DATASHEET - EMS2-RO-T-2,4-24VDC



Reversing starter, 24 V DC, 0,18 - 2,4 A, Push in terminals

Part no. EMS2-RO-T-2,4-24VDC Catalog No. 192392

Alternate Catalog EMS2-RO-T-2P4-24VDC

No.



Delivery program

Product range			Electronic motor starter
Basic function			Reversing starters (complete devices)
Description			DOL starting Reversing start Motor protection Circuit design: safety output stage with bypass, three-phase disconnect.
Motor ratings			
Max. rating for three-phase motors, 50 - 60 Hz			
AC-53a			
380 V 400 V 415 V	P	kW	0.06 - 0.75
Setting range of overload releases	I _r	A_x	0,18 - 2,4
Actuating voltage			24 V DC
Connection technique			Push in terminals
Connection to SmartWire-DT			no

Technical data

General		
Standards		IEC/EN 60947-4-2 UL508
Ambient temperature		
Storage	°C	
Min. ambient temperature, storage	°C	- 40
Ambient temperature, storage max.	°C	+ 80
Open	°C	
Operating ambient temperature min.	°C	-25
Operating ambient temperature max.	°C	+ 70
Weight	kg	0.22
Mounting		Top-hat rail IEC/EN 60715, 35 mm
Protection type (IEC/EN 60529, EN50178, VBG 4)		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.		V	42
Operating voltage range max.		V	550
Rated operational current			
AC-51	I _e	Α	2.4
AC-53a	I _e	Α	2.4

			40 TO BI
			AC-53a: Please note possible derating.
Setting range of overload releases	I _r	A_x	0,18 - 2,4
Release class		CLASS	10
Heat dissipation	P_{V}	W	1.1 - 3.3
Control section			
Rated control voltage	U_s	V DC	24
Control voltage range		V	19,2 - 30 V DC
Residual ripple on the input voltage		%	≦ 5
Rated control current	I_s	mA	40
Actuating circuit (ON, L, R)			
Rated actuation voltage	U _c	V	24
Switching level "Low"		V	-3 - +9.6 V DC
Switching level "confirm Off"		V	< 5 V DC
Switching level "High"		V	19.2 - 30 V DC
Rated actuating current	Ic	mA	5
Relay outputs			
Contacts			
CO = changeover			1 CO
Rated operational current			
AC-15			
230 V	I _e	Α	3
DC-13			
24 V	I _e	Α	2

Electromagnetic compatibility (EMC)

ľ	Notes	motor protection	
T	Technical safety parameters:		
ŀ	Hadio interference suppression	EN 61000-6-3, Class A (emitted interference, radiated)	

Design verification as per IEC/EN 61439

Design verification as per IEC/EN 61439			
Technical data for design verification			
Rated operational current for specified heat dissipation	In	Α	2.4
Heat dissipation per pole, current-dependent	P _{vid}	W	0
Equipment heat dissipation, current-dependent	P _{vid}	W	3.3
Static heat dissipation, non-current-dependent	P _{vs}	W	1
Heat dissipation capacity	P _{diss}	W	0
Operating ambient temperature min.		°C	-25
Operating ambient temperature max.		°C	70
			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.
10.2.3.3 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.

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])

