

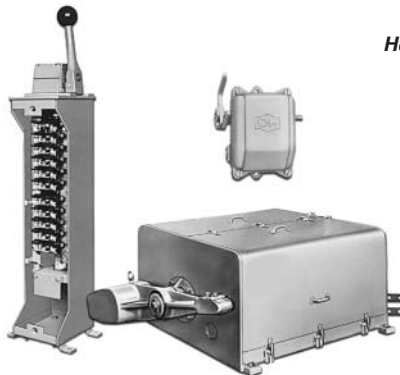
Crane Control

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Heavy-Duty Brakes



Master and Limit Switch Family



Contactors and Relays



Cat. No. 6006H30
Size 3 dc Ltl Contactor

Product Description

DC Inductive Time Limit (Ltl) Contactors are mill type contactors used for acceleration and plugging functions.

The contactor uses two coils; one a normal closing coil, and the other a holdout coil. When the closing coil is energized, the contactor will not pick up until the magnetism of the holdout coil has decayed sufficiently to permit the contactor to close.

By connection of the holdout coil (H.O.) to various points in control circuits, the Ltl contactor can be used to control acceleration or plugging in hoist and travel panels.

The construction of the arc chute, blowout and power contacts of these contactors is the same as for C80 DC contactors. Contact tips, closing coils, arc chute assemblies, and interlocks are interchangeable between the two types of contactors. Refer to **Page 2** for a description of these features.

Course adjustment of the timing is accomplished by removing shims to vary the air gap of the holdout coil circuit. Fine adjustment is made with a knurled nut at the base of the holdout coil magnet core.

Standards and Certifications

- NEMA ICS3-441, 442, 443.
- NEMA ICS2-331.23.
- NEMA ICS2-110.05.02.
- NEMA ICS2-125.21.02.

Technical Data and Specifications

- Current Range: 5 to 810 amperes.
- Voltage: 600 Vdc.
- Operation:
 - Magnetic, double coil, inductive time limit
- Mounting:
 - Steel Panel with options for insulated panels

- Mechanical Life: 20 million operations.
- Electrical Life: 500,000 operations.
- Interlock Ratings:
 - 10 amperes continuous
 - 2.2 amperes inductive breaking at 115 V
 - 1.1 amperes inductive breaking at 230 V
- Duty:
 - Continuous (for intermittent ratings consult factory)

Table 92. Closing Coil Ampere Data

Size	115 Vdc Coil	230 Vdc Coil
2	.263	.125
3, 4	.235	.112
5	.391	.187
6, 6A	.365	.200

Accessories

See **Pages 44** and **45** for Ltl Contactor Accessories.

Renewal Parts

See **Page 45** for Ltl Renewal Parts.

