

PC Series Contactors



AC-3 = 10A - 22A
AC-1 = 25A - 30A



AC-3 = 24A - 40A
AC-1 = 50A - 80A



AC-3 = 50A - 74A
AC-1 = 110A - 130A

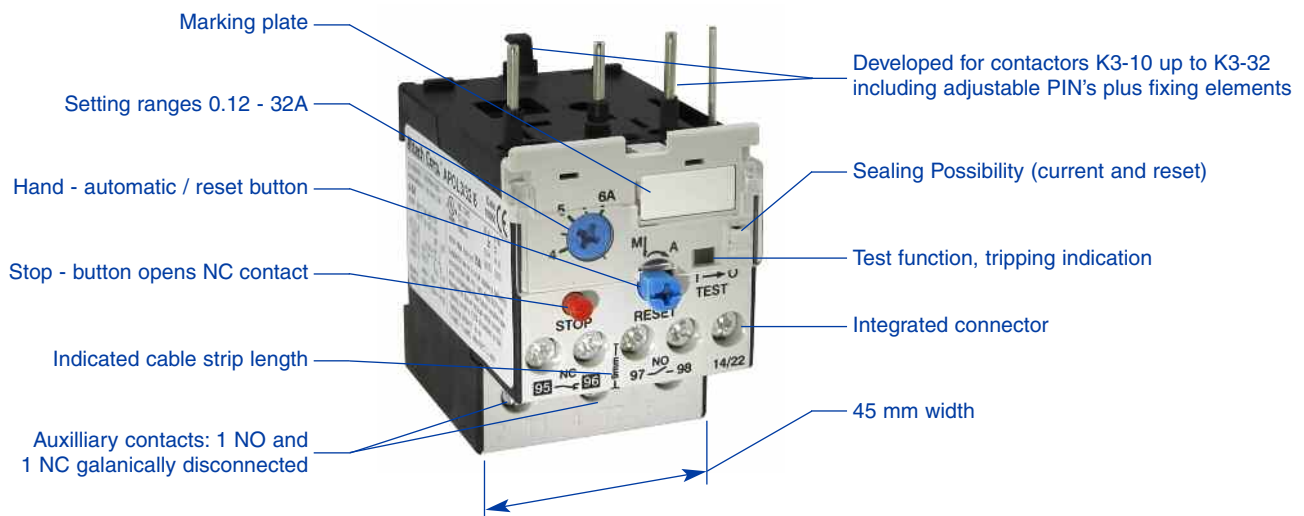


AC-3 = 90A - 115A
AC-1 = 160A - 200A

- Range of Products
 - 3 Pole Standard Contactors
 - 10 to 115A AC-3 Rating
 - 25 to 200A AC-1 Rating
 - 3 Pole Mini Contactor
 - 9 and 12A AC-3 Rating
 - 15 and 20A AC-1 Rating
- No derating of AC3 values for temperatures up to + 90°C
- Designed for the operation under extreme conditions including temperature, dust, sand, high humidity, shock
- Self wiping bifurcated contacts
- Minimum size & Maximum performance
- Shorter height than most competitors
- Large wire capacity
- Special contact materials provide high contact reliability
- Clip on coil surge suppression
- Side mount auxiliaries
- Optional Voltage or Current Indicators
- Quick and exact tripping in case of phase failures independent from setting ranges
- Bimetals are warmed up to achieve exact tripping

Overloads Relays

- Overload Relays from 0.1 to 630A
- From 0.12 to 120A
- 24 Setting Ranges Available
- Trip Class 10 Protection
- Manual / Automatic Reset



22A Frame

with built-in
auxilliary switch



AC



DC

A16PC(G)3-10ND10

A16PC(G)3-14ND10

A16PC(G)3-18ND10

A16PC(G)3-22ND10

COIL VOLTAGES*

AC Coil (60Hz)**

	Part No.	Part No.	Part No.	Part No.
24V	A16PC3-10ND10-AC24V	A16PC3-14ND10-AC24V	A16PC3-18ND10-AC24V	A16PC3-22ND10-AC24V
110-120V	A16PC3-10ND10-AC110V	A16PC3-14ND10-AC110V	A16PC3-18ND10-AC110V	A16PC3-22ND10-AC110V
200-240V	A16PC3-10ND10-AC180V	A16PC3-14ND10-AC180V	A16PC3-18ND10-AC180V	A16PC3-22ND10-AC180V

DC Coil (Standard double winding coil - regular power consumption)

	Part No.	Part No.	Part No.	Part No.
24V	A16PC3-10ND10-DC24V	A16PC3-14ND10-DC24V	A16PC3-18ND10-DC24V	A16PC3-22ND10-DC24V
110V	A16PC3-10ND10-DC110V	A16PC3-14ND10-DC110V	A16PC3-18ND10-DC110V	A16PC3-22ND10-DC110V
230V	A16PC3-10ND10-DC230V	A16PC3-14ND10-DC230V	A16PC3-18ND10-DC230V	A16PC3-22ND10-DC230V

NOTES: Parts above include 1 N.O. (10) auxiliary contact built-in. Please specify 01 in part number for N.C. auxiliary contact configuration.

