


**Soft starter, 3p, 7A, 200-480VAC, us=110/230VAC**

**Part no.** DS7-342SX007N0-N  
**Article no.** 134927  
**Catalog No.** DS7-342SX007N0-N

**Delivery programme**

Description			With internal bypass contacts
Function			Soft starters for three-phase loads
Mains supply voltage (50/60 Hz)	U <sub>LN</sub>	V AC	200 - 480
Supply voltage	U <sub>s</sub>		110/230 V AC
Control voltage	U <sub>C</sub>		110 - 230 V AC
Assigned motor rating (Standard connection, In-Line)			
at 400 V, 50 Hz	P	kW	3
at 460 V, 60 Hz	P	HP	5
Rated operational current			
Device (AC-53)	I <sub>e</sub>	A	7
Startup class			CLASS 10 (star-delta replacement) CLASS 20 (heavy starting duty 3 x I <sub>e</sub> for 45 s)
Rated operational voltage	U <sub>e</sub>		200 V 230 V 400 V 480 V
Connection to SmartWire-DT			no

**Approvals**

Product Standards	IEC/EN 60947-4-2; GB 14048.6; UL 508; CSA-C22.2 No 0-M91; CSA-C22.2 No 14-05 CE marking		
UL File No.	E251034		
CSA File No.	2511305		
CSA Class No.	321106		
Specially designed for North America	No		
Suitable for	Branch circuits		
Current Limiting Circuit-Breaker	No		
Max. Voltage Rating	480 V		
Degree of Protection	IP20; UL/CSA Type 1		

**General**

Standards			IEC/EN 60947-4-2 UL 508 CSA22.2-14
Approvals			CE
Approvals			UL CSA C-Tick UkrSEPRO
Climatic proofing			Damp heat, constant, to IEC 60068-2-3 Damp heat, cyclic, to IEC 60068-2-10
Ambient temperature		°C	
Operation	θ	°C	-5 - +40 up to 60 at 2% derating per Kelvin temperature rise
Storage	θ	°C	-25 - +60
Altitude		m	0 - 1000 m, above that 1 % derating per 100 m, up to 2000 m
Mounting position			Vertical
Degree of protection			IP20
Degree of Protection			
Protection against direct contact			Finger- and back-of-hand proof

Overtoltage category/pollution degree			II/2
Shock resistance			8 g/11 ms
Vibration resistance to EN 60721-3-2			2M2
Radio interference level (IEC/EN 55011)			A
Static heat dissipation, non-current-dependent	P <sub>vs</sub>	W	0.35
Weight		kg	0.4

## Main conducting paths

Rated operating voltage	U <sub>e</sub>	V AC	200 - 480
Supply frequency	f <sub>LN</sub>	Hz	50/60
Rated operational current	I <sub>e</sub>	A	
Device (AC-53)	I <sub>e</sub>	A	7
Assigned motor rating (Standard connection, In-Line)			
at 230 V, 50 Hz	P	kW	1.5
at 400 V, 50 Hz	P	kW	3
at 200 V, 60 Hz	P	HP	2
at 230 V, 60 Hz	P	HP	2
at 460 V, 60 Hz	P	HP	5
Overload cycle to IEC/EN 60947-4-2			
AC-53a			7 A: AC-53a: 3 - 5: 75 - 10
Internal bypass contacts			✓
Short-circuit rating			
Type "1" coordination			PKM0-10 (+ CL-PKZ0)
Type „2“ coordination (additional with the fuses for coordination type „1“)			3 x 170M1361
Fuse base (number x part no.)			3 x 170H1007

## Terminal capacities

Cable lengths			
Solid	mm <sup>2</sup>	1 x (0.75 - 4) 2 x (0.75 - 2.5)	
Flexible with ferrule	mm <sup>2</sup>	1 x (0.75 - 2.5) 2 x (0.75 - 2.5)	
Solid or stranded	AWG	18 - 10	
Tightening torque	Nm	1.2	
Screwdriver (PZ: Pozidriv)	mm	PZ2; 1 x 6 mm	
Control cables			
Solid	mm <sup>2</sup>	1 x (0.75 - 4) 2 x (0.75 - 2.5)	
Flexible with ferrule	mm <sup>2</sup>	1 x (0.75 - 2.5) 2 x (0.75 - 2.5)	
Solid or stranded	AWG	18 - 10	
Tightening torque	Nm	1.2	
Screwdriver	mm	0,8 x 5,5 1 x 6	

