DATASHEET - DILAC-40(24VDC)



Contactor relay, 24 V DC, 4 N/O, Spring-loaded terminals, DC operation

DILAC-40(24VDC) 276456

4110163

Alternate Catalog

Catalog No. XTREC10B40TD

EL-Nummer

(Norway)

Part no.



Powering Business Worldwide



Similar to illustration

Delivery program			
Product range			DILA relays
Application			Contactor relays
Description			Basic devices with positive operation contacts
Connection technique			Spring-loaded terminals
Rated operational current			
AC-15			
220 V 230 V 240 V	l _e	Α	4
380 V 400 V 415 V	I _e	Α	4
Contacts			
N/O = Normally open			4 N/O
Contact sequence			A1 113 223 133 143 A2 14 24 134 144
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			40E
Can be combined with auxiliary contact module			DILA-XHIC(V)
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
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
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	0.294
Terminal capacities		mm ²	
Spring-loaded terminals		111111	
Spring-loaded terminals Solid		2	1 x (0.75 - 2.5)
Solid		mm ²	2 x (0.75 - 2.5)
Flexible with or without ferrule DIN 46228		mm ²	1 x (0,75 - 1.5) 2 x (0,75 - 1.5)
Solid or stranded		AWG	18 - 14
Stripping length		mm	10
Standard screwdriver		mm	0.6 x 3.5
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	Ui	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	Α	16
AC-15			
220 V 230 V 240 V	I _e	A	4
380 V 400 V 415 V	l _e	A	4
500 V		A	1.5
	l _e	Α	1.0
DC current			Suitab on and suitab off conditions based as DC 12 time asset to a CC
Notes			Switch-on and switch-off conditions based on DC-13, time constant as specified.
DC L/R ≦ 15 ms		Δ.	
Contacts in series:	24.1/	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	Α	5
DC L/R ≦ 50 ms			
Contacts in series:		A	
3	24 V	Α	4

