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DC LOAD BREAK SWITCH
Photovoltaic Applications

GIOVENZANA
INTERNATIONAL B.V.

DC LOAD BREAK SWITCHES

Photovoltaic Applications

DC LOAD BREAK SWITCHES

SPV Series Load Break Switches comply with the latest specifications for modern low voltage devices.
Outstanding electrical characteristics of SPV Switches with compact design, contribute to space saving installation and operational convenience. Basic construction and design of the switch makes it compact,safe and highly reliable. The switch uses polyamide glass filled material, having excellent track resistance (CTI) for Insulation to prevent flashover between phases in the most severe conditions. The special contact design and configuration makes the switch highly reliable to withstand high short circuit currents.

FEATURES

- Compact and reliable
- Finger Protection
- Easy Installation
- Wiping Contacts
- Different mounting Options - Front mounting, Rear Mounting and Enclosure mounting
- Excellent switching and high short circuit capacity
- DIN Rail mounting with 45mm panel suitable for DB boards
- Optional Extended Terminals

APPLICATIONS

- Photovoltaic - Isolators
- Isolator
- Main Switch
- Emergency ON / OFF
- Inverter Applications

IEC · TECHNICAL SPECIFICATION

According to IEC 60947-3

TYPE	CONFIGURATION		UNIT	DC21A						DC22A			
				500V	600V	700V	800V	900V	1000V	500V	600V	800V	1000V
SPV016	1/__	1 pole *	Amp	9	6	-	3	-	1.5	-	-	-	-
	1/2/__	2 poles in series	Amp	16	16	16	16	13	9	7	5.5	2	1
	1/2/3/4/__	2 poles in series + 2 parallel	Amp	32	32	16	16	13	13	-	-	-	-
	1/2/3/4/__	4 poles in series	Amp	16	16	16	16	16	16	16	16	11.5	8
	1/2/3/4/5/6/7/8/__	4 poles in series + 2 parallel	Amp	32	32	32	32	32	32	-	-	-	-

TYPE	CONFIGURATION		UNIT	DC21A						DC22A			
				500V	600V	700V	800V	900V	1000V	500V	600V	800V	1000V
SPV025	1/__	1 pole *	Amp	11	8	-	4	-	2	-	-	-	-
	1/2/__	2 poles in series	Amp	25	25	23	20	16	12	8	6	2.5	1.5
	1/2/3/4/__	2 poles in series + 2 parallel	Amp	40	40	23	20	16	25	-	-	-	-
	1/2/3/4/__	4 poles in series	Amp	25	25	25	25	25	25	25	25	12	9
	1/2/3/4/5/6/7/8/__	4 poles in series + 2 parallel	Amp	40	40	40	40	40	40	-	-	-	-

TYPE	CONFIGURATION		UNIT	DC21A						DC22A			
				500V	600V	700V	800V	900V	1000V	500V	600V	800V	1000V
SPV032	1/__	1 pole *	Amp	16	10	-	5	-	2.5	-	-	-	-
	1/2/__	2 poles in series	Amp	32	32	27	25	20	16	9	6.5	3	2
	1/2/3/4/__	2 poles in series + 2 parallel	Amp	63	40	27	25	20	36	-	-	-	-
	1/2/3/4/__	4 poles in series	Amp	32	32	32	32	32	36	32	27.5	12.5	10
	1/2/3/4/5/6/7/8/__	4 poles in series + 2 parallel	Amp	63	63	63	63	63	63	-	-	-	-

* Suitable for DC21B Utilisation Category

TERMINAL CROSS SECTION		MEASURE	SPV016	SPV025	SPV032
Single / Multi Strand Wire	min	mm²	2.5	2.5	2.5
	max	mm²	10	10	25
Fine Strand Wire with Sleeve	min	mm²	0.75	0.75	2.5
	max	mm²	6	6	10
American Wire Gauge	-	AWG	10	10	6
Recommended Tightening Torque for terminals	-	Nm	1.7	1.7	2

