



SPC Smart Power Center

a modular smart switchgear system

Operational voltage up to 690 V

Nominal current up to 4.000 A

Type of construction form 2 to 4



Sector process industry

Steel, paper, cement, chemicals and pharmaceutical industry



Sector power generation

Power plants

Product line

FEAG GmbH has been manufacturing electrical installation systems since decades for the industry sectors Power Generation, Distribution as well as Process industry. In 2009 the new product line **Smart Power Center (SPC)** has been designed.

The intention of designing was to harmonize the switchgear system to the various demands of our customers. The scope of FEAG supply reflects the demanded tasks of most different kind and performance under consideration of current international "IEC" standards. High-level quality standard is ensured by efficient manufacturing techniques and a high content of inhouse manufacturing value creation.

To meet the increasing challenges of power distribution and drive technology the switchgear system **SPC** provides the efficient solution in the fields of application for industry as well as power generation and distribution up to 4.000 A.

Low voltage switchgear systems are the link between power generation (alternators) and consumers respectively the process level (drives, actuators). Various end uses determine the employed technology in terms of fixed-mounted, pluggable or withdrawable design as well as the type of construction. All this primarily economic factors play a decisive roll for the choice of the deployed technology.

The **SPC** system line of types fixed-mounted / pluggable / withdrawable system is suitable for all switching, disconnection, distribution and control solutions which a main or sub distribution board is to be used for.

Design

The product line **SPC** convince with a unique appearance. From empty cubicle to completely equipped switchboard the policy of highest modularity was kept. With this cubicle system all demands from low voltage distribution via conventional or regulated drives to the point of automation systems can be carried out in a uniform design. Furthermore this cubicle system is compatible with the switchgear system 8MF by SIEMENS and can therefore be lined-up smoothly.

Technical features

Technical features of **SPC** at a glance

- Internal arcing resistant and safe design
- No mechanical move of modules necessary for change of service position
- Ease of use, foolproof operation for all withdrawable units
- Unambiguous indication of testing, disconnection, service position
- Lockable disconnection position
- Maximum of packing density
- Lowest modul height at 75 mm raster with maximum power of 22 kW
- Possible partition of internal separation up to form 4b
- Customer friendly, ample space for cable connection
- Mechanical coding of withdrawable units against swapping
- Uniform appearance of all cubicles
- Standardised dimensions of cubicles
- High maintainability

For further technical characteristics please refer to supplementary product instructions.

Technical data

Type tested low-voltage switchgear assembly	IEC 61439-1 DIN EN 61439-1 VDE 0660-part 600-1
Testing of behaviour at internal faults	IEC 61641
Protection against electric shock	DIN EN 50274 VDE 0660-part 514
Rated insulation voltage (Ui)	V 1.000
Rated operational voltage (Ue)	V up to 690
Clearance and creepage distance	DIN EN 60664-1, VDE 0110-1
Rated impulse withstand voltage (Uimp)	8 kV
Pollution degree	3
Bus bar (3- / 4-pole)	
Rated current (In) at ta 45 °C / 55 °C	A up to 4.000 / 5.000
Rated peak withstand current (Ipk)	kA up to 220
Rated short-time withstand current (Icw)	kA up to 100
Circuit breaker system	
Rated current (In)	A up to 4.000
Rated peak withstand current (Ipk)	kA up to 220
Rated short-time withstand current (Icw)	kA up to 100
Withdrawable system	
Rated current (In)	A up to 1.000
Rated peak withstand current (Ipk)	kA up to 176
Rated short-time withstand current (Icw)	kA up to 80
Fixed-mounted system	
Rated current (In)	A up to 2.000
Rated peak withstand current (Ipk)	kA up to 220
Rated short-time withstand current (Icw)	kA up to 100
In-line design cubicle	
Rated current (In)	A up to 2.000
Rated peak withstand current (Ipk)	kA up to 140
Rated short-time withstand current (Icw)	kA up to 65
Internal separation form 2 to 4	DIN EN 61439-1 VDE 0660-part 600-1
Finishing according to Framework, doors, side walls Rear wall, roof, partitions, interior fittings	DIN 43656 RAL 7035 (Standard) sendzimir type zinc coated
Type of protection (according to IEC 60529, DIN EN 60529, VDE 0470-1)	up to IP 54
Dimensions (preferable sizes according to DIN 41488-2)	
Height	mm 2.200
Width	mm 400, 600, 800, 1.000
Depth	mm 600, 800

