



## Mini contactor relay,4NO/0NC,DC operated

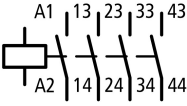


Powering Business Worldwide™

Part no. **DILER-40-G(24VDC)**

Article no. **010223**

### Program

|   |          |     |  |
|---|----------|-----|--|
| Product range   |          |     | DILER Mini-contactors  |
| Application   |          |     | Contactors relays  |
| Connection technique  |          |     | Screw terminals  |
| Rated operational current   |          |     |  |
| AC-15   |          |     |  |
| 220 V<br>230 V<br>240 V   | $I_e$    | A   | 6  |
| 380 V<br>400 V<br>415 V   | $I_e$    | A   | 3  |
| Conv. thermal current   | $I_{th}$ | A   | 10   |
| Contacts  |          |     |  |
| N/O = Normally open   |          |     | 4 N/O  |
| Contact sequence  |          |     |  |
| For use with  |          |     | ...DILE  |
| Actuating voltage   |          |     | 24 V DC  |
| Voltage AC/DC   |          |     | DC operation   |
| Code number and version of combination  |          |     |  |
| Distinctive number  |          |     | 40 E   |
| Auxiliary contact module  |          |     |  |
| Interlocked opposing contacts   |          | 40E | Conforms to EN 50011 - terminal markings of the coil according to EN 50005         |
| Interlocked opposing contacts   | 02DILE   | 42E | EN 50011 - Use preferably this combination   |
| Interlocked opposing contacts   | 04DILE   | 44E | EN 50011 - Use preferably this combination   |
| Interlocked opposing contacts   | 11DILE   | 51E | EN 50011 - Use preferably this combination   |
| 1 early-make contact, 1 late-break contact  | 11DDILE  | 51  | EN 50005   |
| Interlocked opposing contacts   | 13DILE   | 53E | EN 50011 - Use preferably this combination   |
| Interlocked opposing contacts   | 20DILE   | 60E | EN 50011 - Use preferably this combination   |
| Interlocked opposing contacts   | 22DILE   | 62E | EN 50011 - Use preferably this combination   |
| 1 early-make contact, 1 late-break contact  | 22DDILE  | 62  | EN 50005   |
| Interlocked opposing contacts   | 31DILE   | 71E | EN 50011 - Use preferably this combination   |
| Interlocked opposing contacts   | 40DILE   | 80E | EN 50011 - Use preferably this combination   |
| <b>Instructions</b> Contact numbers to EN 50011<br>Coil terminal markings to EN 50005<br>Integrated diode-resistor combination<br>Coil rating 2.6 W |          |     |  |

### Approbationen

|                           |   |
|---------------------------|---|
| UL approval               | Yes   |
| CSA approval              | Yes   |
| Product Standards         | IEC/EN 60947-4-1; UL 508; CSA-C22.2 No. 14-05; CE marking |
| UL File No.               | E29184  |
| UL CCN                    | NKCR  |
| CSA File No.              | 012528  |
| CSA Class No.             | 3211-03   |
| NA Certification          | UL listed, CSA certified                                  |
| Specially designed for NA | No  |

### General

|           |  |  |                                 |
|-----------|--|--|---------------------------------|
| Standards |  |  | IEC/EN 60947, VDE 0660, UL, CSA |
|-----------|--|--|---------------------------------|

