

Erweiterungsfähige Automationsstation

DIGICONTROL ems2.R4D1B

ANWENDUNG

Die ems2.R4D1B ist ein frei programmierbarer Kompaktregler, der im Bedarfsfall um E/A- sowie Schnittstellenmodule der ems4-Baureihe erweitert werden kann.

Als frei parametrier- programmierbarer Universalregler zur Anpassung individueller Raumautomationskonzepte.

Die ems2.R4D1B verfügt über einen integrierten Webserver zur vollständigen Fernbedienung und Überwachung der Automationsfunktionen. Eine vollgrafische Visualisierung der Anlageninformationen wird ebenfalls unterstützt.

Einsetzbar als BACnet® Building Controller (B-BC) entsprechend dem BACnet® Standardized Device Profile gemäß Annex L des ANSI ASHRAE-Standards 135-2001 bzw. DIN EN 16484-5. Die Kommunikation erfolgt über BACnet/IP oder BACnet MS/TP.



Abbildung: ems2.R4D1B

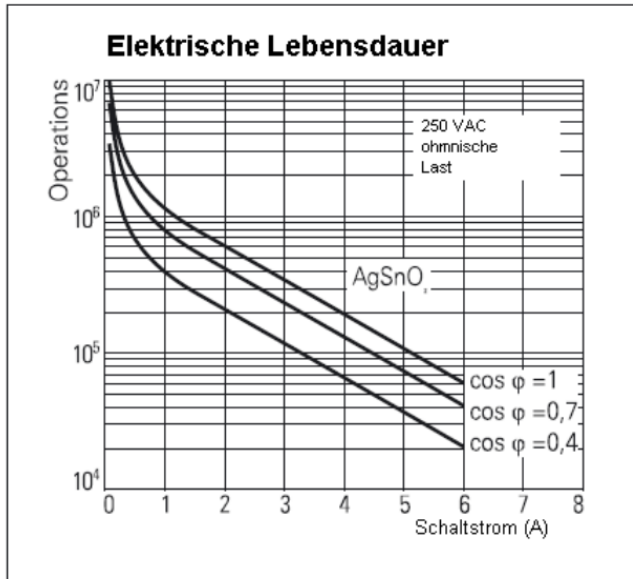
TECHNISCHE DATEN

| | |
|--|---|
| Spannung | 24 V DC +/- 10 %, alternativ "Power over Ethernet" (PoE) |
| Ausgänge | 4 Analogausgänge 0...10 V DC, Auflösung 10 Bit 4 digitale Relaisausgänge 230 V AC / 6 A / Schließer 2 TRIAC-Ausgänge / max. 800 mA |
| Eingänge | 14 Universaleingänge, frei konfigurierbar als: PT/NI1000, Auflösung 12 Bit 0...10 V DC, Auflösung 12 Bit Digitale Eingänge 24 V DC |
| Leistungsaufnahme | 4 W |
| Elektrischer Anschluss | über Schraubsteckklemmen für Drähte bis 2,5 mm ² |
| Montageart | Hutschiene 35 mm |
| Systembus | CAN-Bus |
| Schnittstellen | 2 x RS232 / RS485, davon eine RS232 (COM-B) für Modembetrieb 2 x CAN-BUS 1 x LIN-BUS Ethernet-Schnittstelle 10/100 MBit, RJ45 |
| LED-Anzeige | 24 V-LED (Grün), RUN-LED (Grün), ST-LED (Rot) |
| Gewicht | 375 g |
| Gehäuse | Kunststoffgehäuse |
| Abmessungen | 162 x 90 x 62 Millimeter |
| Schutzart | IP20 nach DIN 40050 |
| Lagertemperatur | -10...+70 °C |
| Umgebungstemperatur Betrieb | +5...+45 °C |
| Umgebungsfeuchte | Bis 85 % rF ohne Betauung nach VDE 0160, EN 50178, Kl. 3K3 |
| Normen/Regeln/Richtlinien/Zulassungen | Siehe EU-Konformitätserklärung |

