



# Mini contactor relays, contactor relay, contactors

Continual operation requires high operational reliability in the components used. The DILM contactor achieves the best lifespan values in AC-3 applications and is ideal for heavy AC-4 jogging.

## Mini contactor relay DILE..., contactor relays, contactors up to 12 A AC-3 at 400 V

- Compact dimensions for the highest packing densities
- Extended performance range up to 5.5 kW at 400 V

## AC and DC contactor system DILM..., contactor relays, 3 pole contactors up to 170 A AC-3 at 400 V, 4 pole contactors up to 200 A AC-1

- Easier engineering through identical construction sizes for AC- and DC-operated contactors
- Energy savings and higher packing density in control panel due to minimized heat dissipation
- High wiring security through doubled box terminals
- Less coupler relays: direct actuation from the PLC for contactors up to 32 A
- Easy engineering through integrated suppressor circuits for DC
- Uniform accessories for 3- and 4-pole contactors
- Mechanical interlock double conductor run mountable without additional separation gap
- Direct fieldbus connection through the communication system SmartWire-DT®, through plug-in type protective module

## High rated contactors - contactors up to 1600 A AC-3 at 400 V, contactors up to 2600 A AC-1

- Compact dimensions with high switching power
- Direct actuation from the PLC saves coupler relays
- Easy engineering through wide range coils
- Cost and energy savings for control panel ventilation due to reduced heat dissipation
- Long lifespan through vacuum technology from 580 A



### Eaton after sales service

Testing switching devices in compliance with regulations applicable to this technology  
→ See catalog



### SmartWire-DT®

The DIL product range offers contact elements which can be connected to the SmartWire-DT® communication system. → Protective modules, Page 62

**AC operation**

**Part no.**  
Article no.

**Price**  
See price list

Std. pack

Circuit symbol

**DC operation**

**Part no.**  
Article no.

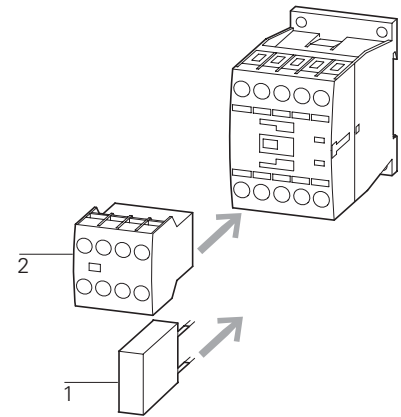
**Price**  
See price list

Std. pack

**Notes**

<b>DILA-40(230V50Hz)</b> 276329	1 off 		<b>DILA-40(24VDC)</b> 276344	1 off 
<b>DILA-31(230V50Hz)</b> 276364	1 off 		<b>DILA-31(24VDC)</b> 276379	
<b>DILA-22(230V50Hz)</b> 276399	1 off 		<b>DILA-22(24VDC)</b> 276414	

**With screw terminals:**



**Accessories**

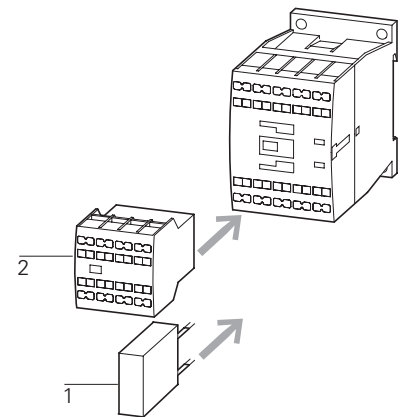
- 1 Suppressor
- 2 Auxiliary contact modules
- Further actuating voltages

**Page**

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<b>DILAC-40(230V50Hz)</b> 276441	1 off 		<b>DILAC-40(24VDC)</b> 276456	1 off 
<b>DILAC-31(230V50Hz)</b> 276473	1 off 		<b>DILAC-31(24VDC)</b> 276488	
<b>DILAC-22(230V50Hz)</b> 276505	1 off 		<b>DILAC-22(24VDC)</b> 276520	

