

# DEK-OE- 5DC/ 24DC/100KHZ - Solid-state relay terminal block



2964270

<https://www.phoenixcontact.com/us/products/2964270>

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Input solid-state relay, transmission frequency: 100 kHz, with LED and protective circuit in input and output circuits, input: 5 V DC, output: 4 - 30 V DC/50 mA

## Your advantages

- With capacitor on the input side for interference suppression
- Limit frequency of up to 100 kHz
- Push/pull stage on output side
- Includes signal inputs on PLC counter boards

## Commercial data

|                                      |               |
|--------------------------------------|---------------|
| Item number                          | 2964270       |
| Packing unit                         | 10 pc         |
| Minimum order quantity               | 1 pc          |
| Sales key                            | C460          |
| Product key                          | DK61A1        |
| GTIN                                 | 4017918107406 |
| Weight per piece (including packing) | 21.46 g       |
| Weight per piece (excluding packing) | 21.46 g       |
| Customs tariff number                | 85364190      |
| Country of origin                    | CN            |

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## Technical data

### Notes

|                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|---------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Note on application | Use of EB 80-DIK... bridges in the DEK terminal blocks:<br>Absorption of humidity from the ambient air as well as an unfavorable tolerance between a larger number of DEK terminal blocks and the EB 80-DIK... bridge may cause (minor) expansion of the DEK housing. When the EB 80-DIK... bridges are used, therefore, it is recommended that these be disconnected after about 10 to 12 DEK terminal blocks and a wire bridge to the next DEK terminal block be inserted in their place. |
|---------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

### Product properties

|                |                           |
|----------------|---------------------------|
| Product type   | Solid-state relay module  |
| Product family | DEK                       |
| Application    | 100 kHz input optocoupler |
| Operating mode | 100% operating factor     |

#### Insulation characteristics

|                      |                  |
|----------------------|------------------|
| Insulation           | Basic insulation |
| Overvoltage category | II               |
| Pollution degree     | 2                |

#### Data management status

|                              |            |
|------------------------------|------------|
| Date of last data management | 19.03.2025 |
|------------------------------|------------|

### Electrical properties

|                             |                          |
|-----------------------------|--------------------------|
| Test voltage (Input/output) | 2.5 kV AC (Input/output) |
|-----------------------------|--------------------------|

### Input data

|                                                      |                                                        |
|------------------------------------------------------|--------------------------------------------------------|
| Nominal input voltage $U_N$                          | 5 V DC                                                 |
| Input voltage range in reference to $U_N$            | 0.8 ... 1.2                                            |
| Input voltage range                                  | 4 V DC ... 6 V DC                                      |
| Switching threshold "0" signal in reference to $U_N$ | $\leq 0.4$                                             |
| Switching threshold "1" signal in reference to $U_N$ | $\geq 0.8$                                             |
| Typical input current at $U_N$                       | 7 mA                                                   |
| Typical response time                                | 1.5 $\mu$ s                                            |
| Typical turn-off time                                | 2 $\mu$ s                                              |
| Operating voltage display                            | Yellow LED                                             |
| Protective circuit                                   | Reverse polarity protection; Polarity protection diode |
|                                                      | Surge protection                                       |
| Transmission frequency                               | 100 kHz                                                |

### Output data

|                        |               |
|------------------------|---------------|
| Contact switching type | 1 N/O contact |
|------------------------|---------------|

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|                                                  |                                    |
|--------------------------------------------------|------------------------------------|
| Design of digital output                         | electronic                         |
| Output voltage range                             | 4 V DC ... 30 V DC                 |
| Limiting continuous current                      | 50 mA                              |
| Quiescent current                                | 4.3 mA                             |
| Voltage drop at max. limiting continuous current | ≤ 0.5 V DC                         |
| Output circuit                                   | 3-conductor, ground-referenced     |
| Protective circuit                               | Surge protection; Suppressor diode |

## Connection data

|                                  |                                             |
|----------------------------------|---------------------------------------------|
| Connection method                | Screw connection                            |
| Stripping length                 | 8 mm                                        |
| Screw thread                     | M3                                          |
| Conductor cross section rigid    | 0.2 mm <sup>2</sup> ... 2.5 mm <sup>2</sup> |
| Conductor cross section flexible | 0.2 mm <sup>2</sup> ... 2.5 mm <sup>2</sup> |
| Conductor cross section AWG      | 24 ... 14                                   |
| Tightening torque                | 0.5 Nm                                      |

