

TeSys motor starters - open version

D.O.L. starters with circuit breaker
and overload protection built into
the circuit breaker

0.06 to 110 kW at 400/415 V: type 2 coordination

Standard power ratings of 3-phase motor or 50/60 Hz in category AC-3									Circuit breaker Reference	Setting range of thermal trips	Contactor Reference ⁽²⁾
400/415 V			440 V			500 V					
P	I _e	I _q ⁽¹⁾	P	I _e	I _q ⁽¹⁾	P	I _e	I _q ⁽¹⁾			
kW	A	kA	kW	A	kA	kW	A	kA		A	
0.06	0.2	130	0.06	0.19	130	—	—	—	GV2P02 or GV2ME02	0.16...0.25	LC1D09
—	—	—	0.09	0.28	130	—	—	—	GV2P03 or GV2ME03	0.25...0.4	LC1D09
0.09	0.3	130	0.12	0.37	130	—	—	—	—	—	—
0.12	0.44	130	—	—	—	—	—	—	GV2P04 or GV2ME04	0.4...0.63	LC1D09
0.18	0.6	130	0.18	0.55	130	—	—	—	—	—	—
0.25	0.85	130	0.25	0.76	130	—	—	—	GV2P05 or GV2ME05	0.63...1	LC1D09
0.37	1.1	130	0.37	0.99	130	—	—	—	—	—	—
—	—	—	—	—	—	0.37	0.88	130	GV2P06 or GV2ME06	1...1.6	LC1D09
0.55	1.5	130	0.55	1.36	130	0.55	1.2	130	—	—	—
—	—	—	—	—	—	0.75	1.5	130	GV2P06 or GV2ME06	1...1.6	LC1D09
0.75	1.9	130	0.75	1.68	130	—	—	—	GV2P07 or GV2ME07	1.6...2.5	LC1D09
—	—	—	1.1	2.37	130	1.1	2.2	130	—	—	—
1.1	2.7	130	—	—	—	1.5	2.9	130	GV2P08 or GV2ME08	2.5...4	LC1D09
1.5	3.6	130	1.5	3.06	130	2.2	3.9	130	—	—	—
—	—	—	—	—	—	—	—	—	GV2P10 or GV2ME10	4...6.3	LC1D09
2.2	4.9	130	—	—	—	—	—	—	—	—	—
—	—	—	2.2	4.42	50	—	—	—	GV2ME10	4...6.3	LC1D09
—	—	—	3	5.77	50	3	5.2	50	—	—	—
—	—	—	2.2	4.42	130	—	—	—	GV2P10	4...6.3	LC1D09
—	—	—	3	5.77	130	3	5.2	130	—	—	—
3	6.5	130	—	—	—	—	—	—	GV2P14 or GV2ME14	6...10	LC1D09
4	8.5	130	—	—	—	—	—	—	—	—	—
—	—	—	4	7.9	15	4	6.8	10	GV2ME14	6...10	LC1D09
—	—	—	—	—	—	5.5	9.2	10	—	—	—