IEC · TECHNICAL SPECIFICATION

According to IEC 60947-3

TYPE	CONFIGURATION		UNIT	DC21B			
				500V	700V	1000V	1500V
SPV016	1/2/__	2 poles in series	Amp	20	16	9	5
	1/2/3/4/__	2 poles in series + 2 poles in series	Amp	-	-	-	-
	1/2/3/4/__	2 poles in series + 2 parallel	Amp	29	16	9	5
	1/2/3/4/__	4 poles in series	Amp	20	20	20	16
	1/2/3/4/5/6/__	3 poles in series + 2 parallel	Amp	-	-	-	-
	1/2/3/4/5/6/7/8/__	4 poles in series + 2 parallel	Amp	29	29	29	16

TYPE	CONFIGURATION		UNIT	DC21B			
				500V	700V	1000V	1500V
SPV025	1/2/__	2 poles in series	Amp	25	23	11	8
	1/2/3/4/__	2 poles in series + 2 poles in series	Amp	-	-	-	-
	1/2/3/4/__	2 poles in series + 2 parallel	Amp	45	23	11	8
	1/2/3/4/__	4 poles in series	Amp	25	25	25	23
	1/2/3/4/5/6/__	3 poles in series + 2 parallel	Amp	-	-	-	-
	1/2/3/4/5/6/7/8/__	4 poles in series + 2 parallel	Amp	45	45	45	23

TYPE	CONFIGURATION		UNIT	DC21B			
				500V	700V	1000V	1500V
SPV032	1/2/__	2 poles in series	Amp	40	32	25	10
	1/2/3/4/__	2 poles in series + 2 poles in series	Amp	36	36	36	-
	1/2/3/4/__	2 poles in series + 2 parallel	Amp	63	40	25	10
	1/2/3/4/__	4 poles in series	Amp	40	40	40	32
	1/2/3/4/5/6/__	3 poles in series + 2 parallel	Amp	-	-	-	-
	1/2/3/4/5/6/7/8/__	4 poles in series + 2 parallel	Amp	63	63	63	32

UL · TECHNICAL SPECIFICATION

Rating as per UL-508 I

TYPE	CONFIGURATION		UNIT	350V	500V	600V	700V	800V	900V	1000V
SPV016	1/__	1 pole	Amp	16	9	6	-	-	-	-
	1/2/__	2 poles in series	Amp	16	16	16	16	16	13	10
	1/2/__ 3/4/__	2 poles in series +2 poles in series	Amp	16	16	16	16	16	16	16
	1/2/ 3/4/	2 poles in series +2 parallel	Amp	29	32	32	16	16	13	10
	1/2/3/4/__	4 poles in series	Amp	16	16	16	16	16	16	16
	1/2/3/ 4/5/6/	3 poles in series +2 parallel	Amp	29	29	21	-	-	-	-
	1/2/3/4/ 5/6/7/8/	4 poles in series +2 parallel	Amp	29	29	29	-	-	-	-

TYPE	CONFIGURATION		UNIT	350V	500V	600V	700V	800V	900V	1000V
SPV025	1/__	1 pole	Amp	25	12	8	-	-	-	-
	1/2/__	2 poles in series	Amp	25	25	25	23	20	16	12
	1/2/__ 3/4/__	2 poles in series +2 poles in series	Amp	25	25	25	25	25	25	25
	1/2/ 3/4/	2 poles in series +2 parallel	Amp	45	40	40	23	20	16	12
	1/2/3/4/__	4 poles in series	Amp	25	25	25	25	25	25	25
	1/2/3/ 4/5/6/	3 poles in series +2 parallel	Amp	45	38	38	-	-	-	-
	1/2/3/4/ 5/6/7/8/	4 poles in series +2 parallel	Amp	45	45	45	-	-	-	-

