

General Description

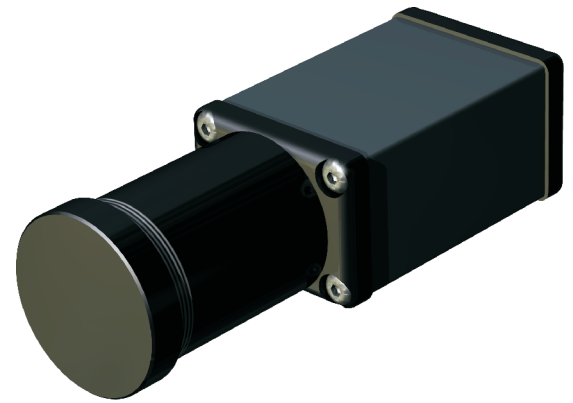
IRDetector 30(-32) – the series of high-sensitive pyroelectric MW, LW IR range radiation detectors. This is a compact, light-weighted and low-cost solution for a variety of IR detecting applications.

Wide spectral range from 4 μm to 22 μm (2-20 μm).

Analog voltage output version has standard BNC output connector and external power supply.

USB version of the detector can be directly connected to a PC. Software and LabVIEW® VI are free of charge and included in the delivery.

Two formfactors (In-line and Side) and multiple accessories ensure versatile application of the instrument.



IRDetector30U-L-T50

Numbering system

IRDetector [type]-[ver]-[alist]

[type] - detector type

- 30, 32 - analog voltage output type,
- 30U, 32U - USB type (USB-powered);

[ver] - version

- L - in-line,
- S - side;

[alist] - accessories list

- B - shielding blend,
- T[xx] - tube for 1" OD focusing or attenuating optics,
 - 50 - 50 mm focus,
 - 2" - 2" focus,
 - 25 - 25 mm focus,
 - 1" - 1" focus,

*other focal lengths are available on request.

e.g. IRDetector32U-L-B-T50-T1"



IRDetector30-S

Electro-optical parameters

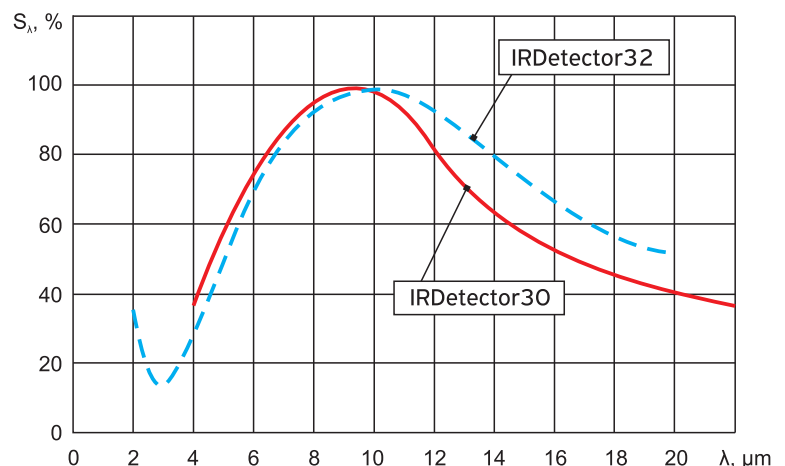
Sensitive area is (1x1) mm centered in the aperture

Parameters Table

		type	min	max	unit
NEP*	Detection threshold	-30 (U)		$3 \cdot 10^{-9}$	$\frac{\text{W}}{\sqrt{\text{Hz}}}$
		-32 (U)		$7 \cdot 10^{-10}$	
λ	Spectral range	-30 (U)	4.0	22.0	μm
		-32 (U)	2.0	20.0	
S_u	Voltage response	-30 (U)	1000		$\frac{\text{V}}{\text{W}}$
		-32 (U)	4000		
P_{MAX}	Measured power	-30 (U)		10.2	mW
		-32 (U)		2.55	
Δf	Signal BW		460		Hz
F_{UP}	Cut-off frequency			500	Hz

