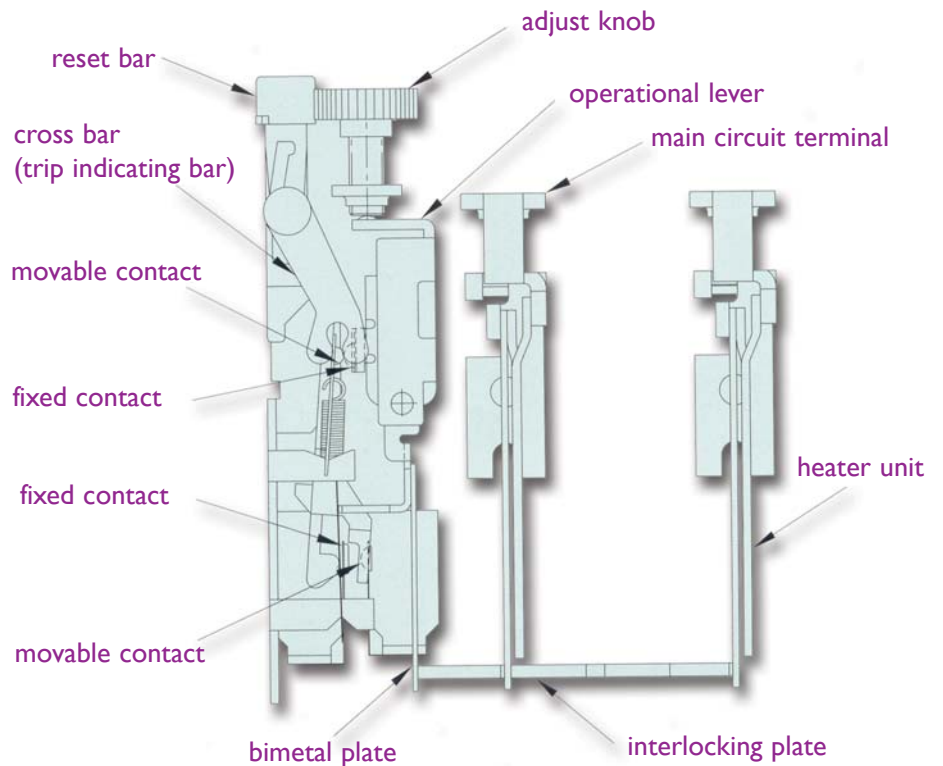
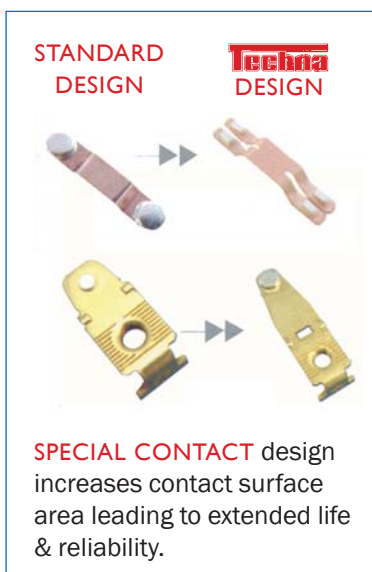
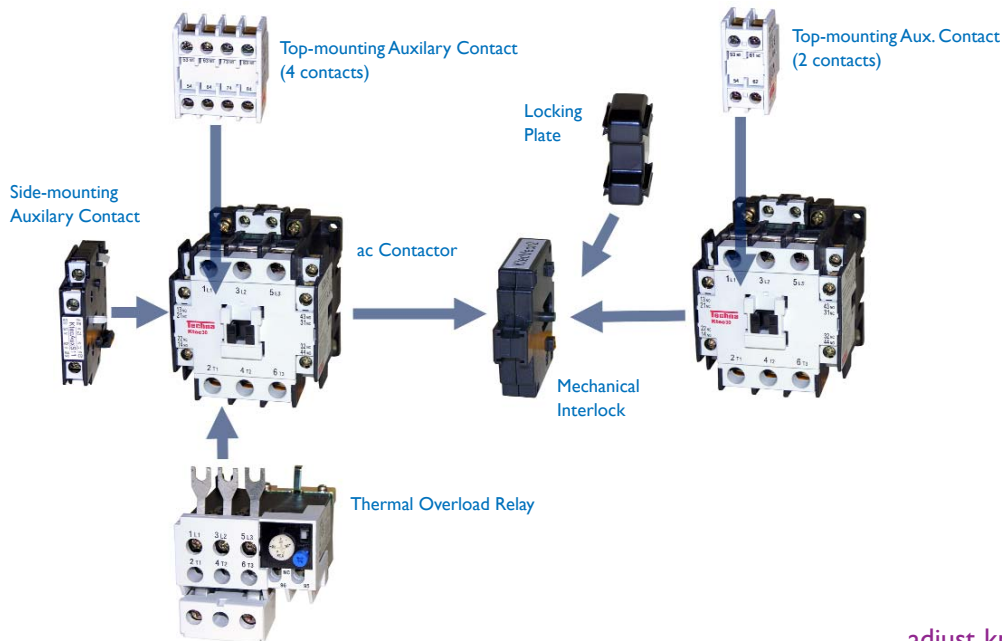




## Ktec Contactors and thermal overloads

Techna KTEC series contactors provide a complete solution for your ac contactor requirements. The range carries **TUV, UL & CSA** certification, for use in Europe, North America and Canada.

By using advanced contact design, product life and reliability is greatly enhanced. Combined with our Otec range of thermal overload relays, we can meet all your switching requirements up to 315 kW/600 A