CURRENT RATINGS

General Use (AC1)	25A (25A)	25A (25A)	30A (32A)	30A (32A)
Motor FLA@600V	10A	14A	18A	22A
AC3@380-400V				

HP RATINGS

	1 Phase	3 Phase	1 Phase	3 Phase	1 Phase	3 Phase	1 Phase	3 Phase
110-120V	1/2	1 1/2	3/4	2	1	2	1 1/2	3
200V	1	3	1 1/2	3	2	5	3	5
220-240V	1 1/2	3	2	3	3	7 1/2	3	7 1/2
277V	2	3	3	5	3	7 1/2	5	7 1/2
380-415V	3	5	3	5	5	10	5	10
440-480V	3	5	5	7 1/2	5	10	7 1/2	15
550-600V	3	7 1/2	5	10	7 1/2	15	10	20

OVERLOAD† RELAYS



Standard
Part No.



Manual Reset
Part No.

Setting Range	Standard Part No.	Manual Reset Part No.
0.12 - 0.18	APOL3/32 0.18	APOL12/16E 0.18 C3
0.18 - 0.27	APOL3/32 0.27	APOL12/16E 0.27 C3
0.27 - 0.4	APOL3/32 0.4	APOL12/16E 0.4 C3
0.4 - 0.6	APOL3/32 0.6	APOL12/16E 0.6 C3
0.6 - 0.9	APOL3/32 0.9	APOL12/16E 0.9 C3
0.8 - 1.2	APOL3/32 1.2	APOL12/16E 1.2 C3
1.2 - 1.8	APOL3/32 1.8	APOL12/16E 1.8 C3
1.8 - 2.7	APOL3/32 2.7	APOL12/16E 2.7 C3
2.7 - 4	APOL3/32 4	APOL12/16E 4 C3
4 - 6	APOL3/32 6	APOL12/16E 6 C3
6 - 9	APOL3/32 9	APOL12/16E 9 C3
8 - 11	APOL3/32 11	APOL12/16E 11 C3
10 - 14	APOL3/32 14	APOL12/16E 14 C3
13 - 18	APOL3/32 18	APOL12/16E 18 C3
17 - 24	APOL3/32 24	APOL12/16E 23 C3
23 - 32	APOL3/32 32	APOL12/16E 30 C3

*Other coil voltages available upon request.

** (50Hz available upon request)

† Stocked parts in **BOLD**

Supressor Units

Voltage Range

12 - 48V AC-DC
48 - 127V AC-DC
110 - 230V AC/DC

Part No.

AP-RC-C3N-24
AP-RC-C3N-110
AP-RC-C3N-230

Indicators

Coil Voltage

24-120V AC/DC
Coil Current
24-660V AC/DC Green
24-660V AC/DC (Red)

Part No.

AP-C2UNR
Part No.
Green = AP-C2ING
Red = AP-C2INR

Front Mount Auxiliary

Low Level Switching

1 NO = AP-HN10 1 NC = AP-HN01

Up to 25 A Switching

1 NO = AP-HA10 1 NC = AP-HA01

Mechanical Contactor Interlock

For ND & 40A Frames

AP-LG10889

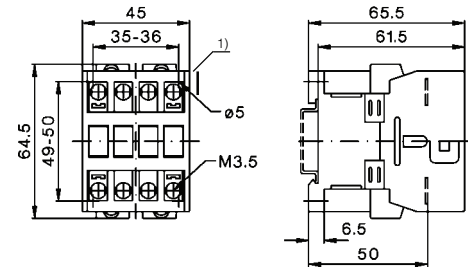
Data according to IEC 947-4-1, EN 60947-4-1, VDE 0660, UL508

Main Contacts		Type	C(G)3-10	C(G)3-14	C(G)3-18	C(G)3-22
Maximum Ambient Temperature						
Operation	open	°C	-40 to +60 (+90) ¹			
	enclosed	°C	-40 to +40			
with thermal overload relay	open	°C	-25 to +60			
	enclosed	°C	-25 to +40			
Storage		°C	-50 to +90			
Control Circuit						
Power Consumption of Coils						
AC operated	inrush	VA	33-45			
	holding	VA	7-10			
		W	2. 6-3			
DC operated	inrush	W	75			
	holding	W	2			
Cable Cross-Section						
for contactors without thermal overload relay			0.75 - 6			
main connector			1 - 4			
	solid or stranded	mm ²	0.75 - 4			
Wire Specifications						
1 cable per terminal						
main connector		solid AWG	18 - 10 16 - 10 12 - 10			
60°C (Cu)		flexible AWG	18 - 10 14 - 4 10 - 0			
2 cables per terminal						
60°C (Cu)		solid AWG	10+(16-10) / 12+(18-12)			
		flexible AWG	14+(18-14) / 16+(18-16)			
			10+(14-10) / 12+(18-12)			
			14+(18-14) / 16+(18-16)			
Screw / Screwdriver			M3.5 / Pz2			
Tightening Torque			0.8-1.4Nm, 7-12lb. in.			
Mechanical Life						
AC operated		S x 10 ⁶	10			
DC operated		S x 10 ⁶	10			
Short Time Current						
	10s-current	A	96	120	144	176
	120s-current	A	42	52	58	66
Power Loss per pole						
	at I _e / AC3 400V	W	0.21	0.35	0.5	0.75
	contact resistance	mOhm	2.1	1.8	1.5	1.5
Resistance to Shock acc. to IEC 68-2-27						
Shock time 20ms sine-wave		NO	g	10	10	10
		NC	g	6	6	6
Resistance to Climatic Conditions acc. to IEC60068						
Open-type devices are climate-resistant in the constant climate according to IEC60068-2-3 (this is a climate with an ambient temperature of 40°C and an atmospheric humidity of 90 to 95%).						
Enclosed devices are climate-resistant in an alternating climate according to IEC 68-2-30 (this is a moist alternating climate with a 24-hour cycle between climates with an ambient temperature of 25°C, and an atmospheric humidity of 95 to 100% and an ambient temperature of 40°C, and an atmospheric humidity of 90 to 96% in the presence of condensation during rises in temperature).						
Data are valid up to an altitude of 2000m above sea level.						
Short Circuit Current Rating						
Fuse Class RK5 / Short-circuit current		A/kA	50/5	50/5	70/5	90/5
Fuse Class T / Short-Circuit current		A/kA	45/100	50/100	70/100	90/100
Rated voltage		V	600	600	600	600

