



Contactor relay, 415 V 50 Hz, 480 V 60 Hz, N/O = Normally open: 2 N/O, N/C  
= Normally closed: 2 NC, Screw terminals, AC operation



Part no. **DILER-22(415V50HZ,480V60HZ)**  
**051780**

General specifications

Product name	Eaton Moeller® series DILER Control relay
Part no.	DILER-22(415V50HZ,480V60HZ)
EAN	4015080517801
Product Length/Depth	52 millimetre
Product height	58 millimetre
Product width	45 millimetre
Product weight	0.17 kilogram
Certifications	IEC/EN 60947 IEC/EN 60947-4-1 UL Category Control No.: NKCR CE VDE 0660 UL 508 UL CSA File No.: 012528 EN 60947-5-1 CSA Class No.: 3211-03 UL File No.: E29184 CSA-C22.2 No. 14-05 CSA
Product Tradename	DILER
Product Type	Control relay
Product Sub Type	None
Catalog Notes	Coil terminal markings according to EN 50005 Contact numbers according to EN 50011 Rated operational current: Switch-on and switch-off conditions based on DC-13, time constant as specified.

Features & Functions

Features	Positive operating contacts to EN 60947-5-1 appendix L, including auxiliary contact module
Fitted with:	Interlocked opposing contacts

General information

Application	Contactor relays
Degree of protection	IP20
Lifespan, mechanical	10,000,000 Operations (AC operated)
Mounting method	DIN-rail/screw
Mounting position	As required (except vertical with terminals A1/A2 at the bottom)
Operating frequency	9000 Operations/h
Overvoltage category	III
Pollution degree	3
Product category	DILER Mini-contactors
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
Shock resistance	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
Voltage type	AC

Climatic environmental conditions

Ambient operating temperature - min	-25 °C
Ambient operating temperature - max	50 °C
Ambient operating temperature (enclosed) - min	25 °C
Ambient operating temperature (enclosed) - max	40 °C
Climatic proofing	Damp heat, cyclic, to IEC 60068-2-30

