



Control relay, 24 V DC, 12DI(4AI), 6DO relays, display, time, expandable



Part no. **EASY719-DC-RC**  
 Catalog No. **274119**

EL-Nummer **0004519776**  
 (Norway)

**Delivery program**

|                                |  |        |   |
|--------------------------------|--|--------|---|
| Basic function                 |  |        | easy700 (expandable)  |
| Description                    |  |        | Expandable: Digital inputs/outputs, bus systems AS-Interface, PROFIBUS-DP, CANopen®, DeviceNet<br>customized laser inscription or delivery with user program possible with EASY-COMBINATION-* product (article No. 2010781) |
| <b>Inputs</b>                  |  |        |   |
| Digital                        |  |        | 12  |
| of which can be used as analog |  |        | 4   |
| <b>Outputs</b>                 |  |        |   |
| Outputs                        |  | Number | 6   |
| <b>Additional features</b>     |  |        |   |
| Real time clock                |  |        | #   |
| Display & keypad               |  |        | #   |
| Expansions                     |  |        | Expandable  |
| Supply voltage                 |  |        | 24 V DC   |
| Software                       |  |        | EASY-SOFT-BASIC/-PRO  |

**Technical data**

**General**

|           |  |    |  |
|-----------|--|----|--|
| Standards |  |    | EN 55011, EN 55022, IEC/EN 61000-4, IEC 60068-2-6, IEC 60068-2-27                                |
| Weight    |  | kg | 0.3  |
| Mounting  |  |    | Top-hat rail IEC/EN 60715, 35 mm or screw fixing using fixing brackets ZB4-101-GF1 (accessories) |

**Terminal capacities**

|                        |  |                 |                       |
|------------------------|--|-----------------|-----------------------|
| Solid                  |  | mm <sup>2</sup> | 0.2/4 (AWG 22 - 12)   |
| Flexible with ferrule  |  | mm <sup>2</sup> | 0.2/2.5 (AWG 22 - 12) |
| Standard screwdriver   |  | mm              | 3.5 x 0.8             |
| Max. tightening torque |  | Nm              | 0.6                   |

**Climatic environmental conditions**

|                               |   |     |   |
|-------------------------------|---|-----|---|
| Operating ambient temperature |   | °C  | In accordance with IEC 60068-2-1, -25 - +55                 |
| Condensation                  |   |     | Take appropriate measures to prevent condensation           |
| LCD display (clearly legible) |   | °C  | 0 - 55  |
| Storage                       | 9 | °C  | -40 - +70   |
| relative humidity             |   | %   | in accordance with IEC 60068-2-30, IEC 60068-2-78<br>5 - 95 |
| Air pressure (operation)      |   | hPa | 795 - 1080  |

**Ambient conditions, mechanical**

|  |             |         |  |
|--|-------------|---------|--|
| Protection type (IEC/EN 60529, EN50178, VBG 4)                             |             |         | IP20   |
| Vibrations   |             | Hz      | In accordance with IEC 60068-2-6<br>constant amplitude 0.15 mm: 10 - 57<br>constant acceleration 2 g: 57 - 150 |
| Mechanical shock resistance (IEC/EN 60068-2-27) semi-sinusoidal 15 g/11 ms |             | Impacts | 18   |
| Drop to IEC/EN 60068-2-31  | Drop height | mm      | 50   |
| Free fall, packaged (IEC/EN 60068-2-32)                                    |             | m       | 1  |
| Mounting position  |             |         | Vertical or horizontal   |

**Electromagnetic compatibility (EMC)**

|                                       |  |  |                               |
|---------------------------------------|--|--|-------------------------------|
| Overvoltage category/pollution degree |  |  | III/2                         |
| Electrostatic discharge (ESD)         |  |  |                               |
| applied standard                      |  |  | according to IEC EN 61000-4-2 |

|   |     |  |
|---|-----|--|
| Air discharge   | kV  | 8  |
| Contact discharge   | kV  | 6  |
| Electromagnetic fields (RFI) to IEC EN 61000-4-3              | V/m | 10   |
| Radio interference suppression                                |     | EN 55011 Class B, EN 55022 Class B                                 |
| Burst   | kV  | according to IEC/EN 61000-4-4                                      |
| power pulses (Surge)  |     | according to IEC/EN 61000-4-5<br>1 kV (supply cables, symmetrical) |
| Immunity to line-conducted interference to (IEC/EN 61000-4-6) | V   | 10   |