# Techna KTEC CONTACTORS

Note : Type A = 4 pole version



Contactor Model			Ktec06/06A	Ktec09/09A	Ktec11/11A	Ktec12	Ktec15
Corresponding Overload					Otec15	Otec15	Otec15
IEC60947-4-1 EN60947-4-1 DIN VDE 0660	Power Rating AC3 (kW/A)	240V	1.5 kW / 6 A	2.2 kW / 9 A	3.5 kW / 13 A	3.5 kW / 13 A	4.5 kW / 18 A
		380V	3 kW / 6 A	4 kW / 9 A	5.5 kW / 12 A	5.5 kW / 12 A	7.5 kW / 16 A
		440V	3 kW / 6 A	4 kW / 9 A	5.5 kW / 12 A	5.5 kW / 12 A	7.5 kW / 16 A
		550V	3 kW / 6 A	4 kW / 9 A	5.5 kW / 9 A	5.5 kW / 9 A	7.5 kW / 13 A
		660V	n/a	n/a	5.5 kW / 7 A	5.5 kW / 7 A	7.5 kW / 9 A
Current (A) AC1 $I_{th}$	bare wire into terminal		20	20	20	20	25
	wire terminated using spade crimp		20	20	24	24	30
UL508 CSA-C22.2	Power Rating AC3 (HP/A)	110-120V	-	-	0.5 HP / 9.8 A	0.5 HP / 9.8 A	1 HP / 16 A
		220-240V	2 HP / 6 A	3 HP / 6 A	2 HP / 12 A	2 HP / 12 A	3 HP / 17 A
		220-240V	4 HP / 6 A	4 HP / 6 A	3 HP / 9.6 A	3 HP / 9.6 A	5 HP / 15.2 A
		440-480V	4 HP / 6 A	4 HP / 6 A	7.5 HP / 11 A	7.5 HP / 11 A	10 HP / 14 A
		550-600V	4 HP / 6 A	4 HP / 6 A	10 HP / 11 A	10 HP / 11 A	10 HP / 14 A
	(A) AC1		20	20	24	24	30
	$(I_{th})(A)$		20	20	24	24	30
Auxiliary Contacts			1NO	1NO	1NO or 1NC	1NO 1NC or 2NO	1NO or 1NC
IEC60947-4-1 EN60947-4-1	Utilisation category AC12	220-250V	3.3	3.3	1.6	1.6	1.6
		380-440V	1.9	1.9	0.95	0.95	0.95
		$I_{th}$ (A)	10	10	16	16	16
UL		A600	A600	A600	A600, P600	A600	
Mechanical Life			6,000,000	6,000,000	6,000,000	6,000,000	6,000,000
Electrical Life			1,200,000	1,200,000	1,200,000	1,200,000	1,200,000
Maximum Ops/hr			1200	1200	1200	1200	1200

# Techna KTEC CONTACTORS

## KTEC Contactors

4 pole



Contactor Model			Ktec15a	Ktec16	Ktec21	Ktec25	Ktec30
Corresponding Overload			Otec40	Otec40	Otec40	Otec40	Otec40
IEC60947-4-1 EN60947-4-1 DIN VDE 0660	Power Rating AC3 (kW/A)	240V	4.5 kW / 18 A	4.5 kW / 18 A	5.5 kW / 24 A	6.5 kW / 26 A	7.5 kW / 30 A
		380V	7.5 kW / 16 A	7.5 kW / 16 A	11 kW / 21 A	12 kW / 23 A	15 kW / 27 A
		440V	7.5 kW / 16 A	7.5 kW / 16 A	11 kW / 21 A	12 kW / 23 A	15 kW / 27 A
		550V	7.5 kW / 13 A	7.5 kW / 13 A	11 kW / 17 A	12 kW / 20 A	15 kW / 22 A
		660V	7.5 kW / 9 A	7.5 kW / 9 A	11 kW / 14 A	12 kW / 16 A	15 kW / 18 A
Current (A) AC1 $I_{th}$	bare wire into terminal		25	30	32	32	50
	wire terminated using spade crimp		30	30	40	40	50
UL508 CSA-C22.2	Power Rating AC3 (HP/A)	110-120V	1 HP / 16 A	1 HP / 16 A	2 HP / 24 A	2 HP / 24 A	2 HP / 24 A
		220-240V	3 HP / 17 A	3 HP / 17 A	3 HP / 17 A	3 HP / 17 A	5 HP / 28 A
		220-240V	5 HP / 15.2 A	5 HP / 15.2 A	7.5 HP / 22 A	10 HP / 28 A	10 HP / 28 A
		440-480V	10 HP / 14 A	10 HP / 14 A	15 HP / 21 A	15 HP / 21 A	20 HP / 27 A
		550-600V	10 HP / 11 A	10 HP / 11 A	15 HP / 17 A	15 HP / 17 A	30 HP / 32 A
	(A) AC1		30	30	35	40	50
	$(I_{th})(A)$		30	30	35	40	50
Auxiliary Contacts			None	1NO+1NC	1NO+1NC	1NO+1NC	2NO+2NC
		220-250V	n/a	1.6	1.6	1.6	1.6
		380-440V	n/a	0.95	0.95	0.95	0.95
		$I_{th}$ (A)	n/a	16	16	16	16
		UL	n/a	A600,P600	A600, Q300	A600, Q300	A600, Q300
		Mechanical Life	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000
		Electrical Life	1,200,000	1,200,000	1,200,000	1,200,000	1,200,000
		Maximum Ops/hr	1200	1200	1200	1200	1200

# Techna KTEC CONTACTORS



Ktec35	Ktec40	Ktec50	Ktec60	Ktec80
Otec40	Otec40	Otec80	Otec80	Otec80
9 kW / 35 A	11 kW / 44 A	15 kW / 58 A	19 kW / 65 A	22 kW / 85 A
15 kW / 27 A	22 kW / 40 A	30 kW / 52 A	37 kW / 65 A	45 kW / 85 A
15 kW / 27 A	22 kW / 40 A	30 kW / 52 A	37 kW / 65 A	45 kW / 85 A
15 kW / 22 A	22 kW / 32 A	30 kW / 41 A	37 kW / 52 A	45 kW / 60 A
15 kW / 18 A	22 kW / 26 A	30 kW / 34 A	37 kW / 43 A	45 kW / 60 A
50	50	65	65	100
50	65	80	100	135
2 HP / 24 A	3 HP / 34 A	5 HP / 56 A	5 HP / 56 A	7.5 HP / 80 A
5 HP / 28 A	7.5 HP / 40 A	10 HP / 50 A	10 HP / 50 A	15 HP / 68 A
10 HP / 28 A	15 HP / 42 A	-	-	25 HP / 68 A
20 HP / 27 A	20 HP / 27 A	-	-	50 HP / 65 A
30 HP / 32A	-	40 HP / 41 A	50 HP / 52 A	60 HP / 62 A
50	50	80	90	100
50	50	80	90	100
2NO+2NC	2NO+2NC	2NO+2NC	2NO+2NC	2NO+2NC
1.6	1.6	1.6	1.6	1.6
0.95	0.95	0.95	0.95	0.95
16	16	16	16	16
A600, Q300	A600, Q300	A600, Q300	A600, Q300	A600, Q300
6,000,000	6,000,000	6,000,000	6,000,000	6,000,000
1,200,000	1,200,000	1,200,000	1,200,000	1,200,000
1200	1200	1200	1200	1200

