

RIF-2-RPT-LDP-24DC/4X21/EX - Relay module



2909741

<https://www.phoenixcontact.com/us/products/2909741>

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Pre-assembled relay module consisting of: relay base, function plug-in module, power contact relay, and retaining bracket, approval in accordance with ATEX/IECEX (Zone 2) and Ex Zone Class I, Div. 2, Push-in connection, 4 changeover contacts, Freewheeling diode, Input voltage: 24 V DC

Product description

The pluggable electromechanical and solid-state relays in the RIFLINE complete product range and the base are recognized and approved in accordance with UL 508. The relevant approvals can be called up at the individual components in question.

Commercial data

| | |
|--------------------------------------|---------------|
| Item number | 2909741 |
| Packing unit | 10 pc |
| Minimum order quantity | 10 pc |
| Sales key | C465 |
| Product key | DK652A |
| GTIN | 4055626379913 |
| Weight per piece (including packing) | 109.63 g |
| Weight per piece (excluding packing) | 109.63 g |
| Customs tariff number | 85364110 |
| Country of origin | CN |

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Set consists of

RIF-2-BPT/4X21/EX - Relay base

1047028

<https://www.phoenixcontact.com/us/products/1047028>



RIF-2.../EX relay base for assembling with RTIII-sealed industrial relays with 4 changeover contacts for use in zone 2, Push-in connection, plug-in option for input / interference suppression modules, for mounting on NS 35/7,5

REL-IR4/24DC/4X21/EX - Single relay

2909738

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Pluggable industrial relay, RT III sealed with power contacts, 4x changeover contacts, mechanical switch position indicator, polarity: non-polarized, input voltage: 24 V DC, in connection with RIF-2.../EX bases approved in accordance with ATEX/IECEx (zone 2) and Ex zone class I, div. 2.

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RIF-LDP-12-24 DC - Plug-in module

2900939

<https://www.phoenixcontact.com/us/products/2900939>



Plug-in module, for mounting on RIF-1, RIF-2, RIF-3, and RIF-4, with freewheeling diode and yellow LED, polarity: A1+, A2-, input voltage: 12 V DC ... 24 V DC $\pm 30\%$

RIF-RH-2 - Retaining bracket

2900954

<https://www.phoenixcontact.com/us/products/2900954>



Relay retaining bracket, with ejector function and holder for marking material, suitable for RIF-2 relay base, for industrial relay

Technical data

Notes

Utilization restriction

| | |
|----------|---|
| EMC note | EMC: class A product, see manufacturer's declaration in the download area |
|----------|---|

Product properties

| | |
|-------------------------|--|
| Product type | Relay Module |
| Product family | RIFLINE complete |
| Application | Class I, Division 2 potentially explosive areas |
| Operating mode | 100% operating factor |
| Mechanical service life | approx. 2×10^7 cycles |

Insulation characteristics

| | |
|----------------------|--------------------|
| Insulation | Basic insulation |
| Overvoltage category | III II (Zone 2) |

Data management status

| | |
|------------------------------|------------|
| Date of last data management | 20.01.2026 |
|------------------------------|------------|

Electrical properties

| | |
|---|--|
| Maximum power dissipation for nominal condition | 1.01 W |
| Test voltage (Winding/contact) | 2.5 kV _{rms} (50 Hz, 1 min., winding/contact) |
| Test voltage (Contact/contact) | 2 kV _{rms} (50 Hz, 1 min., contact/contact) |
| Rated insulation voltage | 250 V AC |
| Rated surge voltage | 2.5 kV |

Input data

Coil side

| | |
|---|-------------------------------|
| Nominal input voltage U_N | 24 V DC |
| Input voltage range | 19.2 V DC ... 30 V DC (20 °C) |
| Input voltage range in reference to U_N | see diagram |
| Drive and function | monostable |
| Drive (polarity) | polarized |
| Typical input current at U_N | 42 mA |
| Typical response time | 13 ms |
| Typical release time | 14 ms |
| Coil voltage | 24 V DC |
| Protective circuit | Freewheeling diode |
| Operating voltage display | Yellow LED |

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Output data

Switching

| | |
|---------------------------------------|--|
| Contact switching type | 4 changeover contacts |
| Type of switch contact | Single contact |
| Contact material | AgNi |
| Maximum switching voltage | 250 V AC/DC |
| Minimum switching voltage | 5 V (24 mA) |
| Limiting continuous current | 6 A (see diagram) |
| Maximum inrush current | 16 A (20 ms, N/O contacts) |
| Min. switching current | 5 mA (24 V) |
| Interrupting rating (ohmic load) max. | 144 W (at 24 V DC) 124 W (at 48 V DC) 108 W (at 60 V DC) 52 W (at 110 V DC) 48 W (at 220 V DC) 1500 VA (for 250 V AC) |
| Switching capacity | 2 A (at 24 V, DC13) 0.22 A (at 120 V, DC13) 0.11 A (at 250 V, DC13) 1.5 A (at 24 V, AC15) 1.5 A (at 120 V, AC15) 1 A (at 240 V, AC15) |