Dimensions

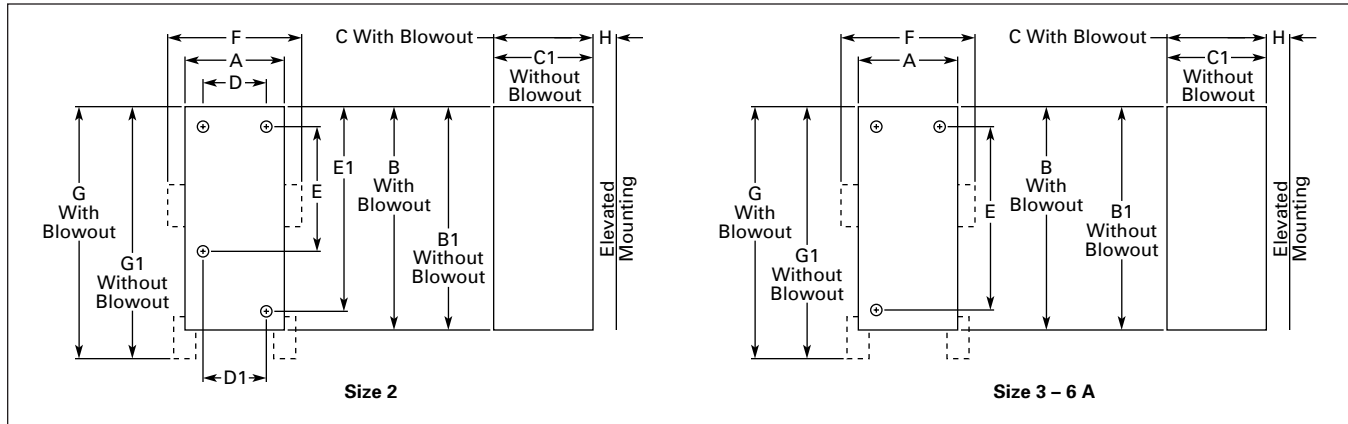


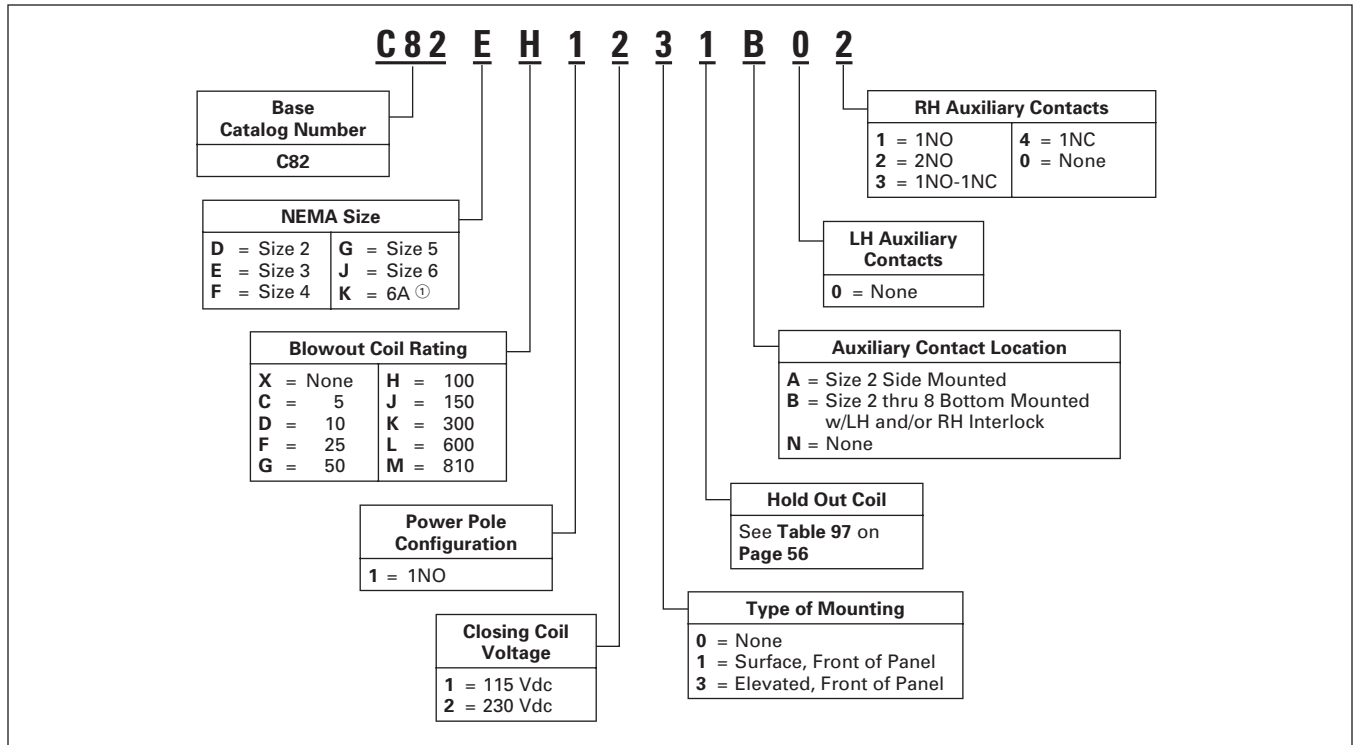
Figure 25. Approximate Dimensions in Inches (mm) and Shipping Weights

