

# T-Line Contactors (9A ~ 95A)

## 3 & 4 Pole Contactors with AC operating coil

General Characteristics			
Type		Unit	TC1D09 ~ TC1D95
Rated insulation voltage (Ui)	IEC 60947-4-1	V	1000
Conforming to standards			NFC EN 60947, VDE0660, BSEN60947, IEC 60947 & IS 13947
Approvals			cUL
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	D25	D32	D40	D50	D65	D80	D95	
Number of poles (Power)			3 or 4	3 or 4	3	3 or 4	3	3 or 4	3 or 4	3 or 4	3 or 4	3 or 4	
Power + Auxiliary			3+1	3+1	3+1	3+1	3+1	3+2	3+2	3+2	3+2	3+2	
Rated current (Ie)	AC3 up to 440V @ 55°C	A	9	12	18	25	32	40	50	65	80	95	
Rated operating Voltage	Up to	V	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	45	50	60	80	80	125	125	
Rated making capacity	Irms conforming to IEC-60947-4	A	250	250	300	450	550	800	900	1000	1100	1200	
Rated breaking capacity	Irms conforming to 220-440V	A	250	250	300	450	550	800	900	1000	1100	1100	
	IEC-60947-4 500V	A	175	175	250	400	450	800	900	1000	1000	1100	
	660-690V	A	85	85	120	180	180	400	500	630	640	640	
Average impedance per pole	At Ith and 50Hz	Milli Ω	Max.	2.5	2.5	2.5	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	1.25	2	2.4	3.7	4.2	5.1	7.2	

## Control Circuit Characteristics

Type		Unit	TC1D09~D18	TC1D25~D32	TC1D40~D65	TC1D80~D95		
Rated control circuit voltage (Uc)	50 or 60 Hz	V			12 to 660			
Control voltage limits (θ ≤ 55°C)	50 or 60Hz Coil				0.8 – 1.1 Uc			
	50/60Hz Coil				0.3 – 0.6 Uc			
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	TC1D09 ~ TC1D95
Rated thermal current (Ith)	θ ≤ 55°C	A	10
Rated operational voltage (Ue)	Upto	V	660

# T-Line Contactors (9A ~ 95A)

## 3 & 4 Pole Contactors with DC operating coil

General Characteristics			
Type		Unit	TP1D09 ~ TP1D80
Rated insulation voltage (Ui)	IEC 60947-4-1	V	1000
Conforming to standards			NFC EN 60947, VDE0660, BSEN60947, IEC 60947 & IS 13947
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

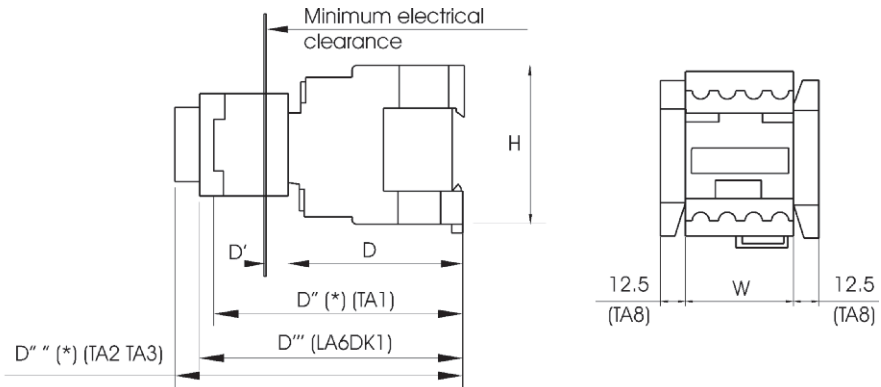
Pole Characteristics												
Type TP1	Unit	D09	D12	D18	D25	D32	D40	D50	D65	D80		
Number of poles (P0wer)		3 or 4	3 or 4	3	3 or 4	3	3 or 4	3 or 4	3 or 4	3 or 4		
Power + Auxiliary		3+1	3+1	3+1	3+1	3+1	3+2	3+2	3+2	3+2		
Rated current (Ie)	AC3 up to 440V @ 55°C	A	9	12	18	25	32	40	50	65	80	
Rated operating Voltage (Ue)	Upto	V	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	45	50	60	80	80	125	
Rated making capacity	Irms conforming to IEC-60947-4	A	250	250	300	450	550	800	900	1000	1100	
Rated breaking capacity	Irms conforming to IEC-60947-4	220-440V	A	250	250	300	450	550	800	900	1000	1100
		500V	A	175	175	250	400	450	800	900	1000	1000
		660-690V	A	85	85	120	180	180	400	500	630	640
Average impedance per pole	At Ith and 50Hz Milli Ω	Max.	2.5	2.5	2.5	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	1.25	2	2.4	3.7	4.2	5.1	