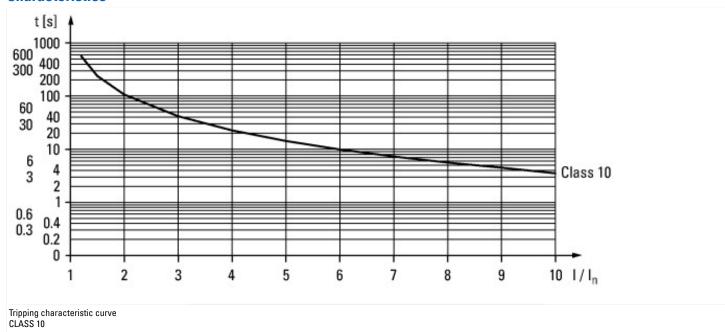
Kind of more starter Reversing starter Rated control supply voltage Us at AC SMIZ V 0 - 0 Rated control supply voltage Us at AC SMIZ V 0 - 0 Rated control supply voltage Us at AC SMIZ V 0 - 0 Nated control supply voltage Us at AC SMIZ V 0 - 0 Rated control supply voltage Us at AC SMIZ V 0 - 0 Rated control supply voltage Us at AC SMIZ V 0 - 0 Rated power AC AC SAGOV W 0 - 0 Rated power AC AC SAGOV W 0 - 0 Rated power AC AC SAGOV W 0 - 0 Rated power SMIX SM DIA Sphase W 0 - 0 Rated power SMIX SM DIA Sphase A 2 - 4 Rated power SMIX SM DIA Sphase A 2 - 4 Rated power SMIX SM DIA Sphase A 0 - 10 Rated power SMIX SM DIA Sphase A 0 - 10 Rated power SMIX SM DIA Sphase A 0 - 10 Rated power SMIX SM DIA Sphase A 0 - 10 Rated power SMIX SM DIA Sphase A 0 - 10 Rated power SMIX SM DI	[AJZ718013])		
Rated control supply voltage Us at AC SMZ V 0 - 0 Rated control supply voltage Us at AC SMZ V 0 - 0 Rated control supply voltage Us at CC V 2 - 24 Voltage Ype Fire returning DC C Rated oppraction power at AC-3, 400 V W 0.7 Rated oppraction power at AC-3, 400 V W 0 Rated power, 575 V, 80 Hz, 3-phase W 0 Rated power, 575 V, 80 Hz, 3-phase W 0 Rated power, 675 V, 80 Hz, 3-phase W 0 Rated power, 675 V, 80 Hz, 3-phase W 0 Rated power, 575 V, 80 Hz, 3-phase W 0 Rated operation current 4C-2, 400 V A 2 Overload release current settling A 0 Rated operation current 4C-2, 400 V A 0 Rated conditional short-circuit current, type 1, 500 V;347 V A 0 Rated conditional short-circuit current, type 2, 400 V A 0 Number of auxiliary contacts as normally open contact C 0 Type of electrical connection of main circuit C	Kind of motor starter		Reversing starter
Rated control supply voltage Us at DC V 24-24 Rated operation power at AC-3, 200 V, 3-phase W 037 Rated operation power at AC-3, 200 V, 3-phase W 037 Rated operation power at AC-3, 400 V W 035 Rated operation power at AC-3, 400 V W 0 Rated operation current te AW 0 Rated operation current at AC-3, 400 V A 24 Rated operation current at AC-3, 400 V A 2.4 Rated operation current at AC-3, 400 V A 0 Verload release current at Stiffs A 0 Rated conditional short-circuit current, ype 1, 480 Y/277 V A 0 Rated conditional short-circuit current, ype 1, 600 Y/347 V A 0 Rated conditional short-circuit current, ype 2, 200 V A 0 Number of auxiliary contacts as normally open contact Y 9 Rated conditional short-circuit current, ype 1, 600 Y/347 V A 0 0 Rated conditional short-circuit current, ype 1, 600 Y/347 V A 0 0 Rated conditional short-circuit current, ype 1, 600 Y/347	With short-circuit release		No
Rated control supply voltage Us at DC V 24-24 Voltage bye for actuating DC DC Rated operation power at AC-3-230 V, 3-phase RW 0.75 Rated operation power at AC-3-2400 V RW 0.75 Rated power, 575 V, 00 Hz, 3-phase RW 0.04 Rated operation current at AC-3, 400 V A 2.4 Rated operation current at AC-3, 400 V A 2.4 Rated operation current at AC-3, 400 V A 2.4 Rated conditional short-circuic current, ye 1, 480 Y/277 V A 0 Rated conditional short-circuic current, ye 2, 400 V A 0 Rated conditional short-circuic current, ye 2, 400 V A 0 Rated conditional short-circuic current, ye 2, 400 V A 0 Number of auxiliary contacts as anomally open contact Yes 0 Rated conditional short-circuic current, ye 2, 400 V A 0 Number of auxiliary contacts as anomally open contact Yes 0 Release class Yes 0 Release class Yes 0 Viyes of electrical connecti	Rated control supply voltage Us at AC 50HZ	V	0 - 0
