

SELECTION DATA

Circuit breaker selection for motor circuits: D.O.L. starting

240V 50Hz SINGLE PHASE					
HEINELEC & HEIDIN Breaker Curve & Current Rating					
Full Load Current	Approx. Motor kW	HEIDIN (1) Type C	SFM1 (1) Curve 2 (Std)	SFM1 (2) Curve 1	Approx. Motor H.P.
1.8	0.12	6	10	4	1/6
2.7	0.18	6	10	4	1/4
3.0	0.25	10	10	4	1/3
4.0	0.37	10	16	10	1/2
4.8	0.37	16	16	10	1/2
5.2	0.55	16	16	10	3/4
6.3	0.75	16	20	10	1
8.0	1.1	25	25	16	1 - 1/2
10.0	1.5	25	32	16	2
14.5	2.2	32	40	20	3
18.5	3.0	40	50	32	4
24.0	3.7	50	63	40	5
33.0	5.5	63	80	50	7 - 1/2

415V 50Hz 3 PHASE					
HEINELEC & HEIDIN Breaker Curve & Current Rating					
Full Load Current	Approx. Motor kW	HEIDIN (1) Type C	SFM3 (1) Curve 2 (Std)	SFM3 (2) Curve 1	Approx. Motor H.P.
1.0	0.37	6	4	4	1/2
1.5	0.55	6	6	4	
2.0	0.75	6	10	4	1
3.0	1.1	10	16	6	1 - 1/2
4.0	1.5	16	16	10	2
5.0	2.2	16	16	10	3
6.0		16	20	10	
7.0	3.0	25	20	16	4
8.0	3.7	25	25	16	5
9.0	4.0	25	25	16	6
10		25	32	16	
11	5.5	32	32	16	7 - 1/2
12		32	40	16	
13		40	40	20	
14		40	40	20	
15	7.5	40	50	20	10
16		50	50	25	
17-20	10	50	63	32	12 - 1/2
21-22	11	50	63	32	15
23-26		63	80	40	
27-28	15	63	80	40	20
29-31			100	50	
32-36	18.5		100	50	25
37-44	22			63	30
45-51	25			80	35
52-56	30			80	40
57-60	34			80	45
61-68	37			100	50
69-72				100	

See page 112 for footnotes

SELECTION DATA

Circuit breaker selection for motor circuits

MOTOR CIRCUIT PROTECTION:

A motor starter normally comprises a contactor and thermal overload relay which together provide switching and overload protection for the motor. In addition, the circuit requires protection from short circuits. Due to the inherent advantages of the hydraulic magnetic circuit breaker, closer overload and locked rotor protection can be provided for motor circuits.

The tables depicting selection of HEINELEC & HEIDIN Series breakers can be used as a guide with varying degrees of protection in accordance with the footnotes below.

Circuit breaker selection for motor circuits: Star Delta, Auto-transformer, Resistor or Reactance starting

415V 50Hz 3 PHASE					
HEINELEC & HEIDIN Breaker Curve & Current Rating					
Full Load Current	Approx. Motor kW	HEIDIN (1) Type C	SFM3 (1) Curve 2 (Std)	SFM3 (2) Curve 1	Approx. Motor H.P.
1.5	0.55	6	4	4	
2.0	0.75	6	6	4	1
3.0	1.1	10	10	6	1 - 1/2
4.0	1.5	10	10	6	2
5.0	2.2	10	16	10	3
6.0		10	16	10	
7.0	3.0	16	20	10	4
8.0	3.7	16	20	16	5
9.0	4.0	16	25	16	6
10		20	25	16	
11	5.5	20	32	16	7 - 1/2
12		20	32	16	
13		25	32	20	
14		25	32	20	
15	7.5	32	40	20	10
16		32	40	25	
17-20	10	40	50	32	12 - 1/2
21-22	11	40	63	32	15
23-26		40	63	40	
27-28	15	50	63	40	20
29-31		63	80	50	
32-36	18.5	63	80	50	25
37-44	22			63	30
45-51	25			80	35
52-56	30			80	40
57-60	34			80	45
61-68	37			100	50
69-72				100	
73-80	45			100	60

- (1) Selection is based on holding 125% of F.L.C. continuously irrespective of ambient temperature and 600% of F.L.C. for a minimum of 5 seconds for D.O.L. starting. (350% & 12 seconds for reduced current). Provides short circuit and locked rotor and overload protection above 250% of motor F.L.C. Also applies to SF/SM RCD's.
- (2) Selection is based upon holding 125% of F.L.C. continuously irrespective of ambient temperature and 600% of F.L.C. for a minimum of 5 seconds for D.O.L. starting. (350% & 12 seconds for reduced current). Provides short circuit and locked rotor and overload protection above 200% of motor F.L.C.