Table 93. Approximate Dimensions in Inches (mm) and Shipping Weights

Size	Dimensions in Inches (mm)														Ship. Wt. Lbs. (kg)		
	Wide		High		Deep		Mounting				With Auxiliary Contacts			H		Minimum Arc Clearance	
	A	B	B1	C	C1	D	D1	E	E1	F	G	G1	230 V			600 V	
Open Type Ltl Contactors																	
2	3.75 (95.3)	13.81 (350.8)	12 (304.8)	5.94 (150.9)	5.31 (134.9)	2.25 (57.2)	1.75 (44.5)	4.5 (114.3)	9.75 (247.7)	7.38 (187.5)	13.81 (350.8)	12 (304.8)	—	1.28 (32.5)	2.28 (57.9)	13 (5.9)	
3	4.25 (108.0)	15.13 (384.3)	15.13 (384.3)	7.25 (184.2)	6.38 (162.1)	—	—	14.25 (362.0)	—	5.25 (133.4)	15.13 (384.3)	15.13 (384.3)	1.56 (39.6)	2.5 (63.5)	3.5 (88.9)	17 (7.7)	
4	4.25 (108.0)	15.13 (384.3)	15.13 (384.3)	7.25 (184.2)	6.38 (162.1)	—	—	14.25 (362.0)	—	5.25 (133.4)	15.13 (384.3)	15.13 (384.3)	1.56 (39.6)	3 (76.2)	4 (101.6)	17 (7.7)	
5	5.19 (131.8)	18.88 (479.6)	18.88 (479.6)	10 (254.0)	8 (203.2)	—	—	18 (457.2)	—	5.5 (139.7)	18.88 (479.6)	18.88 (479.6)	1.81 (46.0)	4.5 (114.3)	5.5 (139.7)	34 (15)	
6, 6A	6.5 (165.1)	20.75 (527.1)	20.75 (527.1)	12.28 (311.9)	9.44 (239.8)	—	—	19.5 (495.3)	—	6.56 (166.6)	20.75 (527.1)	20.75 (527.1)	1.81 (46.0)	4.25 (108.0)	5.25 (133.4)	56 (25)	

Catalog Number Selection

Table 94. DC Contactor Catalog Numbering System



^① Not an actual NEMA size.

Product Selection

When Ordering Specify

- Catalog Number of contactor from **Table 97**, plus.
- Suffix Code Number for closing coil from **Table 95**.
- Suffix Code Number for contactor mounting option from **Table 96**.
- Suffix Code Number for hold out coil from **Table 98** (if hold out coil is not required, use "0").
- Suffix Code Letter for factory installed auxiliary contact if required from **Table 76** and **Table 77, Page 44**. If no auxiliary contact is required, the Suffix will be **N00**.

Table 95. Coil Voltage (Closing Coil)

Coil Voltage dc	Suffix Code Number
120 V	1
240 V	2

Table 96. Contactor Mounting Options

Contactor Size	Type of Mounting	Suffix Code Number
2	Surface Mounted — Front Connected	1
3 thru 6	None	0
3 thru 6A	Surface Mounted — Front Connected	1
3 thru 6A	Elevated Mounting — Front Connected	3

Table 97. DC Inductive Time Limit (Ltl) Contactors for Accelerating Plugging and Anti-Plugging Applications

NEMA Size	8 Hour Rating Amperes	Blowout Coil Ampere Rating 120-240-550 V	Open Type without Electrical Interlock	
			Catalog Number	*
Single Pole — Normally Open				
2	50	None	C82DX1 C82DC1 C82DD1	
		5 10		
		25 50	C82DF1 C82DG1	
3	100	25 50 100	C82EF1 C82EG1 C82EH1	
4	150	150	C82FJ	
5	300	300	C82GK1	
6	600	600	C82JL1	
6A	810	810	C82KM1	
Rectifier and mounting for Ltl rectifier plugging			6006H58	

① Prices shown are for standard Ltl contactor with standard closing coil, standard mounting option, and standard holdout coil. If auxiliary contact is required, include list price adder from **Tables 76** and **77** on **Page 44**.

