ASHIDA

Ashida Numerical Local Breaker Back-up Protection Relay

Type: ALBB3

Features:

- Wide range of setting 10 % to 120% in step of 1 %.
- ***In built timer with time delay range of 100ms to 1200ms.***
- Very low burden on CT Hence can be used in series with existing protection relays and circuits.
- Consistent fast reset. (reset time less than 20ms)
- Numerical Design

Applications:

- Local breaker back-up protections for feeder

Operation:

To safe guard against the drastic consequences of failure to clear fault rapidly, many power supply authorities install two independent systems of protections for major transmission lines. However there is always possibility of the circuit breaker itself failing to operate. The ALBB3 relay is specially designed to suit this requirement. This relay is basically an instantaneous over current relay with timer. This relay continuously monitors protection relay contact (or MTR relay contact). The movement the relay contact become close ALBB3 relay start internal timer, during time delay If CB fails to trip, then this relay operate. The contacts of the relay can be used to trip backup breaker. For proper operation the time delay must be set very carefully.

Time delay = Breaker Tripping Time + Relay reset time + Safety Margin.

Technical Specifications:

Sr. No.	Specification	Particulars
1.	CT Inputs	: Suitable for CT secondary 1.0 Amp or 5.0 Amp. (To be specified.)
2.	Trip setting	: 10% - 120% for Phase.
3.	Operating Time	: 100ms to 1200ms – in Step of 10ms.
4.	Reset Time	: 20ms
5.	Dropout / Pick-up	: Above 90%.
6.	CT Burden	: Less than 0.2 VA.
7.	Auxiliary Burden	: Less than 10.0 VA
8.	Control Contacts	: Four set of NO contacts are given; For Trip & Annunciation (SR Type).
9.	Time Accuracy	: Within class 2.5 As per IS: 3231.
10.	Burden on CTs	: Less than 0.2VA.
11.	Aux. Supply	: 18 - 52VDC or 77 - 250VDC. To be specified while ordering.
12.	Contact Rating Trip Duty	: Make and carry for 3sec. – 7500VA with max. 30A & 660VAC/DC : Make and carry for continuous - 1250VA with max. 5A & 660VAC/DC : Break AC - 1250 VA DC - 100 W resistive 50W inductive.
13.	Operational Indicators (Flags)	
14.	ON	: Green LED indicates Relay OK : In case of following condition led become off 1. Problem in relay Hardware. 2. Auxiliary supply is not sufficient for relay operation.

Note: Due to our policy to upgrade our products constantly, we reserve the right to supply products which may vary slightly from that indicated above

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	FAULT	: Red LED indicates the relay trip, Hand Reset (HR) Type.
	PKP	: Red LED indicates relay Pickup condition.
	TRIP	: Indicates that Trip pulse is being executed. When BYPASS P.B. is pressed, actual trip is not executed.
15.	Thermal Withstand Capacity	: x40 times the normal current for 3sec. : x2 Continuous
16.	High Voltage Test	: IEC 60255-5
17.		: Except DC Voltage – 2.0 kV (RMS), 50Hz
18.		: Only DC voltage - 2.8 kV DC
19.		: Between Open contact of TRIP / CLOSE 1.5kV (RSM) 50Hz
20.		: Between Open contact of ALARM – 1kV (RSM) 50Hz
21.	Impulse Voltage Test (all circuit class – III)	: IEC60255-5 : 5kV (peak) 1.2 / 50us, 0.5 J, 3 positive and 3 negative impulse at interval of 5 sec
22.	High Frequency test	: IEC 60255-22-1, Class III : 2.5 kV (peak) 1MHz , τ = 15µs 400 surges / s duration 2 s
23.	Electro static Discharge	: IEC 60255-22-2 Class III and IEC 61000-4-2 class III : 4kV/6kV contact discharge, 8kV air discharge, both polarities 150pF, Ri 330 Ω
24.	Irradiation with radio frequency field, pulse-modulated,	: IEC 60255-22-3 and IEC 61000-4-2 class III : 10V/m; 80 to 1000MHz; 80%; 1kHz AM
25.	Fast transient interference/bursts	: IEC 60255-22-3 and IEC 61000-4-3, class III : 4kV; 5/50ns; 5kHz burst duration = 15ms; : Repetition rate 300ms; Both polarities; Ri = 50Ω; duration 1 min.
26.	Shock Test	: IEC 60255-21-2 class 1 : Semi-Sinusoidal : 5g acceleration, duration 11ms, : Each 3 shocks in both direction of the 3 axes
27.	Vibration Test	: IEC 60255-21-1 class 1 / IEC 60068-2-6 : Sinusoidal 10 to 60Hz ±0.035 mm : Amplitude, 60 to 150Hz, 0.5g acceleration : Sweep rate 1 octave/min; 20 cycle in 3 orthogonal
28.	Drawing References	: For Cabinet Type - CSA2(MAC00101). : For Electrical Connection - APR06302

