

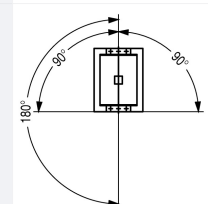
Contactor relay, 24 V 50/60 Hz, 3 N/O, 1 NC, Push in terminals, AC operation

Part no. DILA-31(24V50/60HZ)-PI
Catalog No. 199211
Alternate Catalog No. XTREPI10B31T

Delivery program

| | | | | |
|---|-------|---|--|---|
| Product range | | | | DILA relays |
| Application | | | | Contactor relays |
| Description | | | | Basic devices with positive operation contacts |
| Connection technique | | | | Push in terminals |
| Rated operational current | | | | |
| AC-15 | | | | |
| 220 V 230 V 240 V | I_e | A | | 4 |
| 380 V 400 V 415 V | I_e | A | | 4 |
| Contacts | | | | |
| N/O = Normally open | | | | 3 N/O |
| N/C = Normally closed | | | | 1 NC |
| Contact sequence | | | | |
| Code number and version of combination | | | | |
| Distinctive number | | | | 31E |
| Can be combined with auxiliary contact module | | | | DILA-XHI(V)...-PI |
| Actuating voltage | | | | 24 V 50/60 Hz |
| Voltage AC/DC | | | | AC operation |
| Connection to SmartWire-DT | | | | no |
| Instructions | | | | Contact numbers to EN 50011 Coil terminal markings to EN 50005 |

Technical data

| | | | | |
|---|--------------|---------------|--|--|
| General | | | | |
| Standards | | | | IEC/EN 60947, EN 60947-5-1, VDE 0660, UL, CSA |
| Lifespan, mechanical | | | | |
| AC operated | Operations | $\times 10^6$ | | 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 | | | |
| AC operated | | kg | 0.23 |
| Terminal capacities | | mm ² | |
| Push-in terminals | | | |
| Solid | | mm ² | 1 x (0,5 - 2,5) 2 x (0,5 - 2,5) |
| flexible | | mm ² | 1 x (0,5 - 2,5) 2 x (0,5 - 2,5) |
| flexible with ferrules | | mm ² | 1 x (0,5 - 1,5) 2 x (0,5 - 1,5) |
| flexible with ultrasonic welded busbar end | | mm ² | 1 x (0,5 - 2,5) 2 x (0,5 - 2,5) |
| flexible with uninsulated wire end ferrule | | mm ² | 1 x (0,5 - 2,5) 2 x (0,5 - 2,5) |
| Solid or stranded | | AWG | 20 - 14 |
| Stripping length | | mm | 10 |
| Standard screwdriver | | | 3.0 x 0.5 |

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 | U_i | 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 | $I_{th} = I_e$ | A | 16 |
| AC-15 | | | |
| 220 V 230 V 240 V | I_e | A | 4 |
| 380 V 400 V 415 V | I_e | A | 4 |
| 500 V | I_e | A | 1.5 |
| DC current | | | |
| Notes | | | Switch-on and switch-off conditions based on DC-13, time constant as specified. |
| DC L/R \leq 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 \leq 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 | $<10^{-8}$, < one failure at 100 million operations (at $U_e = 24$ V DC, $U_{min} = 17$ V, $I_{min} = 5.4$ 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 | | | |
| Dual-frequency coil 50/60 Hz | Pick-up | $x U_c$ | 0.8 - 1.1 |
| Power consumption | | | |
| AC operation | | | |
| Dual-frequency coil 50/60 Hz at 60 Hz | Pick-up | VA | 27 25 |
| Dual-frequency coil 50/60 Hz | Hold | VA | 4.2 3.3 |
| Dual-frequency coil 50/60 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 | | | |
| Operating ambient temperature min. | | °C | -25 |
| Operating ambient temperature max. | | °C | 60 |

Technical data ETIM 8.0

| | | |
|---|---|-------------------------|
| 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 U_s at AC 50HZ | V | 24 - 24 |
| Rated control supply voltage U_s at AC 60HZ | V | 24 - 24 |
| Rated control supply voltage U_s at DC | V | 0 - 0 |
| Voltage type for actuating | | AC |
| Rated operation current I_e , 400 V | A | 4 |
| Connection type auxiliary circuit | | Spring clamp connection |
| Mounting method | | DIN-rail/screw |
| Interface | | No |
| Number of auxiliary contacts as normally closed contact | | 1 |
| Number of auxiliary contacts as normally open contact | | 3 |
| Number of auxiliary contacts as normally closed contact, delayed switching | | 0 |
| Number of auxiliary contacts as normally open contact, leading | | 0 |
| Number of auxiliary contacts as change-over contact | | 0 |
| With LED indication | | No |
| Suitable for manual operation | | 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 |

Dimensions

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