## **DATASHEET - DILM150-XHI04**



Auxiliary contact module, 4 pole, Ith= 16 A, 4 NC, Front fixing, Screw terminals, DILM40 - DILM170



Part no. DILM150-XHI04

Catalog No. 277952 Alternate Catalog XTCEXFBG04

No.

**EL-Nummer** 4130495

(Norway)

#### **Delivery program**

| Delivery program                              |                 |   |  |
|---|-----------------|---|--|
| Accessories                                   |                 |   | Auxiliary contact modules  |
| Description                                   |                 |   | with interlocked opposing contacts   |
| Function                                      |                 |   | for standard applications  |
| Number of poles                               |                 |   | 4 pole   |
| Connection technique                          |                 |   | Screw terminals  |
| Rated operational current                     |                 |   |  |
| Conventional free air thermal current, 1 pole |                 |   |  |
| Open  |                 |   |  |
| at 60 °C                                      | I <sub>th</sub> | Α | 16   |
| AC-15   |                 |   |  |
| 220 V 230 V 240 V                             | l <sub>e</sub>  | Α | 6  |
| 380 V 400 V 415 V                             | Ie              | Α | 4  |
| Contacts                                      |                 |   |  |
| N/C = Normally closed                         |                 |   | 4 NC   |
| Mounting type                                 |                 |   | Front fixing   |
| Contact sequence                              |                 |   | 11 L21 L31 L41<br>   |
| For use with                                  |                 |   | DILM40 DILM50 DILM65 DILM72 DILM80 DILM85 DILM15 DILM150 DILM170 DILM170 DILM170 DILMP63 DILMP63 DILMP80 DILMP80 DILMP160 DILMP160 DILMF40 DILMF50 DILMF50 DILMF55 DILMF65 DILMF95 |
| Туре  |                 |   | Front mounting auxiliary contact   |
| Instructions                                  |                 |   | Interlocked opposing contacts according to IEC/EN 60947-5-1 Appendix L, inside the auxiliary contact module Auxiliary contacts used as mirror contacts according to IEC/EN 60947-4-1 Appendix F (not N/C late open)  |

### **Technical data**

#### Conoral

| General                               |            |                   |  |
|---------------------------------------|------------|-------------------|--|
| Standards                             |            |                   | IEC/EN 60947, VDE 0660, UL, CSA  |
| Component lifespan                    |            |                   |  |
| at U <sub>e</sub> = 230 V, AC-15, 3 A | Operations | x 10 <sup>6</sup> | 1.3  |
| 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  |
| 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  |
| Weight  |                  | kg              | 0.055  |
| Terminal capacities   |                  | mm <sup>2</sup> |  |
| Screw terminals   |                  |                 |  |
| Solid   |                  | mm <sup>2</sup> | 1 x (0.75 - 2.5)   |
|   |                  | IIIIII          | 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  |
| Pozidriv screwdriver  |                  | Size            | 2  |
| Standard screwdriver  |                  | mm              | 0.8 x 5.5  |
| May dishaping appropri  |                  | Nec             | 1x6  |
| Max. tightening torque  Contacts  |                  | Nm              | 1.2  |
| Interlocked opposing contacts within an auxiliary contact module (to IEC 60947-5-Annex L)       | 1                |                 | Yes  |
| N/C contact (not late-break contact) suitable as a mirror contact (to IEC/EN 60947-4-1 Annex F) |                  |                 | DILM40 - DILM170   |
| Rated impulse withstand voltage   | U <sub>imp</sub> | V AC            | 6000   |
| Overvoltage category/pollution degree   |                  |                 | III/3  |
| Rated insulation voltage  | Ui               | V AC            | 690  |
| Rated operational voltage   | U <sub>e</sub>   | V AC            | 500  |
| Safe isolation to EN 61140  | C                |                 |  |
| between coil and auxiliary contacts   |                  | V AC            | 440  |
| between the auxiliary contacts  |                  | V AC            | 440  |
| Rated operational current   |                  | A               |  |
| Conventional free air thermal current, 1 pole   |                  |                 |  |
| at 60 °C  | I <sub>th</sub>  | Α               | 16   |
| AC-15   | u.               |                 |  |
| 220 V 230 V 240 V   | l <sub>e</sub>   | A               | 6  |
| 380 V 400 V 415 V   | I <sub>e</sub>   | A               | 4  |
| 500 V   |                  | A               | 1.5  |
|   | l <sub>e</sub>   | ^               | 1.0  |
| DC current  |                  |                 | Switch on and switch off conditions based on DC 12 time constant as an air of  |
| DC L/R ≦ 15 ms  |                  |                 | Switch-on and switch-off conditions based on DC-13, time constant as specified.  |
| DC L/R ≥ 13 ms  Contacts in series:   |                  | A               |  |
| Contacts in series:   | 24 V             | A               | 10   |
| 1   | 60 V             | A               | 6  |
| 1   | 110 V            | A               | 3  |
| 1   | 220 V            | A               | 1  |
| Control circuit reliability   | Failure rate     | λ               |  |
|   | runuic rate      | A               | $<10^{-8}$ , $<$ one failure at 100 million operations (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  |                  |                 |  |
| Short-circuit protection maximum fuse   |                  |                 |  |
| 500 V   |                  | A gG/gL         | 16   |
| Current heat loss at I <sub>th</sub>  |                  |                 |  |
| AC operated   |                  | W               | 3.7  |
| DC operated   |                  | W               | 3.7  |