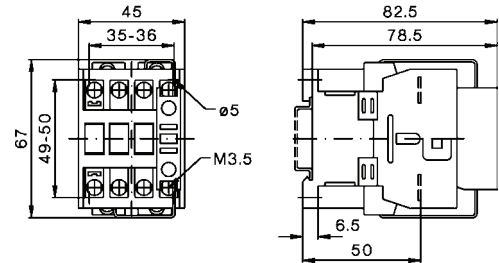
¹ With reduced control voltage range 0.9 up to 1.0 x U_s and with reduced rated current I_e / AC1 according to I_e / AC3.

Contactors

AC Operated C(G)3-10, C(G)3-14, C(G)3-18 and C(G)3-22

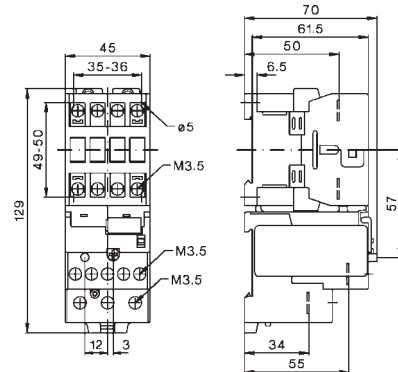


DC Operated C3-10N, C3-14N, C3-18N and C3-22N

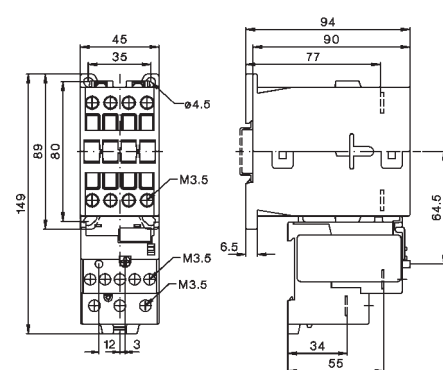


Thermal Overload Relays

C3-10N+APOL3/32, C3-18N, C3-14N and C3-22N



CG3-10N+APOL3/32, CG3-18N, CG3-14N and CG3-22N



40A Frame



AC



DC

A16PC3-24A00

A16PC3-32A00

A16PC3-40A00

COIL VOLTAGES*

AC Coil (60Hz)**

	Part No.	Part No.	Part No.
24V	A16PC3-24A00-AC24V	A16PC3-32A00-AC24V	A16PC3-40A00-AC24V
110-120V	A16PC3-24A00-AC110V	A16PC3-32A00-AC110V	A16PC3-40A00-AC110V
200-240V	A16PC3-24A00-AC180V	A16PC3-32A00-AC180V	A16PC3-40A00-AC180V

DC Coil (Standard double winding coil - regular power consumption)

	Part No.	Part No.	Part No.
24V	A16PC3-24A00-DC24V	A16PC3-32A00-DC24V	A16PC3-40A00-DC24V
110V	A16PC3-24A00-DC110V	A16PC3-32A00-DC110V	A16PC3-40A00-DC110V
230V	A16PC3-24A00-DC230V	A16PC3-32A00-DC230V	A16PC3-40A00-DC230V

CURRENT RATINGS

	50A (50A)	65A (65A)	80A (80A)
General Use (AC1)	50A (50A)	65A (65A)	80A (80A)
Motor FLA@600V	22A	27A	34A
AC3@380-400V	24A	32A	40A

HP RATINGS

	1 Phase	3 Phase	1 Phase	3 Phase	1 Phase	3 Phase
110-120V	1 1/2	5	2	5	3	7 1/2
200V	3	7 1/2	5	10	7 1/2	10
220-240V	5	10	5	10	7 1/2	15
277V	5	7 1/2	7 1/2	10	10	15
380-415V	5	10	7 1/2	15	10	20
440-480V	7 1/2	15	10	20	15	25
550-600V	10	20	15	25	20	30

OVERLOAD† RELAYS



Standard



Manual Reset

Setting Range	Standard Part No.	Manual Reset Part No.
0.12 - 0.18	APOL3/32 0.18	-
0.18 - 0.27	APOL3/32 0.27	-
0.27 - 0.4	APOL3/32 0.4	-
0.4 - 0.6	APOL3/32 0.6	-
0.6 - 0.9	APOL3/32 0.9	-
0.8 - 1.2	APOL3/32 1.2	-
1.2 - 1.8	APOL3/32 1.8	-
1.8 - 2.7	APOL3/32 2.7	-
2.7 - 4	APOL3/32 4	-
4 - 6	APOL3/32 6	-
6 - 9	APOL3/32 9	-
8 - 11	APOL3/32 11	-
10 - 14	APOL3/32 14	APOL3/42 14
13 - 18	APOL3/32 18	-
14 - 20	-	APOL3/42 20
17 - 24	APOL3/32 24	-
20 - 28	-	APOL3/42 28
23 - 32	APOL3/32 32	-
28 - 42	-	APOL3/42 42

