

# Specifications

Photo is representative

## Eaton 199213

Eaton Moeller® series DILA Contactor relay, 24 V DC, 3 N/O, 1 NC, Push in terminals, DC operation

### General specifications

<b>PRODUCT NAME</b>	Eaton Moeller® series DILA Control relay
<b>CATALOG NUMBER</b>	199213
<b>MODEL CODE</b>	DILA-31(24VDC)-PI
<b>EAN</b>	4015081972975
<b>PRODUCT LENGTH/DEPTH</b>	75 mm
<b>PRODUCT HEIGHT</b>	68 mm
<b>PRODUCT WIDTH</b>	45 mm
<b>PRODUCT WEIGHT</b>	0.287 kg
<b>CERTIFICATIONS</b>	IEC/EN 60947 EN 60947-5-1 VDE 0660 CSA File No.: 012528 CSA Class No.: 3211-03 UL File No.: E29184 UL 508 CSA-C22.2 No. 14-05 CE marking UL Category Control No.: NKCR UL CSA

## Features & Functions

### FEATURES

Positive operating contacts to EN 60947-5-1 appendix L, including auxiliary contact module

### FITTED WITH:

Suppressor circuit  
Positive operation contacts  
Built-in suppressor circuit  
Varistor suppressor circuit

## General

### APPLICATION

Contactors relays

### DEGREE OF PROTECTION

IP20

### SHOCK RESISTANCE

7 g, N/O auxiliary contact, Basic unit with auxiliary contact module, Mechanical, according to IEC/EN 60068-2-27, Half-sinusoidal shock 10 ms  
5 g, N/C auxiliary contact, Basic unit with auxiliary contact module, Mechanical, according to IEC/EN 60068-2-27, Half-sinusoidal shock 10 ms

### LIFESPAN, MECHANICAL

20,000,000 Operations (DC operated)

### MOUNTING METHOD

DIN-rail/screw

### CONNECTION

Push in terminals

### OPERATING FREQUENCY

9000 Operations/h

### OVERVOLTAGE CATEGORY

III

### POLLUTION DEGREE

3

### PRODUCT CATEGORY

DILA relays

### PROTECTION

Finger and back-of-hand proof, Protection against direct contact when actuated from front (EN 50274)

### RATED IMPULSE WITHSTAND VOLTAGE (UIMP)

6000 V AC

### VOLTAGE TYPE

DC

## Climatic environmental conditions

<b>AMBIENT OPERATING TEMPERATURE - MIN</b>	-25 °C
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<b>AMBIENT OPERATING TEMPERATURE - MAX</b>	60 °C
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<b>AMBIENT OPERATING TEMPERATURE (ENCLOSED) - MIN</b>	25 °C
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<b>AMBIENT OPERATING TEMPERATURE (ENCLOSED) - MAX</b>	40 °C
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<b>AMBIENT STORAGE TEMPERATURE - MIN</b>	40 °C
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<b>AMBIENT STORAGE TEMPERATURE - MAX</b>	80 °C
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<b>CLIMATIC PROOFING</b>	Damp heat, cyclic, to IEC 60068-2-30 Damp heat, constant, to IEC 60068-2-78
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## Terminal capacities

<b>TERMINAL CAPACITY (FLEXIBLE WITH FERRULE)</b>	2 x (0.5 - 1.5) mm <sup>2</sup> 1 x (0.5 - 2.5) mm <sup>2</sup>
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<b>TERMINAL CAPACITY (SOLID)</b>	1 x (0.5 - 2.5) mm <sup>2</sup> 2 x (0.5 - 2.5) mm <sup>2</sup>
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<b>TERMINAL CAPACITY (SOLID/STRANDED AWG)</b>	20 - 14
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<b>STRIPPING LENGTH (MAIN CABLE)</b>	10 mm
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<b>SCREWDRIVER SIZE</b>	3.0 x 0.5 mm, Terminal screw
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## Electrical rating