Control Circuit Characteristics							
Type		Unit	TP1D09-D18	TP1D25-D32	TP1D4011-D65	TP1D80	
Rated control circuit voltage (Uc)	DC	V	12 to 660		12 to 660		
Control voltage limits (θ ≤ 55°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		
	Drop out		0.1 – 0.25 Uc		0.1 – 0.3 Uc		
Average consumption DC at 20°C and at 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 θ ≤ 55°C)	In operating cycle/hour		3600	3600	3600	3600	

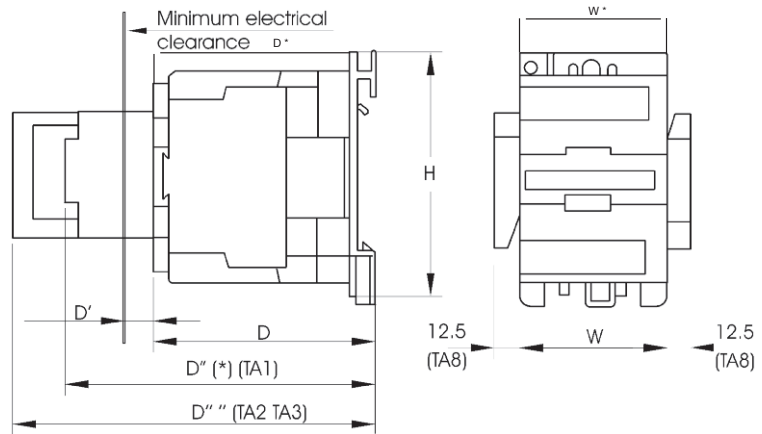
Integral Auxiliary Contact Characteristics			
Type		Unit	TP1D09 ~ TP1D80
Rated thermal current (Ith)	θ ≤ 40°C	A	10
Rated operational voltage (Ue)	Upto	V	660

# T-Line Contactors (9A ~ 95A) Contactors' Dimensions with AC operating coil

**Product Dimensions**  
**TC1D09~D32**  
**TP1DC09/DC12/DC25**



**TC1D40 ~D95**

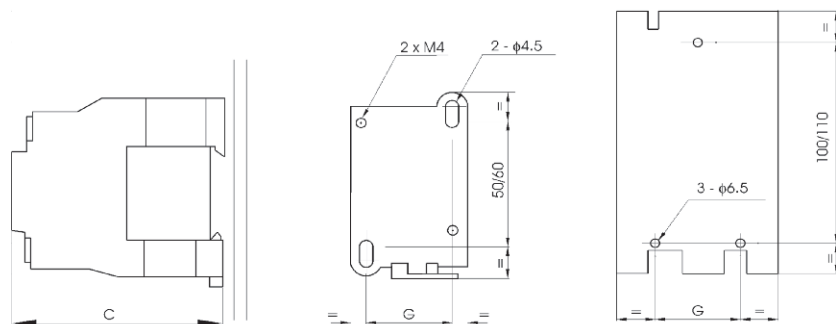


TC1	D09	D12	D18	D25	D32	D40	D50	D65	D80~D95
TP1	DC09	DC12	-	DC25	-	-	-	-	-
W (3 Pole)	45	45	45	56	56	75	75	75	85
W* (4 Pole)	45	45	-	56	-	85	85	85	96
H (3/4 Pole)	74	74	74	84	84	127	127	127	127
D (3/4 Pole)	80	80	85	94	99	114	114	114	120
D' (3/4 Pole)	10	10	10	10	10	12	12	12	12
D'' (3/4 Pole)	113	113	118	126	131	145	145	145	153
D''' (3/4 Pole)	120	120	125	135	140	-	-	-	-
D'''' (3/4 Pole)	133	133	138	147	152	166	166	166	173
D*(008)	-	-	-	-	-	124	124	124	140

