

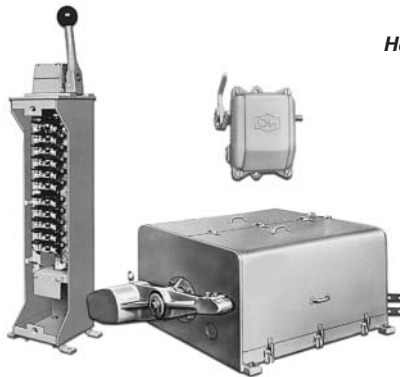
# Crane Control

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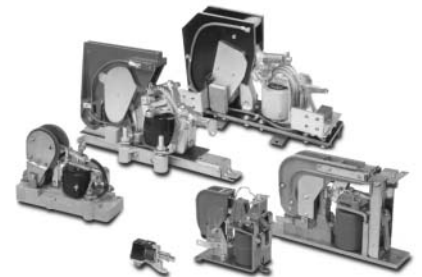
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*Heavy-Duty Brakes*

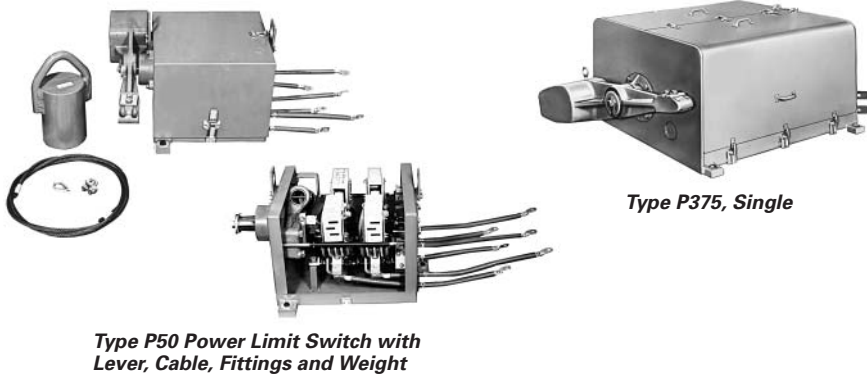


*Master and Limit Switch Family*



*Contactors and Relays*

Crane Power Limit Switches



Type P50 Power Limit Switch with Lever, Cable, Fittings and Weight

Type P375, Single

Product Description

These Crane Power Limit Switches are mounted on the crane trolley to prevent overtravel of the crane hook when hoisting.

They act as a power circuit disconnect for the hoisting motor. On dc applications, a resistor is required with the limit switch to provide dynamic braking.

Features

- Single and duplex types.
- 50 hp to 500 hp range, ac or dc operation.
- Double-pole, double-throw power circuit contacts.
- NEMA 3 enclosed.
- Power resistors and lever options available.

Standards and Certifications

- OSHA 1910.179, 306.
- AISE Standard No. 6.
- NEMA ICS3-445, CMAA 70-5.9.

Options

Table 50. Options

Description	Adder *							
	P50		P100		P200		P375, P500	
	Single	Single	Duplex	Single	Duplex	Single	Duplex	
Electrical Interlock ①								
Three-Pole Limit Switch		N/A	N/A	N/A	N/A	N/A	N/A	

① To add electrical interlock, change 8th digit of Catalog Number from "A" to "B."  
Example: GH120SAB1111.

Technical Data and Specifications

- Types:
  - Single or Duplex
  - 2- or 3-pole
  - double throw
- Mounting:
  - Trolley deck mounting
  - Hanging horizontal mounting
  - Left-hand vertical mounting
  - Right-hand vertical mounting
- Ratings:
  - 5 to 500 hp at 230 Vdc
  - 5 to 400 hp at 460 Vac
- Operation:
  - Counterweighted lever is tripped by cable motion and reset by reset weight. Reset weight is actuated by hoist block mechanism
- Contacts:
  - Cadmium copper alloy contacts with positive wiping action operate in an arc chute. Contacts are interchangeable with Type C80 dc contactor contacts
- Enclosure:
  - NEMA 3R weather-resistant enclosure with U-shaped cover for easy access to mechanism