**With spring-loaded terminals:**



**Accessories**

- 1 Suppressor
- 2 Auxiliary contact modules
- Further actuating voltages

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## DILEM

AC	DILEM-10(...)	DILEM-01(...)	DILEM12-10(...)	DILEM12-01(...)	DILEM4(...)
	Article no. <sup>1)</sup>	Article no. <sup>1)</sup>	Article no. <sup>1)</sup>	Article no. <sup>1)</sup>	Article no. <sup>1)</sup>
<b>Standard voltages</b>	See price list	See price list	See price list	See price list	See price list
<b>24V 50Hz</b>	010005	010086	127067	127083	014754
<b>48V 50Hz</b>	010020	010294	–	–	–
<b>240V 50Hz</b>	010032	010151	–	–	014305
<b>115V 60Hz</b>	010024	010470	–	–	–
<b>42V 50Hz, 48V 60Hz</b>	051782	051791	–	–	–
<b>110V 50Hz, 120V 60Hz</b>	051783	051792	127072	127088	051801
<b>190V 50Hz, 220V 60Hz</b>	051784	051793	–	–	–
<b>220V 50Hz, 240V 60Hz</b>	051785	051794	–	–	051803
<b>230V 50Hz, 240V 60Hz</b>	051786	051795	–	–	051804
<b>380V 50Hz, 440V 60Hz</b>	051787	051796	–	–	–
<b>400V 50Hz, 440V 60Hz</b>	051788	051797	–	–	051806
<b>415V 50Hz, 480V 60Hz</b>	051789	–	–	–	–
<b>24V 50/60Hz</b>	021417	020402	127079	127095	022044
<b>42V 50/60Hz</b>	032174	033233	–	–	–
<b>110V 50/60Hz</b>	021455	020436	127081	127097	–
<b>230V 50/60Hz</b>	052302	051114	127082	127098	052506

## DILEM

DC	DILEM-10-G(...)	DILEM-01-G(...)	DILEM12-10-G(...)	DILEM12-01-G(...)	DILEM4-G(...)
	Article no. <sup>1)</sup>	Article no. <sup>1)</sup>	Article no. <sup>1)</sup>	Article no. <sup>1)</sup>	Article no. <sup>1)</sup>
<b>Standard voltages</b>	See price list	See price list	See price list	See price list	See price list
<b>12V DC</b>	079594	079642	–	–	079680
<b>24V DC</b>	010213	010343	127132	127137	012701
<b>48V DC</b>	010245	010496	–	–	–
<b>110V DC</b>	010309	010136	–	–	–
<b>220V DC</b>	010325	010168	–	–	–

### Notes

<sup>1)</sup> To obtain the article number for ordering, read under selected part number and actuating voltage from the table. Devices with **dual-voltage coils** are to be ordered under a **single** article number.