Test certificates

Unabhängiges, akkreditiertes Prüflaboratorium - Mitgliedsprüfstell bei STL und LOWAG

PRÜFPROTOKOLL

NR. 1257.2091370 Nur zur vorläufigen Information
Für permanente Informationen siehe

FEAG GmbH
Grambler Heerstr. 10
28719 Bremen AUFTRAGGEBER

FEAG GmbH HERSTELLER

Niederspannungs-Schaltgerätekombination PRÜFGEHÄUZE

Smart Power Center TYP

13920008 01 SERIEN-NR.

Bemessungsbetriebsspannung	U_n	415/690 V	BEMESSUNGS-DATEN NACH
Bemessungsisolationsspannung	U_i	1000 V	ANGABEN DES
Bemessungsfrequenz		50 Hz	AUFTRAGGEBERS
Hauptstromschleife			
Bemessungsstoßstrom	I_{st}	220 kA	
Bemessungskurzschlussstrom	I_{sc}	100 kA, 1 s	
Bedingter Bemessungskurzschlussstrom	I_{cs}	xxxx kA	

IEC 60439-1:2009-01
IEC 61439-2:2009-01 PRÜFPROZESSCHRITT

Nachweis der Kurzschlussfestigkeit UMFANG DER PRÜFUNG
Nachweis der Kurzschlussfestigkeit des Schutzleiterkreises

18. Januar 2010 DATUM DER PRÜFUNG

Siehe Punkte 46 und 56 PRÜFERGEBNIS

Dieses Prüfdokument umfasst 16 Blatt.

M. THOM
Verantwortlicher Prüferingenieur

Berlin, den 18. Jan 2010

Diese Dokumentation darf ohne schriftliche Genehmigung des IPh Center nicht ausgedruckt, vervielfältigt, weitergegeben oder in irgendeiner Weise öffentlich zugänglich gemacht werden.
Unabhängiges Prüflaboratorium, akkreditiert von der Deutschen Akkreditierungsstelle Techn. (DAkD) ev. für die Bereiche Hochspannungstechnik und -anlagen, Schaltanlagen und Schaltanlagen-Componenten, Niederspannungstechnik und -anlagen, Industrieanlagen sowie Energie- und Datenverteilungssysteme der Gerätegruppennummer 0204-01-02.
Instit. „IPh“ für elektrische Hochspannungstechnik GmbH (Iph Berlin) ist ein Tochterunternehmen von IZEA S.p.A. Milano

IPh - P - 019/02

Testing laboratory

1, rue de Westhouse
B.P. 60010
F - 67233 Benfeld Cedex
Tel. +33 (0)3 88 57 41 41
Fax +33 (0)3 88 57 78 78
www.socomec.com

ATTESTATION OF PERFORMANCE N° AP 10118 DIV

Following specifications: Customer test program

TESTED MATERIAL:

Designation: Test unit #4, test #6, Short-circuit withstand strength test

Type: Vertical 3-pole copper bar system fixed in the busbar modules of the Modular current distribution unit" type "e-con SI"

Manufacturer: IDS-Technology GmbH
Johannes-Kapler-Strasse 7
54634 Bilburg
GERMANY

TESTED CHARACTERISTICS:

Test voltage: undefined, test current: low= 80kA, I peak= 178kA, duration: 1s, Pf= 0.25/0.2

