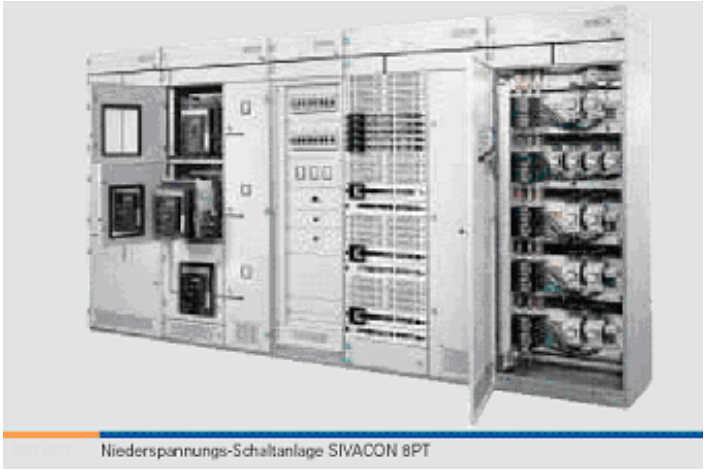
# SIVACON 8PT with plug-in installation

**General information**

The SIVACON 8PT low-voltage switchgear is the FEAG standard solution for industry engineering. SIVACON 8PT has been tailored to meet the requirements of the global market, i.e. it takes into account the demand for single-source standard solutions. The SIVACON 8PT (plug-in technology) is produced by FEAG around the world, particularly as motor control centres for the chemical industry and other industrial applications, such as e.g. sewage works, water works, etc. and can be used at all performance levels up to 7400 A.




SIVACON 8PT low voltage switchgear

**Modular construction**

Each SIVACON 8PT is produced from standardised and typical modules. All modules are top quality because of the FEAG standard audit and design specifications. The numerous combination options of these modules enable all requirements to be met. The exclusive use of high quality Siemens switchgear guarantees long service life and reliable operation.

**Inspections/Tests**

Each SIVACON switchgear is subject to a routine test before delivery:

- Checking switchgear combinations, including wiring and, if necessary, electrical function tests and insulation tests
- Checking the safety measures and the continuous ground lead connection

The switchgear are type-tested (TTA), i.e. they meet the requirements for:

- IEC 60 439-1
- DIN EN 60 439-1
- VDE 0660 Part 500

This is implemented by:

- Proof of compliance with temperature rise limits by testing
- Proof of insulation resistance by testing
- Proof of short-circuit strength by testing
- Proof of good connection between units in the switchgear assembly and the ground connection by checking or resistance measurements
- Proof of short-circuit strength of the ground connection by testing
- Proof of clearance and creepage distances
- Proof of mechanical functions
- Proof of IP degree of protection

These tests guarantee a high level of operating and personal safety.

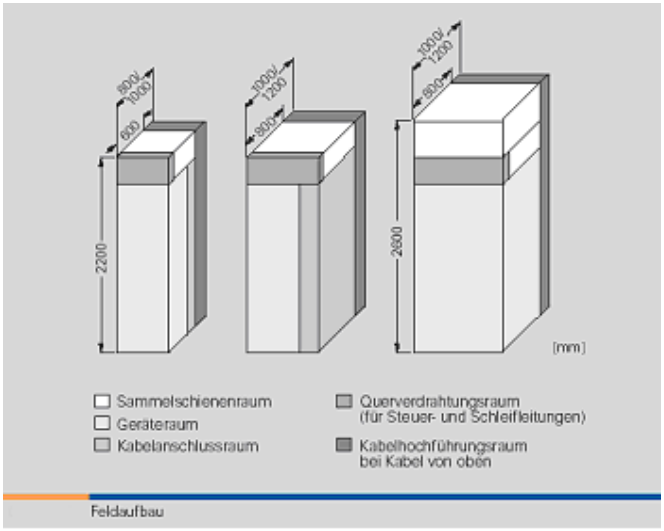
The safety requirements are also supported by a series of details in the SIVACON, for example:

- Utilisation of just several high quality insulating materials (e.g. for busbars, stiffners, etc.)
- Utilisation of high quality Siemens switchgear for long service life and minimum down times
- Safe disconnection after maximum 70 to 100 ms, even with high lag times, due to the 3W circuit breaker with ZSS (time-reduced discriminative control)
- DP-supported planning for precise selection and positioning of operating media
- Internal arc tested

**Panel construction**

In general, a panel is divided into five functional sections:

