esco
tart DS2
Digital Softstarter
for motor capacities up to 110 kW
escostart Softstarter

escostart softstarter accelerate and decelerate induction motors without torque and current transients:
- pumps, fans and compressors
- conveyors, crushers, shakers
- saws and milling machines
- door and carriage drives

Perfect motor control, complete protective functions, flexible integration variants and convenient commissioning (e.g. with the comfortable PC software) are your advantage.

escostart DS2: compact - easy - functional

The softstarter escostart DS2 excels at its functional concept without compromising about control functions and protection. Three installation sizes in protection class IP20 cover a capacity range from 7.5 kW to 110 kW. The integrated bypass minimizes losses, saves space and facilitates installation. Protective functions like
- Thermistor surveillance (PTC input)
- trip at over-current, over-temperature of soft-start or motor, excess starting time, current imbalance, wrong phase rotation, winding short and communication fault ensure safe and continuous operation.

Symmetrical current waveform

An innovative phase control ensures a balanced current waveform with a minimized DC component. In comparison to common two-phase concepts accustical noise is greatly reduced, which is an advantage not only in sound-conducting ducts and pipeworks: The drive starts smoothly with even torque and high efficiency.

Universal control methods

- Two- or three-wire operation
- Programmable relais
- Fieldbus options for Profinet® DP Modbus® RTU and DeviceNet®
- Series -L: control board supply 24 V (DC/AC)
- Series -H: control board supply 110...240 V AC or 380...440 V AC
- DS2-H use 100...230 V AC signal voltage
- Optional I/O-module to monitor external signals like temperature, feed pressure, over/under-pressure or additional signals from a PLC
- remote control (option)

Commissioning software for Windows® Profibus® DP module Modbus® RTU/TCP module DeviceNet® module EtherNet/IP® Profinet® BACnet®
Remote control
I/O extension modules
IP20 finger protection for busbars

Specification escostart DS2

<table>
<thead>
<tr>
<th>escostart DS2</th>
<th>18</th>
<th>34</th>
<th>42</th>
<th>48</th>
<th>60</th>
<th>75</th>
<th>85</th>
<th>100</th>
<th>140</th>
<th>170</th>
<th>200</th>
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</thead>
<tbody>
<tr>
<td>Rated current [A] *</td>
<td>18</td>
<td>34</td>
<td>42</td>
<td>48</td>
<td>60</td>
<td>75</td>
<td>85</td>
<td>100</td>
<td>140</td>
<td>170</td>
<td>200</td>
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<tr>
<td>Recomm. motor capacity [kW] **</td>
<td>7,5</td>
<td>15</td>
<td>18,5</td>
<td>22</td>
<td>30</td>
<td>37</td>
<td>45</td>
<td>55</td>
<td>75</td>
<td>90</td>
<td>110</td>
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<td>Bypass integrated</td>
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<tr>
<td>Input voltage ***</td>
<td>3ph. 200...440 V (+10/-15 %), 45...60 Hz</td>
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<tr>
<td>Power connections</td>
<td>Terminals, 10...25mm²</td>
<td>Terminals, 25...50mm²</td>
<td>Busbars</td>
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<tr>
<td>Protection class</td>
<td>IP20</td>
<td>IP20 (IP20 with option)</td>
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<tr>
<td>Control board supply voltage</td>
<td>Series „-L“: 24 V AC; Series „-H“: 110...240 V AC and 380...440 V AC</td>
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<tr>
<td>Control input terminal</td>
<td>1 x start, 1 x stop, 1 x motor thermistor</td>
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</table>
|Control output terminal|1 x relais to switch main contactor, 1 x programmable relais (both: 6 A, 30 V=, cosϕ=1; 2 A, 400 V AC)
|Environment|Operating temperature: -10...+60°C, relative humidity 5...95%, pollution degree 3|
|Installation height|0...1000 m, above 1000 m with reduced load|
|Heat dissipation during start|3 W/Ampere|
|Heat dissipation during operation|10 W typically|
|EMC|Emitted interference: Full-on mode: EN 61000-6-3:2005, Ramp: EN 60947-4-2, IEC 60947-4-2; Immunity to interference: EN 61000-6-2:2005|
|Certification|CE|
|Dimensions mm| | | | | | | | | | |
|H|203|215|240|
|W|98|145|202|
|D|165|193|214|

* DS2 18-...: at 400% starting current, 6 seconds starting time, 6 minutes waiting time (DS2 75...200: 10 minutes waiting time), <1000 m
** 4-pole industrial standard induction motors
*** DS2-xxx-500-H: 3ph. 200...575 V (+10/-15 %), 45...66 Hz

Option for escostart DS2

- Commissioning software for Windows®
- Profinet® DP module
- Modbus® RTU/TCP module
- DeviceNet® module
- EtherNet/IP®
- BACnet®
- Remote control
- I/O extension modules
- IP20 finger protection for busbars

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