minilec®

INSTALLATION INSTRUCTION
CURRENT MONITORING RELAY

OCS D1 **S2 CMR5**

OCS D1 offers protections against -
* Over current.

S2 CMR5 offers protections against -
* Under current.
* Over current.

These relay**'s** are an auxiliary relay and it should be used along with the starter / contactor ckt. only.
The effective working of the unit will depend on efficient working of the starter. Before installing unit check whether the starter / ckt. is operating perfectly by starting with the "ON" push button and switching off by "OFF" push button. If the operation of START and STOP are imperfect the ckt. needs to be checked. Do not install your unit with faulty ckt.

CAUTION

1 . Ensure that unit's are -
* Not installed near any heat sources like Burner, Sunlight, Electric arc etc.
* Not subjected to abnormal vibrations.
* Installed as near to starter as possible.
* Not subjected to Direct heat, Sunlight, Rain, Stormy wind and Dust.

2. Working of the product is affected by frequency variations and Harmonic distortion in applications. like Genset Supply or UPS Supply. Care should be taken to ensure that net resultant unbalance Supply is not beyond the unbalance trip limits of unit.

3. Program the S2 CMR5 only to suit your application. for programming S2 CMR5 only

4. If the product is not installed as per guideline given by Minilec. Company will not be responsible for any wrong connection, damage, Injury, accident, Etc.

ELECTRICAL CONNECTION

For installation of the unit in the power and control wiring.

PROGRAMMING / SETTING

With the help of push button provided on front, you can Program the relay for suitable operation.

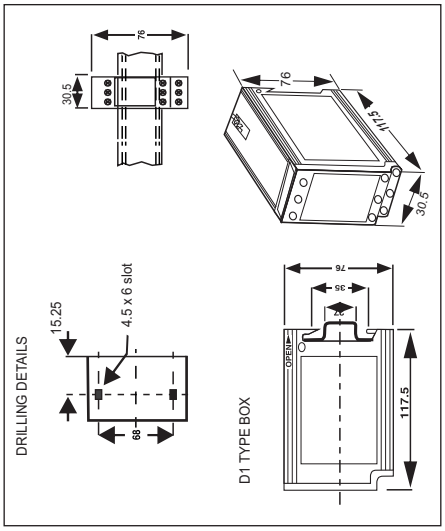
MOUNTING -

All models are suitable for DIN RAIL mounting.

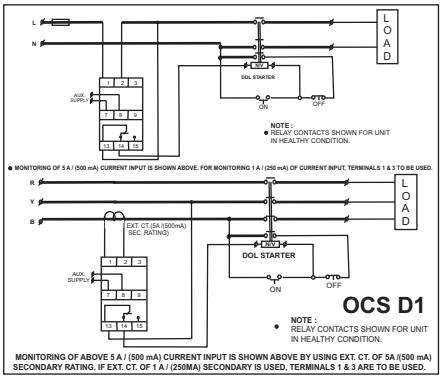
TECHNICAL SPECIFICATIONS OF OCS D1

			S2 CMR5
1	**Auxilliary Supply :**	110/220/230/240/380/415 VAC, ± 20%	100 - 120, 220 - 240, 415 VAC± 20%
		12/24 VDC, ± 10%	24VDC ± 20%
2	**Rated Current Input :**	(Selection via. Terminals) Terminal 1 & 2:Current Input 5 A/ (500 mA) Terminal 1 & 3:Current Input 1A/ (250 mA)	5Amp/ 1Amp (selection on terminal) Terminal 1 & 2 current input 5A (# 0.5A) Terminal 1 & 3 current input 1A (# 0.25A) (# - 0.5/0.25A MODEL OPTIONAL)
3	**Frequency :**	50/60 Hz, ± 3%	50 / 60 Hz.
4	**Power Consumption :**	30VA.	26VA.
5	**Output Relay Contacts :**	1 CO	2CO
6	**Output Contact Rating :**	5 A, 240 VAC (Resistive)	5 Amp, 240VAC [resistive]
7	**Life Expectancy :**	0.5 x 10^6operations at 100% rating	0.5 x 10 operations at 100% rating
8	**OC Trip Setting :**	50 % to 140% of rated Current Input (variable)	50 % TO 140% of rated current input variable ± 5 % w.r.t full scale
9	**Under current trip setting**	N.A	* 10 % to 100% of rated current input
10	**Set Accuracy :**	± 5% w. r. t. Current Input of 100%	(variable) ± 5 % w.r.t full scale.
11	**Trip Time Delay :**	1 Sec. To 10 Sec. (Adjustable)	1 -10 sec ± 1 sec (Adj)
12	**Power on Delay:**	3.5 Sec. ± 1.5 Sec. (Fixed) REF. NOTE 01	1 -10 sec ± 1 sec (Adj).
13	**Reset :**	Auto	Auto / Manual
14	**Reset Gap :**	5% ± 1% w.r.t. set current (Fixed)	10% ± 1% w.r.t. Set current (Fixed)
15	**Indications :**	ON (Green) - Relay ON OC (Red) - Over Current TRIP	Power on (Green) - ON [For UC & OC Under current (Red) - UC fault respective Red Over current (Red) - OC LED Steady ON]
16	**Current Sensor :**	Inbuit 1 Amp & 5 Amp / (500 mA & 250 mA). Use external C.T. For more than rated current.	External CT having 5Amp or 1Amp secondary.
17	**Operating Conditions :**	Temperature :- -5° C to 60°C Humidity :- Upto 95 % R. H.	Temperature = - 5° c to + 60° c Humidity = upto 95 % rh.
18	**Dimensions (mm) :**	Overall : 76 x 30.5 x 117.5 Mounting : 68 (Centre to Centre)	Overall (L X W X D) = 90 x 35 x 60 Mounting = Rail Mounting
19	**Weight (Approx.) :**	350 gms.	140
20	**System supply voltage**	110 / 220 / 230 / 240 VAC± 20 %	100 / 110 / 120 VAC± 20 % 220 / 230 / 240 VAC± 20 % 380 / 415 / 440 VAC± 20 %
21	**Enclosure :**	ABS	S2 series - ABS / PC ABS
22	**Programming mode for [BY FRONT PUSH BUTTON]**	NA	Test facility, Auto / manual Reset, NFS / FS facility, common or separate relay selection, ZCT or ZCH facility

