



Common Features AV1 9 to AV1 630

- Conforming to Standards : IS 13947, IEC 60947-4-1
- Rated Operational Current : 9A to 630A
AC-3 at 415V
- Number Of Poles : 3
- Rated Operational Voltage : 550V (max)
- Insulation Voltage : 690V
- Impulse withstand voltage (Uimp) : 6kV up to 40A
8kV for 50A to 630A
- Permissible ambient temperature
 - Storage : -5 + 50° C
 - Operation : -5 + 40° C
- Rated Frequency : 50HZ
- Class of insulation (Coil) : F
- Mounting : Din Mounting (Up to 40A)

AV1 9 TO AV1 80A

- Enhanced Electrical Life
- Protective Shrouds for safety
- Separate layers for Power and Control which simplifies connection and eliminates wiring errors.
- Auxiliary Contacts
 - 1NO or 1NC - as standard upto 40A
 - 1NO + 1NC - as standard upto 80A
- Finger touch proof terminals (IP 2X)
- **Accessories**
Auxiliary Contacts, Mechanical Interlock, RC Surge Suppressor.

AV1 100 TO AV1 630A

- Easy Contact Inspection & Replacement
- Provision for checking contact wear
- Mechanical ON / OFF indicator
- Easy replacement of coils
- Special Link Structure reduces Shock and Contact bounce
- Auxiliary Contacts-Side Mounted
 - 2NO+2NC - as standard upto 400A
 - 4NO+4NC - as standard upto 630A
- Accessories available
 - Side mounted Add on Auxiliary contacts
 - Mechanical Interlocks
 - Surge suppressors modules

Overload Relay

- Ambient Temperature Compensated and Phase Failure Sensitive
(As per IEC 947)
- Range 0.1A to 630A
- Trip class : 10A (upto 80A) 20 (upto 630A)
- Separate Mounted Relays using Terminal Block (Upto 80A)
- Selection of Auto Manual Reset feature possible at Site.



References			AV1-09	AV1-12
Frame Size		mm	45	45
Rated operational voltage (U_e)		V		
Rated Thermal Current I_{th}		A	20	25
Number of poles			3	3
Rated Operational Current	AC 1 (at $U_e = 415V$ AC)	A	20	25
		Kw	4	5.5
	AC 3 (at $U_e = 415 V$)	$I_e(A)$	9	12
AC 4 (for 0.2 Million Operation) (at $U_e = 415 V$)		A	4.5	5
Making capacity		A	90	120
Breaking capacity		A	72	96
Mechanical life (In Millions of operating cycles)			15	15
Electrical life (In Millions of operating cycles)			1.5	1.5
Maximum Operations per hour (Electrical at Rated Load)		AC1	3600	3600
		AC3	1200	1200
		AC4	250	250
Environment				
Rated insulation voltage		U_i		
Rated impulse withstand voltage		KV	6	6
Shock resistance (Open/Closed)		g_n	10/15	10/15
Vibration resistance (Open/Closed)		g_n	2/4	2/4
Control circuit characteristics 50 Hz				
Rated control circuit voltage (U_c)		V		
Limits of operation	Pick-up	% of U_c		
	Drop-out	% of U_c		
Operating Time	Closing	ms	12...22	12...22
	Opening	ms	4...19	4...19
average consumption at U_c	Pick-up	VA	70	70
	Hold-on	VA	7	7
Weight Unpacked with AC Coil		Kg	0.32	0.32
Recommended Relay				

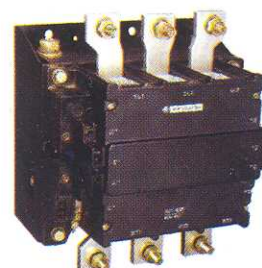
Coils for AV1 contactors 50Hz

Control Circuit Voltage U_c (V)	24	48	110	220	240	380	415	550
Voltage Code	B5	E5	F5	M5	U5	Q5	N5	T5