Example: Size 3 100 amp contactor with 230 Vdc closing coil, elevated mounting, with rectifier plugging type holdout coil, and RH bottom mounted 2NO auxiliary contact — Catalog Number C82EH1233B02.

Accessories **Page 44**
 Renewal Parts **Page 45**
 Cross-Reference
 to Previous Numbers **Pages 58, 59**
 Discount Symbol **18CD-4**

* Consult Sales Office for Pricing

Table 98. Ltl Holdout Coil Suffix Number Selection

Suffix 1 — Ltl Acceleration on Starting Resistance		
Description	Coil Number	Ohms
No Series Resistor Required	494-5	405

Suffix 2 — Non-plug Main		
Description	Coil Number	Ohms
No Series Resistor Required	494-8	4060

Suffix 1 — Plug Voltage Lock Out Contactor		
Description	Coil Number	Ohms
31 — 97V: 1 — 3000 Ohm 25W Unit 58 — 178V: 1 — 5000 Ohm 25W Unit	494-5	405

Suffix 3 — Capacitor Timed Acceleration		
Description	Coil Number	Ohms
1 — 1000 Ohm 25W Unit 1 — 25 µf Capacitor Number 42-143	1083-1	100

Suffix 1 — Ltl Acceleration Across the Line		
Description	Coil Number	Ohms
Intermittent Duty: No Resistor Required Continuous Duty: 1 — 1000 Ohm 100W Unit	494-5	405

Suffix 4 — Rectifier Plugging 250 V		
<p>Polarity Shown Must Be Observed to Obtain Proper Operation. Connect Leads Marked INS. Together.</p>		
Description	Coil Number	Ohms
Also requires Rectifier No. 57-955-3	1553-3	950 ea. Winding

Suffix 2 — H.O. & Close Coil in Series X-Line Intermittent Duty		
Description	Coil Number	Ohms
No Series Resistor Required	494-8	4060

Suffix 5 — H.O. & Close Coil in Series X-Line Continuous Duty		
Description	Coil Number	Ohms
No Series Resistor Required	494-7	1520