Votage type for actuating DC Rated operation power at AC3, 200 y 3 phase NW 0.75 Rated operation power at AC3, 200 y 3 phase NW 0.75 Rated operation power at AC3, 400 y NW 0.70 Rated operation current forms A 2.4 Rated operation current at AC3, 400 y A 2.4 Overload release current setting A 0.18-3 Rated conditional short-circuit current, type 1,480 Y/277 y A 0.0 Rated conditional short-circuit current, type 1,280 Y/373 Y A 0.0 Rated conditional short-circuit current, type 2,280 Y A 0.0 Rated conditional short-circuit current, type 2,280 Y A 0.0 Rated conditional short-circuit current, type 2,280 Y A 0.0 Rated conditional short-circuit current, type 2,280 Y A 0.0 Rated conditional short-circuit current, type 2,480 Y A 0.0 Rated conditional short-circuit current, type 2,480 Y A 0.0 Rated conditional short-circuit current, type 2,480 Y A 0.0 Rated conditional short-circuit current, type 2,480 Y <t< td=""><td>Rated control supply voltage Us at AC 60HZ</td><td>V</td><td>0 - 0</td></t<>	Rated control supply voltage Us at AC 60HZ	V	0 - 0
Rated operation power at AC-3, 200 V, 3-phase kW 0.75 Rated operation power at AC-3, 400 V kW 0.75 Rated power, 55 V, 60 Hz, 3-phase kW 0 Rated operation current tell A 2.4 Rated operation current at AC-3, 400 V A 2.4 Overload release current setting A 0.13 - 3 Rated conditional short-circuit current, type 1, 480 Y/277 V A 0 Rated conditional short-circuit current, type 2, 200 V A 0 Rated conditional short-circuit current, type 2, 400 V A 0 Rated conditional short-circuit current, type 2, 400 V A 0 Number of suciliary contacts as normally closed cortact B 0 Number of suciliary contacts as normally closed cortact C 0 Temperature compensted vorted protection C 0 Temperature compensted vorted protection of main circuit C 0 Type of electrical connection of main circuit S 0 Type of electrical connection for auxiliary- and control current circuit S 0 Alimenting possible W	Rated control supply voltage Us at DC	V	24 - 24
Rated operation power at AC-3.400 V IW 075 Rated operace, 460 V, 60 Hz, 3-phase IW 0 Rated operacion current serial A 2 Rated operacion current serial A 0 Rated conditional short-circuit current, type 1,480 Y277 V A 0 Rated conditional short-circuit current, type 2,400 V A 0 Rated conditional short-circuit current, type 2,400 V A 0 Rated conditional short-circuit current, type 2,400 V A 0 Rated conditional short-circuit current, type 2,400 V A 0 Rated conditional short-circuit current, type 2,400 V A 0 Rated conditional short-circuit current, type 2,400 V A 0 Rated conditional short-circuit current, type 2,400 V A 0 Rated conditional short-circuit current, type 2,400 V A 0 Rated conditional short-circuit current, type 2,400 V C 0	Voltage type for actuating		DC
Rated power, 460 V, 50 Hz, 3-phase RW 0 Rated power, 575 V, 60 Hz, 3-phase W 0 Rated operation current le A 2 Rated operation current a AC-3, 400 V A 2 Overload release current setting A 3 18-3 Rated conditional short-circuit current, type 1, 480 V;277 V A 0 0 Rated conditional short-circuit current, type 2, 230 V A 0 0 Rated conditional short-circuit current, type 2, 400 V A 0 0 Rated conditional short-circuit current, type 2, 400 V A 0 0 Number of auxiliary contacts as normally closed contact C 0 0 Number of auxiliary contacts as normally closed contact C 0 0 Release class C 0 0 0 Release class C 0 0 0 0 Release class C 0 0 0 0 0 0 0 0 0 0 0 0 0 <t< td=""><td>Rated operation power at AC-3, 230 V, 3-phase</td><td>kW</td><td>0.37</td></t<>	Rated operation power at AC-3, 230 V, 3-phase	kW	0.37
Rated op power, 575 V, 50 Hz, 3-phase IW 0 Rated operation current e A 2.4 Rated operation current at AC3, 400 V A 2.4 Overload release current setting A A 0.8 Rated conditional short-circuit current, type 1, 460 V/277 V A A 0 Rated conditional short-circuit current, type 1, 460 V/277 V A A 0 Rated conditional short-circuit current, type 2, 250 V A A 0 Rated conditional short-circuit current, type 2, 250 V A A 0 Rated conditional short-circuit current, type 2, 400 V A A 0 Rated conditional short-circuit current, type 2, 400 V A A 0 Number of auxiliary contacts as normally closed contact C 8 0 Ambient temperature, upper operating limit C 8 0 Toppe of electrical connection of main circuit S Yes 0 Type of electrical connection of main circuit S Yes 0 Touchastour current exterior of main circuit S Yes	Rated operation power at AC-3, 400 V	kW	0.75