Supressor Units

Voltage Range	Part No.
12 - 48V AC-DC	AP-RC-C3N-24
48 - 127V AC-DC	AP-RC-C3N-110
110 - 230V AC/DC	AP-RC-C3N-230

Indicators

Coil Voltage	Part No.
24-120V AC/DC	AP-C2UNR
Coil Current	Part No.
24-660V AC/DC Green	Green = AP-C2ING
24-660V AC/DC (Red)	Red = AP-C2INR

Front Mount Auxiliary

Low Level Switching	
1 NO = AP-HN10	1 NC = AP-HN01

Up to 25 A Switching	
1 NO = AP-HA10	1 NC = AP-HA01

Mechanical Contactor Interlock

For ND & 40A Frames
AP-LG10889

*Other coil voltages available upon request.

** (50Hz available upon request)

† Stocked parts in **BOLD**

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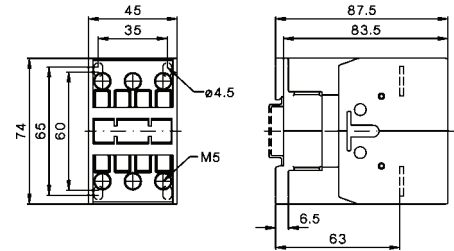
Data according to IEC 947-4-1, EN 60947-4-1, VDE 0660, UL508

Main Contacts		Type	C(G)3-24	C(G)3-32	C(G)3-40
Maximum Ambient Temperature					
Operation	open	°C	-40 to +60 (+90)*		
	enclosed	°C	-40 to +40		
with thermal overload relay	open	°C	-25 to +60		
	enclosed	°C	-25 to +40		
Storage		°C	-50 to +90		
Control Circuit					
Power Consumption of Coils					
AC operated	inrush	VA	90-115		
	holding	VA	9-13		
DC operated	inrush	W	2. 7-4		
	holding	W	140		
double winding coil		W	2		
Cable Cross-Section					
for contactors without thermal overload relay					
main connector	solid or stranded	mm ²			
Wire Specifications					
1 cable per terminal	main connector	solid	AWG	6 - 10	
		flexible	AWG	14 - 4	
2 cables per terminal	main connector	solid	AWG	10+(16-10) / 12+(18-12)	
		flexible	AWG	14+(18-14) / 16+(18-16)	
60°C (Cu)	main connector	solid	AWG	4+(18-12) / 6+(18-8)	
		flexible	AWG	8+(18-8) / 10+(18-12)	
Screw / Screwdriver				M5 / Pz2	
Tightening Torque				2.5-3Nm, 22-26lb. in.	
Mechanical Life					
AC operated		S x 10 ⁶	10		
DC operated		S x 10 ⁶	10		
Short Time Current					
10s-current	10s-current	A	184	240	296
	120s-current	A	80	97	110
Power Loss per pole					
at I _e / AC3 400V	contact resistance	W	0.7	1.3	2
		mOhm	1.2	1.2	1.2
Resistance to Shock acc. to IEC 68-2-27					
Shock time 20ms sine-wave	NO	g	8	8	8
	NC	g	-	-	-
Resistance to Climatic Conditions acc. to IEC60068					
Open-type devices are climate-resistant in the constant climate according to IEC60068-2-3 (this is a climate with an ambient temperature of 40°C and an atmospheric humidity of 90 to 95%).					
Enclosed devices are climate-resistant in an alternating climate according to IEC 68-2-30 (this is a moist alternating climate with a 24-hour cycle between climates with an ambient temperature of 25°C, and an atmospheric humidity of 95 to 100% and an ambient temperature of 40°C, and an atmospheric humidity of 90 to 96% in the presence of condensation during rises in temperature).					
Data are valid up to an altitude of 2000m above sea level.					
Short Circuit Current Rating					
Fuse Class RK5 / Short-circuit current		A/kA	90/5	125/5	175/5
Fuse Class T / Short-Circuit current		A/kA	110/100	150/100	150/100
Rated voltage		V	600	600	600

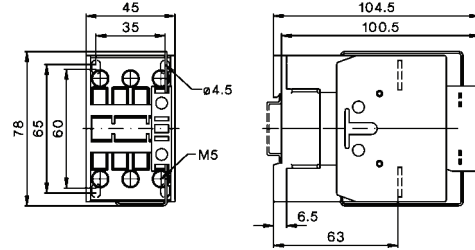
¹ With reduced control voltage range 0.9 up to 1.0 x U_s and with reduced rated current I_e / AC1 according to I_e / AC3.