### Insulation resistance

|   |  |                                      |
|---|--|--------------------------------------|
| Clearance in air and creepage distances |  | EN 50178, UL 508, CSA C22.2, No. 142 |
| Insulation resistance                   |  | EN 50178                             |

### Back-up of real-time clock

|                                       |       |                                  |   |
|---------------------------------------|-------|----------------------------------|---|
| Back-up of real-time clock            |       |                                  |   |
|                                       |       |                                  | <p>① Backup time (hours) with fully charged double layer capacitor</p> <p>② Service life (years)</p>      |
| Accuracy of real-time clock to inputs | s/day | typ. $\pm 2$ ( $\pm 0.2$ h/Year) | depending on ambient air temperature fluctuations of up to $\pm 5$ s/day ( $\pm 0.5$ h/year) are possible |

### Repetition accuracy of timing relays

|                                       |     |            |
|---------------------------------------|-----|------------|
| Accuracy of timing relays (of values) | %   | $\pm 0.02$ |
| Resolution                            |     |            |
| Range "S"                             | ms  | 10         |
| Range "M:S"                           | s   | 1          |
| Range "H:M"                           | min | 1          |

### Retentive memory

|                                      |  |                    |
|--------------------------------------|--|--------------------|
| Write cycles of the retentive memory |  | 1000000 ( $10^6$ ) |
|--------------------------------------|--|--------------------|

### Power supply

|                           |       |    |  |
|---------------------------|-------|----|--|
| Rated operational voltage | $U_e$ | V  | 24 DC (-15/+20%)                                   |
| Permissible range         | $U_e$ |    | 20.4 - 28.8 V DC                                   |
| Residual ripple           |       | %  | $\leq 5$   |
| Input current             |       |    | normally 140 mA at $U_e$                           |
| Voltage dips              |       | ms | $\leq$ In accordance with IEC 61131-2<br>$\leq 10$ |
| Fuse                      |       | A  | $\geq 1$ A (T)                                     |
| Power loss                | P     | W  | Normally 2   |

### Digital inputs 24 V DC

|                                     |       |      |   |
|-------------------------------------|-------|------|---|
| Number                              |       |      | 12  |
| Inputs can be used as analog inputs |       |      | 4 (I7, I8, I11, I12)  |
| Status Display                      |       |      | LCD-Display   |
| Potential isolation                 |       |      | from power supply: no<br>between digital inputs: no<br>from the outputs: yes<br>to interface/memory card: no<br>to easyLink: no |
| Rated operational voltage           | $U_e$ | V DC | 24  |
| Input voltage                       |       | V DC | Signal 0: $\leq 5$ (I1 - I12, R1 - R12)<br>Signal 1: $\geq 15$ (I1 - I6, I9, I10), $\geq 8$ (I7, I8, I11, I12)                  |
| Input current at signal 1           |       | mA   | I1 - I6, I9, I10: 3.3 (at 24 V DC)<br>I7, I8, I11, I12: 2.2 (at 24 V DC)  |
| Deceleration time                   |       | ms   | 20 (0 -> 1/1 -> 0, Debounce ON)<br>normally 0.25 (0 -> 1, Debounce OFF; I1 - I12)   |
| Cable length                        |       | m    | 100 (unshielded)  |
| Frequency counter                   |       |      |   |
| Number                              |       |      | 2 (I3, I4)  |
| Counter frequency                   |       | kHz  | $\leq 1$  |
| Pulse shape                         |       |      | Square  |
| Pulse pause ratio                   |       |      | 1:1   |
| Cable length                        |       | m    | $\leq 20$ (screened)  |
| Rapid counter inputs                |       |      |   |

|                   |  |     |                 |
|-------------------|--|-----|-----------------|
| Number            |  |     | 2 (I1, I2)      |
| Cable length      |  | m   | ≤ 20 (screened) |
| Counter frequency |  | kHz | ≤ 1             |
| Pulse shape       |  |     | Square          |
| Pulse pause ratio |  |     | 1:1             |

