Interfaces

**3TX71** – 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



## Terminal Blocks

## Section 12

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

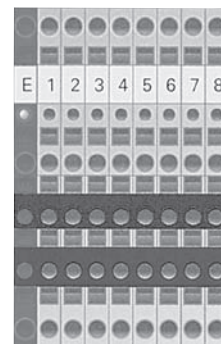
**8WH2** – Terminals with Spring-Loaded Connection

**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; and, Special Label Instructions for 8WA terminal block labeling plate inscriptions.



## Section 13

## Safety Systems

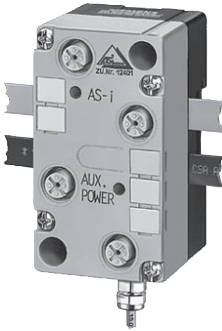


Siemens Switches and Machine Safety devices provide the means for protecting workers and equipment where hazardous conditions exist. Compliance with NEMA, OSHA and international standards (IEC) are a critical requirement for machine OEMs and end users. Siemens has provided safety relay and contactor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

- 3SB38** – Two-Hand Control Stations
- 3RK3** – Modular Safety System (MSS)
- 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
- 3SK1** – Modular Safety Relays
- 3TK28** – Safety Relays with special functions.

## Section 14

## AS-Interface & IO-Link Systems



**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.

## Section 15

## Programmable Relays & Power Supplies



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
- 6EK5** – SCALENCE Industrial Ethernet Switches

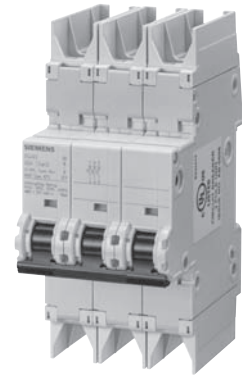
## Control Circuit Protection

## Section 16

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



## Circuit Breakers

## Section 17

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

- BQ and QJ** – 240VAC Breakers
- CQD** – 480VAC Breakers
- GG, Sentron, and VL** – 600VAC Breakers

### Insulated Case and Power Circuit Breakers

- WL frame** – 600VAC

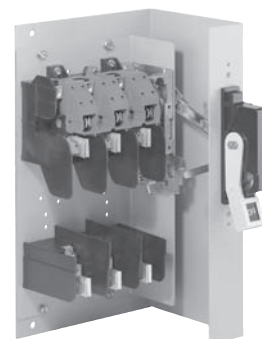


## Switches

## Section 18

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



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