## DATASHEET - RAM05-D200A31-412RS1

DOL starter, 6.6 A, Sensor input 2, AS-Interface (B), S-7.4 for 31 modules, HAN Q4/2, with manual override switch



Part no.

## RAM05-D200A31-412RS1

199069

Product name	Eaton Moeller® series Rapid Link DOL starter
Part no.	RAM05-D200A31-412RS1
EAN	4015081971275
Product Length/Depth	120 millimetre
Product height	270 millimetre
Product width	220 millimetre
Product weight	1.8 kilogram
Certifications	CCC UL approval IEC/EN 60947-4-2 CE UL 60947-4-2 RoHS
Product Tradename	Rapid Link
Product Type	DOL starter
Product Sub Type	None
Catalog Notes	Assigned motor rating: for normal internally and externally ventilated 4 pole, thre phase asynchronous motors with 1500 rpm at 50 Hz or 1800 min at 60 Hz
Features	Parameterization: Keypad Parameterization: drivesConnect mobile (App) Parameterization: drivesConnect Parameterization: Fieldbus Diagnostics and reset on device and via AS-Interface
Fitted with:	Manual override switch Key switch position AUTO Key switch position OFF/RESET Thermo-Click Electronic motor protection Thermistor monitoring PTC Key switch position HAND Two sensor inputs through M12 sockets (max. 150 mA) for quick stop and interlocked manual operation Short-circuit release
Functions	External reset possible Temperature compensated overload protection
Class	CLASS 10 A
Degree of protection	IP65 NEMA 12
Electromagnetic compatibility	Class A
Lifespan, electrical	10,000,000 Operations (at AC-3)
Lifespan, mechanical	10,000,000 Operations (at AC-3)
Model	Direct starter
Overload release current setting - min	0.3 A
Overload release current setting - max	6.6 A
Overvoltage category	III III
Product category	Motor starter
Protocol	AS-Interface profile cable: S-7.4 for 31 modules ASI
Rated impulse withstand voltage (Uimp)	4000 V
nateu impuise withstanu voltage (omp)	
System configuration type	AC voltage Phase-earthed AC supply systems are not permitted. Center-point earthed star network (TN-S network)
	Phase-earthed AC supply systems are not permitted.

Mounting position	Vertical
Shock resistance	15 g, Mechanical, According to IEC/EN 60068-2-27, 11 ms, Half-sinusoidal shock 11 ms, 1000 shocks per shaft
Vibration	Resistance: 6 Hz, Amplitude 0.15 mm Resistance: 57 Hz, Amplitude transition frequency on acceleration Resistance: 10 - 150 Hz, Oscillation frequency Resistance: According to IEC/EN 60068-2-6
Altitude	Above 1000 m with 1 % performance reduction per 100 m Max. 1000 m Max. 2000 m
Ambient operating temperature - min	-10 °C
Ambient operating temperature - max	55 °C
Ambient storage temperature - min	-40 °C
Ambient storage temperature - max Climatic proofing	70 °C       < 95 %, no condensation
Current limitation	0.3 - 6.6 A, motor, main circuit Adjustable, motor, main circuit
Input current	6.6 A (at 150 % Overload)
Mains switch-on frequency	Maximum of one time every 60 seconds
Mains voltage tolerance	380 - 480 V (-15 %/+10 %, at 50/60 Hz)
Off-delay	20 - 35 ms
On-delay	20 - 35 ms
Output frequency	50/60 Hz
Overload cycle	AC-53a
Rated frequency - max	63 Hz
Rated frequency - min	47 Hz
Rated operational current (le) Rated operational current (le) at 150% overload	6.6 A
Rated operational current (le) at 150% overload Rated operational current (le) at AC-3, 380 V, 400 V, 415 V	6.6 A 6.6 A
Rated operational current (12) at AC-5, 300 V, 400 V, 413 V	3 kW
Rated operational power at 380/400 V, 50 Hz - min	0.09 kW
Rated operational power at AC-3, 220/230 V, 50 Hz	0 kW
Rated operational power at AC-3, 380/400 V, 50 Hz	3 kW
Rated operational voltage	480 V AC, 3-phase 400 V AC, 3-phase
Supply frequency	50/60 Hz, fLN, Main circuit
Assigned motor power at 460/480 V, 60 Hz, 3-phase	3 HP
Rated conditional short-circuit current (Iq)	10 kA
Rated conditional short-circuit current (Iq), type 2, 380 V, 400 V, 415 V	0 A
Short-circuit protection (external output circuits)	Type 1 coordination via the power bus' feeder unit, Main circuit
Rated control supply voltage (Us) at AC, 50 Hz - min	0 V
Rated control supply voltage (Us) at AC, 50 Hz - max	0 V
Rated control supply voltage (Us) at AC, 60 Hz - min	0 V
Rated control supply voltage (Us) at AC, 60 Hz - max	0 V
Rated control supply voltage (Us) at DC - min	0 V
Rated control supply voltage (Us) at DC - max	0 V
Rated control voltage (Uc)	24 V DC (-15 %/+20 %, external via AS-Interface® plug)
Connection	Connections pluggable in power section
Interfaces	Specification: S-7.4 (AS-Interface®) Max. total power consumption from AS-Interface® power supply unit (30 V): 190 mA Number of slave addresses: 31 (AS-Interface®)