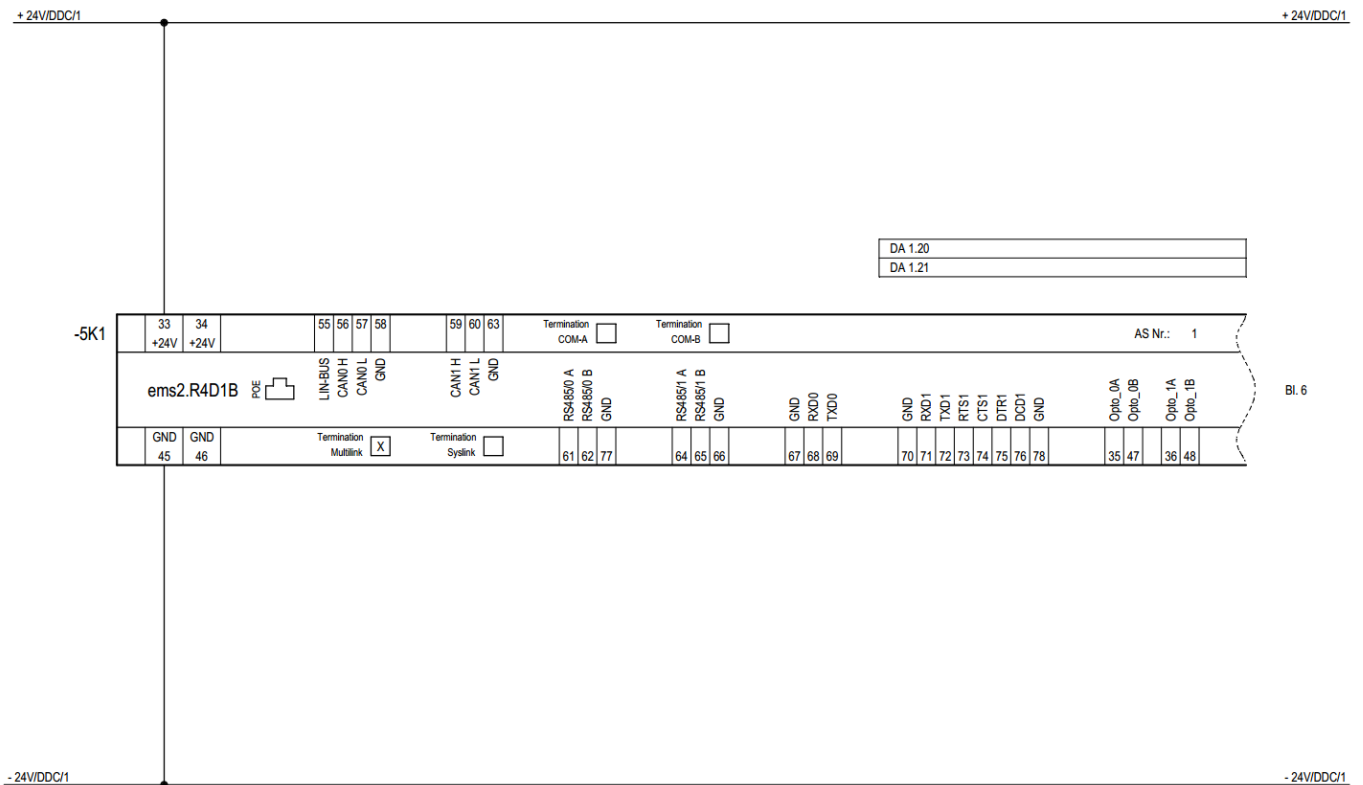
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ELEKTRISCHE LEBENSDAUER



