



Soft starter, 3p, 22kW, ue=230-460V50/60Hz

Part no. **DM4-340-22K**
Article no. **207900**
Catalog No. **DM4-340-22K**

Delivery programme

Function			Soft starters for three-phase loads
Mains supply voltage (50/60 Hz)	U_{LN}	V AC	230 - 480
Supply voltage	U_s		110/230 V AC
Control voltage	U_C		24 - 230 V AC 24-230 V DC
Assigned motor rating (Standard connection, In-Line)			
at 400 V, 50 Hz	P	kW	22
at 460 V, 60 Hz	P	HP	30
Rated operational current			
AC-53	I_e	A	44
AC-53, In-Delta	I_e	A	76
Startup class			CLASS 10 (star-delta replacement) CLASS 20 (heavy starting duty $3 \times I_e$ for 45 s)
Rated operational voltage	U_e		230 V 400 V 480 V
Notes			
Assigned motor power data applies for in-line/in-delta connection type, tripping class 10.			

Technical data

General

Standards			IEC/EN 60947-4-2 UL 508
Approvals			CE
Approvals			UL cUL 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	0 - +40 to 60 with a reduction of I_e of 2% each °C
Storage	θ	°C	-25 - +55
Altitude		m	0 - 1000, up to 2000 m with a current reduction of 1 % per 100 m
Mounting position			Vertical
Degree of protection			
Degree of Protection			IP20
Protection against direct contact			Finger and back-of-hand proof
Overvoltage category/pollution degree			II/2
Radio interference level (IEC/EN 55011)			A
Weight		kg	6.7

Main conducting paths

Rated operating voltage	U_e	V AC	230 - 480
Supply frequency	f_{LN}	Hz	50/60
Rated operational current	I_e	A	
AC-53, In-Delta	I_e	A	76
AC-53	I_e	A	44
Assigned motor rating (Standard connection, In-Line)			
at 230 V, 50 Hz	P	kW	11
at 400 V, 50 Hz	P	kW	22

at 230 V, 60 Hz	P	HP	15
at 460 V, 60 Hz	P	HP	30
Assigned motor rating (delta connection)			
at 230 V, 50 Hz	P	kW	22
at 400 V, 50 Hz	P	kW	37
at 480 V, 60 Hz		HP	50
Overload cycle to IEC/EN 60947-4-2			
AC-53a			44 A: AC-53a: 3-35: 99-10
AC-53b			44 A: AC-53b: 3-35: 120
Internal bypass contacts			-
Short-circuit rating			
Type "1" coordination			PKZM4-50 (+ CL-PKZ0)
Type „2“ coordination (additional with the fuses for coordination type „1“)			20.282.20-125
Fuse base (number x part no.)			3 x 21.189.01

Terminal capacities

Cable lengths			
Solid		mm ²	1 x (1.5 - 16) 2 x (1 - 4)
Flexible with ferrule		mm ²	1 x (1 - 16) 2 x (1 - 4)
Stranded		mm ²	1 x (2.5 - 25) 2 x (2.5 - 4)
Solid or stranded		AWG	12 - 4
Tightening torque		Nm	1.2
Screwdriver (PZ: Pozidriv)		mm	0,8 x 4
Control cables			
Solid		mm ²	1 x (0.75 - 2.5)
Flexible with ferrule		mm ²	1 x (0.75 - 2.5)
Stranded		mm ²	1 x (0.75 - 2.5)
Solid or stranded		AWG	22 - 12
Tightening torque		Nm	0.5
Screwdriver		mm	0,6 x 3,5

Control circuit

Digital inputs			
Control voltage			
DC-operated		V DC	24 - 230 V DC ±15 %
AC operated		V AC	110/230 V AC ±15 %
Current consumption 24 V		mA	
External 24 V (no-load)		mA	0.45
Current consumption 230 V		mA	4.5
Pick-up voltage		x U _s	
DC-operated		V DC	12 - 240
AC operated		V AC	24 - 253
Drop-out voltage	x U _s		
DC operated		V DC	0 - 3
AC operated		V AC	0 - 3
Regulator supply			
Voltage	U _s	V	110 V AC -15 % - 230 V AC +10 %
Current consumption	I _e	mA	70
Analog inputs			
Number voltage inputs			1
Voltage input		V DC	0 - 10
Current consumption		mA	1
Number of current inputs			1
Current input		mA	4 - 20
Relay outputs			

Number		4
of which programmable		4
Voltage range	V AC	250
AC-11 current range	A	3 A, AC-11
Analog outputs		
Quantity		2
Voltage range	V DC	0 - 10
Current carrying capacity	mA	10

Soft start function

Ramp times		
Acceleration	s	
Ramp time, max.	s	255
Deceleration	s	0 - 255
Start voltage (= turn-off voltage)	%	10 60
Start pedestal	%	10 - 60
Kickstart		
Voltage	%	60 - 90
Duration		
50 Hz	ms	100 - 400
60 Hz	ms	166 - 644
Current limitation		(0,5...8) x I _e
Fields of application		
Fields of application		Soft starting of three-phase asynchronous motors
3-phase loads (heaters, lamps, electroplating)		●
3-phase motors		●