—	—	—	—	—	—	4	6.8	50	GV2P14	6...10	LC1D12
—	—	—	4	7.9	130	5.5	9.2	50	—	—	—
5.5	11.5	130	5.5	10.4	50 or 8	7.5	12.4	42 or 6	GV2P16 or GV2ME16	9...14	LC1D25
—	—	—	7.5	13.7	50 or 8	9	13.9	42 or 6	—	—	—
7.5	15.5	50 or 15	9	16.9	20 or 8	—	—	—	GV2P20 or GV2ME20	13...18	LC1D25
9	18.1	50 or 15	11	20.1	20 or 8	11	17.6	10 or 6	GV2P21 or GV2ME21	17...23	LC1D25
11	22	50 or 15	—	—	—	—	—	—	GV2P22 or GV2ME22	20...25	LC1D25
—	—	—	—	—	—	15	23	10 or 6	GV2P22	20...25	LC1D32
15	29	50 or 10	15	26.5	20 or 6	18.5	28	10 or 4	GV2P32 or GV2ME32	25...40	LC1D32
18.5	35	50	—	—	—	—	—	—	GV3P40	30...40	LC1D50A
—	—	—	18.5	32.8	50	22	33	10	GV3P40	30...40	LC1D65A
22	41	50	—	—	—	—	—	—	GV3P50	37...50	LC1D50A
—	—	—	22	39	50	30	44	10	GV3P50	37...50	LC1D65A
30	55	50	37	51.5	50	—	—	—	GV3P65	48...65	LC1D65A
—	—	—	—	—	—	37	53	10	GV3P65	48...65	LC1D80
—	—	—	22	39	65	—	—	—	GV7RS40	25...40	LC1D80
—	—	—	—	—	—	30	44	50	GV7RS50	30...50	LC1D80
—	—	—	—	—	—	37	53	50	GV7RS80	48...80	LC1D80
22	41	70	—	—	—	—	—	—	GV7RS50	30...50	LC1D80
30	55	70	30	51.5	65	—	—	—	GV7RS80	48...80	LC1D80
37	66	70	37	64	65	—	—	—	GV7RS80	48...80	LC1D80
—	—	—	45	76	65	—	—	—	GV7RS80	48...80	LC1D80
—	—	—	—	—	—	45	64	50	GV7RS80	48...80	LC1D115
—	—	—	—	—	—	55	78	50	GV7RS80	48...80	LC1D115
45	80	70	—	—	—	—	—	—	GV7RS100	60...100	LC1D115
—	—	—	55	90	65	—	—	—	—	—	—
55	97	70	75	125	65	—	—	—	GV7RS150	90...150	LC1D150
75	132	70	90	146	65	90	128	50	—	—	—
90	160	70	110	178	65	110	156	50	GV7RS220	132...220	LC1F185
110	195	70	132	215	65	—	—	—	GV7RS220	132...220	LC1F225
—	—	—	—	—	—	132	184	50	GV7RS220	132...220	LC1F265
—	—	—	—	—	—	160	224	50	—	—	—

