



T - Line Contactors

3 & 4 Pole Contactors with AC operating coils

General Characteristics			
Type		Unit	TC1-D09 ~ TC1-D95
Rated insulation voltage (Ui)	(Conforming to IEC 158-1)	V	750
	VDE0 110grC/IEC 60947-4	V	1000
Conforming to standards			NFC63-110, VDE0660, BS5424, JEM1038 & IEC60947-4
Approvals			UL, CSA
Degree of Protection	Conforming to VDE 0106		Protection against direct finger contacts
Protective treatment	Standard version		"TH"
Ambient air temperature (around the device)	Storage	°C	-60 to +80
	Operation	°C	-5 to +55 (0.8 to 1.1Uc)
	Permissible	°C	-40 to +70, for operation at Uc
Maximum operating altitude	Without derating	Mtr.	3000
Operating Position	Without derating		±30° possible, in relation to normal vertical mounting plane

Pole Characteristics														
Type	TC1-	Unit	D09	D12	D18	D22	D25	D32	D38	D40	D50	D65	D80	D95
Number of poles														
Power + Auxiliary			4	4	-	-	4	-	-	4	-	4	4	4
			or	or	-	-	or	-	-	or	-	or	or	or
			3+1	3+1	3+1	3+1	3+1	3+1	3+1	3+2	3+2	3+2	3+2	3+2
Rated current (Ie)	In AC-3 θ ≤ 55°C	A	9	12	18	22	25	32	38	40	50	65	80	95
Rated operating Voltage	up to	V	690	690	690	690	690	690	690	690	690	690	690	690
Frequency limits	Of the operational current	Hz						25-400						
Rated thermal current (Ith)	θ ≤ 40°C	A	25	25	32	32	45	50	50	60	80	80	125	125
Rated making capacity	Irms conforming to IEC-947-4	A	250	250	300	300	450	550	550	800	900	1000	1100	1200
Rated breaking capacity	Irms conforming to 220-440V	A	250	250	300	300	450	550	550	800	900	1000	1100	1100
	IEC-947-4 500V	A	175	175	250	250	400	450	450	800	900	1000	1000	1100
	660-690V	A	85	85	120	120	180	180	180	400	500	630	640	640
Average impedance per pole At Ith and 50Hz		Milli Ω	2.5	2.5	2.5	2.5	2	2	2	1.5	1.5	1	0.8	0.8
Power dissipation per pole for the above operational currents	AC-3	W	0.2	0.36	0.8	0.8	1.25	2	2	2.4	3.7	4.2	5.1	7.2

Control Circuit Characteristics																
Type		Unit	TC1- D09~D22				TC1- D25~D38				TC1- D40~D65				TC1- D80~D95	
Rated control circuit voltage (Uc)		V	50 or 60 Hz				12 to 660									
Control voltage limits (θ ≤ 55°C)			Operational				0.8 - 1.1 Uc									
	50 or 60Hz Coil		Drop out				0.3 - 0.6 Uc									
	50/60Hz Coil		Operational				0.85 - 1.1 Uc at 60Hz									
Average consumption at 20°C and at Uc	AC 50 Hz	Inrush	50 Hz Coil	VA	60	90	200	200								
			50/60 Hz Coil	VA	70	100	245	245								
			COS φ		0.75	0.75	0.75	0.75								
		Sealed	50 Hz Coil	VA	7	7.5	20	20								
			50/60 Hz Coil	VA	8	8.5	26	26								
			COS φ		0.3	0.3	0.3	0.3								
	AC 60 Hz	Inrush	60 Hz Coil	VA	70	100	220	220								
			50/60 Hz Coil	VA	70	100	245	245								
			COS φ		0.75	0.75	0.75	0.75								
		Sealed	60 Hz Coil	VA	7.5	8.5	22	22								
			50/60 Hz Coil	VA	8	8.5	26	26								
			COS φ		0.3	0.3	0.3	0.3								
Average operating time at Uc	Closing time "C"	msec	12-22				15-24				20-26				20-35	
	Opening time "O"	msec	04-12				05-19				8-12				6-20	
Mechanical life Uc (mechanical durability) in millions of operating cycles	50 or 60 Hz Coil		20(16 for TC1D18)				16				16				10	
	50/60 Hz Coil or 50 Hz		15				12				6				4	
Maximum operating rate	In operating cycle/hour		3600				3600				3600				3600	

Integral Auxiliary Contact Characteristics			
Type		Unit	TC1- D09 ~ TC1- D95
Rated thermal current (Ith)	θ ≤ 55°C	A	10
Rated operational voltage (Ue)	up to	V	660

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T - Line Contactors

3 & 4 Pole Contactors with DC operating coils

General Characteristics			
Type		Unit	TP1-D09 ~ TP1-D80
Rated insulation voltage (Ui)	(Conforming to IEC 158-1)	V	750
	VDE0 110grC/IEC 947-4	V	1000
Conforming to standards			NFC63-110, VDE0660, BS5424, JEM1038 & IEC60947-4
Approvals			CSA, IEC
Degree of Protection	Conforming to VDE 0106		Protection against direct finger contacts
Protective treatment	Standard version		"TH"
Ambient air temperature (around the device)	Storage	°C	-60 to +80
	Operation	°C	-5 to +55 (0.8 to 1.1Uc)
	Permissible	°C	-40 to +70, for operation at Uc
Maximum operating altitude	Without derating	Mtr.	3000
Operating Position	Without derating		±30° possible, in relation to normal vertical mounting plane

Pole Characteristics															
Type TP1-	Unit	D09	D12	D18	D22	D25	D32	D38	D40	D50	D65	D80			
Number of poles															
Power + Auxiliary		4 or 3 + 1	4 or 3 + 1	- or 3+1	- or 3+1	4 or 3 + 1	- or 3+1	- or 3+1	4 or 3 + 2	- or 3+2	4 or 3 + 2	4 or 3 + 2			
Rated current (Ie)	In AC-3 $\theta \leq 55^\circ\text{C}$	A	9	12	18	22	25	32	38	40	50	65	80		
Rated operating Voltage (Ue)	up to	V	690	690	690	690	690	690	690	690	690	690	690		
Frequency limits	Of the operational current	Hz					25-400								
Rated thermal current (Ith)	$\theta \leq 40^\circ\text{C}$	A	25	25	32	32	45	50	50	60	80	80	125		
Rated making capacity	Irms conforming to IEC-947-4	A	250	250	300	300	450	550	550	800	900	1000	1100		
Rated breaking capacity	Irms conforming to	220-440V	A	250	250	300	300	450	550	550	800	900	1000	1100	
		IEC-947-4	500V	A	175	175	250	250	400	450	450	800	900	1000	1000
		660-690V	A	85	85	120	120	180	180	180	400	500	630	640	
Average impedance per pole	At Ith and 50Hz	Milli Ω	2.5	2.5	2.5	2.5	2	2	2	1.5	1.5	1	0.8		
Power dissipation per pole for the above operational currents	AC-3	W	0.2	0.36	0.8	0.8	1.25	2	2	2.4	3.7	4.2	5.1		