Activa



AV1-18	AV1-25	AV1-32	AV1-40	AV1-50	AV1-65	AV1-80	AV1-100	
45	45	45	45	75	75	85	100	
						550		
25	32	40	50	60	80	110	135	
3	3	3	3	3	3	3	3	
25	32	40	50	60	80	110	135	
7.5	11	15	18.5	22	30	37	50	
18	25	32	40	50	65	80	100	
6.5	7.5	11	14	17	21	25	53	
180	250	320	400	500	650	800	1000	
144	200	256	320	400	520	640	800	
15	15	15	15	10	10	10	5	
1.2	1.2	1.3	1.3	1	1	1	1	
3600	3600	3600	3600	3600	3600	3600	3600	
1200	1200	1200	1200	1200	1200	1200	1200	
250	250	250	250	250	250	250	250	
						690		
6	6	6	6	6	8	8	8	
10/15	10/15	8/15	8/15	8/10	8/10	8/10	10/15	
2/4	2/4	2/4	2/4	2/4	2/3	2/3	2/4	
						24...550		
						0.85...1.1		
						0.3...0.6		
12...22	12...22	12...22	12...22	20...26	20...26	20...35	10...25	
4...19	4...19	4...19	4...19	8...12	8...12	6...20	10...30	
70	70	70	70	200	200	200	490	
7	7	7	7	26	26	26	50	
0.325	0.33	0.37	0.375	1.4	1.4	1.4	2.0	
AVR-1				AVR-2				



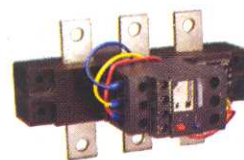
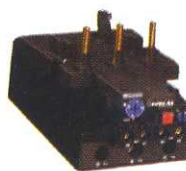
AV1-115	AV1-150	AV1-170	AV1-200	AV1-300	AV1-400	AV1-550	AV1-630
100	120	120	148	163	163	260	260
135	200	200	260	400	600	750	1000
3	3	3	3	3	3	3	3
135	200	200	260	400	600	750	800
55	75	90	110	150	220	250	300
115	150	170	200	300	400	550	630
56	73	83	100	133	150	170	200
1150	1500	1700	2000	3000	4000	5500	6300
920	1200	1360	1600	2400	3200	4400	5040
5	5	5	5	5	5	5	5
1	1	1	1	0.5	0.5	0.5	0.5
2400	2400	2400	2400	2400	2400	1200	1200
1200	1200	1200	1200	1200	1200	1200	1200
250	250	250	250	250	250	250	250
8	8	8	8	8	8	8	8
10/15	10/15	10/15	10/15	10/15	10/15	10/15	10/15
2/4	2/4	2/4	2/4	2/4	2/4	2/4	2/4
10...25	15...35	15...35	15...40	15...40	15...40	35...45	35...45
10...30	10...30	10...30	15...35	15...35	15...35	45...50	45...50
490	530	530	1000	2100	2100	5400	5400
50	50	50	83	110	110	240	240
2.0	2.9	2.9	5.9	9.7	9.7	22	22
AVR-3							



Control Relays, Type-AVC

Conformance to Standards			IEC947-5-1
Rated Operational Voltage			550V
Rated Operational Frequency			50Hz
Rated Insulation Voltage (U_i)			690V
Rated Impulse withstand voltage (U_{imp})			6kV
Rated Conventional Thermal Current I_{th}		A	10A
Rated Operational Current I_{th}	AC 15 at 220V AC	A	3
	AC 15 at 415V AC	A	10
Number Of Contacts			4
Contact Combinations			4NO, 3NO+1NC, 2NO+2NC
Degree of Protection			IP 20
Mechanical Life (In Millions of operations)			10
Electrical Life (In Millions of operations)			1
Maximum Electrical Operations Per Hour			1200
Minimum Switching Capacity U_{min}		V / ma	17 / 5
Limits Of Operation	Pickup	% of U_c	0.85...1.1
	Drop-out	% of U_c	40%

3-Pole Thermal Overload relays, Type-AVR



Technical Data

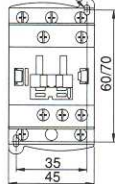
Relay Type		AVR1	AVR2	AVR3
Tripping Class		10A	10A	20
Rated Insulation Voltage	V	690	690	690
Rated Impulse Withstand Voltage	U _i	6	6	6
Setting Range	A	0.10...38	30...80	51...630
Temperature Compensation	°C	-20...+60	-30...+60	-30...+60
Conventional Thermal Current	A	5	5	5
Short Circuit Protection (By gG Fuse)	A	5	5	5
Number Of Contacts		1NO+1NC	1NO+1NC	1NO+1NC