(1) The breaking performance of circuit breakers GV2 P can be increased by adding a current limiter GV1 L3, see page 24509/5.

(2) Combinations with circuit breaker GV2 ME are type 2 coordinated only at 400/415 V and 440 V.

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D.O.L. starters with circuit breaker
and overload protection by separate
thermal overload relay

0.06 to 250 kW at 400/415 V: type 2 coordination

Standard power ratings of 3-phase motors 50/60 Hz in category AC-3									Circuit breaker			Contactor	Thermal overload relay	
400/415 V			440 V			500 V			Reference	Rating	I _{rm} ⁽¹⁾	Reference ⁽²⁾	Reference	Setting range
P	I _e	I _q	P	I _e	I _q	P	I _e	I _q		A	A			A
kW	A	kA	kW	A	kA	kW	A	kA						
0.06	0.2	130	0.06	0.19	130	–	–	–	GV2L03 or LE03	0.4	5	LC1D09	LRD02	0.16...0.25
0.09	0.3	130	0.09	0.28	130	–	–	–	GV2L03 or LE03	0.4	5	LC1D09	LRD03	0.25...0.40
–	–	–	0.12	0.37	130	–	–	–						
0.12	0.44	130	–	–	–	–	–	–	GV2L04 or LE04	0.63	8	LC1D09	LRD04	0.4...0.63
0.18	0.6	130	0.18	0.55	130	–	–	–						
0.25	0.85	130	0.25	0.76	130	–	–	–	GV2L05 or LE05	1	13	LC1D09	LRD05	0.63...1
0.37	1.1	130	0.37	0.99	130	–	–	–						
–	–	–	–	–	–	0.37	0.88	130	GV2L05 or LE05	1	13	LC1D09	LRD06	1...1.7
0.55	1.5	130	–	–	–	0.55	1.2	130	GV2L06 or LE06	1.6	22.5	LC1D09	LRD06	1...1.7
–	–	–	0.55	1.36	130	0.75	1.5	130						
0.75	1.9	130	0.75	1.68	130	1.1	2.2	130	GV2L07 or LE07	2.5	33.5	LC1D09	LRD07	1.6...2.5
1.1	2.7	130	1.1	2.37	130	1.5	2.9	130	GV2L08 or LE08	4	51	LC1D09	LRD08	2.5...4
1.5	3.6	130	–	–	–	2.2	3.9	130						
–	–	–	1.5	3.06	130	–	–	–	GV2L08 or LE08	4	51	LC1D09	LRD10	4...6
2.2	4.9	130	–	–	–	–	–	–	GV2L10 or LE10	6.3	78	LC1D09	LRD10	4...6
–	–	–	–	–	–	3	5.2	13						
–	–	–	2.2	4.42	50	–	–	–	GV2LE10	6.3	78	LC1D09	LRD10	4...6
–	–	–	3	5.77	50	3	5.2	50						
–	–	–	2.2	4.42	130	–	–	–	GV2L10	6.3	78	LC1D09	LRD10	4...6
–	–	–	3	5.77	130	3	5.2	130						
3	6.5	130	–	–	–	–	–	–	GV2L14 or LE14	10	10	LC1D09	LRD12	5.5...8
–	–	–	–	–	–	4	6.8	10	GV2LE14	10	138	LC1D12	LRD12	5.5...8
–	–	–	–	–	–	4	6.8	50	GV2L14	10	138	LC1D12	LRD12	5.5...8
4	8.5	130	–	–	–	–	–	–	GV2L14 or LE14	10	138	LC1D09	LRD14	7...10
–	–	–	4	7.9	15	–	–	–	GV2LE14	10	138	LC1D09	LRD14	7...10
–	–	–	4	7.9	130	–	–	–	GV2L14	10	138	LC1D09	LRD14	7...10
–	–	–	–	–	–	5.5	9.2	10	GV2LE14	10	138	LC1D09	LRD14	7...10
–	–	–	–	–	–	5.5	9.2	50	GV2L14	10	138	LC1D09	LRD14	7...10
5.5	11.5	130	5.5	10.4	50	7.5	12.4	42	GV2L16	14	170	LC1D25	LRD16	9...13
–	–	–	7.5	13.7	50	–	–	–	GV2L16	14	170	LC1D25	LRD21	12...18
7.5	15.5	50	9	16.9	20	9	13.9	10	GV2L20	18	223	LC1D25	LRD21	12...18
9	18.1	50	–	–	–	–	–	–	GV2L22	25	327	LC1D25	LRD22	16...24
11	22	50	11	20.1	20	–	–	–						
–	–	–	–	–	–	11	17.6	10	GV2L22	25	327	LC1D32	LRD22	16...24
–	–	–	–	–	–	15	23	10						
15	29	50	15	26.5	50	–	–	–	GV3L32	32	448	LC1D40A	LRD332	23...32
–	–	–	–	–	–	18.5	28	10	GV3L32	32	448	LC1D65A	LRD332	23...32

(1) I_{rm}: setting current of the magnetic trip.

(2) For reversing operation, replace the prefix LC1 with LC2.