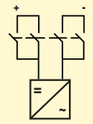
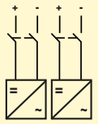
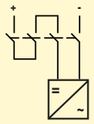
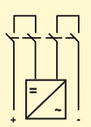
TYPE	CONFIGURATION		UNIT	350V	500V	600V	700V	800V	900V	1000V
SPV032	1/__	1 pole	Amp	32	16	10	-	-	-	-
	1/2/__	2 poles in series	Amp	32	32	32	27	25	20	16
	1/2/__ 3/4/__	2 poles in series +2 poles in series	Amp	32	32	32	32	32	32	32
	1/2/ 3/4/	2 poles in series +2 parallel	Amp	63	63	40	27	25	20	16
	1/2/3/4/__	4 poles in series	Amp	32	32	32	32	32	32	32
	1/2/3/ 4/5/6/	3 poles in series +2 parallel	Amp	58	50	45	-	-	-	-
	1/2/3/4/ 5/6/7/8/	4 poles in series +2 parallel	Amp	58	58	50	-	-	-	-

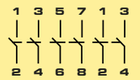
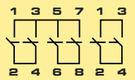
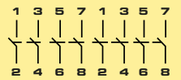
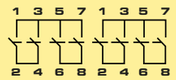
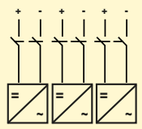
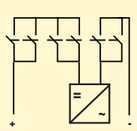
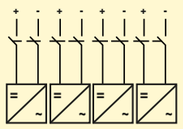
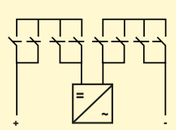
UL · TECHNICAL SPECIFICATION

Rating as per UL-508 I

TYPE		UNIT	SPV016	SPV025	SPV032
AC Ampere rating "General Use"					
2 poles in series	600V	Amp	16	25	32
2 poles in series + 2 poles in parallel	277V	Amp	-	-	50
3 poles in parallel	3x480V	Amp	-	-	32
Fuse Size (RK5) Industrial Control Switch					
5kA / 600V		Amp	-	-	-
5kA / 1000V		Amp	40	60	80
Maximum Cable Cross Section					
Solid or Stranded		AWG	12 - 10	12 - 10	12 - 10
Flexible		AWG	12 - 6	12 - 6	12 - 6
Flexible (+ Multicore Cable End)		AWG	12 - 6	12 - 6	12 - 6
Size of Terminal Screw			M4 Pz2	M4 Pz2	M4 Pz2
Tightening Torque		lb. inch	11 - 16	11 - 16	11 - 16

SWITCHING CONFIGURATIONS

TYPE	2 POLES	2+2 POLES 2 POLES IN SERIES + 2 POLES IN PARALLEL	4 POLES	4 POLES WITH JUMPERS INPUT ON TOP OUTPUT BOTOM	4 POLES WITH JUMPERS INPUT ON TOP OUTPUT BOTOM
SPV016					
SPV025					
SPV032					
Contact Wiring Diagram					
Switching Example					

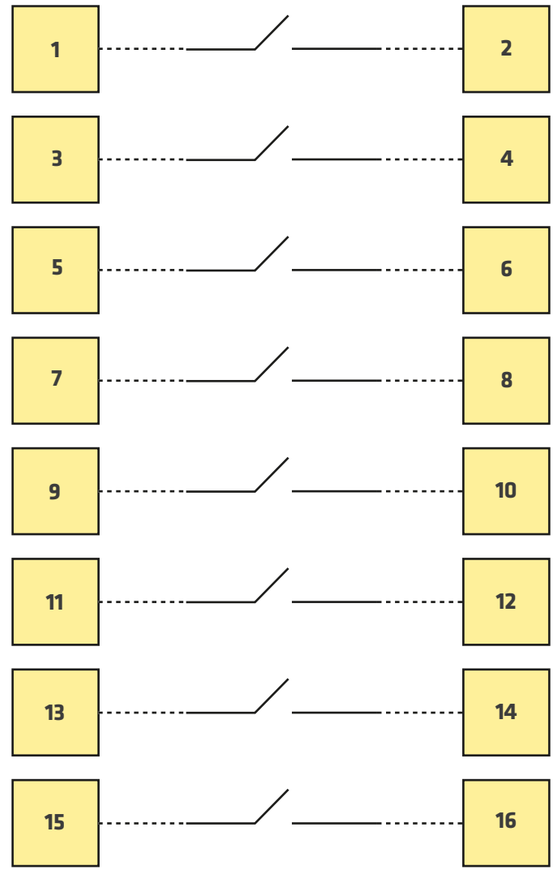
TYPE	6 POLES	3+2 POLES 3 POLES IN SERIES + 2 POLES IN PARALLEL	8 POLES	4+2 POLES 4 POLES IN SERIES + 2 POLES IN PARALLEL
SPV016				
SPV025				
SPV032				
Contact Wiring Diagram				
Switching Example				