Control Circuit Characteristics								
Type		Unit	TP1-D09-D22	TP1-D25-D38	TP1-D4011-D65	TP1-D80		
Rated control circuit voltage (Uc)	DC	V	12 to 660		12 to 660			
Control voltage limits ($\theta \leq 55^\circ\text{C}$)	Operational	Standard Coil	0.8 - 1.1 Uc		0.85 - 1.1 Uc			
		Wide Range Coil	0.7 - 1.25 Uc		0.75 - 1.25 Uc			
Average consumption DC at 20°C and at Uc	Drop out		0.1 - 0.25 Uc		0.1 - 0.3 Uc			
		DC	Inrush	W	9	11	22	22
			Sealed	W	9	11	22	22
Average operating time at Uc	Closing time "C" msec		40-48	52-64	85-110	95-130		
	Opening time "O" msec			6-14	8-14	20-35	20-35	
Mechanical life Uc (mechanical durability)	In millions of operating cycles			30	25	20	20	
Maximum operating rate (at ambient temp. of $\theta \leq 55^\circ\text{C}$)	In operating cycle/hour			3600	3600	3600	3600	

Integral Auxiliary Contact Characteristics			
Type		Unit	TP1- D09 ~ TP1- D80
Rated thermal current (Ith)	$\theta \leq 40^\circ\text{C}$	A	10
Rated operational voltage (Ue)	up to	V	660

T - Line Contactors

3 & 4 Pole Contactors with AC operating coil (For North American market)



TC1-D32●●-XX

3 Pole Contactor with AC operating coil

Maximum Current		Maximum HP						Aux. Contacts Built-in per contactor		Catalog Number
Inductive	Resistive	Single Phase		Three Phase				NO	NC	
		120V	230V	200V	230V	480V	600V			
AC-3 A	AC-1 A									
9	25	0.5	1	2	2	5	7.5	1	0	TC1-D0910-XX
		0	1					0	1	TC1-D0901-XX
12	25	1	2	3	3	7.5	10	1	0	TC1-D1210-XX
		0	1					0	1	TC1-D1201-XX
18	32	1	3	5	5	10	15	1	0	TC1-D1810-XX
		0	1					0	1	TC1-D1801-XX
25	40	2	3	5	7.5	15	20	1	0	TC1-D2510-XX
		0	1					0	1	TC1-D2501-XX
32	50	2	5	10	10	20	25	1	0	TC1-D3210-XX
		0	1					0	1	TC1-D3201-XX
40	60	3	5	10	10	30	30	1	1	TC1-D4011-XX
		3	7.5	15	15	40	40	1	1	TC1-D5011-XX
65	80	5	10	20	20	50	50	1	1	TC1-D6511-XX
		7.5	15	20	25	60	60	1	1	TC1-D8011-XX
80	125	7.5	15	20	25	60	60	1	1	TC1-D8011-XX
		7.5	15	20	25	60	60	1	1	TC1-D9511-XX

Note : Standard Fault Ratings High Fault Ratings (100kA with Fuse of class J/CC)

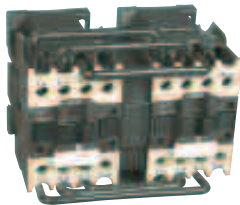


TC1-D09008

4 Pole Contactor with AC operating coil

Maximum Current		Maximum HP						Main Pole Configuration		Catalog Number
Inductive	Resistive	Single Phase		Three Phase				NO	NC	
		120V	230V	200V	230V	480V	600V			
AC-3 A	AC-1 A									
9	25	0.5	1	2	2	5	7.5	4	0	TC1-D09004-XX
		0.5	1	-	-	-	-	2	2	TC1-D09008-XX
12	25	1	2	3	3	7.5	10	4	0	TC1-D12004-XX
		1	2	-	-	-	-	2	2	TC1-D12008-XX
25	40	2	3	5	7.5	15	20	4	0	TC1-D25004-XX
		2	3	-	-	-	-	2	2	TC1-D25008-XX
40	60	3	5	10	10	30	30	4	0	TC1-D40004-XX
		3	5	-	-	-	-	2	2	TC1-D40008-XX
50	80	3	7.5	15	15	40	40	4	0	TC1-D50004-XX
		3	7.5	-	-	-	-	2	2	TC1-D50008-XX
65	80	5	10	20	20	50	50	4	0	TC1-D65004-XX
		5	10	-	-	-	-	2	2	TC1-D65008-XX
80	125	7.5	15	20	25	60	60	4	0	TC1-D80004-XX
		7.5	15	-	-	-	-	2	2	TC1-D80008-XX
95	125	7.5	15	20	25	60	60	4	0	TC1-D95004-XX
		7.5	15	-	-	-	-	2	2	TC1-D95008-XX

3 Pole Mechanically Interlocked Contactor with AC coil (Pre-wired)



TC2-D09●●-XX

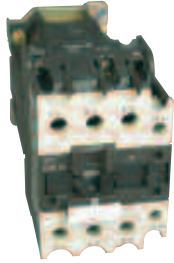
Maximum Current		Maximum HP 3 Phase				Aux. Contacts Built-in per contactor		Catalog Number
Inductive AC-3 A	Resistive AC-1 A					NO	NC	
		200V	230V	480V	600V			
9	25	2	2	5	7.5	0	1	TC2-D0901-XX
						1	0	TC2-D0911-XX
12	25	3	3	7.5	10	0	1	TC2-D1201-XX
						1	0	TC2-D1211-XX
18	32	5	5	10	15	0	1	TC2-D1801-XX
						1	0	TC2-D1811-XX
25	40	5	7.5	15	20	0	1	TC2-D2501-XX
						1	0	TC2-D2511-XX
32	50	10	10	20	25	0	1	TC2-D3201-XX
						1	0	TC2-D3211-XX
40	60	10	10	30	30	1	1	TC2-D4011-XX
		15	15	40	40	1	1	TC2-D5011-XX
65	80	20	20	50	50	1	1	TC2-D6511-XX
		20	25	60	60	1	1	TC2-D8011-XX
80	125	20	25	60	60	1	1	TC2-D8011-XX
		20	25	60	60	1	1	TC2-D9511-XX

Replace XX with voltage code from table - 1

Table-1 : XX-AC Coil Voltages																
Volts AC	24	48	110	120	208	220	230	240	277	380	400	415	440	480	575	600
60 Hz	-	-	-	-	L6	-	-	-	W6	-	-	-	-	T6	S6	X6
50/60 Hz	B7	E7	F7	G7	-	M7	P7	U7	-	Q7	V7	N7	R7	-	-	-

