

## Technical Data



Size HA



Size HG



Size HT

### HP Rated Key Features

- Horsepower Rated Sizes HA–HT
- Double Break Contacts
- Silver Tin Oxide Contacts, Cadmium-Free
- Higher Locked Rotor Current Ratings, Up to 840% (Sizes HG–HT)
- Arc Chutes with Arc Splitters; Fast Arc Quenching
- Touch Safe Power Terminals (Sizes HA–HL)
- Touch Safe Control Terminals (Sizes HA–HT)
- Snap-on 2 NO and 2 NC Auxiliary Contacts Standard (Sizes HE–HT)
- Visual ON-OFF Indicator
- Color-Coded Coils
- Fast Termination System—Wire Funnels, Wire Stops, Screwdriver Guide Holes, and Captive Hardware
- Long Mechanical Life —15 Million (Size HA–HD) —10 Million (Size HE–HT)
- UL Listed and CSA Certified

### HP Rated Starters and Contactors Application Data

HP Rated Starter Size			HA	HB	HC	HD	HE	HG	HH	HJ	HL	HN	HR	HT							
Ampere Rating (Enclosed)	Amps	20	20	30	30	55	80	80	110	160	200	300	400								
Max LRA in % of FLA	Percent	600	600	600	600	600	840	840	840	840	840	840	840								
Maximum Voltage Rating	Volts	600	600	600	600	600	600	600	600	600	600	600	600								
Ambient Temperature Range In Operation When Stored		Deg C	-25 to +55	-25 to +55	-25 to +55	-25 to +55	-25 to +55	-25 to +55	-25 to +55	-25 to +55	-25 to +55	-25 to +55	-25 to +55	-25 to +55							
		Deg C	-50 to +80	-50 to +80	-50 to +80	-50 to +80	-50 to +80	-50 to +80	-50 to +80	-50 to +80	-50 to +80	-50 to +80	-50 to +80	-50 to +80	-50 to +80						
Squirrel Cage Motor Maximum 3 Phase HP at Motor Voltages	200V, 60HZ	HP	2	3	5	7½	10	15	20	25	40	50	75	125							
	230V, 60HZ	HP	3	3	5	7½	10	20	25	30	50	60	100	150							
	380V, 50HZ	HP	5	5	10	15	20	30	40	50	75	125	150	250							
	460V, 60HZ	HP	5	7½	10	15	25	40	50	60	100	125	200	300							
	575V, 60HZ	HP	7½	10	15	20	30	50	60	75	125	150	250	400							
AC Coil Ratings	Overall	HZ	50/60	50/60	50/60	50/60	50/60	50/60	50/60	50/60	50/60	50/60	50/60	50/60							
	Inrush	VA	77/71				121/117			225/192		398/345		660/575		910/1090		1430/1710		2450/2760	
		PF	0.81/0.75				0.79/0.72			0.6/0.54		0.5/0.4		0.4		0.38/0.31		0.34/0.26		0.28/0.18	
	Sealed	VA	11/9				16.5/13			24/16		46/29		56/36		58/70		84/105		115/146	
PF		0.28/0.27				0.27/0.28			0.29		0.23/0.24		0.24/0.25		0.26/0.28		0.24/0.27		0.33		
AC Coil Voltage Range	85 to 110%	Volts	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes							
Operating Times Valid for 20% Undervoltage to 10% Overvoltage, Warm or Cold Coil. (Total Opening Time Includes Arcing Time)																					
Closing Delay	MS	8–35	8–35	10–35	10–35	13–57	15–40	15–40	20–50	20–50	20–50	20–50	20–50	17–65							
Opening Delay	MS	4–18	4–18	5–20	5–20	5–10	5–25	5–25	5–30	8–30	10–30	10–30	10–30	8–20							
Resistance to Shock (Rectangular Pulse)	g/MS	7.7/5 and 4.4/10	4.4/10 and 7.7/5	5.5/5 and 3.2/10	3.2/10 and 5.5/10	5.7/5; 9.5	9.2/5	5.4/10	8.6/5	9.4/5 and 5.2/10	10.4/5 and 5.8/10	9.7/5 and 5.3/10	8.8/5 and 4.9/10								
Conductor Size/Phase	AWG	(2) 18–12	(2) 18–12	(2) 14–10	(2) 14–10	Max #3	Max #1/0	Max #1/0	Max #1/0	Max #1/0	Max #2/0	1/0-250KCM	2/0-500KCM	2/0-500KCM							
Auxiliary Contact (Double Bridge NEMA A600/P600 Rating — Suitable for Electronic Interface Circuits)																					
Wire Size/Phase	AWG	(2) 18–12	(2) 18–12	(2) 18–12	(2) 18–12	(2) 18–12	(2) 18–12	(2) 18–12	(2) 18–12	(2) 18–12	(2) 18–12	(2) 18–12	(2) 18–12	(2) 18–12							
Auxiliary Contacts-Standard		1 NO, 1 NC	1 NO, 1 NC	1 NO, 1 NC	1 NO, 1 NC	2 NO, 2 NC	2 NO, 2 NC	2 NO, 2 NC	2 NO, 2 NC	2 NO, 2 NC	2 NO, 2 NC	2 NO, 2 NC	2 NO, 2 NC	2 NO, 2 NC							
Auxiliary Contacts-Total		2 NO, 2 NC	2 NO, 2 NC	2 NO, 2 NC	2 NO, 2 NC	2 NO, 2 NC	4 NO, 4 NC	4 NO, 4 NC	4 NO, 4 NC	4 NO, 4 NC	4 NO, 4 NC	4 NO, 4 NC	4 NO, 4 NC	4 NO, 4 NC							
Contactor Mechanical Life (Make/Break Operations)	Million	15	15	15	15	10	10	10	10	10	10	10	10	10							
Contactor UL Listing #		E31519	E31519	E31519	E31519	E31519	E31519	E31519	E31519	E31519	E31519	E31519	E31519	E31519							
Contactor CSA Certification #		LR12730	LR12730	LR12730	LR12730	LR12730	LR12730	LR12730	LR12730	LR12730	LR12730	LR12730	LR12730	LR12730							
Starter UL Listing #		E32529	E32529	E32529	E32529	E32529	E32529	E32529	E32529	E32529	E32529	E32529	E32529	E32529							
Starter CSA Certification #		LR38590	LR38590	LR38590	LR38590	LR38590	LR38590	LR38590	LR38590	LR38590	LR38590	LR38590	LR38590	LR38590							