ELEKTRISCHER ANSCHLUSS

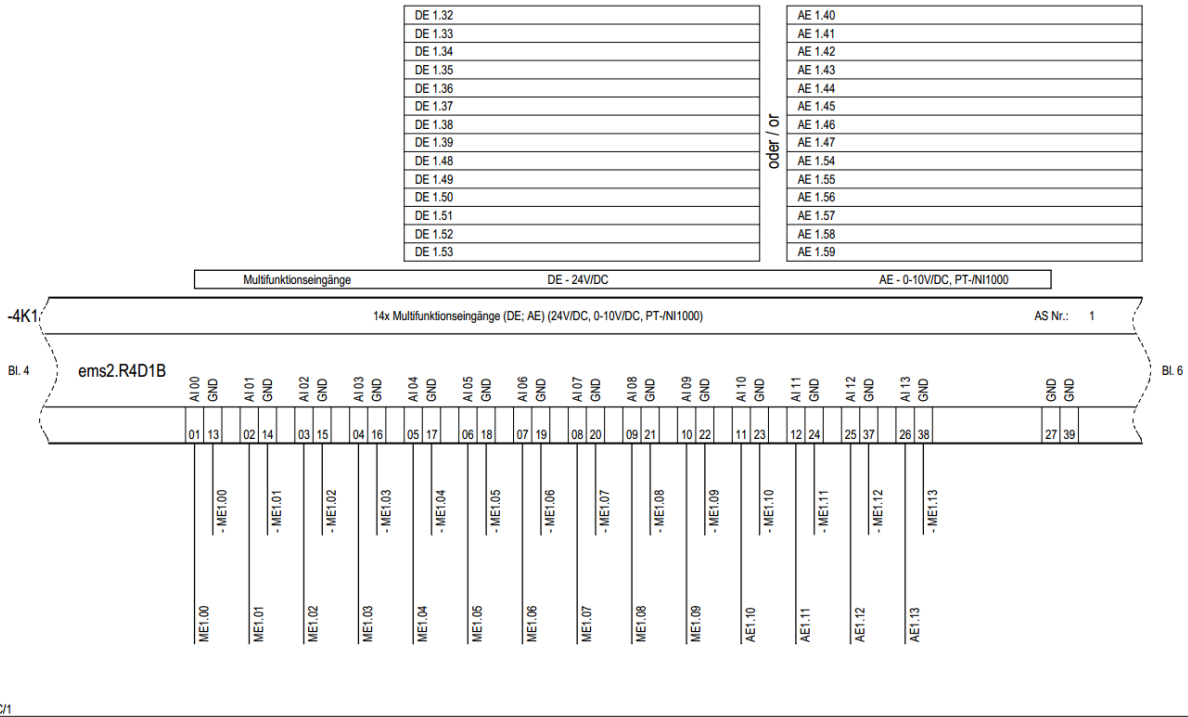


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DIGICONTROL ems2.R4D1B

+ 24V/DDC/1

+ 24V/DDC/1

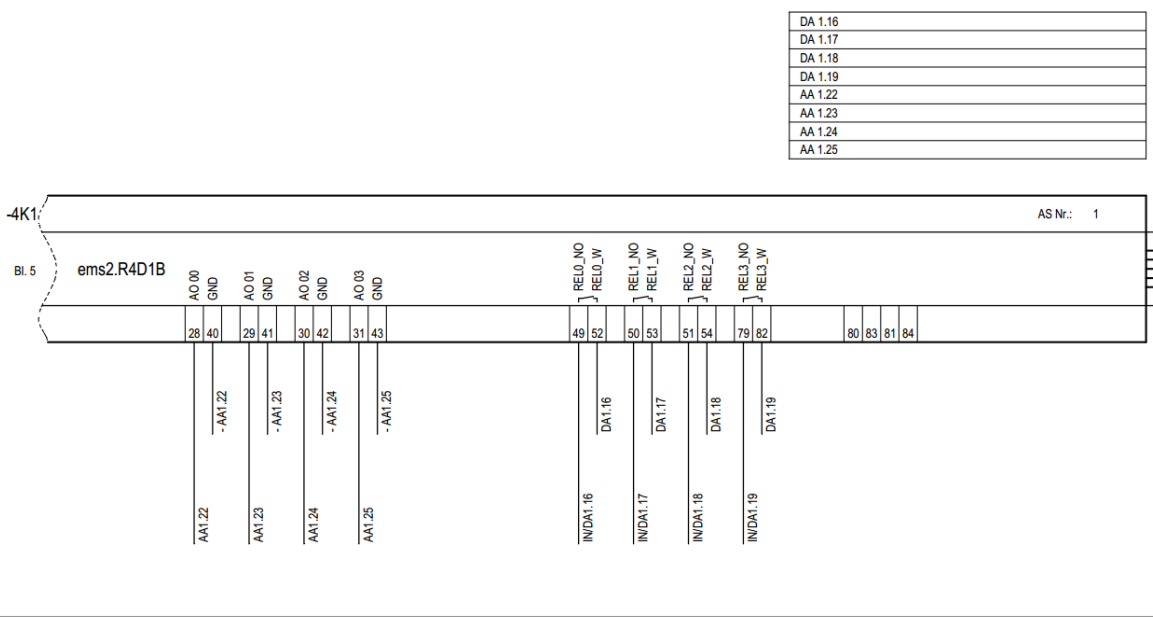


- 24V/DDC/1

- 24V/DDC/1

+ 24V/DDC/1

+ 24V/DDC/1



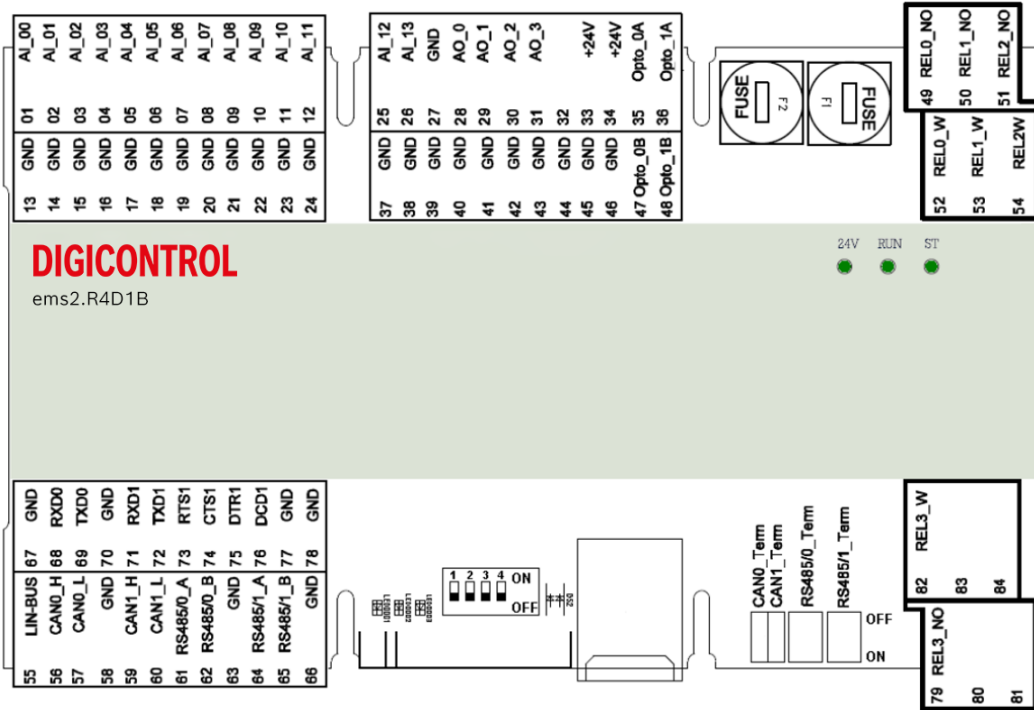
- 24V/DDC/1

- 24V/DDC/1

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DIGICONTROL ems2.R4D1B

KLEMMENBELEGUNG



| Klemmennummer | Beschreibung |
|---------------|---|
| 1 | Multifunktionseingang – 0 (24VDC, 0...10VDC, PT- / NI1000) |
| 2 | Multifunktionseingang – 1 (24VDC, 0...10VDC, PT- / NI1000) |
| 3 | Multifunktionseingang – 2 (24VDC, 0...10VDC, PT- / NI1000) |
| 4 | Multifunktionseingang – 3 (24VDC, 0...10VDC, PT- / NI1000) |
| 5 | Multifunktionseingang – 4 (24VDC, 0...10VDC, PT- / NI1000) |
| 6 | Multifunktionseingang – 5 (24VDC, 0...10VDC, PT- / NI1000) |
| 7 | Multifunktionseingang – 6 (24VDC, 0...10VDC, PT- / NI1000) |
| 8 | Multifunktionseingang – 7 (24VDC, 0...10VDC, PT- / NI1000) |
| 9 | Multifunktionseingang – 8 (24VDC, 0...10VDC, PT- / NI1000) |
| 10 | Multifunktionseingang – 9 (24VDC, 0...10VDC, PT- / NI1000) |
| 11 | Multifunktionseingang – 10 (24VDC, 0...10VDC, PT- / NI1000) |
| 12 | Multifunktionseingang – 11 (24VDC, 0...10VDC, PT- / NI1000) |
| 13 | GND (Multifunktionseingang – 0) |
| 14 | GND (Multifunktionseingang – 1) |
| 15 | GND (Multifunktionseingang – 2) |
| 16 | GND (Multifunktionseingang – 3) |
| 17 | GND (Multifunktionseingang – 4) |
| 18 | GND (Multifunktionseingang – 5) |
| 19 | GND (Multifunktionseingang – 6) |
| 20 | GND (Multifunktionseingang – 7) |
| 21 | GND (Multifunktionseingang – 8) |
| 22 | GND (Multifunktionseingang – 9) |
| 23 | GND (Multifunktionseingang – 10) |
| 24 | GND (Multifunktionseingang – 11) |
| 25 | Multifunktionseingang – 12 (24VDC, 0...10VDC, PT- / NI1000) |
| 26 | Multifunktionseingang – 13 (24VDC, 0...10VDC, PT- / NI1000) |
| 27 | GND |
| 28 | Analogausgang – 0 (0...10VDC) |
| 29 | Analogausgang – 1 (0...10VDC) |
| 30 | Analogausgang – 2 (0...10VDC) |
| 31 | Analogausgang – 3 (0...10VDC) |

