



Contactors & Overload Relays



IC-65a

intelli CONTROL

IC-40a

intelli CONTROL

IT-63

IT-32

intelli **CONTROL**
intelligent control

C2786



Corporate Information

HPL's vision of creating a niche, as a major player in India Electrical Industry with commitment to state-of-the-art technology & world class products.

HPL Group possess nine most modern manufacturing units, ISO 9001 : 2000; ISO 14001; OHSAS 18001 certified located at Gurgaon, Kundli, Sonapat, Panipat and Jabli Himachal Pradesh having 5,00,000 sq. feet covered area to manufacture products confirming to International and India standards.

HPL Products Profile has the following Strategic Business Units :

- **LV Switchgears & Controlgear**
- **LV Protection Devices**
- **Metering and Energy Management Systems**
- **Lighting**
- **Luminaires**
- **Wires & Cables**
- **Electrical Wiring Accessories**

HPL Products are tested at CPRI, ERDA, ERTL, NPL etc. according to Indian Standards, whereas MCB's Rewireable Switches & Electronic Energy Meters carry ISI marking. Further HPL products have approvals from CPWD state PWD's, MES, BSNL & many more Institutional users.

HPL Group with Head Office at Noida has extensive Sales & Marketing Network of 90 Branche Offices & Representative Office, over 2000+ Authorised Dealers and 27000+ Retailers across country, who are committed to provide solutions and services to customer's delight. HPL is also exporting its products to Middle East, SAARC and European Countries.

HPL range of controlgear is in technical collaboration with **LSIS** co., Ltd, Korea, a US\$25 billion group. **LSIS** is a leader in LV, MV & HV Switchgear, Controlgear, Circuit breakers, Automation, Large scale system, GIS and green technologies solutions.





Contactors and Overload Relays

*intelli*CONTROL

intelligent control

Product Portfolio & Features

- Widest Range of 3P & 4P Contactors upto 1450A (AC3) & 2100A (AC1).
- 29 Models in just 11 frames.
- Capacitor Duty Contactors upto 62 kvar.
- Control Contactor upto 12 Contacts Combination.
- Highest Electrical Life upto 2.5 million operations.
- Differential Bimetallic Overload Relays upto 800A.
- Site mounted add on accessories.
- Safety cover to avoid dust.
- Designed as per latest IEC/IS Standards.
- Type II Co-ordination
- CE marked.





Specifications

IC type - 3 Pole Power Contactors



Frame Size	
Type	
As per Standards	
POWER CONTACTS	
No. of poles	
Rated Operational voltage(V), Ue	
Rated Insulation voltage(V), Ui	
Rated Impulse withstand voltage(kV), Uimp	
Rated Making Capacity(A) as per IEC	
Rated Breaking Capacity(A) as per IEC	
AC Thermal current (A)	Ith & AC-1
Motor Duty, 3ph, 380/440v AC, 50Hz (A/kW)	AC-3
	AC-4
Capacitor Switching delta connected, 415V, 50Hz (kVAR)	AC-6b
DC Current (A) with 3 poles in series	DC1-24V
	DC1-48V
	DC1-110V
	DC2,4-24V
	DC2,4-48V
DC2,4-110V	
Mechanical Durability(Million op.)	
Electrical Durability(Million op.)	
Max Operating Rate in Op.Cycles/Hour	AC-3
Service Temperature	
Main Terminal Capacity Lug(mm ²) 2 Conductors	
Solid/Multi Strand conductors-AWG	
Wt.(kg)---AC Control	
Size(W*H*D)-(mm)AC Control	
Wt.(kg)---DC Control	
Size(W*H*D)-(mm)DC Control	
AUXILIARY CONTACTS	
No. of Built in Aux Contacts	
Conventional Thermal current(A) Ith (AC-12 duty)	
AC-15 Rating at 380/440 V,50 hz	
Terminal Capacity (solid or multi strand mm ²)	
CONTROL CIRCUIT/COIL (AC)	
Voltages available for Uc V,50/60 Hz	
Pick Up	VA
Hold on	VA
Heat Dissipation	Watts
Limit of Operations	Pick up(%Uc)
	Drop out(%Uc)

18AF			
IC-6a	IC-9a	IC-12a	IC-18a
IEC /EN 60947-1,IEC/EN-60947-4-1,UL508,K60947			
3	3	3	3
690	690	690	690
690	690	690	690
6	6	6	6
70	90	120	180
56	72	96	144
25	25	25	32
9/3	9/4	12/5.5	18/7.5
5/2.2	6/2.2	9/4	11/4
NA	9.7	12.5	16.7
3	4	5.5	7.5
20	20	20	20
20	20	20	20
15	15	15	15
18	18	18	18
15	15	15	15
12	12	12	12
15	15	15	15
2.5	2.5	2.5	2.5
1800	1800	1800	1800
-5°C to +60°C	-5°C to +60°C	-50C to +600C	-50C to +600C
1.5~4	1.5~4	1.5~10	1.5~10
18~10AWG	16~10AWG	16~8AWG	14~8AWG
0.3	0.3	0.3	0.3
45*73.5*80.4	45*73.5*80.4	45*73.5*80.4	45*73.5*80.4
0.4	0.4	0.4	0.4
45*73.5*96.6	45*73.5*96.6	45*73.5*96.6	45*73.5*96.6
1NO or 1NC	1NO or 1NC	1NO or 1NC	1NO or 1NC
16	16	16	16
1.9	1.9	1.9	1.9
1~2.5	1~2.5	1~2.5	1~2.5
24 to 550V	24 to 550V	24 to 550V	24 to 550V
70	70	70	70
9	9	9	9
2.3	2.3	2.3	2.3
85-110%	85-110%	85-110%	85-110%
30-60%	30-60%	30-60%	30-60%



22AF

40AF

IC- 9b	IC- 12b	IC- 18b	IC- 22b
IEC /EN 60947-1,IEC/EN-60947-4-1,UL508,K60947			
3	3	3	3
690	690	690	690
690	690	690	690
6	6	6	6
90	120	180	220
72	96	144	176
27	27	40	45
9/4	12/5.5	18/7.5	22/11
6/2.2	9/4	11/4	13/5.5
9.7	12.5	16.7	18
4	5.5	7.5	11
20	20	20	20
20	20	20	20
15	15	15	15
18	18	18	18
15	15	15	15
12	12	12	12
15	15	15	15
2.5	2.5	2.5	2.5
1800	1800	1800	1800
-5°C to +60OC	-5°C to +60OC	-5°C to +60OC	-5°C to +60OC
1.5~10	1.5~10	1.5~10	1.5~10
14~8AWG	14~8AWG	14~8AWG	14~8AWG
0.3	0.3	0.3	0.3
45*73.5*87.4	45*73.5*87.4	45*73.5*87.4	45*73.5*87.4
0.4	0.4	0.4	0.4
45*73.5*103.6	45*73.5*103.6	45*73.5*103.6	45*73.5*103.6
1NO + 1NC	1NO + 1NC	1NO + 1NC	1NO + 1NC
16	16	16	16
1.9	1.9	1.9	1.9
1~2.5	1~2.5	1~2.5	1~2.5
24 to 550V	24 to 550V	24 to 550V	24 to 550V
70	70	70	70
9	9	9	9
2.3	2.3	2.3	2.3
85-110%	85-110%	85-110%	85-110%
30-60%	30-60%	30-60%	30-60%

IC- 32a	IC- 40a
IEC /EN 60947-1,IEC/EN-60947-4-1,UL508,K60947	
3	3
690	690
1000	1000
8	8
320	400
256	320
55	60
32/15	40/18.5
17/7.5	24/11
25	33.3
15	18.5
32	55
32	55
27	45
30	45
30	40
20	30
12	12
2	2
1800	1800
-5°C to +60°C	-5°C to +60°C
2.5~10	4~16
12~8AWG	10~6AWG
0.4	0.4
45*83*90	45*83*90
0.6	0.6
45*83*117.1	45*83*117.1
NA	NA
16	16
1.9	1.9
1~2.5	1~2.5
24 to 550V	24 to 550V
90	90
12	12
2.7	2.7
85-110%	85-110%
30-60%	30-60%