Voltage tolerance DC operated Notes Pick-up voltage at 24 V: without auxiliary contact component (40 °C) DC operated DC operated closing delay DC operated vs. uithout aux. closing delay DC operated N/O contact opening delay, max. Switching times, DC actuated make contact Opening delay, max.				
200	3	60 V	Α	4
Control circuit ratioality	3	110 V	Α	2
Shert-circuit rating without welding	3	220 V	Α	1
Maximum overcurrent protective device PKZMD 4	Control circuit reliability	Failure rate	λ	$<10^{-8}$, $<$ one failure at 100 million operations (at Ue = 24 V DC, U_{min} = 17 V, I_{min} = 5.4 mA)
220 V 230 V 240 V 315 V 240	Short-circuit rating without welding			
S80 V 400 V 415 V Short-circult protection maximum fuse S00 V Short-circult protection maximum fuse Short-circult protection fuse Short-circult pr	Maximum overcurrent protective device			
Short-circuit protection maximum fuse 500 V Current heat loss at I _{th} DC operated Magnet systems Voltage tolerance DC operated Notes Not	220 V 230 V 240 V		PKZM0	4
SOO V	380 V 400 V 415 V		PKZM0	4
Current heat loss at Im DC operated W 0 0.85 Magnet systems Voltage tolerance DC operated Notes Notes Pick-up voltage at 24 V: without auxiliary contact component (40 °C) Pick-up voltage at 24 V: without auxiliary contact component (40 °C) Pick-up voltage at 24 V: without auxiliary contact component (40 °C) Power consumption DC operated DC operated Pull-in = Veseling Sealing Switching times, DC operated, max. closing delay DC operated closing delay Switching times, DC operated, max. closing delay, max. Switching times, DC operated make contact Opening delay, max. Auxiliary contacts Pilot Duty AC operated DC operated AC V 0 600 AC AC AC V 0 600 AC I S SWITCHING TIME STATES STAT	Short-circuit protection maximum fuse			
DC operated Magnet systems Voltage foliarance DC operated Notes Pick-up voltage at 24 V: without auxiliary contact component (40 °C) DC operated Pull-in = sealing DC operated Pull-in = sealing DC operated (10 °K) (10 °K) (10 °K) Switching times, DC operated, max. closing delay, max. Switching times, DC operated of the sealing of the subtribution of the sealing of the	500 V		A gG/gL	10
Magnet systems Voltage foldrance Least of the protection of th	Current heat loss at I _{th}			
Votage tolerance DC operated Notes Notes Pick-up votage at 2 V: without auxiliary contact component (40 °C) Pick-up votage at 2 V: without auxiliary contact component (40 °C) Pick-up votage at 2 V: without auxiliary contact component (40 °C) Pick-up votage DC operated DC operated Pull-in= Sealing DC operated DC operated Notes Notes Notes Notes Pull-in= Sealing Notes	DC operated		W	0.85
DC operated Notes Pick-up voltage at 24 V: without auxiliary contact component (40 °C) Pick-up voltage at 24 V: without auxiliary contact component (40 °C) Pick-up voltage DC operation DC operated Pull-in = sealing sealing DC operated Pull-in = sealing sealing Max DC operated closing delay DC operated closing delay Switching times, DC operated, max. closing delay, max DC operated N/O contact opening delay, max Nowitching times, DC actuated make contact Opening delay, max Rating data for approved types Auxiliary contacts Pilot Dury AC operated DC operated AC Operated DC Operated AC Opera	Magnet systems			
Notes	Voltage tolerance			
Pick-up voltage at 24 V: without auxiliary contact component (40 °C) Pick-up x U _c 0.7 · 1.3 Power consumption DC operation V	DC operated			
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 duty factor Changeover time at 100 % U _S (recommended value) DC operated closing delay DC operated N/O contact opening delay Switching times, DC operated, max. closing delay Switching times, DC actuated make contact Opening delay, max. Rating data for approved types Auxiliary contacts Pilot Duty AC operated DC operated AC operated AC AC V 600 AC AC AC V 600 AC 15 13 OV 7 13 0.7 · 1.5 0.7 · 1.5 0.7 · 1.5 0.7 · 1.5 0.7 · 1.5	Notes			Smoothed DC, three-phase bridge rectifiers or smoothed double-wave rectification
Power consumption DC operated DC operated Pull-in = sealing W 3 duty factor Changeover time at 100 % Us (recommended value) DC operated closing delay DC operated N/O contact opening delay Switching times, DC actuated make contact Opening delay, max. DC operated N/O contact opening delay Switching times, DC actuated make contact Opening delay, max. The string data for approved types Auxiliary contacts Pilot Duty AC operated DC operated General Use AC AC AC AC DC DC PUll-in = sealing W 3 SW SW SW SW SW SW SW SW SW S	Pick-up voltage			0.8 - 1.1
DC operated DC operated Pull-in = sealing Pull-in = sealing W 3 duty factor Changeover time at 100 % U _S (recommended value) DC operated closing delay DC operated N/O contact opening delay Switching times, DC actuated make contact Opening delay, max. Rating data for approved types Auxiliary contacts Pilot Duty AC operated DC operated DC operated AC AC AC AC DC PUll-in = sealing W 3 W 3 NB 10 AD AB AB AB AB AB AB AB AB AB	at 24 V: without auxiliary contact component (40 °C)	Pick-up	x U _c	0.7 - 1.3
DC operated Pull-in = sealing W 3 duty factor Changeover time at 100 % U _S (recommended value) DC operated closing delay Switching times, DC operated, max. closing delay DC operated N/O contact opening delay Switching times, DC actuated make contact Opening delay, max. M 31 DC operated N/O contact opening delay Switching times, DC actuated make contact Opening delay, max. M 52 Rating data for approved types Auxiliary contacts Pilot Duty AC operated DC operated AC operated AC	Power consumption			
duty factor % DF 100 Changeover time at 100 % Ug (recommended value) ms	DC operation			
Changeover time at 100 % U _S (recommended value) DC operated closing delay Switching times, DC operated, max. closing delay DC operated N/O contact opening delay Switching times, DC actuated make contact Opening delay, max. Rating data for approved types Auxiliary contacts Pilot Duty AC operated DC operated General Use AC AC AC AC AC AC AC AC AC A	DC operated		W	3
DC operated closing delay Switching times, DC operated, max. closing delay DC operated N/O contact opening delay Switching times, DC actuated make contact Opening delay, max. Rating data for approved types Auxiliary contacts Pilot Duty AC operated DC operated AC AC AC DC DC DC DC DC DC DC	duty factor		% DF	100
Switching times, DC operated, max. closing delay ms Switching times, DC actuated make contact Opening delay, max. ms 12 Rating data for approved types Auxiliary contacts Pilot Duty AC operated DC operated AC	Changeover time at 100 % U_{S} (recommended value)			
DC operated N/O contact opening delay Switching times, DC actuated make contact Opening delay, max. Rating data for approved types Auxiliary contacts Pilot Duty AC operated DC operated General Use AC	DC operated closing delay		ms	
Switching times, DC actuated make contact Opening delay, max. Rating data for approved types Auxiliary contacts Pilot Duty AC operated DC operated AC AC AC AC AC AC AC AC AC A	Switching times, DC operated, max. closing delay		ms	31
Rating data for approved types Auxiliary contacts Pilot Duty AC operated DC operated AC AC AC AC AC AC AC AC AC A	DC operated N/O contact opening delay		ms	
Auxiliary contacts Pilot Duty AC operated A600 DC operated P300 General Use V AC V 600 AC A 15 DC V 250	Switching times, DC actuated make contact Opening delay, max.		ms	12
Pilot Duty A600 AC operated P300 General Use V 600 AC A 15 DC V 250	Rating data for approved types			
AC operated A600 DC operated P300 General Use V AC V 600 AC A 15 DC V 250	Auxiliary contacts			
DC operated P300 General Use V AC V AC A DC V				
General Use V 600 AC A 15 DC V 250	AC operated			A600
AC V 600 AC A 15 DC V 250	DC operated			P300
AC	General Use			
DC V 250	AC		V	600
	AC		Α	15
DC A 1	DC		V	250
	DC		Α	1

