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# OPT-...DC/24DC/5

## Power Optocoupler for Switching High DC Loads up to 5 A



### INTERFACE

Data Sheet  
101804\_00\_en

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### Description

The **OPT-...DC/24DC/5** power optocoupler, which can be plugged in or soldered, is designed for use in applications in which electromechanical relays reach the end of their service life within a short time due to the high switching frequency.

#### High-Performance Optocoupler

In practice, the 6.2 mm PLC optocoupler series with a maximum switching current of 3 A reaches its limits in some applications. Users who wish to frequently switch actuators such as contactors, solenoid valves or motors with a current consumption of up to 5 A now have the option of inserting the **OPT-...DC/24DC/5** power optocoupler into corresponding 14 mm wide PLC-BSC-... basic terminal blocks (see right).

In addition, the optocoupler can be used on Phoenix Contact PR1 series relay bases and on suitable VARIOFACE modules.

#### Features

The key features of this power optocoupler include:

- Wear-resistant switching of up to 24 V/5 A
- Electrical isolation between the 2.5 kV input and output
- Integrated protective circuit on the output side
- Ambient temperature of -20°C to +60°C
- IP67 housing sealed against external influences
- Resistant to vibrations and shocks

#### Suitable PLC Basic Terminal Blocks for **OPT-24DC/24DC/5**

PLC-BSC-24DC/21-21, PLC-BSC-48DC/21-21,  
PLC-BSC-24DC/1-1/ACT, PLC-BSC-24DC/1IC/ACT,  
PLC-BSC-24DC/21HC, PLC-BSC-48DC/21HC

#### Suitable PLC Basic Terminal Blocks for **OPT-60DC/24DC/5**

PLC-BSC-60DC/21-21, PLC-BSC-60DC/21HC



Make sure you always use the latest documentation.  
It can be downloaded at [www.download.phoenixcontact.com](http://www.download.phoenixcontact.com).  
A conversion table is available on the Internet at  
[www.download.phoenixcontact.com/general/7000\\_en\\_00.pdf](http://www.download.phoenixcontact.com/general/7000_en_00.pdf).



This data sheet is valid for all products listed on the following page:

## Ordering Data

Description	Type	Order No.	Pcs./Pck.
Power optocoupler for switching DC loads up to 5 A, 5 V DC input voltage	OPT- 5DC/24DC/5	2982113	20
Power optocoupler for switching DC loads up to 5 A, 24 V DC input voltage	OPT-24DC/24DC/5	2982100	20
Power optocoupler for switching DC loads up to 5 A, 60 V DC input voltage	OPT-60DC/24DC/5	2982126	20

## Technical Data

Input Data	...5DC...	...24DC...	...60DC...
Nominal input voltage $U_N$	5 V DC	24 V DC	60 V DC
Permissible input voltage range	$0.8 - 1.2 \times U_N$	$0.8 - 1.2 \times U_N$	$0.9 - 1.1 \times U_N$
Typical input current at $U_N$	9 mA	7 mA	3 mA
Typical switch-on time at $U_N$	10 $\mu$ s	20 $\mu$ s	25 $\mu$ s
Typical switch-off time at $U_N$	400 $\mu$ s	400 $\mu$ s	400 $\mu$ s

Output Data	
Maximum switching voltage	33 V DC
Minimum switching voltage	3 V DC
Limiting continuous current	5 A (see "Derating Curve for PLC Power Optocouplers" on page 3)
Surge current at 25°C	15 A for 10 ms
Output configuration	2-wire floating
Output circuit	Protection against polarity reversal, surge protection
Voltage drop at limiting continuous current	$\leq 200$ mV

General Data	
Rated insulation voltage	100 V DC
Impulse voltage withstand level	1.5 kV
Test voltage: input/output	2.5 kV, 50 Hz, 1 min.
Nominal operating mode	100% operating factor
Ambient temperature range	-20°C ... +60°C
Mounting position	Any
Assembly	Can be aligned without spacing
Pollution degree	2
Surge voltage category	III
Inflammability class	V0 according to UL 94
Basic insulation	According to EN 50178
Standards/specifications	IEC 60664, IEC 60664 A, DIN VDE 0110

## Dimensions

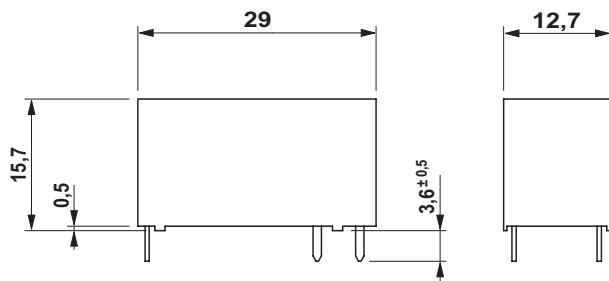


Figure 1 Dimensions (in mm)

### Perforations for Assembly

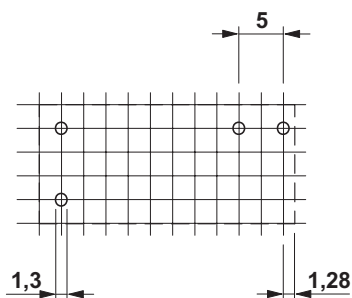


Figure 2 Perforations for assembly: View of the connections (2.5 mm basic grid dimension)

### Derating Curve for PLC Power Optocouplers

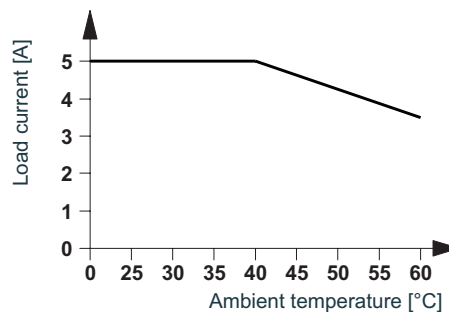


Figure 4 Derating curve

### Block Diagram

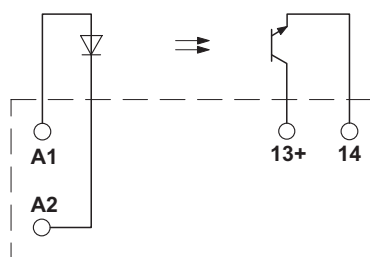


Figure 3 Block diagram