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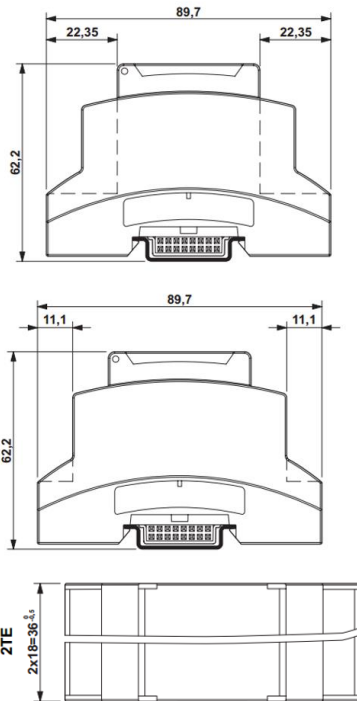
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| | |
|----|--|
| 32 | |
| 33 | +24VDC – Versorgungsspannung |
| 34 | +24VDC – Versorgungsspannung |
| 35 | 24VAC – Versorgungsspannung für TRIAC-Ausgang – 0 (nur EMS2.R4D1B) |
| 36 | 24VAC – Versorgungsspannung für TRIAC-Ausgang – 1 (nur EMS2.R4D1B) |
| 37 | GND (Multifunktionseingang – 12) |
| 38 | GND (Multifunktionseingang – 13) |
| 39 | GND |
| 40 | GND (Analogausgang – 0 (0...10VDC)) |
| 41 | GND (Analogausgang – 1 (0...10VDC)) |
| 42 | GND (Analogausgang – 2 (0...10VDC)) |
| 43 | GND (Analogausgang – 3 (0...10VDC)) |
| 44 | GND (24VDC – Versorgungsspannung) |
| 45 | GND (24VDC – Versorgungsspannung) |
| 46 | GND (24VDC – Versorgungsspannung) |
| 47 | TRIAC-Ausgang – 0 Schaltausgang (nur EMS2.R4D1B) |
| 48 | TRIAC-Ausgang – 1 Schaltausgang (nur EMS2.R4D1B) |
| 49 | Relais – 0 Schaltausgang |
| 50 | Relais – 1 Schaltausgang |
| 51 | Relais – 2 Schaltausgang |
| 52 | Relais – 0 Schaltspannung |
| 53 | Relais – 1 Schaltspannung |
| 54 | Relais – 2 Schaltspannung |
| 55 | LIN – Bus |
| 56 | CAN0 – H (MultiLink) |
| 57 | CAN0 – L (MultiLink) |
| 58 | GND |
| 59 | CAN1 – H (SysLink) |
| 60 | CAN1 – L (SysLink) |
| 61 | RS485-0 (A) |
| 62 | RS485-0 (B) |
| 63 | GND |
| 64 | RS485-1 (A) |
| 65 | RS485-1 (B) |
| 66 | GND |
| 67 | GND |
| 68 | RXD-0 |
| 69 | TXD-0 |
| 70 | GND |
| 71 | RXD-1 |
| 72 | TXD-1 |
| 73 | RTS-1 |
| 74 | CTS-1 |
| 75 | DTR-1 |
| 76 | DCD-1 |
| 77 | GND |
| 78 | GND |
| 79 | Relais – 3 Schaltausgang |
| 80 | Relais – 4 Schaltausgang (nur EMS2.CP04D) |
| 81 | Relais – 5 Schaltausgang (nur EMS2.CP04D) |
| 82 | Relais – 3 Schaltspannung |
| 83 | Relais – 4 Schaltspannung (nur EMS2.CP04D) |
| 84 | Relais – 5 Schaltspannung (nur EMS2.CP04D) |

Erweiterungsfähige Automationsstation

DIGICONTROL ems2.R4D1B

ABMESSUNGEN



Maße und Toleranzen lt. DIN 43880

ANWENDUNGS AUSSCHLUSS

Dieses Produkt ist für den Einsatz in sicherheitsrelevanten Anwendungen nicht geeignet.