### Digital inputs 24 V DC

|                |  |  |             |
|----------------|--|--|-------------|
| Status Display |  |  | LCD-Display |
|----------------|--|--|-------------|

### Analog inputs

|                                 |  |    |   |
|---------------------------------|--|----|---|
| Number                          |  |    | 4 (I7, I8, I11, I12)  |
| Potential isolation             |  |    | from power supply: no<br>between digital inputs: no<br>from the outputs: yes<br>to interface/memory card: no<br>to easyLink: no |
| Input type                      |  |    | DC voltage  |
| Signal range                    |  |    | 0-10 V DC   |
| Resolution                      |  |    | 0.01 V analog<br>0.01 V digital<br>10 Bit (value 0 - 1023)  |
| Input impedance                 |  | kΩ | 11.2  |
| Accuracy of actual value        |  |    |   |
| Two EASY devices                |  | %  | ± 3   |
| Within a single device          |  | %  | ± 2, (I7, I8, I11, I12) ± 0.12 V  |
| Conversion time, analog/digital |  | ms | Input delay ON: 20; Input delay OFF: each cycle time  |
| Input current                   |  | mA | < 1   |
| Cable length                    |  | m  | ≤ 30, screened  |

### Relay outputs

|   |                |                   |   |
|---|----------------|-------------------|---|
| Number  |                |                   | 6   |
| Outputs in groups of  |                |                   | 1   |
| Parallel switching of outputs for increased output                        |                |                   | Not permissible   |
| Protection of an output relay   |                |                   | Miniature circuit-breaker B16 or fuse 8 A (slow)  |
| Potential isolation   |                |                   | from power supply: yes<br>From the inputs: yes<br>Safe isolation according to EN 50178: 300 V AC<br>Basic isolation: 600 V AC |
| Lifespan, mechanical  | Operations     | x 10 <sup>6</sup> | 10  |
| Contacts  |                |                   |   |
| Conventional thermal current (10 A UL)                                    |                | A                 | 8   |
| Recommended for load: 12 V AC/DC  |                | mA                | > 500   |
| Short-circuit-proof cos φ = 1, characteristic B16 at 600 A                |                | A                 | 16  |
| Short-circuit-proof cos φ = 0.5 to 0.7, characteristic B16 at 900 A       |                | A                 | 16  |
| Rated impulse withstand voltage U <sub>imp</sub> of contact coil          |                | kV                | 6   |
| Rated operational voltage   | U <sub>e</sub> | V AC              | 250   |
| Rated insulation voltage  | U <sub>i</sub> | V AC              | 250   |
| Safe isolation according to EN 50178                                      |                | V AC              | 300 between coil and contact<br>300 between two contacts  |
| Making capacity   |                |                   |   |
| AC--15, 250 V AC, 3 A (600 ops./h)  | Operations     |                   | 300000  |
| DC-13, L/R ≤ 150 ms, 24 V DC, 1 A (500 S/h)                               | Operations     |                   | 200000  |
| Breaking capacity   |                |                   |   |
| AC-15, 250 V AC, 3 A (600 Ops./h)   | Operations     |                   | 300000  |
| DC-13, L/R ≤ 150 ms, 24 V DC, 1 A (500 S/h)                               | Operations     |                   | 200000  |
| Filament bulb load  |                |                   |   |
| 1000 W at 230/240 V AC  | Operations     |                   | 25000   |
| 500 W at 115/120 V AC   | Operations     |                   | 25000   |
| Fluorescent lamp load   |                |                   |   |
| Fluorescent lamp load 10 x 58 W at 230/240 V AC                           |                |                   |   |
| With upstream electrical device   | Operations     |                   | 25000   |
| Uncompensated   | Operations     |                   | 25000   |
| Fluorescent lamp load 1 x 58 W at 230/240 V AC, conventional, compensated | Operations     |                   | 25000   |