Rated operation current le A 2.4 Rated operation current at AC-3, 400 V A 2.4 Overload reloase current setting A 0.18-3 Rated conditional short-circuit current, type 1, 480 Y/277 V A 0 Rated conditional short-circuit current, type 2, 280 V A 0 Rated conditional short-circuit current, type 2, 280 V A 0 Number of auxiliary contacts as normally open contact B 1 Number of auxiliary contacts as normally closed contact C 60 Temperature compensated overload protection C 0 Release class CLASS 10 CLASS 10 Type of electrical connection of main circuit Spring clamp connection Type of electrical connection for auxiliary- and control current circuit Spring clamp connection Rail mounting possible Yes With transformer No Yes Cordination class according to IEC 60947-4-3 No No Number of indicator lights Yes Yes External reset possible Yes Yes Ordination class according to IEC 60947-4-3 <td>Rated power, 460 V, 60 Hz, 3-phase</td> <td>kW</td> <td>0</td>	Rated power, 460 V, 60 Hz, 3-phase	kW	0
Rated operation current at AC-3, 400 V A 2.4 Overload release current setting A 0.18-3 Rated conditional short-circuit current, type 1, 480 Y/377 V A 0 Rated conditional short-circuit current, type 2, 230 V A 0 Rated conditional short-circuit current, type 2, 230 V A 0 Rated conditional short-circuit current, type 2, 400 V A 0 Number of auxiliary contacts as normally open contact 1 1 Number of auxiliary contacts as normally closed contact °C 0 Ambient temperature, upper operating limit °C 0 Temperature compensated overload protection Yes Release class CLASS 10 Type of electrical connection of main circuit Yes Type of electrical connection of main circuit Yes With transformer Yes Number of command positions Yes Suitable for emergency stop Yes Coordination class according to IEC 60947-4-3 Yes Number of indicator lights Yes Edetarnal reset possible Yes W	Rated power, 575 V, 60 Hz, 3-phase	kW	0
Overload release current setting A 0.18 - 3 Rated conditional short-circuit current, type 1, 480 Y/277 V A 0 Rated conditional short-circuit current, type 2, 480 Y/277 V A 0 Rated conditional short-circuit current, type 2, 230 V A 0 Rated conditional short-circuit current, type 2, 240 V A 0 Number of auxiliary contacts as normally open contact 1 1 Number of auxiliary contacts as normally closed contact 1 1 Ambient temperature, upper operating limit °C 60 Temperature compensated overload protection Ves CLASS 10 Release class CLASS 10 Spring clamp connection Type of electrical connection for auxiliary- and control current circuit Spring clamp connection With transformer No No Number of command positions No No Suitable for emergency stop No No Coordination class according to IEC 60947-4-3 Yes No Number of indicator lights Yes No Extranal reset possible No No	Rated operation current le	Α	2.4
Rated conditional short-circuit current, type 1, 480 Y/277 V A 0 Rated conditional short-circuit current, type 2, 230 V A 0 Rated conditional short-circuit current, type 2, 400 V A 0 Number of auxiliary contacts as normally open contact I 1 Number of suikilary contacts as normally closed contact I 60 Ambient temperature, upper operating limit °C 60 Temperature compensated overload protection Yes CLASS 10 Release class CLASS 10 Spring clamp connection Type of electrical connection for auxiliary- and control current circuit Spring clamp connection Type of electrical connection for auxiliary- and control current circuit Yes With transformer No Number of command positions Yes Suitable for emergency stop No Coordination class according to IEC 60947-4-3 Yes Number of indicator lights 4 Extransf reset possible Yes With fuse Yes Degree of protection (IRMA) Yes Supporting protectool for TCP/IP No	Rated operation current at AC-3, 400 V	Α	2.4
Rated conditional short-circuit current, type 1, 600 Y/347 V	Overload release current setting	Α	0.18 - 3
