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 XTREPI10B31TD

No



Delivery program

- control programs			
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	l _e	Α	4
380 V 400 V 415 V	l _e	Α	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)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

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Standards			IEC/EN 60947, EN 60947-5-1, VDE 0660, UL, CSA
Lifespan, mechanical			
DC operated	Operations	x 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

Durise of Protections operand inconcents whose actuated from troot (PA 5074) Fings and hack of hand groed Finds and ha	N/C contact			5
Perturban spinnt direct contact when activated from first 1940/2014 Image: 100 contact when activated busher read Image: 100 contact when activated busher read on the activated busher read			g	
March Marc				
Veyent Command 4 year 20-29 Femiliand capacities mm² 1 x 16.5 - 25.9 Bushin terminals 2 x 16.5 - 25.9 2 x 16.5 - 25.9 Besidate y x 16.5 - 25.9 2 x 16.5 - 25.9 Besidate with introduce y x 16.5 - 25.9 2 x 16.5 - 25.9 Besidate with introduce with and therefore y x 16.5 - 25.9 2 x 16.5 - 25.9 Besidate with introduce with and therefore y x 16.5 - 25.9 2 x 16.5 - 25.9 Besidate with introduce with and therefore y x 16.5 - 25.9 2 x 16.5 - 25.9 Besidate with introduce with and therefore y x 16.5 - 25.9 2 x 16.5 - 25.9 Sold or stranded y x 16.5 - 25.9 2 x 16.5 - 25.9 Sold or stranded on the produce with and the produce with an extransition of the produce with an extra p				
DC Coverated Image			m	Max. 2000
Persist capacities				
Public of terminals	DC operated			0.29
Solid Interview Intervie	Terminal capacities		mm ²	
Residue with intensidue with unbrastantic welled busbar and	Push-in terminals			
Resultion	Solid		mm ²	
	flexible		mm ²	
Salid or standard wire and ferrule	flexible with ferrules		mm ²	
fleezible with uninsulated wire end ferrule	flexible with ultrasonic welded busbar end		mm ²	
Sulid or stranded Sulface Sulf	flexible with uninsulated wire end ferrule		mm ²	1 x (0,5 - 2,5)
Stripping length Main of Screwdriver Value of Screwdriver 30 x 3.5 Contacts Value of Screwdriver Value of Screwdriver Value of Screwdriver Value of Screwdriver Positive operating contacts to ZH 1/457, including auxiliary contact module Ump VAC 600 Overvoltage category/pollution degree Ump VAC 600 Safet degrational voltage Up VAC 600 Safet departitional voltage Up VAC 600 Safet departitional voltage Up VAC 600 Safet departitional voltage Up VAC 60 Safet departitional voltage VAC 400 400 Safet departitional voltage VAC 400 400 Between the auxiliary contacts VAC 400 400 Betwind the principle of the principle of the principle of the principle of the princ	Solid or stranded		AWG	
Standard screwdriver Contacts Vocative operating contacts to 2H 1/437, including auxiliary contact module Vocative operating contacts to 2H 1/437, including auxiliary contact module Vocative operating contacts to 2H 1/437, including auxiliary contact module Vocative operating contacts to 2H 1/437, including auxiliary contact Vocative operating contacts Solic contacts Vocative operations of 2M 20 20 20 20 20 20 20 20 20 20 20 20 20				
Contacts Positive operating contacts to 2H 1/457, including auxiliary contact module VAC 6000 Rated impulses withstand voltage U _{III} VAC 6000 Rated insulation voltage U _I VAC 600 Rated operational voltage U _I VAC 600 Sale solution to Rh 61 Ho VAC 400 between coil and auxiliary contacts VAC 400 between coil and auxiliary contacts VAC 400 Bated operational current VAC 400 Conventional free air thermal current, 1 pole VAC 400 at 80°C Main Hage A 16 AC-15 16 16 16 220 V 230 V 240 V Iq 4 4 300 V 400 V 15 V Iq A 16 DC Life 15 Ins A 16 4 DC Life 15 Ins A 10 4 Contacts in series: A 10 4 1 Iq A 10 1 Iq			111111	
Positive operating contacts to ZN 1/457, including auxiliary contact module Use of the position of the				3.U X U.3
Rated impulse withstand voltage Ump V AC 6000 Overvoltage category/pollution degree U, V AC 600 Rated substand voltage U, V AC 600 Sate is calculation voltage V AC 600 Aste is calculation to EX 611 40 V AC 400 between the suxiliary contacts V AC 400 Bated operational current V AC 400 Conventional fire air themal current, 1 pole A 400 Open A 400 AC-15 A 400 20 20 20 20 20 20 20 20 20 20 20 20 20 2				ves
Overvoltage category/pollution degree U, VAC 11/3 Rated insulation voltage U, VAC 890 Rated operational voltage U, VAC 990 Safe isolation to RB 18140 VAC 400 between the auxiliary contacts VAC 400 Rated operational current VAC 400 Conventional free air thermal current, 1 pole VAC 400 Open In Fig. A In Fig. A In Fig. A AC-15 In Fig. A In Fig. A In Fig. A 380 V 400 V 415 V In Fig. A In Fig. A In Fig. A DC Current In Fig. A In Fig. A In Fig. A Notes In Fig. A In Fig. A In Fig. A DC UR = 15 ms In Fig. A In Fig. A In Fig. A In In Fig. A In Fig. A In Fig. A In Fig. A In In Fig. A In Fig. A In Fig. A In Fig. A In In Fig. A In Fig. A In Fig. A In Fig. A In In Fig. A In Fig. A In Fig. A In Fig. A <td></td> <td>11.</td> <td>VAC</td> <td></td>		11.	VAC	
