

TeSys contactors

TeSys D, TeSys D Green contactors

Pole characteristics TeSys D, TeSys D Green										
Contactor type		LC1	D09 (3P)	DT20 D098	D12 (3P)	DT25 D128	D18 (3P)	DT32 D188	D25 (3P)	DT40 D258
Rated operational current (Ie) (Ue ≤ 440 V)	In AC-3, θ ≤ 60 °C	A	9		12		18		25	
	In AC-1, θ ≤ 60 °C	A	25 ⁽¹⁾	20	25 ⁽¹⁾	25	32 ⁽¹⁾	32	40 ⁽¹⁾	40
Rated operational voltage (Ue)	Up to	V	690		690		690		690	
Frequency limits	Of the operational current	Hz	25...400		25...400		25...400		25...400	
Conventional thermal current (Ith)	θ ≤ 60 °C	A	25 ⁽¹⁾	20	25 ⁽¹⁾	25	32 ⁽¹⁾	32	40 ⁽¹⁾	40
Rated making capacity (440 V)	Conforming to IEC 60947	A	250		250		300		450	
Rated breaking capacity (440 V)	Conforming to IEC 60947	A	250		250		300		450	
Permissible short time rating	For 1 s	A	210		210		240		380	
No current flowing for preceding 15 minutes with θ ≤ 40 °C	For 10 s	A	105		105		145		240	
	For 1 min	A	61		61		84		120	
	For 10 min	A	30		30		40		50	
Fuse protection against short-circuits (U ≤ 690 V)	Without thermal overload relay, gG fuse	type 1 type 2	A A	25 20	40 25		50 35		63 40	
	With thermal overload relay		A	See pages B11/4 and B11/5, for aM or gG fuse ratings corresponding to the associated thermal overload relay						
Average impedance per pole	At Ith and 50 Hz	mΩ	2.5		2.5		2.5		2	
Power dissipation per pole for the above operational currents	AC-3	W	0.20		0.36		0.8		1.25	
	AC-1	W	1.56		1.56		2.5		3.2	

Control circuit characteristics, a.c. supply TeSys D																
Rated control circuit voltage (Uc)		50/60 Hz	V	12...690												
Control voltage limits																
50 or 60 Hz coils	Operation		—													
	Drop-out		—													
50/60 Hz coils	Operation		0.8...1.1 Uc on 50 Hz and 0.85...1.1 Uc on 60 Hz at 60 °C													
	Drop-out		0.3...0.6 Uc at 60 °C													
Average consumption at 20 °C and at Uc	~ 50 Hz	Inrush	50 Hz coil	VA	—											
			Cos φ		0.75											
		Sealed	50/60 Hz coil	VA	70											
			Cos φ		0.3											
	~ 60 Hz	Inrush	50 Hz coil	VA	—											
			Cos φ		0.75											
		Sealed	50/60 Hz coil	VA	70											
			Cos φ		0.3											
		50/60 Hz coil	60 Hz coil	VA	—											
			Cos φ		0.3											
			50/60 Hz coil	VA	7.5											
			Cos φ		0.3											
Heat dissipation	50/60 Hz	W	2...3													
Operating time ⁽²⁾	Closing "C"	ms	12...22													
	Opening "O"	ms	4...19													
Mechanical durability in millions of operating cycles	50 or 60 Hz coil		—													
	50/60 Hz coil on 50 Hz		15													
Maximum operating rate at ambient temperature ≤ 60 °C	In operating cycles per hour		3600													

(1) Versions with spring terminal connections:

16 A for LC1 D093 and LC1 D123 (20 A possible with 2 x 2.5 mm² in parallel),

25 A for LC1 D183 to LC1 D323 (32 A possible for LC1 D183 connected with 2 x 4 mm² cables in parallel; 40 A possible for LC1 D253 and LC1 D323 connected with 2 x 4 mm² in parallel).

(2) The closing time "C" is measured from the moment the coil supply is switched on to closure of the main poles. The opening time "O" is measured from the moment the coil supply is switched off to the moment the main poles separate.

D32	D38	D40A	DT60A	D50A	D65A	D80A	DT80A	D80	D95	D115	D150
32	38	40	—	50	65	80	—	80	95	115	150
50 ⁽¹⁾	50	60	60	80	80	80	80	125	125	200	200
690	690	690	690	690	690	690	690	1000	1000	1000	1000
25...400	25...400	25...400	25...400	25...400	25...400	25...400	25...400	25...400	25...400	25...400	25...400
50	50	60	60	80	80	80	80	125	125	200	200
550	550	800	800	900	1000	1000	1000	1100	1100	1260	1660
550	550	800	800	900	1000	1000	1000	1100	1100	1100	1400
430	430	720	720	810	900	900	900	990	1100	1100	1400
260	310	320	320	400	640	640	640	640	800	950	1200
138	150	165	165	208	260	260	260	320	400	550	580
60	60	72	72	84	110	110	110	135	135	250	250
63	63	80	80	100	125	125	125	200	200	250	315
63	63	80	80	100	125	125	125	160	160	200	250