Selection Details

Relay Reference	Relay Setting Range	Contactor Reference
AVR101	0.10...0.16	AV1-09...AV1-40
AVR102	0.16...0.25	AV1-09...AV1-40
AVR103	0.25...0.40	AV1-09...AV1-40
AVR104	0.40...0.63	AV1-09...AV1-40
AVR105	0.63..1	AV1-09...AV1-40
AVR106	1...1.6	AV1-09...AV1-40
AVR107	1.6 2.5	AV1-09...AV1-40
AVR108	2.5...4	AV1-09...AV1-40
AVR110	4...6	AV1-09...AV1-40
AVR112	5.5...8	AV1-09...AV1-40
AVR114	7...10	AV1-09...AV1-40
AVR116	9...13	AV1-09...AV1-40
AVR121	12...18	AV1-09...AV1-40
AVR122	16...24	AV1-09...AV1-40
AVR132	23...32	AV1-09...AV1-40
AVR135	30...38	AV1-32...AV1-40
AVR255	30...40	AV1-50...AV1-80
AVR257	37...50	AV1-50...AV1-80
AVR259	48...65	AV1-50...AV1-80
AVR261	55...70	AV1-65...AV1-80
AVR263	63...80	AV1-65...AV1-80
AVR3-80	51...81	AV1-100 ...AV1-115
AVR3-81	62...99	AV1-100...AV1-115
AVR3-82	84...135	AV1-100...AV1-150
AVR3-83	124...198	AV1-150...AV1-200
AVR3-84	146...234	AV1-150...AV1-300
AVR3-85	174...279	AV1-200...AV1-400
AVR3-86	208...333	AV1-300...AV1-400
AVR3-87	259...414	AV1-300...AV1-550
AVR3-88	321...513	AV1-400...AV1-550
AVR3-89	394...630	AV1-550...AV1-630

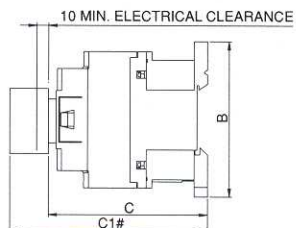
AVC, AV1-09...AV1-25, AV1-32...AV1-40

2NOS-MOUNTING
HOLE FOR
M4 SCREW



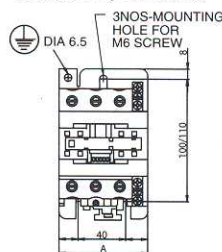
Contacteur Frame	B	C	C1
AVC... AV1-09...AV1-25	77	84	117
AV1-32...AV1-40	85	90	123

With add-on block (AVA)



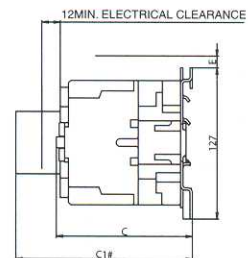
AV1-50...65, AV1-80

Dimensions / Drilling Plan / Clearances

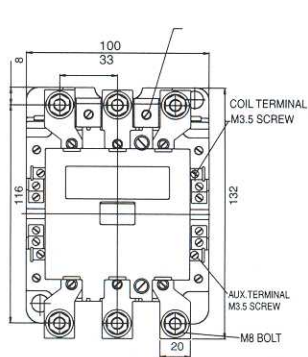


Contacteur Frame	A	C	C1#	E
AV1-50...65	75	114	146	5
AV1-80	85	125	153	13

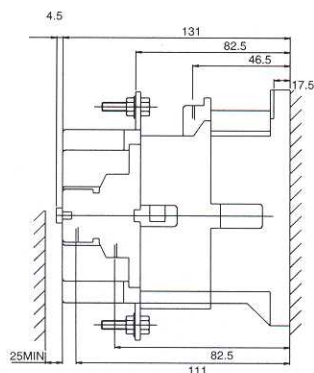
With add-on block (AVA)



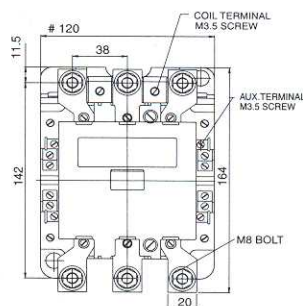
AV1-100...AV1-115



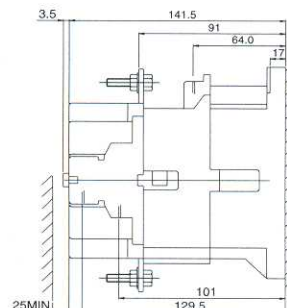
100 (For Aux. Contact 2NO+2NC)
124 (For Aux. Contact 4NO+4NC)



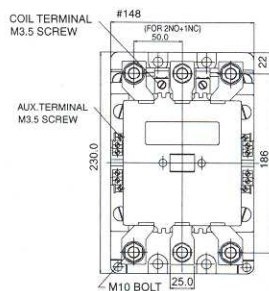
AV1-150...AV1-170



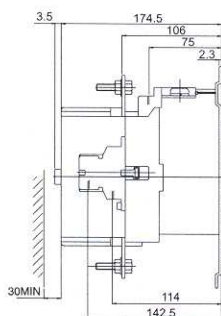
120 (For Aux. Contact 2NO+2NC)
144 (For Aux. Contact 4NO+4NC)