## Auxiliary Contact Configuration

### Auxiliary Contact Configurations—Enclosed Starters

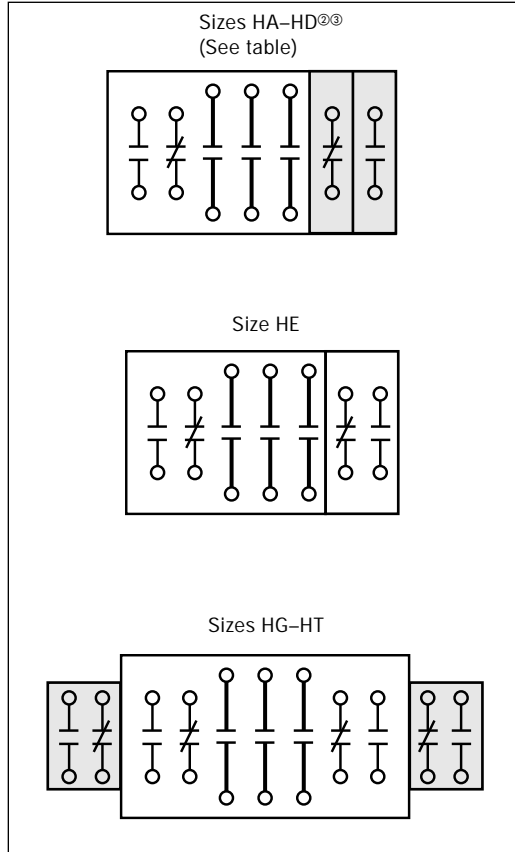
#### HP Rated Non-Reversing Starter Auxiliary Contact Configurations