# Techna KTEC CONTACTORS

## KTEC Contactors



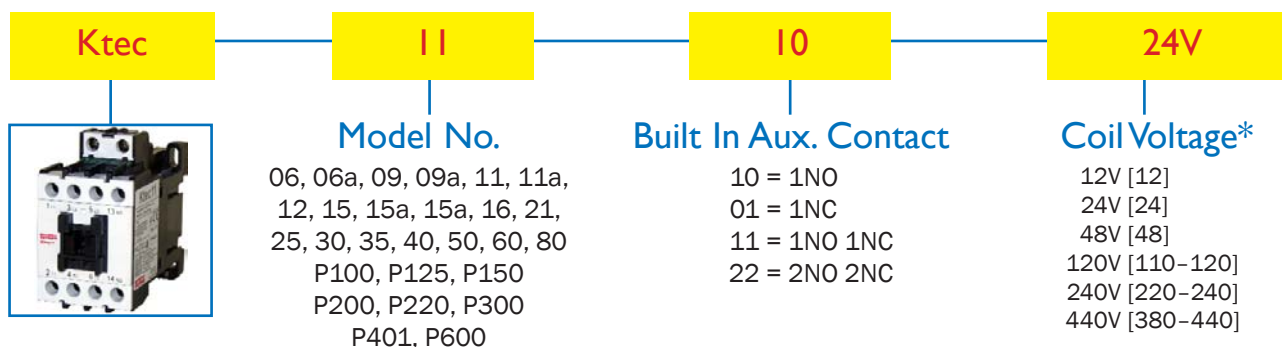
Contactor Model			KtecPI00	KtecPI25	KtecPI50	KtecP200	KtecP220
Corresponding Overload			OtecPI20	OtecPI20	OtecPI20	OtecP220	OtecP220
IEC60947-4-1 EN60947-4-1 DIN VDE 0660	Power Rating AC3 (kW/A)	240V	30 kW / 110 A	37 kW / 135 A	45 kW / 165 A	55 kW / 200 A	65 kW / 220 A
		380V	60 kW / 105 A	75 kW / 130 A	90 kW / 160 A	110 kW / 190 A	110 kW / 190 A
		440V	60 kW / 105 A	75 kW / 130 A	90 kW / 160 A	110kW / 190 A	110 kW / 190 A
		550V	60 kW / 85 A	75 kW / 105 A	90 kW / 130 A	110kW / 150 A	132 kW / 180 A
		660V	60 kW / 70 A	75 kW / 90 A	90 kW / 110 A	110kW / 125 A	132 kW / 150 A
Current (A) AC1 $I_{th}$	bare wire into terminal		135	150	200	235	250
	wire terminated using spade crimp		150	170	200	235	250
UL508 CSA-C22.2	Power Rating AC3 (HP/A)	110-120V	-	-	-	-	-
		220-240V	-	-	-	-	-
		220-240V	30 HP / 80 A	40 HP / 104 A	50 HP / 130 A	60 HP / 145 A	75 HP / 192 A
		440-480V	60 HP / 77 A	75 HP / 96 A	100 HP / 124 A	125 HP / 156 A	150 HP / 180 A
		550-600V	60 HP / 62 A	75 HP / 77 A	100 HP / 99 A	125 HP / 125 A	150 HP / 144 A
	(A) AC1		120	135	165	220	235
	$(I_{th})(A)$		120	135	165	220	235
Auxiliary Contacts			2NO+2NC	2NO+2NC	2NO+2NC	2NO+2NC	2NO+2NC
		220-250V	1.6	1.6	1.6	1.6	1.6
		380-440V	0.95	0.95	0.95	0.95	0.95
		$I_{th}$ (A)	16	16	16	16	16
		UL	A600, Q300	A600, Q300	A600, Q300	A600, Q300	A600, Q300
		Mechanical Life	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000
		Electrical Life	1,200,000	1,200,000	1,200,000	1,200,000	1,200,000
		Maximum Ops/hr	1200	1200	1200	1200	1200

# Techna KTEC CONTACTORS



Contactor Model			KtecP300	KtecP401	KtecP600
Corresponding Overload			OtecP400	OtecP400	OtecP600
	AC3 (kW/A)	110-120V	-	-	-
		220-240V	-	-	-
		220-240V	90 kW / 300 A	110 kW / 400 A	160 kW / 600 A
		440-480V	160 kW / 300 A	220 kW / 400 A	315 kW / 600 A
		550-600V	160 kW / 250 A	220 kW / 350 A	315 kW / 500 A
	AC1	350	420	660	
	(I <sub>th</sub> )(A)	350	420	660	
Auxiliary Contacts			2NO+2NC	2NO+2NC	2NO+2NC
IEC60947-4-1 EN60947-4-1	ACI5	220 V	1.6	1.6	1.6
		380 V	0.95	0.95	0.95
		(I <sub>th</sub> ) (A)	16	16	16
		(UL)	A600,Q300	A600,Q300	A600,Q300
		Mechanical Life	6,000,000	6,000,000	6,000,000
		Electrical Life	1,200,000	800,000	800,000
Maximum Ops/Hr			1200	1200	1200

## Ktec Contactors Ordering Scheme



\* For additional coil codes see next page

### Coil Voltage Options

#### Ktec I5–KtecP220

Voltage	AC 12V	AC 24V*	AC 48V*	AC 110V
Coil Rating	12V 50Hz	24V 50Hz	48–50V 50Hz	100V 50Hz
	12V 60Hz	24V 60Hz	48–50V 60Hz	100–110V 60Hz
Voltage	AC 120V*	AC 127V	AC200V	AC220V
Coil Rating	110–120V 50Hz	125–127V 50Hz	200V 50Hz	200–220V 50Hz
	115–120V 60Hz	127V 60Hz	200–220V 60Hz	220V 60Hz
Voltage	AC 230V	AC 240V*	AC 260V	AC 380V
Coil Rating	230V 50Hz	220–240V 50Hz	240–260V 50Hz	345–380V 50Hz
	230–240V 60Hz	240–260V 60Hz	260–260V 60Hz	380V 60Hz
Voltage	AC 440V*	AC 480V	AC 550V	
Coil Rating	400V 50Hz	415–440V 50Hz	500V 50Hz	
	400–440V 60Hz	460–480V 60Hz	500–550V 80Hz	

#### KtecP300–KtecP40I

Voltage	AC 12V	AC 24V*	AC 48V*	AC 110V
Coil Rating	12V 50Hz	24V 50Hz	48–50V 50Hz	100V 50Hz
	12V 60Hz	24V 60Hz	48–50V 60Hz	100–110V 60Hz
Voltage	AC 120V*	AC 127V	AC200V	AC220V
Coil Rating	110–120V 50Hz	125–127V 50Hz	200V 50Hz	200–220V 50Hz
	115–120V 60Hz	127V 60Hz	200–220V 60Hz	220V 60Hz
Voltage	AC 230V	AC 240V*	AC 260V	AC 380V
Coil Rating	230V 50Hz	220–240V 50Hz	240–260V 50Hz	345–380V 50Hz
	230–240V 60Hz	240–260V 60Hz	260–260V 60Hz	380V 60Hz
Voltage	AC 440V*	AC 480V	AC 550V	
Coil Rating	400V 50Hz	415–440V 50Hz	500V 50Hz	
	400–440V 60Hz	460–480V 60Hz	500–550V 80Hz	

#### KtecP600

Voltage	AC 110V	AC 120V*	AC 200V	AC 220V
Coil Rating	100V 50Hz	110–120V 50Hz	200V 50Hz	208–220V 50Hz
	100–110V 60Hz	115–120V 60Hz	200–220V 60Hz	220V 60Hz
Voltage	AC 230V	AC 260V	AC380V	AC440V*
Coil Rating	230–240V 50Hz	240–260V 50Hz	345–380V 50Hz	380–415V 50Hz
	230–240V 60Hz	260–280V 60Hz	380V 60Hz	400–440V 60Hz
Voltage	AC 480V	AC 550V		
Coil Rating	415–440V 50Hz	500V 50Hz		
	460–480V 60Hz	500–550V 60Hz		

