



GLASS BREAK DETECTOR

«STEKLO-2»

Installation Guide

General Information

Glass break detector «Steklo-2» (hereinafter, the Detector) is intended for detecting destruction of the following types of flat glass:

- customary glass with a thickness 2.5 ... 8 mm;
- patterned glass with thickness 3.5 ... 7 mm;
- laminated glass with polymer film,

having area not less than 0.1 m² (with length of any side not less than 0.3 m), as well as hollow glass blocks with the following alarm message transmission to the control panel. The Detector comprises LED indicator for the Detector state displaying.

The Detector is supplied by the CP via alarm loop (hereinafter, AL) with input voltage range 10 ... 30 V DC.

Operating temperature: from minus 20 to 45 °C.

Ambient class: Boreal Climate.

The Detector is designed for continuous operation around a clock.

Principal Technical Characteristics

Maximum detection range of the Detector under the impact on the protected glass, inserted into a framework – not less than 6 m.

The Detector operates at two frequencies.

The Detector provides it's sensitivity adjustment.

Warm-up time – not more than 30 sec.

Consumption current in standby mode (during «Norm» message generation) is not more than 1 mA at AL voltage 10 ... 30 V DC.

The Detector informative capacity:

- «Norm» message;
- «Alarm» message.

«Norm» message is generated during all security period of the Detector operation in absence of destroying impacts on the protected glass by creation current in AL with the rate, corresponding to consumption current in standby mode. «Norm» state is displayed by LED lighting absence.

The Detector generates an «Alarm» message after registration of destroying impacts on the protected glass by increasing current in AL, whereupon supply voltage rate decreases till the level not more than 5.2 V. Upon that, the current rate in the Detector should not exceed 35 mA. LED indicator should light steadily.

ATTENTION! It is allowed to hook the Detector only in circuits with current limiting till the level not exceeding 35 mA. Connection of the Detector to power source without limiting resistor (1 kΩ) is absolutely forbidden.

Detection of the glass sheet destruction probability is not less than 0.9. The Detector provides IP rating IP30.

Dimensions, not more than 80 x 80 x 35 mm.

Weight of the Detector is not more than 0.1 kg.

Mean time to failure in «Norm» mode – not less than 60 000 hours.

The Detector average life – not less than 8 years.

Scope of Delivery

Each Detector unit package contains the items listed in Table 1.

Table 1

Name	QNT
Glass break detector «Steklo-2»	1 pc.
Assessories set:	
Testing ball	1 pc.*
Mounting set:	
Screw 1-3x20.016	2 pcs.
Glass break detector «Steklo-2». Installation Guide	1 copy

* – Single for 26 detectors

Installation

Examples of the Detector installation are shown in Figures 5 – 10, fixation marking – in Figure 1.

When choosing place of the Detector installation at the secured object, it is necessary to take into account the following requirements:

- possibility of the Detector installation on any of side walls (Figure 6) or opposite wall (Figure 7), on the room ceiling (Figures 5 and 8), as well as on partition between secured glass and curtains (Figure 9);

- the Detector detection zone orientation (Figure 3);
- it is allowed to use the Detector simultaneously with active ultrasonic detectors;

- all segments of the secured glass should be within the visibility range of the Detector;

- masking of the Detector by curtains is forbidden, as it leads to the Detector sensitivity loss;

- distance between the Detector and farrest point of the secured surface should not exceed 6 m.

Connection

Connection diagramm is shown in Figure 2.

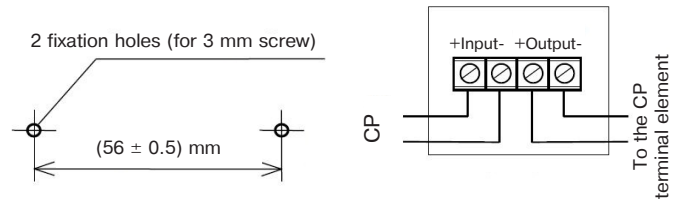


Figure 1

Figure 2

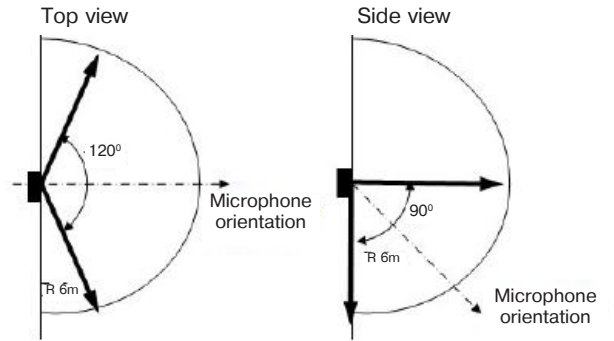


Figure 3 – GB detection zone pattern

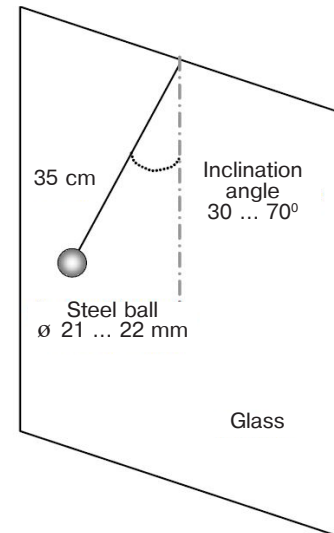


Figure 4

Adjustment

The Detector adjustment is fulfilled as follows:

