

Type-Tested Motor-Control-Center
in Withdrawable-Unit Design



Represented by:

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SIVACON



SIEMENS



Highly Available with Safety:

Type-Tested Components for Motor-Control-Center in Withdrawable-Unit Design

SIVACON Features

- Type-tested standard modules (TTA)
- Standardized busbar position at the top of the cubicle
- 3- and 4-pole busbar system up to 7400 A
- Rated peak withstand current I_{pk} up to 375 kA
- Deep switchgear compartment for universal installation
- Modular structure of device compartments
- Single-front and back-to-back installation
- Cable lead-in from above and below
- Cable connection from the front or rear



The SIVACON low-voltage switch board featuring withdrawable-unit design is a highly available standard solution for motor control centers. This version offers the required degree of power supply flexibility and is particularly suitable for the frequently changing requirements of the process industry. What's more, it was conceived on the basis of ergonomic criteria.

- Easy and safe handling
- Rapid replacement without interrupting the operation
- High availability
- Sturdy and reliable mechanical interlocks

As a motor control center, SIVACON is available throughout the world and can be used at all power levels up to 7400 A.

- Safety and proven quality for every system by type-testing
- Siemens switchgear for reliable operation
- Worldwide presence with local production
- High flexibility for economical solutions

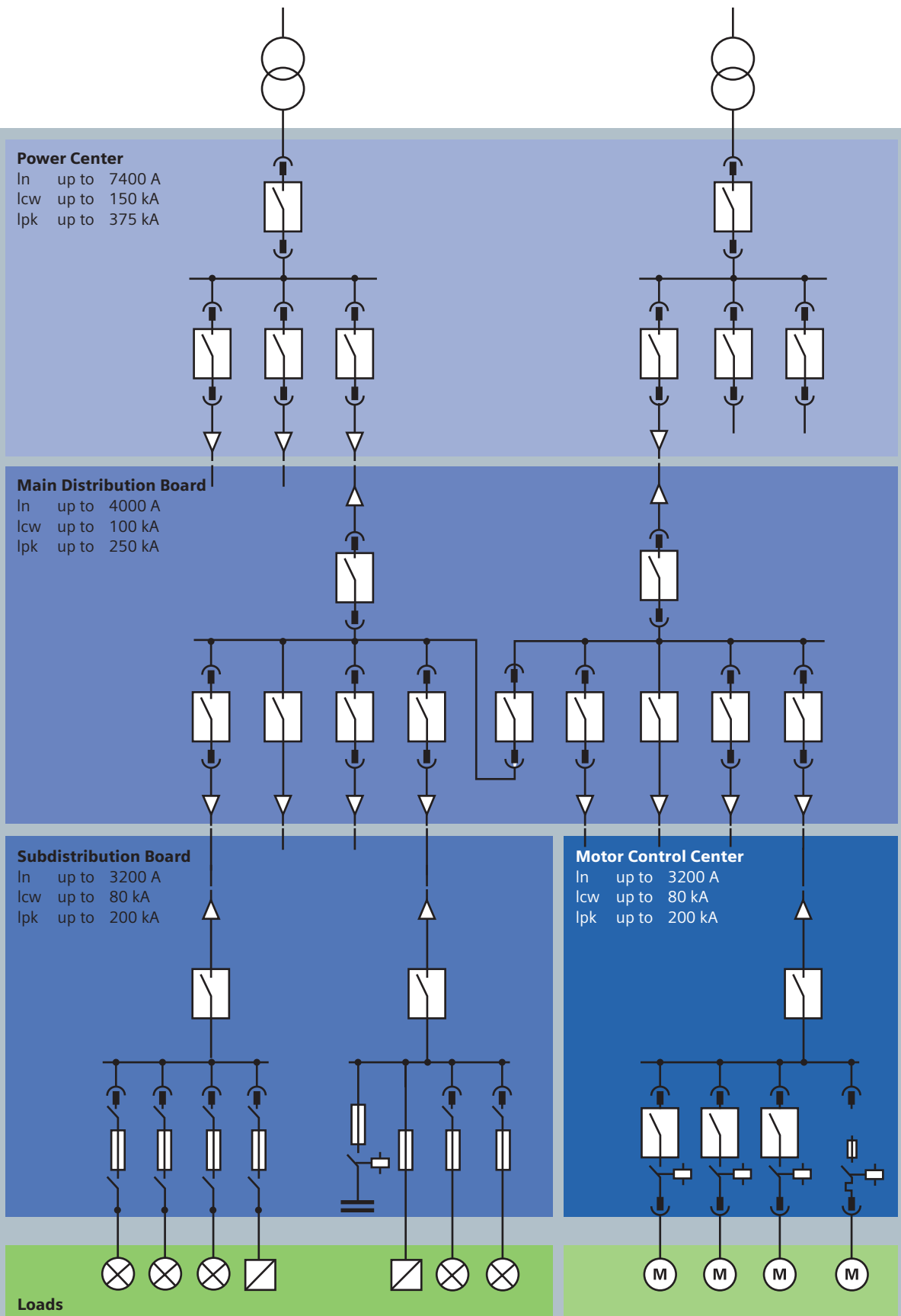
Your advantage: "SIVACON Technology Partners"

These are qualified and permanently audited switch board panel manufacturers, which Siemens has selected, close to you. This means that you always have the wealth of Siemens know-how at conditions that only a local supplier can offer. Fast, flexible and favorably priced.