Contactors

AC Operated C(G)3-24, C(G)3-32 and C(G)3-40

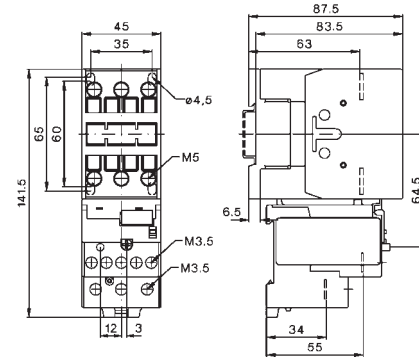


DC Operated C3-24, C3-32 and C3-40

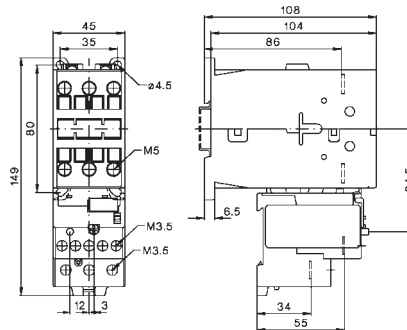


Thermal Overload Relays

C3-10N+APOL3/32, C3-18N, C3-14N and C3-22N



CG3-10N+APOL3/32, CG3-18N, CG3-14N and CG3-22N



74A Frame



A16PC3-50A00

A16PC3-62A00

A16PC3-74A00

COIL VOLTAGES*

AC Coil (60Hz)**

	Part No.	Part No.	Part No.
24V	A16PC3-50A00-AC24V	A16PC3-62A00-AC24V	A16PC3-74A00-AC24V
110-120V	A16PC3-50A00-AC110V	A16PC3-62A00-AC110V	A16PC3-74A00-AC110V
200-240V	A16PC3-50A00-AC180V	A16PC3-62A00-AC180V	A16PC3-74A00-AC180V

DC Coil (Standard double winding coil - regular power consumption)

	Part No.	Part No.	Part No.
24V	A16PC3-50A00-DC24V	A16PC3-62A00-DC24V	A16PC3-74A00-DC24V
110V	A16PC3-50A00-DC110V	A16PC3-62A00-DC110V	A16PC3-74A00-DC110V
230V	A16PC3-50A00-DC230V	A16PC3-62A00-DC230V	A16PC3-74A00-DC230V

CURRENT RATINGS

General Use (AC1)	110A (110A)	120A (120A)	130A (130A)
Motor FLA@600V	44A	52A	66A
AC3@380-400V	50A	62A	74A

HP RATINGS

	1 Phase	3 Phase	1 Phase	3 Phase	1 Phase	3 Phase
110-120V	3	10	5	10	7 1/2	10
200V	7 1/2	15	10	20	15	25
220-240V	10	20	15	25	15	30
277V	10	20	15	25	15	30
380-415V	15	25	20	30	20	40
440-480V	20	30	25	40	25	50
550-600V	25	40	30	50	30	50

OVERLOAD† RELAYS

Setting Range	Standard Part No.
20 - 28	APOL3/74 28
28 - 42	APOL3/74 42
40 - 52	APOL3/74 52
52 - 65	APOL3/74 65
60 - 74	APOL3/74 74

Suppressor Units



Voltage Range	Part No.
12 - 48V AC-DC	AP-RC-C3N-24
48 - 127V AC-DC	AP-RC-C3N-110
110 - 230V AC/DC	AP-RC-C3N-230

Indicators



Coil Voltage	Part No.
24-120V AC/DC	AP-C2UNR
Coil Current	Part No.
24-660V AC/DC Green	Green = AP-C2ING
24-660V AC/DC (Red)	Red = AP-C2INR

Front Mount Auxiliary



Low Level Switching	
1 NO = AP-HN10	1 NC = AP-HN01



Up to 25 A Switching	
1 NO = AP-HA10	1 NC = AP-HA01





Mechanical Contactor Interlock
For ND & 40A Frames
AP-LG10889

*Other coil voltages available upon request.

** (50Hz available upon request)

† Stocked parts in **BOLD**

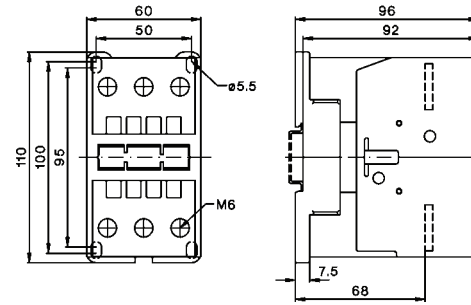
Data according to IEC 947-4-1, EN 60947-4-1, VDE 0660, UL508

Main Contacts		Type	C(G)3-24	C(G)3-32	C(G)3-40
Maximum Ambient Temperature					
Operation	open	°C	-40 to +60 (+90) ¹		
	enclosed	°C	-40 to +40		
with thermal overload relay	open	°C	-25 to +60		
	enclosed	°C	-25 to +40		
Storage		°C	-50 to +90		
Control Circuit					
Power Consumption of Coils					
AC operated	inrush	VA	140-165		
	holding	VA	13-18		
DC operated	inrush	W	5. 4-7		
	holding	W	200		
double winding coil		W	6		
Cable Cross-Section					
for contactors without thermal overload relay					
main connector	solid or stranded	mm ²	 4 - 50		
			10 - 35		
			6 - 35		
Wire Specifications					
1 cable per terminal main connector	solid	AWG	12 - 10		
	flexible	AWG	10 - 10		
2 cables per terminal 75°C (Cu)	solid	AWG	10+(12-10) / 12+12		
	flexible	AWG	1+(12-10) / 2+(8-12) 3+(12-8) / 4+(10-6)		
Screw / Screwdriver			M6 / Pz3 		
Tightening Torque			3.5-4.5Nm, 31-40lb. in.		
Mechanical Life					
AC operated		S x 10 ⁶	10		
DC operated		S x 10 ⁶	10		
Short Time Current					
10s-current		A	450	504	592
	120s-current	A	195	203	222
Power Loss per pole contact resistance					
at I _e / AC3 400V		W	2.2	3.9	5.5
		mOhm	1	1	1
Resistance to Shock acc. to IEC 68-2-27					
Shock time 20ms sine-wave	NO	g	8	8	8
	NC	g	-	-	-
Resistance to Climatic Conditions acc. to IEC60068					
Open-type devices are climate-resistant in the constant climate according to IEC60068-2-3 (this is a climate with an ambient temperature of 40°C and an atmospheric humidity of 90 to 95%). Enclosed devices are climate-resistant in an alternating climate according to IEC 68-2-30 (this is a moist alternating climate with a 24-hour cycle between climates with an ambient temperature of 25°C, and an atmospheric humidity of 95 to 100% and an ambient temperature of 40°C, and an atmospheric humidity of 90 to 96% in the presence of condensation during rises in temperature). Data are valid up to an altitude of 2000m above sea level.					
Short Circuit Current Rating					
Fuse Class RK5 / Short-circuit current		A/kA	200/5	250/5	300/5
Fuse Class T / Short-Circuit current		A/kA	175/100	175/100	175/100
Rated voltage		V	600	600	600

