

DS7 soft starter, 110/230 V AC, 16 A

Part no. DS7-342SX016N0-N
Article no. 134930

Catalog No. DS7-342SX016N0-N

Delivery programme

Description			With internal bypass contacts
Function			Soft starters for three-phase loads
Mains supply voltage (50/60 Hz)	U_{LN}	V AC	200 - 480
Supply voltage	U_s		110/230 V AC
Control voltage	U_C		110 - 230 V AC
Assigned motor rating			
at 400 V, 50 Hz	P	kW	7.5
at 480 V, 60 Hz	P	HP	10
Rated operational current			
Device (AC-53)	I_e	A	16
Startup class			CLASS 10 (star-delta replacement) CLASS 20 (heavy starting duty 3 x I_e for 45 s)
Rated operational voltage	U_e		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			
Protection type			IP20
Protection against direct contact			Finger- and back-of-hand proof
Overvoltage 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
Heat dissipation		W	0.8
Weight		kg	0.45

Main conducting paths

Rated operating voltage	U_e	V AC	200 - 480
Supply frequency	f_{LN}	Hz	50/60
Rated operational current	I_e	A	
Device (AC-53)	I_e	A	16
Assigned motor rating (Standard connection, In-Line)			
at 230 V, 50 Hz	P	kW	4
at 400 V, 50 Hz	P	kW	7.5
at 200 V, 60 Hz	P	HP	5
at 230 V, 60 Hz	P	HP	5
at 480 V, 60 Hz	P	HP	10
Overload cycle to IEC/EN 60947-4-2			
AC-53a			16 A: AC-53a: 3 - 5: 75 - 10
Internal bypass contacts			✓
Short-circuit rating			
Type “1” coordination			
Type “1” coordination			PKM0-16 (+ CL-PKZ0)
Type „2“ coordination short-circuit rating (additional with the fuses for coordination type „1“)			3 x 170M1364
Fuse base (number x part no.)			3 x 170H1007

Terminal capacities

Cable lengths			
Solid		mm^2	1 x (0.75 - 16) 2 x (0.75 - 10)
Flexible with ferrule		mm^2	1 x (0.75 - 16) 2 x (0.75 - 10)
Stranded		mm^2	1 x 16
Solid or stranded		AWG	18 - 6
Tightening torque		Nm	3.2
Screwdriver (PZ: Pozidriv)		mm	PZ2; 1 x 6 mm
Control cables			
Solid		mm^2	1 x (0.5 - 2.5) 2 x (0.5 - 1.0)
Flexible with ferrule		mm^2	1 x (0.5 - 1.5) 2 x (0.5 - 0.75)
Stranded		mm^2	1 x (0.5 - 1.5) 2 x (0.5 - 1.0)
Solid or stranded		AWG	1 x (21 - 14) 2 x (21 - 18)
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_s	
AC operated		V AC	108 - 253

Drop-out voltage	x U_s		
AC operated		V AC	0 - 15
Pick-up time			
AC operated		ms	250
Drop-out time			
AC operated		ms	350
Regulator supply			
Voltage	U_s	V	110 V AC -15 % - 230 V AC +10 %
Current consumption	I_e	mA	50
Notes			External supply voltage
Relay outputs			
Number			2 (TOR, Ready)
Voltage range		V AC	250
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