Rated conditional short-circuit current, type 2, 230 V A 0 Rated conditional short-circuit current, type 2, 400 V A 0 Number of auxiliary contacts as normally open contact 1 1 Number of auxiliary contacts as normally losed contact 0 1 Ambient temperature, upper operating limit °C 60 Temperature compensated overload protection Yes CLASS 10 Release class CLASS 10 Class 10 Type of electrical connection of main circuit Yes Spring clamp connection Type of electrical connection for auxiliary- and control current circuit Yes Spring clamp connection Number of command positions Yes No Suitable for emergency stop No No Coordination class according to IEC 60947-4-3 Yes Yes Number of indicator lights Yes Yes External reset possible Yes Yes With fuse No Yes Degree of protection (IPPA) Yes Yes Supporting protecol for TCP/IP No Yes Supp	Rated conditional short-circuit current, type 1, 480 Y/277 V	Α	0
Rated conditional short-circuit current, type 2, 400 V Number of auxiliary contacts as normally open contact Number of auxiliary contacts as normally closed contact Ambient temperature, upper operating limit Temperature compensated overload protection Release class Release class Type of electrical connection of main circuit Type of electrical connection for auxiliary- and control current circuit Rail mounting possible With transformer Number of command positions Suitable for emergency stop Coordination class according to IEC 60947-4-3 Number of indicator lights External reset possible With fuse Obegree of protection (NEMA) Supporting protocol for TCP/IP Supporting protocol for TCP/IP Supporting protocol for PROFIBUS Supporting protocol for LNTERBUS Supporting protocol for LNTERBUS Supporting protocol for LNTERBUS Supporting protocol for LNTERBUS	Rated conditional short-circuit current, type 1, 600 Y/347 V	Α	0
Number of auxiliary contacts as normally open contact Number of auxiliary contacts as normally closed contact Ambient temperature, upper operating limit Temperature compensated overload protection Release class CLASS 10 Type of electrical connection of main circuit Type of electrical connection for auxiliary- and control current circuit Type of electrical connection for auxiliary- and control current circuit Type of electrical connection for auxiliary- and control current circuit Type of electrical connection for auxiliary- and control current circuit Type of electrical connection for auxiliary- and control current circuit Type of electrical connection for auxiliary- and control current circuit Type of electrical connection for auxiliary- and control current circuit Type of electrical connection for auxiliary- and control current circuit Type of electrical connection for auxiliary- and control current circuit Type of electrical connection for auxiliary- and control current circuit Type of electrical connection for auxiliary- and control current circuit Type of electrical connection for auxiliary- and control current circuit Type of electrical connection for auxiliary- and control current circuit Type of electrical connection for auxiliary- and control current circuit Type of electrical connection for auxiliary- and control current circuit Type of electrical connection for auxiliary- and control current circuit Type of electrical connection for	Rated conditional short-circuit current, type 2, 230 V	Α	0
Number of auxiliary contacts as normally closed contact *C 60 Ambient temperature, upper operating limit *C 60 Temperature compensated overload protection *Yes Release class CLASS 10 Type of electrical connection of main circuit Spring clamp connection Type of electrical connection for auxiliary- and control current circuit Yes With transformer No Number of command positions Yes Suitable for emergency stop No Coordination class according to IEC 60947-4-3 Yes With fuse Yes With fuse Yes With fuse No Degree of protection (IP) Yes Degree of protection (IP) No Supporting protocol for TCP/IP No Supporting protocol for PROFIBUS No Supporting protocol for CAN No Supporting protocol for INTERBUS No Supporting prot	Rated conditional short-circuit current, type 2, 400 V	Α	0
