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Eaton 192400

Eaton Moeller® series EMS2 Reversing starter, 24 V DC, 1,5 - 7 (AC-53a), 9 (AC-51) A, Screw terminals, Controlled stop, PTB 19 ATEX 3000 EMS2-ROSF-Z-9-24VDC

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PRODUCT NAME	Eaton Moeller® series EMS2 Reversing starter
CATALOG NUMBER	192400
PRODUCT LENGTH/DEPTH	114.5 mm
PRODUCT HEIGHT	160 mm
PRODUCT WIDTH	22.5 mm
PRODUCT WEIGHT	0.35 kg
CERTIFICATIONS	IEC 61508 IEC/EN 60947-4-2 EN ISO 13849 UL508 UL File No.: E29096 UL Category Control No.: NLDX, NLDX7 PTB 19 ATEX 3000 UL 60947-4-1 CSA-C22.2 No. 60947-4-1- 14 CE marking UL listed Certified by UL for use in Canada UL report applies to both US and Canada

TYPE	Reversing starter (complete device)
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.
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 RESIST. OF INSUL. MAT. TO ABNORMAL HEAT/FIRE BY INTERNAL ELECT. 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	Meets the product

	eaton-contactors-ems2-reversing-starter-characteristic-curve-004.eps
	eaton-contactors-ems2-reversing-starter-characteristic-curve-007.eps
	eaton-contactors-ems2-reversing-starter-characteristic-curve.eps
CHARACTERISTIC CURVE	eaton-contactors-ems2-reversing-starter-characteristic-curve-005.eps
	eaton-contactors-ems2-reversing-starter-characteristic-curve-006.eps
	eaton-contactors-ems2-reversing-starter-characteristic-curve-002.eps
DECLARATIONS OF CONFORMITY	eaton-reversing-starter-declaration-of-conformity-uk251116en.pdf
□□□□□	IL034089ZU
□□□□	eaton-ems2-electronic-motorstarter-brochure-br034001en-en-us.pdf
□□□	eaton-ems2-electronic-motorstarter-flyer-fl034007en-en-us.pdf
□□	eaton-contactors-ems2-reversing-starter-dimensions-004.eps
	eaton-contactors-ems2-reversing-starter-3d-drawing-004.eps

CREEPAGE DISTANCES	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.
10.9.2 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.
FITTED WITH:	fuse
CLASS	CLASS 10 A
CONNECTION TO SMARTWIRE-DT	No
MODEL	Reversing starter
EXPLOSION SAFETY CATEGORY FOR DUST	ATEX dust-ex-protection, II (2) G [Ex e] [Ex d] [Ex px] ATEX dust-ex-protection, II (2) D [Ex t] [Ex p]
ELECTRICAL CONNECTION TYPE OF MAIN CIRCUIT	Screw connection
VOLTAGE TYPE	DC
MOUNTING POSITION	Motor feeder at bottom Vertical
MOUNTING METHOD	Mounting on Busbar 30 mm Rail mounting possible Motor starter Feeder System Mounting on Busbar 60 mm Top-hat rail fixing (according to IEC/EN 60715, 35 mm)
CONNECTION	Screw terminals
FUNCTIONS	Motor protection Controlled stop DOL starting Reversing start Temperature compensated overload

	protection
TERMINAL CAPACITY	0.14 - 2.5 mm ² , Control circuit cables 0.2 - 2.5 mm ² , Main cables
TERMINAL CAPACITY (AWG)	26 - 14, Control circuit cables 24 - 14, Main cables
OVERLOAD RELEASE CURRENT SETTING - MIN	1.5 A
POWER CONSUMPTION (SEALING) AT DC	13 W
RATED ACTUATING CURRENT (IC)	5 mA
RATED CONDITIONAL SHORT-CIRCUIT CURRENT (IQ), TYPE 2, 230 V	0 A
RATED CONDITIONAL SHORT-CIRCUIT CURRENT (IQ), TYPE 2, 380 V, 400 V, 415 V	0 A
RATED CONDITIONAL SHORT-CIRCUIT CURRENT, TYPE 1, 480 Y/277 V	0 A
RATED CONDITIONAL SHORT-CIRCUIT CURRENT, TYPE 1, 600 Y/347 V	0 A
RATED CONTROL SUPPLY CURRENT IS	40 mA
RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 50 HZ - MAX	0 V
RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 50 HZ - MIN	0 V
RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 60 HZ - MAX	0 V
RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 60 HZ - MIN	0 V
RATED CONTROL SUPPLY VOLTAGE (US) AT DC - MAX	24 V
RATED CONTROL SUPPLY VOLTAGE (US) AT DC - MIN	24 V
RATED OPERATIONAL CURRENT (IE) AT AC-15, 220 V, 230 V, 240 V	2 A
RATED OPERATIONAL	7 A

