

# Specifications



Photo is representative



## Eaton 231850

Eaton Moeller® series DILER Contactor relay, 230 V 50/60 Hz, N/O = Normally open: 4 N/O, Spring-loaded terminals, AC operation

### General specifications

PRODUCT NAME	Eaton Moeller® series DILER Control relay
CATALOG NUMBER	231850
MODEL CODE	DILER-40-C(230V50/60HZ)
EAN	4015082318505
PRODUCT LENGTH/DEPTH	52 mm
PRODUCT HEIGHT	58 mm
PRODUCT WIDTH	45 mm
PRODUCT WEIGHT	0.17 kg
CERTIFICATIONS	CSA-C22.2 No. 14-05 UL Category Control No.: NKCR CSA Class No.: 3211-03 UL UL 508 IEC/EN 60947 CSA File No.: 012528 UL File No.: E29184 IEC/EN 60947-4-1 CSA CE EN 60947-5-1 VDE 0660
GLOBAL CATALOG	231850



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## Product specifications

<b>FEATURES</b>	Positive operating contacts to EN 60947-5-1 appendix L, including auxiliary contact module
<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>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.

## Resources

<b>CATALOGS</b>	<a href="#">eaton-product-overview-for-machinery-catalogue-ca08103003zen-en-us.pdf</a> <a href="#">Product Range Catalog Switching and protecting motors</a>
<b>CHARACTERISTIC CURVE</b>	<a href="#">eaton-contactors-diler-relay-characteristic-curve.eps</a>
<b>DECLARATIONS OF CONFORMITY</b>	<a href="#">DA-DC-00004748.pdf</a> <a href="#">DA-DC-00004763.pdf</a>
<b>DRAWINGS</b>	<a href="#">eaton-contactors-diler-dimensions-002.eps</a> <a href="#">eaton-contactors-diler-dimensions.eps</a> <a href="#">eaton-tripping-devices-mounting-diler-contactor-relay-symbol.eps</a>
<b>ECAD MODEL</b>	<a href="#">ETN.231850.edz</a>
<b>INSTALLATION INSTRUCTIONS</b>	<a href="#">IL03407009Z</a>
<b>MCAD MODEL</b>	<a href="#">DA-CD-dil_em_c</a> <a href="#">DA-CS-dil_em_c</a>
<b>SYSTEM OVERVIEW</b>	<a href="#">eaton-contactors-accessory-diler-relay-explosion-drawing.eps</a>
<b>WIRING DIAGRAMS</b>	<a href="#">eaton-contactors-contact-diler-relay-wiring-diagram.eps</a>

<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 STRENGTH</b>	Is the panel builder's responsibility.
<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>FITTED WITH:</b>	Interlocked opposing contacts
<b>OPERATING FREQUENCY</b>	9000 Operations/h
<b>POLLUTION DEGREE</b>	3
<b>CLIMATIC PROOFING</b>	Damp heat, cyclic, to IEC 60068-2-30 Damp heat, constant, to IEC 60068-2-78
<b>AMBIENT OPERATING TEMPERATURE - MAX</b>	50 °C
<b>AMBIENT OPERATING TEMPERATURE - MIN</b>	-25 °C
<b>AMBIENT OPERATING TEMPERATURE (ENCLOSED) - MAX</b>	40 °C
<b>AMBIENT OPERATING TEMPERATURE (ENCLOSED) - MIN</b>	-25 °C
<b>EQUIPMENT HEAT DISSIPATION, CURRENT-DEPENDENT PVID</b>	0 W
<b>HEAT DISSIPATION CAPACITY PDISS</b>	0 W
<b>HEAT DISSIPATION PER POLE, CURRENT-</b>	0.4 W