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thermal overload relay

0.06 to 250 kW at 400/415 V: type 2 coordination														
Standard power ratings of 3-phase motors 50/60 Hz in category AC-3									Circuit breaker			Contactor	Thermal overload relay	
400/415 V			440 V			500 V			Reference	Rating	I _{rm} ⁽¹⁾	Reference ⁽²⁾	Reference	Setting range
P	I _e	I _q	P	I _e	I _q	P	I _e	I _q		A	A			A
kW	A	kA	kW	A	kA	kW	A	kA						
18.5	35	50	–	–	–	–	–	–	GV3L40	40	560	LC1D50A	LRD340	30...40
–	–	–	18.5	32.5	50	–	–	–	GV3L40	40	560	LC1D65A	LRD340	30...40
22	41	50	–	–	–	–	–	–	GV3L50	50	700	LC1D50A	LRD350	37...50
–	–	–	22	39	50	30	44	10	GV3L50	50	700	LC1D65A	LRD350	37...50
30	55	50	37	51.5	50	–	–	–	GV3L65	65	910	LC1D65A	LRD365	48...65
–	–	–	37	64	50	37	53	10	GV3L65	65	910	LC1D80	LRD3359	48...65
37	66	70	45	76	65	–	–	–	NS80HMA	80	1000	LC1D80	LRD3363	63...80
–	–	–	–	–	–	55	78	⁽³⁾	NSX100●MA ⁽³⁾	100	1040	LC1D80	LRD3363	63...80
45	80	⁽³⁾	55	90	⁽³⁾	–	–	–	NSX100●MA ⁽³⁾	100	1300	LC1D115	LR9D5367	60...100
55	97	⁽³⁾	–	–	–	–	–	–	NSX160●MA ⁽³⁾	150	1500	LC1D115	LR9D5369	90...150
–	–	–	–	–	–	75	106	⁽³⁾	NSX160●MA ⁽³⁾	150	1950	LC1D115	LR9D5369	90...150
75	132	⁽³⁾	75	125	⁽³⁾	–	–	–	NSX160●MA ⁽³⁾	150	1950	LC1D150	LR9D5369	90...150
–	–	–	90	146	⁽³⁾	–	–	–	NSX160●MA ⁽³⁾	150	1950	LC1D150	LR9D5369	90...150
–	–	–	–	–	–	90	128	⁽³⁾	NSX160●MA ⁽³⁾	150	1200	LC1D150	LR9D5369	90...150
90	160	⁽³⁾	110	178	⁽³⁾	–	–	–	NSX250●MA ⁽³⁾	220	2420	LC1F185	LR9F5371	132...220
–	–	–	–	–	–	110	156	⁽³⁾	NSX250●MA ⁽³⁾	220	1540	LC1F185	LR9F5371	132...220
110	195	⁽³⁾	–	–	–	–	–	–	NSX250●MA ⁽³⁾	220	2860	LC1F225	LR9F5371	132...220
–	–	–	132	215	⁽³⁾	132	184	⁽³⁾	NSX400● + Micrologic 1.3M ⁽³⁾	320	3500	LC1F265	LR9F5371	132...220
132	230	⁽³⁾	160	256	⁽³⁾	–	–	–	NSX400● + Micrologic 1.3M ⁽³⁾	320	3520	LC1F265	LR9F7375	200...330
–	–	–	–	–	–	160	224	⁽³⁾	NSX400● + Micrologic 1.3M ⁽³⁾	320	2200	LC1F265	LR9F7375	200...330
160	280	⁽³⁾	–	–	–	–	–	–	NSX400● + Micrologic 1.3M ⁽³⁾	320	4000	LC1F330	LR9F7375	200...330
–	–	–	200	321	⁽³⁾	–	–	–	NSX400● + Micrologic 1.3M ⁽³⁾	320	4000	LC1F330	LR9F7379	300...500
–	–	–	–	–	–	200	280	⁽³⁾	NSX400● + Micrologic 1.3M ⁽³⁾	320	3500	LC1F400	LR9F7375	200...330
–	–	–	–	–	–	220	310	⁽³⁾	NSX400● + Micrologic 1.3M ⁽³⁾	320	3500	LC1F400	LR9F7379	300...500
–	–	–	220	353	⁽³⁾	–	–	–	NSX630● + Micrologic 1.3M ⁽³⁾	500	5500	LC1F400	LR9F7379	300...500
200	350	⁽³⁾	250	401	⁽³⁾	–	–	–	NSX630● + Micrologic 1.3M ⁽³⁾	500	4500	LC1F500	LR9F7379	300...500
–	–	–	–	–	–	250	344	⁽³⁾	NSX630● + Micrologic 1.3M ⁽³⁾	500	4500	LC1F500	LR9F7379	300...500
–	–	–	–	–	–	315	432	⁽³⁾	NSX630● + Micrologic 1.3M ⁽³⁾	500	4500	LC1F500	LR9F7379	300...500
220	388	⁽³⁾	–	–	–	–	–	–	NSX630● + Micrologic 1.3M ⁽³⁾	500	6250	LC1F500	LR9F7379	300...500
250	430	⁽³⁾	–	–	–	–	–	–	NSX630● + Micrologic 1.3M ⁽³⁾	500	6250	LC1F500	LR9F7379	300...500
–	–	–	–	–	–	355	488	⁽³⁾	NSX630● + Micrologic 1.3M ⁽³⁾	500	5000	LC1F630	LR9F7381	380...630

⁽¹⁾ I_{rm}: setting current of the magnetic trip.

⁽²⁾ For reversing operation, replace the prefix LC1 with LC2.

⁽³⁾ Reference to be completed by replacing the ● with the breaking performance code:

Breaking performance I _q (kA)	NSX100●MA	NSX160●MA and NSX250●MA	NSX400● and NSX630●
400/415 V	36	70	70
440 V	35	65	65
500 V	25	50	50
660/690 V	8	10	20
Code	F	H	L