Number of auxiliary contacts (normally closed contacts)	0
Number of auxiliary contacts (normally open contacts)	0
Cable length	10 m, Radio interference level, maximum motor cable length
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 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.
10.9.2 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 8.0**

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])	

[AJZ/10015])		
Type of motor starter		Direct online starter (DOL)
With short-circuit release		Yes
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	0 - 0
Voltage type for actuating		DC
Rated operation power at AC-3, 230 V, 3-phase	kW	0
Rated operation power at AC-3, 400 V	kW	3
Rated power, 460 V, 60 Hz, 3-phase	kW	2.238
Rated power, 575 V, 60 Hz, 3-phase	kW	0
Rated operation current le	А	6.6
Rated operation current at AC-3, 400 V	А	6.6
Overload release current setting	А	0.3 - 6.6
Rated conditional short-circuit current, type 1, 480 Y/277 V	А	10,000
Rated conditional short-circuit current, type 1, 600 Y/347 V	А	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 auxiliary contacts as normally open contact		0
Number of auxiliary contacts as normally closed contact		0
Ambient temperature, upper operating limit	°C	55
Temperature compensated overload protection		Yes
Release class		CLASS 10 A

Type of electrical connection for axiliary- and control current circuit         Image: Second Se			
Animuniting possible         Nome           With tandformer         Nome           Number for command positions         Nome           Subable for emergency stop         Nome           Coordination class according to EE 0907-4-3         Nome           External read possible         Nome           With lass         Nome           Degree of protection (IPI)         Nome           Supporting protect for TCPIP         Nome           Supporting protect for FRDFIBUS         Nome           Supporting protect for FRDFIBUS         Nome           Supporting protect for Multiss         Nome           Supporting protect for FRDFIBUS         Nome           Supporting protect for FRDFIBUS         Nome           Supporting protect for Multiss         Nome           Supporting protect for FRDFIBUS         No           Supporting protect for FRDFIBUS         No           Supporting protect for FRDFIBUS         No           Supporting prototect for FRD	Type of electrical connection of main circuit		Plug-in connection
With transformé         Ion           Number of comma positions         Ion         Ion           Subable for emergency stop         Ion         Ion           Coordination (Less according to IEC 6054/1-4.3)         Ion         Ion           Number of indication (Isbas)         Ion         Ion           Degrees of protection (Isbas)         Ion         Ion           Degrees of protection (ISMA)         Ion         Ion           Supporting protect for CPDP         Ion         Ion           Supporting protect for CPDP         Ion         Ion           Supporting protect for CAN         Ion         Ion           Supporting protect for INTERBUS         Ion         Ion           Supporting protect for NUTREBUS         Ion         Ion           Supporting protect for Mathus         Ion         Ion           Supporting protect for DAT-Highway         Ion         Ion           Supporting protect for Supporting Protect for Mathus         Ion         Ion           Supporting protect for PAD-HIF ION         Ion			-
Number deciminal positions         I         I           Satable for emergency stop         I         I           Conditions tiles according ICE 0057A-3         I         I           Number of indicator lights         I         I           External rest tipos (ICE 0057A-3)         I         I           With face         I         I           External rest tipos (ICE 0057A-3)         I         I           Suppositing ratices (IRE NATION INCOMPANIE)         I         I           Suppositi	Rail mounting possible		
Subab for emergery stop         Image: Stop Stop Stop Stop Stop Stop Stop Stop	With transformer		No
Coordination lights       Image: Picture lights       0         Number of indicator lights       0       0         External reset possible       Visit Second Sec	Number of command positions		1