Specifications

IC type - 3 Pole Power Contactors



Frame Size	
Type	
As per Standards	
POWER CONTACTS	
No. of poles	
Rated Operational voltage(V),Ue	
Rated Insulation voltage(V),Ui	
Rated Impulse withstand voltage(kV), Uimp	
Rated Making Capacity(A)	
Rated Breaking Capacity(A)	
AC Thermal current (A)	Ith & AC-1
Motor Duty, 3ph, 380/440v AC, 50Hz (A/kW)	AC-3
	AC-4
Capacitor Switching delta connected, 415V, 50Hz (kVAR)	AC-6b
DC Current (A) with 3 poles in series	DC1-24V
	DC1-48V
	DC1-110V
	DC2,4-24V
	DC2,4-48V
	DC2,4-110V
Mechanical Durability(Million op.)	
Electrical Durability(Million op.)	
Max Operating Rate in Op.Cycles/Hour	AC-3
Service Temperature	
Main Terminal Capacity Lug(mm ²) 2 Conductors	
Solid/Multi Strand conductors-AWG	
Wt.(kg)---AC Control	
Size(W*H*D)-(mm)AC Control	
Wt.(kg)---DC Control	
Size(W*H*D)-(mm)DC Control	
AUXILIARY CONTACTS	
No. of Built in Aux Contacts	
Conventional Thermal current(A) Ith (AC-12 duty)	
AC-15 Rating at 380/440 V,50 hz	
Terminal Capacity (solid or multi strand mm ²)	
CONTROL CIRCUIT/COIL (AC)	
Voltages available for Uc V,50/60 Hz	
Pick Up	VA
Hold on	VA
Heat Dissipation	Watts
Limit of Operations	Pick up(%Uc)
	Drop out(%Uc)

65AF	
IC- 50a	IC- 65a
IEC /EN 60947-1,IEC/EN-60947-4-1,UL508,K60947	
3	3
690	690
1000	1000
8	8
500	650
400	520
100	115
50/22	65/30
32/15	47/22
40	45.7
200	30
70	90
70	90
60	80
55	75
50	65
35	55
12	12
2	2
1800	1800
-5°C to +60°C	-5°C to +60°C
6~25	10~35
10~4AWG	8~3AWG
0.9	0.9
55*106*119	55*106*119
1.2	1.2
55*106*146.4	55*106*146.4
NA	NA
16	16
1.9	1.9
1~2.5	1~2.5
24 to 550V	24 to 550V
110	110
13	13
2.8	2.8
85-110%	85-110%
30-60%	30-60%

100AF	
IC- 75a	IC- 85a
IEC /EN 60947-1,IEC/EN-60947-4-1,UL5	
3	3
690	690
1000	1000
8	8
750	850
600	650
125	135
75/37	85/45
52/25	62/30
54	60
37	45
90	100
90	100
80	85
75	80
65	70
55	60
12	12
2	2
1800	1800
-5°C to +60°C	-5°C to +60°C
10~35	10~50
8~2AWG	8~00AWG
1.8	1.8
70*140*135.8	70*140*135.8
2.7	2.7
79*140*172.3	79*140*172.3
NA	NA
16	16
1.9	1.9
1~2.5	1~2.5
24 to 550V	24 to 550V
240	240
17	17
5.4	5.4
85-110%	85-110%
30-60%	30-60%



100AF	
IC- 100a	
IEC /EN 60947-1, IEC/EN-60947-4-1, UL508, K60947	
3	
690	
1000	
8	
1050	
840	
160	
105/55	
75/37	
62	
45	
100	
100	
85	
80	
70	
60	
12	
1	
1800	
-5°C to +60°C	
10~70	
8~0AWG	
1.8	
70*140*135.8	
2.7	
94*140*172.3	
NA	
16	
1.9	
1~2.5	
24 to 550V	
17	
5.4	
85-110%	
30-60%	

150AF	
IC- 130a	IC- 150a
IEC /EN 60947-1, IEC/EN-60947-4-1, UL508, K60947	
3	3
690	690
1000	1000
8	8
1200	1500
960	1200
200	250
130/60	150/75
90/45	110/55
NA	NA
120	150
120	150
100	150
120	150
90	130
80	120
5	5
1	1
1200	1200
-5°C to +60°C	-5°C to +60°C
35~70	35~95
3~00AWG	3~00AWG
2.4	2.4
95*158*130.3	95*158*130.3
2.4	2.4
95*158*130.3	95*158*130.3
NA	NA
16	16
1.9	1.9
1~2.5	1~2.5
24 to 500V	24 to 500V
110	110
18	18
2.7	2.7
85-110%	85-110%
30-60%	30-60%

225AF	
IC- 185a	IC- 225a
IEC /EN 60947-1, IEC/EN-60947-4-1, UL508, K60947	
3	3
690	690
1000	1000
8	8
1850	2250
1480	1800
300	350
185/90	225/132
150/75	180/90
NA	NA
180	220
180	220
180	220
180	220
180	220
150	150
5	5
1	1
1200	1200
-5°C to +60°C	-5°C to +60°C
50~95	50~150
1~410AWG	110~300AWG
5.4	5.4
138*203*185.1	138*203*185.1
5.4	5.4
138*203*185.1	138*203*185.1
2NO+2NC	2NO+2NC
16	16
1.9	1.9
1~2.5	1~2.5
24 to 500V	24 to 500V
380	380
11.6	11.6
4.7	4.7
85-110%	85-110%
30-60%	30-60%



Specifications

IC type - 3 Pole Power Contactors



Frame Size		400AF			
Type		IC- 265a	IC- 330a	IC- 400a	IC- 500a
As per Standards		IEC /EN 60947-1, IEC/EN-60947-4-1, UL508, K60947			
POWER CONTACTS					
No. of poles		3	3	3	3
Rated Operational voltage(V), Ue		690	690	690	690
Rated Insulation voltage(V), Ui		1000	1000	1000	1000
Rated Impulse withstand voltage(kV), Uimp		8	8	8	8
Rated Making Capacity(A) as per IEC		2650	3300	4000	5000
Rated Breaking Capacity(A) as per IEC		2120	2640	3200	4000
AC Thermal current (A)	Ith & AC-1	400	500	520	700
Motor Duty, 3ph, 380/440v AC, 50Hz (A/kW)	AC-3	265/147	330/160	400/200	500/265
	AC-4	200/102	220/110	300/150	350/176
Capacitor Switching delta connected, 415V, 50Hz (kVAR)	AC-6b	NA	NA	NA	NA
DC Current (A) with 3 poles in series	DC1-24V	220	300	400	400
	DC1-48V	220	300	400	400
	DC1-110V	220	300	400	400
	DC2,4-24V	220	300	400	400
	DC2,4-48V	220	280	280	280
	DC2,4-110V	150	200	200	200
Mechanical Durability(Million op.)		5	5	2.5	2.5
Electrical Durability(Million op.)		1	1	1	0.5
Max Operating Rate in Op.Cycles/Hour	AC-3	1200	1200	1200	1200
Service Temperature		-5°C to +60°C	-5°C to +60°C	-5°C to +60°C	-5°C to +60°C
Main Terminal Capacity Lug(mm ²) 2 Conductors		95~240	95~240	185~370	185~480
Solid/Multi Strand conductors-AWG		310~500AWG	410~500AWG	350~700AWG	350~800AWG
Wt.(kg)---AC Control		9.2	9.2	9.2	22.4
Size(W*H*D)-(mm)AC Control		163*243*204.4	163*243*204.4	163*243*204.4	285*312*245.3
Wt.(kg)---DC Control		9.2	9.2	9.2	22.4
Size(W*H*D)-(mm)DC Control		163*243*204.4	163*243*204.4	163*243*204.4	285*312*245.3
AUXILIARY CONTACTS					
No. of Built in Aux Contacts		2NO+2NC	2NO+2NC	2NO+2NC	2NO+2NC
Conventional Thermal current(A) Ith (AC-12 duty)		16	16	16	16
AC-15 Rating at 380/440 V,50 hz		1.9	1.9	1.9	1.9
Terminal Capacity (solid or multi strand mm ²)		1~2.5	1~2.5	1~2.5	1~2.5
CONTROL CIRCUIT/COIL (AC)					
Voltages available for Uc V,50/60 Hz		100 to 500V	100 to 500V	100 to 500V	100 to 500V
Pick Up	VA	571	571	571	1000
Hold on	VA	14	14	14	29
Heat Dissipation	Watts	5	5	5	7.8
Limit of Operations	Pick up(%Uc)	85-110%	85-110%	85-110%	85-110%
	Drop out(%Uc)	30-60%	30-60%	30-60%	30-60%