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19.10.2023 / Rev.14

Expandable automation station

DIGICONTROL ems2.R4D1B

APPLICATION

The ems2.R4D1B is a freely programmable compact controller that can be enhanced with I/O modules as well as interface modules of the ems4 series.

As a freely programmable universal controller for accommodating individual room automation concepts.

The ems2.R4D1B has a built-in web server for full remote control and monitoring of the automation functions. A full graphical visualization of plant information is also supported.

Can be used as a BACnet® building controller (B-BC) according to the BACnet® standardized device profile in accordance with Annex L of the ASNI ASHRAE Standard 135-2001 and DIN EN 16484-5. Communication via BACnet/IP or BACnet MS/TP.



Figure: ems2.R4D1B

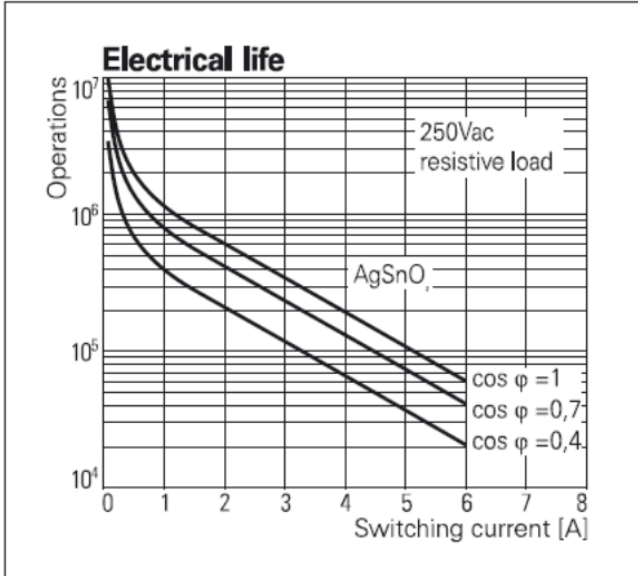
SPECIFICATIONS

| | |
|---|--|
| Voltage | 24 V DC +/- 10 %, alternativ "Power over Ethernet" (PoE) |
| Outputs | 4 analogue outputs 0...10 V DC, 10 bit 4 digital relay outputs 230 V AC / 6 A / no-contact 2 TRIAC outputs / max. 800 mA |
| Inputs | 14 universal inputs, freely configurable as: PT/NI1000, 12 bit 0...10 V DC, 12 bit 24 V DC digital inputs |
| Power consumption | 4 W |
| Electrical connection | Via screw terminals for wires up to 2.5 mm ² |
| Mounting | Top hat rail 35 mm |
| System bus | CAN bus |
| Interfaces | 2 x RS232 / RS485, of which one RS232 (COM-B) is used for modem operation 2 x CAN bus 1 x LIN bus Ethernet interface, 10/100 MBit, RJ45 |
| LED display | 24 V-LED (green), RUN-LED (green), ST-LED (red) |
| Weight | 375 g |
| Housing | Plastic housing |
| Dimensions | 162 x 90 x 62 millimeters |
| Protection class | IP20 acc. DIN 40050 |
| Storage temperature | -10...+70 °C |
| Operating temperature | +5...+45 °C |
| Ambient humidity | Up to 85 % rh. without condensation acc. to VDE 0160, EN 50178, Class 3K3 |
| Standards/rules/guidelines/approvals | See EC declaration of conformity |