- open the Detector cover;
- set DIP-switches 1, 2 and 3 in ON position;
- suspend a steel ball 21 – 22 mm in diameter on a 35 cm long thread near the farthest part of the monitored glass, as it is shown in Figure 4. Deliver indestructible blow to the most distant place of the secured glass. Recommended deflection angles are listed in Table 2, for hollow glass blocks the inclination angle is 45°;

Table 2

Glass Thickness, mm	<3	3..4	4..5	5..6	6..7	>8
Ball deflection angle for ordinary and patterned glass, °	30	35	40	45	50	55
Ball deflection angle for laminated glass, °	45	50	55	60	65	70

- if LED indicator is not lighting after test blows, the Detector sensitivity should be increased by DIP-switches «1» and «2» (See Table 3);

Table 3

DIP-switch Position			Detector Mode of Operation	
1	2	3	Sensitivity (detection range)	minimum +6 dB +14 dB +20 dB (maximum)
ON OFF ON OFF	ON ON OFF OFF	ON ON ON ON		
		ON OFF	Adjustment Standby mode	

- select the sensitivity level, at which the Detector responds (Alarm message is generated) after testing ball blows the glass;
- close the Detector cover and fulfill analogous testing with other secured glasses in different places, if it is necessary adjust sensitivity;
- check the Detector adjustment by delivering a blow by testing ball to the glass with the inclination angle 15 – 25°. Upon that, the Detector should not generate an alarm message. If the test is unsuccessful, repeat the Detector adjustment procedure.

Note – For the Detector operation check, it is allowed to use electronic glass break simulator during adjustment.

To finish preparation of the Detector to operation on the secured object, set the DIP-switch 3 to «standby mode» position, close the cover, seal it if necessary.

The Detector warranty period is 5 years as from the date of production.

Variants of the Detector Installation

Correct installation variants are shown in Figures 5 – 9, wrong ones – in Figure 10.

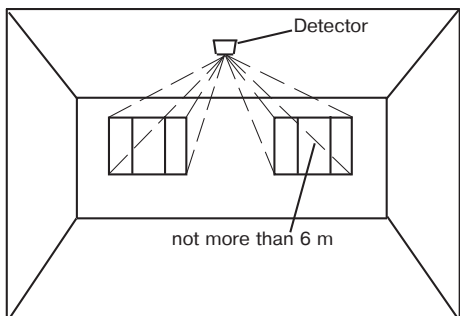


Figure 5 – Ceiling mounting of the Detector

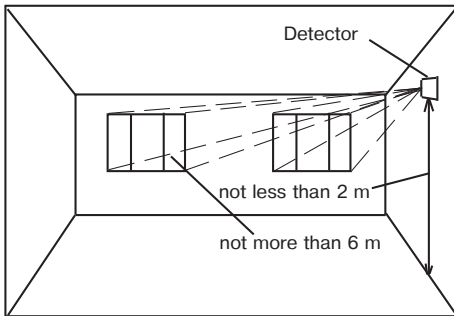


Figure 6 – Side wall mouning of the Detector

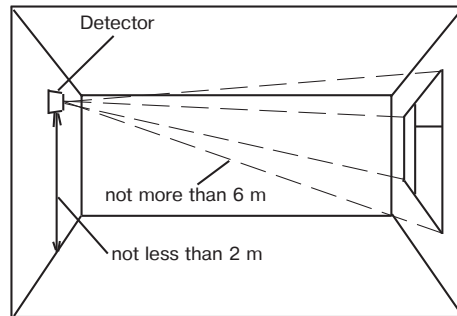


Figure 7 – Opposite wall mounting of the Detector

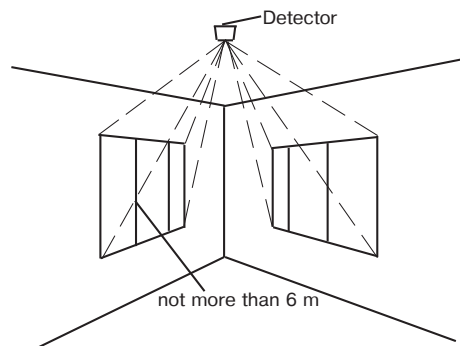


Figure 8 – Ceiling mounting of the Detector (for window openings in neighbour walls monitoring)

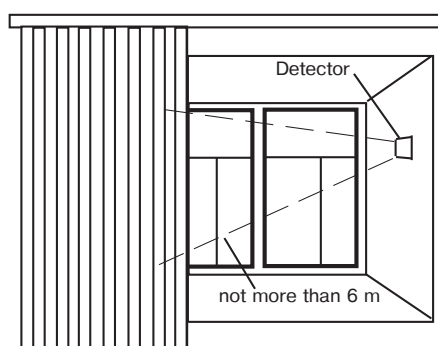


Figure 9 –The Detector mounting between glass and curtains (louvre-boards)

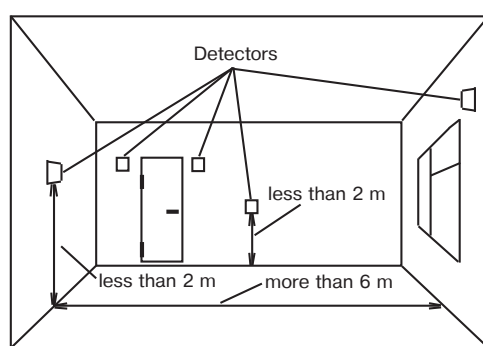


Figure 10 – Not recommended installation places

Packing Certificate

Glass break detector «Steklo-2» has been manufactured in compliance with the active technical documentation, classified as fit for operation and packed by «Development and Production Enterprise RIELTA » LLC.

Packing date _____
month, year

Made in Russia

Rev.2 of 05.12.19
№ 00318

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