# 1.1

## Contactor relays

Actuating voltages

1

### DILA

AC

	With screw terminals			With Spring-loaded terminals		
	DILA-40(...)	DILA-31(...)	DILA-22(...)	DILAC-40(...)	DILAC-31(...)	DILAC-22(...)
	Article no. <sup>1)</sup>	Article no. <sup>1)</sup>	Article no. <sup>1)</sup>	Article no. <sup>1)</sup>	Article no. <sup>1)</sup>	Article no. <sup>1)</sup>
<b>Standard voltages</b>	See price list	See price list	See price list	See price list	See price list	See price list
<b>24V 50Hz</b>	276316	276351	276386	276431	276463	276495
<b>240V 50Hz</b>	276318	276353	276388	–	–	–
<b>110V 50Hz</b>	276326	276361	276396	276438	276470	276502
<b>120V 60Hz</b>						
<b>190V 50Hz</b>	276327	276362	276397	–	–	–
<b>220V 60Hz</b>						
<b>220V 50Hz</b>	276328	276363	276398	–	–	–
<b>240V 60Hz</b>						
<b>230V 50Hz</b>	276329	276364	276399	276441	276473	276505
<b>240V 60Hz</b>						
<b>380V 50Hz</b>	276330	276365	276400	–	–	–
<b>440V 60Hz</b>						
<b>400V 50Hz</b>	276331	276366	276401	–	–	–
<b>440V 60Hz</b>						
<b>24V 50Hz/60Hz</b>	276333	276368	276403	276445	276477	276509
<b>42V 50Hz/60Hz</b>	276334	276369	276404	–	–	–
<b>110V 50Hz/60Hz</b>	276335	276370	276405	–	–	–
<b>220V 50Hz/60Hz</b>	276336	276371	276406	–	–	–
<b>230V 50Hz/60Hz</b>	276337	276372	276407	276449	276481	276513
Special voltages other than the already shown normal voltages <sup>2)</sup>	See price list	See price list	See price list	See price list	See price list	See price list
<b>...V 50Hz(12-500V)<sup>3)</sup></b>	276341	276376	276411	276453	276485	276517
<b>...V 60Hz(12-600V)<sup>3)</sup></b>	276342	276377	276412	276454	276486	276518

### DILA

DC

	With screw terminals			With Spring-loaded terminals		
	DILA-40(...)	DILA-31(...)	DILA-22(...)	DILAC-40(...)	DILAC-31(...)	DILAC-22(...)
	Article no. <sup>1)</sup>	Article no. <sup>1)</sup>	Article no. <sup>1)</sup>	Article no. <sup>1)</sup>	Article no. <sup>1)</sup>	Article no. <sup>1)</sup>
<b>Standard voltages</b>	See price list	See price list	See price list	See price list	See price list	See price list
<b>24V DC</b>	276344	276379	276414	276456	276488	276520
<b>48V DC</b>	276345	276380	276415	–	–	–
<b>110V DC</b>	276347	276382	276417	276459	276491	276523
<b>220V DC</b>	276348	276383	276418	276460	276492	276524
Special voltages other than the already shown normal voltages <sup>2)</sup>	See price list	See price list	See price list	See price list	See price list	See price list
<b>...V DC(12-250V)<sup>3)</sup></b>	276349	276384	276419	276461	276493	276525

#### Notes

<sup>1)</sup> The article number is a combination of part no. and operating voltage devices with dual-voltage coils can be ordered under a single article no.

<sup>2)</sup> With non-standard voltages the required actuating voltage from the defined range (...–...V) must be stated.

<sup>3)</sup> Minimum order quantity 10 units

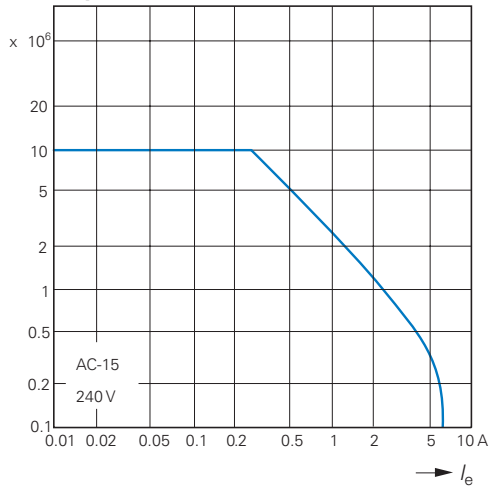
# 1.1

## Mini contactor relays, contactor relays

### Electrical lifespan

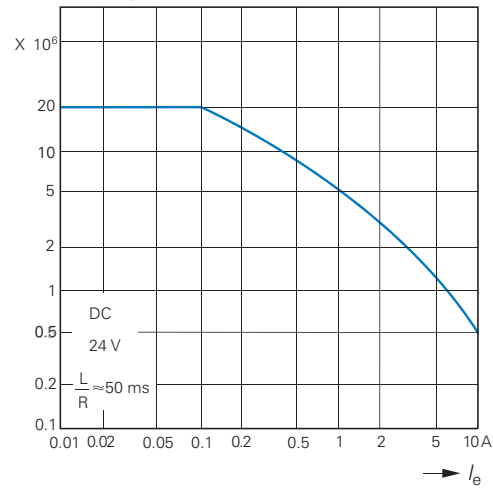
#### 1 DILA (AC-15)

