

Enclosed Direct On-Line Starters



Springer Controls carries a complete line of IEC enclosed, direct on-line, AC starters up to 60 HP or 80 amp. Springer Controls is UL certified (508A), to build starters and custom control panels up to 500 HP. (Contact Springer Controls for custom built starters.)



Description/Features/Ordering Instructions	2
Nomenclature - Part Number	3
Single Phase, Full Voltage Starters (9amp - 80amp).....	4
Three Phase, Full Voltage Starters (9amp - 32amp).....	5
Three Phase, Full Voltage Starters (50amp - 80amp).....	6
Wiring Diagrams.....	7
Horsepower Motor Ratings.....	8
Kilowatt Motor Ratings.....	9

SPRINGER
controls company

ENCLOSED ON-LINE AC STARTERS; DESCRIPTION & FEATURES



Part# JC1206P1G-JN

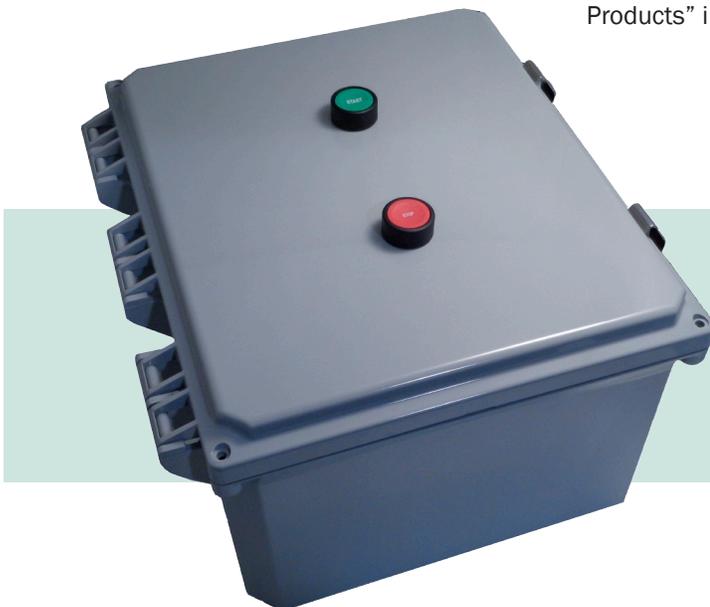
- 12 amp AC Starter
- 3-phase
- Poly Enclosure - N4x
- Start-Stop Buttons
- Dimensions; 7" x 3½" X 5½"
- 120V AC coil
- Overload Relay; 8-12 amps

Description and Features

- Direct On-Line Starters in polycarbonate enclosure. Rated Nema 1, 12, 4 & 4x, IP65
- All contactors and overload relays are UL approved.
- AC3 Inductive Motor rating from 9 amp through 80 amp
- Fully assembled single and three phase starters.
- No cover wiring required.
- Full selection of coil voltages and overload relays.
- "Start-Stop" or "Reset" external buttons come standard. (Blank cover or no buttons available on request)

Ordering Information

- Determine Single or Three Phase application.
- Determine motor HORSEPOWER or FULL LOAD AMPS (FLA) of the motor.
- Select complete Part Number from designated table.
- "Nomenclature" (page B3) to order non-listed or non-standard starters.
- For AC starters that are NOT direct on-line or custom, see "Engineered Products" in Springer's complete catalog.



Part# JC6506P1K-SH

- 65 amp AC Starter
- 3-phase
- Poly Enclosure - N4x
- Start-Stop Buttons
- Dimensions; 12" x 10" X 7"
- 240V AC coil
- Overload Relay; 54-65 amps

NOMENCLATURE

Nomenclature; AC Starters

Example Part #: #JC0906P1G-JM

Description:

9 amp contactor, wired 3 phase, polycarbonate enclosure with start-stop button, 120volt AC coil, 5.5 - 8.5 current range.



Contactor Size	
JC09	9amp
JC12	12amp
JC18	18amp
JC25	25amp
JC32	32amp
JC50	50amp
JC65	65amp
JC80	80amp

Wiring	
0	Three Phase
1	Single Phase

Enclosure Type	
6	Poly Encl.

