

0.06	0.09	0.12	0.18	0.25	0.37	0.55	0.75	1.1	1.5	2.2	3	4	5.5	7.5	11	15	18.5	22	30	37	45	55	75	90	110	132	160	200	250	
1/12	1/8	1/6	1/4	1/3	1/2	3/4	1	1 1/2	2	3	4	5	7 1/2	10	15	20	25	30	40	50	60	75	100	125	150	175	200	250	350	
0.35	0.52	0.7	1	1.5	1.9	2.6	3.3	4.7	6.3	8.5	11.3	15	20	27	38	51	61	72	96	115	140	169	230	278	340	400	487	-	-	
03	03	03	03	03	03	03	03	03	03	03	0	4-0	4-1.5-1	N1	N2	N3	N3	N4	N5A	N6	N7	N8	N11	N11	N12	N14	N14	-	-	
0N	0N	0N	0N	0N	0N	0N	0N	0N	0N	0N	0N	5-1N	5-1N	N2	N2	N3	N3	N5	N5	N6	N7	N8	N12	N12	N12	N14	N14	-	-	
0.24-0.36	0.36-0.54	0.48-0.72	0.8-1.2	1.4-2.2	1.4-2.2	2.2-3.4	2.2-3.4	4-6	5-8	6-9	9-13	12-18	16-22	24-36	32-42	45-65	45-65	53-80	85-105	85-125	110-160	125-185	160-240	200-300	240-360	300-450	400-600	-	-	
0.35	0.52	0.7	1	1.5	1.9	2.6	3.3	4.7	6.3	8.5	11.3	15	20	27	38	51	61	72	96	115	140	169	230	278	340	400	487	-	-	
32SAG	32SAG	32SAG	32SAG	32SAG	32SAG	32SAG	32SAG	32SAG	32SAG	32SAG	32SAG	50SAG	50SAG	63SAG	100EAG	250EAG	160EAG 250EAG	160EAG 250EAG	250EAG	250EAG	400SAG	400SAG	400SAG	400SAG	630RAG	800RAG	800RAG	-	-	
3	3	3	5	20	20	20	20	20	20	20	30	30	50	60	75	125	125	150	175	225	350	350	400	400	600	800	800	-	-	
1	1	1	1	1	1	1	1	1	1	1.5	1.5	2.5	4	6	10	16	16	25	35	50	50	70	120	185	185	150 x2	150 x2	-	-	
0.2	0.3	0.44	0.6	0.85	1.1	1.5	1.9	2.7	3.6	4.9	6.5	8.5	11.5	15.5	22	29	35	41	55	66	80	97	132	160	195	230	280	350	430	
03	03	03	03	03	03	03	03	03	03	03	03	03	0	4-0	5-1	N1	N2	N2S	N3	N4	N5A	N5A	N7	N8	N10	N11	N11	N12	N14	
0N	0N	0N	0N	0N	0N	0N	0N	0N	0N	0N	0N	0N	0N	5-1N	5-1N	N2	N2	N3	N3	N5	N5	N5	N7	N8	N10	N12	N12	N12	N14	
0.15-0.24	0.24-0.36	0.36-0.54	0.48-0.72	0.64-0.96	0.95-1.45	1.4-2.2	1.4-2.2	2.2-3.4	2.8-4.2	4-6	5-8	6-9	9-13	12-18	16-22	24-36	24-36	32-42	45-65	53-80	53-80	85-105	110-160	125-185	160-240	200-300	200-300	240-360	300-450	
0.2	0.3	0.44	0.6	0.85	1.1	1.5	1.9	2.7	3.6	4.9	6.5	8.5	11.5	15.5	22	29	35	41	55	66	80	97	132	160	195	230	280	350	430	
32SAG	32SAG	32SAG	32SAG	32SAG	32SAG	32SAG	32SAG	32SAG	32SAG	32SAG	32SAG	32SAG	50SAG	50SAG	63SAG	100EAG	100EAG	250EAG	160EAG 250EAG	160EAG 250EAG	250EAG	400SAG	400SAG	400EAG	400SAG	400SAG	630RAG	800RAG	-	-
3	3	3	3	5	10	10	20	20	20	20	20	20	30	30	50	60	75	100	125	150	175	175	350	350	400	400	600	800	-	-
1	1	1	1	1	1	1	1	1	1	1	1	1.5	1.5	2.5	4	6	10	10	16	25	25	35	50	70	120	185	240	150 x2	-	-

