

PWM Power optocoupler / PWM Power amplifier

OK10

Characteristics:

- Power amplifier for PWM-Signals
- Transmission frequency max. 10kHz (PWM)
- Output max. 5...48Vdc / 10A
- Switching of resistive and inductive loads
- 3-way galvanic isolation between input-output-power supply
- for TS35 mounting rail installation
- clear terminal marking
- small dimensions
- design 17,5mm, super flat
- high reliability, 5-year warranty



Description:

The PWM power amplifier / power optocoupler of the OK10 series was specially designed for the current amplification of PWM signals and is used to control and regulate the power of pulsed loads such as DC motors, heaters and valves.

The devices have 3-way galvanic isolation between input/output and power supply.

Input, output and power supply can thus be operated with different voltages.

Four control voltages (3V, 5V, 12V and 24V) are available for controlling the optocoupler using a PWM signal.

The device can be supplied with an auxiliary power between 19 VDC and 48 VDC, whereby the power output stage can be operated with a voltage between 5 VDC and 48 VDC.

In combination with our analog PWM converter PW1, for example, speed control for small DC motors or fans can be realized.

Note:

The module must be operated with a minimum frequency of 10 Hz (PWM operation). It is not suitable for transmitting static signals, so the pulse-pause ratio must be in the range 0%...99% (100% is not permitted). (100% is not permitted).

In one-shot operation, clocking with a short pulse is also possible. The high signal must be between 1μ...500ms. The low signal can be of any length.

Application:

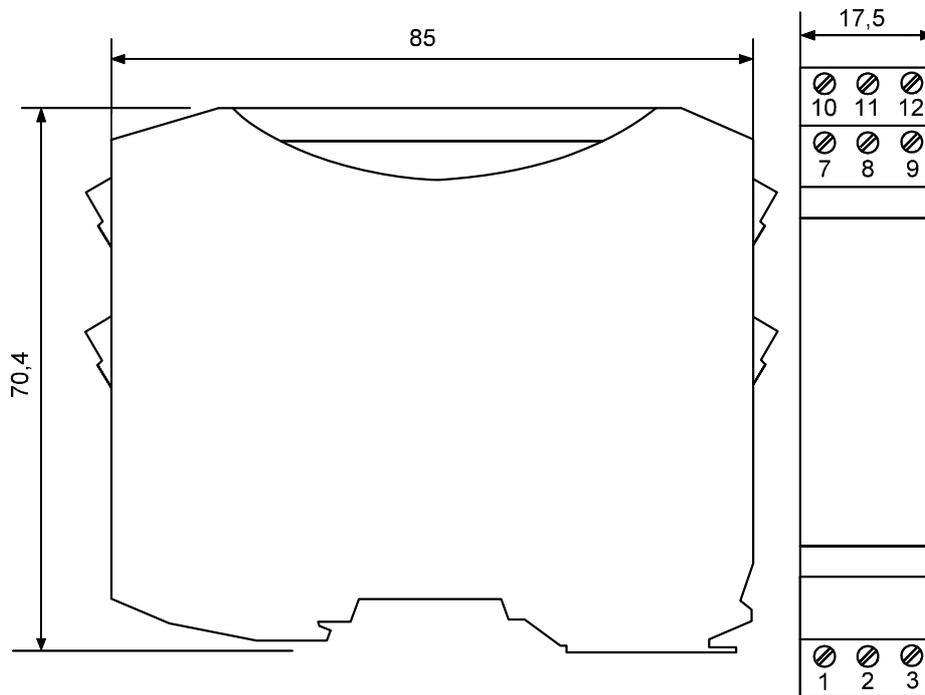
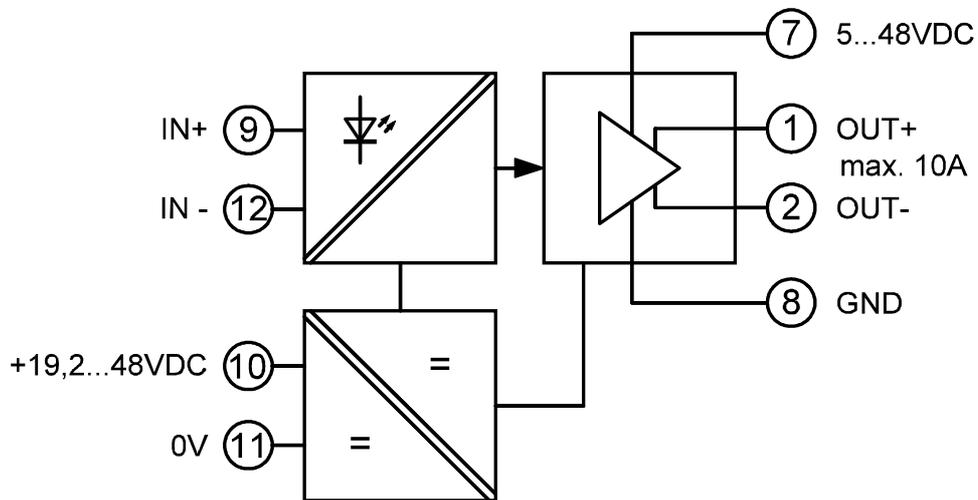
PWM power amplification for e.g. motors and fans.