Ambient temperature, upper operating limit *C 60 Temperature compensated overload protection Yes Release class CLASS 10 Type of electrical connection of main circuit Spring clamp connection Type of electrical connection for auxiliary- and control current circuit Spring clamp connection Rail mounting possible Yes With transformer No Number of command positions No Suitable for emergency stop No Coordination class according to IEC 60947-4-3 Yes Number of indicator lights 4 External reset possible Yes With fuse No Degree of protection (IP) IP20 Degree of protection (NEMA) Other Supporting protocol for TCP/IP No Supporting protocol for PROFIBUS No Supporting protocol for CAN No Supporting protocol for INTERBUS No Supporting protocol for INTERBUS No Supporting protocol for INTERBUS No	Number of auxiliary contacts as normally open contact		1
Temperature compensated overload protection Release class CLASS 10 Type of electrical connection of main circuit Type of electrical connection for auxiliary- and control current circuit Rail mounting possible With transformer With transformer Number of command positions Suitable for emergency stop Coordination class according to IEC 60947-4-3 Number of indicator lights External reset possible With fuse No Degree of protection (IP) Degree of protection (NEMA) Supporting protocol for TCP/IP Supporting protocol for TCP/IP No Supporting protocol for TCP/IP No Supporting protocol for CAN Supporting protocol for INTERBUS Supporting protocol for INTERBUS Supporting protocol for ASI	Number of auxiliary contacts as normally closed contact		1
Release class Type of electrical connection of main circuit Type of electrical connection for auxiliary- and control current circuit Rail mounting possible With transformer Number of command positions Suitable for emergency stop Coordination class according to IEC 60947-4-3 Number of indicator lights External reset possible With fuse Degree of protection (IP) Degree of protection (NEMA) Supporting protocol for TCP/IP Supporting protocol for CAN Supporting protocol for CAN Supporting protocol for INTERBUS Supporting protocol for INTERBUS Supporting protocol for ASI	Ambient temperature, upper operating limit	°C	60
Type of electrical connection of main circuit Type of electrical connection for auxiliary- and control current circuit Rail mounting possible With transformer Number of command positions Suitable for emergency stop Coordination class according to IEC 60947-4-3 Number of indicator lights External reset possible With fuse Obegree of protection (IP) Degree of protection (INEMA) Supporting protecol for TCP/IP Supporting protecol for PROFIBUS Supporting protecol for CAN Supporting protecol for INTERBUS Supporting protecol for ASI Spring clamp connection Yes Yes No No 1 1 1 1 1 1 1 1 1 1 1 1 1	Temperature compensated overload protection		Yes
Type of electrical connection for auxiliary- and control current circuit Rail mounting possible With transformer No Number of command positions Suitable for emergency stop Coordination class according to IEC 60947-4-3 Number of indicator lights External reset possible With fuse No Degree of protection (IP) Degree of protection (NEMA) Supporting protocol for TCP/IP Supporting protocol for TCP/IP No Supporting protocol for CAN Supporting protocol for CAN Supporting protocol for CASI Supporting protocol for ASI No Supporting protocol for ASI	Release class		CLASS 10
Rail mounting possible With transformer Number of command positions Suitable for emergency stop Coordination class according to IEC 60947-4-3 Number of indicator lights External reset possible With fuse No Degree of protection (IP) Degree of protection (NEMA) Supporting protocol for TCP/IP Supporting protocol for PR0FIBUS No Supporting protocol for CAN Supporting protocol for INTERBUS Supporting protocol for INTERBUS Supporting protocol for ASI No No No No No No No No No N	Type of electrical connection of main circuit		Spring clamp connection
