Specifications

Photo is representative

Eaton 051770

Eaton Moeller® series DILER Contactor relay, 400 V 50 Hz, 440 V 60 Hz, N/O = Normally open: 3 N/O, N/C = Normally closed: 1 NC, Screw terminals, AC operation

General specifications

PRODUCT NAME	Eaton Moeller® series DILER Control relay
CATALOG NUMBER	051770
MODEL CODE	DILER-31(400V50HZ,440V60HZ)
EAN	4015080517702
PRODUCT LENGTH/DEPTH	52 mm
PRODUCT HEIGHT	58 mm
PRODUCT WIDTH	45 mm
PRODUCT WEIGHT	0.17 kg
CERTIFICATIONS	EN 60947-5-1 CSA-C22.2 No. 14-05 UL 508 CE CSA CSA File No.: 012528 UL File No.: E29184 VDE 0660 IEC/EN 60947-4-1 UL UL Category Control No.: NKCR CSA Class No.: 3211-03 IEC/EN 60947
GLOBAL CATALOG	051770

Powering Business Worldwide

Product specifications

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

Resources

CATALOGS	Product Range Catalog Switching and protecting motors eaton-product-overview-for-machinery-catalogue-ca08103003zen-en-us.pdf
CHARACTERISTIC CURVE	eaton-contactors-diler-relay-characteristic-curve.eps
DECLARATIONS OF CONFORMITY	DA-DC-00004763.pdf DA-DC-00004748.pdf
DRAWINGS	eaton-contactors-diler-dimensions-003.eps eaton-contactors-diler-dimensions-002.eps eaton-contactors-diler-dimensions.eps eaton-contactors-diler-dimensions-004.eps eaton-contactors-diler-dimensions-005.eps eaton-tripping-devices-mounting-diler-contactor-relay-symbol.eps
ECAD MODEL	ETN.051770.edz
INSTALLATION INSTRUCTIONS	IL03407009Z
MCAD MODEL	DA-CD-dil_em DA-CS-dil_em
SYSTEM OVERVIEW	eaton-contactors-accessory-diler-relay-system-overview.eps
WIRING DIAGRAMS	eaton-contactors-contact-diler-relay-wiring-diagram-002.eps

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

DEPENDENT PVID	
NUMBER OF AUXILIARY CONTACTS (CHANGE-OVER CONTACTS)	0
NUMBER OF AUXILIARY CONTACTS (NORMALLY CLOSED CONTACTS)	1
NUMBER OF AUXILIARY CONTACTS (NORMALLY CLOSED CONTACTS, DELAYED SWITCHING)	0
NUMBER OF AUXILIARY CONTACTS (NORMALLY OPEN CONTACTS)	3
NUMBER OF AUXILIARY CONTACTS (NORMALLY OPEN CONTACTS, LEADING)	0
RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 50 HZ - MAX	400 V
RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 50 HZ - MIN	400 V
RATED IMPULSE WITHSTAND VOLTAGE (UIMP)	6000 V AC
APPLICATION	Contactor relays
PRODUCT CATEGORY	DILER Mini-contactors
PROTECTION	Finger and back-of-hand proof, Protection against direct contact when actuated from front (EN 50274)
CONVENTIONAL THERMAL CURRENT ITH AT 50°C (3-POLE, OPEN)	10 A
VOLTAGE TYPE OF OPERATING VOLTAGE	AC/DC
RATED SWITCH CURRENT	10 A
OPERATING VOLTAGE AT AC, 50 HZ - MIN	17 V
OPERATING VOLTAGE AT AC, 50 HZ - MAX	500 V
OPERATING VOLTAGE AT AC, 60 HZ - MIN	17 V
OPERATING VOLTAGE AT AC, 60 HZ - MAX	500 V
OPERATING VOLTAGE AT	24 VDC