Design verification as per IEC/EN 61439

Technical data for design verification Rated operational current for specified heat dissipation Heat dissipation per pole, current-dependent Equipment heat dissipation, current-dependent Pvid V 0.8 Equipment heat dissipation, current-dependent Pvid V 3 Heat dissipation capacity Operating ambient temperature min. Operating ambient temperature max. C Operating ambient temperature max. 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 10.2.3.2 Verification of resistance of insulating materials to normal heat Meets the product standard's requirements. Meets the product standard's requirements. Meets the product standard's requirements.	• • •			
Heat dissipation per pole, current-dependent Pvid W 0.8 Equipment heat dissipation, current-dependent Pvid W 0 Static heat dissipation, non-current-dependent Pvs W 3 Heat dissipation capacity Pdiss W 0 Operating ambient temperature min. Operating ambient temperature max. C 60 IEC/EN 61439 design verification 10.2 Strength of materials and parts 10.2.2 Corrosion resistance Meets the product standard's requirements. Meets the product standard's requirements.	Technical data for design verification			
Equipment heat dissipation, current-dependent P _{vid} W Static heat dissipation, non-current-dependent P _{vs} W 3 Heat dissipation capacity P _{diss} W O Operating ambient temperature min. Operating ambient temperature max. C 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. Meets the product standard's requirements.	Rated operational current for specified heat dissipation	In	Α	15.5
Static heat dissipation, non-current-dependent P _{vs} W 3 Heat dissipation capacity P _{diss} W 0 Operating ambient temperature min. Operating ambient temperature max. Operating ambient temperature max.	Heat dissipation per pole, current-dependent	P _{vid}	W	0.8
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 Meets the product standard's requirements. Meets the product standard's requirements.	Equipment heat dissipation, current-dependent	P _{vid}	W	0
Operating ambient temperature min. Operating ambient temperature max. Operating ambient temperature max. or 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. Meets the product standard's requirements.	Static heat dissipation, non-current-dependent	P_{vs}	W	3
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. Meets the product standard's requirements.	Heat dissipation capacity	P _{diss}	W	0
IEC/EN 61439 design verification 10.2 Strength of materials and parts 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.	Operating ambient temperature min.		°C	-25
10.2 Strength of materials and parts 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.	Operating ambient temperature max.		°C	60
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.	EC/EN 61439 design verification			
10.2.3.1 Verification of thermal stability of enclosures Meets the product standard's requirements.	10.2 Strength of materials and parts			
· · · · · · · · · · · · · · · · · · ·	10.2.2 Corrosion resistance			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.	10.2.3.1 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.				Meets the product standard's requirements.

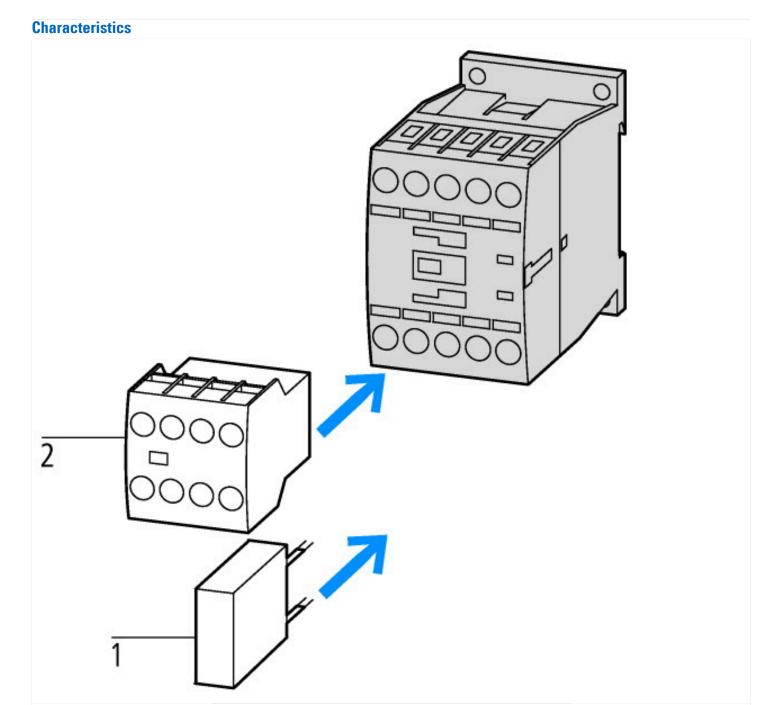
10.2.4 Resistance to ultra-violet (UV) radiation	Meets the product standard's requirements.
10.2.5 Lifting	Does not apply, since the entire switchgear needs to be evaluated.
10.2.6 Mechanical impact	Does not apply, since the entire switchgear needs to be evaluated.
10.2.7 Inscriptions	Meets the product 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