\* standard ratings

## Auxiliary Contact Blocks



Order Code	KtecAux20	KtecAux11	KtecAux02	KtecAux40	KtecAux31	KtecAux22	KtecAuxS11	
Mounting	Front Clip-on			Front Clip-on			Side clip-on	
	2NO	1NO 1NC	2 NC	4 NO	3NO 1NC	2NO 2NC	1NO 1NC	
Fits Contactors	Ktec11, Ktec12, Ktec16, Ktec21, Ktec25, KtecCR40, KtecCR50							
AC 15	220 V	1.6						
	380 V	0.95						
(I <sub>th</sub> ) (A)	16							

## Coil Suppressor Module



Description	Order Code
12V suppressor coil	KtecSUP012
24V suppressor coil	KtecSUP024
48V suppressor coil	KtecSUP048
110V suppressor coil	KtecSUP110
120V suppressor coil	KtecSUP120
200V suppressor coil	KtecSUP200
220V suppressor coil	KtecSUP220
240V suppressor coil	KtecSUP240
440V suppressor coil	KtecSUP440



### Ktec Coil Parameters

		Ktec11	Ktec12	Ktec15 to Ktec25	Ktec30 to Ktec40	Ktec50 Ktec60	Ktec80	KtecP100	KtecP125 KtecP150	KtecP200 KtecP220	KtecP300 KtecP401	KtecP600
(VA)	Coil Inrush	50	55	55	200	250	319	450	567	1070	1070	4840
	Coil Constant	10	11	11	25	28	36	63	77	118	93	242
Power (W)		2.6	2.5	2.5	6.5	7	11	16.5	19	33	27	80
(Ue)	Pull In	56-70%	55-68%	55-68%	60-75%	65-75%	65-75%	68-73%	64-73%	68-75%	72-77%	72-79%
	Drop Out	36-52%	34-48%	34-48%	40-57%	40-57%	40-59%	54-61%	54-61%	52-61%	54-60%	59-66%
Switching Time	NC	6-12	5-12	4-11	6-13	18-28	15-25	15-25	15-25	19-29	25-35	42-71
	NO	8-14	10-18	10-18	12-20	22-32	18-28	18-28	18-28	25-35	30-40	49-78
In (ms)	Main	8-14	10-18	10-18	12-20	22-32	19-29	19-29	19-29	26-36	31-41	51-80
	NC	8-15	12-20	9-18	10-17	50-100	60-110	60-110	60-110	74-134	106-166	61-97
Switching Time	NO	6-14	8-15	4-13	5-12	48-98	58-108	58-108	58-108	69-129	102-162	58-94
	Main	6-14	8-15	4-13	5-12	46-96	57-107	57-107	57-107	68-128	100-160	57-93

### Ktec Contactors Coil Voltage Ranges

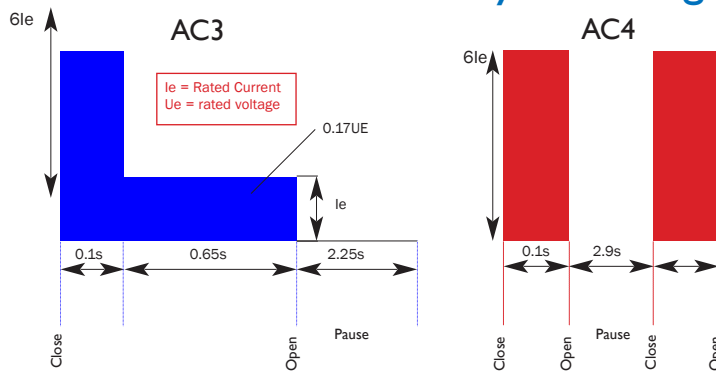
Order Code	AC 12V	AC 24V*	AC 48V*	AC 110V	AC 120V*
Rating	12V 50Hz 12V 60Hz	24V 50Hz 24V 60Hz	48-50V 50Hz 48-50V 60Hz	100V 50Hz 100-110V 60Hz	110-120V 50Hz 115-120V 60Hz
Order Code	AC 127V	AC 200V	AC 220V	AC 230V	AC 240V*
Rating	125-127V 50Hz 127V 60Hz	200V 50Hz 200-220V 60Hz	200-220V 50Hz 220V 60Hz	230V 50Hz 230-240V 60Hz	220-240V 50Hz 240-260V 60Hz
Order Code	AC 260V	AC 380V	AC 440V*	AC 480V	AC 550V
Rating	240-260V 50Hz 260-280V 60Hz	346-380V 50Hz 380V 60Hz	400V 50Hz 400-440V 60Hz	415-440V 50Hz 460-480V 60Hz	500V 50Hz 500-550V 60Hz

### KtecMech Mechanical Interlocks

Order Code	Fits contactors
KtecMech1	Ktec11, 15, 30, 35, 40
KtecMech2	Ktec12, 16, 21, 25
KtecMech5	Ktec50, 60