- **Datasheet Change Log for ALBB3**

Issue No. (Revision)	Date	Description /Changes
01	08.05.03	Original Revision
02	31.05.03	Front plate revised
03	01.01.07	Converted in to numerical

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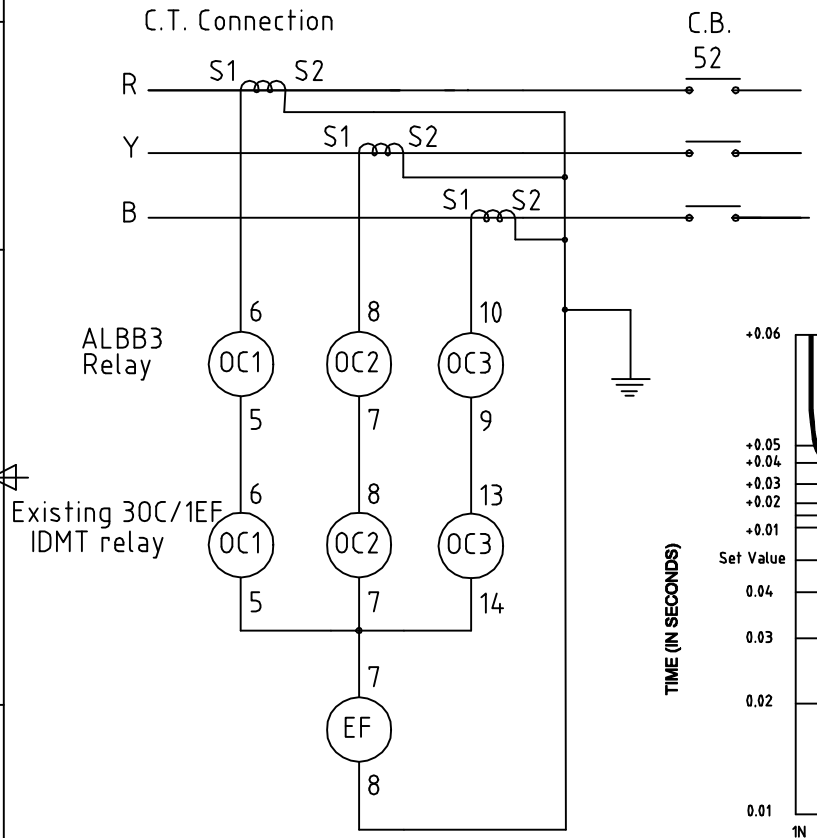
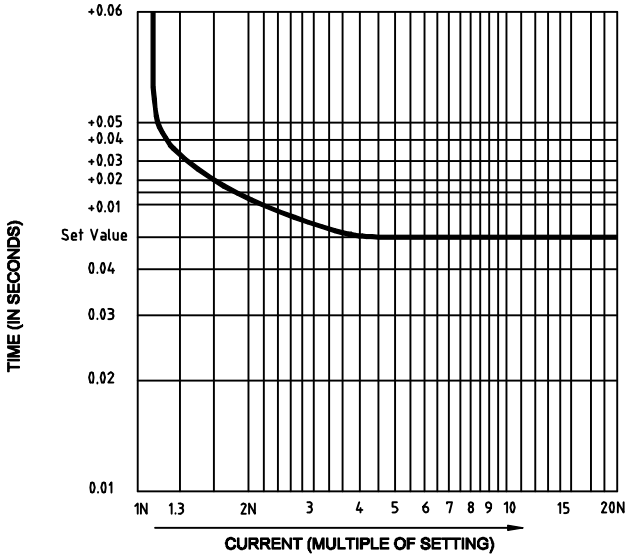
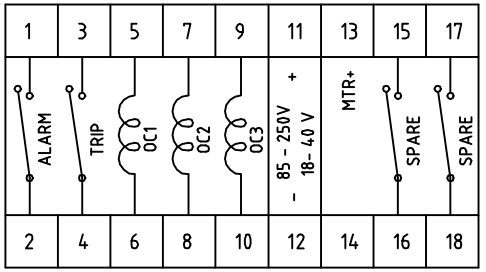
RevNo	Revision note	Date	Signature	Checked