**Panel Mounting Reference**  
**TC1D09~D95**  
**TP1DC09/DC12/DC25**

**TC1D09~D32**  
**TP1DC09/DC12/DC25**

**TC1D40~D95**



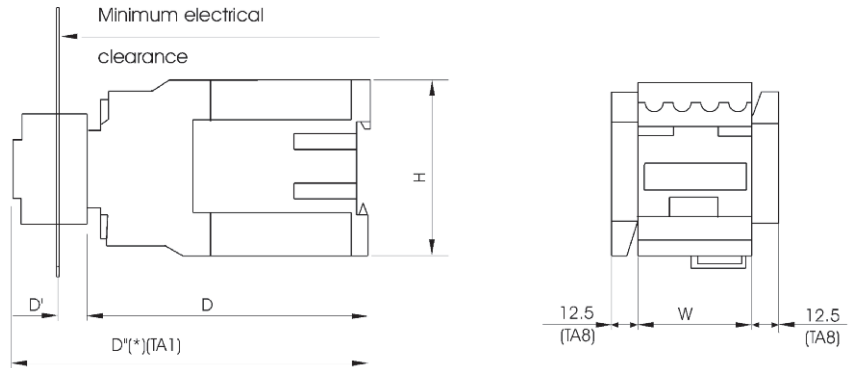
TC1	D09	D12	D18	D25	D32	D40	D50	D65	D80	D95
TP1	DC09	DC12	-	DC25	-	-	-	-	-	-
C	80	80	85	93	98	114	114	114	125	125
G	35	35	35	44	44	40	40	40	40	40



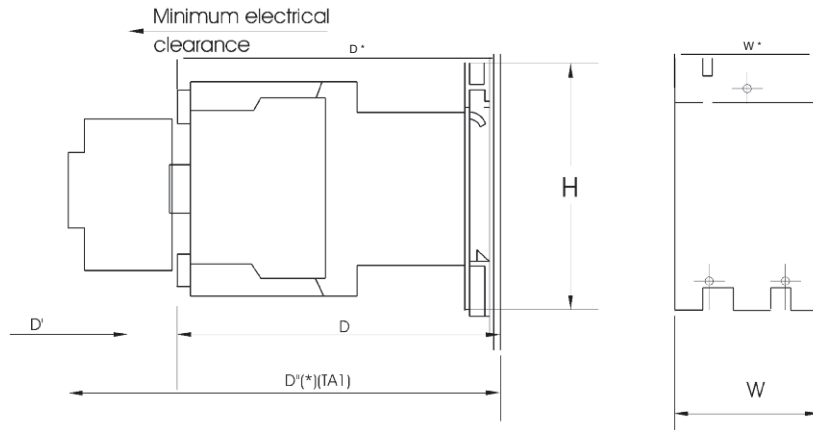
# T-Line Contactors (9A ~ 95A)

Contactors' Dimensions with DC operating coil

## Product Dimensions TP1D09~D3210



## TP1D4011~D80



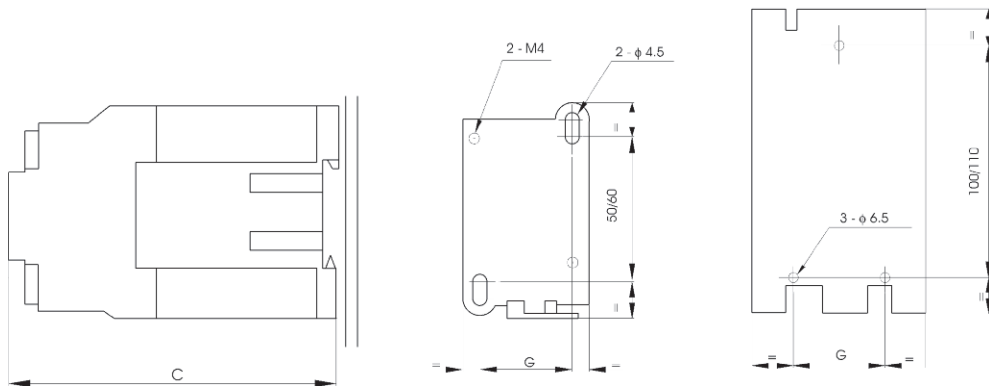
TP1	D09	D12	D18	D25	D32	D40	D50	D65	D80
W (3 Pole)	45	45	45	56	56	75	75	75	85
W* (4 Pole)	45	45	-	56	-	85	85	85	96
H (3/4 Pole)	74	74	74	84	84	127	127	127	127
D (3/4 Pole)	115	115	120	130	135	171	171	171	181
D' (3/4 Pole)	10	10	10	10	10	12	12	12	12
D'' (3/4 Pole)	148	148	153	163	168	202	202	202	210
D*(008)	-	-	-	-	-	181	181	181	191

## Panel Mounting Reference

### TP1D09~D32

### TP1D40~D80

### Mounting



TP1	D09	D12	D18	D25	D32	D40	D50	D65	D80
C	115	115	120	130	135	171	171	171	181
G	35	35	35	40	40	40	40	40	40