DATASHEET - EMS2-DOS-T-9-SWD



DOL starter, 24 V DC, 1,5 - 7 (AC-53a), 9 (AC-51) A, Push in terminals, SmartWire-DT slave, Controlled stop, PTB 19 ATEX 3000

Part no. EMS2-DOS-T-9-SWD Catalog No. 192389

Alternate Catalog EMS2-DOS-T-9-SWD

No





Delivery program				
Product range			Electronic motor starter	
Product range			SmartWire-DT slave	
Subrange			SmartWire-DT electronic motor starters	
Basic function			DOL starters (complete devices)	
Function			For connecting to SmartWire-DT for expanded diagnostics	
Description			DOL starting Motor protection Circuit design: safety output stage with bypass, three-phase disconnect. Controlled stop via additional enable signal terminal up to SIL3/Ple.	
Messages			Operational readiness Operating direction feedback Enable signal Motor current in % Motor current in A Thermal motor image in % Overload prewarning Trip indications (overload, phase failure, etc.) Set short-circuit release value Device Type	
Commands			Operating the motor starter Manual reset Automatic reset	
Conformity, Approval				
Explosion protection (according to ATEX 94/9/EC)			II (2) G [Ex db] [Ex eb] [Ex pxb] II (2) D [Ex tb] [Ex pb]	
EC-prototype test certification			PTB 19 ATEX 3000	
Motor ratings				
Max. rating for three-phase motors, 50 - 60 Hz				
AC-53a				
380 V 400 V 415 V	P	kW	0.55 - 3	
Setting range of overload releases	I _r	A_x	1,5 - 7 (AC-53a) 1,5 - 9 (AC-51)	
Actuating voltage			24 V DC	
Connection technique			Push in terminals	

Technical data

Connection to SmartWire-DT

Stop Function

General		
Standards		IEC/EN 60947-4-2 IEC 61508 ISO 13849 UL508
Ambient temperature		
Storage	°C	
Min. ambient temperature, storage	°C	- 40
Ambient temperature, storage max.	°C	+ 80
Open	°C	
Operating ambient temperature min.	°C	-5
Operating ambient temperature max.	°C	+ 55

Controlled stop

yes

Weight Mounting Protection type (IEC/EN 60529, EN50178, VBG 4) Mounting position		kg	0.22 Top-hat rail IEC/EN 60715, 35 mm
Protection type (IEC/EN 60529, EN50178, VBG 4)			10p-11at 1aii 1E0/E14 007 13, 33 11iiii
			IP20
Mounting position			Vertical
			Motor feeder at bottom
Terminal capacity			
Push-in terminals			
		mm ²	0.2 - 2.5
		AWG	24 - 14
Main conducting paths			
Rated operational voltage	U _e	V AC	500
Operational voltage range		V	
Operating voltage range min.		٧	42
Operating voltage range max.		٧	550
Rated operational current			
AC-51	l _e	Α	9
AC-53a	I _e	Α	7
			AC-53a: Please note possible derating.
Setting range of overload releases	I _r	A_x	1,5 - 7 (AC-53a)
	1		1,5 - 9 (AC-51)
Release class		CLASS	10A
Heat dissipation	P_{V}	W	1 - 12
Control section			
Rated control voltage	Us	V DC	24
Control voltage range		V	19,2 - 30 V DC
Residual ripple on the input voltage		%	≦ 5
Rated control current	Is	mA	60
Current draw inrush		mA	120
Actuating circuit (ON, L, R)			
Rated actuation voltage	Uc	٧	24
Switching level "Low"		٧	-3 - +9.6 V DC
Switching level "confirm Off"		٧	<5 V DC
Switching level "High"		٧	19.2 - 30 V DC
Rated actuating current	I _c	mA	7
Electromagnetic compatibility (EMC)			
Radio interference suppression			EN 55011
Tankai and angletic managements and			EN 61000-6-3, Class A (emitted interference, radiated)
Technical safety parameters: Notes			Safe switch off.
110103			motor protection
Ambient temperature		°C	60
Values according to EN ISO 13849-1			
MTTF _d	Years		60 (Sicheres Abschalten) / 82 (Motorschutz)
Performance level	PL		e (Sicheres Abschalten)
Category			3 (Sicheres Abschalten)
Values according to IEC 62061			
			Abschaltzeit [ms]: 200 (Sicheres Abschalten) / Class 10A (Motorschutz) \(\lambda \text{sd} [FIT]: 0 \) \(\lambda \text{su} [FIT]: 3481 (Sicheres Abschalten) / 2538 (Motorschutz) \) \(\lambda \text{dd} [FIT]: 1887 (Sicheres Abschalten) / 1375 (Motorschutz) \) \(\lambda \text{dl} [FIT]: 0,3 (Sicheres Abschalten) / 23 (Motorschutz) \) \(\text{SFF} [\frac{\text{sf}}{\text{sp}}]: 99 \) \(\text{DC} [\frac{\text{sq}}{\text{sp}}]: 99 (Sicheres Abschalten) / 98 (Motorschutz) \) \(\text{PFH}_d [FIT]: 0,3 (Sicheres Abschalten) / SIL 2 (Motorschutz) \)

Design verification as per IEC/EN 61439

Technical data for design verification			
Rated operational current for specified heat dissipation	In	Α	9
Heat dissipation per pole, current-dependent	P _{vid}	W	0

Equipment heat dissipation, current-dependent	P _{vid}	W	12
Static heat dissipation, non-current-dependent	P_{vs}	W	2
Heat dissipation capacity	P _{diss}	W	0
Operating ambient temperature min.		°C	-5
Operating ambient temperature max.		°C	55
			If necessary, Allow for derating
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.
10.2.3.3Verification of resistanceofinsulatingmaterialstoabnormalheatandfireduetointernalelectriceffects			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 switch gear must be observed. $\label{eq:constraint}$
10.12 Electromagnetic compatibility			Is the panel builder's responsibility. The specifications for the switch gear must be observed. $\label{eq:constraint}$
10.13 Mechanical function			The device meets the requirements, provided the information in the instruction leaflet (IL) is observed.