Component lifespan (operations)  
 $I_e$  = Rated operational current



#### DILA DC<sup>1)</sup>

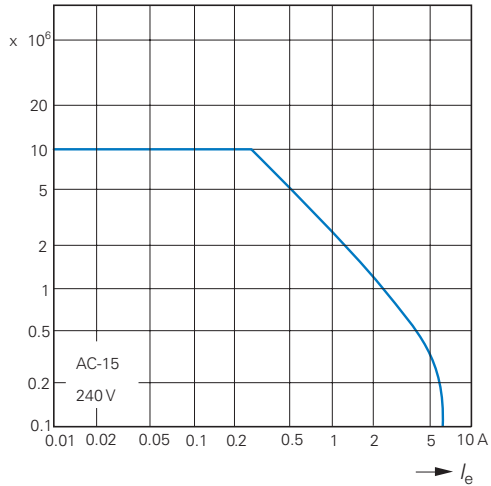
Component lifespan (operations)  
 $I_e$  = Rated operational current



<sup>1)</sup> Three contacts in series

#### DILER (AC-15)

Component lifespan (operations)  
 $I_e$  = Rated operational current



Technical data

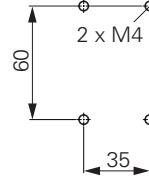
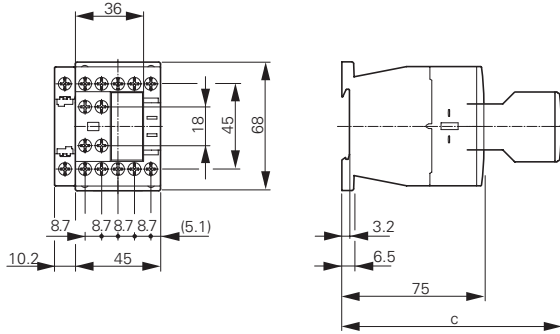
DILER, DILA

