

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.
A conversion table is available on the Internet at
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 μ s	20 μ s	25 μ s
Typical switch-off time at U_N	400 μ s	400 μ s	400 μ 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	≤ 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

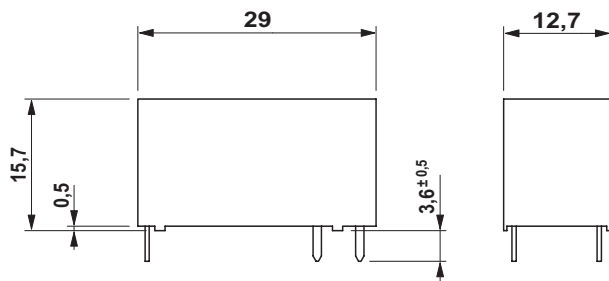


Figure 1 Dimensions (in mm)

Perforations for Assembly

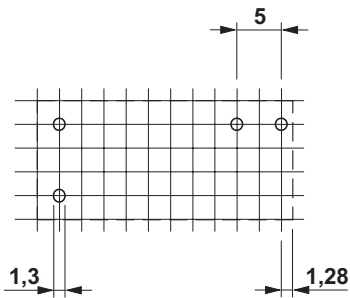


Figure 2 Perforations for assembly: View of the connections (2.5 mm basic grid dimension)

Derating Curve for PLC Power Optocouplers

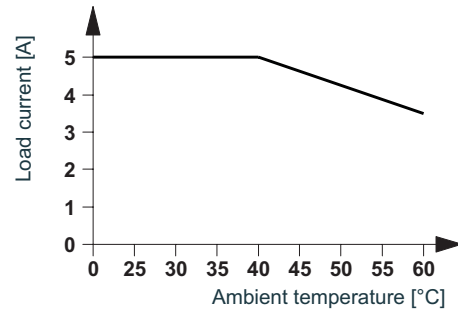


Figure 4 Derating curve

Block Diagram

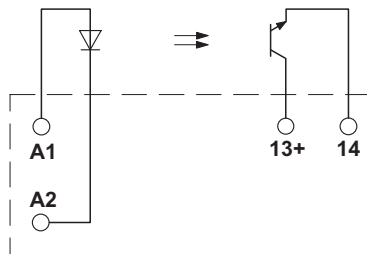


Figure 3 Block diagram

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