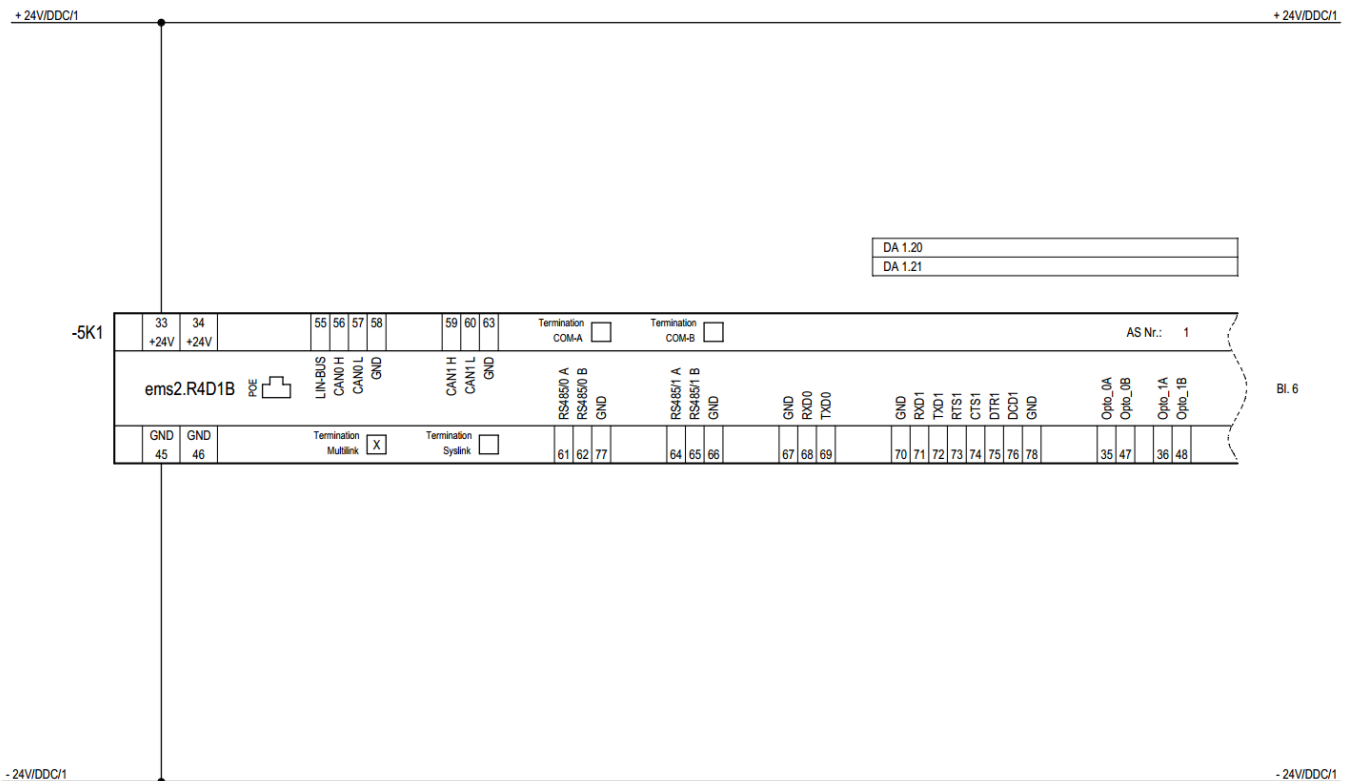
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DIGICONTROL **ems2.R4D1B**