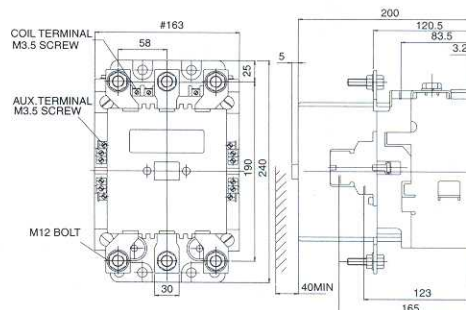
AV1-200



148 (For Aux. Contact 2NO+2NC)
172 (For Aux. Contact 4NO+4NC)

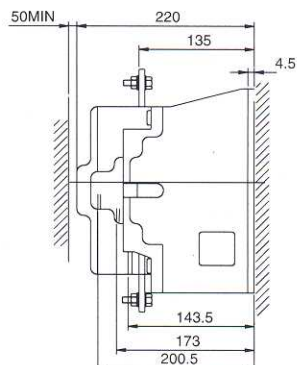
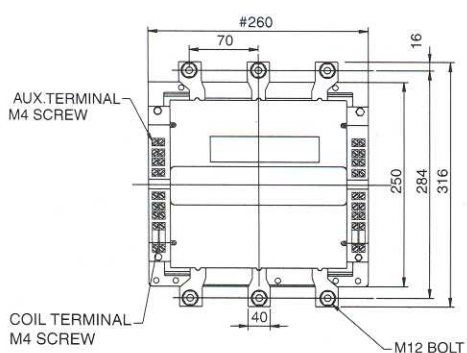


AV1-300...AV1-400



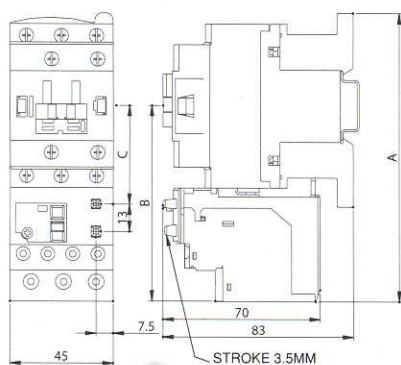
163 (For Aux. contacts 2NO+2NC)
187 (For Aux. contacts 4NO+4NC)

AV1- 550...AV1-630



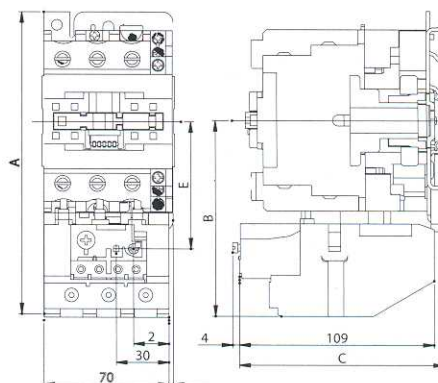
284 (For Aux. contacts 4NO+4NC)

AV1-09... AV1- 40 with AVR1 Relay



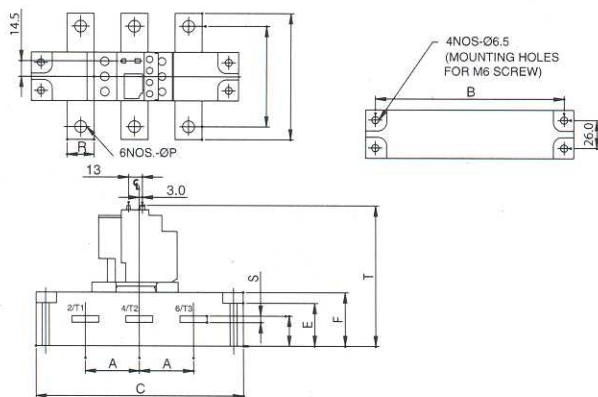
DIM.	AV1-09... AV1-25	AV1-32... AV1-40
A	123	137
B	88	94.5
C	42.5	49

AV1- 50...AV1-65, AV1-80 with AVR2 Relay



DIM.	AV1-50... AV1-65	AV1-80
A	175	180
B	111	115.5
C	119	123.5
D	4.5	9.5
E	72.4	76.9

AVR-3 Relay



AVR3 RANGE(A)	DIMENSIONS (mm)											
	A	B	C	D	E	F	M	N	P	R	S	T
51-81	50	174	192	28	40	50	93	117	11	25	5	130
62-99												
84-135												
124-198												
146-234												
174-279	58	200	218	29	40	50	103	133	12.5	30	6	130
208-333												
259-414												
320-513	70	230	250	32	43	53	108	140	12.5	40	8	133
394-630												