

# SIEMENS

*Ingenuity for life*

## The Power of Three

### Heavy Duty Photovoltaic Disconnect Switches

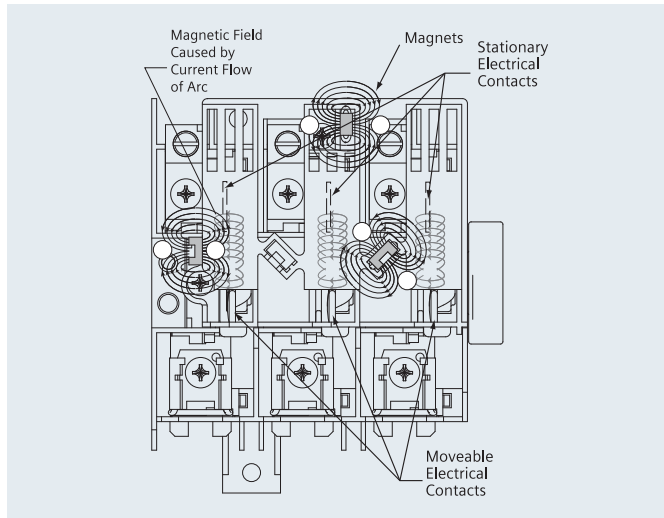
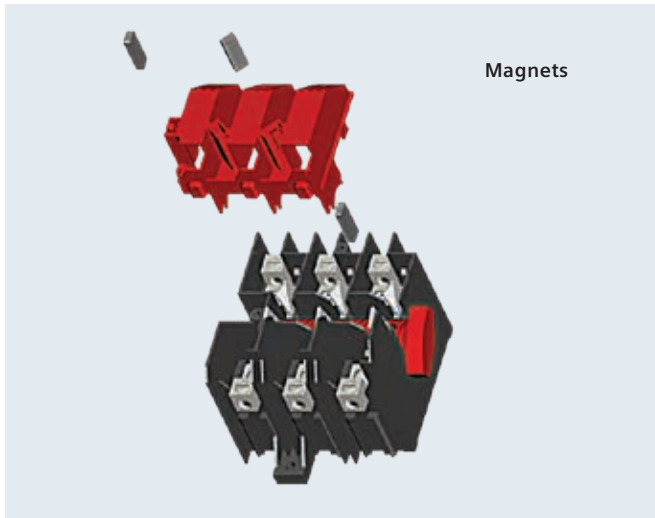
With its truly innovating design, a single Siemens Safety Switch can perform the work of 3 switches by disconnecting up to 3 separate 600V DC circuits with the help of 3 powerful magnets. Great results, more savings.

These switches are designed for 600VDC max. photovoltaic systems which must comply with Article 690 of the NEC. Switches are available for use in both negative and positive ground PV systems.



#### Features

- Available in 30-200A ratings in both fusible and non-fusible versions
- Type 1 and 3R enclosures for either indoor or outdoor applications
- All switches comply with UL98 requirements and are UL listed in file number E335018 as UL1741 Photovoltaic Disconnect Switches
- Tested per UL requirements to control three separate 600VDC circuits in a single 3 pole switch
- Factory installed ground bar supplied as standard
- Door labeling required by Article 690 of the NEC is supplied as standard
- Unique enclosure design features a rolled out front flange that prevents cuts and scrapes to conductor insulation and to th installer's hands
- Metal handle with large plastic grip features a positive stop in both the ON and OFF positions
- Two and 3 point mounting provisions are standard
- Large top, bottom and side gutters facilitate wiring
- Line and load lugs accept larger conductors than required by UL to allow larger cables to be used when required to minimize voltage drop



## A true design innovation!

A very hot arc is generated by the interruption of a 600VDC circuit when under load. This damages conventional safety switch contacts and insulating material after a small number of operations unless the poles are connected in series to spread this destructive energy over at least two sets of contacts.

As illustrated above, powerful magnets have been incorporated into the line base assembly of our disconnects which are strategically located and specifically aligned to disperse this energy and to very quickly extinguish the arc. The result is a line of disconnects that performs at a level far beyond that of any conventional safety switch.

