

# DATASHEET - DILA-40(42V50HZ,48V60HZ)



**Contactor relay, 42 V 50 Hz, 48 V 60 Hz, 4 N/O, Screw terminals, AC operation**

**Part no.** DILA-40(42V50HZ,48V60HZ)  
**Catalog No.** 276325  
**Alternate Catalog No.** XTRE10B40W



Similar to illustration

## Delivery program

|                                               |                |   |                                                                   |
|-----------------------------------------------|----------------|---|-------------------------------------------------------------------|
| Product range                                 |                |   | DILA relays                                                       |
| Application                                   |                |   | Contactor relays                                                  |
| Description                                   |                |   | Basic devices with positive operation contacts                    |
| Connection technique                          |                |   | Screw terminals                                                   |
| <b>Rated operational current</b>              |                |   |                                                                   |
| AC-15                                         |                |   |                                                                   |
| 220 V 230 V 240 V                             | I <sub>e</sub> | A | 4                                                                 |
| 380 V 400 V 415 V                             | I <sub>e</sub> | A | 4                                                                 |
| <b>Contacts</b>                               |                |   |                                                                   |
| N/O = Normally open                           |                |   | 4 N/O                                                             |
| Contact sequence                              |                |   |                                                                   |
| <b>Code number and version of combination</b> |                |   |                                                                   |
| Distinctive number                            |                |   | 40E                                                               |
| Can be combined with auxiliary contact module |                |   | DILA-XHI(V)...                                                    |
| Actuating voltage                             |                |   | 42 V 50 Hz, 48 V 60 Hz                                            |
| Voltage AC/DC                                 |                |   | AC operation                                                      |
| Connection to SmartWire-DT                    |                |   | no                                                                |
| <b>Instructions</b>                           |                |   |                                                                   |
|                                               |                |   | Contact numbers to EN 50011<br>Coil terminal markings to EN 50005 |

## Technical data

|                                                 |              |                   |                                                                                |
|-------------------------------------------------|--------------|-------------------|--------------------------------------------------------------------------------|
| <b>General</b>                                  |              |                   |                                                                                |
| Standards                                       |              |                   | IEC/EN 60947, EN 60947-5-1, VDE 0660, UL, CSA                                  |
| Lifespan, mechanical                            |              |                   |                                                                                |
| AC operated                                     | Operations   | x 10 <sup>6</sup> | 20                                                                             |
| Maximum operating frequency                     | Operations/h |                   | 9000                                                                           |
| Climatic proofing                               |              |                   | Damp heat, constant, to IEC 60068-2-78<br>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                                                                |                 |                                      |
| AC operated                                                           | kg              | 0.24                                 |
| Terminal capacities                                                   | mm <sup>2</sup> |                                      |
| Screw terminals                                                       |                 |                                      |
| Solid                                                                 | mm <sup>2</sup> | 1 x (0,75 - 4)<br>2 x (0,75 - 2,5)   |
| Flexible with ferrule                                                 | mm <sup>2</sup> | 1 x (0.75 - 2.5)<br>2 x (0.75 - 2.5) |
| Solid or stranded                                                     | AWG             | 18 - 14                              |
| Stripping length                                                      | mm              | 10                                   |
| 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                                  |

