

# Specifications



Photo is representative



## Eaton 051776

Eaton Moeller® series DILER Contactor relay, 220 V 50 Hz, 240 V 60 Hz, N/O = Normally open: 2 N/O, N/C = Normally closed: 2 NC, Screw terminals, AC operation

### General specifications

<b>PRODUCT NAME</b>	Eaton Moeller® series DILER Control relay
<b>CATALOG NUMBER</b>	051776
<b>MODEL CODE</b>	DILER-22(220V50HZ,240V60HZ)
<b>EAN</b>	4015080517764
<b>PRODUCT LENGTH/DEPTH</b>	52 mm
<b>PRODUCT HEIGHT</b>	58 mm
<b>PRODUCT WIDTH</b>	45 mm
<b>PRODUCT WEIGHT</b>	0.17 kg
<b>CERTIFICATIONS</b>	CSA File No.: 012528 CSA-C22.2 No. 14-05 UL File No.: E29184 IEC/EN 60947-4-1 UL UL Category Control No.: NKCR VDE 0660 CE EN 60947-5-1 IEC/EN 60947 CSA CSA Class No.: 3211-03 UL 508
<b>GLOBAL CATALOG</b>	051776

## 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.
<b>10.3 DEGREE OF PROTECTION OF</b>	Does not apply, since the entire switchgear needs to

## Resources

<b>CATALOGS</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>CHARACTERISTIC CURVE</b>	<a href="#">eaton-contactors-diler-relay-characteristic-curve.eps</a>
<b>DECLARATIONS OF CONFORMITY</b>	<a href="#">eaton-control-relay-declaration-of-conformity-eu250760en.pdf</a> <a href="#">eaton-control-relay-declaration-of-conformity-uk251243en.pdf</a>
<b>DRAWINGS</b>	<a href="#">eaton-contactors-diler-dimensions-004.eps</a> <a href="#">eaton-contactors-diler-dimensions-003.eps</a> <a href="#">eaton-contactors-diler-dimensions-002.eps</a> <a href="#">eaton-contactors-diler-dimensions-005.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.051776.edz</a>
<b>INSTALLATION INSTRUCTIONS</b>	<a href="#">IL03407009Z</a>
<b>MCAD MODEL</b>	<a href="#">DA-CD-dil.em</a> <a href="#">DA-CS-dil.em</a>
<b>SYSTEM OVERVIEW</b>	<a href="#">eaton-contactors-accessory-diler-relay-system-overview.eps</a>
<b>WIRING DIAGRAMS</b>	<a href="#">eaton-contactors-contact-diler-relay-wiring-diagram-003.eps</a>

<b>ASSEMBLIES</b>	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, constant, to IEC 60068-2-78 Damp heat, cyclic, to IEC 60068-2-30
<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-DEPENDENT PVID</b>	0.4 W
<b>NUMBER OF AUXILIARY CONTACTS (CHANGE-OVER CONTACTS)</b>	0

<b>NUMBER OF AUXILIARY CONTACTS (NORMALLY CLOSED CONTACTS)</b>	2
<b>NUMBER OF AUXILIARY CONTACTS (NORMALLY CLOSED CONTACTS, DELAYED SWITCHING)</b>	0
<b>NUMBER OF AUXILIARY CONTACTS (NORMALLY OPEN CONTACTS)</b>	2
<b>NUMBER OF AUXILIARY CONTACTS (NORMALLY OPEN CONTACTS, LEADING)</b>	0
<b>RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 50 HZ - MAX</b>	220 V
<b>RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 50 HZ - MIN</b>	220 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 DC - MIN</b>	24 VDC
<b>OPERATING VOLTAGE AT DC - MAX</b>	220 VDC
<b>SCREWDRIVER SIZE</b>	0.8 x 5.5/1 x 6 mm, Terminal screw, Standard screwdriver 2, Terminal screw, Pozidriv

	screwdriver
<b>VOLTAGE TYPE</b>	AC
<b>CODE NUMBER</b>	22E
<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>	< $2\lambda$ , < 1 failure at 100,000,000 Operations (at $U_e = 24$ V DC, $U_{min} = 17$ V, $I_{min} = 5.4$ mA)
<b>CONNECTION TYPE (AUXILIARY CIRCUIT)</b>	Screw 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>	0.8 - 1.1 V AC x $U_c$ (voltage tolerance - single-voltage coil 50 Hz and dual-voltage coil 50 Hz, 60 Hz) 0.85 - 1.1 V AC x $U_c$ (voltage tolerance - dual frequency coil 50/60 Hz)
<b>POWER CONSUMPTION, PICK-UP, 50 Hz</b>	25 VA, AC, Single-frequency coil 50 Hz and Dual-frequency coil 50/60 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
<b>POWER CONSUMPTION, PICK-UP, 60 Hz</b>	25 VA, AC, Single-frequency coil 50 Hz and Dual-frequency coil 50/60 Hz
<b>SCREW SIZE</b>	M3.5, Terminal screw
<b>POWER CONSUMPTION, SEALING, 60 Hz</b>	1.3 W, AC, Single-frequency coil 50 Hz and Dual-frequency coil 50/60 Hz
<b>RATED OPERATIONAL CURRENT (IE)</b>	2.5 A at 60 V, DC $L/R \leq 15$ ms (with 2 contacts in series) 1.5 A at 110 V, DC $L/R \leq 15$ ms (with 3 contacts in series) 2.5 A at 24 V, DC $L/R \leq 15$ ms (with 1 contact in

series)	
0.5 A at 220 V, DC L/R $\leq$ 15 ms (with 3 contacts in series)	
10 A	
<b>POWER CONSUMPTION, SEALING, 50 HZ</b>	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
<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>	240 V
<b>RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 60 HZ - MIN</b>	240 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</b>	8 mm

<b>(MAIN CABLE)</b>	
<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 (0.75 - 1.5) mm <sup>2</sup> 2 x (0.75 - 1.5) 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>	2 x (18 - 14) 1 x (18 - 14) 18 - 14
<b>SHORT-CIRCUIT PROTECTION RATING WITHOUT WELDING</b>	6 A gG/gL, 500 V, Max. Fuse, Contacts
<b>TERMINAL CAPACITY (SOLID)</b>	1 x (0.75 - 2.5) mm <sup>2</sup> 2 x (0.75 - 2.5) mm <sup>2</sup>
<b>ACTUATING VOLTAGE</b>	220 V 50 Hz, 240 V 60 Hz

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**PROJECT NAME:**

**PROJECT NUMBER:**

**PREPARED BY:**

**DATE:**

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**Eaton Corporation plc**

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

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