Number of indicator lights         Image: set possible         Image: set possibl	Suitable for emergency stop		No
Extend reset possible       Yes         With tase       No         Degree of protection (IP)       PE55         Degree of protection (NEMA)       Zes         Supporting protect for TCP/IP       No         Supporting protect for TCP/IP       No         Supporting protect for ARD FIBUS       No         Supporting protect for SUCMET       No         Supporting protect for SUCMET       No         Supporting protect for FROFINET CBA       No         Supporting pro	Coordination class according to IEC 60947-4-3		Class 1
With tase       No         Degree of protection (NEMA)       IP55         Supporting protect for TAPIOFBUS       No         Supporting protect for TAPIOFBUS       No         Supporting protect for CAN       No         Supporting protect for Modbus       No         Supporting protect for Modbus       No         Supporting protect for Modbus       No         Supporting protect for SUCONET       No         Supporting protect for ROFINET ICBA       No         Supporting protect for ROFINET CBA       No         Supporting protect for FADIOFNET CBA       No         Supporting protect	Number of indicator lights		0
Begre of protection (IP)         P65           Degree of protection (NEMA)         12           Supporting protocol for CP/IP         No           Supporting protocol for MADIS         No           Supporting protocol for ASI         No           Supporting protocol for Addis         No           Supporting protocol for Data-Highway         No           Supporting protocol for Data-Highway         No           Supporting protocol for PAGFINET CBA         No           Supporting protocol for PAGFINET CBA         No           Supporting protocol for SHCONE         No           Supporting protoc	External reset possible		Yes
Bage of protection (NEMA)       1         Supporting protocol for CP/IP       No         Supporting protocol for MDBUS       No         Supporting protocol for MDBUS       No         Supporting protocol for MDBUS       No         Supporting protocol for Data-Highway       No         Supporting protocol for MDBUS       No         Supporting protocol for SUCONET       No         Supporting protocol for SUCONET       No         Supporting protocol for PROFINET CBA       No         Supporting protocol for SUCONET       No         Supporting proto	With fuse		No
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           Supporting protocol for ASI         No           Supporting protocol for Data-Highway         No           Supporting protocol for Data-Highway         No           Supporting protocol for SUCONET         No           Supporting protocol for SUCONET         No           Supporting protocol for CAN         No           Supporting protocol for SUCONET         No           Supporting protocol for PROFINET CBA         No           Supporting protocol for SUCONET         No           Supporting protocol for FROFINET CBA         No     <	Degree of protection (IP)		IP65
Supporting protocol for PR0FIBUS         No           Supporting protocol for CAN         No           Supporting protocol for INTERBUS         No           Supporting protocol for ASI         No           Supporting protocol for Data-Highway         No           Supporting protocol for Data-Highway         No           Supporting protocol for SUCONET         No           Supporting protocol for POFINET IO         No           Supporting protocol for POFINET CBA         No           Supporting protocol for SUCONET         No           Supporting protocol for PAGFINET IO         No           Supporting protocol for SUCONET         No           Supporting protocol for SUCONET         No           Supporting protocol for PAGFINET IO         No           Supporting protocol for SUCONET         No	Degree of protection (NEMA)		12
