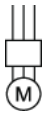
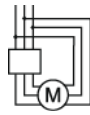


## MS3 2.2 ÷ 22kW / 400VAC

Electronic softstarter for squirrel cage motors



In-Line



In-Delta

- Full 3PH power control
- Integrated by-pass for high efficiency
- Heavy duty start
- Current limit as standard
- Slim book size build, 42/51mm width
- Integrated Alarms
  - Phase reversal detection /failure
  - Instrument over temperature
  - Motor over temperature (PTC)
- Plug-in load terminals from 2.2 ÷ 11kW
- DIN-Rail mounting, robust aluminum housing
- Fanless version for high reliability
- Output relays 1 (2.2-11kW) and 3 (15-22kW)

### Features:

The MS3 is a modern versatile softstarter in a robust built housing, easy mounting and with - only a few steps - easy setup procedure. Integrated by pass and current measurement save wiring and external components. Five front potentiometers allow setting up the Start/Stop time and voltage as well as the maximum current. Five LEDs and 1÷3 relays show immediate the status of the softstarter. The auxiliary supply generated internally from the mains terminals, saves wiring and labor costs. To protect men and machine we have integrated a phase reversal protection. Well dimensioned power devices and real 3PH control makes the MS3 a versatile tool for regular and heavy-duty starting processes. Our up to date control electronics keeps the power losses low for high efficient operations during the next years. The MS3 is usable for "In-Line" and "In-Delta" motor wiring.

### Versatile usability:

- Machinery and apparatus
- Cooling and ventilation
- Conveyor / Elevator
- Pump (centrifugal/piston style)
- Packaging machines
- Test rigs
- Circular saw/milling machines
- Compressor
- Power Press

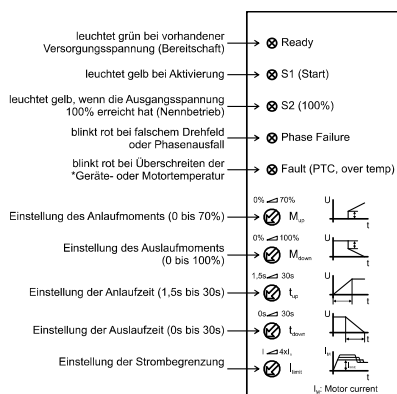
Quick selection guide	
Regular start, class 10	Heavy duty start, class 30
<ul style="list-style-type: none"> <li>• Fan</li> <li>• Centrifugal pump</li> <li>• Compressor</li> <li>• Conveyor belt</li> <li>• Elevator</li> <li>• Escalator</li> </ul>	<ul style="list-style-type: none"> <li>• Centrifugal fan</li> <li>• Crusher</li> <li>• Conveyor belt (long)</li> <li>• Mill</li> <li>• Mixer</li> <li>• Stirrer</li> </ul>
Select size according to nominal motor power	Select size one step lager then Nominal motor power

Type	Order code	P Motor [kW]	I <sub>start</sub> nom. [A]	I <sub>start</sub> max. [A]	Weight [kg]	Build size	Dim. WxHxD [mm]
MS3 2.2	490460	2,2	4,5	15	0,50	A	42x128x130
MS3 3.0	490461	3,0	6,6	20	0,50	A	42x128x130
MS3 4.0	490462	4,0	8,5	25	0,50	A	42x128x130
MS3 5.5	490463	5,5	12	40	0,50	A	42x128x130
MS2 7.5	490464	7,5	18	50	0,95	B	51x141x181
MS3 11	490465	11	25	70	0,95	B	51x141x181
MS3 15	490466	15	30	90	1,65	C	51x224x179
MS3 18.5	490467	18,5	37	110	1,65	C	51x224x179
MS3 22	490468	22	45	140	1,65	C	51x224x179

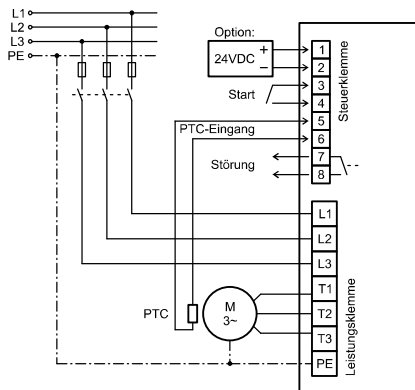
### Technical data

<b>Operating voltage</b>	3x400V AC ±15%
<b>Auxiliary supply</b>	standard: internal generated, (optional: 24V DC external)
<b>Frequency</b>	50/60Hz self-synchronizing
<b>Phase rotation</b>	clockwise
<b>Controlled phase</b>	3- L1, L2, L3
<b>Starts per hour</b>	30 / restart every 2 min
<b>Operating temperature</b>	-20° C ÷ +50° C
<b>Storage temperature</b>	-25° C ÷ +75° C
<b>Humidity</b>	95% rF (not condensing)
<b>Altitudes</b>	Up to 1000m above sea, (above derating 2,2% / 100m)
<b>Mechanical protection</b>	IP40
<b>Terminals</b>	plugin (control & power), > 11kW plugin (control) and fixed (power)
<b>LED-Indication</b>	ready, S1 (start/run), S2 (top of ramp), phase detection error, Alarm (PTC, over temperature)
<b>Adjustable parameter</b>	Start/Stop time, Start/Stop voltage, current limit
<b>Power sizes</b>	2,2kW ÷ 22kW (related to motor power)
<b>Internal protection (Alarm)</b>	- Instrument temperature - PTC-input for motor - Phase reversal and phase fail
<b>Operating category</b>	AC-53a according IEC
<b>Position</b>	vertical
<b>Control inputs</b>	Fully isolated (start, PTC-motor)
<b>Output 1 or 3</b>	- Common Alarm (normally closed) - S1 (Run) (only MS3 15, 18,5 and 22) - S2 (top of ramp) (only MS3 15, 18,5 and 22)
<b>CE-Standard</b>	DIN EN 60947-4-2, 2006/95/EG

### Instrument Front



### Wiring diagram (<15kW)



### additional outputs 15 - 22kW