DC - MIN	
OPERATING VOLTAGE AT DC - MAX	220 VDC
SCREWDRIVER SIZE	2, Terminal screw, Pozidriv screwdriver 0.8 x 5.5/1 x 6 mm, Terminal screw, Standard screwdriver
VOLTAGE TYPE	AC
CODE NUMBER	31E
DEGREE OF PROTECTION	IP20
MOUNTING POSITION	As required (except vertical with terminals A1/A2 at the bottom)
OVERVOLTAGE CATEGORY	III
CONTROL CIRCUIT RELIABILITY	< 2 λ, < 1 failure at 100,000,000 Operations (at U_e = 24 V DC, Umin = 17 V, Imin = 5.4 mA)
CONNECTION TYPE (AUXILIARY CIRCUIT)	Screw connection
DUTY FACTOR	100 %
LIFESPAN, MECHANICAL	10,000,000 Operations (AC operated)
MOUNTING METHOD	DIN-rail/screw
PICK-UP VOLTAGE	0.8 - 1.1 V AC x Uc (voltage tolerance - single-voltage coil 50 Hz and dual-voltage coil 50 Hz, 60 Hz) 0.85 - 1.1 V AC x Uc (voltage tolerance - dual frequency coil 50/60 Hz)
POWER CONSUMPTION, PICK-UP, 50 HZ	25 VA, AC, Single-frequency coil 50 Hz and Dual-frequency coil 50/60 Hz
SAFE ISOLATION	300 V AC, Between coil and auxiliary contacts, According to EN 61140 300 V AC, Between auxiliary contacts, According to EN 61140
POWER CONSUMPTION, PICK-UP, 60 HZ	25 VA, AC, Single-frequency coil 50 Hz and Dual-frequency coil 50/60 Hz
SCREW SIZE	M3.5, Terminal screw
POWER CONSUMPTION,	1.3 W, AC, Single-

SEALING, 60 HZ	frequency coil 50 Hz and Dual-frequency coil 50/60 Hz
RATED OPERATIONAL CURRENT (IE)	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) 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) 10 A
POWER CONSUMPTION, SEALING, 50 HZ	1.3 W, AC, Single-frequency coil 50 Hz and Dual-frequency coil 50/60 Hz 4.6 VA, AC, Single-frequency coil 50 Hz and Dual-frequency coil 50/60 Hz
SWITCHING CAPACITY (AUXILIARY CONTACTS, GENERAL USE)	10 A, 600 V AC, (UL/CSA) 0.5 A, 250 V DC, (UL/CSA)
SWITCHING CAPACITY (AUXILIARY CONTACTS, PILOT DUTY)	P300, DC operated (UL/CSA) A600, AC operated (UL/CSA)
RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 60 HZ - MAX	440 V
RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 60 HZ - MIN	440 V
RATED CONTROL SUPPLY VOLTAGE (US) AT DC - MAX	0 V
RATED CONTROL SUPPLY VOLTAGE (US) AT DC - MIN	0 V
RATED INSULATION VOLTAGE (UI)	690 V
RATED OPERATIONAL CURRENT (IE) AT AC-15, 220 V, 230 V, 240 V	6 A
RATED OPERATIONAL CURRENT (IE) AT AC-15, 380 V, 400 V, 415 V	3 A
RATED OPERATIONAL	1.5 A

CURRENT (IE) AT AC-15, 500 V	
RATED OPERATIONAL CURRENT FOR SPECIFIED HEAT DISSIPATION (IN)	6 A
RATED OPERATIONAL VOLTAGE (UE) AT AC - MAX	600 V
STATIC HEAT DISSIPATION, NON-CURRENT-DEPENDENT PVS	1.8 W
STRIPPING LENGTH (MAIN CABLE)	8 mm
SWITCHING TIME (AC OPERATED, MAKE CONTACTS, CLOSING DELAY) - MAX	21 ms
SWITCHING TIME (AC OPERATED, MAKE CONTACTS, CLOSING DELAY) - MIN	14 ms
SWITCHING TIME (AC OPERATED, MAKE CONTACTS, OPENING DELAY) - MAX	18 ms
SWITCHING TIME (AC OPERATED, MAKE CONTACTS, OPENING DELAY) - MIN	8 ms
SWITCHING TIME (AC OPERATED, N/O, WITH AUXILIARY CONTACT MODULE, CLOSING DELAY)	45 ms
TERMINAL CAPACITY (FLEXIBLE WITH FERRULE)	2 x (0.75 - 1.5) mm^2 1 x (0.75 - 1.5) mm^2
SHOCK RESISTANCE	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 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
SHORT-CIRCUIT PROTECTION RATING	10 A fast, 500V, Maximum fuse, Short-circuit rating

	without welding, Contacts
TERMINAL CAPACITY (SOLID/STRANDED AWG)	1 x (18 - 14) 18 - 14 2 x (18 - 14)
SHORT-CIRCUIT PROTECTION RATING WITHOUT WELDING	6 A gG/gL, 500 V, Max. Fuse, Contacts
TERMINAL CAPACITY (SOLID)	2 x (0.75 - 2.5) mm^2 1 x (0.75 - 2.5) mm^2
TIGHTENING TORQUE	1.2 Nm, Screw terminals
ACTUATING VOLTAGE	400 V 50 Hz, 440 V 60 Hz

PROJECT NAME:	
PROJECT NUMBER:	
PREPARED BY:	
DATE:	

Eaton Corporation plc
Eaton House
30 Pembroke Road
Dublin 4, Ireland
Eaton.com

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