Contactless switching of valves, brakes, DC coils and other inductive or resistive loads.

Order-Nr.:

Input:

OK10-1	24VDC
OK10-2	5VDC
OK10-4	3VDC
OK10-5	12VDC



Technical Data

Auxiliary power:

Supply voltage : 19,2...48 VDC
Power consumption : 1 VA

Input:

		Nominal voltage	Low	High
OK10-1	: 16.....30 VDC / 4,2...13,6 mA /	$U_N = 24$ VDC	< 12 V	> 16 V
OK10-2	: 3.....6,5 VDC / 3,5...18,1 mA /	$U_N = 5$ VDC	< 0,8 V	> 3 V
OK10-4	: 2,1...3,75 VDC / 2,9...10,9 mA /	$U_N = 3$ VDC	< 0,6 V	> 2,1 V
OK10-5	: 9... ..18 VDC / 4,8...18,8 mA /	$U_N = 12$ VDC	< 5 V	> 9 V

Input frequency : 10 Hz...10 kHz (PWM)
PWM pulse-pause : 0...99 %
One - Shot operation : High: 1 μ s...500ms Low: any

Output amplifier:

Supply voltage : 5...48 VDC
Output voltage : supply voltage -1 V
Output current : max. 10 A
Switching times : on / off 1,1 μ s

General data:

Operation temperature : 0...50°C
Storage temperature : -25...+85°C, condensation before putting into operation is not allowed
Testing voltage : 1,5kVAC / 50Hz / 60 seconds / between input / output / power supply
Rated insulation voltage: 150V AC/DC
Basic insulation, Overvoltage category 2, Degree of soiling 2 to DIN EN61010-1.
MTBF : 98 years mean time between failures – according to EN 61709 (SN 29500).
Requirements: Stationary operation in clean rooms, average ambient temperature 40 ° C, no aeration, continuous operation
CE conformity : EN 61326-1, EN 61000-4-2/3*/4/5/6*, EN 61000-6-4
* during measurements are small deviations possible

Housing:

Dimension : See drawing 17,5mm adjoin body, 17,5x70,4x90,5mm (with terminals)
Material : PA / V0
Protection category : IP20
Mounting position : any
Connection : screw-type terminal 0, 14 - 2,5mm², flexible or inflexible
Fixing : Snap-on mounting for norm rail TS35
Weight : 71g

Note on safety:



Disconnect the power supply before attempting to open the unit.

During the operation of this module it is possible that parts of the module, even there is extra-low voltage, (for example shunt measurement) are under dangerous voltage! Therefore a non-observance of this caution may cause damage of property or physical injury.

Only trained qualified personnel should install or operate the unit. Before installation the qualified personnel should read the documentation and should familiarize themselves with the unit.

If there is visible damage to the body of the unit it should be immediately replaced and not put into operation.



Please ensure that there is a sufficient prevention against electrostatic discharge during installation of the unit.

Installation Information:

Pay attention and make sure the unit is far away from mounted sources that may disturb the device such as magnetic coils, transformers, frequency converters etc.

Wiring advice:

Use only shielded cables. The shield is to be connected extensively to ground. Do not mix power- and signal-wires/cables in the same cable tray.

Limited warranty:

The LEG Industrie-Elektronik GmbH warranted that the product does not have any material or processing defects in a period of 5 years after date of delivery.

It is up to the choice of LEG to repair or to exchange an inoperative unit.

Subsequent damages or any claim for indemnification above the functionality of the unit are excluded.

This limited warranty is only valid if ...

1. the product was installed and put into operation according to the LEG operation documentation;
2. the technical configuration of the power supply was abided;
3. the product was not used for unintended purposes;
4. there were no unauthorized modifications or manipulations, misuse or repairs without previous agreement from LEG .

Our Terms of Trade are based on the “General Conditions for the supply of products and services of the Electrical and Electronics Industry” including the “Complementary Clause: Extended Reservation of Property” of the ZVEI e.V. (German Association of Electrical Manufacturers).

Miscellaneous:

We expressly reserve the right, without previous notice, to correct errors contained in any data of this information brochure, and to make alterations to the program and technical modifications.