SPECIAL DIAGRAM ON REQUEST

SERIES

☐ SPV016 ☐ SPV025 ☐ SPV032

CONNECTIONS



POLES MOUNTING

4 POLES

☐ FRONT MOUNTING

☐ BASE MOUNTING

☐ DOOR INTERLOCK

☐ ENCLOSURE

8 POLES

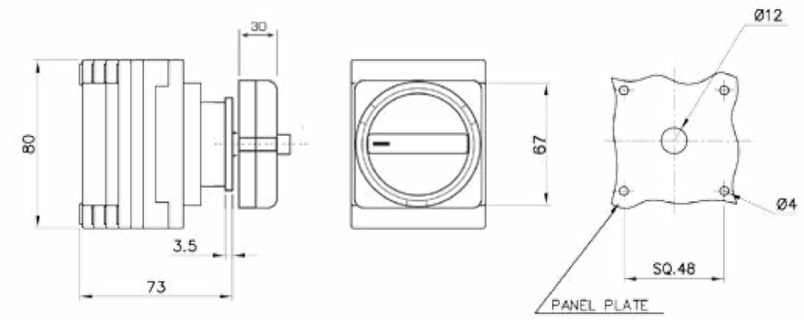
☐ FRONT MOUNTING

☐ DOOR INTERLOCK

DC LOAD BREAK SWITCHES - 4 POLES

FRONT MOUNTING

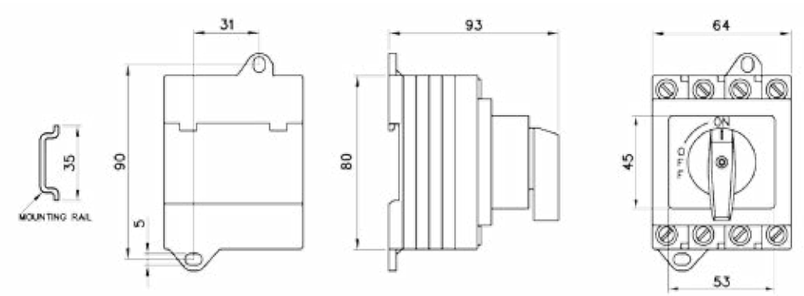
TECHNICAL DRAWINGS



- Degree of protection: Front IP65.
- Max 3 Padlocks.
- 4 hole panel mounting.
- Round padlocking device to prevent being switched ON by Unauthorized personnel.

REAR MOUNTING

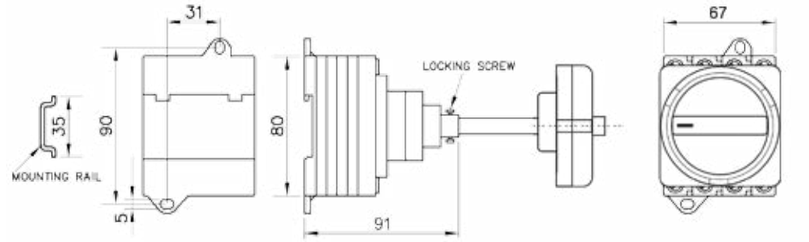
TECHNICAL DRAWINGS



- Degree of protection: Front IP30.
- 2 hole rear mounting.
- Alternately snap mounting on DIN EN50022 rail (35 mm).
- DIN Rail mounting with 45 mm panel suitable for DB boards.