Table 51. Maximum Horsepower Ratings

Limit Switch Type	Maximum hp Crane Rating			
	dc		ac	
	230 V	550 V	230 V	460 V
P50	50	50	50	100
P100	100	100	100	200
P200	200	200	200	400
P375	375	600	—	—
P500	500	—	—	—

Renewal Parts

Table 52. Power Limit Switches

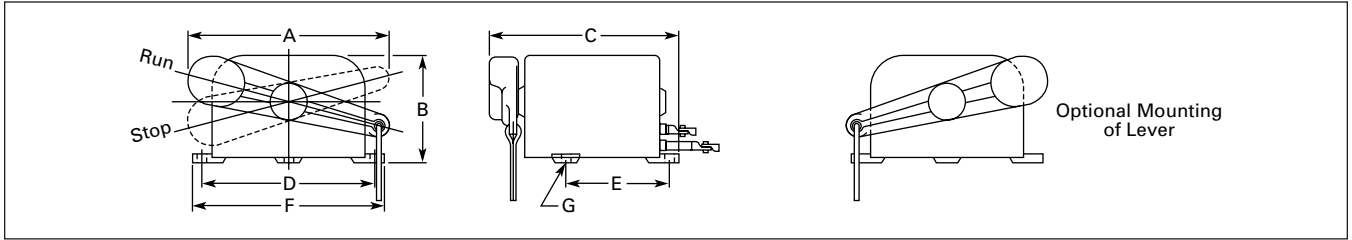
Incomplete Device Catalog Number	Contact Kit Part Number	Blowout Assembly (dc) Part Number
GH120	6-207	62-812-5
GH121	6-207-2	62-479
GH122	6-207-3	62-109-14
GH123	6-207-4	62-450
GH126	6-207-5	62-450

Note: For prices, refer to Eaton's parts distributor or call factory.

Discount Symbol ..... 18CD-2

\* Consult Sales Office for Pricing

**Dimensions**



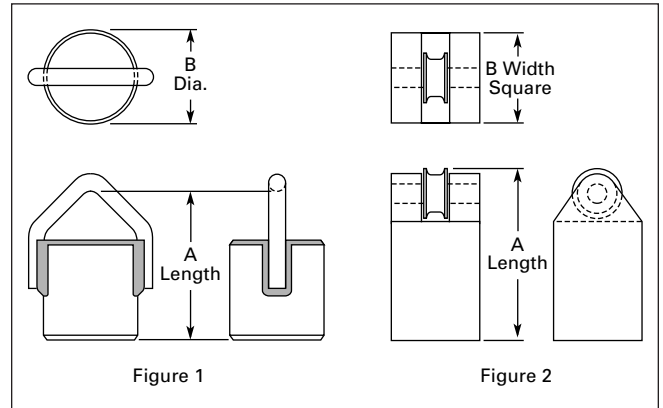
**Figure 16. Approximate Dimensions**

**Table 53. Limit Switches**

Type	Approximate Dimensions in Inches (mm)						Ship. Wt. Lbs. (kg)			
	Wide A	High B	Deep C	Mounting		Overall F	Mtg. Hole G	Limit Switch Only	Lever	Reset Weight
				D	E					
P50 Single	17.5 (445)	10.75 (273)	18.5 (470)	14.0 (356)	12.25 (311)	15.13 (384)	.63 (16)	83 (38)	42 (19)	46 (21)
P100 Single	20.75 (527)	12.25 (311)	22.06 (560)	16.5 (419)	15.75 (400)	18.0 (457)	.75 (19)	148 (67)	79 (36)	80 (36)
P100 Duplex	20.75 (527)	12.25 (311)	30.56 (776)	16.5 (419)	24.25 (616)	18.0 (457)	.75 (19)	217 (98)	87 (39)	97 (44)
P200 Single	26.0 (660)	15.38 (391)	26.38 (670)	24.0 (610)	18.5 (470)	26.25 (667)	.94 (24)	315 (143)	103 (47)	108 (49)
P200 Duplex	28.56 (726)	15.38 (391)	38.88 (987)	24.0 (610)	30.5 (775)	26.25 (667)	.94 (24)	481 (218)	131 (59)	176 (80)
P375 Single	38.63 (981)	24.25 (616)	42.13 (1070)	36.25 (921)	23.25 (591)	38.25 (972)	.94 (24)	1028 (466)	230 (104)	240 (109)
P375 Duplex	38.63 (981)	24.25 (616)	60.13 (1527)	36.25 (921)	41.25 (1048)	38.25 (972)	.94 (24)	1467 (665)	383 (174)	506 (230)
P500 Single	38.63 (981)	24.25 (616)	42.13 (1070)	36.25 (921)	23.25 (591)	38.25 (972)	.94 (24)	1028 (466)	230 (104)	240 (109)
P500 Duplex	38.63 (981)	24.25 (616)	60.13 (1527)	36.25 (921)	41.25 (1048)	38.25 (972)	.94 (24)	1467 (665)	383 (174)	506 (230)

