ENGINEERING
TOMORROW

Data sheet

CI-tronic™ single-phase compressor soft starter, Type TCI 25C

The TCI 25C soft starter is designed for soft starting of single-phase compressors. During start the TCI 25C will gradually ramp-up the motor voltage to full line voltage thus reducing the starting current peak.

Features

- Easy installation between normal motor starter and motor
- LED status indication
- Unlimited start/stop operation per hour
- DIN rail mountable
- Starting time max. 0,5 seconds
- Suitable for 50/60 Hz
- EN 60947-4-2
- CE, EAC, LLC CDC TYSK

Ordering

Type	Line Voltage	Motor Current max.	Motor Power	Code no.
	[V AC]	[A]	[kW / HP]	
TCI 25C	220 – 240	25	4.0 / 5.5	**037N0086**

Technical Data

Output specifications

Operational voltage	220 – 240 V AC
Operational current (AC-3, AC-53a)	25 A max. (50 mA min.)
Semiconductor protection fusing	
Type 1 co-ordination:	100 A gL/gG
Type 2 co-ordination:	6300 A2s

Control specifications

EMC immunity	Meets EN 60947-4-2

Start profile

Ramp-up time	0,5 seconds (max.)
Starting torque	50% of nominal starting torque

Insulation specifications

Rated insulation voltage, U_i	660 V
Rated impulse withstand voltage, U_{imp}	4 kV
Installation category	III

Thermal specifications, environment

Power dissipation, continuously duty	1 W/A
Power dissipation, intermittent duty	1 W/A x duty cycle
Operating temperature range	-5 °C – 40 °C*
Cooling method	Natural convection

Materials

Housing	Self extinguishing PPO UL94V1
Heat sink	Aluminium black anodised
Base	Electroplated steel

Functional description

As soon as the TCI 25C is connected to mains voltage a motor soft start is performed.
The balanced ramp-up time and starting voltage (initial torque) ensures a fast and reliable start.

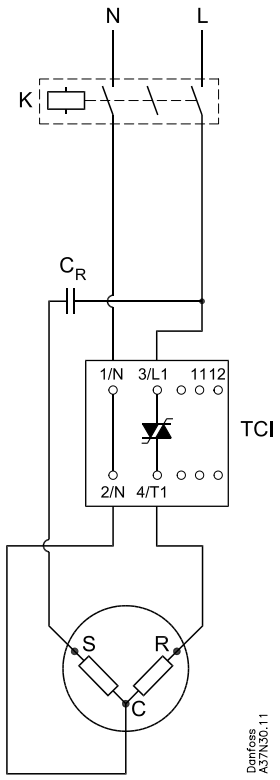
TCI 25C can be used for single phase motors with and without a start capacitor - see wiring examples.

Functional diagram

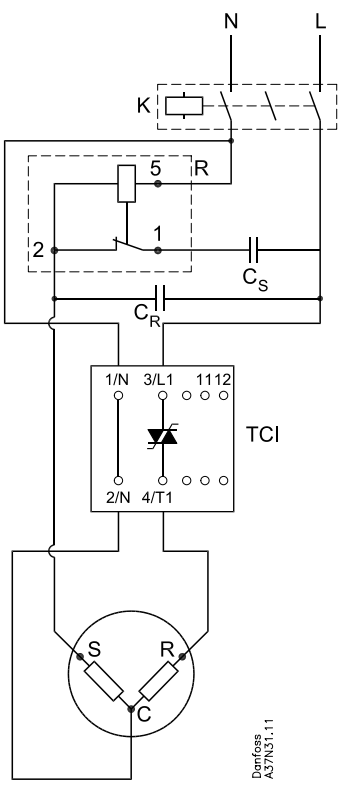
Line voltage (L, N)
Motor voltage (T, N)
LED 1
LED 2

Wiring examples

Single-phase motor without a start capacitor



Single-phase motor with a start capacitor



For selection of capacitors and start relay, please refer to recommendations from the compressor manufacturer

Operating at high temperatures

If the ambient temperature exceeds 40 °C the current must be de-rated according to table below.

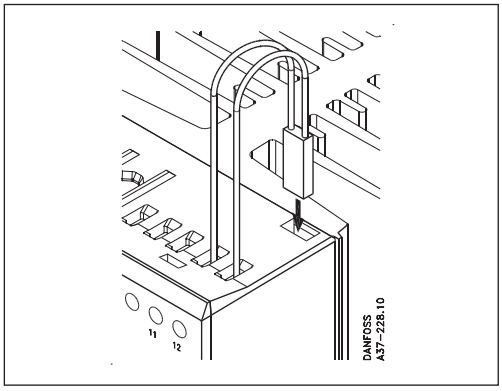
Ambient temperature	Continuous current	Intermittent current (max. 15 min. ON-time)
50 °C	23 A	25 A (max. duty cycle 0.8)
60 °C	15 A	25 A (max. duty cycle 0.65)

Overheat protection

If required the controller can be protected against overheating by inserting a thermostat in the slot on the right-hand side of the controller.

Order: UP 62 thermostat **037N0050**

The thermostat is connected in series with the control circuit of the main contactor. When the temperature of the heat sink exceeds 100 °C the main contactor will be switched OFF. A manual reset is necessary to restart this circuit.

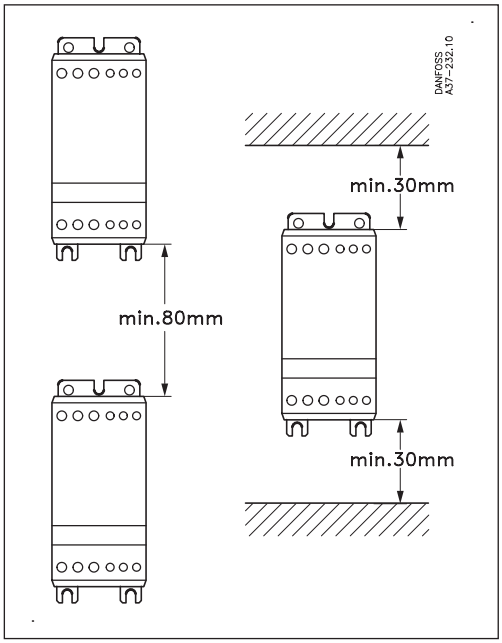


Mounting instructions

The controller is designed for vertical mounting. If the controller is mounted horizontally the load current must be reduced by 50%.

The controller needs no side clearance. Clearance between two vertical mounted controllers must be minimum 80 mm (3.15″).

Clearance between controller and top and bottom walls must be minimum 30 mm (1.2″).



Dimensions [mm] (inch)