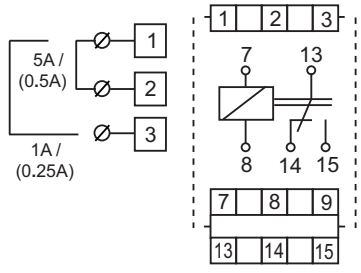
MOUNTING DIMENSIONS OCS D1



ELECTRICAL CONNECTIONS IN POWER AND CONTROL WIRING



CONNECTION DIAGRAM OCS D1



NOTE :
● RELAY CONTACTS SHOWN FOR UNIT IN HEALTHY CONDITION.

INDICATIONS :

ON : RELAY ON

OC : OVER CURRENT TRIP

TERMINAL DETAILS :

7 - 8 : AUX. SUPPLY

FOR DC SUPPLY CONNECT + VE TO 7

- VE TO 8

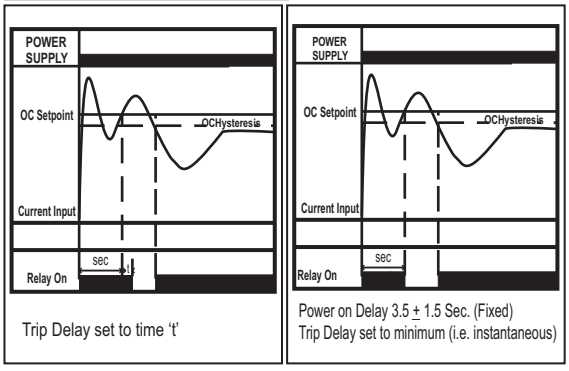
1 - 2 : CURRENT INPUT 5 A / (500 MA)

1 - 3 : CURRENT INPUT 1 A / (250 MA)

13-14-15 : OUTPUT RELAY CONTACT (C1-NO1-NC1)

NOTE : 01 A] POWER ON DELAY IS APPLICABLE WHEN CURRENT IS FLOWING THROUGH LOAD.

OPERATIONAL DIAGRAM OCS D1



Trip Delay set to time 't'

Power on Delay 3.5 ± 1.5 Sec. (Fixed)
Trip Delay set to minimum (i.e. instantaneous)

WARRANTY - AGAINST ALL MANUFACTURING DEFECTS FOR 18 MONTHS FROM DATE OF SUPPLY OR 12 MONTHS FROM INSTALLATION WHICHEVER IS EARLIER

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COMPLIANCE TO STANDARDS OCS D1 S2 CMR5

	TEST	IEC STD.
1.	EFT Test of Auxiliary Supply	61000-4-4
2.	Surge Test of Auxiliary Supply	61000-4-5
3.	Voltage Interruption, Variation & Dip Test	61000-4-11
4.	ESD Test (Contact Discharge)	61000-4-2
5.	ESD Teast (Air Discharge)	61000-4-2
6.	H.V. Test (Dielectric Test)	60255-5
7.	Insulation Resistance Test	60255-5
8.	Dry Heat Test	60068-2-2
9.	Damp Heat test (Steady State)	60068-2-30
10.	Damp Heat test (cyclic test)	60068-2-78

