



Contactor relay, 600 V 60 Hz, N/O = Normally open: 3 N/O, N/C = Normally closed: 1 NC, Screw terminals, AC operation



Part no. DILA-31(600V60HZ)
Catalog No. 276359
Alternate Catalog No. XTRE10B31K6

Similar to illustration

Delivery program

Product range			DILA relays
Application			Contactor relays
Description			Basic devices with positive operation contacts
Connection technique			Screw terminals
Rated operational current			
AC-15			
220 V 230 V 240 V	I_e	A	4
380 V 400 V 415 V	I_e	A	4
Contacts			
N/O = Normally open			3 N/O
N/C = Normally closed			1 NC
Contact sequence			
Code number and version of combination			
Distinctive number			31E
Can be combined with auxiliary contact module			DILA-XHI(V)...
Actuating voltage			600 V 60 Hz
Voltage AC/DC			AC operation
Connection to SmartWire-DT			no
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	$\times 10^6$	20
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 - +60
Enclosed		°C	- 25 - 40
Ambient temperature, storage		°C	- 40 - 80
Mounting position			
Mounting position			
Mechanical shock resistance (IEC/EN 60068-2-27)			
Half-sinusoidal shock, 10 ms			

Basic unit with auxiliary contact module	g	
N/O contact	g	7
N/C contact	g	5
Degree of Protection		IP20
Protection against direct contact when actuated from front (EN 50274)		Finger and back-of-hand proof
Altitude	m	Max. 2000
Weight		
AC operated	kg	0.24
Terminal capacities	mm ²	
Screw terminals		
Solid	mm ²	1 x (0,75 - 4) 2 x (0,75 - 2,5)
Flexible with ferrule	mm ²	1 x (0,75 - 2,5) 2 x (0,75 - 2,5)
Solid or stranded	AWG	18 - 14
Stripping length	mm	10
Terminal screw		M3.5
Pozidriv screwdriver	Size	2
Standard screwdriver	mm	0.8 x 5.5 1 x 6
Max. tightening torque	Nm	1.2

Contacts

Positive operating contacts to ZH 1/457, including auxiliary contact module			Yes
Rated impulse withstand voltage	U_{imp}	V AC	6000
Overvoltage category/pollution degree			III/3
Rated insulation voltage	U_i	V AC	690
Rated operational voltage	U_e	V AC	690
Safe isolation to EN 61140			
between coil and auxiliary contacts		V AC	400
between the auxiliary contacts		V AC	400
Rated operational current		A	
Conventional free air thermal current, 1 pole			
Open			
at 60 °C	$I_{th} = I_e$	A	16
AC-15			
220 V 230 V 240 V	I_e	A	4
380 V 400 V 415 V	I_e	A	4
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	10
1	60 V	A	6
2	60 V	A	10
1	110 V	A	3
3	110 V	A	6
1	220 V	A	1
3	220 V	A	5
DC L/R \leq 50 ms			
Contacts in series:		A	
3	24 V	A	4
3	60 V	A	4
3	110 V	A	2
3	220 V	A	1
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		10
Current heat loss at I_{th}				
AC operated		W		0.53

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
Power consumption				
AC operation				
Single-voltage coil 60 Hz	Pick-up	VA		30
Single-voltage coil 60 Hz	Sealing	VA		4.4
Single-voltage coil 60 Hz	Sealing	W		1.4
duty factor		% DF		100
Changeover time at 100 % U_S (recommended value)				
AC operated closing delay		ms		15 - 21
AC operated N/O contact opening delay		ms		9 - 18

Design verification as per IEC/EN 61439

Technical data for design verification				
Rated operational current for specified heat dissipation	I_n	A		15.5
Heat dissipation per pole, current-dependent	P_{vid}	W		0.5
Equipment heat dissipation, current-dependent	P_{vid}	W		0
Static heat dissipation, non-current-dependent	P_{vs}	W		1.4
Heat dissipation capacity	P_{diss}	W		0
Operating ambient temperature min.		°C		-25
Operating ambient temperature max.		°C		60
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				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 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				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 7.0

Low-voltage industrial components (EG000017) / Contactor relay (EC000196)		
Electric engineering, automation, process control engineering / Low-voltage switch technology / Contactor (LV) / Contactor relay (ecl@ss10.0.1-27-37-10-01 [AAB716014])		
Rated control supply voltage Us at AC 50HZ	V	0 - 0
Rated control supply voltage Us at AC 60HZ	V	600 - 600
Rated control supply voltage Us at DC	V	0 - 0
Voltage type for actuating		AC
Rated operation current Ie, 400 V	A	4
Connection type auxiliary circuit		Screw connection
Mounting method		DIN-rail/screw
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
With LED indication		No
Number of auxiliary contacts as change-over contact		0
Manual operation possible		No



- 1: Suppressor
- 2: Auxiliary contact module



Component lifespan (operations)
 I_e = rated operational current



Component lifespan (operations)
 I_e = rated operational current
 Three contacts in series

Dimensions





Assets (links)

[Declaration of CE Conformity](#)

00002875

[Instruction Leaflets](#)

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Additional product information (links)

IL03407013Z (AWA2100-2126) Contactors

IL03407013Z (AWA2100-2126) Contactors ftp://ftp.moeller.net/DOCUMENTATION/AWA_INSTRUCTIONS/IL03407013Z2020_05.pdf