800AF		1200AF		2100AF	
IC- 630a	IC- 800a	IC-1260a	IC-1400a	IC-1700a	IC-2100a
IEC /EN 60947-1,IEC/EN-60947-4-1,UL508,K60947			IEC /EN 60947-1,IEC/EN-60947-4-1,UL508,K60947		
3	3	3	3	3	3
690	690	690	690	690	690
1000	1000	1000	1000	1000	1000
8	8	8	8	8	8
6300	8000				
5040	6400				
900	1050	1260	1400	1600	2100
630/330	800/440	----	860	1050	1450
400/200	630/300				
NA	NA				
630	800				
630	800				
630	800				
630	800				
630	630				
630	630				
2.5	2.5				
0.5	0.5				
1200	1200				
-5°C to +60°C	-5°C to +60°C				
NA	NA				
600~2000AWG	1700 BUSBAR				
22.4	22.4	22.4	22.4	22.4	22.4
285*312*245.3	285*312*245.3	285*352*244.1	431*389*246.1	431*389*246.1	431*389*246.1
22.4	22.4	22.4	22.4	22.4	22.4
285*312*245.3	285*312*245.3	285*352*244.1	431*389*246.1	431*389*246.1	431*389*246.1
2NO+2NC	2NO+2NC	2NO+2NC	2NO+2NC	2NO+2NC	2NO+2NC
16	16	16	16	16	16
1.9	1.9	1.9	1.9	1.9	1.9
1~2.5	1~2.5	1~2.5	1~2.5	1~2.5	1~2.5
100 to 500V	100 to 500V	100 to 240V	100 to 240V	100 to 240V	100 to 240V
1000	1000	1000	1000	1000	1000
29	29	29	29	29	29
7.8	7.8	7.8	7.8	7.8	7.8
85-110%	85-110%	85-110%	85-110%	85-110%	85-110%
30-60%	30-60%	30-60%	30-60%	30-60%	30-60%

Specifications

IR & IC Type - 4 Pole Control & Power Contactors



Frame size			
Type			
As per Standard			
POWER CONTACTS			
Number of poles			
Rated operational voltage (Ue)			
Rated insulation voltage (Ui)			
Rated frequency			
Rated impulse withstand voltage, Uimp			
Maximum operating rate in operating cycles per hour(AC1)			
Durability	Mechanical (No. of operations)		
	Electrical (No. of operations)		
Current and Power	Ith/AC1	Thermal current	A
			200/240V kW
		380/400V	kW
			A
		500/550V	kW
		A	
	690V	kW	
		A	
Size and weight	AC Control	Weight	kg
		Size(W × H × D)	mm
	DC Control	Weight	kg
		Size(W × H × D)	mm
AUXILIARY CONTACTS			
No. of Built in Aux Contacts			
Additional Aux Contacts(Side Mounted)			
Additional Aux Contacts (Top Mounted)			
Conventional Thermal current(A) Ith (AC-12 duty)			
AC-15 Rating at 380/440 V,50 hz			
Terminal Capacity	(solid or multi strand (mm ²))		
CONTROL CIRCUIT/COIL(AC)			
Voltages available for Uc V,50/60Hz			
Pick Up	VA		
Hold on	VA		
Heat Dissipation	Watts		
Limit of Operations	Pick up(%Uc)		
	Drop out(%Uc)		

18AF				
IR	IC-6a/4	IC-9a/4	IC-12a/4	IC-18a/4
IEC/EN60947-1, IEC/EN60947-4-1, UL508, K60947				
4				
690V				
690V				
50/60Hz				
6kV				
1800 operations per hour				
10 Million	15 Million			
0.5 Million	0.5 mil. Operations		0.8 mil. Operations	
16	25	25	25	40
	9	9	9	15
	25	25	25	40
-	17	17	17	27
	25	25	25	40
	21	21	21	35
	25	25	25	40
-	27	27	27	44
	25	25	25	40
0.33				
45x73.5x80.4				
0.4				
45x73.5x96.6				
-				
IUA1-11				
IUA2, IUA4				
16				
1.9				
1~2.5				
24 to 550V				
70				
9				
2.3				
85-110%				
30-60%				



22AF

IC-22a/4

IEC/EN60947-4-1, UL508, K60947

4

690V

690V

50/60Hz

6kV

1800 operations

15 mil. Operations

1 mil. Operations

40

15

40

27

40

35

40

44

40

0.4

47.2x80x86.8

0.5

47.2x80x113.2

-

IAU-11

IUA2, IUA4

16

1.9

1~2.5

-

24 to 550V

95

9

2

85-110%

30-60%

40AF

IC-32a/4

IC-40a/4

IEC/EN60947-1, IEC/EN60947-4-1, UL508, K60947

4

690V

690V

50/60Hz

6kV

1800 operations per hour

15 mil. Operations

1 mil. Operations

50

18

50

35

50

43

50

55

50

0.59

59x83.5x94.5

0.7

59x83.5x121

-

IAU-11

IUA2, IUA4

16

1.9

1~2.5

-

24 to 550V

95

9

2

85-110%

30-60%

85AF

IC-50a/4

IC-65a/4

IC-75a/4

IC-85a/4

IEC/EN60947-1, IEC/EN60947-4-1, UL508, K60947

4

690V

1000V

50/60Hz

8kV

1800 operations per hour

12 mil. Operations

1 mil. Operations

80

30

80

56

80

70

80

88

80

1.2

91x123.5x117.8

1.29

91x123.5x117.8

-

IAU-11

IUA2, IUA4

16

1.9

1~2.5

-

24 to 550V

220

17

5

85-110%

30-60%

Specifications

IR & IC Type - 4 Pole Control & Power Contactors



Frame size			
Type			
As per Standard			
POWER CONTACTS			
Number of poles			
Rated operational voltage (Ue)			
Rated insulation voltage (Ui)			
Rated frequency			
Rated impulse withstand voltage, Uimp			
Maximum operating rate in operating cycles per hour(AC1)			
Durability	Mechanical (No. of operations)		
	Electrical (No. of operations)		
Current and Power	Ith/AC1	Thermal current	A
			200/240V kW
	200/400V		A
			kW
			A
500/550V		kW	
		A	
690V		kW	
			A
Size and weight	AC Control	Weight	kg
		Size(W × H × D)	mm
	DC Control	Weight	kg
		Size(W × H × D)	mm



225AF				
IC-100a/4	IC-130a/4	IC 150a/4	IC-185a/4	IC-225a/4
IEC/EN60947-1, IEC/EN60947-4-1, UL508, K60947				
4				
690V				
1000V				
50/60Hz				
8kV				
1200 operations per hour				
15 mil. Operations				
0.8 mil. Operations				
200	250	275	300	350
57	60	76	87	100
150	155	200	230	260
106	110	142	165	185
150	155	200	230	260
132	137	180	205	230
150	155	200	230	260
165	170	225	255	290
150	155	200	230	260
5.6				
175x203x185				
5.6				
175x203x185				
2NO+2NC				
IAU-100, IAU-100E				
-				
16				
1.9				
1~2.5				
100~500V				
380				
11.6				
4.7				
85-110%				
30-60%				



400AF

400AF		
IC-265a/4	IC-330a/4	IC-400a/4
IEC/EN60947-1, IEC/EN60947-4-1, UL508, K60947		
4		
690V		
1000V		
50/60Hz		
8kV		
1200 operations per hour		
15 mil. Operations		
0.5 mil. Operations		
400	500	520
115	135	160
300	350	420
215	250	300
300	350	420
265	315	375
300	350	420
335	390	470
300	350	420
9.9		
206x243x205		
9.9		
206x243x205		
2NO+2NC		
IAU-100, IAU-100E		
-		
16		
1.9		
1~2.5		
100~500V		
571		
14		
5		
85-110%		
30-60%		

800AF

800AF		
IC-500a/4	IC-630a/4	IC-800a/4
IEC/EN60947-1, IEC/EN60947-4-1, UL508, K60947		
4		
690V		
1000V		
50/60Hz		
8kV		
1200 operations per hour		
12 mil. Operations		
0.5 mil. Operations		
700	900	1050
245	255	310
630	660	800
450	470	570
630	660	800
560	590	710
630	660	800
710	740	900
630	660	800
26.3		
346x310x244		
26.3		
346x310x244		
2NO+2NC		
IAU-100, IAU-100E		
-		
16		
1.9		
1~2.5		
100~500V		
571		
14		
5		
85-110%		
30-60%		



Specifications

IT type - 3 Pole Thermal Overload Relays

(Protection against Overloads, Phase unbalance, Loss of Phase & Prolonged Stalling of motor)