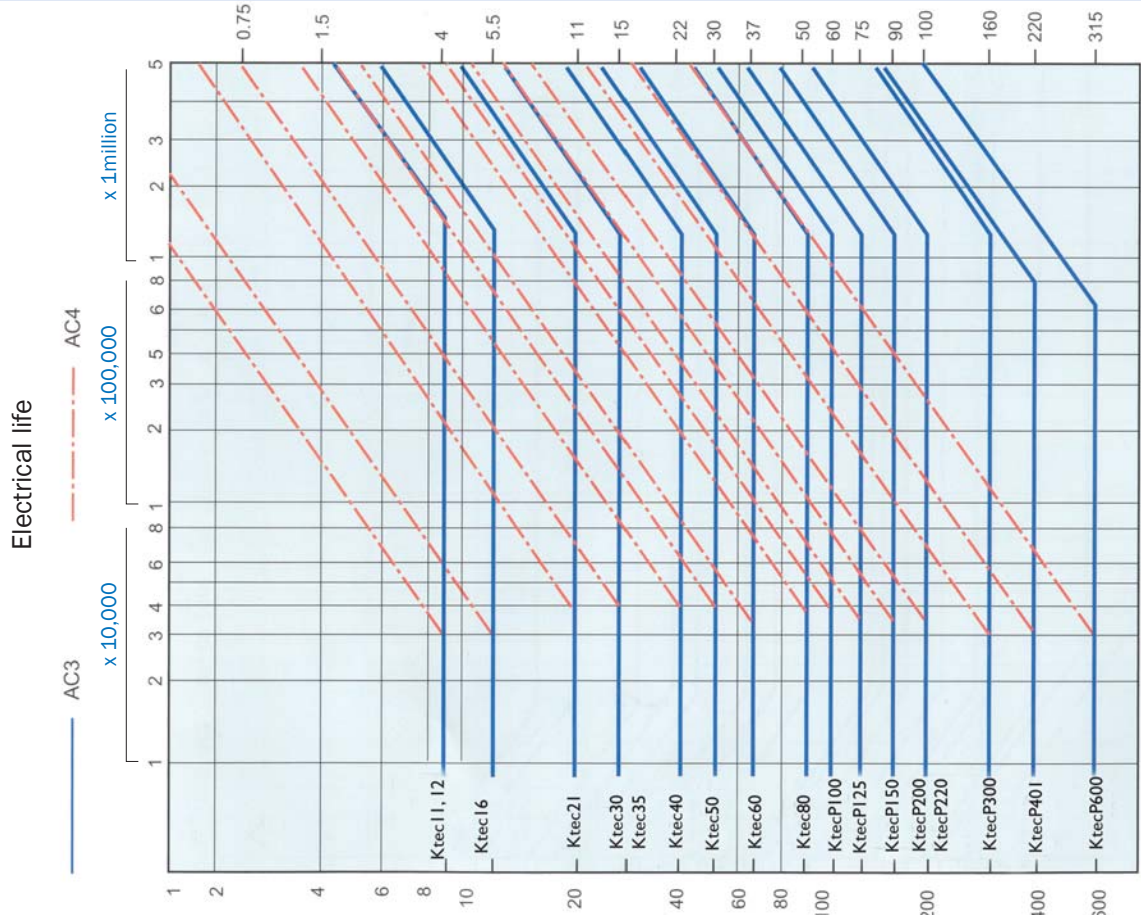


### Waveforms used for life-cycle testing

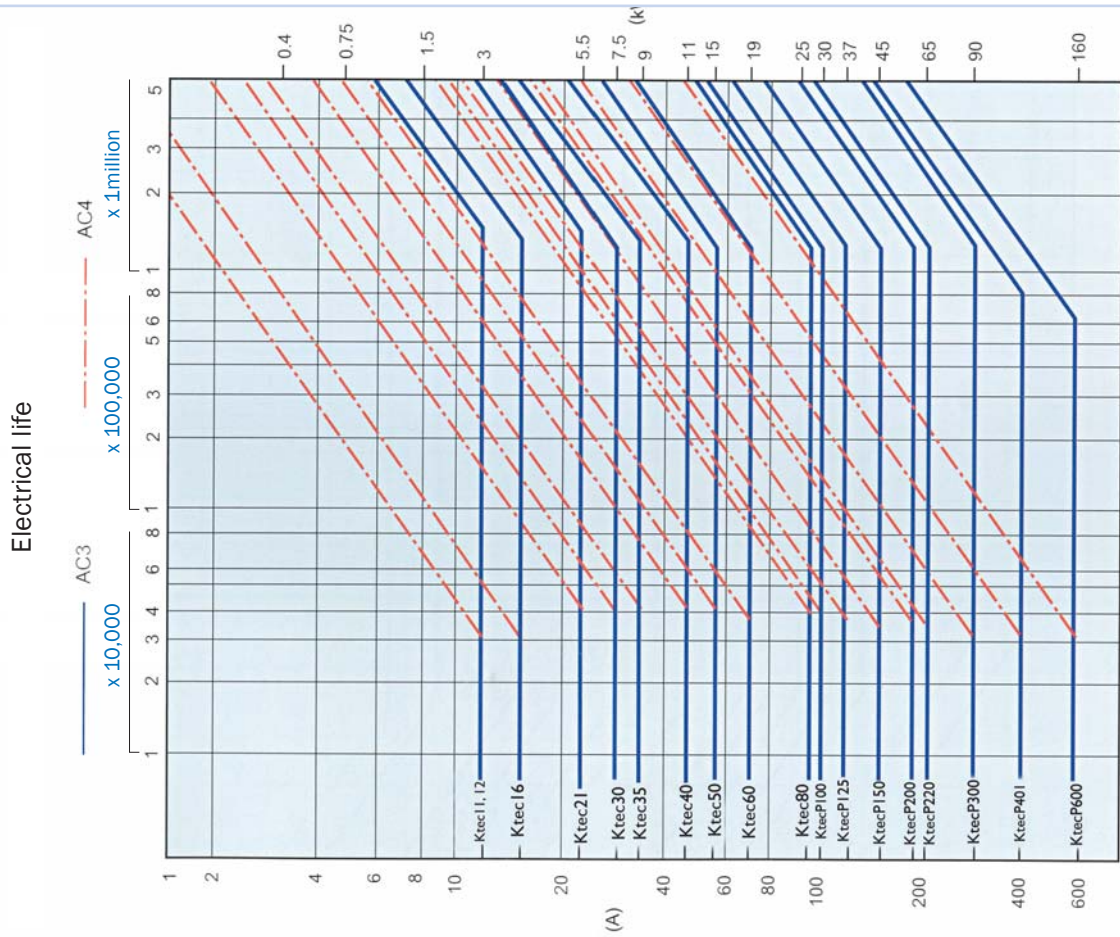


Test cycle repeated continuously 1200 times/hour

Life-cycle selection chart - 380-440V



Life-cycle selection chart - 200 - 220V



### Contactor terminal data & wire size guide

Model	Terminal Screw		Wire Size				Terminal Torque			
	Main Circuit	Control Circuit	Main Circuit		Control Circuit		Main Circuit		Control Circuit	
			(mm <sup>2</sup> )	(AWG)	(mm <sup>2</sup> )	(AWG)	(Nm)	(lb-in)	(Nm)	(lb-in)
Ktec06/06a	M3.5	M3.5	1-4	14-10	1-1.5	18-14	1.2	13	1.2	13
Ktec09/09a	M3.5	M3.5	1-4	14-10	1-1.5	18-14	1.2	13	1.2	13
Ktec11/11a	M3.5	M3.5	1-4	14-10	1-1.5	18-14	1.2	13	1.2	13
Ktec12	M3.5	M3.5	1-4	14-10	1-1.5	18-14	1.2	13	1.2	13
Ktec15/15a	M3.5	M3.5	1-4	14-10	1-1.5	18-14	1.5	20	1.2	13
Ktec16	M4	M3.5	1-4	14-8	1-1.5	18-14	1.5	20	1.2	13
Ktec21	M4	M3.5	1-6	14-8	1-1.5	18-14	1.5	20	1.2	13
Ktec25	M4	M3.5	1-6	14-8	1-1.5	18-14	1.5	20	1.2	13
Ktec30	M5	M3.5	1-16	10-6	1-1.5	18-14	2.6	35	1.2	13
Ktec35	M5	M3.5	1-16	10-6	1-1.5	18-14	2.6	35	1.2	13
Ktec40	M5	M3.5	1-16	10-6	1-1.5	18-14	2.6	35	1.2	13
Ktec50	M6	M3.5	2-25	10-3	1-1.5	18-14	4.5	35	1.2	13
Ktec60	M6	M3.5	2-25	10-2	1-1.5	18-14	4.5	35	1.2	13
Ktec80	M6	M4	2.5-35	4-1	1-1.5	18-14	4.5	39	1.5	13
KtecPI00	M8	M4	10-35	3-1	1-1.5	18-14	8	69	1.5	13
KtecPI25	M10	M4	10-70	1-2/0	1-1.5	18-14	15	130	1.5	13
KtecPI50	M10	M4	10-70	1-2/0	1-1.5	18-14	15	130	1.5	13
KtecP200	M10	M4	35-120	1/0-4/0	1-1.5	18-14	15	130	1.5	13
KtecP220	M10	M4	35-120	2/0-4/0	1-1.5	18-14	15	130	1.5	13
KtecP300	M12	M4	35-240	2/0-500	1-1.5	18-14	25	217	1.5	13
KtecP401	M12	M4	35-300	2/0-600	1-1.5	18-14	25	217	1.5	13
KtecP600	M16	M4	150-500	250-1000	1-1.5	18-14	80	695	1.5	13
Ktec CR-40/50	-	M3.5	-	-	1-1.5	18-14	-	-	1.2	13