T - Line Contactors

3 & 4 Pole Contactors with DC operating coil

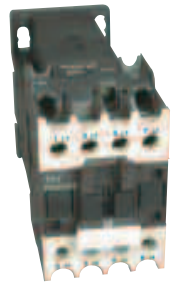


TP1-D32●●-XX

3 Pole Contactor with DC operating coil

Maximum Current		Maximum HP						Aux. Contacts Built-in per contactor		Catalog Number
Inductive AC-3 A	Resistive AC-1 A	Single Phase		Three Phase				NO	NC	
		120V	230V	200V	230V	480V	600V			
9	25	0.5	1	2	2	5	7.5	1	0	TP1-D0910-XX
								0	1	TP1-D0901-XX
12	25	1	2	3	3	7.5	10	1	0	TP1-D1210-XX
								0	1	TP1-D1201-XX
18	32	1	3	5	5	10	15	1	0	TP1-D1810-XX
								0	1	TP1-D1801-XX
25	40	2	3	5	7.5	15	20	1	0	TP1-D2510-XX
								0	1	TP1-D2501-XX
32	50	2	5	10	10	20	25	1	0	TP1-D3210-XX
								0	1	TP1-D3201-XX
40	60	3	5	10	10	30	30	1	1	TP1-D4011-XX
50	80	3	7.5	15	15	40	40	1	1	TP1-D5011-XX
65	80	5	10	20	20	50	50	1	1	TP1-D6511-XX
80	125	7.5	15	20	25	60	60	1	1	TP1-D8011-XX

Note : Standard Fault Ratings High Fault Ratings (100kA with Fuse of class J/CC)

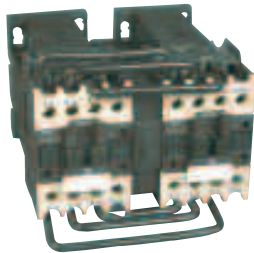


TP1-D0900●-XX

4 Pole Contactor with DC operating coil

Maximum Current		Maximum HP						Main Pole Configuration		Catalog Number
Inductive AC-3 A	Resistive AC-1 A	Single Phase		Three Phase				NO	NC	
		120V	230V	200V	230V	480V	600V			
9	25	0.5	1	2	2	5	7.5	4	0	TP1-D09004-XX
		0.5	1	-	-	-	-	2	2	TP1-D09008-XX
12	25	1	2	3	3	7.5	10	4	0	TP1-D12004-XX
		1	2	-	-	-	-	2	2	TP1-D12008-XX
25	40	2	3	5	7.5	15	20	4	0	TP1-D25004-XX
		2	3	-	-	-	-	2	2	TP1-D25008-XX
40	60	3	5	10	10	30	30	4	0	TP1-D40004-XX
		3	5	-	-	-	-	2	2	TP1-D40008-XX
50	80	3	7.5	15	15	40	40	4	0	TP1-D50004-XX
		3	7.5	-	-	-	-	2	2	TP1-D50008-XX
65	80	5	10	20	20	50	50	4	0	TP1-D65004-XX
		5	10	-	-	-	-	2	2	TP1-D65008-XX
80	125	7.5	15	20	25	60	60	4	0	TP1-D80004-XX
		7.5	15	-	-	-	-	2	2	TP1-D80008-XX

Note : Standard & High Fault Ratings (100kA with Fuse of class J/CC)



TP1-D12●●-XX

3 Pole Mechanically Interlocked Contactor with DC coil (Pre-wired)

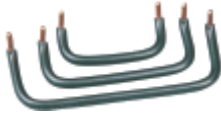
Maximum Current		Maximum HP 3 Phase				Aux. Contacts Built-in per contactor		Catalog Number
Inductive AC-3 A	Resistive AC-1 A	200V	230V	480V	600V	NO	NC	
						1	0	TP2-D0911-XX
12	25	3	3	7.5	10	0	1	TP2-D1201-XX
						1	0	TP2-D1211-XX
18	32	5	5	10	15	0	1	TP2-D1801-XX
						1	0	TP2-D1811-XX
25	40	5	7.5	15	20	0	1	TP2-D2501-XX
						1	0	TP2-D2511-XX
32	50	10	10	20	25	0	1	TP2-D3201-XX
						1	0	TP2-D3211-XX
40	60	10	10	30	30	1	1	TP2-D4011-XX
50	80	15	15	40	40	1	1	TP2-D5011-XX
65	80	20	20	50	50	1	1	TP2-D6511-XX
80	125	20	25	60	60	1	1	TP2-D8011-XX

Replace XX with voltage code from table - 2

Volts DC	12	24	48	72	110	125	220	250	440
	JD	BD	ED	SD	FD	GD	MD	UD	RD

T - Line Contactors

Accessories, Spares Coils



TA9-D1269

Power Connectors Wire Sets for T - Range Reversing Contactors

With Two Identical Contactors	Catalog Number
TC1-D09, TC1-D12, TP1-D09, TP1-D12	TA9-D1269
TC1-D18, TP1-D18	TA9-D1869
TC1-D25, TP1-D25	TA9-D2569
TC1-D32, TP1-D32	TA9-D3269
TP1-D40, TP1-D65, TC1-D40, TC1-D50, TC1-D65	TA9-D6569
TC1-D80, TP1-D80, TC1-D95	TA9-D8069

Mechanical Interlocks Horizontally Mounted T - Range

Use for Contactor	Catalog Number
TCA2-DN, TCA3-DN	*LA9-D09978
TC1-D09 ~ D32, TP1-D09 ~ D32	
TC1-D40 - D65, TP1-D40 - D65	LA9-D50978
TC1-D80 ~ D95, TP1-D80	LA9-D80978



LA9-D09978



Spare Coils (AC) T - Range

Use for contactor AC	Catalog Number
TC1-D09~D18	TX1-D2-XX
TC1-D25~D32	TX1-D4-XX
TC1-D40~D95	TX1-D6-XX

Replace XX with voltage code from table - 3

Table-3: XX-AC Coil Voltages														
Volts AC	24	48	110	120	208	220	240	277	380	415	440	480	575	600
60 Hz	-	-	-	-	L6	-	-	W6	-	-	-	T6	S6	X6
50/60 Hz	B7	E7	F7	G7		M7	U7		Q7	N7	R7			

Spare Coils (DC) T - Range



TX1-D●-XX

Use for contactor DC	Catalog Number
TP1-D09 ~ TP1-D18	TX4-D2-XX
TP1-D25 ~ TP1-D32	TX4-D4-XX
TP1-D40 ~ TP1-D65	TX4-D40-XX
TP1-D80	TX4-D80-XX

Replace XX with voltage code from table - 4

Table-4: XX-DC Coil Voltages										
Volts DC	12	24	48	72	110	125	220	250	440	
	JD	BD	ED	SD	FD	GD	MD	UD	RD	