|   |  |                   |                        |
|---|--|-------------------|------------------------|
| Switching frequency                                 |  |                   |                        |
| Mechanical operations                               |  | x 10 <sup>6</sup> | 10                     |
| Switching frequency                                 |  | Hz                | 10                     |
| Resistive load/lamp load                            |  | Hz                | 2                      |
| Inductive load                                      |  | Hz                | 0.5                    |
| UL/CSA  |  |                   |                        |
| Uninterrupted current at 240 V AC                   |  | A                 | 10                     |
| Uninterrupted current at 24 V DC                    |  | A                 | 8                      |
| AC  |  |                   |                        |
| Control Circuit Rating Codes (utilization category) |  |                   | B 300 Light Pilot Duty |
| Max. rated operational voltage                      |  | V AC              | 300                    |
| max. thermal continuous current cos φ = 1 at B 300  |  | A                 | 5                      |
| max. make/break cos φ ≠ capacity 1 at B 300         |  | VA                | 3600/360               |
| DC  |  |                   |                        |
| Control Circuit Rating Codes (utilization category) |  |                   | R 300 Light Pilot Duty |
| Max. rated operational voltage                      |  | V DC              | 300                    |
| Max. thermal uninterrupted current at R 300         |  | A                 | 1                      |
| Max. make/break capacity at R 300                   |  | VA                | 28/28                  |

### Supply voltage U<sub>Aux</sub>

|            |   |   |   |
|------------|---|---|---|
| Power loss | P | W | 2 |
|------------|---|---|---|

## Design verification as per IEC/EN 61439

|  |                   |    |  |
|--|-------------------|----|--|
| Technical data for design verification   |                   |    |  |
| Rated operational current for specified heat dissipation   | I <sub>n</sub>    | A  | 0  |
| Heat dissipation per pole, current-dependent   | P <sub>vid</sub>  | W  | 0  |
| Equipment heat dissipation, current-dependent  | P <sub>vid</sub>  | W  | 0  |
| Static heat dissipation, non-current-dependent   | P <sub>vs</sub>   | W  | 3.5  |
| Heat dissipation capacity  | P <sub>diss</sub> | W  | 0  |
| Operating ambient temperature min.   |                   | °C | -25  |
| Operating ambient temperature max.   |                   | °C | 55   |
| 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  |                   |    | Meets the product standard's requirements.   |
| 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.   |
| 10.12 Electromagnetic compatibility  |                   |    | Is the panel builder's responsibility.   |