			DILA	DILA...XHI	DILER	DILE...
<b>General</b>						
Standards			IEC/EN 60947, VDE 0660, UL, CSA			
Lifespan, mechanical						
AC operated	Operations	x 10 <sup>6</sup>	20	10	10	10
DC operated	Operations	x 10 <sup>6</sup>	20	10	20	20
Maximum operating frequency						
Maximum operating frequency	Operations/h		9000	9000	9000	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	-25...60	-25...50	-25...50
Enclosed		°C	-25...40	-25...40	-25...40	-25...40
Ambient temperature for storage		°C	-40 - 80	-40 - 80		
Mounting position						
						Any, except vertically with terminals A1/A2 below
Mechanical shock resistance (IEC/EN 60068-2-27)						
Half-sinusoidal shock 10 ms						
Basic devices with auxiliary contact module						
		g	7	7	10	10
	N/O	g	7	7	10	10
	NC	g	5	5	8	8
Protection type						
			IP20	IP20	IP20	IP20
Protection against direct contact when actuated from front (EN 50274)						
			Finger- and back-of-hand proof			
Weight						
AC operated		kg	0.23	0.05	0.17	–
DC operated		kg	0.28	0.05	0.2	–
Terminal capacity						
Screw terminals						
	Solid	mm <sup>2</sup>	1 x (0.75 - 4) 2 x (0.75 - 2.5)	1 x (0.75 - 4) 2 x (0.75 - 2.5)	1 x (0.75 - 2.5) 2 x (0.75 - 2.5)	1 x (0.75 - 2.5) 2 x (0.75 - 2.5)
	Flexible with ferrule	mm <sup>2</sup>	1 x (0.75 - 2.5) 2 x (0.75 - 2.5)	1 x (0.75 - 2.5) 2 x (0.75 - 2.5)	1 x (0.75 - 1.5) 2 x (0.75 - 1.5)	1 x (0.75 - 1.5) 2 x (0.75 - 1.5)
	Solid or stranded	AWG	18 - 14	18 - 14	18 - 14	18 - 14
	Terminal screw		M3.5	M3.5	M3.5	M3.5
	Pozidriv screwdriver	Size	2	2	2	2
	Flat-blade screwdriver	mm	0.8 x 5.5 1 x 6	0.8 x 5.5 1 x 6	0.8 x 5.5 1 x 6	0.8 x 5.5 1 x 6
	Max. tightening torque	Nm	1.2	1.2	1.2	1.2
Spring-loaded terminals						
	Solid	mm <sup>2</sup>	1 x (0.75 - 2.5) 2 x (0.75 - 2.5)	1 x (0.75 - 2.5) 2 x (0.75 - 2.5)	1 x (1 - 2.5) 2 x (1 - 2.5)	1 x (1 - 2.5) 2 x (1 - 2.5)
	Flexible with ferrule	mm <sup>2</sup>	1 x (0.75 - 1.5) 2 x (0.75 - 1.5)	1 x (0.75 - 1.5) 2 x (0.75 - 1.5)	1 x (1 - 2.5) 2 x (1 - 2.5)	1 x (1 - 2.5) 2 x (1 - 2.5)
	Flexible without ferrule DIN 46228	mm <sup>2</sup>	1 x (0.75 - 2.5) 2 x (0.75 - 2.5)	1 x (0.75 - 1.5) 2 x (0.75 - 1.5)	–	–
	Solid or stranded	AWG	18 - 14	18 - 14	1 x (16 - 14) 2 x (16 - 14)	1 x (16 - 14) 2 x (16 - 14)
	Flat-blade screwdriver	mm	0.6 x 3.5	0.6 x 3.5	0.6 x 3.5	0.6 x 3.5

## Contactor with auxiliary contact module

DILM7...DILM15

DILA...

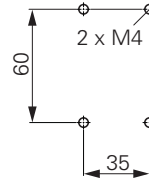
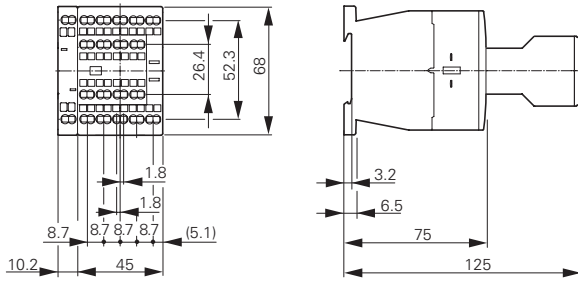


Part no.	c
DILM32-XHI	117
DILA-XHI	117
DILA-XHI...T	125

DILMC7...DILMC15

DILAC...

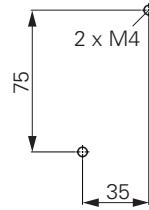
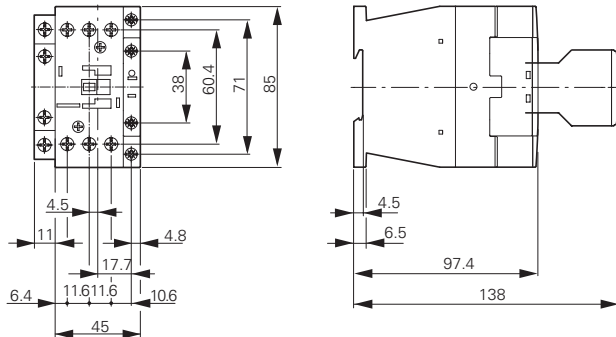
DILA-XHIC...



DILM17...DILM38

DILMC17...DILMC32

DILMF8...DILMF32



Clearance at side to grounded parts: 6 mm