| Current heat loss per auxiliary circuit at I <sub>e</sub> (AC-15/230 V) |  | CO | 0.5  |  |  |
|---|--|----|------|--|--|
| Rating data for approved types  |  |    |      |  |  |
| Auxiliary contacts  |  |    |      |  |  |
| Pilot Duty  |  |    |      |  |  |
| AC operated   |  |    | A600 |  |  |
| DC operated   |  |    | P300 |  |  |
| General Use   |  |    |      |  |  |
| AC  |  | V  | 600  |  |  |
| AC  |  | Α  | 15   |  |  |
| DC  |  | V  | 250  |  |  |
| DC  |  | Α  | 1    |  |  |

### **Design verification as per IEC/EN 61439**

| Design Verification as per IEG/EN 61439  |                   |    |  |
|--|-------------------|----|--|
| Technical data for design verification   |                   |    |  |
| Rated operational current for specified heat dissipation   | In                | Α  | 4  |
| Heat dissipation per pole, current-dependent   | P <sub>vid</sub>  | W  | 0.23   |
| Equipment heat dissipation, current-dependent  | P <sub>vid</sub>  | W  | 0  |
| Static heat dissipation, non-current-dependent   | P <sub>vs</sub>   | W  | 0  |
| Heat dissipation capacity  | P <sub>diss</sub> | 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 switch<br>gear must be observed. $\label{eq:constraint}$       |
| 10.12 Electromagnetic compatibility  |                   |    | Is the panel builder's responsibility. The specifications for the switch<br>gear must be observed. $\label{eq:constraint}$       |
| 10.13 Mechanical function  |                   |    | The device meets the requirements, provided the information in the instruction leaflet (IL) is observed. $\label{eq:continuous}$ |

#### **Technical data ETIM 7.0**

Low-voltage industrial components (EG000017) / Auxiliary contact block (EC000041)

Electric engineering, automation, process control engineering / Low-voltage switch technology / Component for low-voltage switching technology / Auxiliary switch block (ecl@ss10.0.1-27-37-13-02 [AKN342013])

| (ecl@ss10.0.1-27-37-13-02 [AKN342013])      |   |  |
|---|---|--|
| Number of contacts as change-over contact   | 0 |  |
| Number of contacts as normally open contact | 0 |  |

| Number of contacts as normally closed contact |   | 4                |
|---|---|------------------|
| Number of fault-signal switches               |   | 0                |
| Rated operation current le at AC-15, 230 V    | Α | 6                |
| Type of electric connection                   |   | Screw connection |
| Model   |   | Top mounting     |
| Mounting method                               |   | Front fastening  |
| Lamp holder                                   |   | None             |

# 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  |

# **Additional product information (links)**

| Motor starters and "Special Purpose Ratings" for the North American market                     | http://www.eaton.eu/ecm/groups/public/@pub/@europe/@electrical/documents/content/pct_3258146.pdf |
|--|--|
| Switchgear of Power Factor Correction Systems  | http://www.moeller.net/binary/ver_techpapers/ver934en.pdf  |
| X-Start - Modern Switching Installations Efficiently Fitted and Wired Securely                 | http://www.moeller.net/binary/ver_techpapers/ver938en.pdf  |
| Mirror Contacts for Highly-Reliable Information Relating to Safety-Related Control Functions   | http://www.moeller.net/binary/ver_techpapers/ver944en.pdf  |
| Effect of the Cabel Capacitance of Long Control Cables on the Actuation of Contactors          | http://www.moeller.net/binary/ver_techpapers/ver949en.pdf  |
| Switchgear for Luminaires  | http://www.moeller.net/binary/ver_techpapers/ver955en.pdf  |
| Standard Compliant and Functionally Safe Engineering Design with Mechanical Auxiliary Contacts | http://www.moeller.net/binary/ver_techpapers/ver956en.pdf  |
| The Interaction of Contactors with PLCs  | http://www.moeller.net/binary/ver_techpapers/ver957en.pdf  |
| Busbar Component Adapters for modern Industrial control panels                                 | http://www.moeller.net/binary/ver_techpapers/ver960en.pdf  |