## Technical data ETIM 7.0

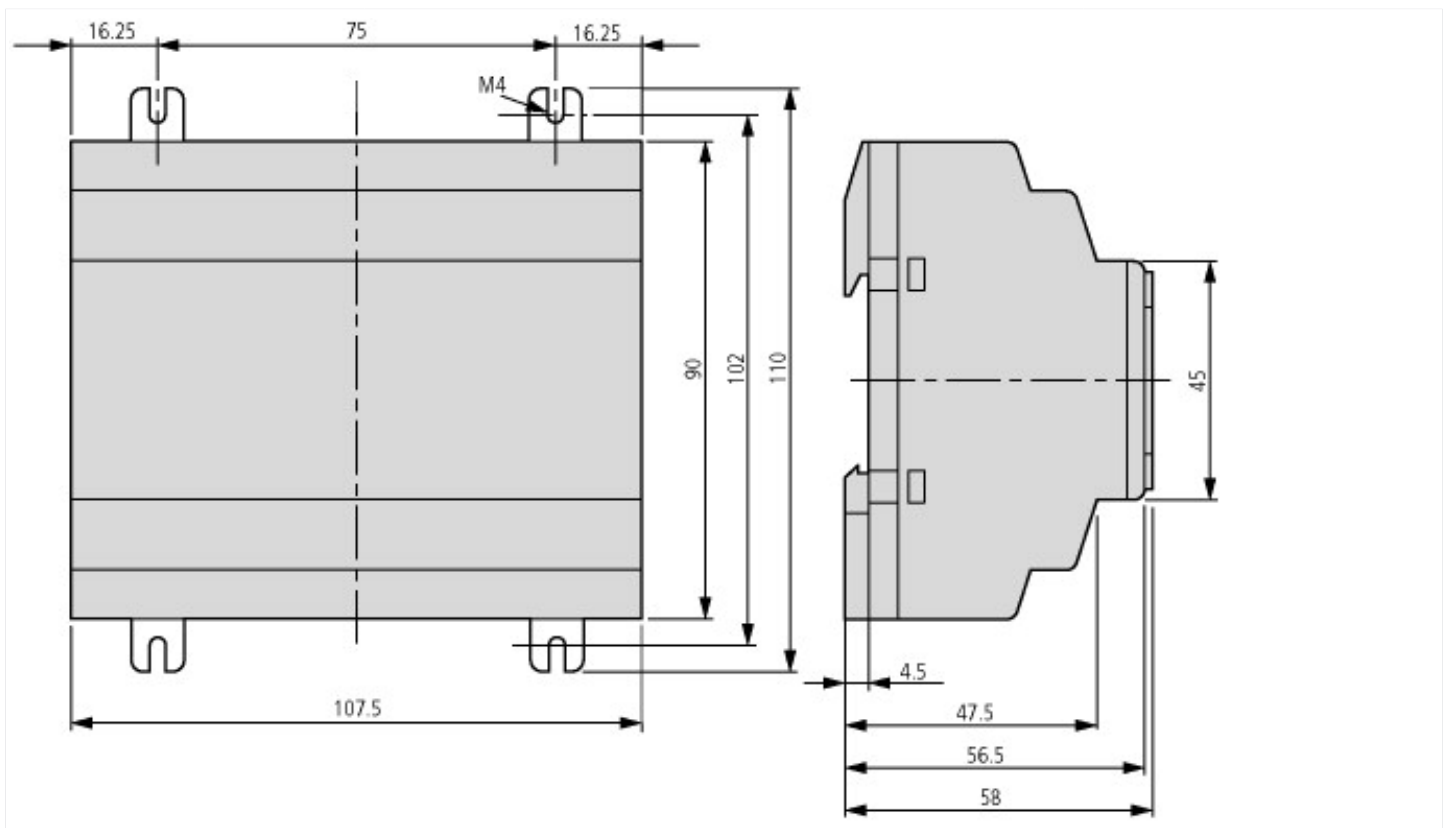
|  |   |             |
|--|---|-------------|
| PLC's (EG000024) / Logic module (EC001417)   |   |             |
| Electric engineering, automation, process control engineering / Control / Programmable logic control (SPS) / Logic module (ecl@ss10.0.1-27-24-22-16 [AKE539014]) |   |             |
| Supply voltage AC 50 Hz  | V | 0 - 0       |
| Supply voltage AC 60 Hz  | V | 0 - 0       |
| Supply voltage DC  | V | 20.4 - 28.8 |
| Voltage type of supply voltage   |   | DC          |
| Voltage type of supply voltage   |   | DC          |
| Switching current  | A | 8           |
| Number of analogue inputs  |   | 4           |
| Number of analogue outputs   |   | 0           |
| Number of digital inputs   |   | 12          |
| Number of digital outputs  |   | 6           |
| With relay output  |   | Yes         |
| Number of HW-interfaces industrial Ethernet  |   | 0           |
| Number of interfaces PROFINET  |   | 0           |
| Number of HW-interfaces RS-232   |   | 0           |
| Number of HW-interfaces RS-422   |   | 0           |
| Number of HW-interfaces RS-485   |   | 0           |
| Number of HW-interfaces serial TTY   |   | 0           |
| Number of HW-interfaces USB  |   | 0           |
| Number of HW-interfaces parallel   |   | 0           |
| Number of HW-interfaces Wireless   |   | 0           |
| Number of HW-interfaces other  |   | 1           |
| With optical interface   |   | No          |
| Supporting protocol for TCP/IP   |   | No          |
| Supporting protocol for PROFIBUS   |   | No          |
| Supporting protocol for CAN  |   | No          |
| Supporting protocol for INTERBUS   |   | No          |
| Supporting protocol for ASI  |   | No          |
| Supporting protocol for KNX  |   | No          |
| Supporting protocol for MODBUS   |   | No          |
| Supporting protocol for Data-Highway   |   | No          |
| Supporting protocol for DeviceNet  |   | No          |
| Supporting protocol for SUCONET  |   | No          |
| Supporting protocol for LON  |   | No          |
| Supporting protocol for PROFINET IO  |   | No          |
| Supporting protocol for PROFINET CBA   |   | No          |
| Supporting protocol for SERCOS   |   | No          |
| Supporting protocol for Foundation Fieldbus  |   | No          |
| Supporting protocol for EtherNet/IP  |   | No          |
| Supporting protocol for AS-Interface Safety at Work  |   | No          |
| Supporting protocol for DeviceNet Safety   |   | No          |
| Supporting protocol for INTERBUS-Safety  |   | No          |
| Supporting protocol for PROFIsafe  |   | No          |
| Supporting protocol for SafetyBUS p  |   | No          |
| Supporting protocol for other bus systems  |   | No          |
| Radio standard Bluetooth   |   | No          |
| Radio standard WLAN 802.11   |   | No          |
| Radio standard GPRS  |   | No          |
| Radio standard GSM   |   | No          |
| Radio standard UMTS  |   | No          |
| IO link master   |   | No          |

