



Contactor relay, 24 V DC, 3 N/O, 1 NC, Push in terminals, DC operation

Part no. DILA-31(24VDC)-PI
 Catalog No. 199213
 Alternate Catalog No. XTREPI10B31TD



Delivery program

Product range			DILA relays
Application			Contactor relays
Description			Basic devices with positive operation contacts
Connection technique			Push in 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			
Instructions			
Contact numbers to EN 50011 Coil terminal markings to EN 50005 built-in suppressor circuit' Integrated varistor suppressor circuit.			
Code number and version of combination			
Distinctive number			31E
Can be combined with auxiliary contact module			DILA-XHI(V)...-PI
Actuating voltage			24 V DC
Voltage AC/DC			DC operation
Suppressor circuit			built-in
Connection to SmartWire-DT			yes in conjunction with DIL-SWD SmartWire DT contactor module
Instructions			
Contact numbers to EN 50011 Coil terminal markings to EN 50005 built-in suppressor circuit' Integrated varistor suppressor circuit.			

Technical data

General

Standards			IEC/EN 60947, EN 60947-5-1, VDE 0660, UL, CSA
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			
DC operated	kg	0.29	
Terminal capacities	mm ²		
Push-in terminals			
Solid	mm ²	1 x (0,5 - 2,5) 2 x (0,5 - 2,5)	
flexible	mm ²	1 x (0,5 - 2,5) 2 x (0,5 - 2,5)	
flexible with ferrules	mm ²	1 x (0,5 - 1,5) 2 x (0,5 - 1,5)	
flexible with ultrasonic welded busbar end	mm ²	1 x (0,5 - 2,5) 2 x (0,5 - 2,5)	
flexible with uninsulated wire end ferrule	mm ²	1 x (0,5 - 2,5) 2 x (0,5 - 2,5)	
Solid or stranded	AWG	20 - 14	
Stripping length	mm	10	
Standard screwdriver		3.0 x 0.5	

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 ≤ 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 ≤ 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 $U_e = 24\text{ V DC}$, $U_{min} = 17\text{ V}$, $I_{min} = 5.4\text{ mA}$)
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}			
DC operated		W	0.85

Magnet systems

Voltage tolerance			
DC operated			
Notes			Smoothed DC, three-phase bridge rectifiers or smoothed double-wave rectification
Pick-up voltage			0.8 - 1.1
at 24 V: without auxiliary contact component (40 °C)	Pick-up	x U_c	0.7 - 1.3
Power consumption			
DC operation			
DC operated	Pull-in = sealing	W	3
duty factor		% DF	100
Changeover time at 100 % U_S (recommended value)			
DC operated closing delay		ms	
Switching times, DC operated, max. closing delay		ms	31
DC operated N/O contact opening delay		ms	
Switching times, DC actuated make contact Opening delay, max.		ms	12

Rating data for approved types

Auxiliary contacts			
Pilot Duty			
AC operated			A600
DC operated			P300
General Use			
AC		V	600
AC		A	15
DC		V	250
DC		A	1

Design verification as per IEC/EN 61439

Technical data for design verification			
Operating ambient temperature min.		°C	-25
Operating ambient temperature max.		°C	60

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 U_s at AC 50HZ		V	0 - 0
Rated control supply voltage U_s at AC 60HZ		V	0 - 0
Rated control supply voltage U_s at DC		V	24 - 24
Voltage type for actuating			DC
Rated operation current I_e , 400 V		A	4
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
With LED indication		No
Number of auxiliary contacts as change-over contact		0
Manual operation possible		No

Approvals

Product Standards		IEC/EN 60947-4-1; UL 508; CSA-C22.2 No. 14-05; CE marking
UL File No.		E29184
UL Category Control No.		NKCR
CSA File No.		012528
CSA Class No.		3211-03
North America Certification		UL listed, CSA certified
Specially designed for North America		No

Dimensions