## Contactor Selection for Capacitive Loads

### Three-phase systems

Model	3-phase capacitor k VAR(A)							
	220-220V		400-440V		500V		600V	
Ktec I and I2	3	(8.5)	4	(6)	-	-	-	-
Ktec2I	4.5	(14)	9	(13)	-	-	-	-
Ktec30 and 35	6	(18)	12	(18)	-	-	-	-
Ktec40	8.5	(25)	15	(23)	-	-	-	-
Ktec50	12	(35)	20	(30)	-	-	-	-
Ktec60	13	(40)	24	(35)	25	(30)	25	(25)
Ktec80	15	(50)	25	(40)	30	(35)	30	(50)
KtecPI00	22	(65)	40	(60)	45	(50)	45	(45)
KtecPI25	24	(72)	46	(67)	50	(55)	50	(50)
KtecPI50	25	(80)	51	(75)	60	(70)	60	(60)
KtecP220	50	(150)	96	(140)	110	(130)	110	(110)
KtecP300	65	(200)	120	(180)	130	(150)	130	(130)
KtecP40I	85	(250)	170	(250)	200	(230)	200	(200)
KtecP600	170	(500)	350	(500)	350	(400)	170	(500)

### Single Phase Circuit

Model	1-phase capacitor capacity k VAR(A)							
	Single phase applied				Three poles in series			
	220-220V		400-440V		500V		600V	
Ktec I and I2	1.7	(8.5)	2.4	(6)	-	-	-	-
Ktec2I	2.8	(14)	5	(13)	-	-	-	-
Ktec30 and 35	3.6	(18)	7	(18)	-	-	-	-
Ktec40	5	(25)	9	(23)	-	-	-	-
Ktec50	7	(35)	12	(30)	-	-	-	-
Ktec60	8	(40)	14	(35)	20	(30)	25	(25)
Ktec80	10	(50)	15	(40)	25	(35)	30	(50)
KtecPI00	13	(65)	25	(60)	30	(50)	35	(45)
KtecPI25	14	(72)	27	(67)	33	(55)	37	(50)
KtecPI50	15	(80)	30	(75)	35	(70)	40	(60)
KtecP220	30	(150)	55	(140)	75	(130)	90	(110)
KtecP300	40	(200)	72	(180)	90	(150)	100	(130)
KtecP40I	50	(250)	100	(250)	120	(230)	140	(200)
KtecP600	100	(500)	200	(500)	250	(400)	300	(500)

### Contactor Selection for use on Secondary Side of Transformer

Model	Single Phase Transformer Capacity kVA(A)					
	220V		440V		550V	
Ktec2I	2.2	(10)	3.3	(7.5)	3	(5.5)
Ktec30	3	(13.5)	3.5	(8)	3.7	(6.5)
Ktec35	3.7	(17)	4.5	(10)	4	(7.5)
Ktec50	5.5	(24)	7.5	(17.5)	7.5	(14)
Ktec60	7	(32)	13	(30)	11	(20)
Ktec80	7.5	(35)	14	(32)	14.5	(27)
KtecPI00	10	(46)	18.5	(42)	19	(35)
KtecPI25	11	(50)	20	(45)	20	(37)
KtecPI50	13.5	(62)	24	(55)	27	(50)
KtecP220	22	(100)	45	(100)	50	(90)
KtecP300	30	(135)	55	(120)	65	(115)
KtecP40I	35	(165)	65	(150)	80	(150)
KtecP600	65	(300)	132	(300)	160	(300)

Transformer's peak current should not exceed 20 Ie

Model	Three Phase Transformer Capacity of kVA (A)					
	220V		440V		550V	
Ktec2I	3.5	(10)	7.5	(10)	7.5	(8)
Ktec30	5.5	(15)	11	(15)	11	(12)
Ktec35	6	(17)	13	(17)	13	(14)
Ktec50	9	(25)	19	(25)	19	(20)
Ktec60	12	(32)	24	(32)	21	(22)
Ktec80	14	(40)	30	(40)	30	(32)
KtecPI00	18.5	(50)	38	(50)	38	(40)
KtecPI25	23	(62)	40	(55)	50	(52)
KtecPI50	28.5	(75)	57	(75)	65	(70)
KtecP220	42	(110)	84	(110)	95	(100)
KtecP300	57	(150)	110	(150)	140	(150)
KtecP40I	75	(200)	150	(200)	190	(200)
KtecP600	110	(300)	220	(300)	280	(300)

Transformer's peak current should not exceed 20 Ie

### Contactor Selection for Lighting Applications

Lamp Capacity (W)	Voltage (V)	Current (A)		Starting time (secs)	Contactor Model	Overload Setting Current
		Starting	Normal			
1000	110	17	12.2	6	Ktec2I	15A
	220	13.5	8.3		Ktec2I or KtecI I connected in parallel	11A
	400	6	4		Ktec2I or KtecI I connected in parallel	6.5A
700	110	12.5	8.6	4.5	KtecI I connected in parallel	11A
	220	10	5.9		KtecI I	9A
400	110	11.5	7.4	4.5	KtecI I	9A
	220	5.7	3.3		KtecI I	6.5A
300	110	8.6	5.8	4	KtecI I	9A
	220	4.3	2.5		KtecI I	4.4A
250	110	7.3	4.9	4.5	KtecI I	6.5A
	220	3.7	2.1		KtecI I	3.3A
200	110	6	4.4	5	KtecI I	6.5A
	220	2.9	1.7		KtecI I	3.3A
100	110	3.4	2.4	4.5	KtecI I	3.3A
	220	1.7	1		KtecI I	1.7A

### Selection of contactors and Overload Relays for use as Direct Online (DOL) Motor Starters

#### How to use these tables

- 1 Select page for your required voltage range
- 2 Select motor rating
- 3 Select Contactor & matching overload relay
- 4 Select Overload Rating
- 5 Construct product code