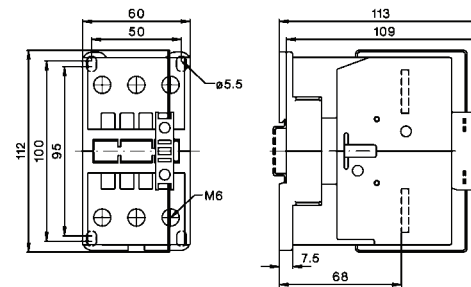
¹ With reduced control voltage range 0.9 up to 1.0 x U_s and with reduced rated current I_e / AC1 according to I_e / AC3.

Contactors

AC Operated C3-50, C3-62 and C3-74

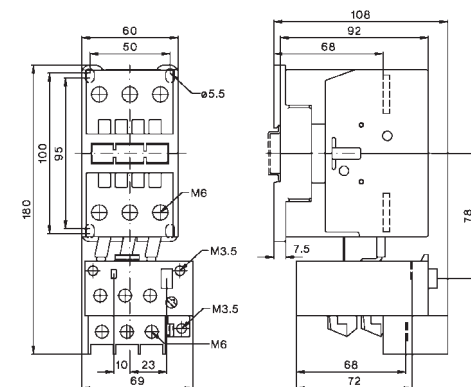


DC Operated C3-50, C3-62 and C3-74



Thermal Overload Relays

C3-50+APOL3/74, C3-62+APOL3/74 and C3-74+APOL3/74



115A Frame

with built-in
auxilliary switch



A16PC3-90A00

A16PC3-115A00

COIL VOLTAGES*

AC Coil (50/60Hz)** /DC Coil

	Part No.	Part No.
24V AC / 24V DC	A16PC3-90A00-24V	A16PC3-115A00-24V
110-120V AC / 110V DC	A16PC3-90A00-110V	A16PC3-115A00-110V
200-240V AC / 220V DC	A16PC3-90A00-230V	A16PC3-115A00-230V

CURRENT RATINGS

	160A (160A)	200A (200A)
General Use (AC1)	160A (160A)	200A (200A)
Motor FLA@600V	85A	99A
AC3@380-400V	90A	115A

HP RATINGS

	1 Phase	3 Phase	1 Phase	3 Phase
110-120V	8	15	10	20
200V	15	25	20	35
220-240V	20	35	25	40
277	20	-	25	-
380-415V	30	50	40	60
440-480V	40	65	50	75
550-600V	50	85	60	100

OVERLOAD+ RELAYS

Setting Range	Standard Part No.
60 - 90	APOL85/90
80 - 120	APOL85/120

*Other coil voltages available upon request.