## Contacts

|                                                                             |                                  |      |                                                                                                                                                  |
|-----------------------------------------------------------------------------|----------------------------------|------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| Positive operating contacts to ZH 1/457, including auxiliary contact module |                                  |      | Yes                                                                                                                                              |
| Rated impulse withstand voltage                                             | U <sub>imp</sub>                 | V AC | 6000                                                                                                                                             |
| Overvoltage category/pollution degree                                       |                                  |      | III/3                                                                                                                                            |
| Rated insulation voltage                                                    | U <sub>i</sub>                   | V AC | 690                                                                                                                                              |
| Rated operational voltage                                                   | U <sub>e</sub>                   | 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 <sub>th</sub> = I <sub>e</sub> | A    | 16                                                                                                                                               |
| AC-15                                                                       |                                  |      |                                                                                                                                                  |
| 220 V 230 V 240 V                                                           | I <sub>e</sub>                   | A    | 4                                                                                                                                                |
| 380 V 400 V 415 V                                                           | I <sub>e</sub>                   | A    | 4                                                                                                                                                |
| 500 V                                                                       | I <sub>e</sub>                   | A    | 1.5                                                                                                                                              |
| DC current                                                                  |                                  |      |                                                                                                                                                  |
| Notes                                                                       |                                  |      | Switch-on and switch-off conditions based on DC-13, time constant as specified.                                                                  |
| DC L/R ≤ 15 ms                                                              |                                  |      |                                                                                                                                                  |
| 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                                                              |                                  |      |                                                                                                                                                  |
| Contacts in series:                                                         |                                  | A    |                                                                                                                                                  |
| 3                                                                           | 24 V                             | A    | 4                                                                                                                                                |
| 3                                                                           | 60 V                             | A    | 4                                                                                                                                                |
| 3                                                                           | 110 V                            | A    | 2                                                                                                                                                |
| 3                                                                           | 220 V                            | A    | 1                                                                                                                                                |
| Control circuit reliability                                                 | Failure rate                     | λ    | <10 <sup>-8</sup> , < one failure at 100 million operations<br>(at U <sub>e</sub> = 24 V DC, U <sub>min</sub> = 17 V, I <sub>min</sub> = 5.4 mA) |

|                                       |  |         |      |
|---------------------------------------|--|---------|------|
| Short-circuit rating without welding  |  |         |      |
| 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 $I_{th}$         |  |         |      |
| AC operated                           |  | W       | 0.53 |

## Magnet systems

|                                                              |         |         |           |
|--------------------------------------------------------------|---------|---------|-----------|
| Voltage tolerance                                            |         |         |           |
| AC operated                                                  |         |         |           |
| Single-voltage coil 50 Hz and dual-voltage coil 50 Hz, 60 Hz | Pick-up | x $U_c$ | 0.8 - 1.1 |
| Power consumption                                            |         |         |           |
| AC operation                                                 |         |         |           |
| Single-voltage coil 50 Hz and dual-voltage coil 50 Hz, 60 Hz | Pick-up | VA      | 24        |
| Single-voltage coil 50 Hz and dual-voltage coil 50 Hz, 60 Hz | Sealing | VA      | 3.4       |
| Single-voltage coil 50 Hz and dual-voltage coil 50 Hz, 60 Hz | Sealing | W       | 1.4       |
| duty factor                                                  |         | % DF    | 100       |
| Changeover time at 100 % $U_S$ (recommended value)           |         |         |           |
| AC operated closing delay                                    |         | ms      | 15 - 21   |
| AC operated N/O contact opening delay                        |         | ms      | 9 - 18    |

## Rating data for approved types

|                    |  |   |      |
|--------------------|--|---|------|
| Auxiliary contacts |  |   |      |
| Pilot Duty         |  |   |      |
| AC operated        |  |   | A600 |
| DC operated        |  |   | P300 |
| General Use        |  |   |      |
| AC                 |  | V | 600  |
| AC                 |  | A | 15   |
| DC                 |  | V | 250  |
| DC                 |  | A | 1    |