See pages B11/4 and B11/5 for aM or gG fuse ratings corresponding to the associated thermal overload relay

2	2	1.5	1.6	1.5	1.5	1.5	1.6	0.8	0.8	0.6	0.6
2	3	2.4	—	3.7	6.3	6.3	—	5.1	7.2	7.9	13.5
5	5	5.4	5.8	9.6	9.6	9.6	10.2	12.5	12.5	24	24

12...690		12...690						24...500			
—		—						0.85... 1.1 Uc at 55 °C			
—		—						0.3... 0.6 Uc at 55 °C		0.3... 0.5 Uc at 55 °C	
0.8... 1.1 Uc on 50 Hz and 0.85... 1.1 Uc on 60 Hz at 60 °C		0.8... 1.1 Uc on 50 Hz and 0.85... 1.1 Uc on 60 Hz at 60 °C						0.8... 1.1 Uc on 50 Hz and 0.85... 1.1 Uc on 60 Hz at 55 °C		0.8... 1.15 Uc on 50/60 Hz at 55 °C	
0.3... 0.6 Uc at 60 °C		0.3... 0.6 Uc at 60 °C						0.3... 0.6 Uc at 55 °C		0.3... 0.5 Uc at 55 °C	
—		—						200		300	
0.75		0.75						0.75		0.8	
70		160						245		280...350	
—		—						20		22	
0.3		0.3						0.3		0.3	
7		15						26		2...18	
—		—						220		300	
0.75		0.75						0.75		0.8	
70		140						245		280...350	
—		—						22		22	
0.3		0.3						0.3		0.3	
7.5		13						26		2...18	
2...3		4...5						6...10		3...8	
12...22		12...26	12...26	12...26	12...26	12...26	12...26	20...35	20...35	20...50	20...35
4...19		4...19	4...19	4...19	4...19	4...19	4...19	6...20	6...20	6...20	40...75
—		—	—	—	—	—	—	10	10	8	—
15		6	6	6	6	6	6	4	4	8	8
3600		3600	3600	3600	3600	3600	3600	3600	3600	2400	1200

d.c. control circuit characteristics TeSys D							
Contactor type				LC1 D09...D38 LC1 DT20...DT40	LC1 D40A...D80A LC1 DT60A and DT80A	LC1 or LP1 D80 LC1 D95	LC1 D115 and LC1 D150
Rated control circuit voltage (Uc) ---			V	12...440	12...440		24...440
Rated insulation voltage	Conforming to IEC 60947-1		V	690			
	Conforming to UL, CSA		V	600			
Control voltage limits	Operation	Standard coil		0.7...1.25 Uc at 60 °C	0.75...1.25 Uc at 60 °C	0.85...1.1 Uc at 55 °C	0.75...1.2 Uc at 55 °C
		Wide range coil		—	—	0.75...1.2 Uc at 55 °C	—
	Drop-out			0.1...0.25 Uc at 60 °C	0.1...0.3 Uc at 60 °C	0.1...0.3 Uc at 55 °C	0.15...0.4 Uc at 55 °C
Average consumption at 20 °C and at Uc	---	Inrush	W	5.4	19	22	270...365
		Sealed	W	5.4	7.4	22	2.4...5.1
Operating time ⁽¹⁾ average at Uc	Closing	"C"	ms	63 ±15 %	50 ±15%	95...130	20...35
	Opening	"O"	ms	20 ±20 %	20 ±20%	20...35	40...75
				<i>Note: The arcing time depends on the circuit switched by the poles. For all normal 3-phase applications, the arcing time is less than 10 ms. The load is isolated from the supply after a time equal to the sum of the opening time and the arcing time.</i>			
Time constant (L/R)			ms	28	34	75	25
Mechanical durability at Uc	In millions of operating cycles			30	10	10	8
Maximum operating rate at ambient temperature ≤ 60 °C	In operating cycles per hour			3600	3600	3600	1200
Low consumption control circuit characteristics TeSys D							
Rated insulation voltage	Conforming to IEC 60947-1		V	690	—		
	Conforming to UL, CSA		V	600	—		
Maximum voltage	Of the control circuit on ---		V	250	—		
Average consumption d.c. at 20 °C and at Uc	Wide range coil (0.8...1.25 Uc)	Inrush	W	2.4	—		
		Sealed	W	2.4	—		
Operating time ⁽¹⁾ at Uc and at 20 °C	Closing	"C"	ms	77 ±15 %	—		
	Opening	"O"	ms	25 ±20 %	—		
Voltage limits (θ ≤ 60 °C) of the control circuit	Operation			0.8 to 1.25 Uc	—		
	Drop-out			0.1...0.3 Uc	—		
Time constant (L/R)			ms	40	—		
Mechanical durability	In millions of operating cycles			30	—		
Maximum operating rate at ambient temperature ≤ 60 °C	In operating cycles per hour			3600	—		

(1) The operating times depend on the type of contactor electromagnet and its control mode.

The closing time "C" is measured from the moment the coil supply is switched on to initial contact of the main poles.

The opening time "O" is measured from the moment the coil supply is switched off to the moment the main poles separate.