These switches have passed the extremely rigorous testing required for photovoltaic disconnects **with three separate 600VDC circuits connected to a single 3 pole switch.**

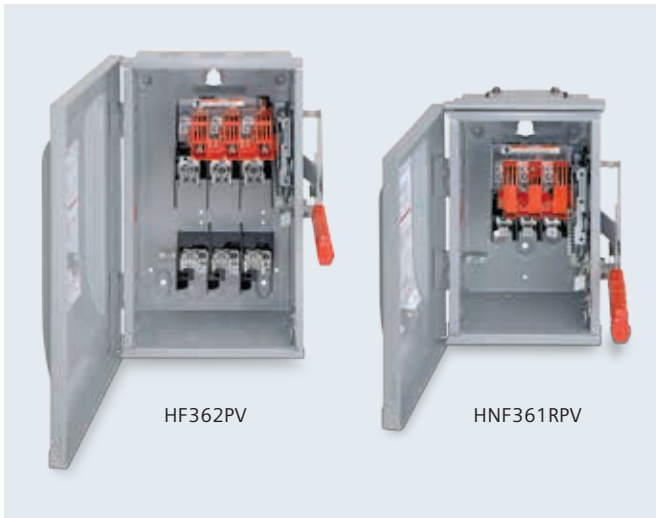
The test requirements for PV switches are the same as those for conventional safety switches except that the overload testing must be conducted at 200% of the switch rating instead of 150%.

**Note:** Disconnects are subject to applicable de-rating factors defined by Article 690 of the NEC.

## Ordering information

Ampere Rating	Indoor - Type 1		Outdoor - Type 3R		Rated Isc Per NEC Article 690
	Catalog Number	Ship wt.(lbs.)	Catalog Number	Ship wt. (lbs.)	
<b>Negative Ground 3 Pole 3 Wire Fusible 600V DC</b>					
30	HF361PV	14	HF361RPV	15	19.2 A
60	HF362PV	20	HF362RPV	21	38.4 A
100	HF363PV	25	HF363RPV	26	64.0 A
200	HF364PV	49	HF364RPV	50	128.0 A
<b>Negative Ground 3 Pole 3 Wire Non-Fusible 600V DC</b>					
30	HNF361PV	12	HNF361RPV	13	24.0 A
60	HNF362PV	19	HNF362RPV	20	48.0 A
100	HNF363PV	24	HNF363RPV	25	80.0 A
200	HNF364PV	47	HNF364RPV	48	160.0 A
<b>Positive Ground 3 Pole 3 Wire Fusible 600V DC</b>					
30	HF361PVPG	14	HF361RPVPG	15	19.2 A
60	HF362PVPG	20	HF362RPVPG	21	38.4 A
100	HF363PVPG	25	HF363RPVPG	26	64.0 A
200	HF364PVPG	49	HF364RPVPG	50	128.0 A
<b>Positive Ground 3 Pole 3 Wire Non-Fusible 600V DC</b>					
30	HNF361PVPG	12	HNF361RPVPG	13	24.0 A
60	HNF362PVPG	19	HNF362RPVPG	29	48.0 A
100	HNF363PVPG	24	HNF363RPVPG	25	80.0 A
200	HNF364PVPG	47	HNF364RPVPG	48	160.0 A

Note: All disconnects are rated at 10,000 AIC per UL requirements when used with or protected by Class K, J, or R fuses rated at 600VDC.

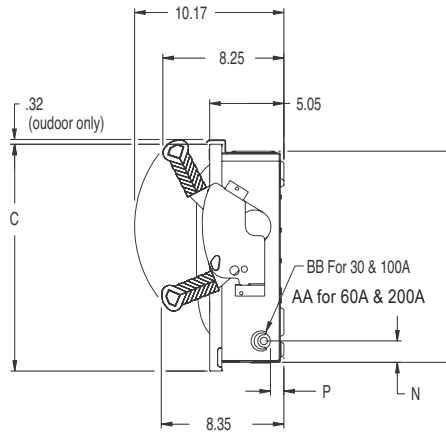
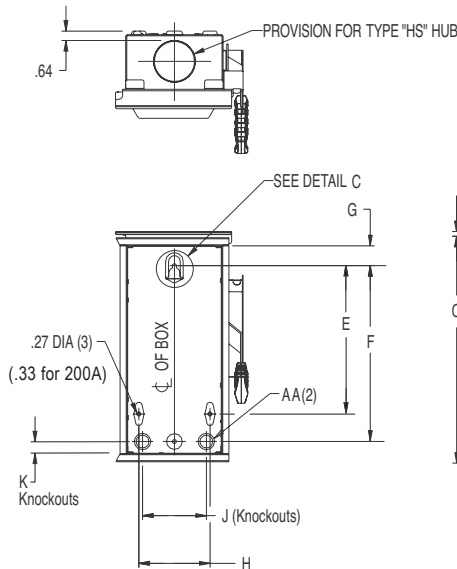