## Dimensions

|        |        |
|--------|--------|
| Width  | 6.2 mm |
| Height | 80 mm  |
| Depth  | 56 mm  |

## Material specifications

|       |                  |
|-------|------------------|
| Color | green (RAL 6021) |
|-------|------------------|

## Environmental and real-life conditions

### Ambient conditions

|                                         |                  |
|-----------------------------------------|------------------|
| Ambient temperature (operation)         | -20 °C ... 60 °C |
| Ambient temperature (storage/transport) | -20 °C ... 70 °C |

## Standards and regulations

|                       |               |
|-----------------------|---------------|
| Standards/regulations | IEC 60947-5-1 |
|-----------------------|---------------|

## Mounting

|                   |                           |
|-------------------|---------------------------|
| Mounting type     | DIN rail mounting         |
| Assembly note     | in rows with zero spacing |
| Mounting position | any                       |

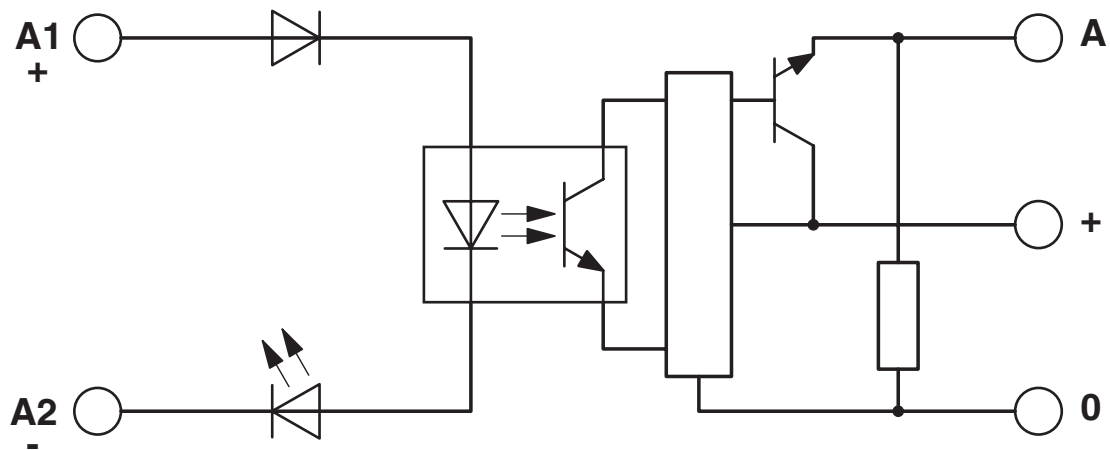
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## Drawings

Circuit diagram



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## Classifications

### ECLASS

|             |          |
|-------------|----------|
| ECLASS-13.0 | 27371604 |
|-------------|----------|

### ETIM

|          |          |
|----------|----------|
| ETIM 9.0 | EC001504 |
|----------|----------|

### UNSPSC

|             |          |
|-------------|----------|
| UNSPSC 21.0 | 39122300 |
|-------------|----------|

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## Environmental product compliance

### EU RoHS

|                                         |              |
|-----------------------------------------|--------------|
| Fulfills EU RoHS substance requirements | Yes          |
| Exemption                               | 7(a), 7(c)-I |

### China RoHS

|                                        |                                                                                                                                                                                                                                   |
|----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Environment friendly use period (EFUP) | EFUP-50                                                                                                                                                                                                                           |
|                                        | An article-related China RoHS declaration table can be found in the download area for the respective article under "Manufacturer declaration". For all articles with EFUP-E, no China RoHS declaration table issued and required. |

### EU REACH SVHC

|                                     |                                             |
|-------------------------------------|---------------------------------------------|
| REACH candidate substance (CAS No.) | Hexahydromethylphthalic anhydride(CAS: n/a) |
|                                     | Lead(CAS: 7439-92-1)                        |
| SCIP                                | 0322b25c-94e1-4255-b5ee-40a474c4bee6        |

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Phoenix Contact USA  
586 Fulling Mill Road  
Middletown, PA 17057, United States  
(+717) 944-1300  
[info@phoenixcon.com](mailto:info@phoenixcon.com)