Button Configuration	
1	Direct-On Line Voltage
2	Separate Control Power -different Voltage
3	Terminals for Remote Start
4	Both #2 and #3

Button Configuration	
P	Start-Stop Buttons
R	Reset Button Only
S	No Cover Buttons

Overload Relay* (90 amp - 32 amp)

Current Range	Suffix
2.5 - 4.0	K
4.0 - 6.3	L
5.5 - 8.5	M
8.0 - 12.0	N
10.0 - 16.0	P
14.5 - 18.0	S
17.5 - 22.0	T
21.0 - 26.0	U
25.0 - 32.0	V
30.0 - 40.0	W

Overload Relay* (50 amp - 80 amp)

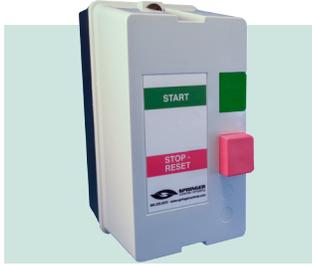
Current Range	Suffix
30 - 43	E
42 - 55	G
54 - 65	H
64 - 82	J

AC Coils	
1	24V
J	120V
L	208V
S	240V
N	277V
U	480V

Enclosure Size; H x W x D		Contactors used
G	7" x 3½" x 5½"	JC09, JC12, JC18
B	7½" x 4" x 6"	JC25, JC32
K	12" x 10" x 6"	JC50, JC65, JC80

ENCLOSED AC STARTERS - SINGLE PHASE

Single Phase, Full Voltage, Across the Line Starters; 9amp - 80amp



9amp Starter; "Start-Stop" Button



9amp Starter; "Reset only" Button

Horsepower Single Phase (Full Load Amps)		Contactor Series	Overload Relay Range (O/L part#)	Coil Voltage	Complete Part Number* Start-Stop Button	Complete Part Number* Reset only Button	Price
115V	230V						
---	1/4	JC09	2.5 - 4.0 (JL1K)	115V	---	---	\$306.00
---	(2.9)			230V	JC0916P1G-SK	JC0916R1G-SK	
1/6	1/2	JC09	4.0 - 6.3 (JL1L)	115V	JC0916P1G-JL	JC0916R1G-JL	\$309.00
(4.4)	(4.9)			230V	JC0916P1G-SL	JC0916R1G-SL	
1/3	3/4	JC09	5.5 - 8.5 (JL1M)	115V	JC0916P1G-JM	JC0916R1G-JM	\$309.00
(7.2)	(6.9)			230V	JC0916P1G-SM	JC0916R1G-SM	
1/2	1.0	JC09	8.0 - 12.0 (JL1N)	115V	JC0916P1G-JN	JC0916R1G-JN	\$309.00
(9.8)	(8.0)			230V	JC0916P1G-SN	JC0916R1G-SN	
---	1.5	JC12	8.0 - 12.0 (JL1N)	115V	---	---	\$347.00
---	(10.0)			230V	JC1216P1G-SN	JC1216R1G-SN	
---	2.0	JC12	10.0 - 16.0 (JL1P)	115V	---	---	\$347.00
---	(12.0)			230V	JC1216P1G-SP	JC1216R1G-SP	
3/4	---	JC18	10.0 - 16.0 (JL1P)	115V	JC1816P1G-JP	JC1816R1G-JP	\$372.00
(13.8)	---			230V	---	---	
1.0	3.0	JC18	14.5 - 18.0 (JL1S)	115V	JC1816P1G-JS	JC1816R1G-JS	\$372.00
(16.0)	(17.0)			230V	JC1816P1G-SS	JC1816R1G-SS	
1.5	---	JC25	17.5 - 22.0 (JL1T)	115V	JC2516P1B-JT	JC2516R1B-JT	\$416.00
(20.0)	---			230V	---	---	
2.0	---	JC25	21.0 - 26.0 (JL1U)	115V	JC2516P1B-JU	JC2516R1B-JU	\$416.00
(24.0)	---			230V	---	---	
---	5.0	JC32	25.0 - 32.0 (JL1V)	115V	---	---	\$460.00
---	(28.0)			230V	JC3216P1B-SV	JC3216R1B-SV	
3.0	7.5	JC50	30.0 - 43.0 (JL2E)	115V	JC5016P1K-JE	JC5016R1K-JE	\$774.00
(34.0)	(40.0)			230V	JC5016P1K-SE	JC5016R1K-SE	
---	10	JC65	42.0 - 55.0 (JL2G)	115V	---	---	\$803.00
---	(50.0)			230V	JC650T6P1K-SG	JC65016R1K-SG	
5.0	---	JC65	54.0 - 65.0 (JL2H)	115V	JC6516P1K-JH	JC6516R1K-JH	\$803.00
(56.0)	---			230V	---	---	
7.5	---	JC80	64.0 - 82.0 (JL2J)	115V	JC8016P1K-JJ	JC8016R1K-JJ	\$913.00
(80.0)	---			230V	---	---	

