



CT-START

Electronic Softstarter
6 A to 900 A



CT START



● **CT-START** is a multi-function electronic system with a microcontroller and thyristors, designed for use with all 3-phase squirrel cage induction motors.

Unlike the traditional systems (D.O.L., star-delta, resistors, etc), it **limits the starting current** and ensures **very smooth and steady acceleration**.

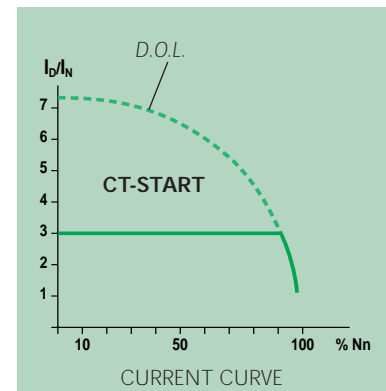
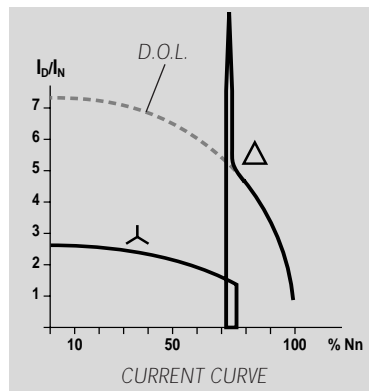
CT-START includes protection and control system functions which means that installations are kept simple and costs are reduced.

● **5 year 'return to base' warranty**

current limitation

During this phase, all traditional starter systems cause a current peak, which can vary between 6 and 9 times the rated current.

CT-START, by **simple** adjustments, can limit the current precisely during the start-up phase, whilst maintaining all the thermal characteristics of the motor.

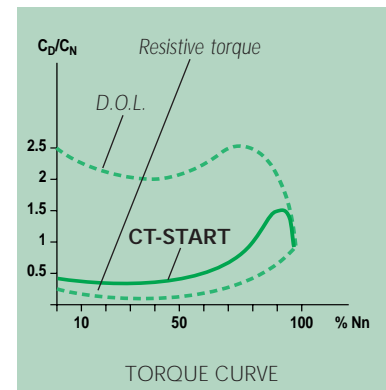
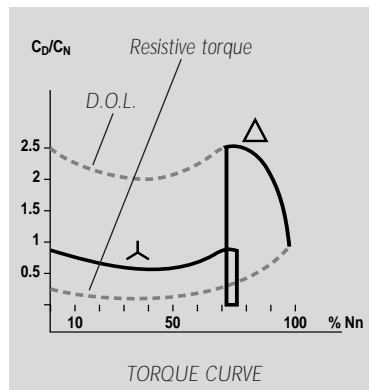


smooth starting

Starting a motor generates surges, vibrations, imbalances, slackening, pressure surges, and mechanical stress.

CT-START's electronic design means that it can be used for **precise adjustment of the starting and repeated torque**.

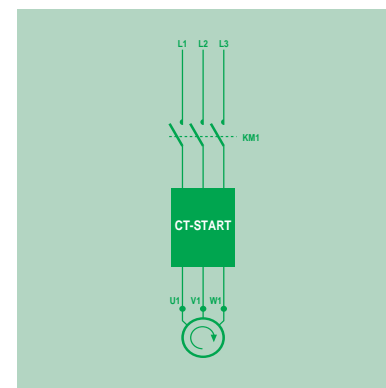
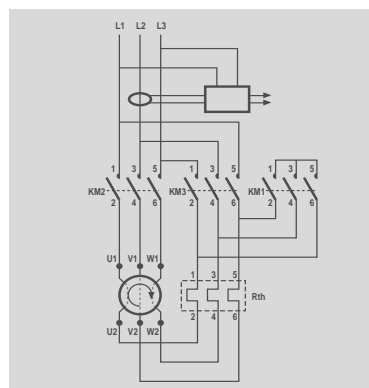
It ensures smooth acceleration, thus limiting the forces to which the installations are subjected.



integral protection

Starting, protecting and automating systems require the installation of a large number of components, which means that the control boxes are both complex and big.

CT-START has several supplementary functions which can limit the purchases of additional equipment, thus resulting in a reduction in the cost of materials, labour and operation. An increase in motor control reliability is obtained by simplifying the installation.



