

Opto-Guard OP 100

Opto-Fibre Protection System

Rev G: 2010-09-06

Installation and user manual

Features

- Protecting office-equipment from theft with an opto-fibre
- Protecting bars in a barred windows
- Protecting walls from break-through attacks
- Easy to install
- High security level
- Low cost per protected item.

Application

The Opto-Guard is using an opto-fibre to connect a number of office equipment in a closed loop to protect them from removal. The analyser is connected to the 24-hour loop in the alarm installation.

It can also be used to protect the iron bars in barred windows or gates from removal or destruction with burglary tools. The opto-fibre is threaded into the hollow bars and connected to the analyser giving a virtually false alarm protection regardless of temperature variations, humidity and other outdoor conditions.

Function

The Opto-Guard OP 100 consists of a control unit connected to an opto-fibre in a closed loop with max length 40 m. The control unit transmit coded light pulses through the fibre that is received by the control unit and compared in shape and time that it is the same as transmitted. The protected items are connected to the fibre with special designed anchors. The control unit is then connected to the 24-hour loop in the alarm system. Any attempt to remove the items or tamper with the opto-fibre will cause an alarm. The fibre allows normal use of the equipment and is totally immune to any electric disturbance. Also it does not cause any disturbances. The opto-fibre is about 2 mm in diameter and is soft and can easily be bent. It makes it possible for normal use of the protected items. The maximum allowed length of 40 m enable protection of many items to one control unit.

It is also a perfect out-door protection of the iron fence in barred windows or gates. It will give a false alarm resistant early warning system in case someone tries to destroy or remove the bars. The opto-fibre is threaded into the hollow bars and going into through the wall to the inside placed analyser.

The analyser has a solid-state relay output programmable to AUTO or LATCH. The relay can be remotely reset in latch position. There is a LED indication that can be programmed to indicate only in Day position or follow the relay. The polarity of the control signal D/N can be programmed.

Range

The length of the fibre that can be used is very dependant on the following at the installation and planning of an installation:

- Max length of the opto-fibre is 40 m
- Cutting of the opto-fibre. Always use the Fibre-cutter OP 104
- Bending radius that must not be smaller than 2 cm

Mounting

The terminals have the following functions also shown on the label in the bottom of the plastic box:

1. Power supply –
2. Power supply +
3. Day/Night control of LED indication
4. Spare
5. Relay output
6. Relay output
7. Spare
8. Tamper contact (Notice: Do not forget to put on the enclosed spring to the tamper contact)
9. Tamper contact

Programming

There are 3 programming positions S1, S2 and S3. S1 and S2 are controlling the Day and night control of LED indication. S3 is controlling the relay that can be programmed to latch in alarm or being automatic reset after 2 sec. The label on the PCB will guide the user how to set the program.

- S1 inserted S2 open the Day position is programmed with polarity – on the line to terminal 3
- S2 inserted S1 open the Day position is programmed with polarity + on the line to terminal 3
- S3 inserted the relay is latched in alarm and S3 open the relay automatic reset after 2 sec.

Reset

The unit can be reset in two ways:

1. Power down for 1 sec.
2. Switching the line to terminal 3 from Day to Night

Technical data

Supply voltage	9-15 V DC
-Max. Ripple	2 Vpp
Current consumption quiescent	5mA
-In Alarm	8 mA
Alarm output	Solid-state relay
-Protection resistance in series	20-30 ohm
-Contact rating	500 mA, 35 V
-Alarm hold time in AUTO mode	2 sec.
-Alarm indication in MONITOR mode	LED follow relay
-Alarm reset two possibilities	power down or remote on D/N input terminal 3
Tamper contact	opening protection
-Contact rating	35 V/50 mA max.
Allowed length of opto-fibre	max 40 m

Ambient conditions

-Operating temperature	-10° to +70° C
-Storage temperature	-40° to +70° C
-Humidity, DIN 40040	< 95% rel., class F
-Housing protection category	IEC 529, IP 31
Dimension	L85xW66xH27 mm
Colour	White or brown plastic
Weight	71 gram

Approvals

-CE	in conformity
INCERT	B-582-0015/a