## Control circuit

Digital inputs			
Control voltage			
AC operated	V AC	110 V AC - 15 % - 230 V AC +10 %	
Current consumption 24 V	mA		
External 24 V	mA	1.6	
Current consumption 230 V	mA	4	
Pick-up voltage	x U <sub>s</sub>		
AC operated	V AC	108 - 253	
Drop-out voltage	x U <sub>s</sub>		
AC operated	V AC	0 - 15	
Pick-up time			
AC operated	ms	250	
Drop-out time			

AC operated	ms	350
Regulator supply		
Voltage	U <sub>s</sub>	V
Current consumption	I <sub>e</sub>	mA
Notes		External supply voltage
Relay outputs		
Number		1 (TOR)
Voltage range	V AC	= U <sub>s</sub>
AC-11 current range	A	1 A, AC-11

## Soft start function

Ramp times		
Acceleration	s	1 - 30
Deceleration	s	0 - 30
Start voltage (= turn-off voltage)	%	30 - 100
Start pedestal	%	30 - 100
Fields of application		
Fields of application		Soft starting of three-phase asynchronous motors
1-phase motors		●
3-phase motors		✓

## Functions

Fast switching (semiconductor contactor)		- (minimum ramp time 1s)
Soft start function		✓
Reversing starter		External solution required
Suppression of closing transients		✓
Suppression of DC components for motors		✓
Potential isolation between power and control sections		✓

## Notes

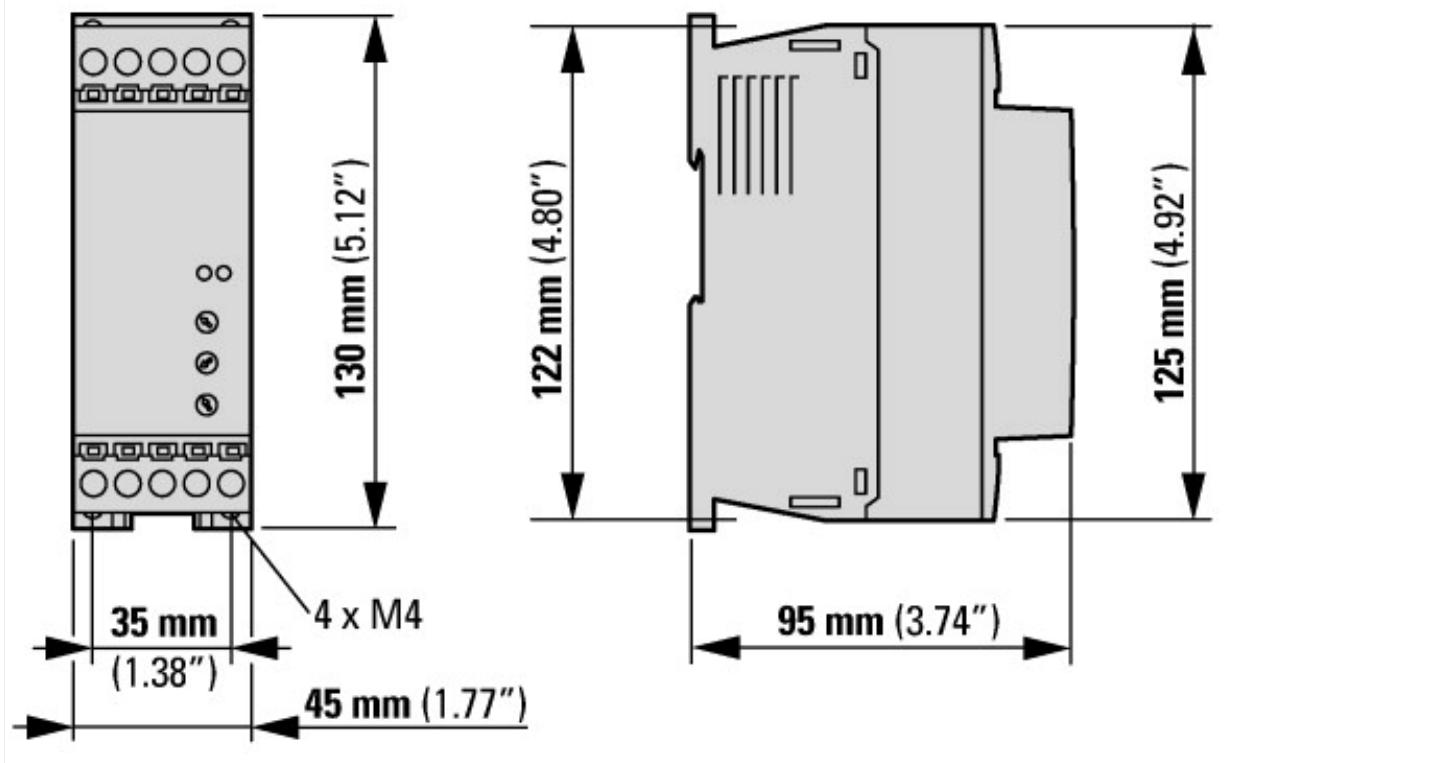
Rated impulse withstand voltage:	
<ul style="list-style-type: none"> <li>1.2 µs/50 µs (rise time/fall time of the pulse to IEC/EN 60947-2 or -3)</li> <li>Applies for control circuit/power section/enclosure</li> </ul>	