**Table 54. Reset Weights**

Reset Weight Lbs. (kg)	Used with Switch Type	Approximate Dimensions in Inches (mm)		
		Figure Number	Width B (Dia.)	Length A
46 (21)	P50 Single	1	5 (127)	10.5 (267)
80 (36)	P100 Single	1	6 (152)	12.5 (318)
97 (44)	P100 Duplex	1	6 (152)	14.62 (372)
108 (49)	P200 Single	1	6 (152)	16.0 (407)
176 (80)	P200 Duplex	1	7 (178)	19.25 (489)
240 (109)	P375 Single	2	8 (203)	15.5 (394)
240 (109)	P500 Single	2	8 (203)	15.5 (394)
506 (230)	P375 Duplex	2	10.5 (267)	19.5 (495)
506 (230)	P500 Duplex	2	10.5 (267)	19.5 (495)



**Figure 17. Reset Weight Outline**

Crane Power Limit Switches

Mounting

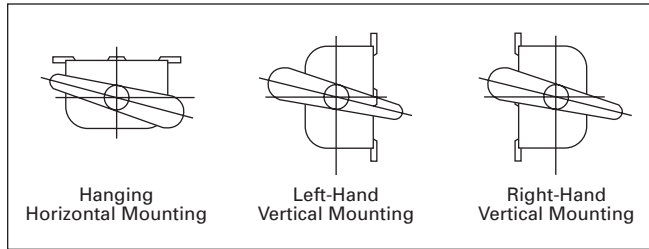
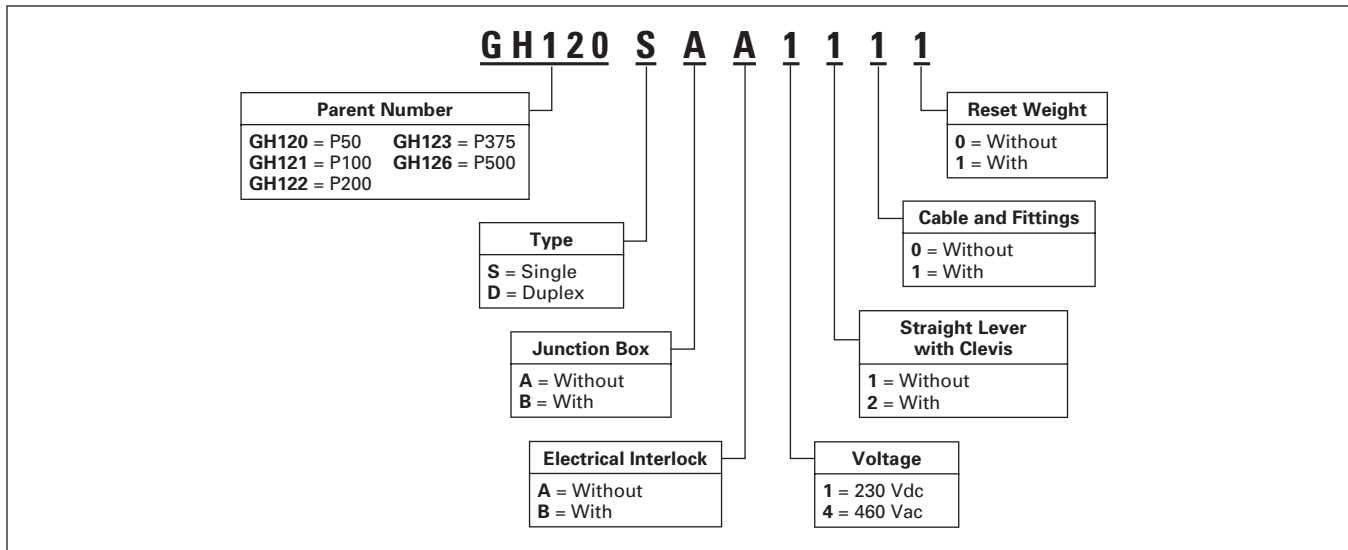