ELECTRICAL LIFE



ELECTRICAL CONNECTION

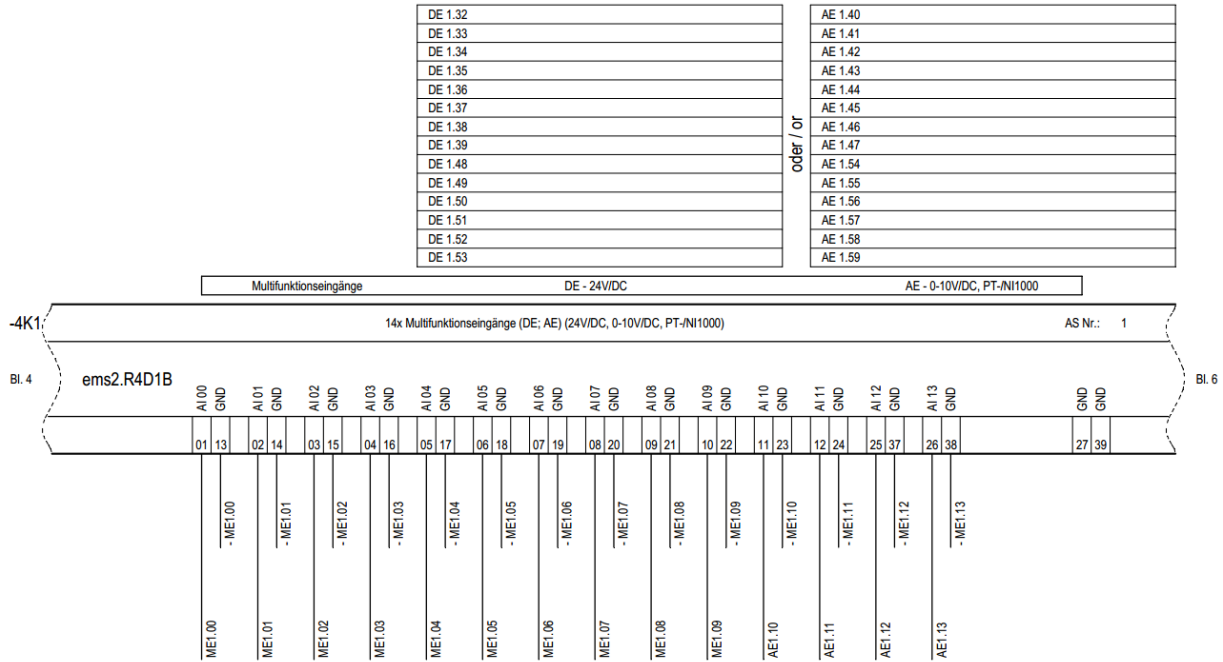


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DIGICONTROL **ems2.R4D1B**

+ 24V/DDC/1

+ 24V/DDC/1

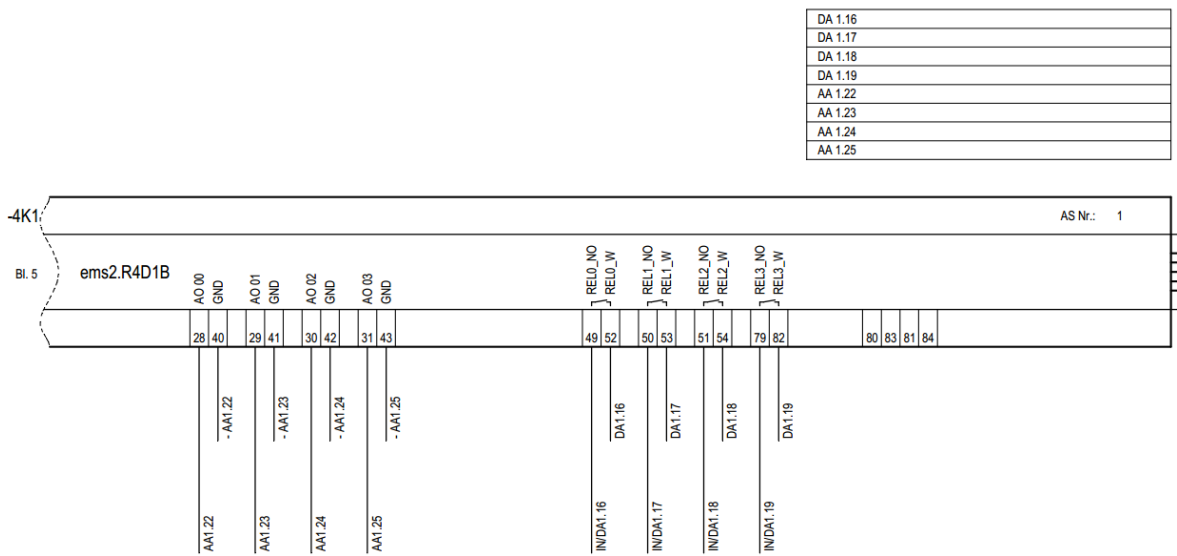


- 24V/DDC/1

- 24V/DDC/1

+ 24V/DDC/1

+ 24V/DDC/1



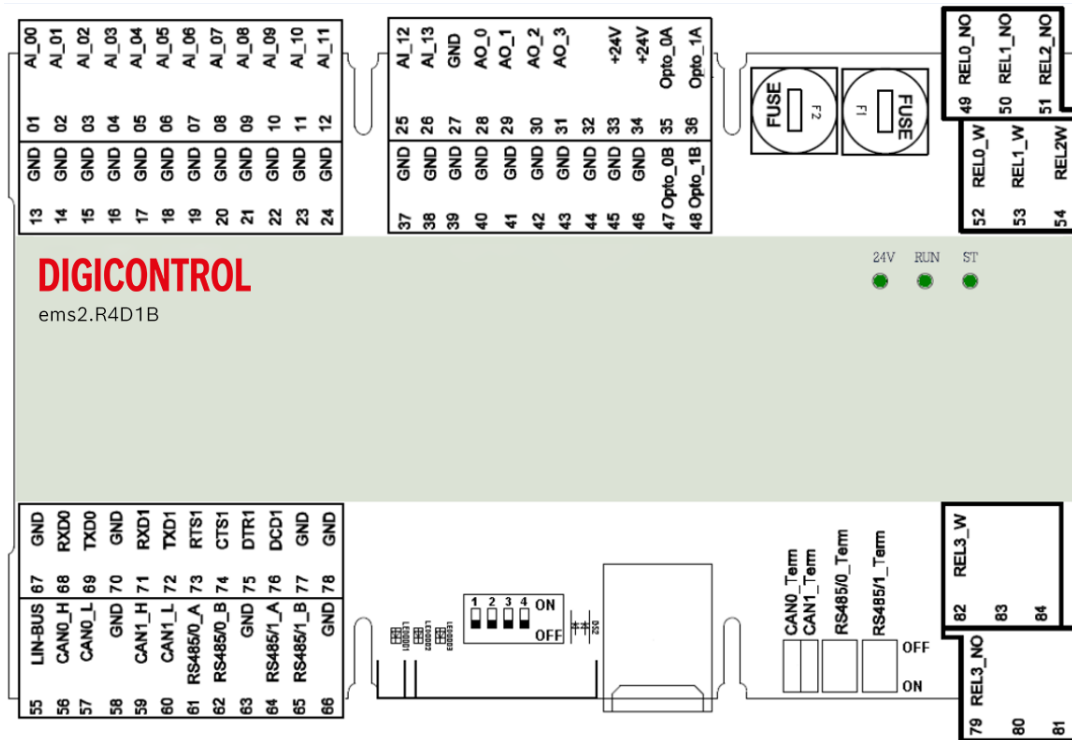
- 24V/DDC/1

- 24V/DDC/1

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DIGICONTROL **ems2.R4D1B**

TERMINAL ASSIGNMENT



| Terminal number | Description |
|-----------------|--|
| 1 | Multi-functional input 0 (24 V DC, 0 to 10 V DC, PT1000/NI1000) |
| 2 | Multi-functional input 1 (24 V DC, 0 to 10 V DC, PT1000/NI1000) |
| 3 | Multi-functional input 2 (24 V DC, 0 to 10 V DC, PT1000/NI1000) |
| 4 | Multi-functional input 3 (24 V DC, 0 to 10 V DC, PT1000/NI1000) |
| 5 | Multi-functional input 4 (24 V DC, 0 to 10 V DC, PT1000/NI1000) |
| 6 | Multi-functional input 5 (24 V DC, 0 to 10 V DC, PT1000/NI1000) |
| 7 | Multi-functional input 6 (24 V DC, 0 to 10 V DC, PT1000/NI1000) |
| 8 | Multi-functional input 7 (24 V DC, 0 to 10 V DC, PT1000/NI1000) |
| 9 | Multi-functional input 8 (24 V DC, 0 to 10 V DC, PT1000/NI1000) |
| 10 | Multi-functional input 9 (24 V DC, 0 to 10 V DC, PT1000/NI1000) |
| 11 | Multi-functional input 10 (24 V DC, 0 to 10 V DC, PT1000/NI1000) |
| 12 | Multi-functional input 11 (24 V DC, 0 to 10 V DC, PT1000/NI1000) |
| 13 | GND (multi-functional input 0) |
| 14 | GND (multi-functional input 1) |
| 15 | GND (multi-functional input 2) |
| 16 | GND (multi-functional input 3) |
| 17 | GND (multi-functional input 4) |
| 18 | GND (multi-functional input 5) |
| 19 | GND (multi-functional input 6) |
| 20 | GND (multi-functional input 7) |
| 21 | GND (multi-functional input 8) |
| 22 | GND (multi-functional input 9) |
| 23 | GND (multi-functional input 10) |
| 24 | GND (multi-functional input 11) |
| 25 | Multi-functional input 12 (24 V DC, 0 to 10 V DC, PT1000/NI1000) |
| 26 | Multi-functional input 13 (24 V DC, 0 to 10 V DC, PT1000/NI1000) |
| 27 | GND |
| 28 | Analogue output 0 (0 to 10 V DC) |
| 29 | Analogue output 1 (0 to 10 V DC) |

