Overload Relays

HP Rated starters are priced and stocked less the overload relays. The overload relays can be ordered separately for field installation or they can be factory installed.

Factory Installed Overload Relay:

A) Select the appropriate overload relay from the chart below. Then add the two digit suffix number (shown bold below) of the overload relay to the starter Catalog Number. See example shown. If the motor FLA is not known, refer to Application Data Section for a typical value.

B) Add the price of the overload relay to the starter price to obtain the complete list price.

Example: 7½ Hp at 460 volts, 1800 RPM, 9.7 FLA The starter Catalog Number would be **SXLHB1460** The overload relay would be a 3UA5000-**1K** Add the suffix **"1K"** to the end of the starter Catalog Number **SXLHB14601K $238.00 + $72.00 = $310.00** Total List Price.

Type "3UA" Overload Relay Setting Instructions:

For motors with a service factor of 1.00, multiply motor nameplate full load current (FLA) by 0.92 and set overload relay dial to that value.

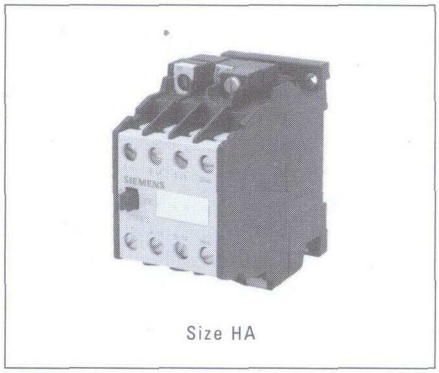
For motors with a service factor of 1.15, with a marked temperature rise not exceeding 40°C, set dial to full load current marked on motor nameplate.

HP Rated Starter Size①	Overload Relay Setting Ranges In Amperes	Overload Relay For Full Voltage Starters HP Rated Type Only	Price $
HA HB	0.1–0.16 0.16–0.25 0.25–0.4 0.4–0.63 0.63–1	3UA50 00–**0A** 3UA50 00–**0C** 3UA50 00–**0E** 3UA50 00–**0G** 3UA50 00–**0J**	72.
	0.8–1.25 1–1.6 1.25–2 1.6–2.5 2–3.2	3UA50 00–**0K** 3UA50 00–**1A** 3UA50 00–**1B** 3UA50 00–**1C** 3UA50 00–**1D**	
	2.5–4 3.2–5 4–6.3 2–8 6.3–10	3UA50 00–**1E** 3UA50 00–**1F** 3UA50 00–**1G** 3UA50 00–**1H** 3UA50 00–**1J**	
	8–12.5 10–14.5	3UA50 00–**1K** 3UA50 00–**2S**	
HC HD	0.1–0.16 0.16–0.25 0.25–0.4 0.4–0.63 0.63–1	3UA52 00–**0A** 3UA52 00–**0C** 3UA52 00–**0E** 3UA52 00–**0G** 3UA52 00–**0J**	72.
	0.8–1.25 1–1.6 1.25–2 1.6–2.5 2–3.2	3UA52 00–**0K** 3UA52 00–**1A** 3UA52 00–**1B** 3UA52 00–**1C** 3UA52 00–**1D**	
	2.5–4 3.2–5 4–6.3 5–8 6.3–10	3UA52 00–**1E** 3UA52 00–**1F** 3UA52 00–**1G** 3UA52 00–**1H** 3UA52 00–**1J**	
	8–12.5 10–16 12.5–20 16–25	3UA52 00–**1K** 3UA52 00–**2A** 3UA52 00–**2B** 3UA52 00–**2C**	
HE	0.10–0.16 0.16–0.25 0.25–0.40 0.40–0.63 0.63–1.00	3UA55 00–**0A** 3UA55 00–**0C** 3UA55 00–**0E** 3UA55 00–**0G** 3UA55 00–**0J**	78.
	0.80–1.25 1–1.6 1.25–2 1.6–2.5 2–3.2	3UA55 00–**0K** 3UA55 00–**1A** 3UA55 00–**1B** 3UA55 00–**1C** 3UA55 00–**1D**	
	2.5–4	3UA55 00–**1E**	

HP Rated Starter Size①	Overload Relay Setting Ranges In Amperes	Overload Relay For Full Voltage Starters HP Rated Type Only	Price $
HE	3.2–5 4–6.3 5–8 6.3–10 8–12.5	3UA55 00–**1F** 3UA55 00–**1G** 3UA55 00–**1H** 3UA55 00–**1J** 3UA55 00–**1K**	78.
	10–16 12.5–20 16–25 20–32 25–36	3UA55 00–**2A** 3UA55 00–**2B** 3UA55 00–**2C** 3UA55 00–**2D** 3UA55 00–**2Q**	
HG HH HJ	16–25 20–32 25–40 32–50 40–57	3UA58 00–**2C** 3UA58 00–**2D** 3UA58 00–**2E** 3UA58 00–**2F** 3UA58 00–**2T**	117.
	50–63 57–70 63–80② 70–88②	3UA58 00–**2P** 3UA58 00–**2V** 3UA58 00–**2U** 3UA58 00–**2W**	
HL	55–88 63–90 80–110 90–120 110–135	3UA60 00–**2H** 3UA60 00–**2W** 3UA60 00–**2X** 3UA60 00–**3H** 3UA60 00–**3J**	215.
HN	55–80 63–90 80–110 90–120 110–135	3UA62 00–**2H** 3UA62 00–**2W** 3UA62 00–**2X** 3UA62 00–**3H** 3UA62 00–**3J**	215.
	120–150 135–160③ 150–180③	3UA62 00–**3K** 3UA62 00–**3L** 3UA62 00–**3M**	
HR HT	80–125 125–200 160–250 200–320 250–400	3UA66 00–**2K** 3UA66 00–**3B** 3UA66 00–**3C** 3UA66 00–**3D** 3UA66 00–**3E**	969.

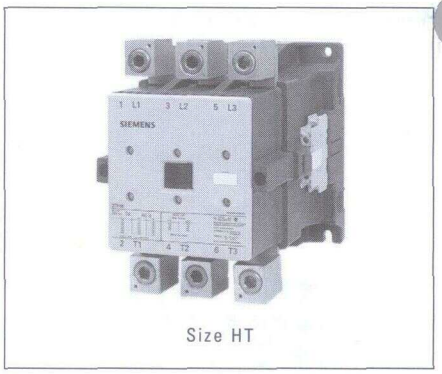
①Note the maximum UL operating current of the starter.
②To be used with size HH and HJ starters only.
③Panel mounting must be used for setting ranges above 135 to 160 A in order to prevent overheating. Use 3UX1221 links for connection to the 3TF52 contactor see page 258.

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		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
When Stored		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
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	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	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 #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
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
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
Contactor Mechanical Life (Make/Break Operations)		Million	15	15	15	15	10	10	10	10	10	10	10	10
Contactor UL Listing #			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
Starter UL Listing #			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