EN

CONTROL RELAY FOR VOLTAGE

- S105CS1-B	**:**	**MONOPHASE**	**230 V**
- S105CS1-C	**:**	**MONOPHASE**	**230 V**
- S105TCS-1	**:**	**TRIPHASE**	**380 V**
- S105TCS-2	**:**	**TRIPHASE**	**230 V**
- S105TCS-3	**:**	**TRIPHASE**	**400 V**

Microprocessor type device appropriately designed for the protection of loading which can be damaged by feeding voltages which are either too low or too high. The delayed restoration of the loading makes it particularly suited for checking the compressors of the refrigeration systems.
The use of a microprocessor makes it possible to obtain for the intervention threshold and very precise and repetitive timing.

TECHNICAL CHARACTERISTICS

Power supply:	Available in various versions for the control of the monophase and triphase voltage 50 Hz. Protected by means of a varistor.
Consumption:	2 VA
Alarms:	Control of the maximum and minimum voltage. Programmable with a DIP-switch at ±12 %, ±16 %, ±20 % of the nominal voltage. Hysteresis to restoration fixed equal at 4 %.
Intervention delay:	Fixed equal to 3 s
Restoration delay:	Programmable by means of a DIP-switch of 6 m, 6 m e 10 s, 6 m e 20 s, 6 m e 30 s, 6 m e 40 s, 6 m e 50 s, 7 m,10 s (TEST position).
Relay:	S105CS1-B : 1 SPST contact with capacity of 10 A 250 Vac (resistive loading). S105CS1-C, S105TCS-1-2-3 : 1 SPDT exchange with capacity of 10 A 250 Vac (resistive loading).
Signalling:	Green LED presence of the power supply Red LED : ALARM Yellow LED : DELAY IN RESTORATION
Temperature:	-10 °C / + 60 ° C
Humidity:	90 % a + 40 °C (non condensable)
Dimension:	Box made of self-extinguishing noryl 3 DIN modules ideal for hooking onto 35 mm profiles, 52,5 x 90 x 73 mm (b x h x p).
Weight:	250 g approximately

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1 PROGRAMMING OF THE THRESHOLDS

The relay has two thresholds (a minimum and a maximum) which can be programmed by means of the DIP-switches no. 1 and no. 2 in order to obtain 3 different bands of normal functioning : ± 12 %, ± 16 % o ± 20 % referred to the nominal value of the voltage that is to be checked

	± 12% DIP-switch : 1 OFF / 2 OFF		± 16% DIP-switch : 1 ON / 2 OFF		± 20% DIP-switch : 1 ON / 2 ON	
	Min	Max	Min	Max	Min	Max
S105CS1-B	202 V	258 V	193 V	267 V	184 V	276 V
S105CS1-C	202 V	258 V	193 V	267 V	184 V	276 V
S105TCS-1	334 V	426 V	319 V	441 V	304 V	456 V
S105TCS-2	202 V	258 V	193 V	267 V	184 V	276 V
S105TCS-3	352 V	448 V	336 V	464 V	320 V	480 V

2 FEEDING OF THE DEVICE

When the device is switched-on, the red alarm LED will light up for approximately 5 seconds and the relay will remain deactivated.
Once the 5 seconds have lapsed :

- if the voltage to be checked is within the normal functioning band, the red LED **A** will switch-off and the yellow re-insertion delay LED **T** will light up, during this entire phase, this relay will remain deactivated.
- if the voltage to be checked is out of the normal functioning band, the red LED **A** will begin to flash; it will then pass to delay of re-insertion only once the voltage to be checked has returned to a value within the normal functioning band. The hysterisis when re-entering the normal functioning band is fixed at 4%.

Once the delay in restoration has been terminated, the yellow LED **T** will switch-off and the relay will be activated.

3 ALARM

During normal functioning the red LED **A** and the yellow LED **T** are switched-off and the relay is deactivated.
When the voltage to be checked exits the normal functioning band, the red LED **A** will light up.

- if within 3 seconds the voltage to be checked re-enters the normal functioning band, the red LED **A** will switch-off and there will be no relay intervention.
- if after 3 seconds the voltage to be checked is still out of the normal functioning band, the red LED **A** will begin to flash and the relay will be deactivated.

In this case, when the voltage to be checked re-enters the normal functioning band, the red LED A will switch-off and the yellow delay in restoration LED T will light up.
The hysteresis when re-entering the normal functioning band is fixed at 4%.
Once the delay in restoration has been terminated, the yellow LED **T** will switch-off and the relay will be activated.

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4 PROGRAMMING OF THEV DELAY IN RESTORATION

The duration of the delay in restoration can be programmed by means of the DIP-switches nr. 3, nr. 4, nr. 5 e nr. 6 : 3 OFF / 4 OFF / 5 OFF / 6 OFF the delay to re-insertion lasts 6 minutes.

If placed in the ON position, DIP-switch no. 5 will add 10 seconds.
If placed in the ON position, DIP-switch no. 4 will add 20 seconds.
If placed in the ON position, DIP-switch no. 3 will add 30 seconds.

If places in the ON position, DIP-switch no. 6 puts the device in **TEST** condition, in this case the delay in re-insertion lasts 10 seconds regardless of the position of the other DIP-switches.

