



Grid Solutions
a GE and Alstom joint venture

DISCONNECTORS PRODUCT SOLUTIONS

SPV

Semi-pantograph disconnecter

Grid Solutions, a GE and Alstom joint venture, is the world's largest manufacturer of disconnectors with units installed in more than 130 countries around the world.



CUSTOMER BENEFITS

- Reduced substation space requirements (up to -30%)
- Clear conducting routing for safety
- Rigid or flex busbars for flexibility
- Built-in or retro-fitted earthing switch
- Virtually maintenance-free
- Easy start-up and commissioning

From 72.5 kV to 800 kV

Grid Solutions' disconnectors are the result of over 75 years of experience in developing high voltage switches that have proven their reliability in the scorching climates of Arizona (USA), Australia and Sudan, in the extremely cold territories of Canada, Russia and Sweden, in the tropical weather of Panama, Indonesia, Malaysia and Venezuela and in regions with intense seismic activity such as Chile and California (USA).

RELIABLE, COMPACT DESIGN

The SPV is a rugged performer even in the most adverse operating conditions including high winds and heavy ice and is always stable in the closed position during short circuits.

The increasing cost of land and the difficulty in obtaining suitable substation sites have emphasised the need for compact designs. The SPV is a space saving vertical reach disconnector on which the semi-pantograph arm connects the lower busbar to the upper one. By using vertical rather than horizontal separation, the SPV design provides substation designers with a means of reducing space requirements by up to 30%.

The SPV blades are extra heavy, tubular aluminium with replaceable silver-plated copper contacts. A galvanised structural steel channel base supports the insulators and the live parts, ensuring a high strength, rigid design. All bearings and counter-balancing springs are isolated from the main path.

SAFETY

The very clear busbar arrangement and routing results in increased safety during operation and maintenance.

PERFORMANCE

In the open position, the blade sections fold upon themselves, thus offering a maximum blade dimension slightly greater than half the open gap dimension. The SPV is even more compact than a standard pantograph switch and the streamlined contours of the SPV reduce RIV and corona effects.

FLEXIBILITY

The SPV can be installed directly below and in line with the overhead bus or on the diagonal at the point of bus crossover and is suitable for both strain and tubular busbars. The terminal pads can be arranged so that the lower busbar is in line or perpendicular to the switch.

QUALITY

Grid Solutions prides itself on being the n°. 1 supplier of disconnectors in the world. Our design principles, the technical know-how and experience of our experts and the careful selection of suppliers to ensure that only top quality materials are used during production ensure an excellent life cycle cost.

CERTIFICATION

All Grid Solutions' disconnector manufacturing sites worldwide are certified according to ISO 9001, ISO 14001 and OHSAS 18001.

Grid Solutions designs, manufactures, tests and delivers its disconnectors in accordance with the latest ANSI and IEC standards, as well as GB Chinese national standards.

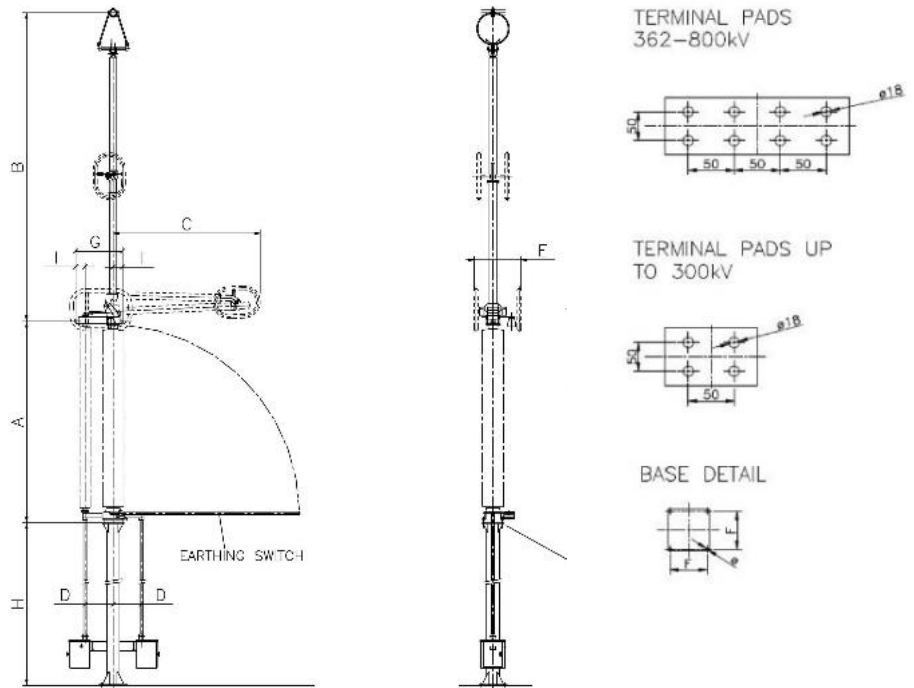
INSTALLATION AND MAINTENANCE

The SPV does not require any special tools to be adjusted and is recognised worldwide as an easy to install and adjust disconnector. The SPV is virtually maintenance-free thanks to its lifetime greased or self-lubricating parts and corrosion-free materials.

OPTIONAL DEVICES

The SPV can be fitted with arcing horns or with the more performant bus transfer contacts (IEC 62271-102 Annex B).

The integrated earthing switches used on double circuit overhead lines can also be fitted with induced current switching devices (IEC 62271-102 Annex C). For extra high voltage applications, a specific spark-free solution with an SF₆ breaking chamber grants the maximum safety for personnel in the substation.



Technical data (IEC)

Rated voltage kV	Rated current A	BIL kV	A mm	B mm	C mm	D m	E mm	F mm	G mm	I mm	Ø mm
	/ Short time current kA Up to										
72.5	4000 / 63	325	980	1700	600	425	500	340	765	170	22
100	4000 / 63	450	1230	1900	700	425	500	340	765	170	22
123	4000 / 63	550	1480	2200	980	425	500	340	765	170	22
145	4000 / 63	650	1710	3000	1300	425	500	340	765	170	22
170	4000 / 63	750	1910	3000	1300	425	500	340	765	170	22
245R	4000 / 63	950	2310	3800	1700	425	500	340	765	170	22
245	4000 / 63	1050	2510	3800	1700	425	500	340	765	170	22
300	4000 / 63	1050	2860	4200	1900	425	500	340	765	170	26
362	4000 / 63	1175	3190	4800	2200	600	800	400	1000	200	26
420	4000 / 63	1425	3640	5300	2600	600	800	400	1000	200	26
550	4000 / 63	1550	4290	6700	3500	600	1000	400	1000	200	26
800	4000 / 63	2100	5490	8000	4000	600	1100	500	1000	200	34

Customised layouts available upon request. Phase-to-phase distance defined by substation layout.

For more information please contact
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