Cross-Reference to Previous Numbers

DC Ltl Contactors — Old Catalog Number Selection

Table 99. Old Catalog Numbering System

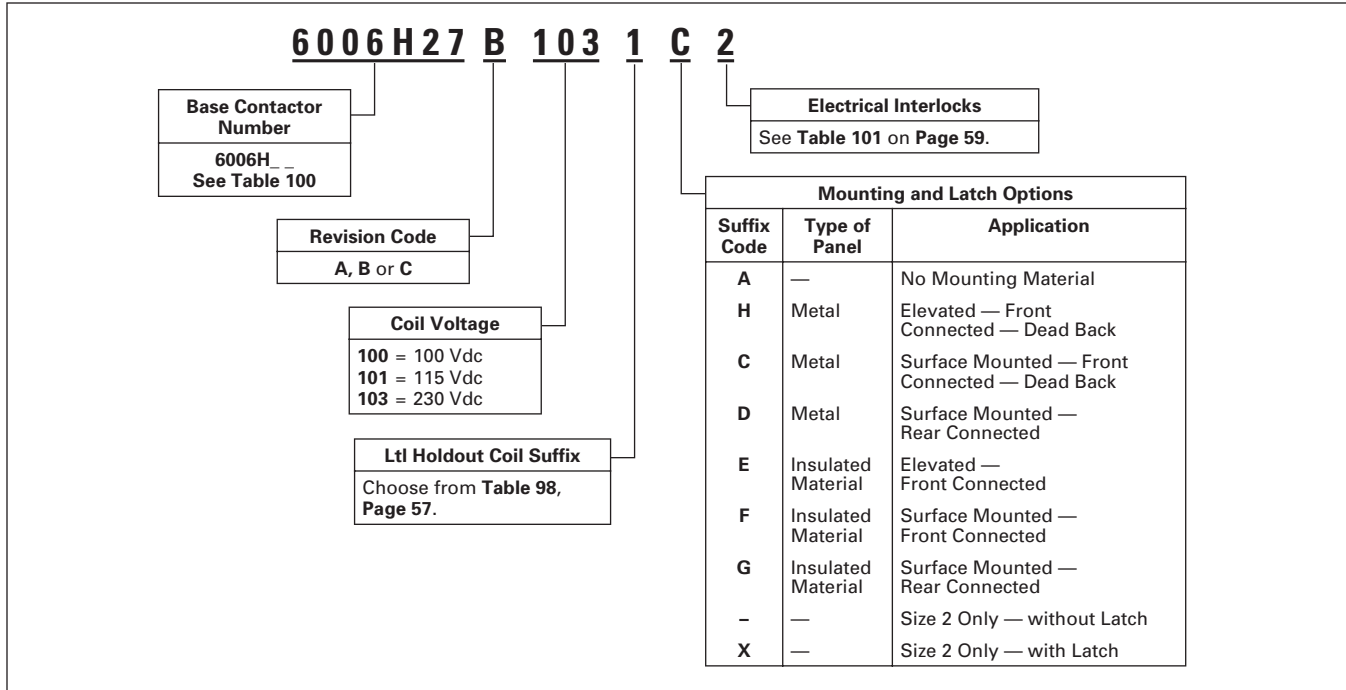


Table 100. Old/New Catalog Number Cross-Reference Ltl Contactors

Old Number					Replacement Number
Description					
Catalog Number	Size	Contact Configuration	Blowout Coil Rating (Amperes)	Enclosure	Catalog Number
6006H14	1	1NO	1	Open	C82DC1
6006H15	1	1NO	2	Open	C82DC1
6006H16	1	1NO	5	Open	C82DC1
6006H17	1	1NO	10	Open	C82DD1
6006H18	1	1NO	25	Open	C82DF1
6006H19	2	1NO	—	Open	C82DX1
6006H20	2	1NO	5	Open	C82DC1
6006H21	2	1NO	10	Open	C82DD1
6006H22	2	1NO	15	Open	C82DF1
6006H23	2	1NO	25	Open	C82DF1
6006H24	2	1NO	30	Open	C82DG1
6006H25	3	1NO	—	Open	C82EF1
6006H26	3	1NO	5	Open	C82EF1
6006H27	3	1NO	10	Open	C82EF1
6006H28	3	1NO	25	Open	C82EF1
6006H29	3	1NO	50	Open	C82EG1
6006H30	3	1NO	100	Open	C82EH1
6006H31	4	1NO	—	Open	C82FJ1
6006H32	4	1NO	150	Open	C82FJ1
6006H33	1	1NO	—	Open	C82DX1
6006H54	5	1NO	—	Open	C82GK1
6006H55	5	1NO	300	Open	C82GK1
6006H59	6	1NO	—	Open	C82JL1
6006H60	6	1NO	600	Open	C82JL1
6006H63	6A	1NO	810	Open	C82KM1

Table 101. Unit Electrical Interlock Assemblies — Ltl Contactors

Description	Location		Mounting Plate	Circuit	Index Number	Number Required	Mounting Plate and Driver		Handling Suffix Number
							Index Number	Number Required	
Size 2 Contactors	Without Interlock				—	—	—	—	1
	Unit Electrical Interlocks								
	Side Mount	LH		2NO	10923H7A	1	10923H12A	1	2
		RH		2NO	10923H7A	1	10923H12A	1	3
	LH & RH		4NO	10923H7A	2	10923H12A	2	4	
Size 3 – 6 Contactors	Without Interlock		None	—	—	—	—	—	1
	Unit Electrical Interlocks								
	Bottom	RH	Single	2NO	10923H2A	1	10923H20A	1	2