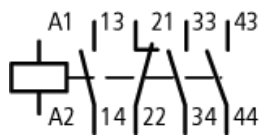


Type: **DILER-31(230V50HZ,240V60HZ)**  
 Article No.: **051768**



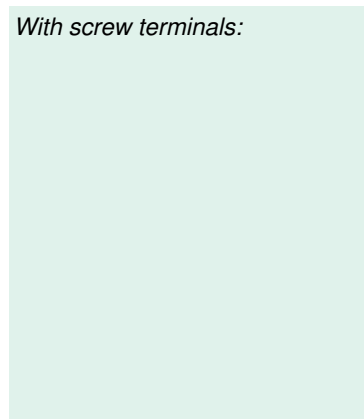
Ordering information			
Connection technique			Screw terminals
Type of current AC/DC			AC operation
Contacts M = Make			3 M
Contacts B = Break			1 B
Rated operational current AC-15 220 V 230 V 240 V	$I_e$	A	6
Conventional thermal current	$I_{th}$	A	10
Distinctive number and version of combination			31 E

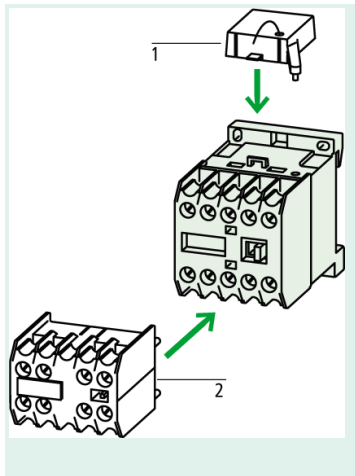
### Contact sequence



### Notes concerning the product group

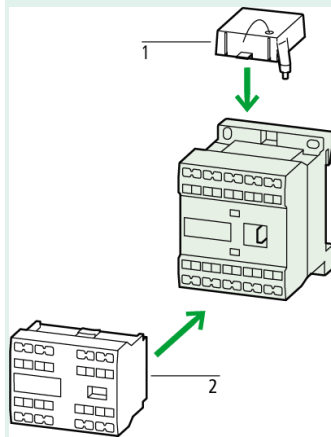
*With screw terminals:*





Accessories	Page
1 Suppressor	→ 010320
2 Auxiliary contact module	→ 010240
Further actuating voltages	→ 066169

With springloaded terminals:



Accessories	Page
1 Suppressor	→ 010320
2 Auxiliary contact module	→ 010240
Further actuating voltages	→ 066169

Contact numbers to EN 50011

Coil terminal markings to EN 50005

General			
Standards			IEC/EN 60947, VDE 0660, UL, CSA
Lifespan, mechanical			
AC operated	Operations	$\times 10^6$	10
DC operated	Operations	$\times 10^6$	20
Maximum operating frequency			
Maximum operating frequency	Operations/h		9000
Climatic proofing			Damp heat, constant, to IEC 60068-2-78; Damp heat, cyclic, to IEC 60068-2-30

Climatic proofing			Damp heat, constant, to IEC 60068-2-78; Damp heat, cyclical, to IEC 60068-2-30
Ambient temperature			
Open		°C	-25/50
Enclosed		°C	-25/40
Mounting position			
Mounting position			As required, except vertically A1/A2 at the bottom
Mechanical shock resistance (IEC/EN 60068-2-27)			
Half-sinusoidal shock, 10 ms			
Basic unit with auxiliary contact module			
Make contact		g	10
Break contact		g	8
Protection type			IP20
Protection against direct contact when actuated from front (IEC 536)			Finger- and back-of-hand proof
Weight			
AC operated		kg	0.17
DC operated		kg	0.2
Terminal capacities			
Screw terminals			
Solid		mm <sup>2</sup>	1 × (0,75 – 2,5) 2 × (0,75 – 2,5)
Flexible with ferrule		mm <sup>2</sup>	1 × (0,75 – 1,5) 2 × (0,75 – 1,5)
Solid or stranded		AWG	18 – 14
Terminal screw			M3.5
Pozidriv screwdriver		Size	2
Standard screwdriver		mm	0.8 × 5.5 1 × 6
max. tightening torque		Nm	1,2
Spring loaded terminals			
Solid		mm <sup>2</sup>	1 × (1 – 2,5) 2 × (1 – 2,5)
Flexible with or without ferrule DIN 46 228		mm <sup>2</sup>	1 × (1 – 2,5) 2 × (1 – 2,5)
Solid or stranded		AWG	1 × (16 – 14) 2 × (16 – 14)
Standard screwdriver		mm	0.6 × 3.5
<b>Contacts</b>			
Interlocked opposing 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	600
Safe isolation to VDE 0106 Part 101 and Part 101/A1 between coil and auxiliary contacts		V AC	300