Type	IT 12	IT 32	IT 63
As Per Standards			
Range (A)	0.1---0.16 0.16---0.25 0.25---0.40 0.40---0.63 0.63---1.0 1---1.6 1.6---2.5 2.5---4.0 4---6 5---8 6---9 7---10 9---13 12---18	0.63---1.0 1---1.6 1.6---2.5 2.5---4.0 4---6 5---8 6---9 7---10 9---13 12---18 16---22 18---25 22---32 28---40	24---36 28---40 34---50 45---65
Mounting	Direct/Separate	Direct/Separate	Direct/Separate
Suitable for Contactor Frame Size	IC 6a,9a,12a,18a(18AF)	IC-9b,12b,18b,22b(22AF) 32a,40a(40AF)	IC-50a,65a(65AF)
Rated Operational voltage(V),Ue	690	690	690
Rated Insulation voltage(V),Ui	690	690	690
Rated Impulse withstand voltage(kV), Uimp	6	6	6
Service Temp			
Stop/Test/ Reset (H/A)	Test/Reset	Stop/Test/ Reset	Stop/Test/ Reset
Built in contacts	1NO+1NC	1NO+1NC	1NO+1NC
Rated Operational Current(A),Ie Aux Contacts	5	5	5
AC-15 Duty	110/120 V 220/240V 380/415V 480V	1.5 0.75 0.47 0.375	1.5 0.75 0.47 0.375
Trip Class	10A & 20	10A & 20	10A & 20
Main Terminal capacity(Max 2 no conductors)	Lug(mm ²)	1~2.5	1~10
Aux terminal capacity	Wire(mm ²)	2*2.5	2*2.5
Separate Mounting Unit	IUZ-12	IUZ-32	IUZ-63

Accessories & Spares for Contactors

Contactor Frame	Timer	Additional Aux. Contacts(Top)		Additional Aux. Contacts(Side)	
3 Pole / 4 Pole	3 Pole / 4 Pole	3 Pole	4 Pole	3 Pole	4 Pole
18AF	IUT/1UN*	IUA2, IUA4	IUA2, IUA4	IUA1	IUA1
22AF					
40AF					
65AF					
85AF					
100AF					
150AF					
225AF					
400AF	NA	-	-	IAU100,IAU100E	IAU100,IAU100E
800AF					

*IUN upto 100AF



IT 95	IT 150	IT 225	IT 400	IT 800
IEC /EN 60947-1, IEC/EN-60947-4-1				
34---50	80---105	100---160	160---240	200---300
45---65	95---130	120---185	200---330	260---400
54---75	110---150	160---240	260---400	400---600
63---85				520---800
70---95				
80---100				
Direct/Separate	Direct/Separate	Direct/Separate	Direct/Separate	Direct/Separate
IC-75a,85a,100a(100AF)	IC-130a,150a(150AF)	IC-185a,225a(225AF)	IC-265a,330a,400a(400AF)	IC-500a,630a,800a(800AF)
690	690	690	690	690
690	690	690	690	690
6	6	6	6	6
	-5°C to +60°C			
Stop/Test/ Reset	Stop/Test/ Reset	Stop/Test/ Reset	Stop/Test/ Reset	Stop/Test/ Reset
1NO+1NC	1NO+1NC	1NO+1NC	1NO+1NC	1NO+1NC
5	5	5	5	5
1.5	1.5	2.5	2.5	2.5
0.75	0.75	2	2	2
0.47	0.47	0.47	0.47	0.47
0.375	0.375	0.375	0.375	0.375
10A	10A & 20	10A & 20	10A & 20	10A & 20
2.5~35	10~50	35~120	50~240	2*185~240
2*2.5	2*2.5	2*2.5	2*2.5	2*2.5
IUZ-95	IUZ-150	NA	NA	NA

Mechanical Interlock Unit		Mechanical Latch Unit	Spare Coil	Surge Suppressor
3 Pole	4 Pole	3 Pole/4 Pole	3 Pole/4 Pole	3 Pole/4 Pole
IUR-02	IUR-02	IML-65	IXC22AF/IXC22AF	IUS/IUS
	IAR-9		IXC22AF/IXC404P	IUS/IAS
	-	IXC40AF/IXC404P	IXC65AF/NA	
IAR-180	IAR-180	IML-150	NA/IXC854P	
IAR-600	IAR-600	IAR-220	IXC100AF/NA	IAS/IAS
		IAR-400	IXC150AF/NA	
		-	IXC225AF/IXC2254P	
			IXC400AF/IXC4004P	
			IXC800AF/IXC8004P	



Overload Relay Tripping Curves

Class 10A

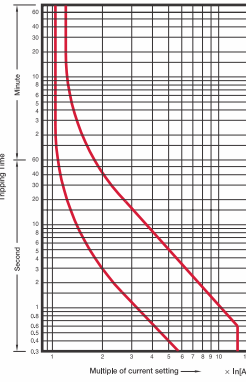
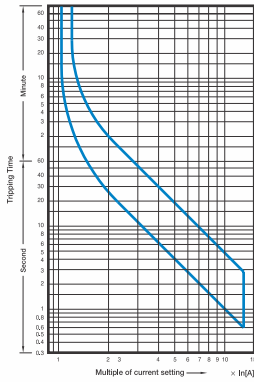
Cold Starting

Hot Starting

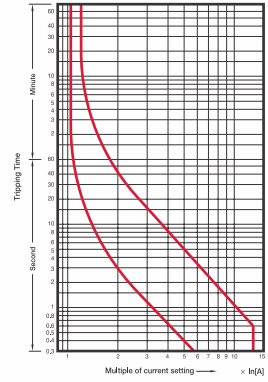
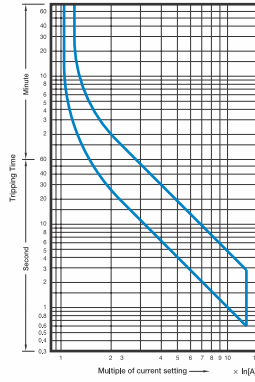
Cold Starting

Hot Starting

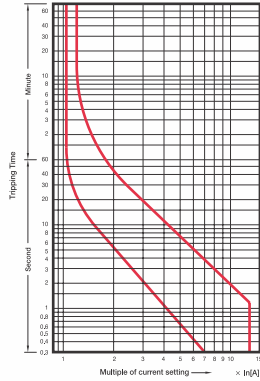
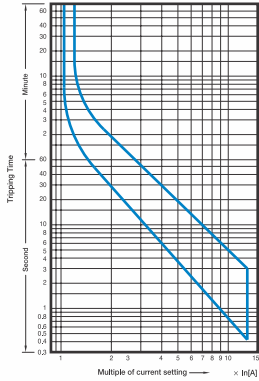
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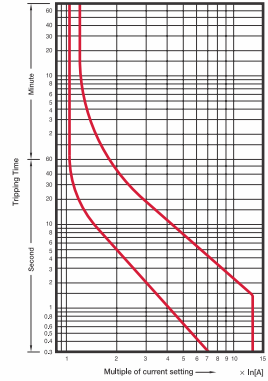
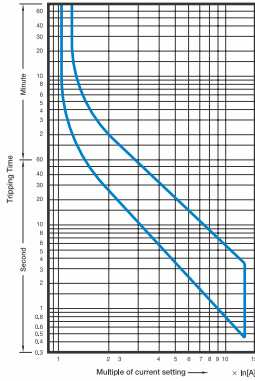
IT-32/3K



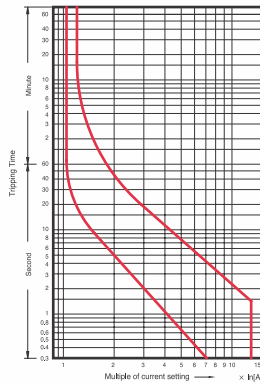
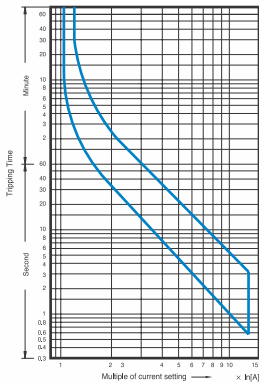
IT-63/3K



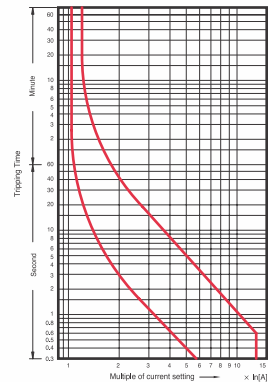
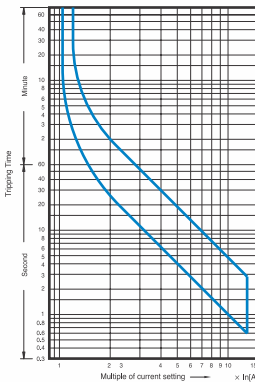
IT-95/3K