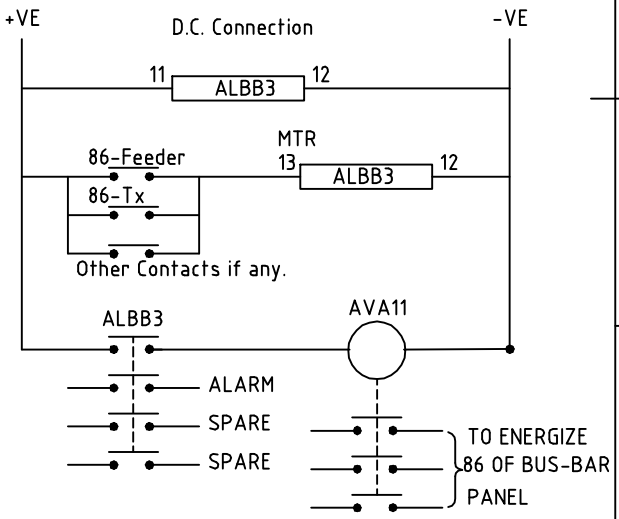
TYPICAL EXTERNAL WIRING DIAGRAM FOR ALBB3





BACK TERMINAL ARRANGEMENT





Note:
1. Typical wiring diagram shown for guidance only.
2. Follow established standard engineering practices

DIM:MM	TOL:	FINISH :			MATERIAL	
Prepared by JD		Checked by SMK	Approved by - date SMK	Filename APR06302	Date 31.05.03	Scale NTS

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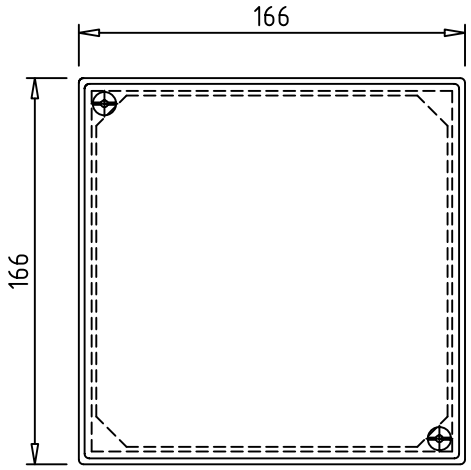
TITLE: - Typical External Connection for ALBB3 and 30C Relay

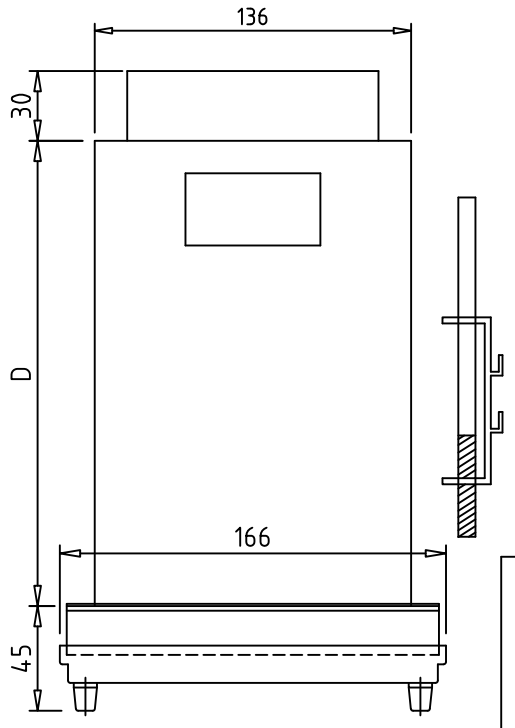
Drawing __ Ref.:APR06302 | Edition 02 | Sheet 1 OF 1