Mechanical Latching Blocks T - Range

Description of Contactors	Catalog Number
For Contactors up to 32 Amps	LA6DK01-XX

Replace XX with voltage code from table - 5 / 6



LA6-DK01



For Mechanical Latching Block	Table-5: For AC Voltage									
	24	48	110	120	220	240	380	415	440	
LA6-DK01	B	E	F	G	M	U	Q	N	R	

For Mechanical Latching Block	Table-6: For DC Voltage						
	24	48	72	110	220	250	
*LA6-DK01	BD	ED	SD	FD	MD	UD	

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T - Line Contactors

Control Relays – Characteristics

Environment				
Type			TCA2DN	TCA3DN
Conforming to Standards			IEC 947-1, 947-5	
Approvals			UL CSA	
Degree of Protection	Protection against direct finger contact		Conforming to VDE 0106	
Ambient air Temperature around the device	Storage	°C	-60...+80	
	Operation	°C	-5...+55	
	Permissible for operation at Uc	°C	-40...+70	
Maximum operating altitude	Without derating	m	3000	
Operating positions	Without derating		±30° possible, in relation to normal	
	vertical mounting plane			
Shock Resistance	Control relay open		10g	8g
	Control relay closed		15g	11g
Vibration Resistance	Control relay open		2g	2g
	Control relay closed		4g	3g
Cabling	Flexible or solid cable with or without cable end	mm ²	Min: 1x1;	Max.: 2x2.5

Control Circuit Characteristics

Type			TCA2DN	TCA3DN
Rated Insulation Voltage (Ui)	Conforming to IEC 947-1& IEC 947-5	V	690	
	Conforming to CSA C22-2 no. 14	V	600	
Rated control circuit voltage (Uc)		V	12...600	
Permissible voltage variation	Operational		With 50 or 60 Hz coil: 0.8 ... 1.1 Uc	With standard Hz coil: 0.85 ... 1.1 Uc
			With 50/60Hz coil: 0.85 ... 1.1 Uc	With wide range coil: 0.7 ... 1.25 Uc
Voltage limits	Drop-out		0.3 .. 0.6 Uc	0.1 .. 0.65 Uc
Average consumption at 20°C	~ 50 Hz	VA	Inrush: 60, Sealed:7	-
	~ 60 Hz	VA	Inrush: 70, Sealed:7.5	-
	~ 50/60 Hz	VA	Inrush: 70, Sealed:8	-
	With standard coil	W	-	Inrush or Sealed: 9
	With wide range coil	W	-	Inrush or Sealed: 11
Operating Time (at rated control circuit voltage and at 20°C)	Between coil energisation and opening of the NC contacts	ms	6...20	35...43
	- closing of the NO contacts	ms	12...22	40...48
	Between coil de-energisation and opening of the NO contacts	ms	4...12	6...14
	closing of the NC contacts	ms	6...17	11...19
Short supply failures	Max. duration without affecting hold-in of device	ms	2	2
Maximum operating rate	In operating cycles per second		3	3
Mechanical Life at Uc (mechanical durability)	In millions of operating cycles			20
	With: 50 or 60 Hz coil			-
	50/60 Hz coil (at 50 Hz)		30	-
	Standard coil		-	30
	Wide range coil		-	30

Operating Power of Contactor with AC Supply categories AC-14 & AC-15

Electrical life (up to 3600 operating cycles/hr) on an inductive load such as the coil of an electromagnet: making power (cosφ 0.7) - 10 times the power broken (cos φ 0.4)

	V	24	48	110/127	220/230	380/400	440	600
1 million operating cycles	VA	150	300	400	480	500	500	500
3 million operating cycles	VA	80	170	250	290	320	320	320
10 million operating cycles	VA	30	65	90	120	130	130	130
Occasional making capacity	VA	1200	2600	7000	13000	15000	13000	9000

- Breaking limit of contacts valid for maximum of 50 operating cycles at 10s intervals/breaking power=making power x cosφ 0.7)
- Electrical life of Contacts:
 - for 1 million operating cycles (2a);
 - for 3 million operating cycles (2b);
 - for 10 million operating cycles (2c)
- Thermal limit

Operating Power of Contactor with DC Supply categories DC-13

Electrical life (up to 1200 operating cycles/hr) on an inductive load such as the coil of an electromagnet without economy resistor, the time constant increasing with the power.

	V	24	48	110	220	440	600
1 million operating cycles	VA	120	90	75	68	61	58
3 million operating cycles	VA	70	50	38	33	28	27
10 million operating cycles	VA	25	18	14	12	10	9
Occasional making capacity	VA	1000	700	400	260	220	170

- Electrical life of Contacts:
 - for 1 million operating cycles (2a)
 - for 3 million operating cycles (2b)
 - for 10 million operating cycles (2c)
- Breaking limit of contacts valid for maximum of 20 operating cycles at 10s intervals and with current passing for 0.5s per operating cycle.
- Thermal limit

T - Line Contactors

Control Relays – Dimensions



TCA2-DN●●-XX

UL LISTED
 approved
 at 600V

Control Relays (AC)

Contacts		Catalog Number
NO	NC	
2	2	TCA2-DN22-XX
3	1	TCA2-DN31-XX
4	0	TCA2-DN40-XX

Replace XX with voltage code from table - 7

Table - 7 : XX-AC Coil Voltages																
Volts AC	24	48	110	120	208	220	230	240	277	380	400	415	440	480	575	600
60 Hz	-	-	-	-	L6	-	-	-	W6	-	-	-	-	T6	S6	X6
50/60 Hz	B7	E7	F7	G7		M7	P7	U7		Q7	V7	N7	R7			

Control Relays (DC)

Contacts		Catalog Number
NO	NC	
2	2	TCA3-DN22-XX
3	1	TCA3-DN31-XX
4	0	TCA3-DN40-XX

Replace XX with voltage code from table - 8

Table - 8 : XX-DC Coil Voltages									
Volts DC	12	24	48	72	110	125	220	250	440
	JD	BD	ED	SD	FD	GD	MD	UD	RD

* For Independent Mounting



TCA3-DN●●-XX

UL LISTED
 approved
 at 600V



F - Line Contactors

Characteristics

General Characteristics			
Type		Unit	LC1-FDP115A-780A, LC1F-1154A, LC1F-1504A, LC1F-5004A, LC1F-6304A, LC1F-7804A
Rated Insulation Voltage (Ui)	(Conforming to IEC 158-1)	V	1500
	VDE0 110GRC/IEC 60947-4	V	1500
Conforming to Standards			NFC63-110, VDE0660, BS5424, JEM1038, IEC60947-1 & IEC60947-4
Approvals			UL*, CSA, IEC
Protective treatment	Standard Version		"TH"
Ambient air temperature (around the device)	Storage	°C	-60 to +80
	Operation	°C	-5 to +55 (0.8 to 1.1 Uc)
	Permissible	°C	-50 to +70, for operation at Uc
Maximum operating altitude	Without derating	Mtr.	3000
Operating position	Without derating		±30° possible, in relation to normal vertical mounting plane