*See "Nomenclature" page 3 for panel size.

Discount Schedule SC-70

ENCLOSED AC STARTERS - THREE PHASE

Three Phase, Full Voltage, Across the Line Starters; 9amp - 32amp

Horsepower Three Phase (Full Load Amps)			Contactor Series	Overload Relay Range (O/L part#)	Coil Voltage	Complete Part Number* Start-Stop Button	Complete Part Number* Reset only Button	Price
115V	230V	460V						
--	--	1/2 (1.1)	JC09	1.0 - 1.5 (JL1G)	115V	--	--	\$306.00
					230V	--	--	
					460V	JC0906P1G-UG	JC0906R1G-UG	
--	--	3/4 (1.6)	JC09	1.3 - 1.9 (JL1H)	115V	--	--	\$306.00
					230V	--	--	
					460V	JC0906P1G-UH	JC0906R1G-UG	
--	1/2 (2.2)	1.0 (2.1)	JC09	1.8 - 2.7 (JL1J)	115V	--	--	\$306.00
					230V	JC0906P1G-SJ	JC0906R1G-SJ	
					460V	JC906P1G-UJ	JC0906R1G-UJ	
--	3/4 (3.2)	1.5/2.0 (3.4)	JC09	2.5 - 4.0 (JL1K)	115V	--	--	\$306.00
					230V	JC0906P1G-SK	JC0906R1G-SK	
					460V	JC0906P1G-UK	JC0906R1G-UK	
1/2 (4.4)	1.0 (4.2)	3.0 (4.8)	JC09	4.0 - 6.3 (JL1L)	115V	JC0906P1G-JL	JC0906R1G-JL	\$309.00
					230V	JC0906P1G-SL	JC0906R1G-SL	
					460V	JC0906P1G-UL	JC0906R1G-UL	
3/4 (6.4)	1.5/2.0 (6.8)	5.0 (7.6)	JC09	5.5 - 8.5 (JL1M)	115V	JC0906P1G-JM	JC0906R1G-JM	\$309.00
					230V	JC0906P1G-SM	JC0906R1G-SM	
					460V	JC0906P1G-UM	JC0906R1G-UM	
1.0 (8.4)	3.0 (9.6)	7.5 (11.0)	JC12	8.0 - 12.0 (JL1N)	115V	JC1206P1G-JN	JC1206R1G-JN	\$347.00
					230V	JC1206P1G-SN	JC1206R1G-SN	
					460V	JC1206P1G-UN	JC1206R1G-UN	
1.5/2.0 (13.6)	--	10.0 (14.0)	JC18	10.0 - 16.0 (JL1P)	115V	JC1806P1G-JP	JC1806R1G-JP	\$372.00
					230V	--	--	
					460V	JC1806P1G-UP	JC1806R1G-UP	
--	5 (15.2)	--	JC18	14.5 - 18.0 (JL1S)	115V	--	--	\$372.00
					230V	JC1806P1G-SS	JC1806R1G-SS	
					460V	--	--	
--	--	15.0 (21.0)	JC25	17.5 - 22.0 (JL1T)	115V	--	--	\$416.00
					230V	--	--	
					460V	JC2506P1B-UT	JC2506R1B-UT	
--	7.5 (22.0)	--	JC25	21.0 - 26.0 (JL1U)	115V	--	--	\$416.00
					230V	JC2506P1B-SU	JC2506R1B-SU	
					460V	--	--	
--	10.0 (28.0)	20.0 (27.0)	JC32	25.0 - 32.0 (JL1V)	115V	--	--	\$460.00
					230V	JC3206P1B-SV	JC3206R1B-SV	
					460V	JC3206P1B-UV	JC3206R1B-UV	
--	--	25.0 (34.0)	JC32	30.0 - 40.0 (JL1W)	115V	--	--	\$482.00
					230V	--	--	
					460V	JC3206P1B-UW	JC3206R1B-UW	