Technical data ETIM 7.0

Low-voltage industrial components (EG000017) / Motor starter/Motor starter combination (EC001037)

Electric engineering, automation, process control engineering / Low-voltage switch technology / Load breakout, motor breakout / Motor starter combination (ecl@ss10.0.1-27-37-09-05 [AJZ718013])

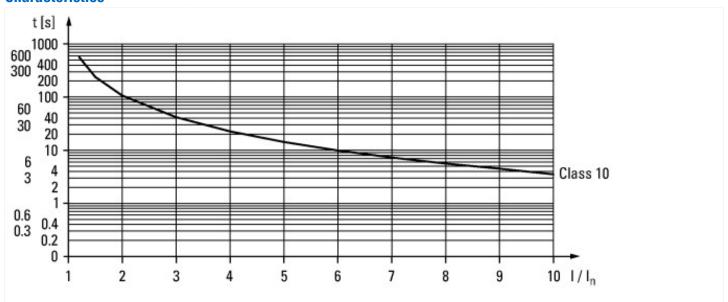
Kind of motor starter		Reversing starter
		•
With short-circuit release		No
Rated control supply voltage Us at AC 50HZ	V	0 - 0
Rated control supply voltage Us at AC 60HZ	V	0 - 0
Rated control supply voltage Us at DC	V	24 - 24
Voltage type for actuating		DC
Rated operation power at AC-3, 230 V, 3-phase	kW	0.55
Rated operation power at AC-3, 400 V	kW	1.1
Rated power, 460 V, 60 Hz, 3-phase	kW	0
Rated power, 575 V, 60 Hz, 3-phase	kW	0
Rated operation current le	Α	3
Rated operation current at AC-3, 400 V	Α	3
Overload release current setting	Α	0.18 - 3
Rated conditional short-circuit current, type 1, 480 Y/277 V	Α	0
Rated conditional short-circuit current, type 1, 600 Y/347 V	Α	0
Rated conditional short-circuit current, type 2, 230 V	А	0
Rated conditional short-circuit current, type 2, 400 V	А	0

Number of abulanty contacts as normally open currant Temperature upper operature in init Temperature upper operature in initial Temperature upper operature in in	Number of auxiliary contacts as narmally ones contact		0
Ambient temperature, upper operating limit	Number of auxiliary contacts as normally open contact		0
Temperature compensated overload protection Nea Rebasse class CLASS 19 Type of electrical connection of main circuit Spring clamp connection Type of electrical connection for auxiliary- and control current circuit Spring clamp connection Rall mounting possible Yes With transformer No Number of controlling of the CE 20047-4-3 No Number of middle and sea secording to EC 20047-4-3 5 Number of middle and profits 5 External reset possible Yes With fues 1920 Degree of protection IPF No Supporting protect for PCPP No Supporting protect for PCPR No Supporting protect for MTERBUS No Supporting protect for MOBUS No Supporting protect for Data Highway No Supporting protect for Data Highway No Supporting protect for PORTINET IO No Supporting protect for PROTINET IO <td></td> <td></td> <td></td>			
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Height mm 112.5	Supporting protocol for other bus systems		Yes
·	Width	mm	22.5
Depth mm 113.6	Height	mm	112.5
	Depth	mm	113.6

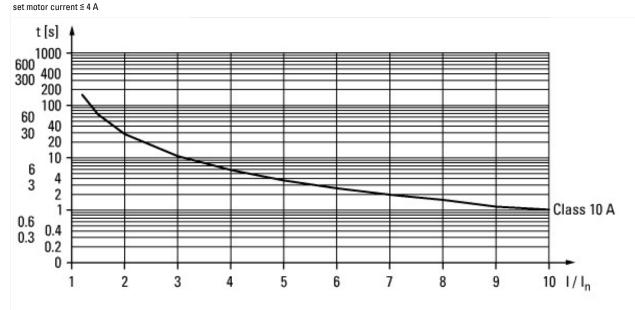
Approvals

Product Standards	UL 60947-4-1; CSA C22.2 No. 60947-4-1-14; CE marking
UL File No.	E338590
UL Category Control No.	NLDX, NLDX7
CSA File No.	UL report applies to both US and Canada
North America Certification	UL listed, certified by UL for use in Canada
Specially designed for North America	No

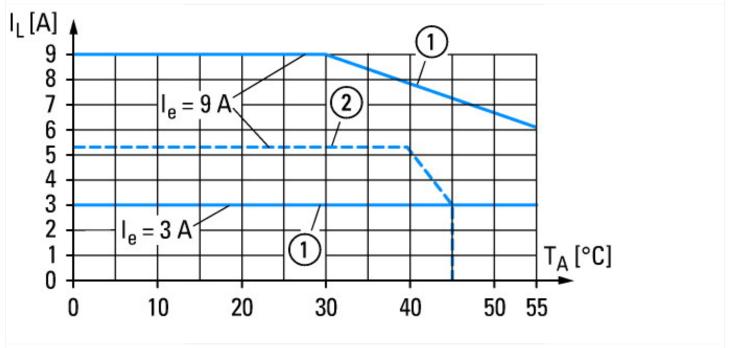
Characteristics



Tripping characteristic curve CLASS 10



Tripping characteristic curve CLASS 10A set motor current > 4 A



Current derating

1) For devices installed with a minimum clearance of 20 mm

Dimensions