|   |                  |                      |  |
|---|------------------|----------------------|--|
| Lifespan, mechanical  |                  |                      |  |
| AC operated   | Operations       | x<br>10 <sup>6</sup> | 10   |
| DC operated   | Operations       | x<br>10 <sup>6</sup> | 20   |
| Maximum operating frequency   |                  | Ops./<br>h           |  |
| Maximum operating frequency   |                  | Operations<br>h      | 9000   |
| Climatic proofing   |                  |                      | Damp heat, constant to IEC 60068-2-78<br>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   |                  | °C                   |  |
| Open  |                  | °C                   | - 25 - 50  |
| Enclosed  |                  | °C                   | - 25 - 40  |
| Mounting position   |                  |                      |  |
| Mounting position   |                  |                      | As required, except vertical with terminals A1/A2 at the bottom                |
| Mechanical shock resistance (IEC/EN 60068-2-27)                             |                  |                      |  |
| Half-sinusoidal shock, 10 ms  |                  |                      |  |
| Basic unit with auxiliary contact module                                    |                  | g                    |  |
| N/O contact   |                  | g                    | 10   |
| N/C contact   |                  | g                    | 8  |
| Protection type   |                  |                      | IP20   |
| Protection against direct contact when actuated from front (EN 90274)       |                  |                      | Finger and back-of-hand proof  |
| Weight  |                  |                      |  |
| AC operated   |                  | kg                   | 0.17   |
| DC operated   |                  | kg                   | 0.2  |
| Terminal capacities   |                  | mm <sup>2</sup>      |  |
| Screw terminals   |                  |                      |  |
| Solid   |                  | mm <sup>2</sup>      | 1 x (0.75 - 2.5)<br>2 x (0.75 - 2.5)   |
| Flexible with ferrule   |                  | mm <sup>2</sup>      | 1 x (0.75 - 1.5)<br>2 x (0.75 - 1.5)   |
| Solid or stranded   |                  | AWG                  | 18 - 14  |
| Terminal screw  |                  |                      | M3.5   |
| Pozidriv screwdriver  |                  | Size                 | 2  |
| Standard screwdriver  |                  | mm                   | 0.8 x 5.5<br>1 x 6   |
| Max. tightening torque  |                  | Nm                   | 1.2  |
| Spring-loaded terminals   |                  |                      |  |
| Solid   |                  | mm <sup>2</sup>      | 1 x (1 - 2.5)<br>2 x (1 - 2.5)   |
| Flexible with or without ferrule DIN 46228                                  |                  | mm <sup>2</sup>      | 1 x (1 - 2.5)<br>2 x (1 - 2.5)   |
| Solid or stranded   |                  | AWG                  | 1 x (16 - 14)<br>2 x (16 - 14)   |
| Standard screwdriver  |                  | mm                   | 0.6 x 3.5  |
| <b>Contacts</b>   |                  |                      |  |
| Positive operating contacts to ZH 1/457, including auxiliary contact module |                  |                      | Yes  |
| Rated impulse withstand voltage   | U <sub>imp</sub> | V<br>AC              | 6000   |
| Overvoltage category/pollution degree                                       |                  |                      | III/3  |
| Rated insulation voltage  | U <sub>i</sub>   | V<br>AC              | 690  |
| Rated operational voltage   | U <sub>e</sub>   | V<br>AC              | 600  |
| Safe isolation to VDE 0106 Part 101 and Part 101/A1                         |                  |                      |  |
| between coil and auxiliary contacts   |                  | V<br>AC              | 300  |

|  |              |                |  |
|--|--------------|----------------|--|
| between the auxiliary contacts   |              | V<br>AC        | 300  |
| Rated operational current  | $I_e$        | A              |  |
| AC-15  |              |                |  |
| 220/240 V  | $I_e$        | A              | 6  |
| 380/415 V  | $I_e$        | A              | 3  |
| 500 V  | $I_e$        | A              | 1.5  |
| DC-13  |              |                |  |
| DC-13 L/R - 15 ms  |              |                |  |
| Contacts in series:  |              | A              |  |
| 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 | $\lambda$      | $<10^{-8}$ , < one failure at 100 million operations |
| Conv. thermal current  | $I_{th}$     | A              | 10   |
| 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<br>gG/<br>gL | 6  |
| 500 V  |              | A<br>fast      | 10   |
| Current heat loss at $I_{th}$  |              |                |  |
| AC operated  |              | W              | 0.2  |
| DC operated  |              | W              | 0.3  |