*See "Nomenclature" page 3 for panel size

Discount Schedule SC-70

Three Phase, Full Voltage, Across the Line Starters; 50amp - 80amp*



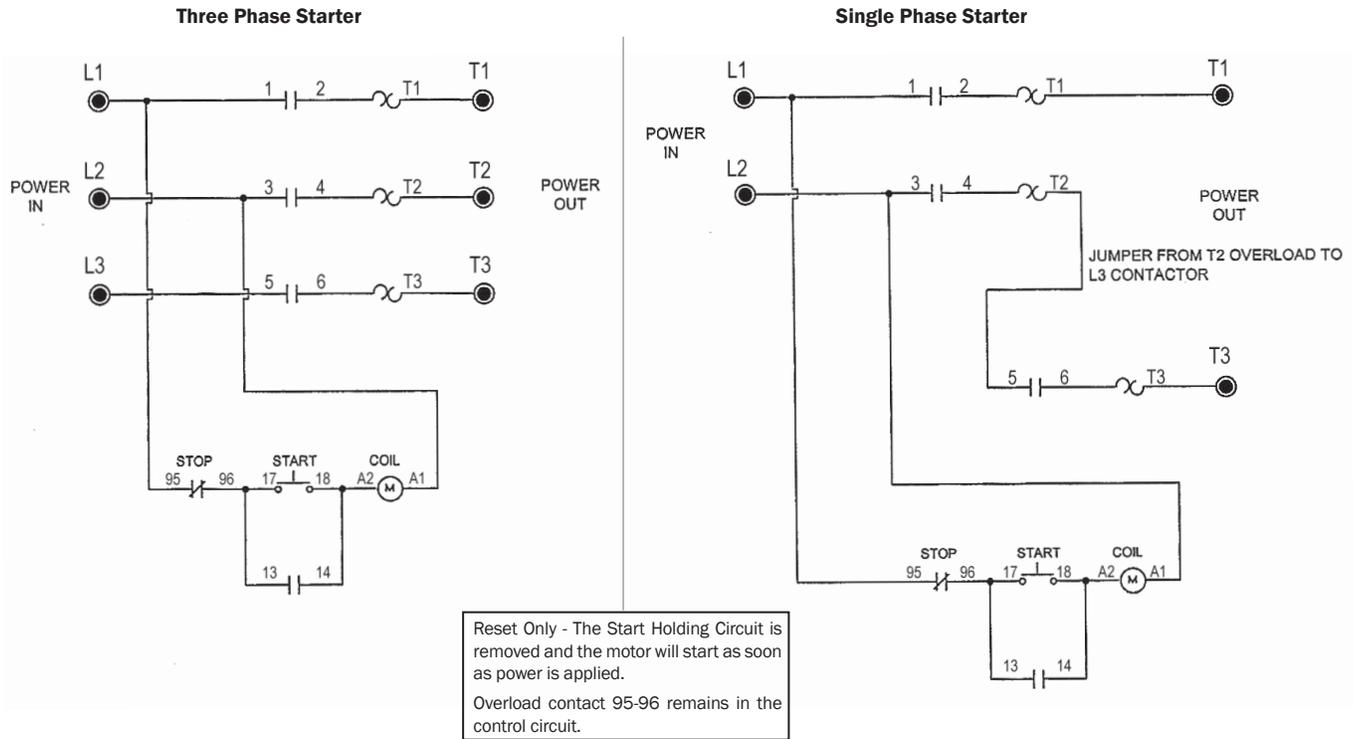
Horsepower Three Phase (Full Load Amps)			Contactor Series	Overload Relay Range (O/L part#)	Coil Voltage	Complete Part Number* Start-Stop Button	Complete Part Number* Reset only Button	Price
115V	230V	460V						
---	15 (42.0)	30 (40.0)	JC50	30 - 43 (JL2E)	115V	---	---	\$774.00
					230V	JC5006P1K-SE	JC5006R1K-SE	
					460V	JC5006P1K-UE	JC5006R1K-UE	
---	---	40 (52.0)	JC50	42 - 55 (JL2G)	115V	---	---	\$774.00
					230V	---	---	
					460V	JC5006P1K-UG	JC5006R1K-UG	
---	20 (54.0)	---	JC65	54 - 65 (JL2H)	115V	---	---	\$803.00
					230V	JC6506P1K-SH	JC6506R1K-SH	
					460V	---	---	
---	25 (68.0)	50 (65.0)	JC80	64 - 82 (JL2J)	115V	---	---	\$913.00
					230V	JC8006P1K-SJ	JC8006R1K-SJ	
					460V	JC8006P1K-UJ	JC8006R1K-UJ	
---	---	60 (77.0)	JC80	64 - 82 (JL2J)	115V	---	---	\$913.00
					230V	---	---	
					460V	JC8006P1K-UJ	JC8006R1K-UJ	