* - 4 Pole contactor under approval

Pole Characteristics

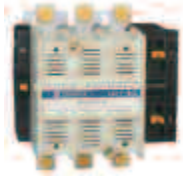
TYPE	LC1-F	UNIT	115A	150A	185A	225A	265A	330A	400A	500A	630A	780A
Number of Poles (Power)			3 or 4	3 or 4	3	3	3	3	3	3 or 4	3 or 4	3 or 4
Rated current (Ie) in AC-3 $\theta \leq 55^\circ\text{C}$	A	115	150	185	225	265	330	400	500	630	780	
Rated operating voltage up to		V	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Frequency limits of the operating current	Hz	25-200	25-200	25-200	25-200	25-200	25-200	25-200	25-200	25-200	25-200	
Rated thermal current (Ith) $\theta \leq 40^\circ\text{C}$	A	200	250	275	315	350	400	500	700	1000	1600	
Rated making capacity I _{ms} conforming to IEC-947-4	A		1300	1700	2100	2460	2940	3600	4500	5550	6740	8550
Rated breaking capacity	220-440V	A	1300	1500	1800	2050	2450	3000	4000	5000	6300	7100
I _{ms} conforming to IEC-947-4	500V	A	1100	1200	1600	1850	2200	2810	3500	4500	5400	6100
	690V	A	900	1100	1200	1350	1700	2350	3050	3560	4600	5200
Average impedance per pole at Ith & 50 Hz		MILLI Ω	0.4	0.4	0.36	0.36	0.32	0.28	0.28	0.18	0.12	0.1
Power dissipation per pole for above operational current AC-3		W	6	9	12	18	22	31	45	45	48	60
Tightening Torque	Power Circuit	Nm	10	18	18	35	35	35	35	35	58	58
Cabling			Maximum CSA									
	No. of Bars		2	2	2	2	2	2	2	2	2	2
Bar		mm	20x3	25x3	25x3	32x4	32x4	30x5	30x5	40x5	60x5	100x5
Cable with Lug		mm	95	120	150	185	240	240	2x150	2x240	-	-
Cable with connector		Sqmm	95	120	150	185	240	-	-	-	-	-
Bolt Diameter		Sqmm	6	8	8	10	10	10	10	10	12	2xDia 14

Control Circuit Characteristics

TYPE (LC1-F)		UNIT	115A	150A	185A	225A	265A	330A	400A	500A	630A	780A
Rated control circuit voltage (Uc)	50 or 60 Hz	V	24...600						48...600		48...600	110...500
Control voltage limits	Operational		0.85 - 1.10Uc						0.85-1.10Uc		0.85-1.10Uc	
Temperature $\theta \leq 55^\circ\text{C}$	Drop out		0.35 - 0.55Uc						0.3-0.5Uc		0.25-0.5Uc	
Average consumption at 20 °C and at Uc, 50/60 Hz coil	Operational											
Average consumption at 20 °C and at Uc, AC 50 / 60hz	In rush 50 Hz coil	VA	550	550	805	805	-	-	-	-	-	-
	In rush 60 Hz coil	VA	660	660	970	970	-	-	-	-	-	-
	In rush 40 - 400 Hz coil	VA	-	-	-	-	700	700	1075	1100	1650	2100
	In rush Cos ϕ		0.28	0.28	0.3	0.3	0.9	0.9	0.9	0.9	0.9	0.9
	Sealed 50 Hz coil	VA	45	45	45	45	-	-	-	-	-	-
	Sealed 60 Hz coil	VA	55	55	55	55	-	-	-	-	-	-
	Sealed 40 - 400 Hz coil	VA	-	-	-	-	10	10	15	18	22	50
	Sealed Cos ϕ		0.28	0.28	0.3	0.3	0.9	0.9	0.9	0.9	0.9	0.9
Average operating time at Uc	Closing time "C"	msec	23-35	23-35	20-35	20-35	30-65	30-65	40-75	40-75	40-80	40-80
	Opening time "O"	msec	5-15	5-15	7-15	7-15	100-170	100-170	100-170	100-170	100-200	130-230
Mechanical life Uc (Mechanical durability) in millions of operating cycles	50 or 60 Hz coil	Cycles	10	10	10	10	10	10	10	10	5	5
	50/60 Hz coil	Cycles	10	10	10	10	10	10	10	10	5	5
Maximum operating rate	In operating cycle/hour		2400	2400	2400	2400	2400	2400	2400	2400	1200	600
Tightening Torque	Power Circuit Connection	Nm	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
Cabling			Minimum / Maximum C.S.A									
Flexible Cable without cable end	1 or 2 Conductors	Sqmm	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4
Flexible Cable with end	1 Conductor	Sqmm	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4
Flexible Cable with end	2 Conductors	Sqmm	1/2.5	1/2.5	1/2.5	1/2.5	1/2.5	1/2.5	1/2.5	1/2.5	1/2.5	1/2.5
Solid Cable without cable end	1 or 2 Conductors	Sqmm	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4

F - Line Contactors

Contactors, Spare Coils - Contactors are without coil & Auxiliary contacts, select the Coil & Auxiliary contact separately



LC1-F185A-XX

3 Pole Contactor with AC or DC operating coil F - Range (coil sold separately)

Maximum Current		Maximum HP Rating				Main Pole Configuration		Catalog Number
Inductive AC-3 A	Resistive AC-1 A	200V	230V	480V	600V	NO	NC	
115	200	30	40	75	100	3	-	LC1-FDP115A
150	250	40	50	100	125	3	-	LC1-FDP150A
185	275	50	60	125	150	3	-	LC1-FDP185A
225	315	50	65	130	155	3	-	LC1-FDP225A
265	350	60	75	150	200	3	-	LC1-FDP265A
330	400	75	100	200	250	3	-	LC1-FDP330A
400	500	100	125	250	300	3	-	LC1-FDP400A
500	700	150	200	400	500	3	-	LC1-FDP500A
630	1000	250	300	600	800	3	-	LC1-FDP630A
780	1600	Current rated				3	-	LC1-FDP780A

Note : 115 - 630V & 115 - 780V approved (only for Standard Fault Ratings)