With transformer Number of command positions Suitable for emergency stop Coordination class according to IEC 60947-4-3 Number of indicator lights External reset possible With fuse No Degree of protection (IP) Degree of protection (NEMA) Supporting protocol for TCP/IP Supporting protocol for CAN Supporting protocol for CAN Supporting protocol for INTERBUS Supporting protocol for ASI No No Supporting protocol for ASI	Type of electrical connection for auxiliary- and control current circuit		Spring clamp connection
Number of command positions Suitable for emergency stop Coordination class according to IEC 60947-4-3 Number of indicator lights External reset possible With fuse With fuse No Degree of protection (IP) Degree of protection (NEMA) Supporting protocol for TCP/IP Supporting protocol for CAN Supporting protocol for INTERBUS Supporting protocol for INTERBUS Supporting protocol for ASI No Supporting protocol for ASI No No Supporting protocol for ASI No	Rail mounting possible		Yes
Suitable for emergency stop Coordination class according to IEC 60947-4-3 Number of indicator lights 4 External reset possible With fuse No Degree of protection (IP) Degree of protection (NEMA) Supporting protocol for TCP/IP Supporting protocol for CAN Supporting protocol for INTERBUS Supporting protocol for ASI No No Supporting protocol for ASI No	With transformer		No
Coordination class according to IEC 60947-4-3 Number of indicator lights External reset possible With fuse With fuse Degree of protection (IP) Degree of protection (NEMA) Supporting protocol for TCP/IP Supporting protocol for CAN Supporting protocol for CAN Supporting protocol for INTERBUS Supporting protocol for INTERBUS No Supporting protocol for ASI No	Number of command positions		
Number of indicator lights 4 External reset possible Yes With fuse No Degree of protection (IP) IP20 Degree of protection (NEMA) Other Supporting protocol for TCP/IP No Supporting protocol for PROFIBUS No Supporting protocol for CAN No Supporting protocol for INTERBUS No Supporting protocol for INTERBUS No Supporting protocol for ASI No	Suitable for emergency stop		No
External reset possible With fuse No Degree of protection (IP) Degree of protection (NEMA) Supporting protocol for TCP/IP Supporting protocol for PROFIBUS Supporting protocol for CAN Supporting protocol for INTERBUS Supporting protocol for INTERBUS Supporting protocol for ASI No	Coordination class according to IEC 60947-4-3		
With fuse No Degree of protection (IP) IP20 Degree of protection (NEMA) Other Supporting protocol for TCP/IP No Supporting protocol for PROFIBUS No Supporting protocol for CAN No Supporting protocol for INTERBUS No Supporting protocol for ASI No	Number of indicator lights		4
Degree of protection (IP) Degree of protection (NEMA) Supporting protocol for TCP/IP Supporting protocol for PROFIBUS No Supporting protocol for CAN Supporting protocol for INTERBUS No Supporting protocol for ASI	External reset possible		Yes
Degree of protection (NEMA) Supporting protocol for TCP/IP No Supporting protocol for PROFIBUS No Supporting protocol for CAN Supporting protocol for INTERBUS No Supporting protocol for ASI No	With fuse		No
Supporting protocol for TCP/IP Supporting protocol for PROFIBUS No Supporting protocol for CAN Supporting protocol for INTERBUS No Supporting protocol for ASI No	Degree of protection (IP)		IP20
Supporting protocol for PROFIBUS Supporting protocol for CAN Supporting protocol for INTERBUS No Supporting protocol for ASI No	Degree of protection (NEMA)		Other
Supporting protocol for CAN Supporting protocol for INTERBUS No Supporting protocol for ASI No	Supporting protocol for TCP/IP		No
Supporting protocol for INTERBUS Supporting protocol for ASI No	Supporting protocol for PROFIBUS		No
Supporting protocol for ASI No	Supporting protocol for CAN		No
	Supporting protocol for INTERBUS		No
Supporting protocol for MODBUS No	Supporting protocol for ASI		No
	Supporting protocol for MODBUS		No