* - in 50 - 300 Hz range of modulation frequency

Typical Spectral Response



Electrical characteristics

		min	max	unit
V_o	Output voltage*	0.0	10.2	V
R_o	Output impedance*		50	Ω
V_s	Power supply voltage*	9	36	V
P_o	Quiescent Power		0.5	W

* - for non-USB types

Absolute maximum ratings

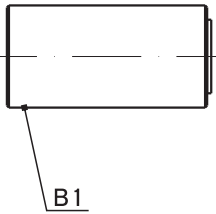
		value	unit
E_{TH}	Damage threshold	0.5 ⁽²⁾	J/cm^2
P_A	Average power	0.3 ⁽²⁾	W
P_{TH}	Average power density	50 ⁽³⁾	MW/cm^2
T_{OP}	Operating temperature	0 ... +50	$^{\circ}C$
T_s	Storage temperature	-40 ... +85	$^{\circ}C$
V_{SMAX}	Supply voltage	40	V

Note 1: Stresses above those listed may cause permanent damage to the device.

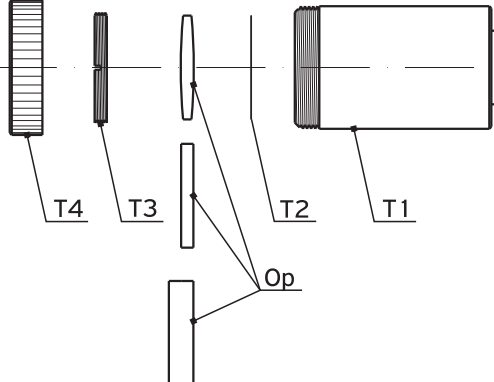
Note 2: - TBD.

Note 3 - 10 ns pulse.