LC1-F265A-XX

4 Pole Contactor with AC or DC operating coil - F Range (coil sold separately)

Maximum Current		Maximum HP 3 Phase				Main Pole Configuration		Catalog Number
Inductive AC-3 A	Resistive AC-1 A	200V	230V	480V	600V	NO	NC	
115	200	30	40	75	100	4	-	LC1-FDP1154A
150	250	40	50	100	125	4	-	LC1-FDP1504A
185	275	50	60	125	150	4	-	LC1-FDP1854A
225	315	50	65	130	155	4	-	LC1-FDP2254A
265	350	60	75	150	200	4	-	LC1-FDP2654A
330	400	75	100	200	250	4	-	LC1-FDP3304A
400	500	100	125	250	300	4	-	LC1-FDP4004A
500	700	150	200	400	500	4	-	LC1-FDP5004A
630	1000	250	300	600	800	4	-	LC1-FDP6304A
780	1600	Current Rated				4	-	LC1-FDP7804A

Note: 4P F-Range Contactors listing under process



LX1-FF-XX

Coils F - Range (Replace XX with coil voltage code listed below)

For Contactors	Catalog Number	
	AC	DC
F115A - F150	LX1-FF-XXXV	LX4-FF-XXXV
F185 - F225	LX1-FG-XXXV	LX4-FG-XXXV
F265 - F330	LX1FH-XXXV-2	LX4-FH-XXXV
F400	LX1-FJ-XXXV	LX4-FJ-XXXV
F500	LX1-FK-XXXV	LX4-FK-XXXV
F630	LX1-FL-XXXV	LX4-FL-XXXV
F780	LX1-FX-XXXV	LX4-FX-XXXV

Substitute XX with voltage rating from Table -9 for AC Coil & from table 10 for DC Coil

Contactor	Volts AC	24	48	110	120	208	220	240	277	380	415	440	480	660
F115, F150	60 Hz	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
F185, F225	60 Hz	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
F265, F330	40-400Hz	✓	✓	✓	✓	✓	✓	✓	✗	✓	✓	✗	✓	✗
F400, F500, F630	40-400Hz	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✗	✗
F780	40-400Hz	✗	✓	✗	✓	✗	✓	✓	✗	✗	✓	✗	✓	✗

* If 24V, 50Hz Coil is required then replace XX with 24,50Hz

Volt D C	24	48	110	120	125	220	240	250	440
F115, F150, F185	✓	✓	✓	✗	✓	✓	✗	✓	✓
F225, F265, F330	✓	✓	✓	✗	✓	✓	✗	✓	✓
F115, F150, F185	✓	✓	✓	✗	✓	✓	✗	✓	✓
F400, F500	✓	✓	✓	✗	✓	✓	✗	✓	✓
F630	✗	✓	✓	✗	✓	✓	✗	✓	✓
F780	✗	✗	✓	✓	✗	✓	✓	✓	✓

Note : Protected shrouds for main poles or power poles to be ordered separately.



F - Line Contactors

Accessories, Spares



LA9-FF970



LA9-FX970***

Mechanical Interlocks Horizontally Mounted F - Range

For Contactor Type	Catalog Number
LC1-F115A	LA9-FF970
LC1-F150A	
LC1-F185A	LA9-FG970
LC1-F225A	
LC1-F265A	
LC1-F330A	LA9-FJ970
LC1-F400A	
LC1-F500A	
LC1-F630A	
LC1-F630A	LA9-FL970

Mechanical Interlocks Vertically Mounted F - Range

For Contactor Type	Catalog Number
LC1-F115A	LA9-FF4F
LC1-F150A	
LC1-F185A	LA9-FG4G
LC1-F225A	
LC1-F265A	LA9-FH4H
LC1-F330A	LA9-FJ4J
LC1-F400A	
LC1-F500A	LA9-FK4K
LC1-F630A	LA9-FL4L
LC1-F780A	LA9-FX970*

Power Connectors Wire Sets for F- Range Reversing Contactors

Catalog Number	With two identical contactors
LC1-F115A	LA9-FF976
LC1-F150A	LA9-F15076
LC1-F185A	LA9-FG976
LC1-F225A	LA9-F22576
LC1-F265A	LA9-FH976
LC1-F330A	LA9-FJ976
LC1-F400A	LA9-FJ976
LC1-F500A	LA9-FK976
LC1-F630A	LA9-FL976

Main Contact Sets** F - Range

For Contactor Type	Catalog Number
LC1-F115A	LA5-FF431 (F115)
LC1-F150A	LA5-FF431 (F150)
LC1-F185A	LA5-FG431 (F185)
LC1-F225A	LA5-FG431 (F225)
LC1-F265A	LA5-FH431 (F265)
LC1-F330A	LA5-F400803 (F330)
LC1-F400A	LA5-F400803 (F400)
LC1-F500A	LA5-F500803 (F500)
LC1-F630A	LA5-F630803 (F630)
LC1-F780A	LA5-F780801 (F780)***

* Double mechanical interlock mechanism with 2 interlock, connecting roads and 3 power connecting links

** For 3-pole contact (per pole: 2 fixed contacts and moving contacts, 2 deflectors, 1 back plate, fixing screws and washers).

*** Set of main contacts provided is 1 set of 2 blocks for one pole

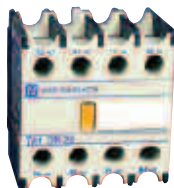


T & F - Line Contactors

Auxiliary Contacts, Time Delay Blocks, Mechanical Latching Blocks

Instantaneous Time Delay Contact Characteristics

Type		UNIT	TA1D	TA2D	TA3D	TA8D
Number of contacts			2 or 4	2	2	2
Rated operational Voltage (Ue)	up to	V		660		
Rated Insulation Voltage (Ui)	Conforming to IEC 947-1	V		690		
	Conforming to CSA C22-2 No. 14	V	6 00	-	-	-
Rated Thermal current (Ith)	For ambient temperature ≤40°C	A	10			
Frequency of operational current		Hz	25...400			
Minimum switching capacity	U min	V	17			
	I min	mA	5			
Short time rating	Permissible for	1s	A	100		
		500ms	A	120		
		100 ms	A	140		
Insulation resistance		MΩ	>10			
Time Delay	Ambient air temperature for operation	°C		-40...+70	-40...+70	
(TA2D & TA3D contact blocks)	Repeat accuracy		-	± 5%	± 5%	
Accuracy only valid for setting range indicated on the front face	Drift up to 0.5 million operating cycles		+ 15%	+ 15%		
	Drift depending on ambient air temp.	-	0.25% per °C	0.25% per °C	-	
Mechanical Life	In millions of operating cycles		30	5	5	30



TA1-DN22



TA8-DN



TA1-DN20



TA2-DT2



Standard, instantaneous auxiliary contact blocks

No. of Contacts	Contacts		Snap-On Mounting	Catalog Number
	NO	NC		
4	2	2	To the front of TC1D09 to D80 LC1F115A-780A TP1D09 to D32 & TCA2DN / TCA3DN	TA1DN22
	1	3		TA1DN13
	4	0		TA1DN40
	0	4		TA1DN04
	3	1		TA1DN31
	1	1		TA1DN11
2	2	0	To the front of TC1D40 to D95 TP1D40 to D80	TA1DN20
	0	2		TA1DN02
1	1	0	To the side of TC1D09 to D95 TP1D09 to D32 & TCA2DN / TCA3DN	TA1DN10
	0	1		TA1DN01
2	1	1		TA8DN11
	2	0		TA8DN20

