Mains connection:
230 – 460 V ±10 %, 50/60 Hz

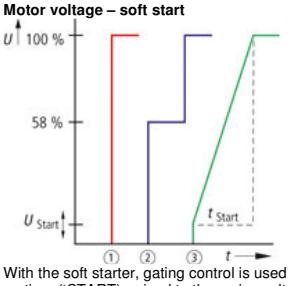
Control voltage:
14 – 230 VAC / DC

Rating range:
16 – 900 A
7.5 – 500 kW (In-line configuration)
11 – 900 kW (In-delta configuration)

Terms and technical performance parameters
Below is an overview of terms and technical performance parameters that are significant in the field of electrical drives. The process used to control or regulate determines the quality of the drive response, and determines the cost-effectiveness of machines and installations.

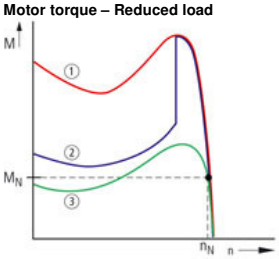
By employing appropriate technologies, a high level of product quality can be achieved and the usage of precious resources can be significantly reduced. Depending on the application at hand, soft starters (for smooth motor start) or frequency inverters (for speed control/regulation) can be used.

Motor voltage – soft start



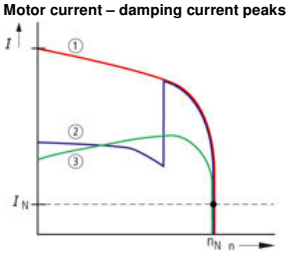
With the soft starter, gating control is used to reduce the motor voltage, then, within a predetermined ramp-up time (tSTART), raised to the mains voltage from an easily-set starting voltage (USTART). In this way, the smooth starting and stopping of the motor protects the mechanical devices connected to it from being subjected to the load with a jolt, and it prevents current peaks and therefore voltage dips in the electrical supply network.

Motor torque – Reduced load



Current and voltage fluctuations during start-up lead to problems in the network. The resulting abrupt torque fluctuations place stress on machines, necessitating service work and influences on production quality. A soft starter allows you to minimise these disadvantages. It ensures a smoother torque characteristic and reduces your operating costs.

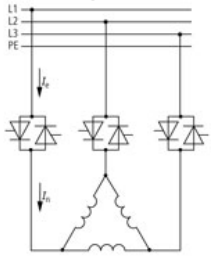
Motor current – damping current peaks



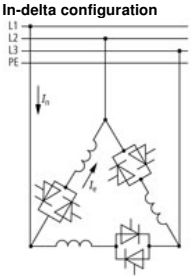
Power supply companies are demanding increased adherence to certain current limits. The aim is to avoid overloading the network due to high inrush currents during direct-on-line starting or current peaks during star-delta starting, in order to prevent unpleasant side effects such as voltage dips. Since the current limit can be set on soft starters, they provide the ideal solution.

In-line configuration/In-delta configuration

In-line configuration



In-delta configuration



Advantages of the „In-delta configuration"
In this circuit configuration, the individual phases of the DM4 are connected in series with the individual motor windings (six conductor connections as with the star-delta starter). The soft starter must only conduct about 58 % of the rated motor current. This facilitates the use of a significantly smaller device.