SIVACON
Siemens Technology

Motor Control Center
SIVACON in Withdrawable-Unit Design

SIVACON for
all applications
in the low-voltage
network



Power Center
In up to 7400 A
Icw up to 150 kA
Ipk up to 375 kA

Main Distribution Board
In up to 4000 A
Icw up to 100 kA
Ipk up to 250 kA

Subdistribution Board
In up to 3200 A
Icw up to 80 kA
Ipk up to 200 kA

Motor Control Center
In up to 3200 A
Icw up to 80 kA
Ipk up to 200 kA

Loads

Withdrawable-Unit Design: Highly Available, Always Safe

Cubicles for motor and cable feeders in withdrawable-unit design offer highest operating comfort with optimum safety and availability. By virtue of the guiding withdrawable principle easy and rapid changes or adaptations are possible. Thus individual modules can be e.g. supplemented or exchanged. Even compartments may be converted during operation. The withdrawable-unit design of SIVACON for highest possible availability.

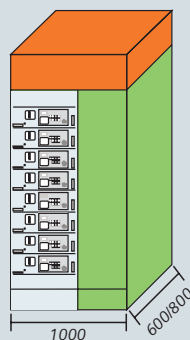
- High degree of safety by virtue of type-tested standard modules
- Outgoing feeders up to 250 kW
- Non-fused and fused protection
- Test and disconnected position with protection degree IP 30
- Standard operator interface for all withdrawable-units
- Isolating gaps on the supply and feeder sides
- Space-saving sizes of withdrawable-units from 100 mm minimum module height
- Cable connection compartment at front or rear
- Easy adaptation to changing operating conditions without shutdown of switch board

Cubicle Dimensions/Cubicle Structure

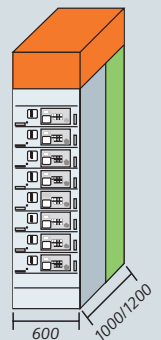
Withdrawable-units up to 630 A/feeder



Cable connection
right-hand side



Cable connection
rear



Maloperation protection prevents travel of the withdrawable-units when the master switch is "ON"



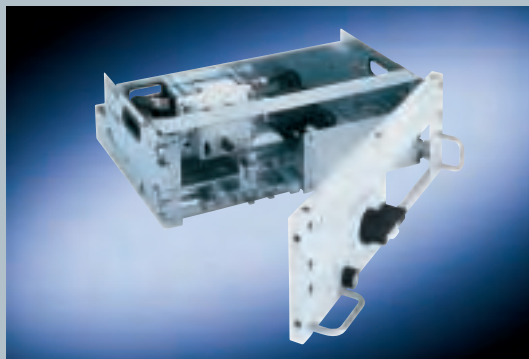
Withdrawable-unit module height 100 mm, 11 kW, with direct starter



Rear view of withdrawable-unit module height 200 mm. Possibility of fitting components



Hinged front panel of withdrawable-units

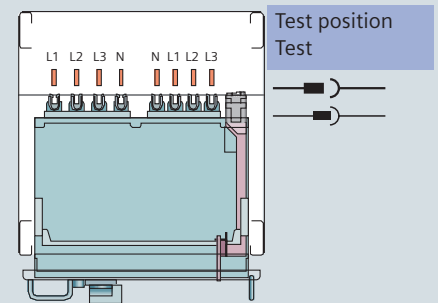
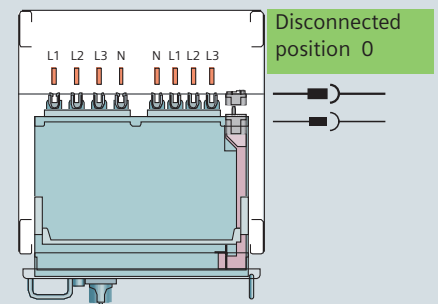
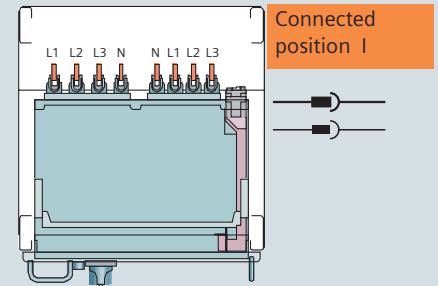


Moving the withdrawable-unit into disconnected position



SIVACON withdrawable-units offer operating and handling safety

- Standardized design in eight modular-unit heights (100, 150, 200, 300, 400, 500, 600, 700 mm)
- Clearly visible withdrawable-unit positions (connected, test and disconnected position)
- Integrated maloperation protection in all withdrawable-units
- Control plugs up to 40-pole and additional bus contacts (optional)
- Hinged front panel of withdrawable-units for adjustments (unit height ≥ 200 mm)
- Insertion support for easy moving of the withdrawable-units > 250 A
- Plenty of space for auxiliary equipment by possibility of fitting components at the rear
- Lockable disconnected position for safe working at the consumer



Plug-on bus system

The plug-on bus system is located at the rear of the cubicle. It offers safe-to-touch protection without additional shutters to live parts.