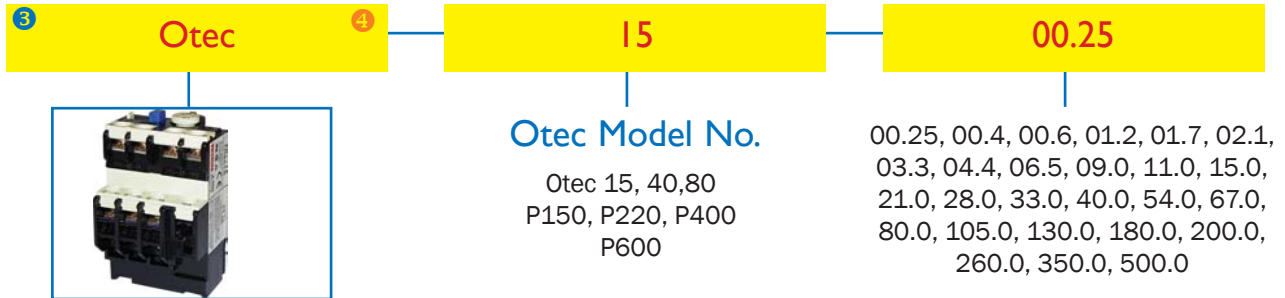
2 Rated Capacity		1 200–220V					4 Heater Setting & Adjustable range	
Kw	HP	Contactor Model					Order Code	Adjustment Range
0.03	1/25						00.25A	0.19–0.31A
0.05	1/15						00.4A	0.3–0.5A
0.1	1/8						00.6A	0.45–0.75A
0.15	1/5						00.9A	0.7–1.1A
0.2	1/4						01.2A	0.9–1.5A
0.3	2/5						01.7A	1.3–2.1A
0.4	1/2						02.1A	1.6–2.6A
0.75	1						03.3A	2.5–4.1A
1.1	1 1/2						04.4A	3.4–5.4A
1.5	2						06.5A	5–8A
2.2	3						009.0A	7–11A
3	4						11.0A	9–13A
3.7	5						15.0A	12–18A
5.5	7 1/2						21.0A	17–24A
6.5	8 1/2						28.0A	22–34A
7.5	10						33.0A	28–38A
9	12 1/2						40.0A	32–48A
11	15						54.0A	43–65A
15	20						67.0A	54–80A
19	25						80.0A	60–100A
22	30						105.0A	80–130A
25	35						130.0A	100–160A
30	40						160.0A	120–200A
37	50						200.0A	150–250A
45	60						260.0A	200–320A
55	75						350.0A	260–400A
65	85						500.0A	400–600A
75	100							
90	125							
110	150							
132	180							
160	220							

## Selection of contactors and Overload Relays for use as Direct Online (DOL) Motor Starters

2 Rated Capacity		1 380–440V						4 Heater Setting & Adjustable range	
Kw	HP	Contactor Model						Order Code	Adjustment Range
0.05	1/15							00.25A	0.19–0.31A
0.1	1/8							00.4A	0.3–0.5A
0.2	1/4							00.6A	0.45–0.75A
0.3	2/5							00.9A	0.7–1.1A
0.4	1/2							01.2A	0.9–1.5A
0.75	1							01.7A	1.3–2.1A
1.1	1 1/2							02.1A	1.6–2.6A
1.5	2							03.3A	2.5–4.1A
2.2	3							04.4A	3.4–5.4A
3	4							06.5A	5–8A
3.7	5							09.0A	7–11A
4	5 1/2								
4.5	6							11.0A	9–13A
5.5	7 1/2							15.0A	12–18A
7.5	10							21.0A	17–24A
11	15							28.0A	22–34A
12	16							33.0A	28–38A
15	20							40.0A	32–48A
19	25							54.0A	43–65A
22	30							67.0A	54–80A
25	35							80.0A	60–100A
30	40							105.0A	80–130A
37	50							130.0A	100–160A
45	60							160.0A	120–200A
50	70							200.0A	150–250A
60	80							260.0A	200–320A
75	100							350.0A	260–400A
90	125							500.0A	400–600A
110	150								
132	180								
150	200								
160	220								
220	300								
250	350								
315	420								



## 5 Otec Thermal Overload Relay Ordering Scheme



2 Rated Capacity		1 500–550V				4 Heater Setting & Adjustable range	
KW	HP	Contactor Model				Order Code	Adjustment Range
						00.25	0.19–0.31A
						00.4	0.3–0.5A
						00.6A	0.45–0.75A
						00.9A	0.7–1.1A
						01.2A	0.9–1.5A
						01.7A	1.3–2.1A
						02.1A	1.6–2.6A
1.5	2					03.3A	2.5–4.1A
						04.4A	3.4–5.4A
4	5 <sup>1/2</sup>					06.5A	5–8A
4.5	6					09.0A	7–11A
5.5	6					11.0A	9–13A
7.5	10					15.0A	12–18A
11	15					21.0A	17–24A
12	16					28.0A	22–34A
15	20					33.0A	28–38A
19	25					40.0A	32A–48A
22	30					54.0A	43–65A
30	40					67.0A	54–80A
37	50					80.0A	60–100A
45	60					105.0A	80–130A
50	70					130.0A	100–160A
60	80					160.0A	120–200A
75	100					200.0A	150A–250A
90	125					260.0A	200A–320A
110	150					350.0A	260–440A
132	180					500.0A	400–600A
150	200						
160	260						
220	300						
315	420						

### Otec Thermal Overload Relays



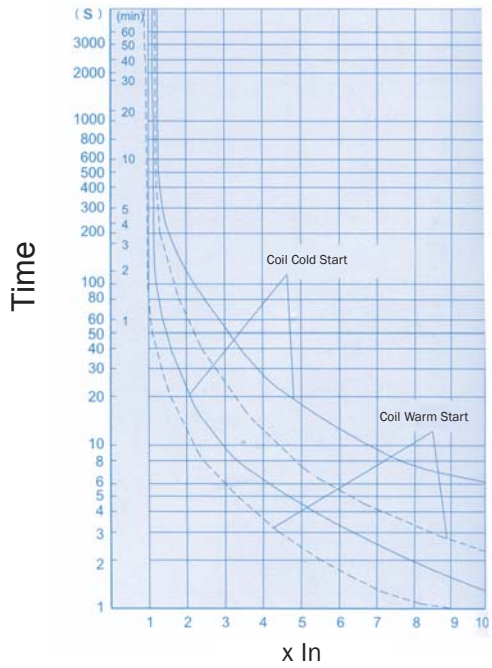
Model			Otec 15	Otec 40	Otec 80
Fits			Ktec 11 Ktec 12 Ktec 15	Ktec 16, Ktec 21, Ktec 25, Ktec 30, Ktec 35, Ktec 40	Ktec 50 Ktec 60 Ktec 80
Auxiliary Contacts			1NO 1NC	1NO 1NC	1NO 1NC
IEC 60947-4-1 EN 60947-4-1	Current Rating AC15	220V	1	1	1
		380V	0.47	0.47	0.47
		(I <sub>th</sub> )(A)	5	5	5
		(UL)	B600,R300	B600,R300	B600,R300