** (50Hz available upon request)

† Stocked parts in **BOLD**

Data according to IEC 947-4-1, EN 60947-4-1, VDE 0660, UL508

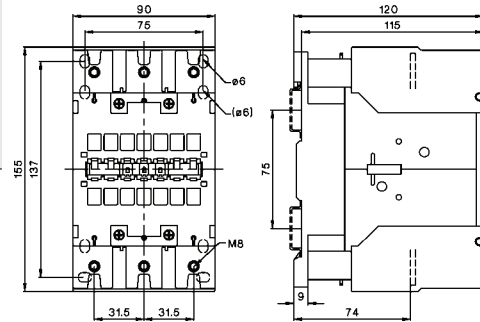
Main Contacts	Type		C3-90	C3-115
Maximum Ambient Temperature				
Operation	open	°C	-40 to +60 (+90) ¹	
	enclosed	°C	-40 to +40	
with thermal overload relay	open	°C	-25 to +60	
enclosed		°C	-25 to +40	
Storage		°C	-50 to +90	
Control Circuit				
Power Consumption of Coils				
AC operated	inrush	VA	165-220	
	holding	VA	2.5-5	
		W	2.5-5	
DC operated	inrush	W	250	
	holding	W	5	
Cable Cross-Section for contactors without thermal overload relay				
main connector	solid or stranded	mm ²	 0.5 - 95 10 - 120	
Wire Specifications				
1 cable per terminal				
main connector	solid	AWG	18 - 10	-
75°C (Cu)	flexible	AWG	18 - 3/0	8-4/0
2 cables per terminal				
75°C (Cu)	solid	AWG	-	
	flexible	AWG	18-3/0+8-4/0	
Screw / Screwdriver			M8 / 4mm Hex	
Tightening Torque			4-6.5Nm, 35-57lb. in.	
Mechanical Life				
AC operated		S x 10 ⁶	10	
DC operated		S x 10 ⁶	10	
Short Time Current				
	10s-current	A	680	880
	120s-current	A	275	330
Power Loss per pole				
	at I _e / AC3 400V	W	4.8	7.9
contact resistance				
		mOhm	0.6	0.5
Resistance to Shock acc. to IEC 68-2-27				
Shock time 20ms sine-wave	NO	g	7	7
	NC	g	5	5
Resistance to Climatic Conditions acc. to IEC60068				
Open-type devices are climate-resistant in the constant climate according to IEC60068-2-3 (this is a climate with an ambient temperature of 40°C and an atmospheric humidity of 90 to 95%).				
Enclosed devices are climate-resistant in an alternating climate according to IEC 68-2-30 (this is a moist alternating climate with a 24-hour cycle between climates with an ambient temperature of 25°C, and an atmospheric humidity of 95 to 100% and an ambient temperature of 40°C, and an atmospheric humidity of 90 to 96% in the presence of condensation during rises in temperature).				
Data are valid up to an altitude of 2000m above sea level.				
Short Circuit Current Rating				
Fuse Class RK5 / Short-circuit current		A/kA	300/10	300/10
Fuse Class T / Short-Circuit current		A/kA	300/100 ²	300/100 ²
Rated voltage		V	600	600

¹ With reduced control voltage range 0.9 up to 1.0 x U_s and with reduced rated current I_e / AC1 according to I_e / AC3.

² Class T and Class RK1

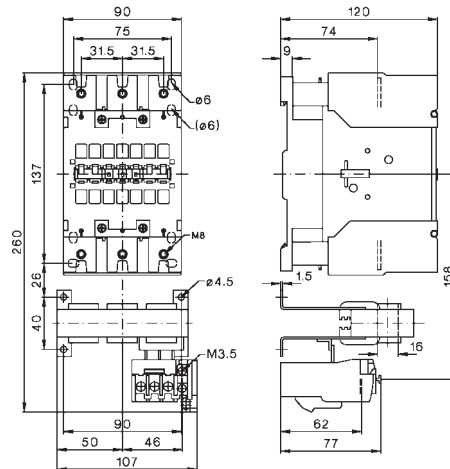
Contactors

AC and DC Operated C3-90 and C3-115



Thermal Overload Relays

C3-90A+APOL and C3-115A+APOL



MINI Frame

with built-in
auxilliary switch



AC



DC

A16PC1-09D10

A16PC1-12D10

COIL VOLTAGES*

AC Coil (60Hz)**

	Part No.	Part No.
24V	A16PC1-09D10-AC24V	A16PC1-12D10-AC24V
120-125V	A16PC1-09D10-AC110V	A16PC1-12D10-AC110V

DC Coil (Solenoid operated coil - low power consumption)

24V	A16PC1-09D10-DC24V	A16PC1-12D10-DC24V
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NOTES: Parts above include 1 N.O. (10) auxiliary contact built-in. Please specify 01 in part number for N.C. auxiliary contact configuration.

CURRENT RATINGS

General Use (AC1)	15A (20A)	20A (20A)
Motor FLA@600V	9A	12A
AC3@380-400V		

HP RATINGS

	1 Phase	3 Phase	1 Phase	3 Phase
110-120V	1/2	1 1/2	3/4	2
200V	1	3	1 1/2	3
220-240V	1 1/2	3	2	3
440-480V	-	5	-	7 1/2
550-600V	-	7 1/2	-	10



Manual Reset
Part No.

Setting Range	Part No.
0.12 - 0.18	APOL12/16E 0.18 C1
0.18 - 0.27	APOL12/16E 0.27 C1
0.27 - 0.4	APOL12/16E 0.4 C1
0.4 - 0.6	APOL12/16E 0.6 C1
0.6 - 0.9	APOL12/16E 0.9 C1
0.8 - 1.2	APOL12/16E 1.2 C1
1.2 - 1.8	APOL12/16E 1.8 C1
1.8 - 2.7	APOL12/16E 2.7 C1
2.7 - 4	APOL12/16E 4 C1
4 - 6	APOL12/16E 6 C1
6 - 9	APOL12/16E 9 C1
8 - 11	APOL12/16E 11 C1
10 - 14	APOL12/16E 14 C1

*Other coil voltages available upon request.

** (50Hz available upon request)

† Stocked parts in **BOLD**

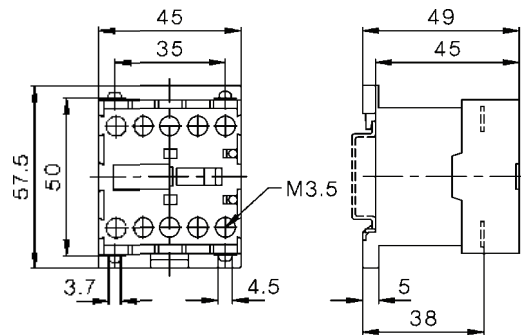
Suppressor Units



Voltage Range		Part No.
12 - 48V AC/DC	160nF / 22 Ohm	AP-RC-C1 24
48 - 127V AC/DC	6800nF / 270 Ohm	AP-RC-C1 110
110 - 250V AC/DC	220nF / 2200 Ohm	AP-RC-C1 230

DIMENSIONS

AC and DC operated with screw terminals C1-09D... , C1-12D...