Supporting protocol for CAN         No           Supporting protocol for INTERBUS         Yes           Supporting protocol for Data-Highway         No           Supporting protocol for SUCONET         No           Supporting protocol for PROFINET IO         No           Supporting protocol for PROFINET OBA         No           Supporting protocol for SHOCOS         No           Supporting protocol for SHOCOS         No           Supporting protocol for PROFINET CBA         No           Supporting protocol for SHOCOS         No           Supporting protocol for SHOCOS         No           Supporting protocol for AS-Interface Safety at Work         No           Supporting protocol for PROFINET         No           Supporting protocol for PROFINET         No           Supporting protocol for AS-Interface Safety at Work         No           Supporting protocol for PROFINET         No           Supporting protocol for PROFINET         No           Suppo	Supporting protocol for TCP/IP		No
Autor of the INTERBUS         No           Supporting protocol for INTERBUS         Yes           Supporting protocol for Asl         No           Supporting protocol for Data-Highway         No           Supporting protocol for SUCONET         No           Supporting protocol for PROFINET IO         No           Supporting protocol for PROFINET IO         No           Supporting protocol for SERCOS         No           Supporting protocol for Foundation Fieldbus         No           Supporting protocol for INTERBUS-Safety at Work         No           Supporting protocol for PROFINET         No           Supporting protocol for SafetyBUS p         No           Supporting protocol for INTERBUS-Safety         No           Supporting protocol for SafetyBUS p         No           Support	Supporting protocol for PROFIBUS		No
Suporting protocol for ASI Suporting protocol for Madbus Suporting protocol for Data-Highway Suporting protocol for Data-Highway Suporting protocol for DeviceNet Suporting protocol for SUCONET Suporting protocol for SUCONET Suporting protocol for PROFINET IO Suporting protocol for PROFINET CBA Suporting protocol for SRECOS Suporting protocol for SecCOS Suporting protocol for Succone Suporting protocol for Succone Suporting protocol for Succone Suporting protocol for Succone Suporting protocol for Norther Succone Suporting protocol for Norther Succone Suporting protocol for SecCOS Suporting protocol for SecCOS Suporting protocol for Succone Suporting protocol for Succone Suporting protocol for SecCOS Suporting protocol for Norther Succone Suporting protocol for Norther Succone Suporting protocol for Norther Succone Suporting protocol for SecCOS Suporting protocol for Norther Succone Suporting protocol for SecCOS Suporting protocol for SecCOS Suporting protocol for SecCOS Suporting protocol for Norther Succone Suporting protocol for SecCOS Suporting protocol for Norther Succone Suporting Protoco	Supporting protocol for CAN		No
Supporting protocol for Madbus         No           Supporting protocol for Data-Highway         No           Supporting protocol for SUCONET         No           Supporting protocol for SUCONET         No           Supporting protocol for PROFINET IOA         No           Supporting protocol for SERCOS         No           Supporting protocol for Fordnation Fieldbus         No           Supporting protocol for Searce Safety at Work         No           Supporting protocol for PROFINET BAS         No           Supporting protocol for PROFINET         No           Supporting protocol for Safety at Work         No           Supporting protocol for PROFINET         No           Supporting pr	Supporting protocol for INTERBUS		No
Suporting protocol for Data-Highway         No           Suporting protocol for DeviceNet         No           Suporting protocol for DeviceNet         No           Suporting protocol for SUCONET         No           Suporting pro	Supporting protocol for ASI		Yes