### Magnet systems

|  |                      |         |            |
|--|----------------------|---------|------------|
| Voltage tolerance  |                      | $x U_c$ |            |
| AC operated  |                      | $x U_c$ |            |
| Single-voltage coil 50 Hz and dual-voltage coil 50 Hz, 60 Hz | Pick-up              | $x U_c$ | 0.8 - 1.1  |
| Dual-frequency coil 50/60 Hz                                 | Pick-up              | $x U_c$ | 0.85 - 1.1 |
| DC operated  |                      | $x U_c$ |            |
| Pick-up voltage  | Pick-up              | $x U_c$ | 0.85 - 1.3 |
| at 24 V: without auxiliary contact component (40 °C)         | Pick-up              | $x U_c$ | 0.7 - 1.3  |
| Power consumption  |                      |         |            |
| 50 Hz  | Pick-up              | VA      | 25         |
| 50 Hz  | Sealing              | VA      | 4.6        |
| 50 Hz  | Sealing              | W       | 1.3        |
| 60 Hz  | Pick-up              | VA      | 25         |
| 60 Hz  | Sealing              | VA      | 4.6        |
| 60 Hz  | Sealing              | W       | 1.3        |
| 50/60 Hz   | Pick-up              | VA      | 30<br>29   |
| 50/60 Hz   | Sealing              | VA      | 5.4<br>3.9 |
| 50/60 Hz   | Sealing              | W       | 1.6<br>1.1 |
| DC operated  | Pull-in =<br>sealing | W       | 2.6        |
| Duty factor  |                      | %<br>DF | 100        |
| Switching times at 100 % $U_c$ (approximate values)          |                      |         |            |
| AC operated closing delay                                    |                      | ms      | 14 - 21    |
| AC operated N/O 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 N/O contact opening delay                        | ms | 15 - 25 |
| DC operated With auxiliary contact module Max. closing delay | ms | 70      |