*Contact Springer Controls for starters larger than 80amp or for any custom built starters.

Discount Schedule SC-70

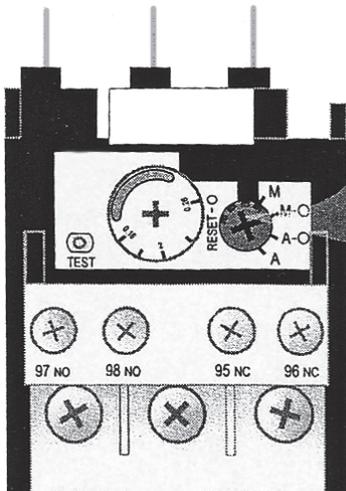
WIRE DIAGRAMS

Typical Wiring Diagram "JC" Series

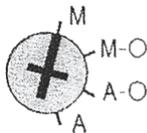


Note: Wire L1 & L2 control supply voltage only when coil voltage is the same as the line voltage.

Functions of Overload Relay

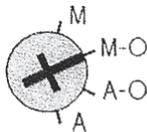


* Recommended setting



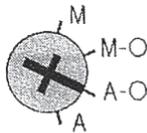
Manual RESET

(Operator must manually reset O/L relay when tripped)



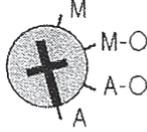
* Manual RESET and STOP

(Operator must manually reset O/L relay when tripped. STOP can also be initiated by pushing the reset button which interrupts the holding circuit)



Automatic RESET and STOP

(After tripping, O/L relay will automatically turn on when proper temperature is met. STOP can also be initiated by pushing the reset button which interrupts the holding circuit.)



Automatic RESET no STOP

(After tripping, O/L relay will automatically turn on when proper temperature is met.)

HORSEPOWER MOTOR RATINGS

Full-Load Motor-Running Currents in Amperes Corresponding to Various AC Horsepower Motor Ratings

The table below provides the average full-load currents of squirrel cage motors in accordance with IEC conventions. These are given only as a guide. Refer to the actual motor nameplate for full-load current values.