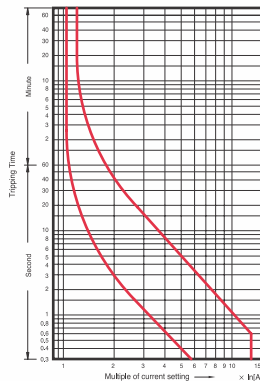
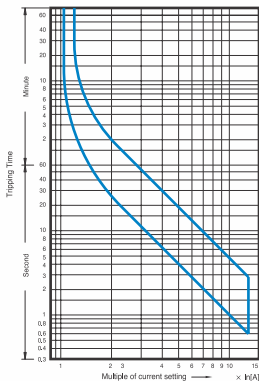
IT-150/3K



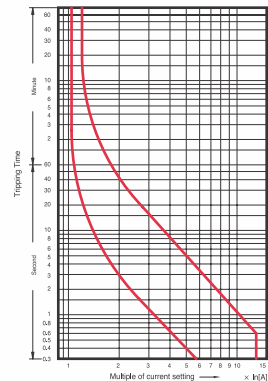
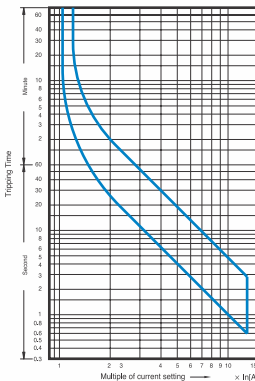
IT-225/3K



IT-400/3K



IT-800/3K



Capacitor Duty Contactors

Description

Capacitor unit(Pre-loading resistor) is connected to the terminals of the contactor to reduce the high inrush current exceeding 20x in.

- AC or DC control coil on selection
- 3-pole(NO) main contact
- Finger proof design
- DIN rail or screw mountable

Rating

Type	Maximum Operating Power (kVar) / Rated Current (A)				Contactor Frame
	220 ~ 240V	400 ~ 440V	500~550V	600~690V	
IC097CC	5/13	9.7/14	14/16	16/15	18AF
IC125CC	6.7/18	12.5/18	18/21	18/17	18AF
IC167CC	8.5/22	16.7/24	24/28	26/25	18AF
IC180CC	10/26	18/26	26/30	30/29	22AF
IC250CC	15/39	25/36	36/42	40/38	40AF
IC333CC	20/52	33.3/48	48/55	53/51	40AF
IC400CC	20/52	40/58	58/67	65/63	65AF
IC457CC	25/66	45.7/66	66/76	73/70	65AF
IC540CC	29.7/78	54/78	78/90	85/82	100AF
IC600CC	35/92	60/87	92/106	100/96	100AF
IC620CC	37/97	62/89	94/109	105/101	100AF

Note) - When the switch is closed condenser must be discharged before recharged. (Maximum residual voltage at terminals ≤ 50V)
 - To prevent short current, gG type fuse must be 1.5~2 times than rated current.

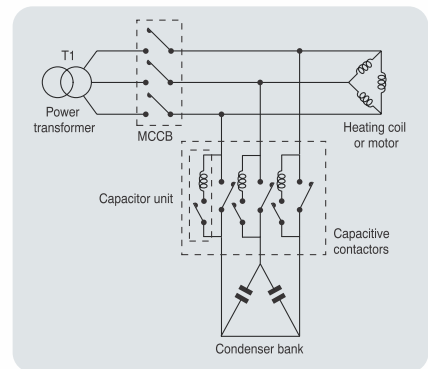
Features of capacitor unit (Pre-loading resistor)

These capacitive contactors are suitable for switching single-step or multiple-step condenser bank.

It is standardized by IEC-60947-4941, UL and CSA.

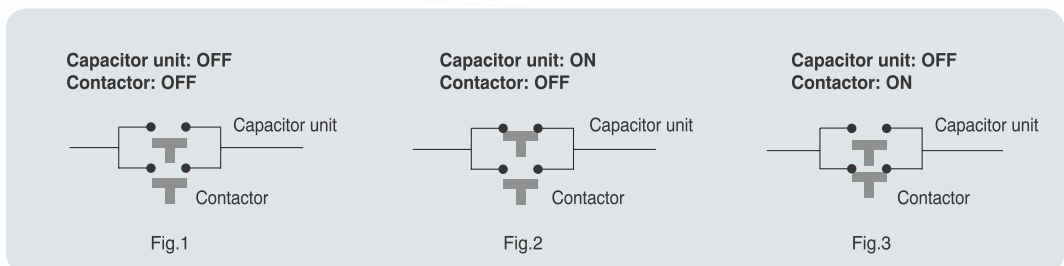
Features of capacitor unit (Pre-loading resistor)

- Damping resistor that can limit the inrush current upto 60x In is connected to the mechanism that closes earlier than the main contact of the contactor
- No heat loss by the series resistor
- Eliminate the switching surge
- Improving the performance of the capacitor circuit system



Example

Operation sequence

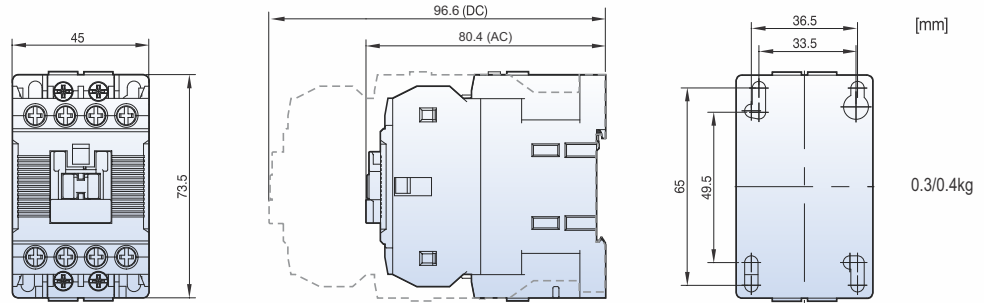


Note) Closing sequence: Fig.1 => Fig.2 => Fig.3
 Opening sequence: Fig.3 => Fig.1

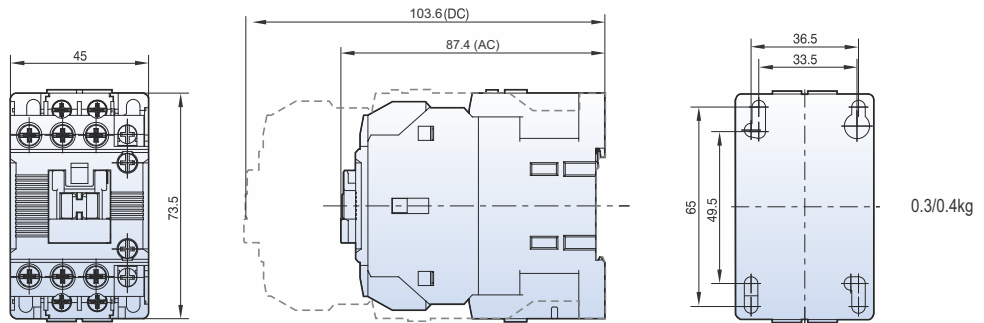
Dimensions (3Pole)

Power Contactors (IC-6a~100a)

