# High-Tech Range

## CSA1- Voltage Selection Relay

### Application

Supervision of voltage unbalance in three-phase systems, phase failure, phase sequence and undervoltage.

It provides automatic connection of metering equipment to an alternative supply if the normal or preffered supply fails.

### Function

The relay *CSA1* measures amplitude and angle of three phase voltages. The angle of the phasors determine the phase sequence. Unbalance and phase loss are detected by the measurement of amplitude and angle. The undervoltage trip setting is 70% of Un fixed.
ΔU characterizes the difference of the lowest to the highest phase-to-phase voltage related to nominal voltage. The underfrequency element trips if the frequency falls below 43.5 Hz.

### Technical data

| | | |
|---|---|---|
| Rated voltage Un | : | 110 V, 230 V, 400 V AC |
| Frequency range | : | 43-66 Hz |
| Hysteresis | : | 2% $U_N$ |
| Tolerance | : | ± 5% of set volue. |
| Power consumption | : | 3 VA |
| Thermal load carrying capacity | : | continuously 1.3 × $U_N$ |
| Returning time | : | 600 ms |
| Minimum operating time | : | 650 ms |

### Output relay(Six C/O contacts)

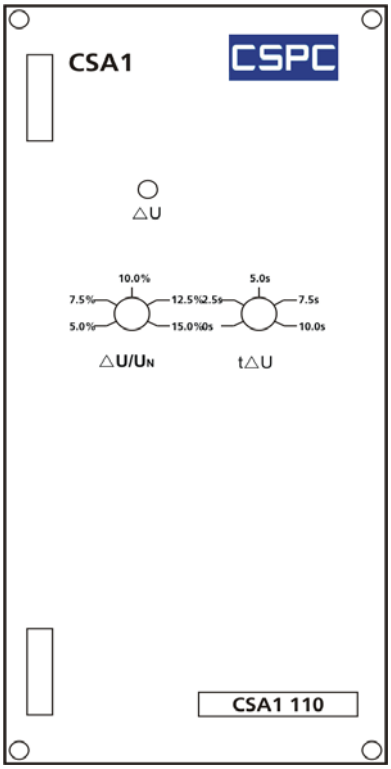
| | | |
|---|---|---|
| Maximum breaking capacity ohmic | : | 1250 VA AC/120 W DC |
| Inductive | : | 500 VA AC/75 W DC |
| Rated current | : | 5 A |
| Making current (16ms) | : | 20 A |

### System data

| | | |
|---|---|---|
| Regulations | : | VDE 0435 Part 303 |
| Temperature range at storage and operation | : | –25°C to +70°C |

### Mechanical stress

| | | |
|---|---|---|
| Shock | : | class 1 acc. to DIN IEC 255-21-2 |
| Vibration | : | class 1 acc. to DIN IEC 255-21-1 |
| Degree of protection | : | IP 40 at closed front cover |
| Weight | : | approx. 1.0 kg |
| Mounting position | : | any |



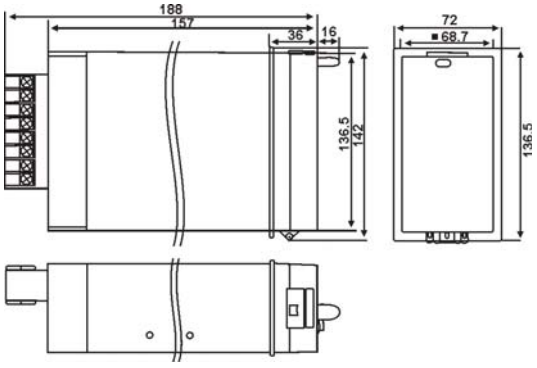

**Front View**

The unit *CSA1* is designed to be draw out type.

The front panel of the unit is protected with a sealable transparent cover (IP40).
Please remove the transparent cover with a screw driver to adjust the relay.

### LED

LED △U is used to indicate operation without fault with steady light. The LED indicates pickup of the relay by flashing. At tripping or underfrequency the LED △U extinguishes.



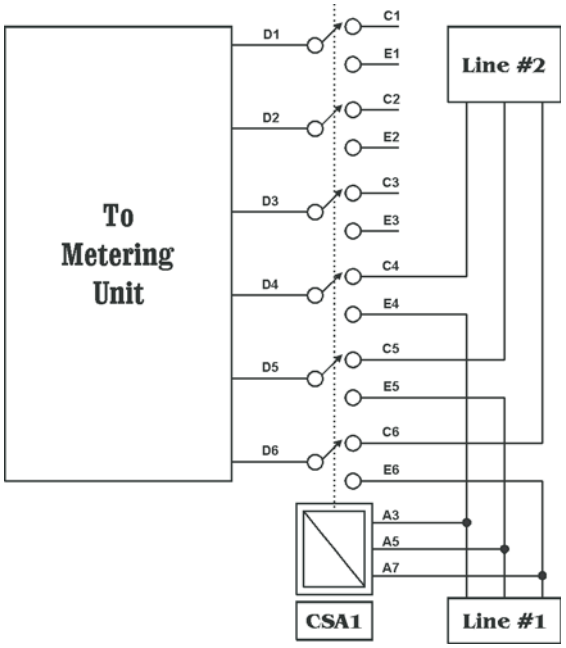

**Cut Out Dimensions : 68x138 mm**
**All dimensions in : mm**

Controls & Switchgear Group

**C&S Protection & Control Ltd.**

## Auxiliary voltage supply

The unit *CSA1* needs no separate auxiliary voltage supply. The supply voltage can be formed directly from the measuring quantity.




Relay in CSA1 remains energized under healthy conditions. Hence the C/O contacts are in N/O position; this connects LINE#1 to metering circuit.

## Connecting terminals

The connection up to a maximum of 2.5 $mm^2$ cross-section conductors is possible.

## Setting ranges

$\Delta U$ : 5 - 15 % $U_N$
$t\Delta U$ : 0 - 10 s

## Order key

| *CSA1* | |
|---|---|
| Rated voltage 110 V AC | **110** |
| Rated voltage 230 V AC | **230** |
| Rated voltage 400 V AC | **400** |


For further information, please contact :

CSPC

C&S Protection & Control Ltd.

C&S Controls & Switchgear Group

44, Okhla Indl. Estate, New Delhi-110020, Ph.: 011-55602414, 26319465-66 Fax: 011-55602413 email: cspc@controlsindia.com

***Marketing Office :*** **DELHI :** Ph.: 55602414, 26319465-66 Fax: 55602413 **CHANDIGARH :** Ph. 2776154, 2776151, 2726153 Fax: 2726154 **KOLKATA :** Ph. 24549607-08 Fax: 24549371 **MUMBAI :** Ph.: 24114727-28 Fax : 24126631 **PUNE :** Ph.: 5444822-824, Fax: 5410820, **AHMEDABAD :** Ph.: 65841425, 6589132 Fax : 6589132 **BANGALORE :** Ph.: 5586147, 5323582, 5594939 Fax: 5582796, ***CHENNAI :*** Ph.: 26426475, 26426572 Fax: 26411972 ***HYDERABAD :*** Ph.: 27813003, 55332304 Fax: 27812987