Rated insulation voltage U _I VAC 890 Rated operational voltage VAC 890 Safe isolation to EN 61140 VAC 400 between coil and auxiliary contacts VAC 400 Rated operational current VAC 400 Conventional free air thermal current, 1 pole VAC 400 Open 1 80 °C 1 80 °C 1 80 °C AC-15 VAC 4 4 220 V 230 V 240 V 1 8		O _{IMP}	V AU	
Rated operational voltage U _B V AC 690 Sate isolation to EN 61140 V AC 400 between coil and auxiliary contacts V AC 400 between the auxiliary contacts V AC 400 Rated operational current V AC 400 Conventional free air thermal current, 1 pole V AC 400 Open V AC 400 at 80 °C In All				
Safe isolation to EN 61140 V AC 400 between the auxiliary contacts V AC 400 Rated operational current A 400 Conventional free air thermal current, 1 pole A	-			
between coil and auxiliary contacts	Rated operational voltage	U _e	V AC	690
Detween the auxiliary contacts	Safe isolation to EN 61140			
Rated operational current Conventional free air thermal current, 1 pole Open Image: Part of the male current of the mal	between coil and auxiliary contacts		V AC	400
Conventional free air thermal current, 1 pole In =I₀	between the auxiliary contacts		V AC	400
Open Ith = Ie A 16 AC-15 220 V 230 V 240 V Ie A 4 380 V 400 V 415 V Ie A 4 500 V Ie A 1.5 DC current Switch-on and switch-off conditions based on DC-13, time constant as specifie DC UR ≅ 15 ms A 10 Contacts in series: A 10 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 1 3 220 V A 5 DC UR ≅ 50 ms A 4 3 24 V A 4 3 3 40 V A 4 3 40 V A 4 4 4 4 4 3 40 V A 4 4	Rated operational current		Α	
at 60 °C Ith =Ie A 16 AC-15 Ie A 4 220 V 230 V 240 V Ie A 4 380 V 400 V 415 V Ie A 4 500 V Ie A 1.5 DC current Switch-on and switch-off conditions based on DC-13, time constant as specifie DC L/R ≤ 15 ms Switch-on and switch-off conditions based on DC-13, time constant as specifie 1 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 A 4 3 24 V A 4 3 60 V A 4	Conventional free air thermal current, 1 pole			
AC-15 220 V 230 V 240 V 380 V 400 V 415 V 1e	Open			
220 V 230 V 240 V I _B	at 60 °C	I _{th} =I _e	Α	16
Section Sec	AC-15			
380 V 400 V 415 V Ie A 4 500 V Ie A 1.5 DC current Switch-on and switch-off conditions based on DC-13, time constant as specifies DC L/R ≦ 15 ms 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 A Contacts in series: A 3 24 V A 4 3 60 V A 4	220 V 230 V 240 V	l _e	Α	4
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DC current Notes Switch-on and switch-off conditions based on DC-13, time constant as specifies DC L/R ≤ 15 ms A 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 A A 3 24 V A 4 3 60 V A 4 3 60 V A 4				
Notes Switch-on and switch-off conditions based on DC-13, time constant as specifies 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 A A 3 24 V A 4 3 60 V A 4		'e	^	1.0
DC L/R ≦ 15 ms A 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 A A 3 24 V A 4 3 60 V A 4				
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 A A Contacts in series: A 4 3 24 V A 4 3 60 V A 4				own.cn-on and switch-oπ conditions based on DC-13, time constant as specified.
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 A 5 Contacts in series: A 4 3 24 V A 4 3 60 V A 4				
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 1 3 DC L/R ≤ 50 ms Contacts in series: A 4 3 4 4				
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 4 3 60 V A 4				
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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	2	60 V	Α	10
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	1	110 V	Α	3
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	Α	6
DC L/R ≤ 50 ms A Contacts in series: A 3 24 V A 4 3 60 V A 4	1	220 V	Α	1
Contacts in series: A 3 24 V A 4 3 60 V A 4	3	220 V	Α	5
3 24 V A 4 3 3 60 V A 4	DC L/R ≦ 50 ms			
3 60 V A 4	Contacts in series:		Α	
	3	24 V	Α	4
3 110 V A 2	3	60 V	Α	4
	3	110 V	Α	2
3 220 V A 1				
Control circuit reliability Failure rate λ <10 ⁻⁸ , < one failure at 100 million operations (at $U_e = 24 \text{ V DC}$, $U_{min} = 17 \text{ V}$, $I_{min} = 5.4 \text{ mA}$)		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)

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			

Short-circuit rating without welding

Auxiliary contacts		
Pilot Duty		
AC operated		A600
DC operated		P300
General Use		
AC	V	/ 600
AC	А	A 15
DC	V	<i>J</i> 250
DC	А	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 8.0

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	0 - 0
Rated control supply voltage Us at DC		V	24 - 24
Voltage type for actuating			DC
Rated operation current le, 400 V		Α	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
Number of auxiliary contacts as change-over contact			0

With LED indication	No
Suitable for manual operation	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