Pneumatic Timer Block (Front Mounted)

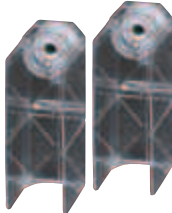
Description	Contacts		Range	Catalog Number
	NO	NC		
ON Delay	1	1	0.1 ... 3s	TA2-DT0
ON Delay	1	1	0.1 ... 30s	TA2-DT2
ON Delay	1	1	10 ... 180s	TA2-DT4
OFF Delay	1	1	0.1 ... 3s	TA3-DR0
OFF Delay	1	1	0.1 ... 30s	TA3-DR2
OFF Delay	1	1	10 ... 180s	TA3-DR4
On Delay	1	1	1 ... 30s*	TA2-DS2

* With switching time of 40msec ± 15 msec between the opening of NC contact to the closing of NO contact (for Star Delta application)

J

F - Line & Single Pole Contactors

Accessories, Spares



LA9-F701

Protective Shroud Covers for F-Range Contactors

For 3P Contactor Type	Catalogue Number	For 4P Contactor Type	Catalogue Number
LC1-F115A	LA9-F701	LC1-F115 4A	LA9-F706
LC1-F150A	LA9-F702	LC1-F150 4A	LA9-F707
LC1-F185A	LA9-F703	LC1-F185 4A	LA9-F707
LC1-F225A		LC1-F225 4A	LA9-F708
LC1-F265A			
LC1-F330A			
LC1-F400A		LC1-F500 4A	LA9-F708
LC1-F500A		LC1-F630 4A	LA9-F709
LC1-F630A	LA9-F704		

Set of Power Connections* - Reversing Contactors for Motor Control - On Request

For Contactor Type	Catalog Number
LC1-F115A	LA9-F11576
LC1-F150A	LA9-F15076
LC1-F185A	LA9-F18576
LC1-F225A	LA9-F22576
LC1-F265A	LA9-F26576
LC1-F330A	LA9-F33076
LC1-F400A	LA9-F40076
LC1-F500A	LA9-F50076
LC1-F630A	LA9-F63076



LA9-FF970

Set of Power Connections - 3 Pole Changeover Contactor Pairs - On Request

Catalog Number	With two identical contactors
LC1-F115A	LA9-F11582
LC1-F150A	LA9-F15082
LC1-F185A	LA9-F18582
LC1-F225A	LA9-F22582
LC1-F265A	LA9-F26582
LC1-F330A	LA9-F33082
LC1-F400A	LA9-F40082
LC1-F500A	LA9-F50082
LC1-F630A	LA9-F60082

3 Pole Mechanically Interlocked F-Range Contactors - On Request

Maximum Current AC3	Catalog Number
LC1-F115A	LC2-F115A
LC1-F150A	LC2-F150A
LC1-F185A	LC2-F185A
LC1-F225A	LC2-F225A
LC1-F265A	LC2-F265A
LC1-F330A	LC2-F330A
LC1-F400A	LC2-F400A
LC1-F500A	LC2-F500A
LC1-F630A	LC2-F630A

- 1 *** Reversers assembled using two contactors of identical rating type etc.
- 2 Replace "***" with available coils BD for 24V DC, ED for 48V DC and EED for 54V DC



T & F - Line Contactors

Overload Relays Characteristics

Environment			
Conforming to standards			IEC 60947-1, IEC 947-4-1, NFC 63-650, VDE 0660, BS 4941
Approvals			CSA, IEC
Degree of protection	Conforming to VDE 0106		Protection against direct finger contact IP 2X
Protective treatment	Conforming to IEC 68		"TH"
Ambient air temperature (around the device)	Storage	°C	-60 to +70
	Operation, without derating	°C	-25 to +60
	Max. & Min. operating temp.	°C	-40 to +70
Operating position	Without derating		Any Position, in relation to normal vertical mounting plane
Shock resistance	Permissible acceleration		15gn - 11ms, conforming to IEC 68-2-7
Vibration resistance	Permissible acceleration		6gn, conforming to IEC 68-2-6
Dielectric strength at 50 Hz	Conforming to IEC 255-5	KV	6
Impulse withstand voltage	Conforming to IEC 801-5	KV	6

Electrical Characteristics of Power Circuit

TYPE	TR2-D	UNIT	09301-12316	1821	25322-65361	95365
Tripping class		A	10	10	10	10
Rated insulation Voltage (Ui)	Conforming to IEC 60947-4-1	V	690	690	690	
Rated operating voltage upto	Conforming to UL, CSA	V	600	600	600	600
Rated impulse withstand voltage (Uimp)		KV	6	6	6	6
Frequency limits	Of the operational current	Hz	0...400	0...400	0...400	0...400
Setting range	Depending on model	A	0.1...13	12...38	17...104	80...140
Connecting to screw clamp terminal			Minimum / Maximum CSA			
Flexible cable without cable end	1 conductor	mm ²	1.5 / 10	1.5 / 10	4 / 35	4 / 50
Flexible cable with cable end	1 conductor	mm ²	1 / 4	1 / 6 except TR2 21:1/4	4 / 35	4 / 50
Solid cable without cable end	1 conductor	mm ²	1 / 6	1.5 / 4 except TR2 21:1/6	4 / 35	4 / 50
Tightening torque		Nm	1.7	2.5	9	9
Connection to spring terminals			Minimum / Maximum CSA			
Flexible cable without cable end	1 conductor	mm ²	1.5 / 4	1.5 / 4	-	-
Solid Cable without cable end	1 conductor	mm ²	1.5 / 4	1.5 / 4	-	-

Operating Characteristics

TYPE	TR2-D	UNIT	09301-12316	1821	25322-65361	95365
Temperature Compensation		°C	-20...+60	-30...+60	-30...+60	-20...+60
Tripping Threshold	Conforming to IEC 6047-4-1	A		1.14 ± 0.06In		
Sensitivity to phase failure	Conforming to IEC 60947-4-1		Tripping current 30% of In on one phase, the others at In			