<b>RATED OPERATIONAL CURRENT (IE)</b>	4 A at 60 V, DC L/R ≤ 50 ms (with 3 contacts in series)
	6 A at 60 V, DC L/R ≤ 15 ms (with 1 contact in series)
	2 A at 110 V, DC L/R ≤ 50 ms (with 3 contacts in series)
	1 A at 220 V, DC L/R ≤ 50 ms (with 3 contacts in series)
	10 A at 60 V, DC L/R ≤ 15 ms (with 2 contacts in series)
	5 A at 220 V, DC L/R ≤ 15 ms (with 3 contacts in series)
	4 A at 24 V, DC L/R ≤ 50 ms (with 3 contacts in series)
	10 A at 24 V, DC L/R ≤ 15 ms (with 1 contact in series)
	6 A at 110 V, DC L/R ≤ 15 ms (with 3 contacts in series)
	1 A at 220 V, DC L/R ≤ 15 ms (with 1 contact in series)
<b>RATED OPERATIONAL CURRENT (IE) AT AC-15, 220 V, 230 V, 240 V</b>	3 A at 110 V, DC L/R ≤ 15 ms (with 1 contact in series)
	16 A

<b>RATED OPERATIONAL CURRENT (IE) AT AC-15, 220 V, 230 V, 240 V</b>	4 A
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<b>RATED OPERATIONAL CURRENT (IE) AT AC-15, 380 V, 400 V, 415 V</b>	4 A
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<b>RATED OPERATIONAL CURRENT (IE) AT AC-15, 500 V</b>	1.5 A
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<b>RATED INSULATION VOLTAGE (UI)</b>	690 V
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<b>RATED OPERATIONAL VOLTAGE (UE) AT AC - MAX</b>	690 V
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<b>SHORT-CIRCUIT PROTECTION RATING WITHOUT WELDING</b>	10 A gG/gL, 500 V, Max. Fuse, Contacts
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<b>SAFE ISOLATION</b>	400 V AC, Between coil and auxiliary contacts, According to EN 61140 400 V AC, Between
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## Magnet system

<b>DUTY FACTOR</b>	100 %
<b>PICK-UP VOLTAGE</b>	0.7 - 1.3 V DC x Uc (at 24 V: without auxiliary contact module and at ambient air temperature + 40 °C) 0.8 - 1.1 V DC x Uc
<b>RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 50 HZ - MIN</b>	0 V
<b>RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 50 HZ - MAX</b>	0 V
<b>RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 60 HZ - MIN</b>	0 V
<b>RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 60 HZ - MAX</b>	0 V
<b>RATED CONTROL SUPPLY VOLTAGE (US) AT DC - MIN</b>	24 V
<b>RATED CONTROL SUPPLY VOLTAGE (US) AT DC - MAX</b>	24 V
<b>SWITCHING TIME (DC OPERATED, MAKE CONTACTS, CLOSING DELAY) - MAX</b>	31 ms
<b>SWITCHING TIME (DC OPERATED, MAKE CONTACTS, OPENING DELAY) - MAX</b>	12 ms
<b>VOLTAGE TOLERANCE</b>	Smoothed DC, three-phase bridge rectifiers or smoothed double-wave rectification

	auxiliary contacts, According to EN 61140
<b>SWITCHING CAPACITY (AUXILIARY CONTACTS, GENERAL USE)</b>	15 A, 600 V AC, (UL/CSA) 1 A, 250 V DC, (UL/CSA)
<b>SWITCHING CAPACITY (AUXILIARY CONTACTS, PILOT DUTY)</b>	A600, AC operated (UL/CSA) P300, DC operated (UL/CSA)

## Communication

<b>CONNECTION TO SMARTWIRE-DT</b>	Yes In conjunction with DIL- SWD SmartWire DT contactor module
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## Contacts

<b>CODE NUMBER</b>	31E
<b>CONTROL CIRCUIT RELIABILITY</b>	$\lambda < 5 \times 10^{-7}$ (1 failure at 2,000,000 operations for $U_e = 24$ V DC, $U_{min} = 17$ V, $I_{min} = 5.4$ mA) $\lambda < 5 \times 1/10^7$ (1 failure at 2,000,000 operations for $U_e = 24$ V DC, $U_{min} = 17$ V, $I_{min} = 5.4$ mA)
<b>NUMBER OF AUXILIARY CONTACTS (CHANGE- OVER CONTACTS)</b>	0
<b>NUMBER OF CONTACTS (NORMALLY CLOSED CONTACTS)</b>	1
<b>NUMBER OF CONTACTS (NORMALLY OPEN CONTACTS)</b>	3
<b>NUMBER OF AUXILIARY CONTACTS (NORMALLY CLOSED CONTACTS)</b>	1
<b>NUMBER OF AUXILIARY CONTACTS (NORMALLY OPEN CONTACTS)</b>	3