Figure 18. Alternate Mounting Positions — P50, P100 and P200 Only — P375 and P500 Horizontal Floor Mounting Only

Catalog Number Selection

Table 55. Power Limit Switch Catalog Numbering System



**Product Selection**

**When Ordering Specify**

- Catalog Number or complete description, including optional features, required.
- Voltage and horsepower, ac or dc.
- Catalog Number of resistor if dynamic braking is used (DC series motors only).

**Table 56. Single and Duplex Limit Switches**

Limit Switch Type	Description	NEMA 3 Enclosed					
		Single Type			Duplex Type <sup>①</sup>		
		Catalog Number		*	Catalog Number		*
		230 Vdc	460 Vac		230 Vdc	460 Vac	
P50 (GH120)	Limit switch complete, with lever, cable, fittings and weight Limit switch with lever only Limit switch without lever, cable, fittings or weight Straight lever only Cable and fittings only Reset weight only	GH120SAA1111 GH120SAA1100 GH120SAA1000 GH120SC GH124AE GH120SF	GH120SAA4111 GH120SAA4100 GH120SAA4000 GH120SC GH124AE GH120SF		—	—	—
P100 (GH121)	Limit switch complete, with lever, cable, fittings and weight Limit switch with lever only Limit switch without lever, cable, fittings or weight Straight lever only Cable and fittings only Reset weight only	GH121SAA1111 GH121SAA1100 GH121SAA1000 GH121SC GH124AE GH121SF	GH121SAA4111 GH121SAA4100 GH121SAA4000 GH121SC GH124AE GH121SF		GH121DAA1111 GH121DAA1100 GH121DAA1000 GH121DC GH124AE GH121DF	GH121DAA4111 GH121DAA4100 GH121DAA4000 GH121DC GH124AE GH121DF	
P200 (GH122)	Limit switch complete, with lever, cable, fittings and weight Limit switch with lever only Limit switch without lever, cable, fittings or weight Straight lever only Cable and fittings only Reset weight only	GH122SAA1111 GH122SAA1100 GH122SAA1000 GH122SC GH124AE GH122SF	GH122SAA4111 GH122SAA4100 GH122SAA4000 GH122SC GH124AE GH122SF		GH122DAA1111 GH122DAA1100 GH122DAA1000 GH122DC GH124AE GH122DF	GH122DAA4111 GH122DAA4100 GH122DAA4000 GH122DC GH124AE GH122DF	
P375 (GH123)	Limit switch complete, with lever, cable, fittings and weight Limit switch with lever only Limit switch without lever, cable, fittings or weight Straight lever only Cable and fittings only Reset weight only	GH123SAA1111 GH123SAA1100 GH123SAA1000 GH123SC GH123SE GH123SF	—		GH123DAA1111 GH123DAA1100 GH123DAA1000 GH123DC GH123DE GH123DF	—	
P500 (GH126)	Limit switch complete, with lever, cable, fittings and weight Limit switch with lever only Limit switch without lever, cable, fittings or weight Straight lever only Cable and fittings only Reset weight only	GH126SAA1111 GH126SAA1100 GH126SAA1000 GH123SC GH123SE GH123SF	—		GH126DAA1111 GH126DAA1100 GH126DAA1000 GH123DC GH123DE GH123DF	—	

<sup>①</sup> For two motors connected in parallel.