## Design verification as per IEC/EN 61439

|                                                                                                                        |            |    |                                                                    |
|------------------------------------------------------------------------------------------------------------------------|------------|----|--------------------------------------------------------------------|
| Technical data for design verification                                                                                 |            |    |                                                                    |
| Rated operational current for specified heat dissipation                                                               | $I_n$      | A  | 15.5                                                               |
| Heat dissipation per pole, current-dependent                                                                           | $P_{vid}$  | W  | 0.5                                                                |
| Equipment heat dissipation, current-dependent                                                                          | $P_{vid}$  | W  | 0                                                                  |
| Static heat dissipation, non-current-dependent                                                                         | $P_{vs}$   | W  | 1.4                                                                |
| 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.                         |
| 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.                         |
| 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 | 42 - 42          |
| Rated control supply voltage Us at AC 60HZ                                                                                                                              |  | V | 48 - 48          |
| Rated control supply voltage Us at DC                                                                                                                                   |  | V | 0 - 0            |
| Voltage type for actuating                                                                                                                                              |  |   | AC               |
| Rated operation current Ie, 400 V                                                                                                                                       |  | A | 4                |
| Connection type auxiliary circuit                                                                                                                                       |  |   | Screw 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

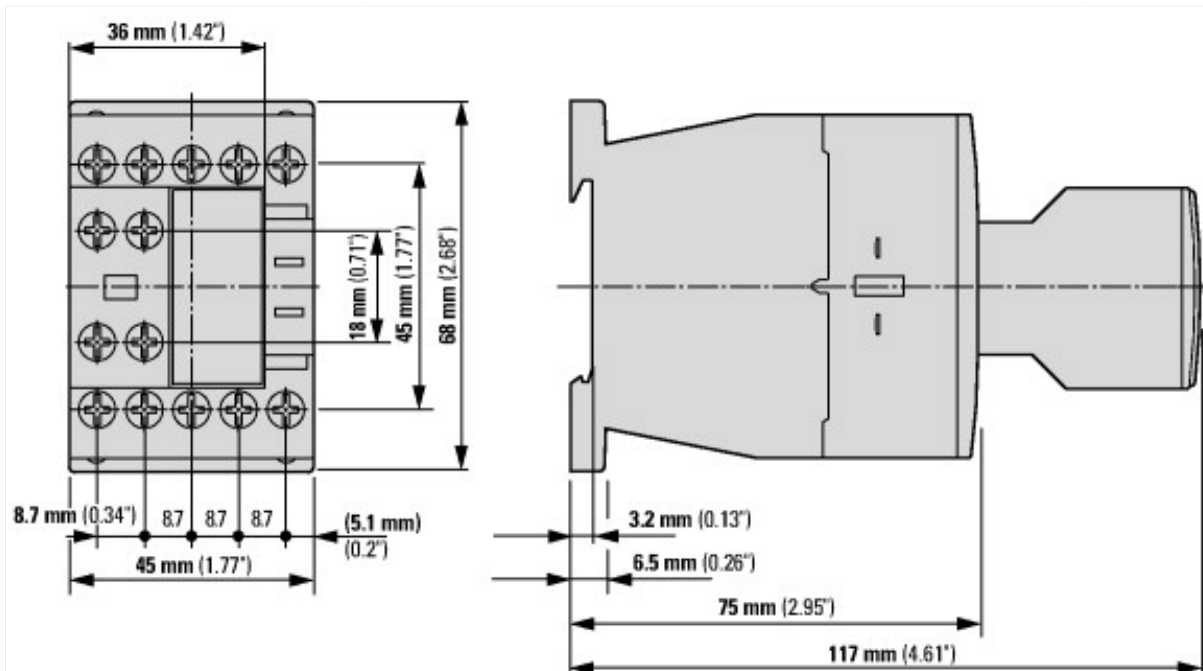


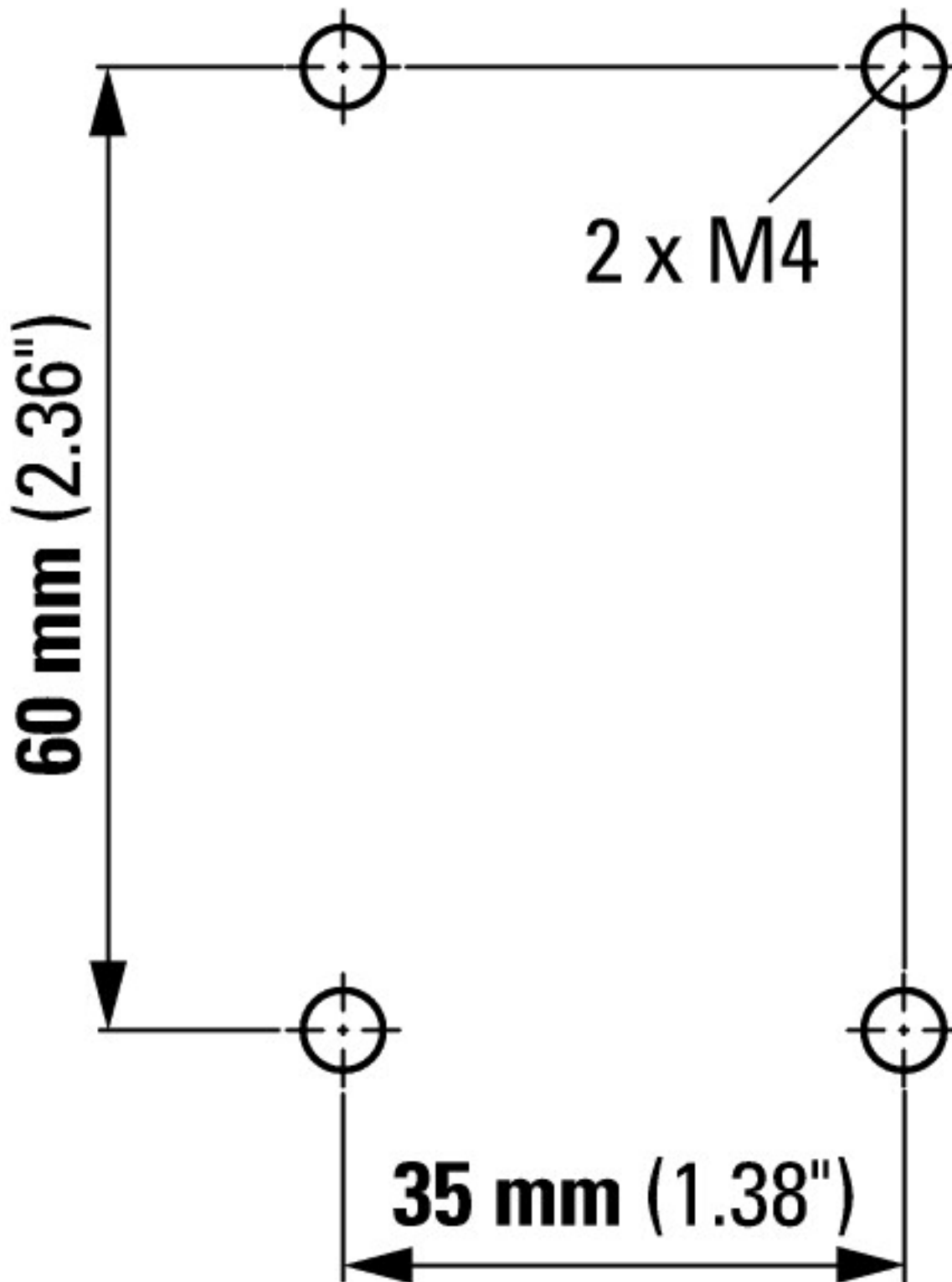
Component lifespan (operations)  
 $I_e$  = rated operational current



Component lifespan (operations)  
 $I_e$  = rated operational current  
 Three contacts in series

## Dimensions





### Additional product information (links)

IL03407013Z (AWA2100-2126) Contactors

IL03407013Z (AWA2100-2126) Contactors

[https://es-assets.eaton.com/DOCUMENTATION/AWA\\_INSTRUCTIONS/IL03407013Z2020\\_05.pdf](https://es-assets.eaton.com/DOCUMENTATION/AWA_INSTRUCTIONS/IL03407013Z2020_05.pdf)