

Contactor relay, 115V 60 Hz, N/O = Normally open: 3 N/O, N/C = Normally closed: 1 NC, Spring-loaded terminals, AC operation



Part no. DILER-31-C(115V60HZ)
Catalog No. 231816
Alternate Catalog No. XTRMC10A31CX

Delivery program

Product range			DILER Mini-contactors
Application			Contactor relays
Description			with interlocked opposing contacts
Connection technique			Spring-loaded terminals
Rated operational current			
Conventional free air thermal current, 1 pole			
Open			
at 50 °C	$I_{th} = I_e$	A	10
AC-15			
220 V 230 V 240 V	I_e	A	6
380 V 400 V 415 V	I_e	A	3
Contacts			
N/O = Normally open			3 N/O
N/C = Normally closed			1 NC
Code number and version of combination			
Distinctive number			31E
For use with			...DILE-C
Actuating voltage			115V 60 Hz
Voltage AC/DC			AC operation
Instructions			Contact numbers to EN 50011 Coil terminal markings to EN 50005

Technical data

General			
Standards			IEC/EN 60947, EN 60947-5-1, VDE 0660, UL, CSA
Lifespan, mechanical			
AC operated	Operations	$\times 10^6$	10
Maximum operating frequency	Operations/h		9000
Climatic proofing			
Damp heat, constant, to IEC 60068-2-78 Damp heat, cyclic, to IEC 60068-2-30			
Ambient temperature			
Open		°C	-25 - +50
Enclosed		°C	- 25 - 40
Mounting position			
Mounting position			As required, except vertical with terminals A1/A2 at the bottom
Mechanical shock resistance (IEC/EN 60068-2-27)			
Half-sinusoidal shock, 10 ms			
Basic unit with auxiliary contact module		g	
N/O contact		g	10
N/C contact		g	8
Degree of Protection			
Protection against direct contact when actuated from front (EN 50274)			Finger and back-of-hand proof
Altitude		m	Max. 2000
Weight			
AC operated		kg	0.17

Terminal capacities		mm ²	
Spring-loaded terminals			
Flexible with or without ferrule DIN 46228		mm ²	1 x (1 - 2.5) 2 x (1 - 2.5)
Solid or stranded		AWG	1 x (16 - 14) 2 x (16 - 14)
Stripping length		mm	10
Standard screwdriver		mm	0.6 x 3.5

Contacts

Interlocked opposing contacts to ZH 1/457, including auxiliary contact module			Yes
Rated impulse withstand voltage	U_{imp}	V AC	6000
Overtoltage category/pollution degree			III/3
Rated insulation voltage	U_i	V AC	690
Rated operational voltage	U_e	V AC	600
Safe isolation to EN 61140			
between coil and auxiliary contacts		V AC	300
between the auxiliary contacts		V AC	300
Rated operational current		A	
Conventional free air thermal current, 1 pole			
Open			
at 50 °C	$I_{th} = I_e$	A	10
AC-15			
220 V 230 V 240 V	I_e	A	6
380 V 400 V 415 V	I_e	A	3
500 V	I_e	A	1.5
DC current			
Notes			Switch-on and switch-off conditions based on DC-13, time constant as specified.
DC L/R \leq 15 ms			
Contacts in series:		A	
1	24 V	A	2.5
2	60 V	A	2.5
3	110 V	A	1.5
3	220 V	A	0.5
Control circuit reliability	Failure rate	λ	$<10^{-8}$, < one failure at 100 million operations (at $U_e = 24$ V DC, $U_{min} = 17$ V, $I_{min} = 5.4$ mA)
Short-circuit rating without welding			
Maximum overcurrent protective device			
220 V 230 V 240 V		PKZM0	4
380 V 400 V 415 V		PKZM0	4
Short-circuit protection maximum fuse			
500 V		A gG/gL	6
500 V		A fast	10
Current heat loss at I_{th}			
AC operated		W	1.1
Magnet systems			
Voltage tolerance			
AC operated			
Single-voltage coil 50 Hz and dual-voltage coil 50 Hz, 60 Hz	Pick-up	$x U_c$	0.8 - 1.1
Dual-frequency coil 50/60 Hz	Pick-up	$x U_c$	0.85 - 1.1
Power consumption			
AC operation			
Single-voltage coil 60 Hz	Pick-up	VA	25
Single-voltage coil 60 Hz	Sealing	VA	4.6
Single-voltage coil 60 Hz	Sealing	W	1.8
duty factor		% DF	100
Changeover time at 100 % U_S (recommended value)			

AC operated closing delay	ms	14 - 21
AC operated N/O contact opening delay	ms	8 - 18
AC operated With auxiliary contact module Max. closing delay	ms	45

Rating data for approved types

Auxiliary contacts		
Pilot Duty		
AC operated		A600
DC operated		P300
General Use		
AC	V	600
AC	A	10
DC	V	250
DC	A	0.5

Design verification as per IEC/EN 61439

Technical data for design verification			
Rated operational current for specified heat dissipation	I_n	A	6
Heat dissipation per pole, current-dependent	P_{vid}	W	0.4
Equipment heat dissipation, current-dependent	P_{vid}	W	0
Static heat dissipation, non-current-dependent	P_{vs}	W	1.8
Heat dissipation capacity	P_{diss}	W	0
Operating ambient temperature min.		°C	-25
Operating ambient temperature max.		°C	50
IEC/EN 61439 design verification			
10.2 Strength of materials and parts			
10.2.2 Corrosion resistance			
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 Verification of resistance of insulating materials to abnormal heat and fire due to internal electric effects			Meets the product standard's requirements.
10.2.4 Resistance to ultra-violet (UV) radiation			
10.2.5 Lifting			Does not apply, since the entire switchgear needs to be evaluated.
10.2.6 Mechanical impact			
10.2.7 Inscriptions			Meets the product standard's requirements.
10.3 Degree of protection of ASSEMBLIES			
10.4 Clearances and creepage distances			
10.5 Protection against electric shock			
10.6 Incorporation of switching devices and components			
10.7 Internal electrical circuits and connections			
10.8 Connections for external conductors			
10.9 Insulation properties			
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			
10.11 Short-circuit rating			
10.12 Electromagnetic compatibility			
10.13 Mechanical function			

Technical data ETIM 7.0

Low-voltage industrial components (EG000017) / Contactor relay (EC000196)		
Electric engineering, automation, process control engineering / Low-voltage switch technology / Contactor (LV) / Contactor relay (ec @ss10.0.1-27-37-10-01 [AAB716014])		
Rated control supply voltage U_s at AC 50HZ	V	0 - 0

Rated control supply voltage Us at AC 60HZ	V	115 - 115
Rated control supply voltage Us at DC	V	0 - 0
Voltage type for actuating		AC
Rated operation current Ie, 400 V	A	3
Connection type auxiliary circuit		Spring clamp connection
Mounting method		DIN-rail/screw
Interface		No
Number of auxiliary contacts as normally closed contact		1
Number of auxiliary contacts as normally open contact		3
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
With LED indication		No
Manual operation		No