CCUM 21

Reverse Power Relay

CCUM 21 definite time reverse power relay provides a sensitive and economical means of detecting motoring conditions in diesel alternators and back pressure turbines. Faster clearance time can be obtained for lower values of reverse power than that are possible with inverse definite minimum time delay relays.

Features

- High speed directional element.
- Robust construction of less than 3% rated single phase power.
- Wide range of definite time settings.
- Consistent timing.
- Comprehensive range of auxiliary unit ratings.
- Drawout case and tropicalised finish.

Application

Type CCUM 21 definite time reverse power relay provides a sensitive and economical means of detecting motoring conditions in diesel alternators and back pressure turbines. Faster clearance time can be obtained for lower values of reverse power than that are possible with inverse definite minimum time delay relays.

Description

Basically relay type CCUM is a high speed induction cup unit (type CCD). The cup contact initiates a static timing unit (type VTT) which provides the output contacts for alarm and trip functions. Typical external and internal connections are shown in Figure 1

Technical data

Ratings

- Current 1A or 5A at 50 Hz.
- Voltage 110V at 50 Hz.

Thermal rating

- Continuous 2 x rated current at 110% Rated voltage
- Short time 20 x rated current for 3 seconds.

Maximum torque angle

30° when connected as shown in Figure1 (applied voltage lagging applied current. This corresponds to Unity Power Factor in the system).

Sensitivity

About 1% of rated voltage with 1 to 15 times rated current or 3% of rated voltage with 0.4 to 40 times rated current. Nominal power setting less than 3% of rated single phase power.

AC burdens

- Current circuit : 1VA at rated current.
- Voltage circuit : 9VA at rated voltage.

Operating time

- 1-10 seconds as standard.
- Other time ranges: 0.5 - 5s, 2.5 - 25s, 6 - 60s and 12 - 120s.

Customer Benefits

- Economial means of detecting motoring conditions.
- Robust construction.
- Faster fault clearance.
- Draw out feature

AREVA

Case

1½D vertical draw out case suitable for flush mounting. Finished eggshell black and tropicalised. Suitable trip isolating switches, CT shorting switches, and provision for maintaining the under voltage trip circuits on withdrawal of the relay unit from the case, are provided on the cradle assembly/case.

CCUM 21 relay withdrawn from case

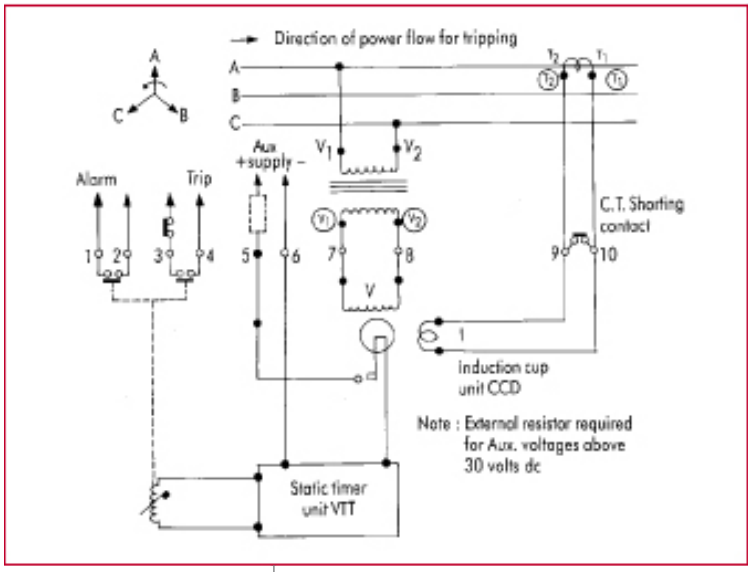

Figure 1:
Typical external and internal connections for type CCUM 21 relay

Dimensions

CASE	HEIGHT	WIDTH	DEPTH*
1½D	362 mm	170 mm	203 mm

*Add 76 mm for maximum length of terminal studs, alternatively, 29 mm for terminal screws.

Contact ratings

CURRENT	MAKE AND CARRY	MAKE AND CARRY CONTINUOUSLY FOR 3 SECONDS	BREAK
AC	1250VA with maxima of 5A and 660V	7500VA with maxima of 30A and 660V	1250VA with maxima of 5A and 660V
DC	1250W with maxima of 5A and 660V	7500W with maxima of 30A and 660V	100W (resistive) 50W (inductive) with maxima of 5A and 660V

Auxiliary supply

- 30, 110, 220V dc Standard.
- 220, 250V 50 Hz ac can be given.
- Operates satisfactorily between 75 - 120% of rated volts (dc) and 80 - 115% of rated volts (ac).

Auxiliary burden

- Approx. 1.26, 4.46, 9.1 watts for 30, 110, 220 volts dc respectively.
- Approx. 2.3VA for ac auxiliary supply.

Contacts

2 pairs (S/R) in any combination of normally open and normally closed.

Operation indicator

Hand reset mechanical operation indicator provided on timer unit.

Insulation

The relay meets the requirements of IS 3231, IEC-255-5 series C-2 KV for 1 minute.

Information required with order

1. Current rating.
2. Operating time range.
3. Contact combination.
4. Auxiliary supply.

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