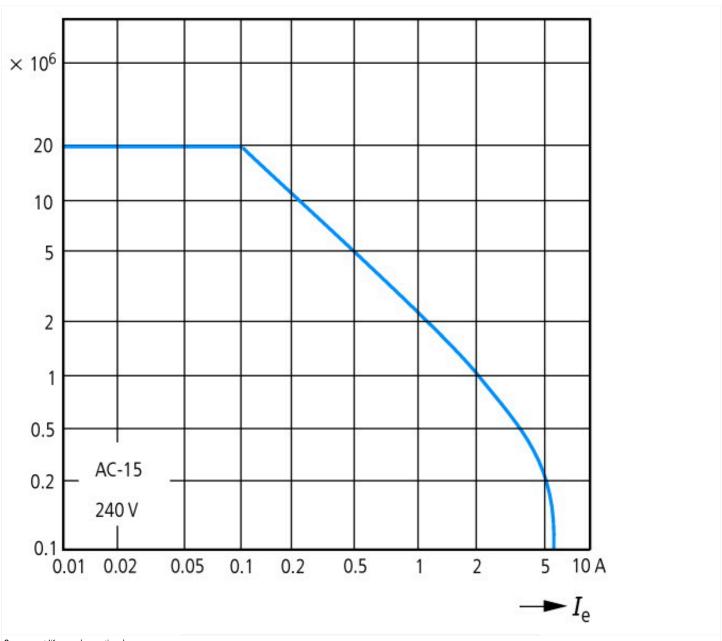
Low-voltage industrial components (EG000017) / Contactor relay (EC000196)		
Electric engineering, automation, process control engineering / Low-voltage switch technology / Contactor (LV) / Contactor relay (ecl@ss10.0.1-27-37-10-01 [AAB716014])		
Rated control supply voltage Us at AC 50HZ	V	V 0 - 0
Rated control supply voltage Us at AC 60HZ	V	V 0 - 0
Rated control supply voltage Us at DC	V	V 24 - 24
Voltage type for actuating		DC
Rated operation current le, 400 V	А	A 4
Connection type auxiliary circuit		Spring clamp connection
Mounting method		DIN-rail/screw
Interface		No
Number of auxiliary contacts as normally closed contact		0
Number of auxiliary contacts as normally open contact		4
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

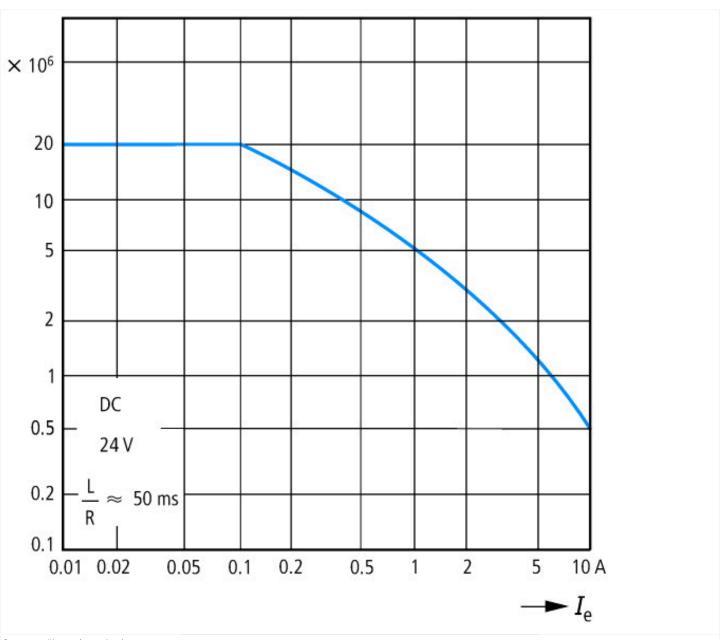
Approvals

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



1: Suppressor 2: Auxiliary contact module





Component lifespan (operations) I_e = rated operational current

Three contacts in series

Dimensions