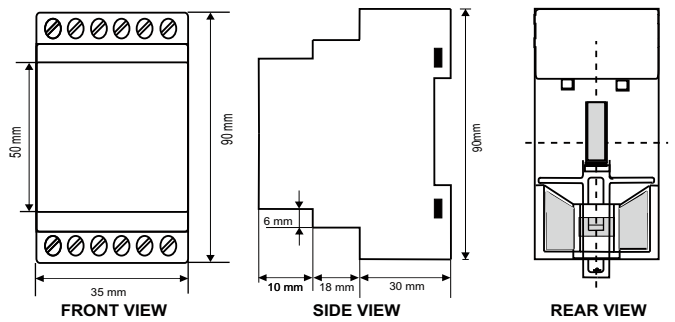
Table 1 - PROGRAMMING MODE SETTING **S2 CMR5**

PRESS TEST/ RESET PUSH BUTTON FOR	S2 CMR LED STATUS ON LED	UC LED	OC* LED	Mode
	●	●	○	Run Mode
≥ 8 SEC	☆	☆	☆	Program Mode
≤ 4 SEC	●	●	●	Test Facility.
WAIT 3 SEC	○	○	○	Exit Test Mode.
≥ 4 SEC	☆	○	○	Auto / manual Reset selection
≤ 4 SEC	● / ○	○	○	● Auto Reset / ○ Manual Reset
≥ 4 SEC	○	☆	○	Fail Safe/ Non Fail Safe selection
≤ 4 SEC	○	● / ○	○	● Fail Safe / ○ Non Fail Safe
≥ 4 SEC	○	○	☆	Common or Separate relay selection
≤ 4 SEC	○	○	● / ○	● Relay-1,Relay-2 For UC & OC ○ Relay-1For UC, Relay-2 For OC
≥ 4 SEC	○	○	☆	Zero Current Trip / Healthy selection
≤ 4 SEC	○	● / ○	● / ○	● Zero Current Trip ○ Zero Current Healthy
IF P. B. IS NOT PRESSED FOR>10 SEC	☆	☆	☆	AUTO EXIT program mode after flashing for 3 sec.

● LED ON ○ LED OFF ☆ LED FLASHING

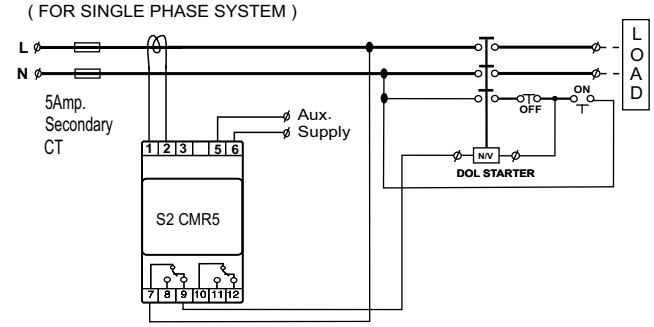
NOTE:- 1. BY PRESSING P. B. CONTINUOUSLY ENTER IN DESIRED MODE, SKIPPING IN BETWEEN MODES.
2. BY DEFAULT UNIT IN-AUTO,NFS,2CO,ZCT MODE.

ENCLOSURE DIMENSIONS **S2 CMR5**



S2 CMR5

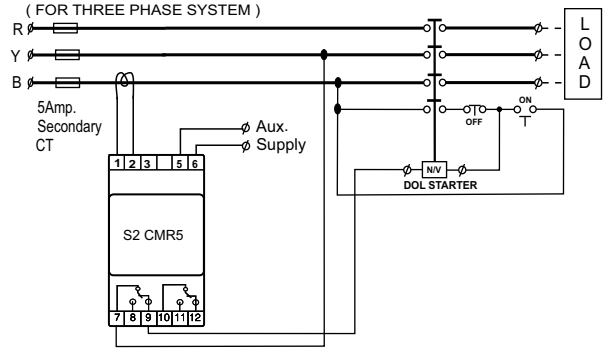
(FOR SINGLE PHASE SYSTEM)



- RELAY CONTACTS SHOWN FOR UNIT IN POWER OFF/ NFS CONDITION.
- TERMINAL 1 & 3 =1Amp SECONDARY CT
  1 & 2 = 5Amp SECONDARY CT
- FOR VDC SUPPLY, CONNECT +ve TO 5 & -ve TO 6 TERMINALS.

S2 CMR5

(FOR THREE PHASE SYSTEM)



- RELAY CONTACTS SHOWN FOR UNIT IN POWER OFF/ NFS CONDITION.
- TERMINAL 1 & 3 = 1Amp SECONDARY CT
  1 & 2 = 5Amp SECONDARY CT
- FOR VDC SUPPLY, CONNECT +ve TO 5 & -ve TO 6 TERMINALS.

Instructions for Screw Gun torque adjustment –

- Torque should be 1 Nm max.
- Max 2.5 sq. mm size wire can be used.

WEEE (Waste Electrical & Electronic Equipment) Regulations: After end of equipment life, recycle or disposal needs to ne done as per guidelines or handover it to Ewaste processing authorized agencies. For more details contact us.

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