Auxiliary Contact Blocks for Contactor Relays



Ratings AC15	Thermal Rated Current	Contacts	Part No.
A A	A	NO NC	
3 2	10	1 1	HCM11
3 2	10	- 2	HCM02
3 2	10	2 -	HCM20
3 2	10	1 3	HCM13
3 2	10	4 -	HCM40
3 2	10	2 2	HCM22
3 2	10	- 4	HCM04
3 2	10	3 1	HCM31

MINI Frame - Specifications and Dimensions

Data according to IEC 947-4-1, EN 60947-4-1, VDE 0660, UL508

Main Contacts	Type		A16PC1-09D10	A16pc1-12D10
Maximum Ambient Temperature				
Operation open	°C	open	-40 to +60 (+90)*	
	°C	enclosed	-40 to +40	
with thermal overload relay	°C	open	-25 to +60	
enclosed	°C		-25 to +40	
Storage	°C		-50 to +90	

*with reduced control voltage range 0.9 up to 1.0 U and with reduced rated current I/AC1 according to Ie/AC3

Control Circuit Power Consumption of Coils				
AC operated	inrush	VA	25	
	sealed	VA	4 - 5	
		W	1.2	
DC operated	inrush	W	2.5	
	sealed	W	2.5	

Cable Cross Section				
for contactors without overloads				
Solid or stranded wire				
	AWG		20 - 14	
	mm ²		0.5 - 2.5	
Cables per clamp			2	

Mechanical Life				
AC operated	S x 10		5	
DC operated	S x 10		10	

Short Circuit Time		10s-current A	96	120
Power loss per pole		at Ie/AC3 400V W	0.15	0.25

Resistance to Shock acc. To IEC 68-2-27				
AC operated	NO g		5	
	NC g		5	
DC operated	NO g		8	
	NC g		6	

Resistance to Climatic Conditions acc. to IEC60068

Open-type devices are climate-resistant in the constant climate according to IEC60068-2-3 (this is a climate with an ambient temperature of 40°C and an atmospheric humidity of 90 to 95%). Enclosed devices are climate-resistant in an alternating climate according to IEC 68-2-30 (this is a moist alternating climate with a 24-hour cycle between climates with an ambient temperature of 25°C, and an atmospheric humidity of 95 to 100% and an ambient temperature of 40°C, and an atmospheric humidity of 90 to 96% in the presence of condensation during rises in temperature). Data are valid up to an altitude of 2000m above sea level.

Short Circuit Current Rating				
Fuse / Short-circuit current	A/Ka		30/5	

Rated Voltage				
	V AC		600	

Definitions

Motor Full Load Amperage Table

Phasing Voltage Horse Power	Single phase			Three phase				
	110 -120V Amperage	208V Amperage	220 - 240V Amperage	110 -120V Amperage	208V Amperage	220 - 240V Amperage	440 - 480V Amperage	550 - 600V Amperage
1/10	3.0	-	1.5	3.0	-	-	-	-
1/8	3.8	-	1.9	3.8	-	-	-	-
1/6	4.0	2.4	2.2	4.4	-	-	-	-
1/4	5.8	3.2	2.9	5.8	-	-	-	-
1/3	7.2	4.0	3.6	7.2	-	-	-	-
1/2	9.8	5.4	4.9	9.8	2.4	2.2	1.1	0.9
3/4	13.8	7.6	6.9	13.8	3.5	3.2	1.6	1.3
1	16.0	8.8	8.0	16.0	4.6	4.2	2.1	1.7
1 1/2	20.0	11.0	10.0	20.0	6.6	6.0	3.0	2.4
2	24.0	13.2	12.0	24.0	7.5	6.8	3.4	2.7
3	34.0	18.7	17.0	34.0	10.6	9.6	4.8	3.9
5	56.0	30.8	28.0	56.0	16.7	15.2	7.6	6.1
7 1/2	80.0	44.0	40.0	80.0	24.2	22.0	11.0	9.0
10	100.0	55.0	50.0	100.0	30.8	28.0	14.0	11.0
15	135.0	-	68.0	135.0	46.2	42.0	21.0	17.0
20	-	-	88.0	-	59.4	54.0	27.0	22.0
25	-	-	110.0	-	74.8	68.0	34.0	27.0
30	-	-	136.0	-	88.0	80.0	40.0	32.0
40	-	-	176.0	-	114.0	104.0	52.0	41.0
50	-	-	216.0	-	143.0	130.0	65.0	52.0
60	-	-	-	-	169.0	154.0	77.0	62.0
75	-	-	-	-	211.0	192.0	96.0	77.0
100	-	-	-	-	273.0	248.0	124.0	99.0
125	-	-	-	-	343.0	312.0	156.0	125.0
150	-	-	-	-	396.0	360.0	180.0	144.0
200	-	-	-	-	528.0	480.0	240.0	192.0
250	-	-	-	-	-	604.0	302.0	242.0
300	-	-	-	-	-	722.0	361.0	289.0
350	-	-	-	-	-	828.0	414.0	336.0
400	-	-	-	-	-	951.0	477.0	382.0
450	-	-	-	-	-	1030.0	515.0	412.0
500	-	-	-	-	-	1180.0	590.0	472.0

For reference purpose only. Motor characteristics may vary. Consult the motor's information plate for exact values.