RevNo	Revision note	Date	Signature	Checked
01	Original	14.09.02		
02	Cabinet Terminology Changed	03.10.03		
03	TERMINAL BLOCK 2 ADDED	29.06.04		

D	CAB. STYLE (OLD)	CAB. STYLE (NEW)
80	CSA0	CSA - 80
120	CSA1	CSA - 120
150	CSA3	CSA - 150
200	CSA2	CSA - 200

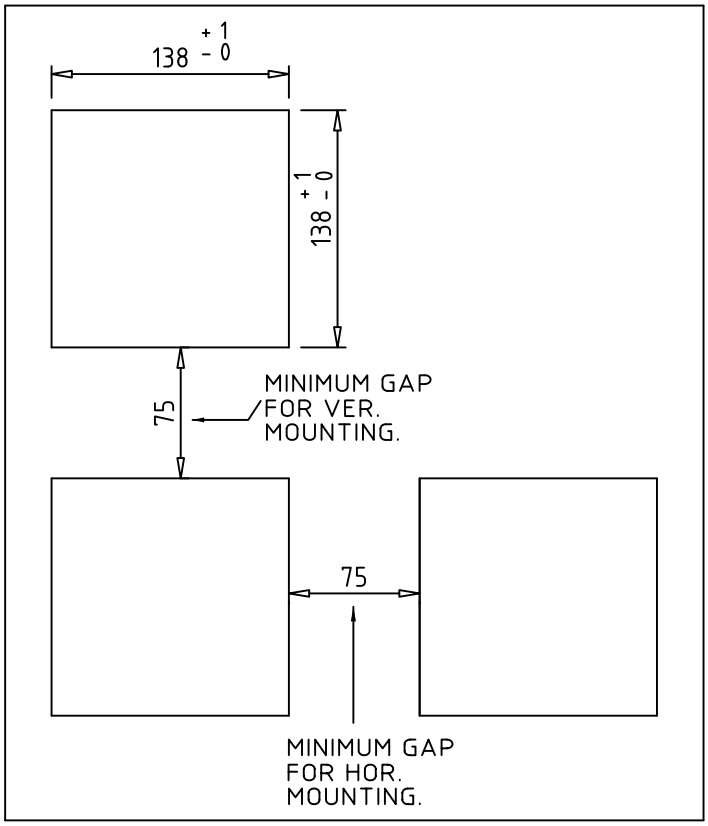


FRONT VIEW

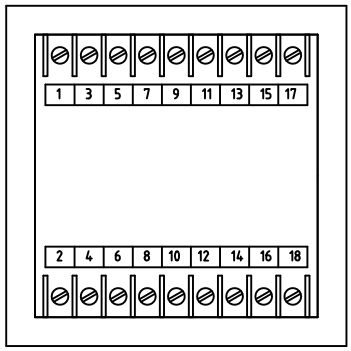


TOP VIEW

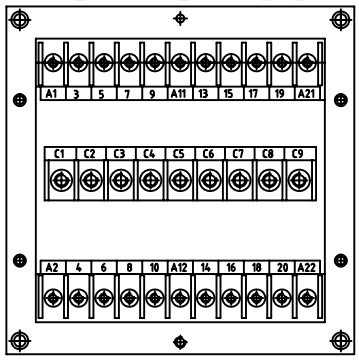
PANEL CUTOUT REQUIRED



TERMINAL TYPE-1



TERMINAL TYPE-2



BACK TERMINAL ARRANGEMENT

ALL DIMENSIONS IN MM

Note

1. Front Bezel 160mm x 160mm.
2. Front Bezel + Front Cover 166mm x 166mm.

Dim : MM	TOL : ±1 mm	FINISH:	MATERIAL:		
Perpaed by JD	Checked by SG	Approved by - date SMK	Filename MAC00101	Date 29.06.04	Scale NTS

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TITLE : MECHANICAL DETAILS FOR CSA CABINET

Drawing__ Ref. MAC00101 | Edition 03 | Sheet 1 OF 1