DOOR INTERLOCK

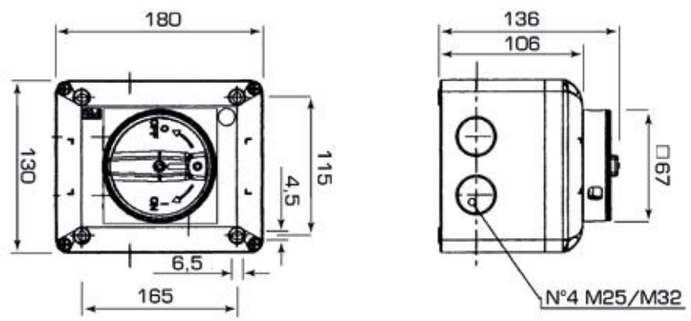
TECHNICAL DRAWINGS



- Degree of protection: Front IP65.
- Switch with round padlocking device to prevent the Switch from being made ON by Unauthorized personnel.
- 4 hole rear mounting or snap mounting on DIN EN50022 rail (35mm) and operateable from the front (door) coupled with door mechanism.
- Door interlock (door opens only in OFF position).
- Max 3 padlocks.

ENCLOSURES

TECHNICAL DRAWINGS

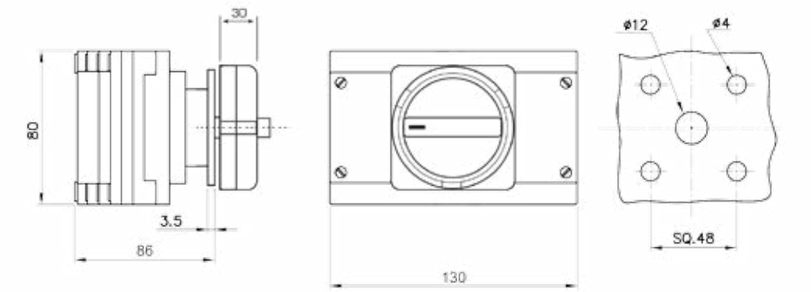


- Degree of protection: Front IP65.
- Switch rear mounted for easy connection.
- Enclosure colour: Dark Grey base and Light Grey cover.
- Switch mounted in ABS - polycarbonate (optional) enclosure.
- Round padlocking device (Max 3 padlocks) to prevent the Switch from being made ON by Unauthorized personnel.
- Interlock Feature (Cover opens only in OFF position).

DC LOAD BREAK SWITCHES - 8 POLES

FRONT MOUNTING

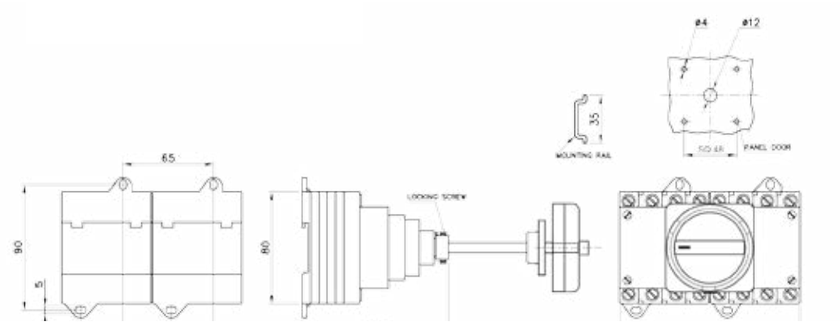
TECHNICAL DRAWINGS



- Degree of protection: Front IP55.
- 4 hole panel mounting.

DOOR INTERLOCK

TECHNICAL DRAWINGS



- Degree of protection: Front IP65.
- Switch with padlocking device to prevent the Switch from being made ON by Unauthorized personnel.
- 4 hole rear mounting or snap mounting on DIN EN50022 rail (35 mm) and operateable from the front (door) coupled with door mechanism.
- Door interlock (door opens only in OFF position).
- Max 2 padlocks.

INSULATED JUMPER

TYPE	PACK	WEIGHT
	100	6.8 g/pc
	100	6.8 g/pc