<b>DEPENDENT PVID</b>	
<b>NUMBER OF AUXILIARY CONTACTS (CHANGE-OVER CONTACTS)</b>	0
<b>NUMBER OF AUXILIARY CONTACTS (NORMALLY CLOSED CONTACTS)</b>	0
<b>NUMBER OF AUXILIARY CONTACTS (NORMALLY CLOSED CONTACTS, DELAYED SWITCHING)</b>	0
<b>NUMBER OF AUXILIARY CONTACTS (NORMALLY OPEN CONTACTS)</b>	4
<b>NUMBER OF AUXILIARY CONTACTS (NORMALLY OPEN CONTACTS, LEADING)</b>	0
<b>RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 50 HZ - MAX</b>	230 V
<b>RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 50 HZ - MIN</b>	230 V
<b>RATED IMPULSE WITHSTAND VOLTAGE (UIMP)</b>	6000 V AC
<b>APPLICATION</b>	Contactor relays
<b>PRODUCT CATEGORY</b>	DILER Mini-contactors
<b>PROTECTION</b>	Finger and back-of-hand proof, Protection against direct contact when actuated from front (EN 50274)
<b>CONVENTIONAL THERMAL CURRENT ITH AT 50°C (3-POLE, OPEN)</b>	10 A
<b>VOLTAGE TYPE OF OPERATING VOLTAGE</b>	AC/DC
<b>RATED SWITCH CURRENT</b>	10 A
<b>OPERATING VOLTAGE AT AC, 50 HZ - MIN</b>	17 V
<b>OPERATING VOLTAGE AT AC, 50 HZ - MAX</b>	500 V
<b>OPERATING VOLTAGE AT AC, 60 HZ - MIN</b>	17 V
<b>OPERATING VOLTAGE AT AC, 60 HZ - MAX</b>	500 V
<b>OPERATING VOLTAGE AT</b>	24 VDC

<b>DC - MIN</b>	
<b>OPERATING VOLTAGE AT DC - MAX</b>	220 VDC
<b>SCREWDRIVER SIZE</b>	0.6 x 3.5 mm, Spring-loaded terminals
<b>VOLTAGE TYPE</b>	AC
<b>CODE NUMBER</b>	40E
<b>DEGREE OF PROTECTION</b>	IP20
<b>MOUNTING POSITION</b>	As required (except vertical with terminals A1/A2 at the bottom)
<b>OVERVOLTAGE CATEGORY</b>	III
<b>CONTROL CIRCUIT RELIABILITY</b>	< 2 λ, < 1 failure at 100,000,000 Operations (at U <sub>e</sub> = 24 V DC, U <sub>min</sub> = 17 V, I <sub>min</sub> = 5.4 mA)
<b>CONNECTION TYPE (AUXILIARY CIRCUIT)</b>	Spring clamp connection
<b>DUTY FACTOR</b>	100 %
<b>LIFESPAN, MECHANICAL</b>	10,000,000 Operations (AC operated)
<b>MOUNTING METHOD</b>	DIN-rail/screw
<b>PICK-UP VOLTAGE</b>	0.85 - 1.1 V AC x U <sub>c</sub> (voltage tolerance - dual frequency coil 50/60 Hz) 0.8 - 1.1 V AC x U <sub>c</sub> (voltage tolerance - single-voltage coil 50 Hz and dual-voltage coil 50 Hz, 60 Hz)
<b>SAFE ISOLATION</b>	300 V AC, Between auxiliary contacts, According to EN 61140 300 V AC, Between coil and auxiliary contacts, According to EN 61140
	3.9 VA, Dual-frequency coil in a cold state and 1.0 x U <sub>s</sub>
<b>POWER CONSUMPTION, SEALING, 60 HZ</b>	1.8 W, Dual-frequency coil in a cold state and 1.0 x U <sub>s</sub>
	5.4 VA, Dual-frequency coil in a cold state and 1.0 x U <sub>s</sub>
<b>RATED OPERATIONAL CURRENT (IE)</b>	2.5 A at 60 V, DC L/R ≤ 15 ms (with 2 contacts in series) 1.5 A at 110 V, DC L/R ≤ 15 ms (with 3 contacts in series)