CURRENT (IE) AT AC-3, 380 V, 400 V, 415 V	
RADIO INTERFERENCE CLASS	EN 55011 Class A (EN 61000-6-3, emitted interference, radiated)
RESIDUAL RIPPLE	≤ 5 % (input voltage)
RATED CONTROL SUPPLY VOLTAGE	19.2 - 30 V DC
RATED CONTROL VOLTAGE (UC)	24 V (Actuating circuit ON, L, R)
RATED OPERATIONAL CURRENT (IE)	9 A
RATED OPERATIONAL CURRENT (IE) AT AC-51	9 A
RATED OPERATIONAL CURRENT (IE) AT AC-53A - MAX	7 A
RATED OPERATIONAL CURRENT (IE) AT DC-13, 24 V	2 A
RATED OPERATIONAL CURRENT FOR SPECIFIED HEAT DISSIPATION (IN)	9 A
RATED OPERATIONAL VOLTAGE	42 - 550 V 500 V AC
SAFETY PARAMETER (EN ISO 13849-1)	3 (safe switch off), Category PL e, Performance level (safe switch off) 60 (safe switch off) / 70 (motor protection) years; MTTFD
SAFETY PARAMETER (IEC 62061)	99 % (safe switch off) / 98 % (motor protection), DC PFHd [FIT]: 2.3 (Safe switch off) Λsu [FIT]: 1072 (Safe switch off) / 969 (Motor protection) Λdd [FIT]: 580 (Safe switch off) / 601 (Motor protection) Λdu [FIT]: 2.3 (Safe switch off) / 11 (Motor protection)
	99 %, SFF SIL 3 (Safe switch off) / SIL 2 (Motor protection) Opening delay [ms]: 200 (safe switch off) / Class 10A (motor protection) Λsd [FIT]: 0
SWITCHING LEVEL	-3 - 9.6 V DC, Switching

	level "Low", Actuating circuit (ON, L, R) < 5 V DC, Switching level "confirm Off", Actuating circuit (ON, L, R) 19.2 - 30 V DC, Switching level "High", Actuating circuit (ON, L, R)
AMBIENT OPERATING TEMPERATURE - MAX	70 °C
AMBIENT OPERATING TEMPERATURE - MIN	-25 °C
AMBIENT STORAGE TEMPERATURE - MAX	80 °C
AMBIENT STORAGE TEMPERATURE - MIN	40 °C
EQUIPMENT HEAT DISSIPATION, CURRENT-DEPENDENT PVID	13 W
HEAT DISSIPATION CAPACITY PDISS	0 W
HEAT DISSIPATION PER POLE, CURRENT-DEPENDENT PVID	0 W
NUMBER OF AUXILIARY CONTACTS (NORMALLY CLOSED CONTACTS)	1
NUMBER OF AUXILIARY CONTACTS (NORMALLY OPEN CONTACTS)	1
NUMBER OF COMMAND POSITIONS	0
NUMBER OF CONTACTS (CHANGE-OVER CONTACTS)	1
NUMBER OF PILOT LIGHTS	0
OVERLOAD RELEASE CURRENT SETTING - MAX	9 A
RATED OPERATIONAL POWER AT AC-3, 220/230 V, 50 HZ	1.5 kW
RATED OPERATIONAL POWER AT AC-3, 380/400 V, 50 HZ	3 kW
RATED OPERATIONAL POWER AT AC-53A, 380/400 V, 50 HZ	3 kW
RATED POWER AT 460 V, 60 HZ, 3-PHASE	0 kW
RATED POWER AT 575 V, 60 HZ, 3-PHASE	0 kW

STATIC HEAT DISSIPATION, NON-CURRENT-DEPENDENT PVS	2 W
HEAT DISSIPATION DETAILS	If necessary, Allow for derating
PRODUCT CATEGORY	Electronic motor starter
COORDINATION CLASS (IEC 60947-4-3)	Class 2
DEGREE OF PROTECTION	IP20 NEMA Other
ELECTRICAL CONNECTION TYPE FOR AUXILIARY- AND CONTROL-CURRENT CIRCUIT	Screw connection
ACTUATING VOLTAGE	24 V DC
POWER CONSUMPTION	13 W

PROJECT NAME:
PROJECT NUMBER:
PREPARED BY:



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