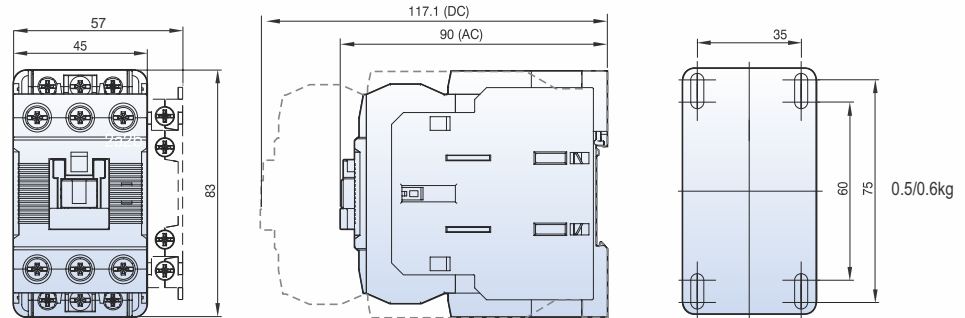
IC-6a~18a AC/DC



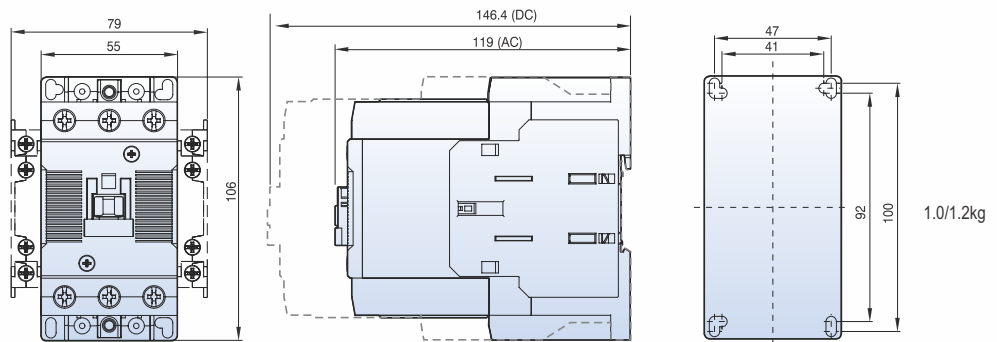
IC-9b~22b AC/DC



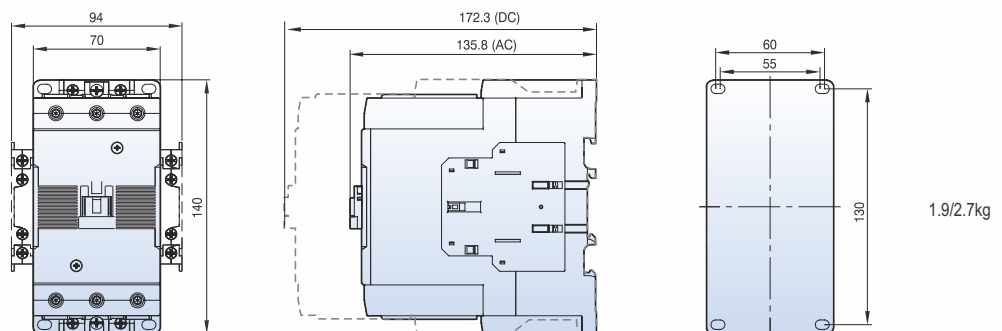
IC-32a~40a AC/DC



IC-50a~65a AC/DC



IC-75a~100a AC/DC

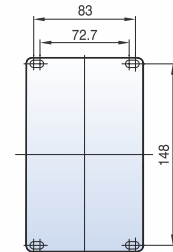
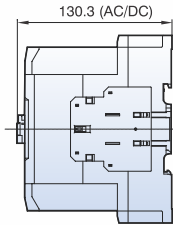
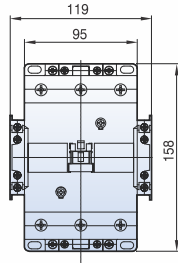




Dimensions (3Pole)

Power Contactors (IC-130a~800a)

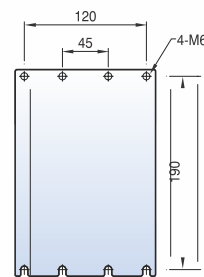
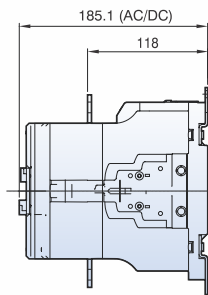
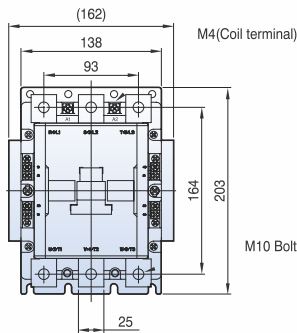
IC-130a~150a AC/DC



[mm]

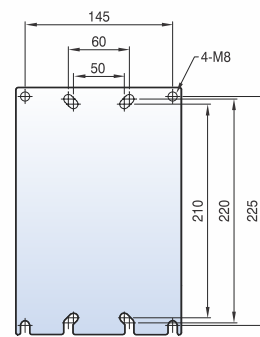
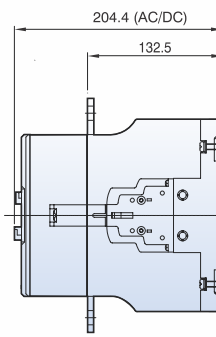
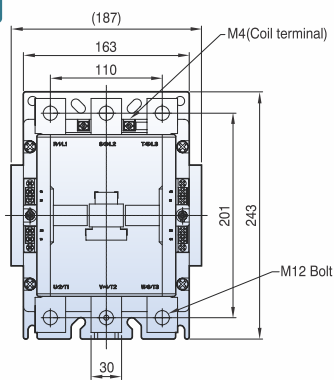
2.4kg

IC-185a~225a AC/DC



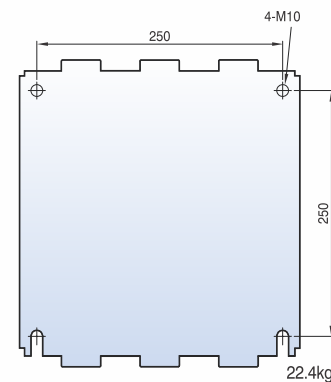
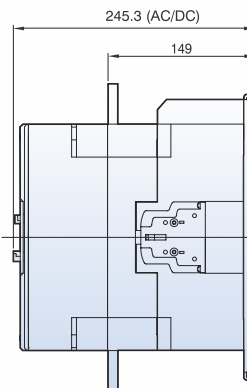
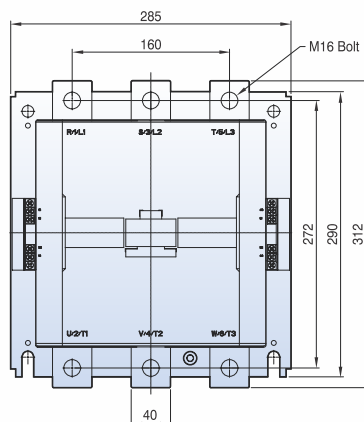
5.4kg

IC-265a~400a AC/DC



9.2kg

IC-500a~800a AC/DC



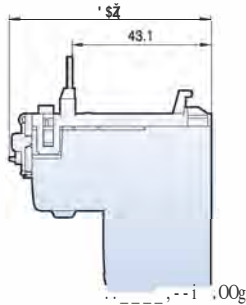
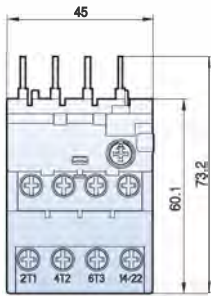
22.4kg



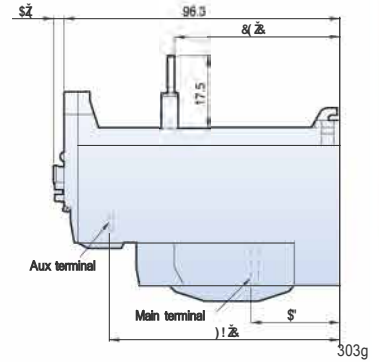
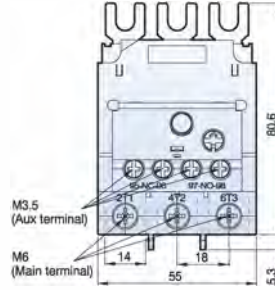
Dimensions (TOR)

@gVc] RU CV]Rj d

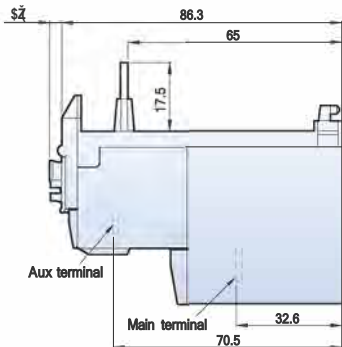
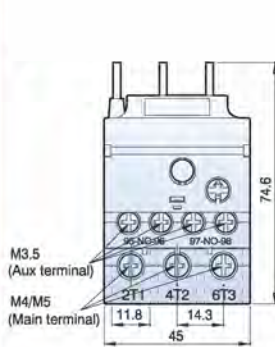
IT-12



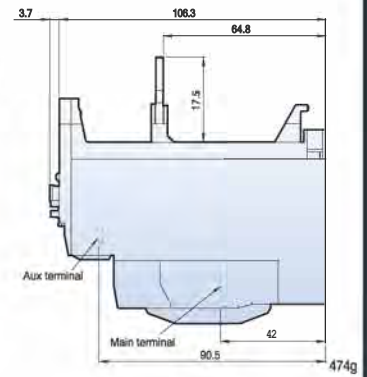
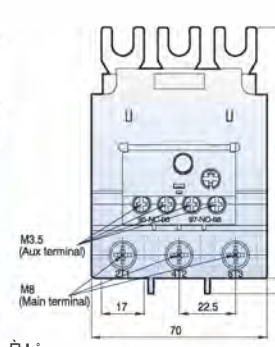
IT-63