Supporting protocol for DeviceNet         No           Supporting protocol for SUCONET         No           Supporting protocol for SUCONET         No           Supporting protocol for SUCONET         No           Supporting protocol for PROFINET IO         No           Supporting protocol for PROFINET CBA         No           Supporting protocol for FROFINET CBA         No           Supporting protocol for Fundation Fieldbus         No           Supporting protocol for Fundation Fieldbus         No           Supporting protocol for StereCOS         No           Supporting protocol for Fundation Fieldbus         No           Supporting protocol for Fundation Fieldbus         No           Supporting protocol for StereCOS         No           Supporting protocol for Fundation Fieldbus         No           Supporting protocol for Fundation Fieldbus         No           Supporting protocol for Sterecol f	Supporting protocol for Modbus		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 Foundation Fieldbus         No           Supporting protocol for SERCOS         No           Supporting protocol for Sercor Foundation Fieldbus         No           Supporting protocol for Foundation Fieldbus         No           Supporting protocol for Sercor Serc	Supporting protocol for Data-Highway		No
Supporting protocol for LON         Image: style sty	Supporting protocol for DeviceNet		No
Supporting protocol for PROFINET IO         No           Supporting protocol for PROFINET CBA         No           Supporting protocol for PROFINET CBA         No           Supporting protocol for SERCOS         No           Supporting protocol for Foundation Fieldbus         No           Supporting protocol for StercoV         No           Supporting protocol for Foundation Fieldbus         No           Supporting protocol for StercoV         No           Supporting protocol for AS-Interface Safety at Work         No           Supporting protocol for INTERBUS-Safety         No           Supporting protocol for PROFISET         No           Supporting protocol for SafetyBUS p         No           Suporting protocol for SafetyBUS p         No	Supporting protocol for SUCONET		No
Suporting protocol for PROFINET CBA Supporting protocol for PROFINET CBA Supporting protocol for SERCOS Supporting protocol for Foundation Fieldbus Supporting protocol for EtherNet/IP Supporting protocol for AS-Interface Safety at Work Supporting protocol for DeviceNet Safety Supporting protocol for INTERBUS-Safety Supporting protocol for SAfetyBUS p Supporting protocol for SafetyBUS p Supporting protocol for SafetyBUS p Supporting protocol for ther bus systems Width Height Height	Supporting protocol for LON		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       Mo         Supporting protocol for INTERBUS-Safety       No         Supporting protocol for PROFIsafe       No         Supporting protocol for SERCOS       No         Supporting protocol for PROFIsafe       No         Supporting protocol for PROFIsafe       No         Supporting protocol for other bus systems       No         Width       Mo         Height       Mo	Supporting protocol for PROFINET IO		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         Height       mm	Supporting protocol for PROFINET CBA		No
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Supporting protocol for AS-Interface Safety at Work       Mo         Supporting protocol for DeviceNet Safety       Mo         Supporting protocol for INTERBUS-Safety       Mo         Supporting protocol for PROFIsafe       Mo         Supporting protocol for SafetyBUS p       Mo         Supporting protocol for SafetyBUS p       Mo         Width       Mo         Height       Mo	Supporting protocol for Foundation Fieldbus		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       Height     Mo	Supporting protocol for EtherNet/IP		No
Supporting protocol for INTERBUS-Safety     Mo       Supporting protocol for PROFIsafe     Mo       Supporting protocol for SafetyBUS p     Mo       Supporting protocol for SafetyBUS p     Mo       Width     mm       Height     mm	Supporting protocol for AS-Interface Safety at Work		No
Supporting protocol for PROFIsafe     Mo       Supporting protocol for SafetyBUS p     Mo       Supporting protocol for other bus systems     Mo       Width     mm       Height     mm	Supporting protocol for DeviceNet Safety		No
Supporting protocol for SafetyBUS p     No       Supporting protocol for other bus systems     Mo       Width     mm       Leight     mm	Supporting protocol for INTERBUS-Safety		No
Supporting protocol for other bus systemsModelWidthmmHeightmm20	Supporting protocol for PROFIsafe		No
Widthmm20Heightmm270	Supporting protocol for SafetyBUS p		No
Height mm 270	Supporting protocol for other bus systems		No
	Width	mm	220
Depth mm 120	Height	mm	270
	Depth	mm	120