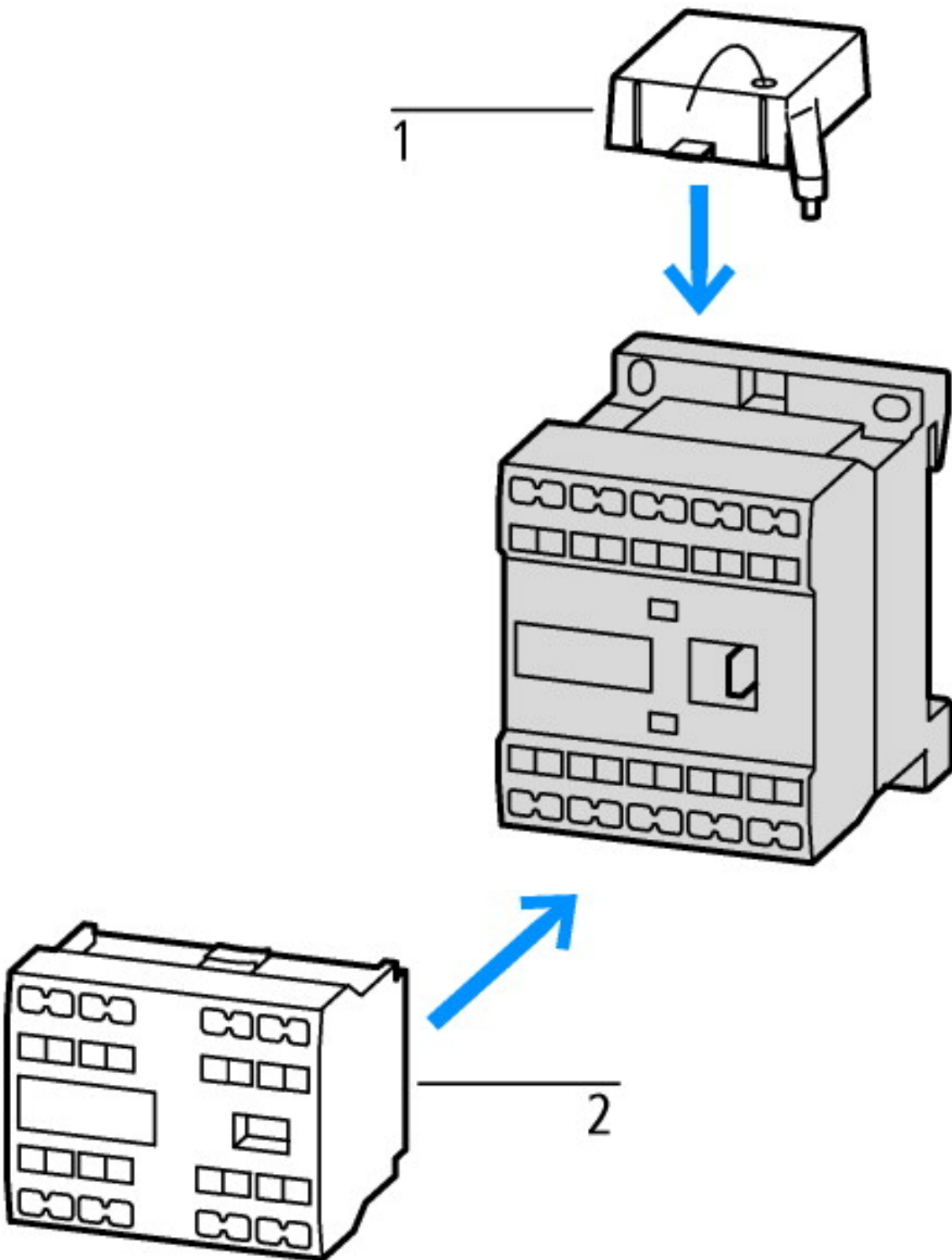
## Notes

**Notes** Making and breaking conditions to DC-13, time constant as stated  
See transparent overlay "Fuses" for time/current characteristics (please enquire)  
Use only equal cross-sections