Supporting protocol for Data-Highway		No
Supporting protocol for DeviceNet		No
Supporting protocol for SUCONET		No
Supporting protocol for LON		No
Supporting protocol for PROFINET IO		No
Supporting protocol for PROFINET CBA		No
Supporting protocol for SERCOS		No
Supporting protocol for Foundation Fieldbus		No
Supporting protocol for EtherNet/IP		No
Supporting protocol for AS-Interface Safety at Work		No
Supporting protocol for DeviceNet Safety		No
Supporting protocol for INTERBUS-Safety		No
Supporting protocol for PROFIsafe		No
Supporting protocol for SafetyBUS p		No
Supporting protocol for other bus systems		No
Width	mm	22.5
Height	mm	110.8
Depth	mm	113.6

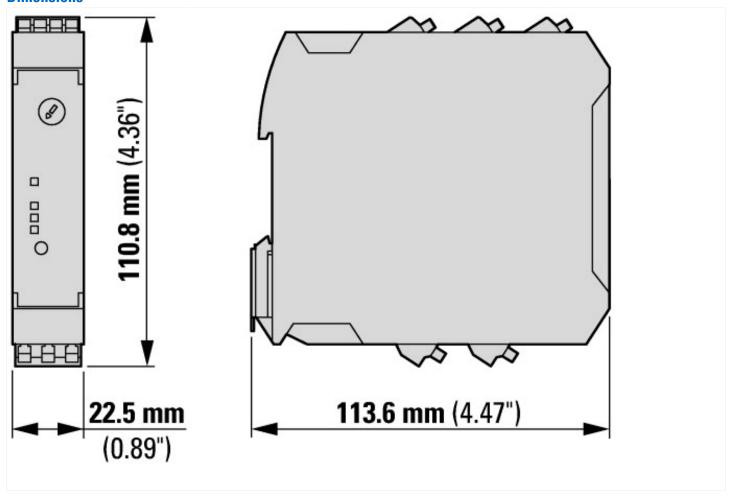
Approvals

Product Standards	UL 60947-4-1; CSA C22.2 No. 60947-4-1-14; CE marking
UL File No.	E29096
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



Dimensions



Additional product information (links)

Additional product informat	ion (mixo)
IL034064ZU Electronic motor starter EMS2	
IL034064ZU Electronic motor starter EMS2	https://es-assets.eaton.com/DOCUMENTATION/AWA_INSTRUCTIONS/IL034064ZU2019_07.pdf
MN034003 Electronic Motorstarter EMS2	
MN034003 Elektronischer Motorstarter EMS2 - Deutsch	https://es-assets.eaton.com/DOCUMENTATION/AWB_MANUALS/MN034003DE.pdf
MN034003 Electronic Motorstarter EMS2 - English	https://es-assets.eaton.com/DOCUMENTATION/AWB_MANUALS/MN034003EN.pdf