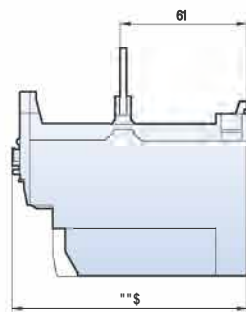
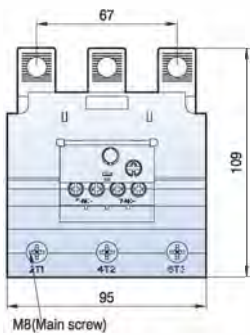
IT-32



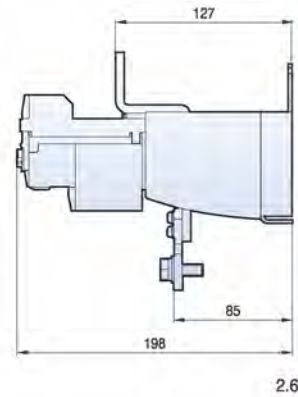
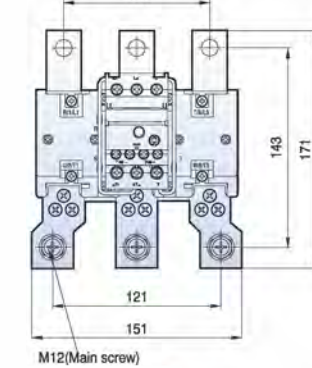
IT-95



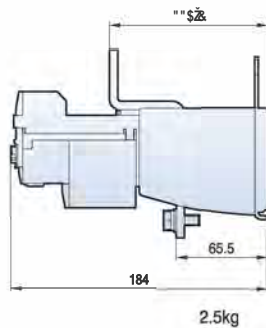
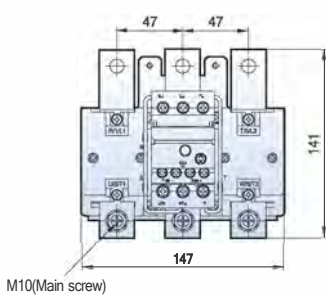
IT-150



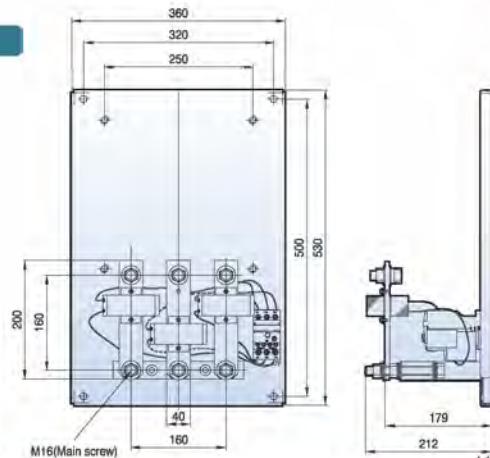
IT-400



IT-225



IT-800

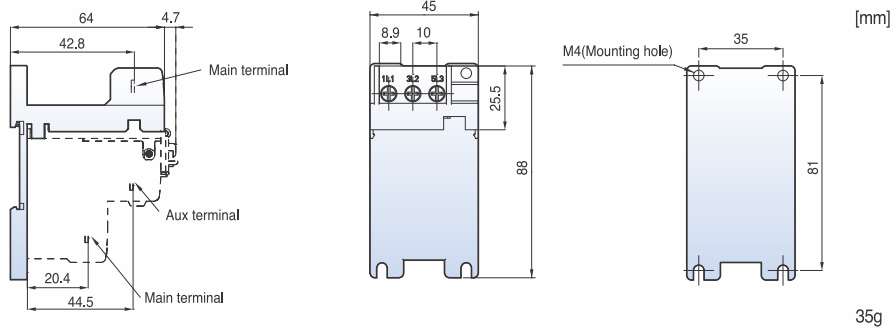


11.5kg

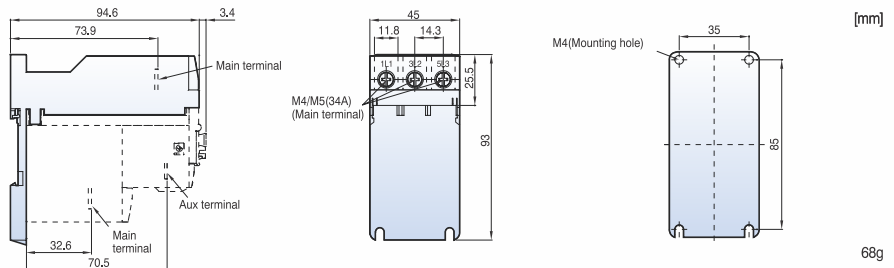
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Dimensions (TOR) Separate Mounting Units

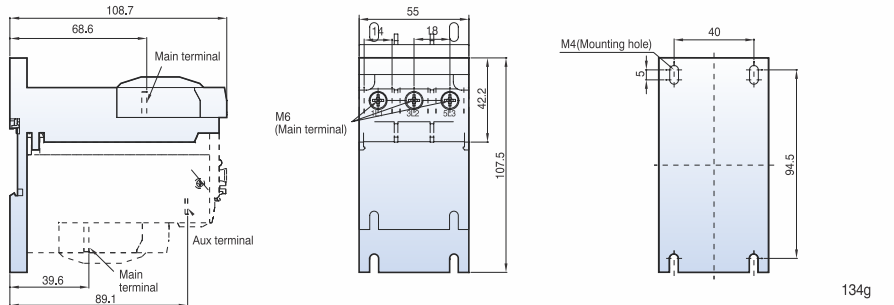
IUZ-12



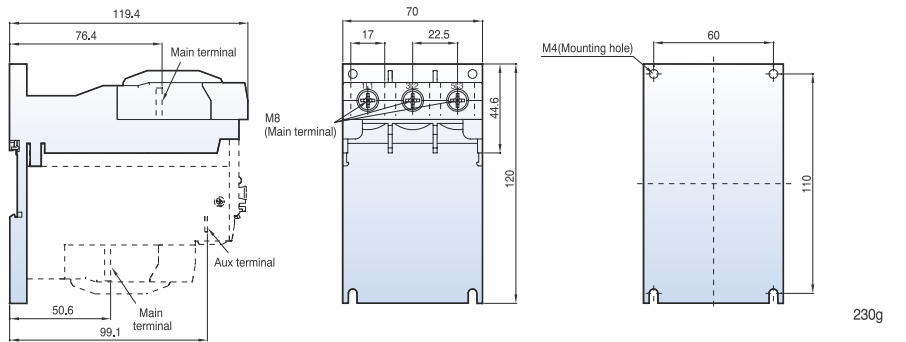
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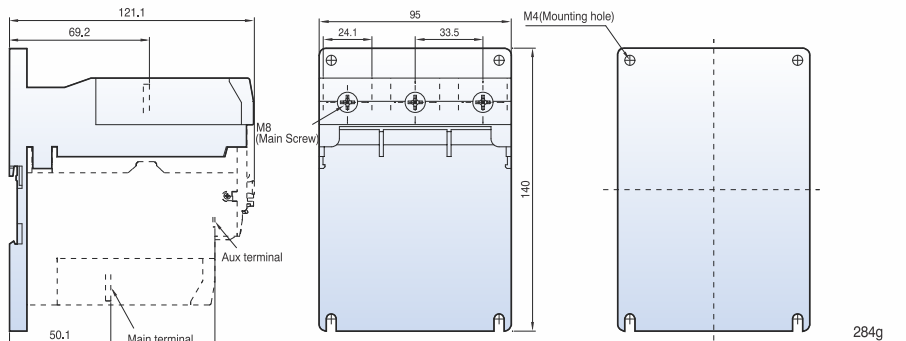
IUZ-63



