CI-tronic™ Soft starters for commercial compressor applications Type MCI 12CH/15CH/25CH

REFRIGERATION AND
AIR CONDITIONING

Technical leaflet

Technical leaflet **CI-tronic™ soft starters for commercial compressor applications type MCI 12CH/15CH/25CH**

Features

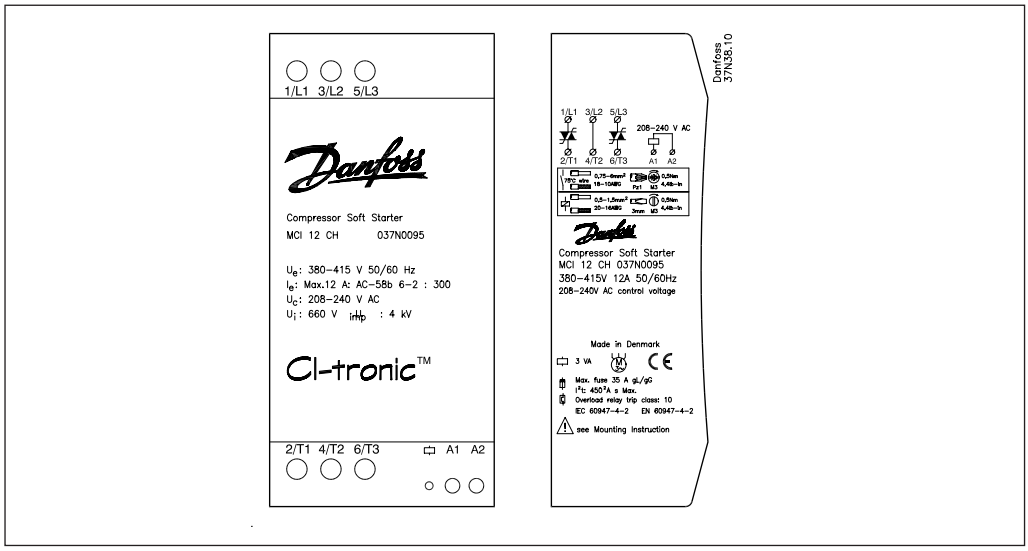
- Control voltage 208-240 V AC
- Automatic detection of missing phases
- LED Status indication
- Automatic adaptation to 50/60 Hz
- Easy and quick installation
- Built in varistor protection
- IP 20 protection
- Compact modular design
- DIN rail mountable
- Ramp-up time mx 0.2s (factory set-up)
- EN 60947-4-2

Description

The MCI CH soft starters are designed for starting/stopping of hermetic compressors for residential pumps, refrigeration and A/C units.

The soft start ramp-up time is fixed to ensure lubrication and optimal start current reduction

Product marking



Technical data

Output specifications

		MCI 12CH	MCI 15CH	MCI 25CH
Operational voltage	V a.c.	380-415		
Operational current (AC-58b)	max.	12A	15A	25A
Ramp up time (preset)	max.	0.2 s		
Leakage current	max.	5 mA		
Operational current	min.	50 mA		
Overload relay trip class		Class 10		
Semiconductor protection fusing				
Type 1 [1] co-ordination		35 A gL/gG	50 A gL/gG	63 A gL/gG
Type 2 [2] co-ordination	Pt(t=10 ms)	610 A^2s	1800 A^2s	6300 A^2s
Rating index				
AC-58b: Hermetic refrigerant compressor [3] motor with bypass		12A: AC-58b: 6-2:300	15A: AC-58b: 6-2:360	25A: AC-58b: 6-2:600

[1] Type 1 co-ordination require that, under short-circuit conditions, the device shall cause no danger to persons or installation and may not be suitable for further use without repair and replacement of parts.

[2] Type 2 co-ordination require that, under short-circuit conditions, the device shall cause no danger to persons or installation and shall be suitable for further use.

[3] 12A: AC-58b: 6-2:300 means max. load 6 x 12A for 2 seconds: Min. 300 seconds between starts.