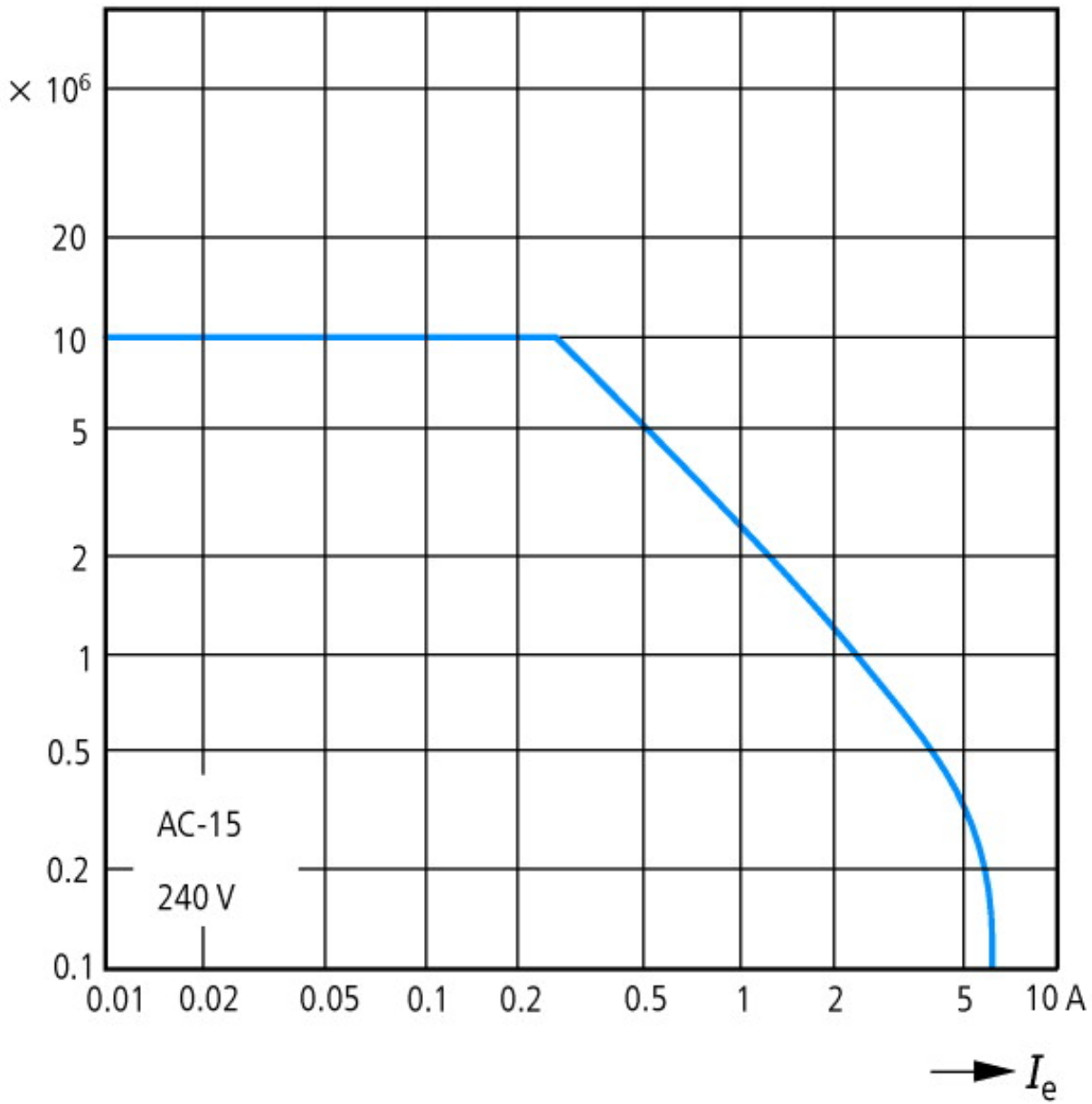
## Technical data according to ETIM 4.0

|   |  |   |                  |
|---|--|---|------------------|
| Connection type main circuit                            |  |   | Screw connection |
| Rated control voltage Us at DC                          |  | V | 24               |
| Rated control voltage Us at AC 60HZ                     |  | V | 0                |
| Rated control voltage Us at AC 50HZ                     |  | V | 0                |
| Number of auxiliary contacts as changeover contacts     |  |   | 0                |
| Rated operation current Ie , 400 V                      |  | A | 3                |
| Number of auxiliary contacts as N/Cs                    |  |   | 0                |
| Number of auxiliary contacts as N/Os                    |  |   | 4                |
| Voltage type for actuation                              |  |   | DC               |
| Number of auxiliary contacts as N/Os, leading           |  |   | 0                |
| Number of auxiliary contacts as N/Cs, delayed switching |  |   | 0                |

## Characteristics



1: Suppressor  
2: Auxiliary contact module



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

### CAD-Data

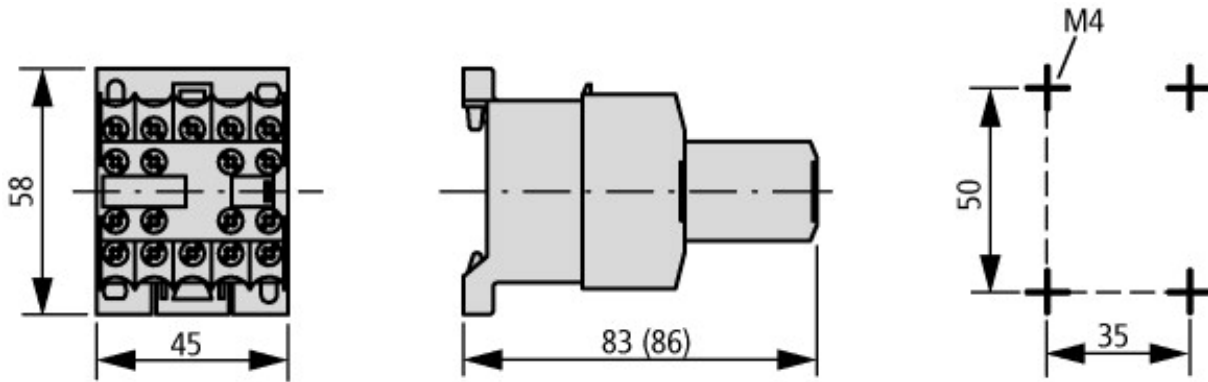
Product standards CAD data:

<http://eaton-moeller.partcommunity.com>

### Dimensions



DILER-...  
 DILER-...-G



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

### Additional product information (links)

IL03407009Z (IL03407009Z) Mini contactor relay

[ftp://ftp.moeller.net/DOCUMENTATION/AWA\\_INSTRUCTIONS/IL03407009Z2010\\_10.pdf](ftp://ftp.moeller.net/DOCUMENTATION/AWA_INSTRUCTIONS/IL03407009Z2010_10.pdf)