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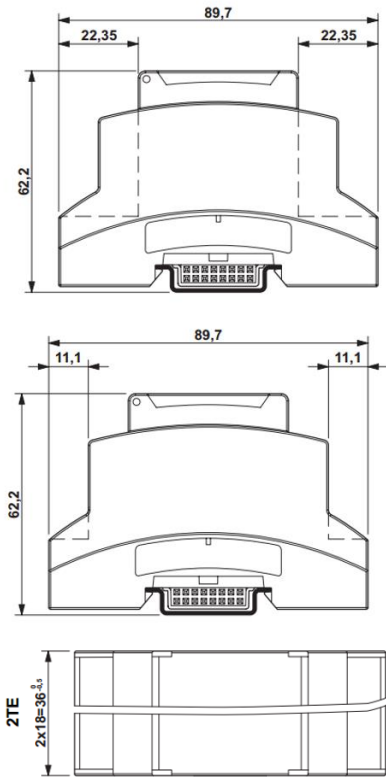
DIGICONTROL ems2.R4D1B

| | |
|----|---|
| 30 | Analogue output 2 (0 to 10 V DC) |
| 31 | Analogue output 3 (0 to 10 V DC) |
| 32 | |
| 33 | +24 V DC supply voltage |
| 34 | +24 V DC supply voltage |
| 35 | 24 V AC supply voltage for TRIAC output 0 (only for EMS2.R4D1B) |
| 36 | 24 V AC supply voltage for TRIAC output 1 (only for EMS2.R4D1B) |
| 37 | GND (multi-functional input 12) |
| 38 | GND (multi-functional input 13) |
| 39 | GND |
| 40 | GND (analogue output 0 (0 to 10 V DC)) |
| 41 | GND (analogue output 1 (0 to 10 V DC)) |
| 42 | GND (analogue output 2 (0 to 10 V DC)) |
| 43 | GND (analogue output 3 (0 to 10 V DC)) |
| 44 | GND (24 V DC supply voltage) |
| 45 | GND (24 V DC supply voltage) |
| 46 | GND (24 V DC supply voltage) |
| 47 | TRIAC output 0 switching output (only for EMS2.R4D1B) |
| 48 | TRIAC output 1 switching output (only for EMS2.R4D1B) |
| 49 | Relay 0 switching output |
| 50 | Relay 1 switching output |
| 51 | Relay 2 switching output |
| 52 | Relay 0 switching voltage |
| 53 | Relay 1 switching voltage |
| 54 | Relay 2 switching voltage |
| 55 | LIN bus |
| 56 | CAN0 H (MultiLink) |
| 57 | CAN0 L (MultiLink) |
| 58 | GND |
| 59 | CAN1 H (SysLink) |
| 60 | CAN1 L (SysLink) |
| 61 | RS485-0 (A) |
| 62 | RS485-0 (B) |
| 63 | GND |
| 64 | RS485-1 (A) |
| 65 | RS485-1 (B) |
| 66 | GND |
| 67 | GND |
| 68 | RXD-0 |
| 69 | TXD-0 |
| 70 | GND |
| 71 | RXD-1 |
| 72 | TXD-1 |
| 73 | RTS-1 |
| 74 | CTS-1 |
| 75 | DTR-1 |
| 76 | DCD-1 |
| 77 | GND |
| 78 | GND |
| 79 | Relay 3 switching output |
| 80 | Relay 4 switching output (only for EMS2.CP04D) |
| 81 | Relay 5 switching output (only for EMS2.CP04D) |
| 82 | Relay 3 switching voltage |
| 83 | Relay 4 switching voltage (only for EMS2.CP04D) |
| 84 | Relay 5 switching voltage (only for EMS2.CP04D) |

Expandable automation station

DIGICONTROL **ems2.R4D1B**

DIMENSIONS



Dimensions and tolerance specifications according to DIN 43880

APPLICATION EXCLUSION

This product is not suitable for use in safety-related applications.

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