Technical data (continued)

Control circuit specifications

Control voltage range		208-240 V a.c.
Pick-up voltage	max.	177 V a.c.
Drop-out voltage	min.	50 V a.c.
Control current for no operation	max.	1.5 mA a.c.
Control current / power	max.	3 VA
Response time	max.	100 ms
Fuse	max.	10 A gL/gG
EMC immunity		Tested acc. to Art. 9.3.5 EN 60947-4-2

Insulation

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

Thermal specification

Cooling method		Natural convection
Storage temperature range		–20°C to +80°C
Ambient tempertrure		–20°C to +40°C
Enclosure degree / pollution degree		IP 20/ 3
Power dissipation, continuous duty	max.	4-5 W
power dissipation, intermittent duty	max.	4-5 W x duty cycle

Materials

Housing self extinguishing	PC/ ABS

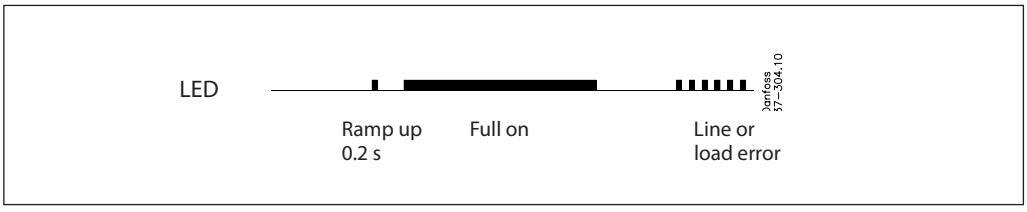
MCI CH soft starter selection

Type	Max. load Amp	I^2t for fusing	**Code no.**
MCI 12 CH	12	610 A^2s	**037N0095**
MCI 15 CH	15	1800 A^2s	**037N0096**
MCI 25 CH	25	6300 A^2s	**037N0097**

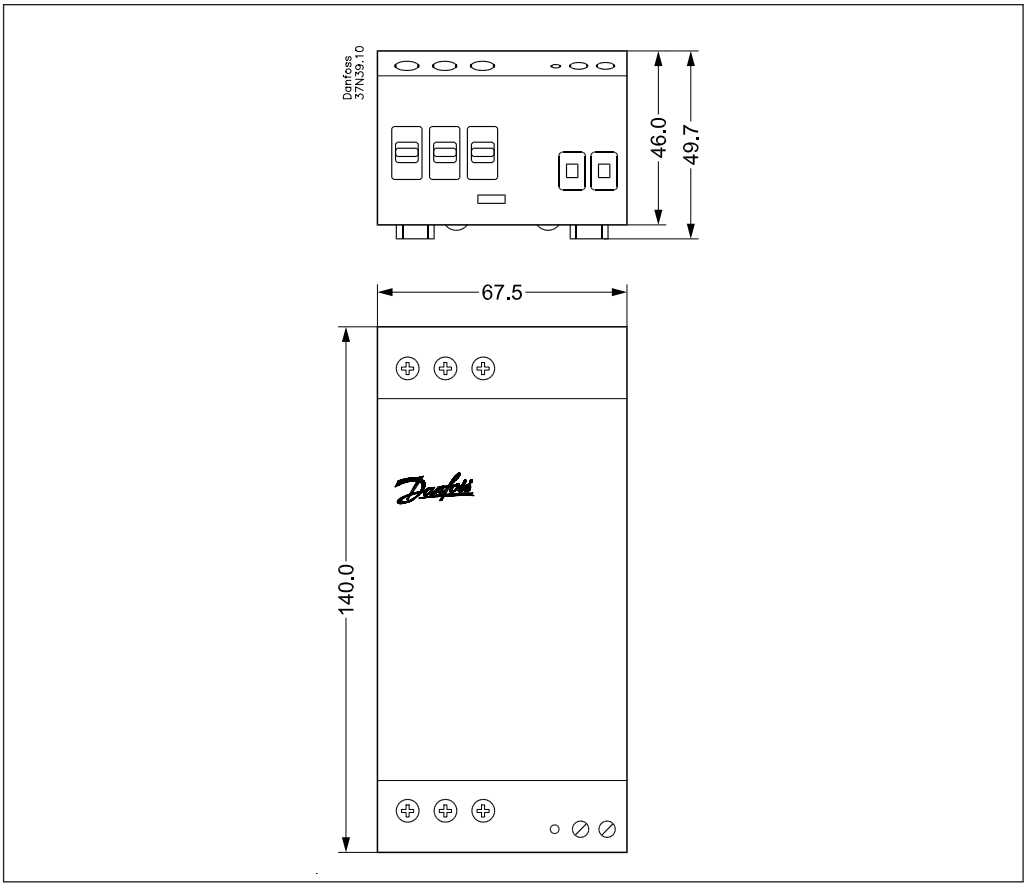
Functional description

Start
During ramp-up the controller will gradually increase the voltage to the motor from the present initial torque value until it reaches full line voltage. The actual ramp time is digitally calculated and will not be influeced by net frequency or load varition.

LED status indication



Dimensions



Application examples

When the control voltage is applied to A1-A2, the soft starter will start the motor, according to the fixed ramp-up time. When the control voltage is switched OFF, the motor will switch OFF instantaneously.