|                                       |    |       |
|---------------------------------------|----|-------|
| Redundancy                            |    | No    |
| With display                          |    | Yes   |
| Degree of protection (IP)             |    | IP20  |
| Basic device                          |    | Yes   |
| Expandable                            |    | Yes   |
| Expansion device                      |    | No    |
| With timer                            |    | Yes   |
| Rail mounting possible                |    | Yes   |
| Wall mounting/direct mounting         |    | Yes   |
| Front build in possible               |    | No    |
| Rack-assembly possible                |    | No    |
| Suitable for safety functions         |    | No    |
| Category according to EN 954-1        |    | None  |
| SIL according to IEC 61508            |    | None  |
| Performance level acc. EN ISO 13849-1 |    | None  |
| Appendant operation agent (Ex ia)     |    | No    |
| Appendant operation agent (Ex ib)     |    | No    |
| Explosion safety category for gas     |    | None  |
| Explosion safety category for dust    |    | None  |
| Width                                 | mm | 107.5 |
| Height                                | mm | 90    |
| Depth                                 | mm | 58    |

## Approvals

|                             |  |   |
|-----------------------------|--|---|
| Product Standards           |  | IEC/EN see Technical Data; UL 508; CSA C22.2 No. 142-M1987; CSA C22.2 No. 213-M1987; CE marking |
| UL File No.                 |  | E135462   |
| UL Category Control No.     |  | NRAQ  |
| CSA File No.                |  | 012528  |
| CSA Class No.               |  | 2252-01 + 2258-02   |
| North America Certification |  | UL listed, CSA certified  |
| Degree of Protection        |  | IEC: IP20, UL/CSA Type: -   |

## Dimensions



## Additional product information (links)

### Instruction leaflet "easy control relays" IL05013015Z (AWA2528-2105)

|   |   |
|---|---|
| Instruction leaflet "easy control relays"<br>IL05013015Z (AWA2528-2105) | <a href="ftp://ftp.moeller.net/DOCUMENTATION/AWA_INSTRUCTIONS/IL05013015Z2018_02.pdf">ftp://ftp.moeller.net/DOCUMENTATION/AWA_INSTRUCTIONS/IL05013015Z2018_02.pdf</a> |
|---|---|

### Manual "easy500, easy700 control relays" MN05013003Z (AWB2528-1508)

|  |   |
|--|---|
| Handbuch „Steuerrelais easy500, easy700“<br>MN05013003Z (AWB2528-1508) - Deutsch | <a href="ftp://ftp.moeller.net/DOCUMENTATION/AWB_MANUALS/MN05013003Z_DE.pdf">ftp://ftp.moeller.net/DOCUMENTATION/AWB_MANUALS/MN05013003Z_DE.pdf</a> |
|--|---|

|  |   |
|--|---|
| Manual "easy500, easy700 control relays"<br>MN05013003Z (AWB2528-1508) - English | <a href="ftp://ftp.moeller.net/DOCUMENTATION/AWB_MANUALS/MN05013003Z_EN.pdf">ftp://ftp.moeller.net/DOCUMENTATION/AWB_MANUALS/MN05013003Z_EN.pdf</a> |
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| f1=1454&f2=1179;Labeleditor | <a href="http://applications.eaton.eu/sdlc?LX=11&amp;f1=1454&amp;f2=1179;Labeleditor">http://applications.eaton.eu/sdlc?LX=11&amp;f1=1454&amp;f2=1179;Labeleditor</a> |
|-----------------------------|---|