- Integrated protection against electric shock
- 3- and 4-pole versions
- Safe-to-touch (IP 20 B)
- Tap openings in a modular grid of 25 mm

Versatility and reliability with adaption to changing requirements

- Simple conversion of withdrawable-unit compartments without shutdown of switch board
- No connection work necessary inside withdrawable-unit compartment
- Connections for power and control cables in a separated cable connection compartment
- Cable connection compartment optionally 400 mm wide (front) or 600 mm wide (rear)

Rapid replacement of withdrawable-unit compartments



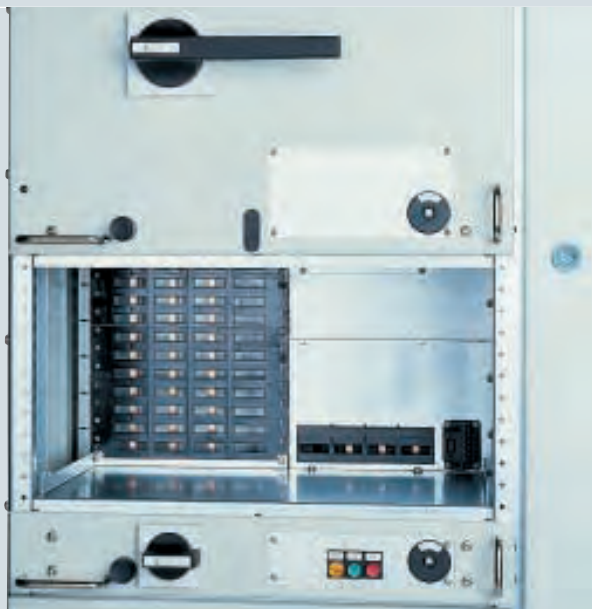
Cable connection front



Cable connection rear



Plug-on bus system with safe-to-touch protection



Technical Data:

At a Glance

Standards and specifications	Type-tested switchgear and control gear assembly (TTA) Testing of response to internal faults (arcing faults)	IEC 60439-1, DIN EN 60439-1 (VDE 0660 part 500) IEC 61641, VDE 0660 part 500, supplement 2	
Creepage distances and clearances	Rated impulse withstand voltage (Uimp)	8 kV	
	Overtoltage category	III	
	Pollution degree	3	
Rated insulation voltage (Ui)		1000 V	
Rated operational voltage (Ue)		up to 690 V	
Rated currents (In) Busbars (3-pole and 4-pole)	Main horizontal busbars	Rated current	up to 7400 A
		Rated peak withstand current (Ipk)	up to 375 kA
		Rated short-time withstand current (Icw)	up to 150 kA, 1 s up to 120 kA, 3 s
	Vertical busbars for circuit breakers	Rated current	up to 6300 A
		Rated peak withstand current (Ipk)	up to 250 kA
		Rated short-time withstand current (Icw)	up to 100 kA, 1 s up to 80 kA, 3 s
Vertical busbars for fixed-mounted design	Rated current	up to 1400 A	
	Rated peak withstand current (Ipk)	up to 163 kA	
	Rated short-time withstand current (Icw)	up to 65 kA*, 1 s up to 50 kA, 3 s	
Vertical busbars for in-line plug-in design (3NJ6)	Rated current	up to 2100 A	
	Rated peak withstand current (Ipk)	up to 110 kA	
	Rated short-time withstand current (Icw)	up to 50 kA*, 1 s	
Vertical busbars for withdrawable-unit design	Rated current	up to 1200 A	
	Rated peak withstand current (Ipk)	up to 163 kA	
	Rated short-time withstand current (Icw)	up to 65 kA*, 1 s up to 50 kA, 3 s	
Switchgear rated currents	Circuit breakers	up to 6300 A	
	Outgoing feeders	up to 630 A	
Internal separation	Form 1 to Form 4	IEC 60439-1, section 7.7, DIN EN 60439-1	
Surface treatment	Frame parts	galvanized/powder-coated/wet-painted	
	Enclosure	galvanized/powder-coated/wet-painted	
	Doors	galvanized/powder-coated/wet-painted	
Degree of protection	to IEC 60529, EN 60529	IP 30 to IP 54	
Dimensions		Height: 2200, 2600 mm (with busbar top unit) Width: 400, 600, 800, 1000, 1200 mm Width: 600, 800, 1000, 1200 mm	

*Rated conditional short-circuit current Icc up to 100 kA



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