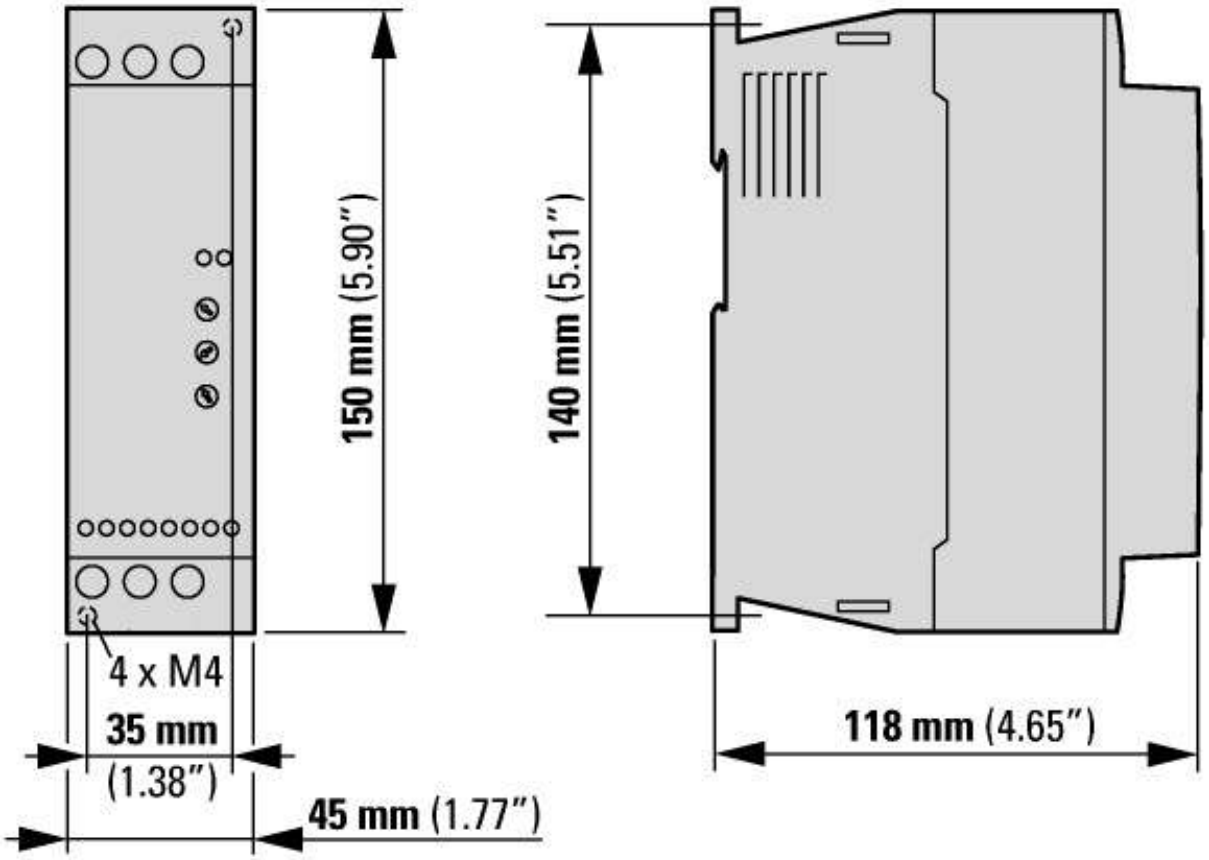
Fast switching (semiconductor contactor)			- (minimum ramp time 1s)
Soft start function			✓
Reversing starter			External solution required
Suppression of closing transients			✓
Suppression of DC components for motors			✓
Potential isolation between power and control sections			✓

Notes

Rated impulse withstand voltage:

- 1.2 µs/50 µs (rise time/fall time of the pulse to IEC/EN 60947-2 or -3)
- Applies for control circuit/power section/enclosure

Dimensions



Additional product information (links)

IL03902004Z Instructions for DS7 Soft Starter	
IL03902004Z Instructions for DS7 Soft Starter	ftp://ftp.moeller.net/DOCUMENTATION/AWA_INSTRUCTIONS/IL03902004Z2012_07.pdf
MN03901001Z-EN Manual DS7 Soft Starter	
MN03901001Z-DE Handbuch Softstarter DS7 - Deutsch	ftp://ftp.moeller.net/DOCUMENTATION/AWB_MANUALS/MN03901001Z_DE.pdf
MN03901001Z-EN Manual DS7 Soft Starter - English	ftp://ftp.moeller.net/DOCUMENTATION/AWB_MANUALS/MN03901001Z_EN.pdf
CA04020001Z-EN Product range catalog: Efficient Engineering for starting and controlling motors.	http://www.eaton.eu/DE/Europe/Electrical/CustomerSupport/Catalogues/index.htm

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