## Design verification

<b>EQUIPMENT HEAT DISSIPATION, CURRENT-DEPENDENT PVID</b>	0 W
<b>HEAT DISSIPATION CAPACITY PDISS</b>	0 W
<b>10.2.2 CORROSION RESISTANCE</b>	Meets the product standard's requirements.
<b>10.2.3.1 VERIFICATION OF THERMAL STABILITY OF ENCLOSURES</b>	Meets the product standard's requirements.
<b>10.2.3.2 VERIFICATION OF RESISTANCE OF INSULATING MATERIALS TO NORMAL HEAT</b>	Meets the product standard's requirements.
<b>10.2.3.3 RESIST. OF INSUL. MAT. TO ABNORMAL HEAT/FIRE BY INTERNAL ELECT. EFFECTS</b>	Meets the product standard's requirements.
<b>10.2.4 RESISTANCE TO ULTRA-VIOLET (UV) RADIATION</b>	Meets the product standard's requirements.
<b>10.2.5 LIFTING</b>	Does not apply, since the entire switchgear needs to be evaluated.
<b>10.2.6 MECHANICAL IMPACT</b>	Does not apply, since the entire switchgear needs to be evaluated.
<b>10.2.7 INSCRIPTIONS</b>	Meets the product standard's requirements.
<b>10.3 DEGREE OF PROTECTION OF ASSEMBLIES</b>	Does not apply, since the entire switchgear needs to be evaluated.
<b>10.4 CLEARANCES AND CREEPAGE DISTANCES</b>	Meets the product standard's requirements.
<b>10.5 PROTECTION AGAINST ELECTRIC SHOCK</b>	Does not apply, since the entire switchgear needs to be evaluated.
<b>10.6 INCORPORATION OF SWITCHING DEVICES AND COMPONENTS</b>	Does not apply, since the entire switchgear needs to be evaluated.
<b>10.7 INTERNAL ELECTRICAL CIRCUITS AND CONNECTIONS</b>	Is the panel builder's responsibility.
<b>10.8 CONNECTIONS FOR EXTERNAL CONDUCTORS</b>	Is the panel builder's responsibility.
<b>10.9.2 POWER-FREQUENCY ELECTRIC</b>	Is the panel builder's responsibility.

## Resources

<b>CATALOGUES</b>	<a href="#">Product Range Catalog</a> <a href="#">Switching and protecting motors</a> <a href="#">eaton-product-overview-for-machinery-catalogue-ca08103003zen-en-us.pdf</a>
<b>DECLARATIONS OF CONFORMITY</b>	<a href="#">DA-DC-00004811.pdf</a> <a href="#">DA-DC-00004789.pdf</a>
<b>DRAWINGS</b>	<a href="#">eaton-contactors-dimensions-007.eps</a>
<b>ECAD MODEL</b>	<a href="#">ETN.199213.edz</a>
<b>INSTALLATION VIDEOS</b>	<a href="#">WIN-WIN with push-in technology</a>
<b>MCAD MODEL</b>	<a href="#">dil_m7_15_pi.stp</a> <a href="#">dil_m7_15_pi.dwg</a>
<b>WIRING DIAGRAMS</b>	<a href="#">2100SWI-111</a>

<b>STRENGTH</b>	
<b>10.9.3 IMPULSE WITHSTAND VOLTAGE</b>	Is the panel builder's responsibility.
<b>10.9.4 TESTING OF ENCLOSURES MADE OF INSULATING MATERIAL</b>	Is the panel builder's responsibility.
<b>10.10 TEMPERATURE RISE</b>	The panel builder is responsible for the temperature rise calculation. Eaton will provide heat dissipation data for the devices.
<b>10.11 SHORT-CIRCUIT RATING</b>	Is the panel builder's responsibility. The specifications for the switchgear must be observed.
<b>10.12 ELECTROMAGNETIC COMPATIBILITY</b>	Is the panel builder's responsibility. The specifications for the switchgear must be observed.
<b>10.13 MECHANICAL FUNCTION</b>	The device meets the requirements, provided the information in the instruction leaflet (IL) is observed.

<b>PROJECT NAME:</b>
<b>PROJECT NUMBER:</b>
<b>PREPARED BY:</b>
<b>DATE:</b>



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