- Busbar section
- Device section
- Cable/bar connection section
- Cross-wiring section
- Cable riser section




**Characteristics**

- Siemens switchgear for reliable operation
- Global availability
- High flexibility for economic solutions
- Large device section depth for universal installation
- Modular structure of device sub-sections
- Single front and back to back installation
- Cable entry from above or below
- Cable connection from front or back

**Framework and enclosure**

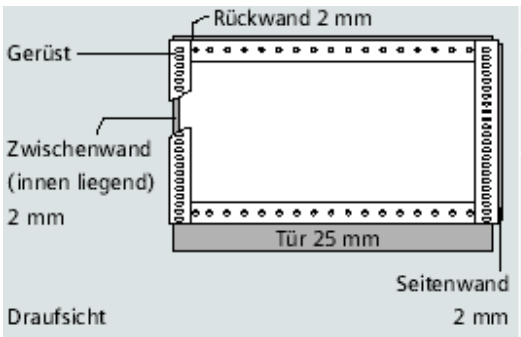
The framework, the supporting elements of the panel, consists of sturdy sheet steel profiles that are connected to each other. The precisely dimensioned and stabile SIVACON framework is available either screwed or welded together.

**Characteristics**

- Continuous series of holes 25 mm apart for customised installation
- Flexible door layouts for all requirements
- Door opening angle up to 180°
- Sprung sash lock reliably prevents unintended door opening
- Roof panels with pressure relief Surface treatment: optional powder-coated, wet-painted, galvanised

**Material**

- Framework and enclosure made of sheet steel with following thicknesses:
- Framework: 2.5 mm
- Enclosure: 2.0 mm
- Degree of protection as per IEC 60529 IP 30, IP 31, IP 40, IP 41, IP 42 ventilated IP 40, IP 54 not ventilated




| Feldhöhe (mm) | Feldbreite (mm) | Feldtiefe (mm) |
|---|---|---|
| 2200 | 400, 600, 800, 1000, 1200 | 600, 800, 1000, 1200 |
| 2600 | 400, 600, 800, 1000, 1200 | 800, 1000, 1200 |

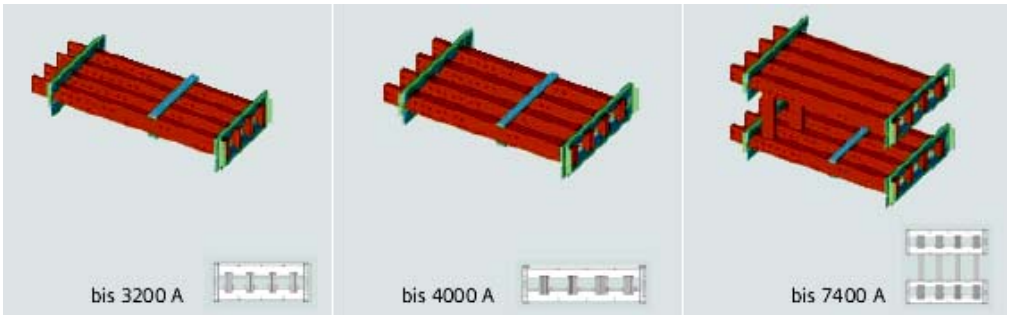
**Variable busbar systems**

The wide range of demands for busbar systems requires individual implementation options.
SIVACON offers modules for economic construction with high security. The busbar system can be variably used and consists of the three external conductors L1 to L3 and the PE, N or PEN conductors.

**Busbar position, top**


**Characteristics**

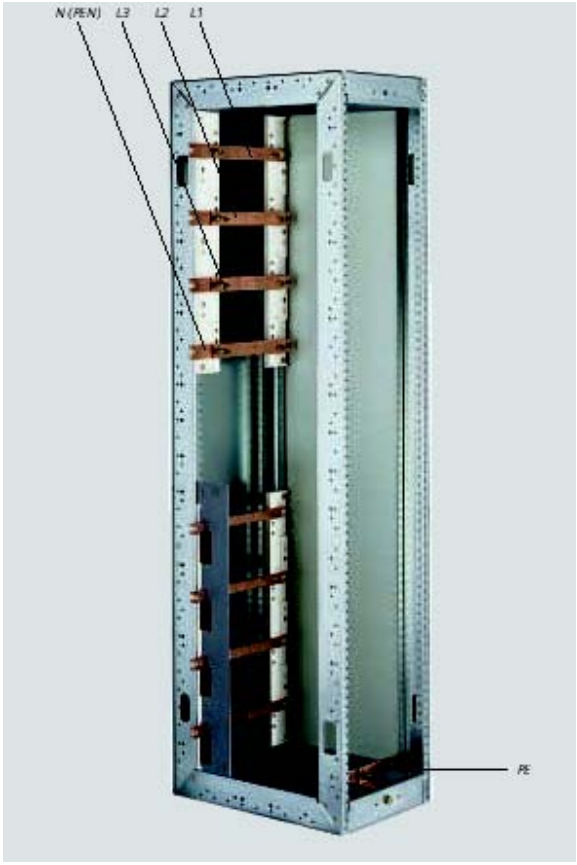
- 3 and 4 pole busbar systems for rated currents up to 7400 A
- Practise-based adjustment of rated currents
- Rated peak withstand current Ipk up to 375 kA
- Separation between busbar section and device section
- Transport unit connection points easily accessible from above
- Arc barriers for internal arcing reduction