## Data for design verification according to IEC/EN 61439

Technical data for design verification		
Rated operational current for specified heat dissipation	I <sub>n</sub>	A
Equipment heat dissipation, current-dependent	P <sub>vid</sub>	W
Static heat dissipation, non-current-dependent	P <sub>vs</sub>	W
IEC/EN 61439 design verification		
10.2 Strength of materials and parts		
10.2.2 Corrosion resistance		Meets the product standard's requirements.
10.2.3.1 Verification of thermal stability of enclosures		Meets the product standard's requirements.
10.2.3.2 Verification of resistance of insulating materials to normal heat		Meets the product standard's requirements.
10.2.3.3 Verification of resistance of insulating materials to abnormal heat and fire due to internal electric effects		Meets the product standard's requirements.
10.2.4 Resistance to ultra-violet (UV) radiation		Meets the product standard's requirements.
10.2.5 Lifting		Does not apply, since the entire switchgear needs to be evaluated.
10.2.6 Mechanical impact		Does not apply, since the entire switchgear needs to be evaluated.
10.2.7 Inscriptions		Meets the product standard's requirements.
10.3 Degree of protection of ASSEMBLIES		Does not apply, since the entire switchgear needs to be evaluated.
10.4 Clearances and creepage distances		Meets the product standard's requirements.
10.5 Protection against electric shock		Does not apply, since the entire switchgear needs to be evaluated.
10.6 Incorporation of switching devices and components		Does not apply, since the entire switchgear needs to be evaluated.
10.7 Internal electrical circuits and connections		Is the panel builder's responsibility.
10.8 Connections for external conductors		Is the panel builder's responsibility.

10.9 Insulation properties		
10.9.2 Power-frequency electric strength	Is the panel builder's responsibility.	
10.9.3 Impulse withstand voltage	Is the panel builder's responsibility.	
10.9.4 Testing of enclosures made of insulating material	Is the panel builder's responsibility.	
10.10 Temperature rise	The panel builder is responsible for the temperature rise calculation. Eaton will provide heat dissipation data for the devices.	
10.11 Short-circuit rating	Is the panel builder's responsibility. The specifications for the switchgear must be observed.	
10.12 Electromagnetic compatibility	Is the panel builder's responsibility. The specifications for the switchgear must be observed.	
10.13 Mechanical function	The device meets the requirements, provided the information in the instruction leaflet (IL) is observed.	

## Dimensions



## Additional product information (links)

### IL03902003Z Instructions for DS7 Soft Starter

IL03902003Z Instructions for DS7 Soft Starter [ftp://ftp.moeller.net/DOCUMENTATION/AWA\\_INSTRUCTIONS/IL03902003Z2012\\_06.pdf](ftp://ftp.moeller.net/DOCUMENTATION/AWA_INSTRUCTIONS/IL03902003Z2012_06.pdf)

### MN03901001Z Manual DS7 soft starters

MN03901001Z Handbuch Softstarter DS7 - Deutsch [ftp://ftp.moeller.net/DOCUMENTATION/AWB\\_MANUALS/MN03901001Z\\_DE.pdf](ftp://ftp.moeller.net/DOCUMENTATION/AWB_MANUALS/MN03901001Z_DE.pdf)

MN03901001Z Manual DS7 soft starters - English [ftp://ftp.moeller.net/DOCUMENTATION/AWB\\_MANUALS/MN03901001Z\\_EN.pdf](ftp://ftp.moeller.net/DOCUMENTATION/AWB_MANUALS/MN03901001Z_EN.pdf)

CA04020001Z\_EN-INT Product range catalog: Efficient Engineering for starting and controlling motors. [http://www.eaton.eu/ecm/groups/public/@pub/@europe/@electrical/documents/content/pct\\_1095238.pdf](http://www.eaton.eu/ecm/groups/public/@pub/@europe/@electrical/documents/content/pct_1095238.pdf)