			Damp heat, constant, to IEC 60068-2-78
<b>Terminal capacities</b>			
Terminal capacity (flexible with ferrule)			2 x (0.75 - 1.5) mm <sup>2</sup> 1 x (0.75 - 1.5) mm <sup>2</sup>
Terminal capacity (solid)			2 x (0.75 - 2.5) mm <sup>2</sup> 1 x (0.75 - 2.5) mm <sup>2</sup>
Terminal capacity (solid/stranded AWG)			2 x (18 - 14) 18 - 14 1 x (18 - 14)
Stripping length (main cable)			8 mm
Screw size			M3.5, Terminal screw
Screwdriver size			0.8 x 5.5/1 x 6 mm, Terminal screw, Standard screwdriver 2, Terminal screw, Pozidriv screwdriver
Tightening torque			1.2 Nm, Screw terminals
<b>Electrical rating</b>			
Rated operational voltage (Ue) at AC - max			600 V
Rated insulation voltage (Ui)			690 V
Rated operational current (Ie)			2.5 A at 60 V, DC L/R ≤ 15 ms (with 2 contacts in series) 2.5 A at 24 V, DC L/R ≤ 15 ms (with 1 contact in series) 1.5 A at 110 V, DC L/R ≤ 15 ms (with 3 contacts in series) 0.5 A at 220 V, DC L/R ≤ 15 ms (with 3 contacts in series) 10 A
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 current (Ie) at AC-15, 500 V			1.5 A
Safe isolation			300 V AC, Between coil and auxiliary contacts, According to EN 61140 300 V AC, Between auxiliary contacts, According to EN 61140
<b>Short-circuit rating</b>			
Short-circuit protection rating			10 A fast, 500V, Maximum fuse, Short-circuit rating without welding, Contacts
Short-circuit protection rating without welding			6 A gG/gL, 500 V, Max. Fuse, Contacts
<b>Switching capacity</b>			
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)
<b>Magnet system</b>			
Duty factor			100 %
Pick-up voltage			0.85 - 1.1 V AC x Uc (voltage tolerance - dual frequency coil 50/60 Hz) 0.8 - 1.1 V AC x Uc (voltage tolerance - single-voltage coil 50 Hz and dual-voltage coil 50 Hz, 60 Hz)
Power consumption, pick-up, 50 Hz			25 VA, AC, Single-frequency coil 50 Hz and Dual-frequency coil 50/60 Hz
Power consumption, pick-up, 60 Hz			25 VA, AC, Single-frequency coil 50 Hz and Dual-frequency coil 50/60 Hz
Power consumption, sealing, 50 Hz			4.6 VA, AC, Single-frequency coil 50 Hz and Dual-frequency coil 50/60 Hz 1.3 W, AC, Single-frequency coil 50 Hz and Dual-frequency coil 50/60 Hz
Power consumption, sealing, 60 Hz			1.3 W, AC, Single-frequency coil 50 Hz and Dual-frequency coil 50/60 Hz
Rated control supply voltage (Us) at AC, 50 Hz - min			415 V
Rated control supply voltage (Us) at AC, 50 Hz - max			415 V
Rated control supply voltage (Us) at AC, 60 Hz - min			480 V
Rated control supply voltage (Us) at AC, 60 Hz - max			480 V
Rated control supply voltage (Us) at DC - min			0 V
Rated control supply voltage (Us) at DC - max			0 V
Switching time (AC operated, make contacts, closing delay) - min			14 ms
Switching time (AC operated, make contacts, closing delay) - max			21 ms
Switching time (AC operated, make contacts, opening delay) - min			8 ms
Switching time (AC operated, make contacts, opening delay) - max			18 ms
Switching time (AC operated, N/O, with auxiliary contact module, closing delay)			45 ms
<b>Contacts</b>			
Code number			22E
Control circuit reliability			< 2 λ, < 1 failure at 100,000,000 Operations (at U# = 24 V DC, Umin = 17 V, Imin = 5.4 mA)

Number of auxiliary contacts (change-over contacts)		0
Number of auxiliary contacts (normally closed contacts)		2
Number of auxiliary contacts (normally open contacts)		2
<b>Design verification</b>		
Equipment heat dissipation, current-dependent P <sub>vid</sub>		0 W
Heat dissipation capacity P <sub>diss</sub>		0 W
Heat dissipation per pole, current-dependent P <sub>vid</sub>		0.4 W
Rated operational current for specified heat dissipation (I <sub>n</sub> )		6 A
Static heat dissipation, non-current-dependent P <sub>vs</sub>		1.8 W
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 9.0

Low-voltage industrial components (EG000017) / Contactor relay (EC000196)		
Electric engineering, automation, process control engineering / Low-voltage switch technology / Contactor (LV) / Contactor relay (ecl@ss13-27-37-10-01 [AAB716019])		
Rated control supply voltage AC 50 Hz	V	415 - 415
Rated control supply voltage AC 60 Hz	V	480 - 480
Rated control supply voltage DC	V	0 - 0
Voltage type for actuating		AC
Rated operation current	A	10
Rated operation current I <sub>e</sub> , 400 V	A	3
Mounting method		DIN-rail/screw
With LED indication		No
Suitable for manual operation		No
Interface		No
Number of auxiliary contacts as normally closed contact		2
Number of auxiliary contacts as normally open contact		2
Number of auxiliary contacts as normally closed contact, delayed switching		0
Number of auxiliary contacts as normally open contact, leading		0
Number of auxiliary contacts as change-over contact		0
Operating voltage AC 50 Hz	V	17 - 500
Operating voltage AC 60 Hz	V	17 - 500
Operating voltage DC	V	24 - 220
Voltage type (operating voltage)		AC/DC

Rated switch current		A	10
Connection type auxiliary circuit			Screw connection
Width		mm	45
Height		mm	58
Depth		mm	52