

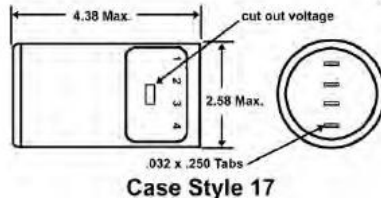
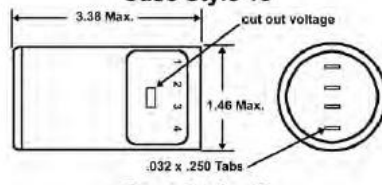
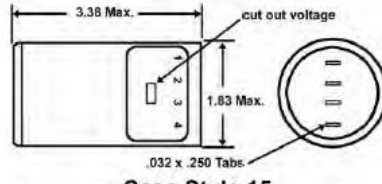
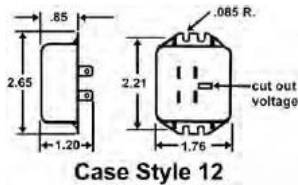
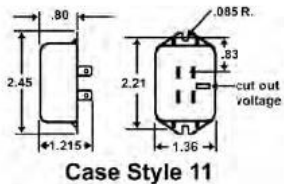


STEARNS SINPAC^{II} SOLID STATE SWITCHES

SINPAC^{II} solid state switches are designed to replace conventional rotating and stationary switches, current sensitive, and voltage sensitive relay applications. There are no contacts and no moving parts to wear out, providing long life. No moving parts also means that the SINPAC^{II} switch is perfect for high cycling applications. The SINPAC^{II} switch senses motor RPM by sensing the induced voltage in the start winding. By comparing that induced voltage to applied voltage, the SINPAC^{II} switch senses when the motor is at approximately 75 - 80% of full RPM and disconnects the start winding. Because the SINPAC^{II} switch determines the voltage ratio between applied voltage and induced voltage, it works well in applications that encounter brown-out or low voltage conditions. In addition, the SINPAC^{II} switch constantly monitors the ratio so if the motor encounters and overload condition and the RPM drops below 50% of synchronous speed, the SINPAC^{II} automatically energizes the start winding until the motor comes back up to rated speed. Universal mounting positions and compact design make the SINPAC^{II} switch an excellent choice for replacing old and obsolete mechanical switches and relays. UL recognized and approved by motor manufacturers.



DIMENSIONAL DRAWINGS



STEARNS SINPAC[®] SOLID STATE SWITCHES

The following information is required to determine which SINPAC[®] switch to use.

1.) Type of Motor. Split Phase = PV; Capacitor Start = CV & CVR; Capacitor Start/Capacitor run = CVR & Σ VR; Instant Reverse Capacitor Start = IR.

2.) Current Capacity. Choose by HP rating, or nameplate current rating or take a locked rotor current reading of the start winding. (A higher rated switch can be used on lower current requirements.)

3.) Start Winding Voltage. Determine the voltage at which the start winding operates. (Most dual voltage motors have 115 volt start windings.)

4.) Cut Out Voltage. Most start windings have an induced voltage of 165% of applied voltage. Use the 165 cut out voltage switch for 115 volt applications, or the 310 cut out voltage switch for 230 volt applications. Occasionally you will run into motor designs that have a lower voltage ratio and then you will need to use the lower cut out voltage switch. Induced voltage can be measured by running the motor momentarily with both the start & run winding connected in the circuit. As the motor is running, take a voltage reading across the start winding only. Use the SINPAC[®] switch that has the closest voltage cut out rating to the voltage measurement taken.

TYPICAL MAXIMUM MOTOR HP	TYPICAL FULL LOAD MOTOR NAMEPLATE CURRENT RATING (AMPS)	SWITCH RATING AND MAXIMUM START WINDING CURRENT (AMPS)	START WINDING VOLTAGE	CUT OUT VOLTAGE	CUT IN VOLTAGE	PACKAGE STYLE	PART NUMBER	
PV SERIES FOR SPLIT PHASE MOTORS								
1/3	8	16	115	-	30	11	PV-16-30	
1/3	8	16	115	-	10	11	PV-16-10	
1/2	-	4	230	-	60	11	SPV-16-60	
1/2	12	25	115	-	30	11	PV-25-30	
1/2	12	25	115	-	10	11	PV-25-10	
3/4	20	40	115	-	30	11	PV-40-30	
CV SERIES FOR CAPACITOR START MOTORS								
1/2	8	16	115	165	37	11	CV-16-165	
1/2	8	16	115	147	37	11	CV-16-147	
1/2	8	16	115	130	29	11	CV-16-130	
1	12	25	115	165	37	11	CV-25-165	
1	12	25	115	147	37	11	CV-25-147	
1	12	25	115	130	29	11	CV-25-130	
2	20	40	115	165	37	11	CV-40-165	
2	20	40	115	147	37	11	CV-40-147	
2	20	40	115	130	29	11	CV-40-130	
3	25	50	115	165	37	11	CV-50-165	
3	25	50	115	147	37	11	CV-50-147	
3	25	50	115	130	29	11	CV-50-130	
3	-	up to 17.5	35	230	260	70	15	Σ CV-35-260
3	-	up to 17.5	35	230	310	70	15	Σ CV-35-310
5	-	up to 25	50	230	260	70	15	Σ CV-50-260
5	-	up to 25	50	230	310	70	15	Σ CV-50-310
CVR SERIES FOR CAPACITOR START & CAPACITOR START/CAPACITOR RUN MOTORS								
2	20	40	115	165	37	12	CVR-40-165	
2	20	40	115	147	37	12	CVR-40-147	
2	20	40	115	130	29	12	CVR-40-130	
3	25	50	115	165	37	12	CVR-50-165	
3	25	50	115	147	37	12	CVR-50-147	
3	25	50	115	130	29	12	CVR-50-130	
3 - 5	50	80	115	165	37	15	CVR-80-165	
3 - 5	50	80	115	147	37	15	CVR-80-147	
3 - 5	50	80	115	130	29	15	CVR-80-130	
5 - 7-1/2	-	35	70	230	310	70	17	Σ CVR-70-310
5 - 7-1/2	-	35	70	230	260	70	17	Σ CVR-70-260
up to 10	-	45	90	230	310	70	17	Σ CVR-90-310
up to 10	-	45	90	230	260	70	17	Σ CVR-90-260
ΣVR SERIES FOR CAPACITOR START/CAPACITOR RUN MOTORS								
3	-	up to 17.5	5	230	310	70	15	Σ VR-35-310
3	-	up to 17.5	35	230	260	70	15	Σ VR-35-260
5	-	up to 25	50	230	310	70	15	Σ VR-50-310
5	-	up to 25	50	230	260	70	15	Σ VR-50-260
IR SERIES FOR INSTANT REVERSE CAPACITOR START MOTORS								
1/2	12	25	115	165	37	15	IR-25-165	
1/2	12	25	115	147	37	15	IR-25-147	
1/2	12	25	115	130	29	15	IR-25-130	
2	20	40	115	165	37	15	IR-40-165	
2	20	40	115	147	37	15	IR-40-147	
2	20	40	115	130	29	15	IR-40-130	