**Accessories**

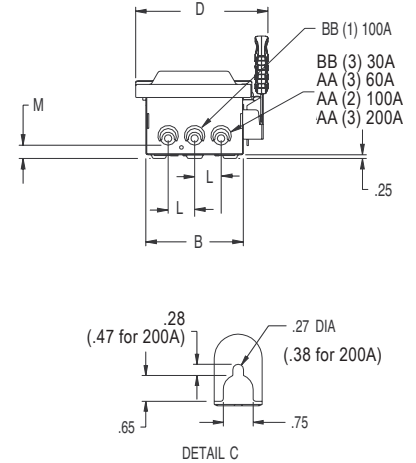
	Catalog Number	Description
<b>Class R Fuse Clip Kits</b>		
	HR612	30A, 600V 3 pole kit
	HR62	60A, 600V 3 pole kit
	HR63	100A, 600V 3 pole kit
	HR64	200A, 600V 3 pole kit
<b>Neutral / Negative Terminal Kits</b>		
	HN612	30A neutral kit
	HN623	60 and 100A neutral kit
	HN64	200A neutral kit
<b>Auxiliary Contact Kits</b>		
	HA161234	1 NO, 1NC (10A at 250V AC max.)
	HA261234	2 NO, 2NC (10A at 250V AC max.)
<b>Type 3R Hubs</b>		
	ECHS075	¾" (conduit size)
	ECHS100	1" (conduit size)
	ECHS125	1¼" (conduit size)
	ECHS150	1½" (conduit size)
	ECHS200	2" (conduit size)
	ECHS250	2½" (conduit size)

## Dimension Drawing

### TOP ENDWALL (outdoor only)



### BOTTOM ENDWALL (Also typical for top endwall for indoor switches)



Catalog Number	Ampere Rating	Dimensions – Inches													
		Enclosure				Mounting				Knockout Locations <sup>①</sup>					
		A	B	C	D	E	F	G	H	J	K	L	M	N	P
HF361PV, PG	30	14.26	6.64	15.45	9.01	10.11	12.00	1.35	4.84	4.34	.82	1.80	.91	1.46	.91
HF362PV, PG	60	16.26	9.15	17.46	11.53	13.36	12.62	1.19	6.00	2.25	1.25	2.50	.87	1.69	.87
HF363PV, PG	100	21.95	9.64	23.15	12.01	19.38	19.38	1.19	7.00	3.50	2.50	2.88	.98	2.45	.85
HF364PV, PG	200	29.90	14.62	31.07	16.98	18.75	22.43	5.10	11.00	8.20	1.93	4.88	.87	2.31	.81
HNF361PV, PG	30	11.11	6.64	12.31	9.01	6.52	7.20	1.35	3.00	4.34	.95	1.80	.91	1.46 <sup>②</sup>	.91
HNF362PV, PG	60	16.26	9.15	17.46	11.53	13.36	12.62	1.19	6.00	2.25	1.25	2.50	.87	1.69	.87
HNF363PV, PG	100	21.95	9.64	23.15	12.01	19.38	19.38	1.19	7.00	3.50	2.50	2.88	.98	2.45	.85
HNF364PV, PG	200	29.90	14.62	31.07	16.98	18.75	22.43	5.10	11.00	8.20	1.93	4.88	.87	2.31	.81
HF361RPV, PG	30	14.26	6.64	15.45	9.01	10.11	12.00	1.35	4.84	4.34	.82	1.80	.91	1.46	.91
HF362RPV, PG	60	16.26	9.15	17.46	11.53	13.36	12.62	1.19	6.00	2.25	1.25	2.50	.87	1.69	.87
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HNF364RPV, PG	200	29.90	14.62	31.07	16.98	18.75	22.43	5.10	11.00	8.20	1.93	4.88	.87	2.31	.81

- ① Additional knockouts supplied near the top in back and side surfaces of indoor enclosures are not shown.  
 ② Knockout supplied on left side only.

#### Notes:

1. Indoor enclosures are constructed of .054 inch thick cold rolled steel
2. Outdoor enclosures are constructed from .054 inch thick galvanized steel
3. Finish is ANSI #61 gray

## Knockout sizes (inches), wiring bending/side gutter space and lug wire range

Ampere Rating	Knockout Code	Conduit Size (inches)	Wire Bending & Side Gutter Space (inches)			Wire Range Line And Load (Cu/Al)
			Top	Bottom	Left Side Gutter Width	
30 - Fusible 30 - NF	AA (concentric)	.75, 1.00	3.02	2.61	1.5	#14 - 6 AWG, 60/75° C
	BB (tangential)	.50, .75, 1.00	3.02	4.11		
60 - Fusible 60 - NF	AA (tangential)	.50, .75, 1.00, 1.25	3.54	3.57	2.25	#14 - 2 AWG, 60/75° C
			3.54	8.68		
100 - Fusible 100 - NF	AA (tangential)	.75, 1.00, 1.25, 1.50	6.07	6.10	2.75	#6 - 1/0 AWG, 75° C
	BB (tangential)	1.00, 1.25, 1.50, 2.00	6.07	11.46		
200 - Fusible 200 - NF	AA (tangential)	1.25, 1.50, 2.00, 2.50	7.87	7.87	4.44	#6 - 250 Kcmil, 75° C
			7.87	15.84		

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