Connection data

| | |
|----------------------------------|---|
| Connection method | Push-in connection |
| Stripping length | 8 mm |
| Conductor cross-section rigid | 0.14 mm ² ... 1.5 mm ² |
| Conductor cross-section flexible | 0.14 mm ² ... 1.5 mm ² 0.14 mm ² ... 1.5 mm ² (Ferrule with plastic sleeve) 0.14 mm ² ... 1 mm ² (Ferrule with plastic sleeve, two conductors on double terminal block) |
| Conductor cross-section AWG | 26 ... 16 (solid) 26 ... 16 (flexible) |

Dimensions

Item dimensions

| | |
|--------|-------|
| Width | 31 mm |
| Height | 96 mm |
| Depth | 75 mm |

Drill hole

| | |
|----------|--------|
| Diameter | 3.2 mm |
|----------|--------|

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Material specifications

| | |
|--|-----------------|
| Color | gray (RAL 7042) |
| Flammability rating according to UL 94 (Housing) | V2 (Housing) |

Environmental and real-life conditions

Ambient conditions

| | |
|---|-------------------|
| Degree of protection (Relay base) | IP20 (Relay base) |
| Degree of protection (Relay) | RT III (Relay) |
| Ambient temperature (operation) | -40 °C ... 60 °C |
| Ambient temperature (storage/transport) | -40 °C ... 85 °C |

Approvals

ATEX

| | |
|----------------|----------------------------|
| Identification | ⊕ II 3G Ex ec nC IIC T4 Gc |
| Certificate | IBExU17ATEXB014X |

UKCA Ex (UKEX)

| | |
|----------------|----------------------------|
| Identification | ⊕ II 3G Ex ec nC IIC T4 Gc |
| Certificate | PxclF21UKEX2909741X |

IECEX

| | |
|----------------|--------------------|
| Identification | Ex ec nC IIC T4 Gc |
| Certificate | IECEX IBE 17.0032X |

UL, USA/Canada

| | |
|----------------|---------------------------------------|
| Identification | Class I, Div. 2, Groups A, B, C, D T4 |
| | Class I, Zone 2, Group IIC |

Corrosive gas test

| | |
|----------------|----------------------------|
| Identification | ISA-S71.04. G3 Harsh Group |
| | EN 60068-2-60 |

Standards and regulations

| | |
|-----------------------|---------------|
| Standards/regulations | IEC 60947-5-1 |
| | IEC 61508-1 |

Ex zone

| | |
|-----------------------|-----------------|
| Standards/regulations | EN/IEC 60079-0 |
| | EN/IEC 60079-7 |
| | EN/IEC 60079-15 |

Mounting

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

Drawings

Diagram



- ① DC coil (observe contact derating)
- ② AC coil (observe contact derating)

Operating voltage range

Diagram



- ① AC, ohmic load
- ② DC, ohmic load

Interrupting rating

Diagram



Contact derating

Diagram



① 250 V AC, Ohmic load

Electrical service life

Diagram



Service life reduction factor



Permissible humidity for operation and storage.

The maximum permissible ambient temperature as specified in the data sheet must be observed.

Area A: Ice buildup at ambient temperatures $\leq 0^\circ\text{C}$ must be prevented

Area B: Condensation at ambient temperatures $> 0^\circ\text{C}$ must be prevented

On 30 full days that are naturally distributed across an entire year, a humidity level of 95% is permissible at an ambient temperature $\leq 25^\circ\text{C}$.

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Circuit diagram



DC coils

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Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/2909741>



EAC

Approval ID: RU*C-DE.*08.B.00010



UL Listed

Approval ID: E238705



cUL Listed

Approval ID: E238705



IECEx

Approval ID: IECEx IBE 17.0032X



cUL Listed

Approval ID: File E 196811



UL Listed

Approval ID: File E 196811



ATEX

Approval ID: IBEu 17 ATEX B014 X

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Classifications

ECLASS

| | |
|-------------|----------|
| ECLASS-13.0 | 27371601 |
| ECLASS-15.0 | 27371601 |

ETIM

| | |
|-----------|----------|
| ETIM 10.0 | EC001437 |
|-----------|----------|

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.) | Lead(CAS: 7439-92-1) |
| SCIP | 0bb6470c-39ec-4690-9317-c1f04e8dbf8c |

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