Soft starter Overload Protection shall be built-in and protect the Thyristors (SCRs) from exceeding the maximum load capacity.

(8) Fault Detection

In order to protect both starting equipment and the load, the soft starter shall be provided with the fault detections below. All fault detections and signals shall be standard and not possible to disable or disconnect. When a fault occurs it shall be indicated directly on the soft starter what type of fault it is. At least the following fault indications shall be available.

Soft starter Over Temperature Fault shall be built-in and protect the Thyristors (SCRs) from excessive heat in the enclosure or heat sink. The temperature shall be measured direct on the Soft starters heatsink with an internal temperature sensor.

Phase-Loss detection shall be standard and it shall shut down the soft starter if there is no current detected in any of the three phases.

Shunt Fault shall detect if there is a current flow through when stopped, from having a shorted thyristors (SCR) or a by-pass contact(s) closed.

Bad network quality detection shall be standard and indicate if the main supply network contains of excessive disturbances.

Current lost detection shall detect and stop the soft starter if the operational current is lost in one or several of the three phases.

Low control supply voltage shall stop the soft starter in case of interruption of the control supply to secure a safe stop of the soft starter.

High Current Protection: The soft starter shall be equipped with a fixed high current protection, tripping if the current reaches above 8 times the set rated current and when lasting longer than 200ms.

Communication fault. In the event of a communications failure the soft starter shall give indication of the failure and revert to the off position, only active when serial communication is used.

(9) Inputs

The soft starter shall be equipped with three digital inputs, Start, Stop and Reset. Inputs shall are provided for the control and operation of the soft starter and they shall have a common 24VDC internal source for the control.

The digital inputs for start and stop shall be self holding circuits, allow controlling of the soft starter without the need of an external relay.

(10) Outputs

The soft starter unit shall have a minimum of three (3) signal relays. The function of the relays shall be,

Run (NO – normally open),
T.O.R indicating feeding the motor with 100& voltage (NO – normally open)
Event (No and NC – normally open and normally closed)

(11) Analog Input and Output

The soft starter shall be equipped with a minimum of one (1) analog output and one (1) analog input signal using 4 – 20mA. It shall be pre-programmed so 20mA is representing 1,2 times the set Ie value.

(12) Operator Interface HMI

The starter shall be operated with a LCD display presenting all data and information using a language neutral icons and figures. All numbers shall be presented using four positions, seven segments.