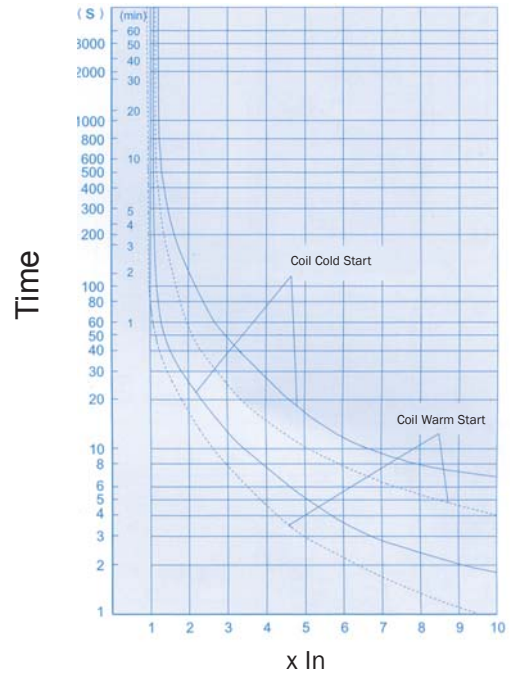
Otec PI 50	Otec P220	Otec P400	Otec P600
Ktec PI 100 Ktec PI 125 Ktec PI 150	Ktec P200 Ktec P220	Ktec P300 Ktec P401	Ktec P600
1NO 1NC	1NO 1NC	1NO 1NC	1NO 1NC
1	1	1	1
0.47	0.47	0.47	0.47
5	5	5	5
B600,R300	B600,R300	B600,R300	B600,R300

### Thermal Overload Relay Trip Curves

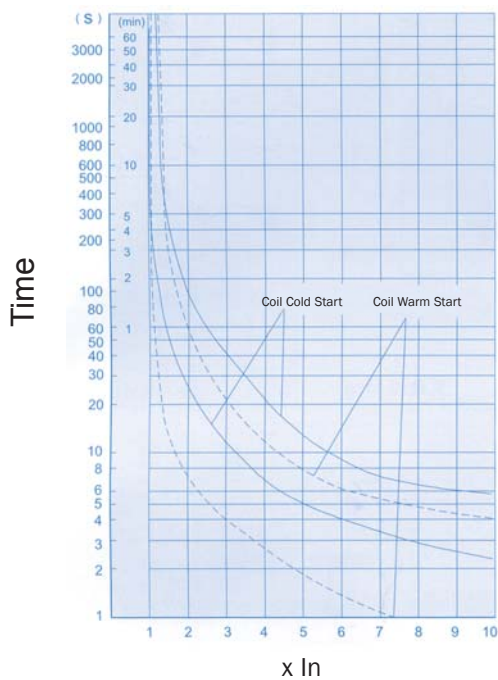
Otec I5



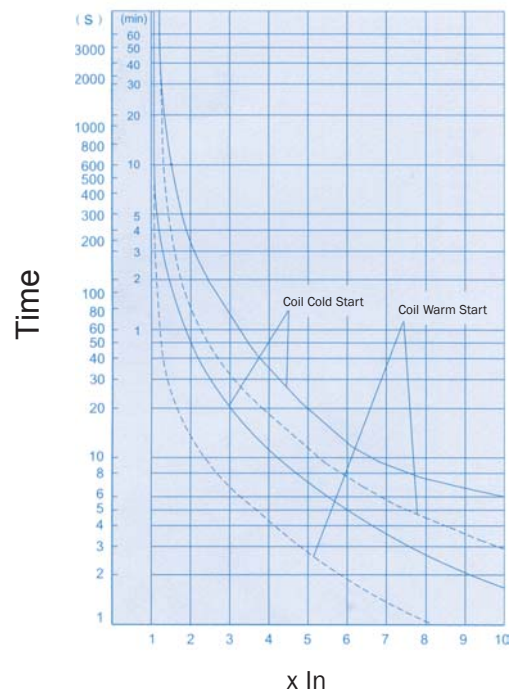
Otec80



Otec40, OtecP220, OtecP400, OtecP600



OtecPI50



### Thermal Overload Relay terminal data & wire size guide

Model	Terminal Screw		Wire Size				Terminal Torque			
	Main Circuit	Control Circuit	Main Circuit		Control Circuit		Main Circuit		Control Circuit	
			(mm <sup>2</sup> )	(AWG)	(mm <sup>2</sup> )	(AWG)	(Nm)	(lb-in)	(Nm)	(lb-in)
<b>Otec15</b> Load Side	M3.5	M3.5	1-4	14-10	1-2.5	18-14	1.2	13	1.2	13
<b>Otec40 0.25-21A</b> Source side/ Load Side	M4/M4	M3.5	2.1-6	14-8	1-2.5	18-14	1.5	20	1.2	13
<b>Otec40 28-40A</b> Load Side	M5	M3.5	2.5-16	14-4	1-2.5	18-14	2.6	23	1.2	13
<b>Otec80 11-54A</b> Source Side/ Load Side	M6/M6	M3.5	2.5-16	14-4	1-2.5	18-14	4.5	40	1.2	13
<b>Otec80 67-80A</b> Load Side	M6	M3.5	2.5-25	14-3	1-2.5	18-14	4.5	40	1.2	13
<b>OtecPI50 40-80A</b> Source Side/ Load Side	M10	M3.5	10-70	8-3/0	1-2.5	18-14	8	69	1.2	13
<b>OtecPI50 105-160A</b> Load Side	M10	M3.5	35-70	2/0-3/0	1-2.5	18-14	15	130	1.2	13
<b>OtecP220</b> Load Side	M10	M3.5	35-120	2/0-4/0	1-2.5	18-14	15	130	1.2	13
<b>OtecP400</b> Load side	M12	M3.5	35-300	2-600	1-2.5	18-14	25	217	1.2	13
<b>OtecP600</b> Load side	M12	M3.5	150-500	250-1000	1-2.5	18-14	80	695	1.2	13

### Magnetic Control Relays

Model		KtecCR40	KtecCR50
Contact Options		4NO [40] 3NO 1NC [31] 2NO 2NC [22]	5NO [50] 4NO 1NC [41] 3NO 2NC [32] 2NO 3NC [23]
(A) AC 15	220V	1.6	1.6
	380V	0.96	0.95
(Ui) (V)		650	660
(I <sub>th</sub> ) (A)		15	15
(UL)		A600, Q300	A600, Q300
Electrical life		> 0.5 million operations	> 0.5 million operations
Mechanical life		5 million operations	5 million operations