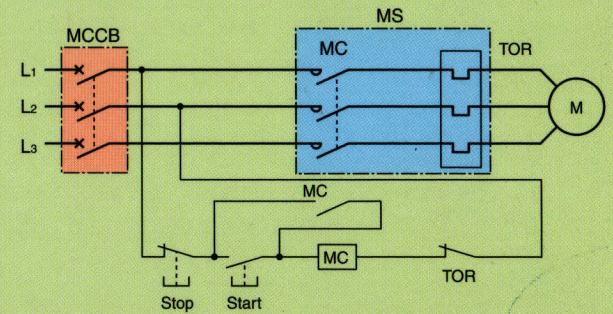
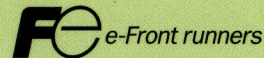
Selection of FUJI Magnetic Motor Starters and MCCBs

Motor output		kW
Motor full load current		(Hp)
Magnetic motor starter (MS) 3-element SW-□/3H	Type SW-	/3H
Combined thermal overload relay 3-element TR-□/3	Type TR-	/3
Heater range		A
Setting current		A
MCCB	Type BW	-3P
Rated current		A
Wire size		mm ²
Motor full load current		A
Magnetic motor starter (MS) 3-element SW-□/3H	Type SW-	/3H
Combined thermal overload relay 3-element TR-□/3	Type TR-	/3
Heater range		A
Setting current		A
MCCB	Type BW	-3P
Rated current		A
Wire size		mm ²

220-240V
3-phase

380-440V
3-phase

Direct-on-line starting



1. The method of motor starting is direct-on-line. Select MCCBs on the basis of 600% of motor full load current for 10 seconds.
2. The MCCBs are for line protection and not motor protection use.
3. The motor full load currents are based on IEC standard. (230V 50Hz, 400V 50Hz)
4. The heater ranges for thermal overload relays are selected according to the motor full load current.
5. The wire size indicates the recommended size of wire connected to the starter terminals.
6. Operating condition : AC-3, IEC 60947-4-1
7. Short-circuit protective coordination : IEC 60947 Type 1.