H.P.	110V - 120V		220V - 240V ^{1,2}		380V - 415V		440V - 480V		550V - 600V		2.3 KV	4.16 KC
	Single Phase	Three Phase	Single Phase	Three Phase	Single Phase	Three Phase	Single Phase	Three Phase	Single Phase	Three Phase	Three Phase	Three Phase
1/10	3.0	---	1.5	---	---	---	---	---	---	---	---	---
1/8	3.8	---	1.9	---	---	---	---	---	---	---	---	---
1/6	4.4	---	2.2	---	1.4	---	---	---	---	---	---	---
1/4	5.8	---	2.9	---	1.85	---	---	---	---	---	---	---
1/3	7.2	---	3.6	---	2.32	---	---	---	---	---	---	---
1/2	9.8	4.4	4.9	2.2	3.19	1.28	2.5	1.1	2.0	0.9	---	---
3/4	13.8	6.4	6.9	3.2	4.47	1.78	3.5	1.6	2.8	1.3	---	---
1	16.0	8.4	8.0	4.2	5.12	2.30	4.0	2.1	3.2	1.7	---	---
1.5	20.0	12.0	10.0	6.0	6.38	3.32	5.0	3.0	4.0	2.4	---	---
2	24.0	13.6	12.0	6.8	7.66	4.34	6.0	3.4	4.8	2.7	---	---
3	34.0	19.2	17.0	9.6	10.87	6.14	8.5	4.8	6.8	3.9	---	---
5	56.0	30.4	28.0	15.2	17.90	9.71	14.0	7.6	11.2	6.1	---	---
7.5	80.0	44.0	40.0	22.0	26.80	14.00	21.0	11.0	16.0	9.0	---	---
10	100.0	56.0	50.0	28.0	33.2	17.90	26.0	14.0	20.0	11.0	---	---
15	135.0	84.0	68.0	42.0	---	26.80	34.0	21.0	27.0	17.0	---	---
20	---	108.0	88.0	54.0	---	34.50	44.0	27.0	35.0	22.0	---	---
25	---	136.0	110.0	68.0	---	43.50	55.0	34.0	44.0	27.0	---	---
30	---	160.0	136.0	80.0	---	51.20	68.0	40.0	54.0	32.0	---	---
40	---	208.0	176.0	104.0	---	66.50	88.0	52.0	70.0	41.0	---	---
50	---	260.0	216.0	130.0	---	83.10	108.0	65.0	86.0	52.0	---	---
60	---	---	---	154.0	---	103.0	---	77.0	---	62.0	16.	9.
75	---	---	---	192.0	---	128.0	---	96.0	---	77.0	20.	11.
100	---	---	---	248.0	---	165.0	---	124.0	---	99.0	26.	14.3
125	---	---	---	312.0	---	208.0	---	156.0	---	125.0	31.	17.
150	---	---	---	360.0	---	240.0	---	180.0	---	144.0	37.	20.
200	---	---	---	480.0	---	320.0	---	240.0	---	192.0	49.	27.
250	---	---	---	602.0	---	403.0	---	302.0	---	242.0	60.	33.
300	---	---	---	---	---	482.0	---	361.0	---	289.0	72.	40.
350	---	---	---	---	---	560.0	---	414.0	---	336.0	83.	46.
400	---	---	---	---	---	636.0	---	477.0	---	382.0	95.	52.
500	---	---	---	---	---	786.0	---	590.0	---	472.0	118.	65.

Notes:

1. To obtain F.L.C. for 200 and 208 volt motors multiply 230 volts values by 1.15 and 1.10 respectively.
2. To obtain F.L.C. for 265 and 277 volt motors multiply 230 volts values by .87 and .83 respectively.