between the auxiliary contacts		V AC	300
Rated operational current			
AC-15			
220/240 V	$I_e$	A	6
380/415 V	$I_e$	A	3
500 V	$I_e$	A	1,5
DV-13			
DC-13 L/R f 15 ms			
Contacts in series:			
1	24 V	A	2,5
2	60 V	A	2,5
3	110 V	A	1,5
3	220 V	A	0,5
Control circuit reliability (at $U_e = 24$ V DC, $U_{min} = 17$ V, $I_{min} = 5.4$ mA)	Failure rate	»	-8, < one failure at 100 million operations
Conventional thermal current	$I_{th}$	A	10
Component lifespan at $U_e = 240$ V			
Short-circuit rating without welding			
Maximum overcurrent protective device			
220/240 V		PKZM0	4
380/415 V		PKZM0	4
Short-circuit protection Maximum fuse			
500 V		A gG/gL	6
500 V		A fast	10
Current heat loss at $I_{th}$			
AC operated		W	0,2
DC operated		W	0,3
<b>Magnet systems</b>			
Voltage tolerance			
AC operated			
Single-voltage coil 50 Hz and dual-voltage coil 50 Hz, 60 Hz	Pick-up	$\times U_s$	0,8 – 1,1
Dual-frequency coil 50/60 Hz	Pick-up	$\times U_s$	0,85 – 1,1
DC operated			
Pick-up voltage	Anzug	$\times U_s$	0,85 – 1,3
Without auxiliary contact module (40 °C)	Pick-up	$\times U_c$	0,7 – 1,3
Power consumption			
Single-voltage coil 50 Hz and dual-voltage coil 50 Hz, 60 Hz	Pick-up	VA	25
Single-voltage coil 50 Hz and dual-voltage coil 50 Hz, 60 Hz	Pick-up	W	22
Single-voltage coil 50 Hz and dual-voltage coil 50 Hz, 60 Hz	Sealing	VA	4,6
Single-voltage coil 50 Hz and dual-voltage coil 50 Hz, 60 Hz	Sealing	W	1,3
Dual-frequency coil 50/60 Hz at 50 Hz	Pick-up	VA	30

Dual-frequency coil 50/60 Hz at 50 Hz	Pick-up	W	26
Dual-frequency coil 50/60 Hz at 50 Hz	Sealing	VA	5,4
Dual-frequency coil 50/60 Hz at 50 Hz	Sealing	W	1,6
Dual-frequency coil 50/60 Hz at 60 Hz	Pick-up	VA	29
Dual-frequency coil 50/60 Hz at 60 Hz	Pick-up	W	24
Dual-frequency coil 50/60 Hz at 60 Hz	Sealing	VA	3,9
Dual-frequency coil 50/60 Hz at 60 Hz	Sealing	W	1,1
DC operated	Pull-in = sealing	W	2,6
Duty factor		% DF	100
Switching times at 100 % $U_c$ (approximate values)			
AC operated Closing delay		ms	14 – 21
AC operated Make contact Opening delay		ms	8 – 18
AC operated With auxiliary contact module Max. closing delay		ms	45
DC operated Closing delay		ms	26 – 35
DC operated Make contact Opening delay		ms	15 – 25
DC operated With auxiliary contact module Max. closing delay		ms	70

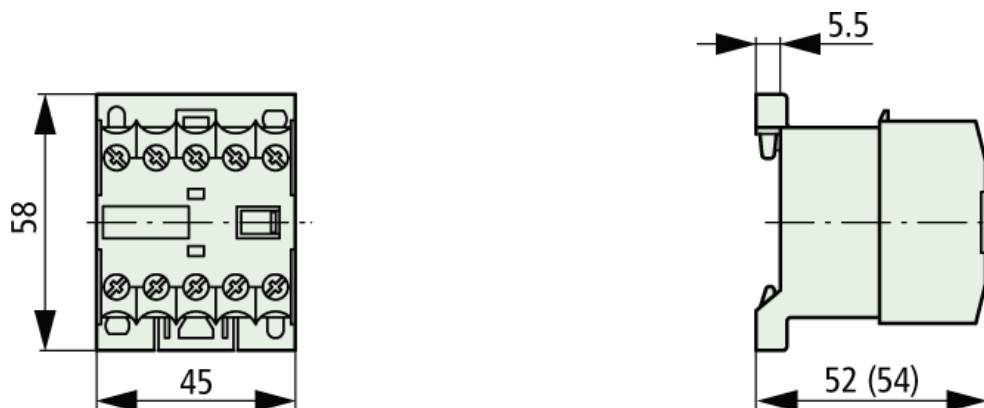
### Notes

			Making and breaking conditions to DC-13, time constant as stated See transparent overlay "Fuses" for time/current characteristics (please enquire) Smoothed DC or three-phase bridge rectifier
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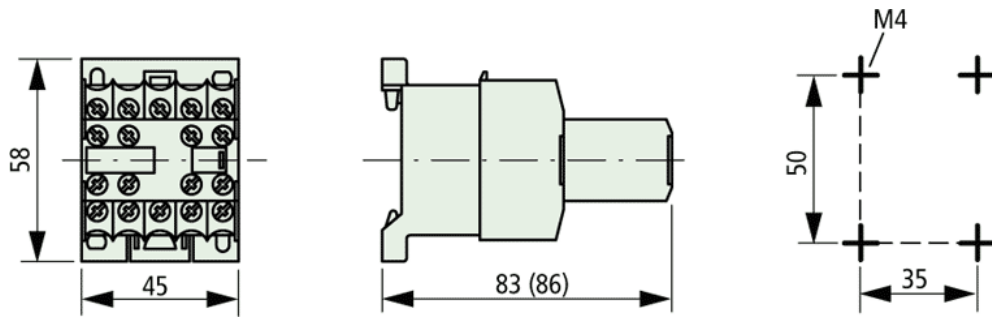
### Dimensions

			DILER-...
			DILER-... + ...DILE

### Dimensions



### Dimensions



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