Test results: successfully passed

Attachments: Test report n° TR 10130 DIV

Date: September 15th, 2008

The writer

Mathias REMY

Pierre SIAT
LABORATOIRE DES SAISONS ELECTRIQUES
67233 BENFELD cedex - FRANCE

Test and certification manager

Dominique MARBACH

SOCOMEC S.A. au capital de 11 014 300 Euros
RCS Strasbourg 5.548 020 140 - Siret 5480004800018 - APE 133A - no TVA FR 25 548 000 140
Compagnie Benelux S.r.l. 39002 0871 - 000000020272 - BANque FR 3002 2008 710 000 0002 CTS - BIC CRLYFR99
Siège social : 1, rue de Westhouse - boîte postale 60010 - F-67233 Benfeld Cedex - tel. 03 88 57 41 41 - fax 03 88 57 78 78

Testing laboratory

1, rue de Westhouse
B.P. 60010
F - 67233 Benfeld Cedex
Tel. +33 (0)3 88 57 41 41
Fax +33 (0)3 88 57 78 78
www.socomec.com

ATTESTATION OF PERFORMANCE N° AP 10269 DIV

Following specifications: Customer test program

International standard IEC 60439-1 (1999) + amend. 1 (2004)
Low-voltage switchgear and controlgear assemblies
Part 1: Type-tested and partially type-tested assemblies

TESTED MATERIAL:

Designation: Impulse withstand test of contact modules in disconnected position, verification of the disconnector properties

Type: Modular current distribution unit type "e-con SI"

Manufacturer: IDS-Technology GmbH
Johannes-Kapler-Strasse 7
54634 Bilburg
GERMANY

TESTED CHARACTERISTICS:

Test performed:
Test between each phase of the busbar and each phase of the contact module; the contact module is in the disconnected position.

Test results: successfully passed. The contact module withstands an impulse voltage of 12.1kV between each phase of the busbar and each phase of the contact module; the contact module is in the disconnected position. This corresponds to a rated impulse voltage value of 8kV for equipment suitable for isolation as per table 15 in the IEC60439-1.

Attachments: Test report n° TR 10268 DIV

Date: March 4th, 2009

The writer

Mathias REMY

Test and certification manager

Dominique MARBACH

SOCOMEC S.A. au capital de 11 014 300 Euros
RCS Strasbourg 5.548 020 140 - Siret 5480004800018 - APE 133A - no TVA FR 25 548 000 140
Compagnie Benelux S.r.l. 39002 0871 - 000000020272 - BANque FR 3002 2008 710 000 0002 CTS - BIC CRLYFR99
Siège social : 1, rue de Westhouse - boîte postale 60010 - F-67233 Benfeld Cedex - tel. 03 88 57 41 41 - fax 03 88 57 78 78

Testing laboratory

1, rue de Westhouse
B.P. 60010
F - 67233 Benfeld Cedex
Tel. +33 (0)3 88 57 41 41
Fax +33 (0)3 88 57 78 78
www.socomec.com

ATTESTATION OF PERFORMANCE N° AP 10116 DIV

Following specifications: Customer test program

TESTED MATERIAL:

Designation: Test unit 00200, test #4 (Conditional short-circuit test)

Type: Modular current distribution unit type "e-con SI", with 690V 400A air fuses type Siemens 3ND2360 size 3.

Manufacturer: IDS-Technology GmbH
Johannes-Kapler-Strasse 7
54634 Bilburg
GERMANY

TESTED CHARACTERISTICS:

Test parameters: test voltage: 735V 3-phase test current: 64.74kA, PF= 0.25

Test results: successfully passed

Attachments: Test report n° TR 10128 DIV

Date: September 15th, 2008

The writer

Mathias REMY

Pierre SIAT
LABORATOIRE DES SAISONS ELECTRIQUES
67233 BENFELD cedex - FRANCE

Test and certification manager

Dominique MARBACH

SOCOMEC S.A. au capital de 11 014 300 Euros
RCS Strasbourg 5.548 020 140 - Siret 5480004800018 - APE 133A - no TVA FR 25 548 000 140
Compagnie Benelux S.r.l. 39002 0871 - 000000020272 - BANque FR 3002 2008 710 000 0002 CTS - BIC CRLYFR99
Siège social : 1, rue de Westhouse - boîte postale 60010 - F-67233 Benfeld Cedex - tel. 03 88 57 41 41 - fax 03 88 57 78 78