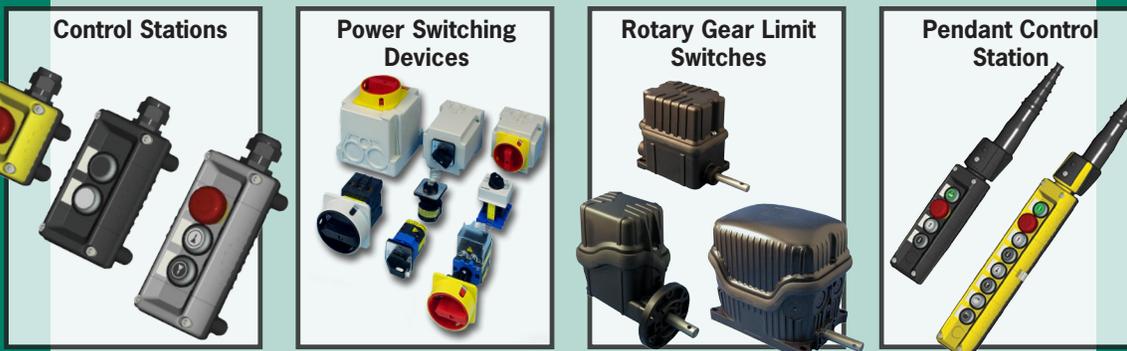
KILOWATT MOTOR RATINGS

The table below provides the average full-load currents of squirrel cage motors in accordance with IEC conventions. These are given only as a guide. Refer to the actual motor nameplate for full-load current values.

Power Kilowatts	Single-Phase Motor		Three-Phase Motor					
	120V A	240V A	230V A	400V A	415V A	440V A	500V A	690V A
0.37	3.9	3.6	2	.98	---	0.99	1	---
0.55	5.2	4.8	2.8	1.5	---	1.36	1.21	---
0.75	6.6	6.1	3.6	1.9	2	1.68	1.5	---
1.1	9.6	8.8	5.2	2.5	2.5	2.37	2	---
1.5	12.7	11.7	6.8	3.4	3.5	3.06	2.6	---
1.8	15.7	14.4	---	---	---	---	---	---
2.2	18.6	17.1	9.6	4.8	5	4.42	3.8	---
3	24.3	22.2	---	6.3	6.5	5.77	5	3.5
3.7	---	---	15.2	---	---	---	---	---
4	29.6	27.1	---	8.1	8.4	7.9	6.5	4.9
4.4	34.7	31.8	---	---	---	---	---	---
5.2	39.8	36.5	---	---	---	---	---	---
5.5	42.2	38.7	22	11	11	10.4	9	6.7
6	44.5	40.8	---	---	---	---	---	---
7	49.5	45.4	---	---	---	---	---	---
7.5	54.4	50	28	14.8	14	13.7	12	9
9	---	---	---	18.1	17	16.9	13.9	10.5
11	---	---	42	21	21	20.1	18.4	12.1
15	---	---	54	28.5	28	26.5	23	16.5
18.5	---	---	68	35	35	32.8	28.5	20.2
22	---	---	80	42	40	39	33	24.2
30	---	---	104	57	55	51.5	45	33
37	---	---	130	69	66	64	55	40
45	---	---	154	81	80	76	65	46.8
55	---	---	192	100	100	90	80	58
75	---	---	248	131	135	125	105	75.7
90	---	---	312	162	165	146	129	94
110	---	---	360	195	200	178	156	113
132	---	---	---	233	240	215	187	135
---	---	---	480	222	260	236	207	---
160	---	---	---	285	280	256	220	165
---	---	---	600	---	---	---	---	---
200	---	---	---	352	340	321	281	203
220	---	---	720	388	385	353	310	224
250	---	---	840	437	425	401	360	253
280	---	---	---	---	---	---	---	---
315	---	---	---	555	535	505	445	321
---	---	---	1080	---	---	---	---	---
355	---	---	---	605	580	549	500	350
---	---	---	1200	---	---	---	---	---
400	---	---	---	675	650	611	540	390
450	---	---	1440	---	---	---	---	---
500	---	---	---	855	820	780	680	494
560	---	---	---	950	920	870	760	549
630	---	---	---	1045	1020	965	850	605
710	---	---	---	1200	1140	1075	960	694
800	---	---	---	---	1320	1250	1100	790
900	---	---	---	---	1470	1390	1220	880



Welcome to the Springer Controls Company, Inc. Product Guide to the Enclosed Direct On-Line Starters. This section reflects our continuing commitment to our customers to provide complete, up-to-date product information and technical data. We appreciate your choosing Springer Controls and we will continue to update this information as well as provide new products to meet today's demands for electrical control products.



www.springercontrols.com

Visit our site, it includes new product information, complete product data with downloads, installation instructions, along with other Springer Control news.



96074 Chester Road --- Yulee, Florida, 32097
Phone: (904) 225-0575 --- Fax: (904) 225-9084