Auxiliary Contact Characteristics

Conventional thermal Current		A	5					
Maximum consumption of operating coil of controlled contactors (Occasional operating cycles of contact 95 - 96)	AC Supply	V	24	48	110	220	380	600
		VA	100	200	400	600	600	600
		V	24	48	110	220	440	-
		W	100	100	50	45	25	-
Short circuit protection	By gG or BS fuse Max. rating or by GB2 circuit-breaker	A	5					
Connection to screw clamp terminal			Minimum / Maximum CSA					
Flexible cable without cable end	1 or 2 conductors	mm ²	1 / 2.5					
Flexible cable with cable end	1 or 2 conductors	mm ²	1 / 2.5					
Solid cable without cable end	1 or 2 conductors	mm ²	1 / 2.5					
Tightening torque	1 or 2 conductors	Nm	1.85					
Connecting to spring terminal			Minimum / Maximum CSA					
Flexible cable without cable end	1 or 2 conductors	mm ²	1 / 2.5					
Solid cable without cable end	1 or 2 conductors	mm ²	1 / 2.5					





T & F - Line Contactors

Bimetallic Overload Relay (Class 10), Base Plate for Independent Mounting

RELAY REFERENCE	RELAY SETTING RANGE (A)	STANDARD POWER RATINGS OF 3-PHASE MOTORS 50/60Hz, AC3 CATEGORY					BACK UP		BASE REFERENCE
		220V	380V	415V	440V	660V	FUSE RATING PLATE*		
		KW	KW	KW	KW	KW	aM(A)	g1 (A)	
TR2-D09301	0.1 to 0.16	-	-	-	-	-	0.25	2	
TR2-D09302	0.16 to 0.25	-	-	-	-	-	0.5	2	
TR2-D09303	0.25 to 0.4	-	-	-	-	-	1	2	
TR2-D09304	0.4 to 0.63	-	-	-	-	0.37	1	2	
TR2-D09305	0.63 to 1	-	-	-	-	0.55	2	4	
TR2-D09306	1 to 1.6	-	0.37	-	0.55	1.1	2	4	
TR2-D093X6	1.25 to 2	-	0.55	0.75	0.75	1.3	4	6	
TR2-D09307	1.6 to 2.5	0.37	0.75	1.1	1.1	1.5	4	6	
TR2-D09308	2.5 to 4	0.75	1.5	1.5	1.5	3	6	10	
TR2-D09310	4 to 6	1.1	2.2	2.2	2.2	4	8	16	
TR2-D09312	5.5 to 8	1.5	3	3.7	3.7	5.5	12	20	
TR2-D09314	7 to 10	2.2	4	4	4	7.5	12	20	
TR2-D12316	9 to 13	3	5.5	5.5	5.5	10	16	25	
TR2-D18321	12 to 18	4	7.5	9	9	15	20	35	TA7D0964
TR2-D25322	17 to 25	5.5	11	11	11	18.5	25	50	
TR2-D32353	23 to 32	7.5	15	15	15	-	40	63	
TR2-D32355	28 to 36	9	15	18.5	18.5	-	40	80	TA7D3264
TR2-D40355	30 to 40	10	18.5	22	22	30	40	100	
TR2-D65357	37 to 50	11	22	25	25	37	63	100	
TR2-D65359	48 to 65	18.5	25	30	30	50	63	100	-
TR2-D65361	55 to 70	20	30	37	37	55	80	125	
TR2-D80363	63 to 80	22	33	40	40	59	80	125	
TR2-D95365	80 to 93	25	45	49	50	80	100	160	



TR2-D25322

Standard Fault Ratings



High Fault Ratings



Overload Relays F - Range, (Independent Mounting)

RELAY REFERENCE	RELAY SETTING RANGE (A)	STANDARD POWER RATINGS OF 3-PHASE MOTORS 50/60Hz, AC3 CATEGORY					BACK UP	
		220V	380V	415V	440V	660V	FUSE RATING	
		KW	KW	KW	KW	KW	aM (A)	g1 (A)
LR1-F105	65 to 105	25	51	55	59	90	0.25	160
LR1-F125	80 to 125	30	59	59	63	110	125	200
LR1-F160	100 to 160	45	80	80	90	140	160	250
LR1-F200	125 to 200	55	90	100	110	160	200	315
LR1-F250	160 to 250	63	110	129	140	200	250	400
LR1-F315	200 to 315	80	150	160	160	257	315	500
LR1-F400	250 to 400	110	185	200	220	335	400	630
LR1-F500	315 to 500	140	250	257	280	445	500	800
LR1-F630	400 to 630	180	315	355	375	500	630	800
LR1-F800	500 to 800	220	400	425	450	—	-	1000
LR1-F1000	630 to 1000	295	500	500	500	—	-	1250



LR1-FM105



Standard Fault Ratings with T-Range Relay

Note : Protected shrouds for main poles or power poles to be ordered separately.

Definite Purpose Contactors

Technical Specifications

• Consult factory for availability



1 Pole without Shunt

Full Load Amps. (Inductive)	Locked Rotor (Per Pole)			Resistive Amps Rating	Catalog Number
	AC 240V AC 277V	AC 480V	AC 600V		
25	150	50	40	30	TCDP251-XX
30	150	75	50	40	TCDP301-XX
40	240	200	160	50	TCDP401-XX



1 Pole with Shunt

Full Load Amps. (Inductive)	Locked Rotor (Per Pole)			Resistive Amps Rating	Catalog Number
	AC 240V AC 277V	AC 480V	AC 600V		
25	150	50	40	30	TCDP251S-XX
30	150	75	50	40	TCDP301S-XX
40	240	200	160	50	TCDP401S-XX



2 Pole

Full Load Amps. (Inductive)	Locked Rotor (Per Pole)			Resistive Amps Rating	Catalog Number
	AC 240V AC 277V	AC 480V	AC 600V		
20	120	100	80	30	TCDP202-XX
30	150	125	100	40	TCDP302-XX
40	240	200	150	50	TCDP402-XX



3 Pole

Full Load Amps. (Inductive)	Locked Rotor (Per Pole)			Resistive Amps Rating	Catalog Number
	AC 240V AC 277V	AC 480V	AC 600V		
20	120	100	80	30	TCDP203-XX
25	150	125	100	35	TCDP253-XX
30	180	150	120	40	TCDP303-XX
40	240	200	160	50	TCDP403-XX

Replace XX with voltage code from table - 1

	24	120	208	240	277	480
Volt AC						
50 Hz	B5	G5	L5	U5	W5	T5
60 Hz	B6	G6	L6	U6	W6	T6

Purpose

These contactors are used for control of Motors, Power Supplies, Heating Elements, Lighting, HVAC Fans and Compressors.

Environment

Maximum operating altitude: 2000 meters above sea level
 Ambient Air Temp: - 40 degree to + 65 degree C
 Ambient air dampness around the device: 45 to 85% RH
 Coil supply voltage: 80% - 110% rated voltage

Coil Data

Voltage : 24, 120, 240 VAC 50 & 60 Hz
 Normal VA : Inrush 65VA, Sealed 7.5VA
 Duty Cycle : continuous
 Initial Insulation Resistance : 100-mega ohms minimum.

Approvals



J