power ratings

CTS 1312

6 - 10 - 16 - 22 - 30 - 44 A

2.2 KW (400 V) 22 KW

CTS 2313

37 - 60 - 86 - 145 - 211 - 250 - 365 - 530 - 700 - 900 A

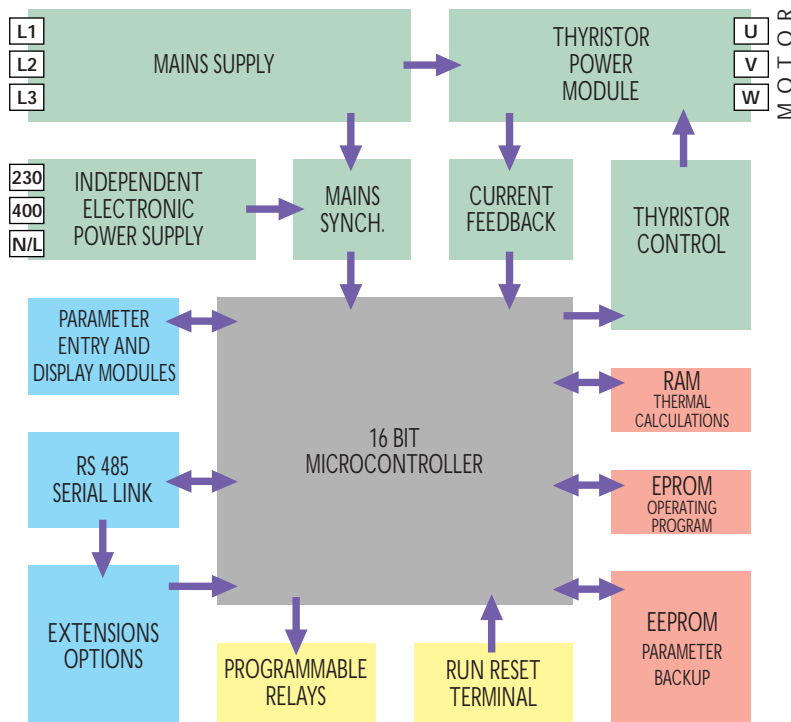
18.5 KW (400 V) 500 KW

example of referencing CT-Start CTS 2313 14 37:
 model 2313 voltage 220 - 500 V, current rating 37 A



- **Wide homogeneous range**
 - 2.2 to 500 kW (400 V). - up to 900 kW, 690 V.
- **Multi-voltage units**
 CTS 1312 and 2313 can be used over a wide voltage range:

logical organisational diagram of the starter



Compact dimensions

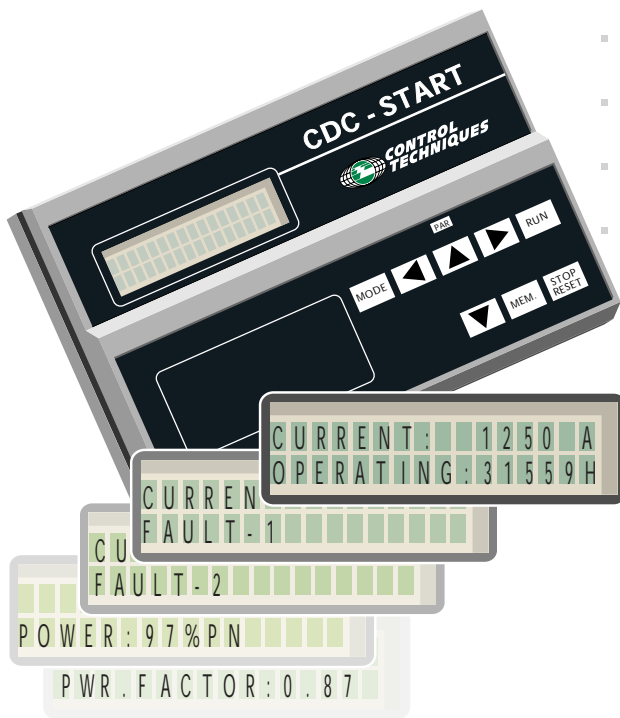
Modular design

CE marked



digital technology

- Control electronics independent of the power rating
- Protection against interference:
 Increased immunity of the microcontroller - IEC 8012 and IEC 801- 4 level 4.
- Updatable operating program under EPROM
- Permanent parameter backup under EEPROM



options CTS 2313

CDC START

TERMINAL

The **CDC START** terminal has 8 keys, 1 LED and 1 32-character LCD, and is designed for starters in the **CTS 2313** range.

When used with the base model, it:

- is used for programming, diagnostics and displaying the parameters,
- provides clear displays concerning the operation of the motor,
- accesses additional functions:
 - saving a set of parameters,
 - limiting the number of starts,
 - locking the settings using a personal code,
 - additional, more precise settings,
 - entering option parameters, etc.



ES START

I/O MODULE

- 2 logic inputs
 - management of external faults,
 - or multi-parameter entry:
 - starting several motors,
 - 2-speed motors,
 - no-load or on-load starting.
- 2 logic outputs
 - can provide 4 alarm relays
- 1 analogue input
- 1 PTC input (6 probes)
- 2 analogue outputs
 - can provide feedback relating to the current or the power drawn by the motor.



FR START

D.C. INJECTION MODULE

- Braking before starting,
- Braking on deceleration,
- Keeping the motor free from condensation,
- Drying the motor.



RV START

SPEED FEEDBACK CONTROL MODULE

The **RV-START** module, when used with the **CT-START CTS**, controls the speed feedback in order to ensure smooth repetitive starts, whatever the load of the machine being driven.

Applications: installations where the starting load varies considerably (conveyors, bucket elevators, mixers, ball mills, etc.)

The **RV-START** module also has a logic input which allows for the double entry of **CT-START** parameters when it is being used with a 2-speed motor.

- 3 types of speed feedback,
 - D.c. or a.c. tacho,
 - 3-wire proximity sensor,
 - 4 - 20 mA signal.

OTHER OPTIONS

- Quick-blow fuses, optional on ratings ≤ 250 A, and standard on ratings ≥ 365 A.
- IP 20 kit on ratings ≤ 250 A.
- IP 53 version.
- Starter enclosure.
- Connection kit.
- Autotransformer.

Communications



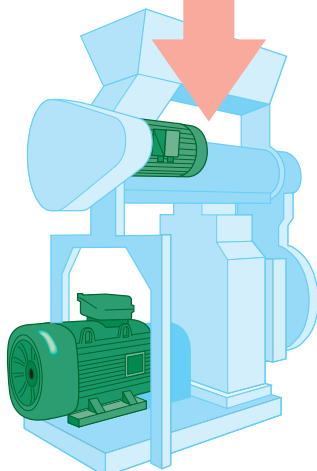
PC START

Software for programming via a PC.
- saving parameters,
- adjustment assistance, etc.

COM START

MODBUS interface for installing
CT-START on a network.

- RS 485 port
- programmable electrical characteristics :
 - transmission speed,
 - parity, etc.



driving the world...



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