4	5.5	7.5	11	15	18.5	22	30	37	45	55	75	90	110	132	160	200	250
5	7 1/2	10	15	20	25	30	40	50	60	75	100	125	150	175	200	250	350
15	20	27	38	51	61	72	96	115	140	169	230	278	340	400	—	—	—
03	0	4-0	4-1	N1	N2	N2S	N3	N4	N5A	N5A	N7	N8	N10	N11	—	—	—
05	05	05	5-1	N1	N1	N1	N1	N2	N2S	N3	N4	N5A	N6	N7	—	—	—
03	0	4-0	4-1	N1	N2	N2S	N3	N4	N5A	N5A	N7	N8	N10	N11	—	—	—
5-1N	5-1N	N2	N2	N3	N3	N3	N3	N6	N6	N10	N10	N12	N12	N12	—	—	—
12-18	16-22	24-36	32-42	45-65	45-65	53-80	85-105	85-125	110-160	125-185	160-240	200-300	240-360	300-450	—	—	—
15	20	27	38	51	61	72	96	115	140	169	230	278	340	400	—	—	—
50SAG	50SAG	63SAG	100EAG	100EAG	160EAG 250EAG	160EAG 250EAG	250EAG	250EAG	400SAG	400SAG	400EAG	400SAG	630EAG	800RAG	—	—	—
30	50	63	75	100	125	150	175	225	350	350	400	400	630	800	—	—	—
2.5	4	6	10	16	25	25	35	50	70	95	150	185	240	150 x2	—	—	—
2.5	2.5	2.5	4	6	10	10	16	25	25	50	70	95	120	150	—	—	—
8.5	11.5	15.5	22	29	35	41	55	66	80	97	132	160	195	230	280	350	430
03	03	03	4-0	4-1	4-1	N1	N1	N2	N2S	N3	N4	N5A	N6	N7	N8	N10	N11
05	05	05	05	05	5-1	4-0	N1	N1	N1	N2	N2S	N3	N4	N4	N6	N7	N8
03	03	03	4-0	4-1	4-1	N1	N1	N2	N2S	N3	N4	N5A	N6	N7	N8	N10	N11
0N	0N	5-1N	5-1N	N2	N2	N3	N3	N3	N3	N3	N6	N6	N10	N12	N12	N12	N12
7-11	9-13	12-18	16-22	24-36	24-36	32-42	45-65	48-68	65-95	85-105	110-160	125-185	160-240	200-300	200-300	240-360	300-450
8.5	11.5	15.5	22	29	35	41	55	66	80	97	132	160	195	230	280	350	430
32SAG	32SAG	32SAG	50SAG	50SAG	50SAG	63SAG	100EAG	100EAG	160EAG 250EAG	250EAG	250EAG	400EAG	400EAG	400EAG	630EAG	630EAG	800EAG
15	20	32	40	50	63	63	100	100	150	200	250	300	350	400	500	630	800
2.5	2.5	2.5	4	10	10	16	16	25	35	50	70	95	120	150	185	300	150 x2
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2

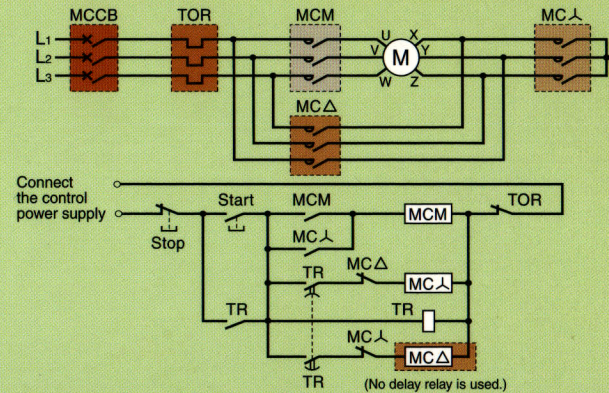
Selection of FUJI Magnetic Motor Starters and MCCBs

Motor output		kW
Motor full load current		(Hp)
Contactor for main-connection (MCM)	Type SC-	A
Contactor for star-connection (MC λ)	Type SC-	A
Contactor for delta-connection (MC Δ)	Type SC-	A
Thermal overload relay (TOR)	Type TR-	H/3
Heater range		A
Setting current		A
MCCB	Type BW	-3P
Rated current		A
Wire size	TOR	mm ²
	MCM·MC Δ	mm ²
Motor full load current		A
Contactor for main-connection (MCM)	Type SC-	A
Contactor for star-connection (MC λ)	Type SC-	A
Contactor for delta-connection (MC Δ)	Type SC-	A
Thermal overload relay (TOR)	Type TR-	H/3
Heater range		A
Setting current		A
MCCB	Type BW	-3P
Rated current		A
Wire size	TOR	mm ²
	MCM·MC Δ	mm ²

220-240V
3-phase

380-440V
3-phase

Star-delta starting



1. The connection diagram is for line current detection with three electromagnetic conductors using open transitions.
2. Inrush current of 15 In (motor full load current) flow when changing over from star to delta connection. MCCBs are selected taking into consideration the instantaneous trip current characteristics based on the inrush current given above.
3. The motor full load currents are based on IEC standard.
4. The heater ranges for thermal overload relays are selected according to the motor full load current.
5. The wire size indicates the recommended size of wire connected to the MS and MC terminals.
6. Short-circuit protective coordination: IEC 60947 Type 1.
7. The connection diagram uses MS4SY as the timer (TR).
8. Electrical durability: 100,000 operations