5 ELECTRIC CONNECTIONS

S105CS1-B

Power supply and voltage to be checked :
L1 : Clamp 1
N : Clamp 3

Relay outputs (1 contact SPST with a capacity of 10 A 250 Vac on the resistive loading) :
Load : Clamp 12
N : Clamp 5
Note : the relay is indicated in normal conditions, that is, activated.

S105CS1-C

Power supply and voltage to be checked :
L1 : Clamp 1
N : Clamp 3

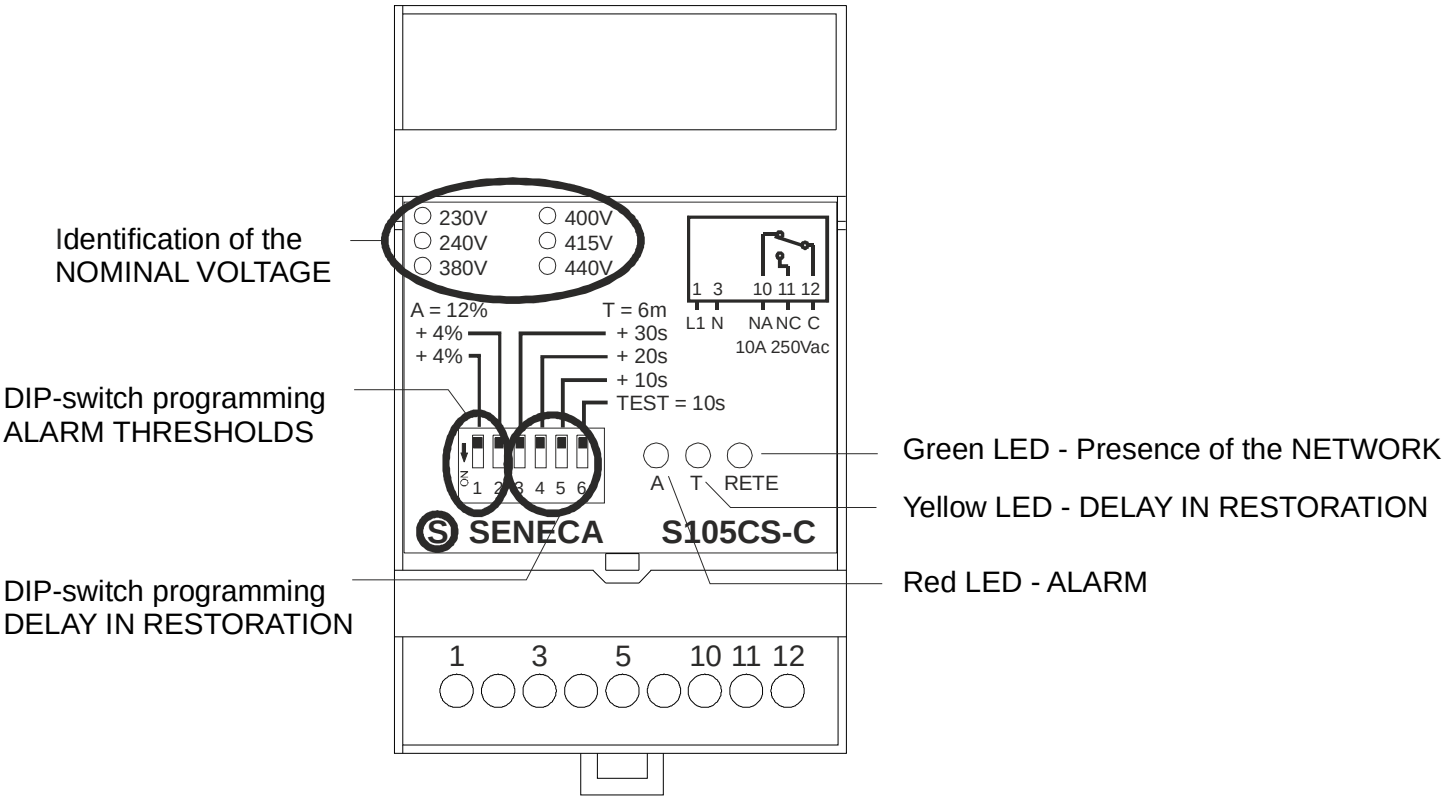
Relay outputs (1 contact in exchange SPDT with a capacity of 10 A 250 Vac on the resistive loading) :
Normally closed : Clamp 10
Normally open : Clamp 11
Common : Clamp 12
Note : the relay is indicated in normal conditions, that is, activated.

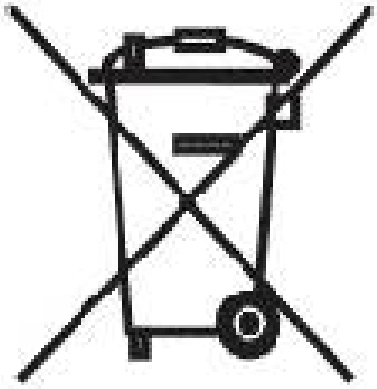
S105TCS-1 - S105TCS-2 - S105TCS-3

Power supply and voltage to be checked (see the version of the device) :
L1 : Clamp 1
L2 : Clamp 3
L3 : Clamp 5
Note : the power supply of the device is connected between the phases L1 and L2

Relay outputs (1 contact in exchange SPDT with a capacity of 10 A 250 Vac on the resistive loading) :
Normally closed : Clamp 10
Normally open : Clamp 11
Common : Clamp 12
Note : the relay is indicated in normal conditions, that is, activated.

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ISO9001-2000

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