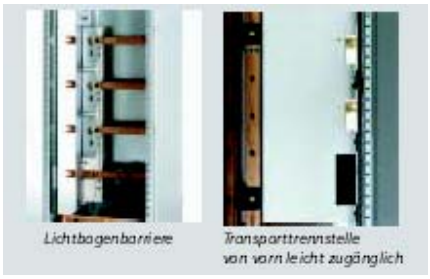



**Bemessungsströme bei 35 °C Umgebungstemperatur**

| Außenleiter (L1, L2, L3), Anzahl, Maße (mm) | unbelüftet | belüftet | $I_{pk}$ / $I_{cw}$ | Feldhöhe | Feldtiefe |
|---|---|---|---|---|---|
| 2 x 100 x 10<br>3 x 100 x 10 | 2400<br>2950 | 3200<br>4000 | 200/80<br>250/100 | 2200<br>2200 | 600, 800, 1000<br>800, 1000, 1200 |
| 3 x 100 x 10+<br>3 x 100 x 10 | 5400 | 7400 | 375/150 | 2600 | 800, 1000, 1200 |

**Busbar position, rear**



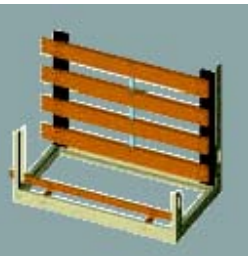




**Characteristics**

- 3 and 4 pole busbar systems for rated currents up to 3200 A
- Practise-based adjustment of rated currents
- Rated peak withstand current Ipk up to 187 kA
- Separation between busbar section and device section
- Two busbar systems can be run into the switchgear
- Transport unit connection points easily accessible from the front
- No maintenance busbar connections
- Arc barriers for internal arcing reduction (optional)

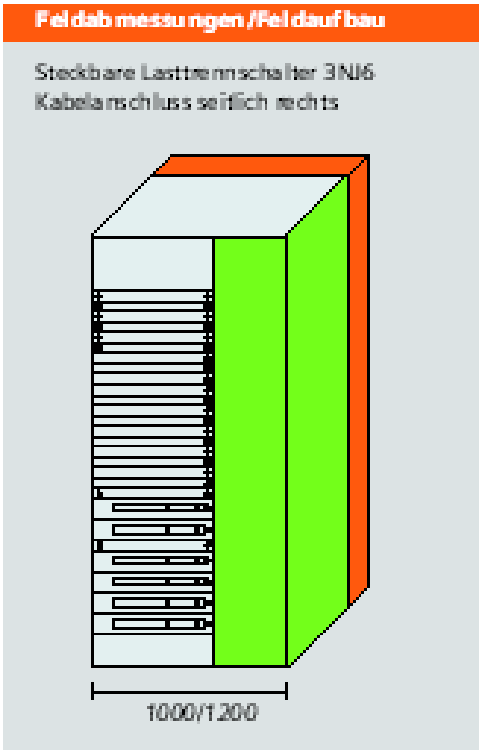
**Bemessungsströme bei 35 °C Umgebungstemperatur**

| Außenleiter (L1, L2, L3), Anzahl, Maße (mm) | unbelüftet A | belüftet A | $I_{pk}$ / $I_{cw}$ kA |
|---|---|---|---|
| 1 x 30 x 10 | 810 | 990 | 52,2 / 25 |
| 1 x 40 x 10 | 950 | 1160 | 52,5 / 25 |
| 1 x 60 x 10 | 1240 | 1510 | 143 / 65 |
| 2 x 40 x 10 | 1600 | 1990 | 143 / 65 |
| 2 x 60 x 10 | 1830 | 2300 | 187 / 85 |
| 2 x 80 x 10 | 2060 | 2590 | 187 / 85 |
| 2 x 100 x 10 | 2280 | 2900 | 187 / 85 |



**Strip technology 3NJ6 – plug-in:**

SIVACON offers high levels of economy, safety and flexibility with this service technology.