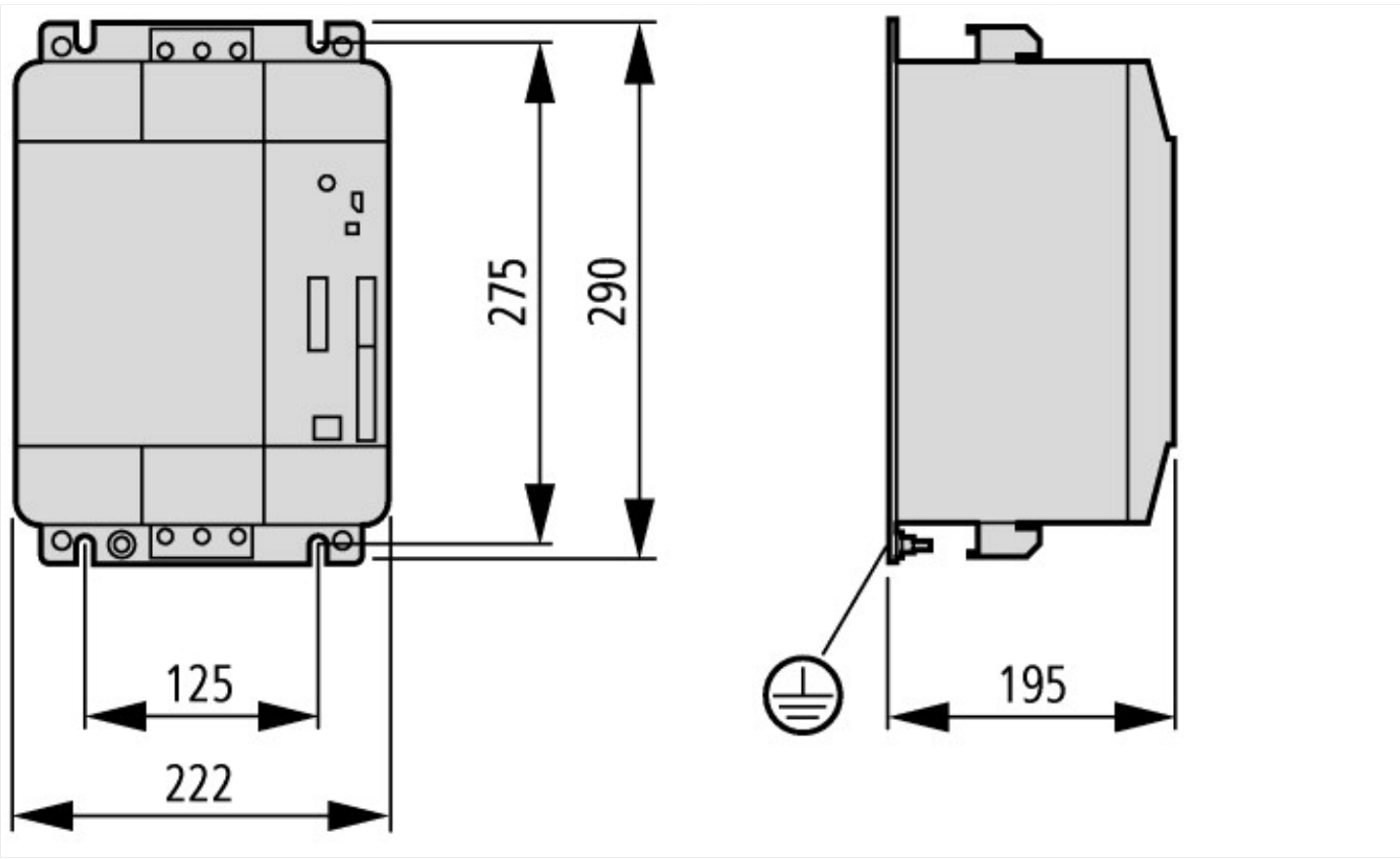
Functions

Fast switching (semiconductor contactor)		- (minimum ramp time 1s)
Soft start function		●
Reversing starter		External solution required
Suppression of closing transients		●
Current limitation		●
Overload monitoring		●
Underload monitoring		●
Thermistor input		●
Fault memory	Faults	5
Pre-programmed parameter sets		10 different standard applications: various fans, pumps and compressors
Suppression of DC components for motors		●
Potential isolation between power and control sections		●
Communication Interfaces		PROFIBUS, Suconet K, RS232, RS485

Approvals

Product Standards		IEC/EN 60947-4-2; UL 508; cUL 508 CE marking
UL File No.		E208760
UL Category Control No.		NMFT
CSA File No.		UL report applies to both US and Canada
CSA Class No.		NMFT7
North America Certification		UL listed, certified by UL for use in Canada
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

Dimensions



Additional product information (links)

AWA8250-1704 Soft starter	
	AWA8250-1704 Soft starter
MN03902001Z (AWB8250-1346) Design of soft starters	
	MN03902001Z (AWB8250-1346) Auslegung von Softstartern - Deutsch
	MN03902001Z (AWB8250-1346) Design of soft starters - English