IUZ-95



IUZ-150

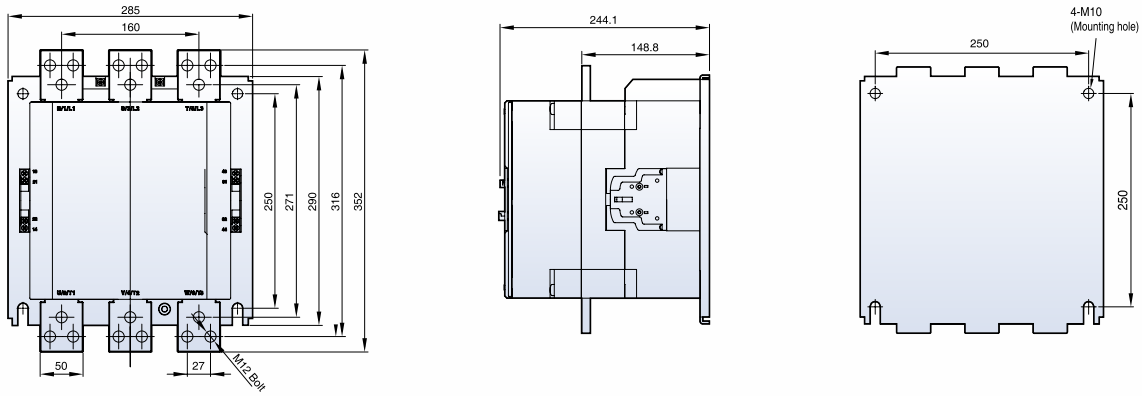




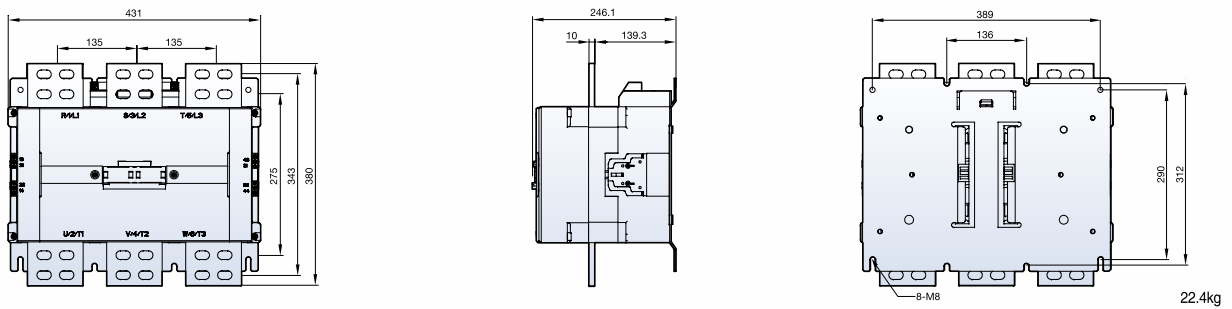
Dimensions (3Pole)

3-pole contactors dimension (1260AF~2100AF)

IC-1260a AC/DC

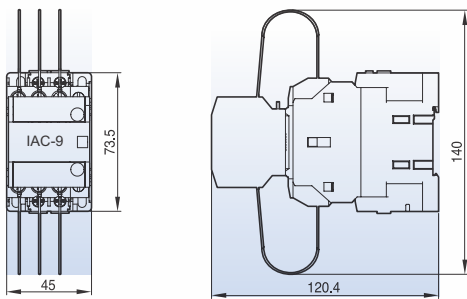


IC-2100a AC/DC

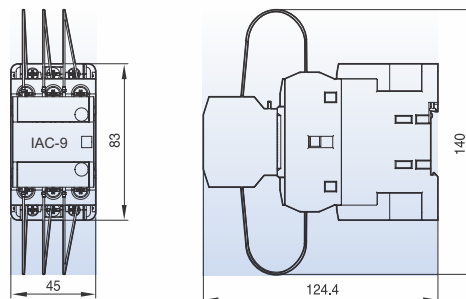


Capacitor Duty Contactors (IC-097CC~620CC)

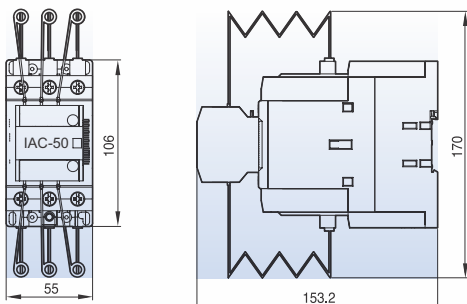
IC097CC~180CC AC



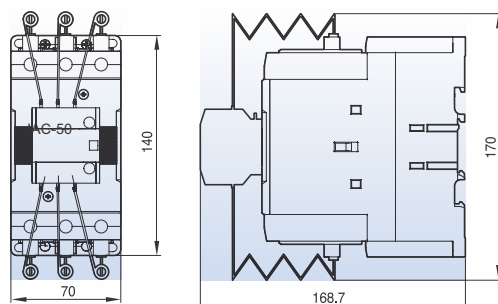
IC250CC~333CC AC



IC400CC~457CC AC



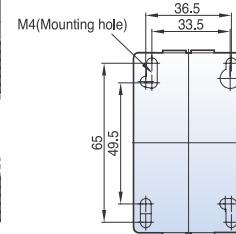
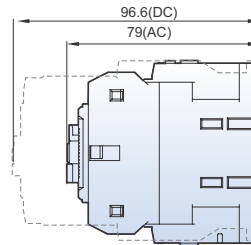
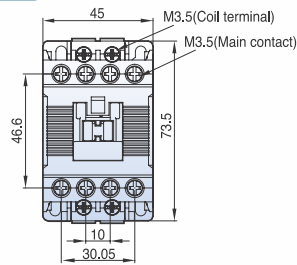
IC540CC~620CC AC



Dimensions (4Pole)

Control & Power Contactors (IR, IC-6a/4~85a/4)

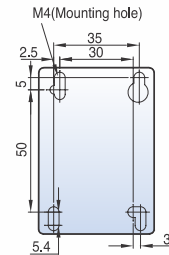
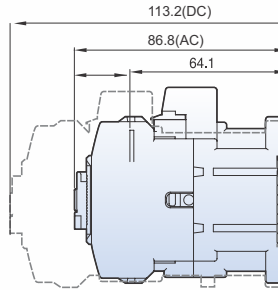
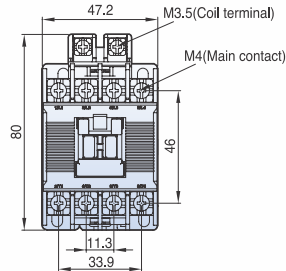
IR & IC-6a/4~18a/4 AC/DC



[mm]

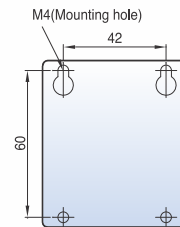
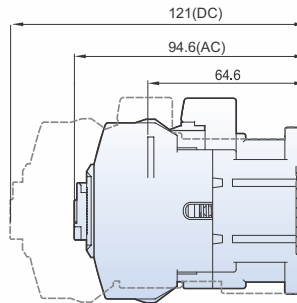
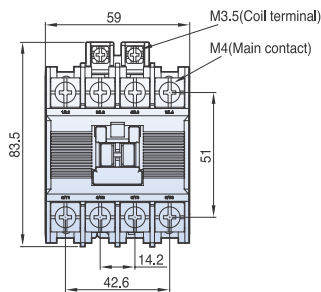
0.3/0.45kg

IC-22a/4 AC/DC



0.4/0.55kg

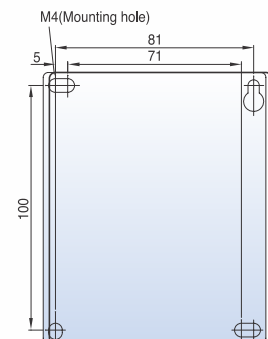
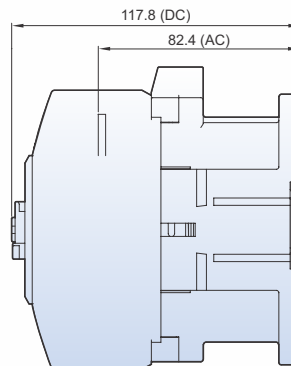
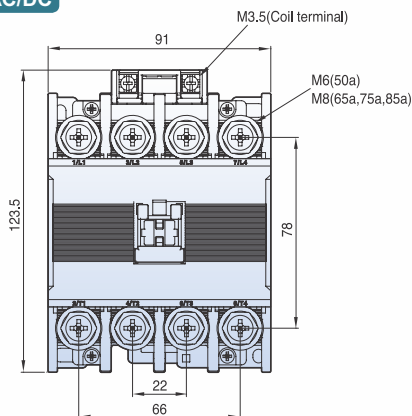
IC-32a/4~40a/4 AC/DC



[mm]

0.6/0.7kg

IC-50a/4~85a/4 AC/DC



1.2/1.3kg