High security through type-tested standard modules (TTA)
• Incoming-side plug contact for rapid exchange
• Strips for cable outputs up to 630 A, alternatively as:
  – Fuse module with fuses
  – Switch-disconnector with fuses, with single-break
  – Switch-disconnector with fuses, with double-break
  – Switch-disconnector
• High packing density up to 32 junctions per panel
• Isolated fuse replacement
• Contact protection for plug-in busbar system
• 400 and 600 mm wide cable connection section
• Degree of protection up to IP 41
• Replacement of junctions possible without disconnecting the switchgear

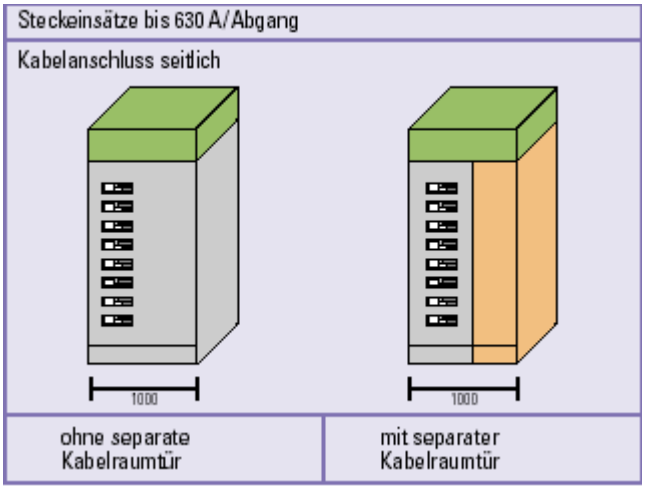
# Application example

**Motor-control-centre**

The low voltage SIVACON switchgear with plug-in technology offers an economic standard solution for motor-control centres. This technology has significant advantages over conventional permanent installation and is particularly suitable for the chemical industry.
This technology with its compact structure and incoming-side plug contacts enable rapid and easy refitting or replacements under operating conditions.

**Characteristics**

- High security through type-tested standard modules
- (TTA)
- Simple replacement without interruption of operation by means of incoming-side plug contacts for rapid exchanges
- Lateral guides for secure contact
- High packing density up to 22 outputs per panel
- Motor outputs up to 250 kW
- Cable outputs up to 630 A
- Transparent and compact structure
- Contact protection for plug-in busbar system (additive)
- SIVACON can be used as a motor control centre at all performance levels up to max. 7400 A
- Large device section depth for universal installation
- Instrument panel in door (additive)
- Modular layout of device compartments
- 400 mm wide cable connection section
- Single front and back to back installation
- Cable inlets from below or above
- Cable connection from front or back
- Safety and quality proof for all systems by type-testing
- Siemens switchgear for reliable operation
- Mounting panels for additional installations
- High flexibility for economic solutions



| Technical data | Sizes | Values |
|---|---|---|
| Rated electrical strength | | 8kV |
| Overvoltage category | | III |
| Degree of contamination | | 3 |
| Rated isolation voltage | | 1000 V |
| Rated operating voltage | | up to 690 V |
| Main busbar, horizontal | Rated current | up to 7400 A |
| | Rated peak withstand current | up to 375 kA |
| | Rated short-time withstand current | up to 150 kA, 1 s |
| Busbars, vertical | Rated current | up to 1400 A |
| | Rated peak withstand current | up to 163 kA |
| | Rated short-time withstand current | up to 65 kA, 1 s |
| Device rated currents | Circuit breaker | up to 6300 A |
| | Cable outputs | up to 630 A |
| Inner subdivision | Form 1 to 4 | IEC 60439-1, Section 7.7<br>DIN EN 60439-1 |
| Framework elements | | Galvanised<br>Powder-coated<br>Wet painted |
| Cladding | | Galvanised<br>Powder-coated<br>Wet painted |
| Doors | | Galvanised<br>Powder-coated<br>Wet painted |
| Degree of protection | As per IEC 60529, EN 60529 | IP 30 to IP 54 |
| Dimensions | | H: 2200, 2600 mm<br>W: 400 to 1200 mm<br>D: 600 to 1200 mm |