**Table 57. Enclosed Power Limit Dynamic Braking Resistor**

Horsepower Range @ 230 Vdc	Catalog Number	*	Horsepower Range @ 230 Vdc	Catalog Number	*
5 – 9	GH125BAA		91 – 125	GH125BHA	
10 – 12	GH125BBA		126 – 170	GH125BJA	
13 – 17	GH125BCA		171 – 225	GH125BKA	
18 – 28	GH125BDA		226 – 300	GH125BLA	
29 – 40	GH125BEA		301 – 375	GH125BMA	
41 – 59	GH125BFA		376 – 500	GH125BNA	
60 – 90	GH125BGA		—	—	

Cross-Reference to  
 Previous Products..... **Page 34**  
 Dimensions..... **Page 31**  
 Discount Symbol ..... **18CD-2**

\* Consult Sales Office for Pricing

## Crane Power Limit Switches

### Cross-Reference to Previous Products

Table 58. Catalog Number 14148 Single Type

Old	New		Old	New	
	230 Vdc	460 Vac		230 Vdc	460 Vac
14148H127	GH123SAA1000	GH123SAA4000	14148H181	GH122SAA1111	GH122SAA4111
14148H128	GH123SE	GH123SE	14148H183	GH120SC	GH120SC
14148H129	GH123SF	GH123SF	14148H184	GH121SC	GH121SC
14148H130	GH123SC	GH123SC	14148W2	GH121SAA1111	GH121SAA4111
14148H143	GH120SAA1000	GH120SAA4000	14148W4	GH121SAA1000	GH121SAA4000
14148H144	GH124AE	GH124AE	14148W6	GH122SAA1111	GH122SAA4111
14148H145	GH120SF	GH120SF	14148W8	GH122SAA1000	GH122SAA4000
14148H149	GH120SAA1111	GH120SAA4111	14148W10	GH120SAA1111	GH120SAA4111
14148H152	GH123SAA1111	GH123SAA4111	14148W11	GH120SAA1000	GH120SAA4000
14148H154	GH121SAA1000	GH121SAA4000	14148W14	GH120SAA1100	GH120SAA4100
14148H157	GH121SF	GH121SF	14148W16	GH121SAA1100	GH121SAA4100
14148H167	GH122SAA1000	GH122SAA4000	14148W18	GH122SAA1100	GH122SAA4100
14148H169	GH122SF	GH122SF	14148W20	GH123SAA1100	GH123SAA4100
14148H170	GH122SC	GH122SC	—	—	—
14148H179	GH121SAA1111	GH121SAA4111	—	—	—

Table 59. Catalog Number 14148 Duplex Type

Old	New		Old	New	
	230 Vdc	460 Vac		230 Vdc	460 Vac
14148H137	GH123DAA1000	GH123DAA4000	14148W3	GH121DAA1111	GH121DAA4111
14148H138	GH123DE	GH123DE	14148W5	GH121DAA1000	GH121DAA4000
14148H139	GH123DF	GH123DF	14148W7	GH122DAA1111	GH122DAA4111
14148H140	GH123DC	GH123DC	14148W9	GH122DAA1000	GH122DAA4000
14148H144	GH122DE	GH122DE	14148W17	GH121DAA1100	GH121DAA4100
14148H153	GH123DAA1111	GH123DAA4111	14148W19	GH122DAA1100	GH122DAA4100
14148H161	GH121DAA1000	GH121DAA4000	14148W21	GH123DAA1100	GH123DAA4100
14148H163	GH121DF	GH121DF	—	—	—
14148H173	GH122DAA1000	GH122DAA4000	—	—	—
14148H175	GH122DF	GH122DF	—	—	—
14148H176	GH122DC	GH122DC	—	—	—
14148H180	GH121DAA1111	GH121DAA4111	—	—	—
14148H182	GH122DAA1111	GH122DAA4111	—	—	—
14148H185	GH121DC	GH121DC	—	—	—