	2.5 A at 24 V, DC L/R ≤ 15 ms (with 1 contact in series) 0.5 A at 220 V, DC L/R ≤ 15 ms (with 3 contacts in series) 10 A
	1.8 W, Dual-frequency coil in a cold state and 1.0 x Us
<b>POWER CONSUMPTION, SEALING, 50 HZ</b>	5.4 VA, Dual-frequency coil in a cold state and 1.0 x Us  3.9 VA, Dual-frequency coil in a cold state and 1.0 x Us
<b>SWITCHING CAPACITY (AUXILIARY CONTACTS, GENERAL USE)</b>	10 A, 600 V AC, (UL/CSA) 0.5 A, 250 V DC, (UL/CSA)
<b>SWITCHING CAPACITY (AUXILIARY CONTACTS, PILOT DUTY)</b>	A600, AC operated (UL/CSA) P300, DC operated (UL/CSA)
<b>RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 60 HZ - MAX</b>	230 V
<b>RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 60 HZ - MIN</b>	230 V
<b>RATED CONTROL SUPPLY VOLTAGE (US) AT DC - MAX</b>	0 V
<b>RATED CONTROL SUPPLY VOLTAGE (US) AT DC - MIN</b>	0 V
<b>RATED INSULATION VOLTAGE (UI)</b>	690 V
<b>RATED OPERATIONAL CURRENT (IE) AT AC-15, 220 V, 230 V, 240 V</b>	6 A
<b>RATED OPERATIONAL CURRENT (IE) AT AC-15, 380 V, 400 V, 415 V</b>	3 A
<b>RATED OPERATIONAL CURRENT (IE) AT AC-15, 500 V</b>	1.5 A
<b>RATED OPERATIONAL CURRENT FOR SPECIFIED HEAT DISSIPATION (IN)</b>	6 A
<b>RATED OPERATIONAL VOLTAGE (UE) AT AC - MAX</b>	600 V

<b>STATIC HEAT DISSIPATION, NON-CURRENT-DEPENDENT PVS</b>	1.8 W
<b>STRIPPING LENGTH (MAIN CABLE)</b>	10 mm
<b>SWITCHING TIME (AC OPERATED, MAKE CONTACTS, CLOSING DELAY) - MAX</b>	21 ms
<b>SWITCHING TIME (AC OPERATED, MAKE CONTACTS, CLOSING DELAY) - MIN</b>	14 ms
<b>SWITCHING TIME (AC OPERATED, MAKE CONTACTS, OPENING DELAY) - MAX</b>	18 ms
<b>SWITCHING TIME (AC OPERATED, MAKE CONTACTS, OPENING DELAY) - MIN</b>	8 ms
<b>SWITCHING TIME (AC OPERATED, N/O, WITH AUXILIARY CONTACT MODULE, CLOSING DELAY)</b>	45 ms
<b>TERMINAL CAPACITY (FLEXIBLE WITH FERRULE)</b>	1 x (1 - 2.5) mm <sup>2</sup> 2 x (1 - 2.5) mm <sup>2</sup>
<b>SHOCK RESISTANCE</b>	8 g, N/C auxiliary contact, Basic unit with auxiliary contact module, Mechanical, according to IEC/EN 60068-2-27, Half-sinusoidal shock 10 ms 10 g, N/O auxiliary contact, Basic unit with auxiliary contact module, Mechanical, according to IEC/EN 60068-2-27, Half-sinusoidal shock 10 ms
<b>SHORT-CIRCUIT PROTECTION RATING</b>	10 A fast, 500V, Maximum fuse, Short-circuit rating without welding, Contacts
<b>TERMINAL CAPACITY (SOLID/STRANDED AWG)</b>	1 x (16 - 14) 2 x (16 - 14)
<b>SHORT-CIRCUIT PROTECTION RATING WITHOUT WELDING</b>	6 A gG/gL, 500 V, Max. Fuse, Contacts
<b>ACTUATING VOLTAGE</b>	230 V 50/60 Hz

PROJECT NAME:
PROJECT NUMBER:
PREPARED BY:
DATE:



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