HP Size	Standard Contacts At No Additional Charge	Extra Contacts In Addition <sup>①</sup> To Standard Contacts For An Additional Charge	
		Left Hand Side	Right Hand Side
HA-HD <sup>②</sup>	1-NO + 1-NC	—	—
HE <sup>②</sup>	2-NO and 2-NC	—	—
HG-HT	2-NO and 2-NC	1-NO and 1-NC	1-NO and 1-NC

#### HP Rated Reversing Starter Auxiliary Contact Configurations

HP Size	Standard Contacts At No Additional Charge <sup>④</sup>	Extra Contacts In Addition <sup>①</sup> To Standard Contacts For An Additional Charge	
		Left Hand Side	Right Hand Side
HA-HD	2-NO and 2-NC	②	②
HE	2-NO and 2-NC	—	—
HG-HT	2-NO and 2-NC	—	—

#### Non-Reversing



#### Reversing

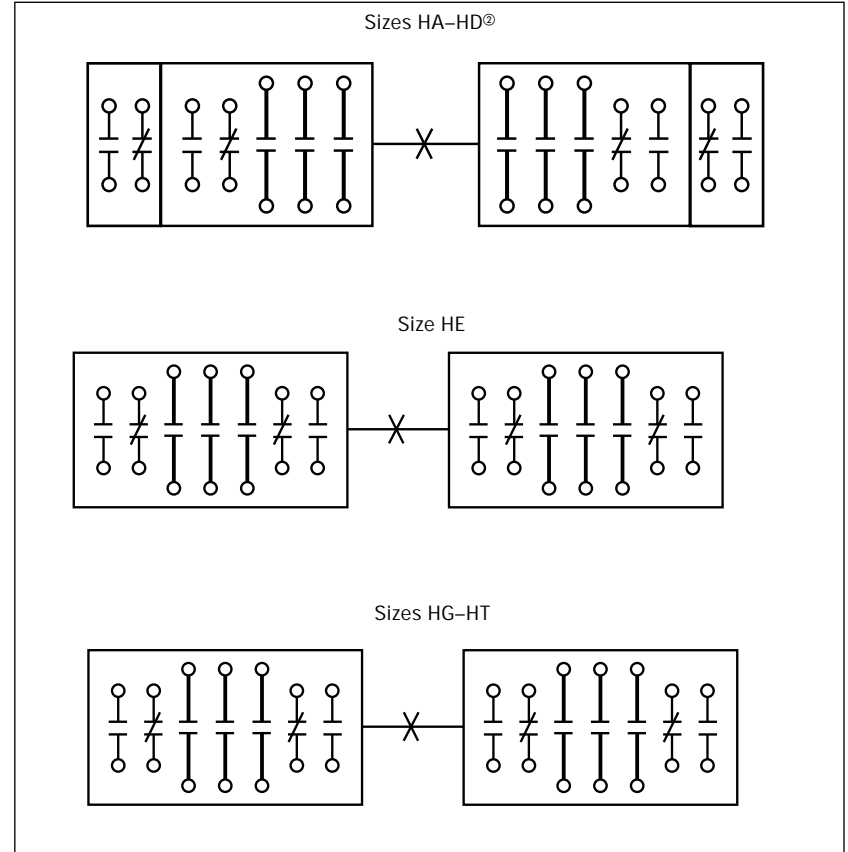


Table A

Auxiliary Contact Location			
HP Size	1-NO	1-NO and 1-NC	2-NO and 2-NC
HA/HB	Lower Deck	Upper Deck	Upper Deck
HC/HD	Upper Deck	Upper Deck	Upper Deck

— White box: Existing contacts  
 — Shaded box: Contacts can be field added

- ① If additional auxiliary contacts are required in addition to the maximum available, add a control relay to the enclosed starter from the factory modifications.
- ② Extra contacts cannot be field added on HA-HD devices. Contactor must be ordered with extra contacts.
- ③ Maximum 2-NO and 2-NC.
- ④ 2-NC contacts used for standard electrical interlocking scheme and 2-NO for seal in contacts.