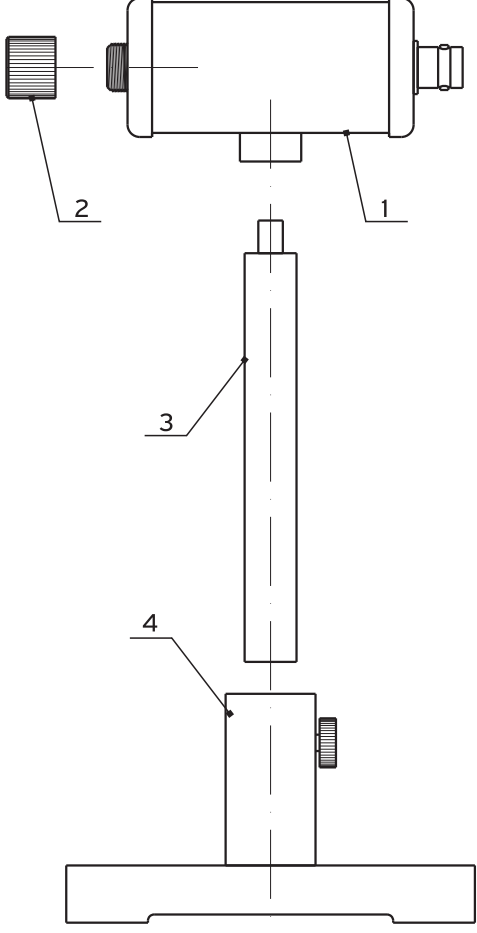
Parts and accessories list



"B" option



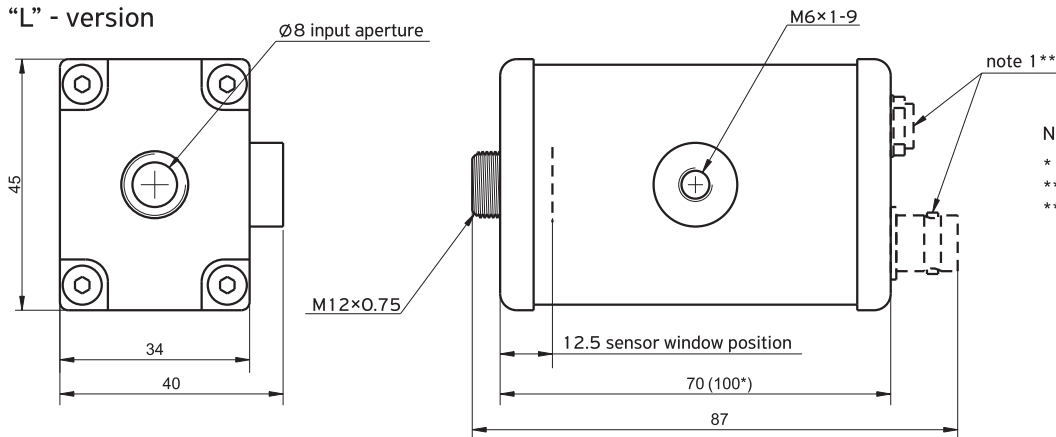
"T" option



Pos.	Description	Comments
1	Detector	Detector kit
2	Protective cap	
3	Mounting post	
4	Base plate	
5	Power supply (not shown)	for non-USB type
6	USB A-B cable (not shown)	for USB type
T1	Tube body	"T" option
T2	Fluoroplastic O-ring	
T3	Sealing nut	
T4	Protective cap	
B1	Blend body	"B" option
Op	Optic components	25.4mm OD, 3-6 mm thickness, ordered separately

Mechanical drawing

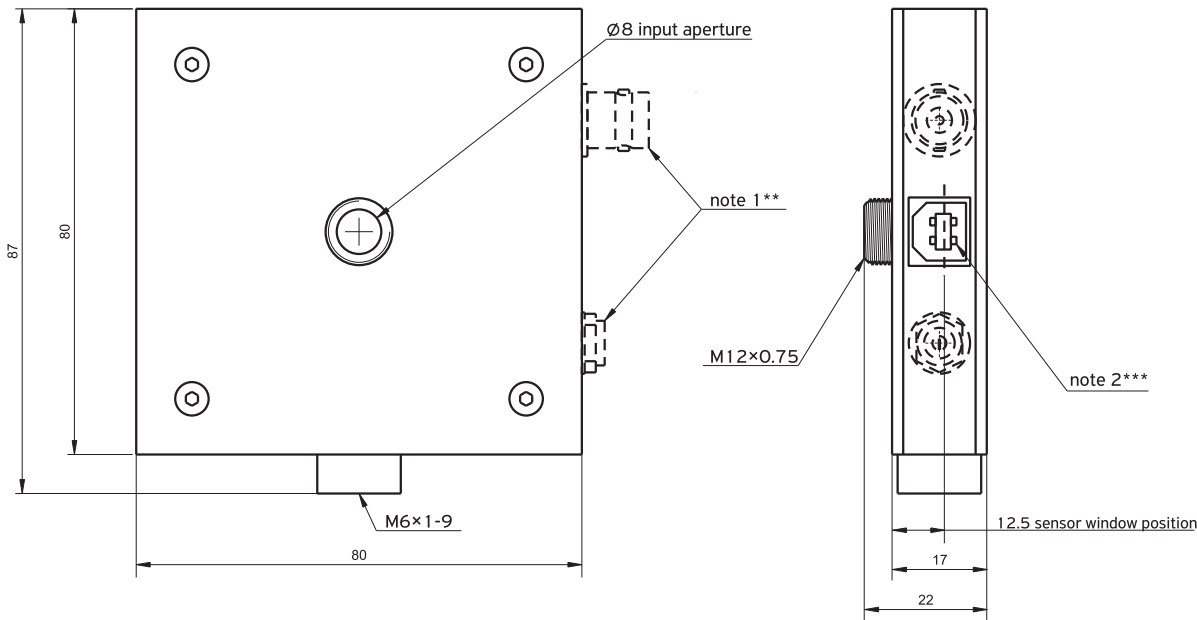
"L" - version



Notes

- * - Dimension for USB-type detectors.
- ** - Note 1 - Not installed in USB-type detectors.
- *** - Note 2 - Installed in USB-type detectors only.

"S" - version



Ordering information

Part Number	Description	Marking code
STLR.449600.010	Detector kit IRDetector30-L	30-L
STLR.449600.011	Detector kit IRDetector32-L	32-L
STLR.449600.012	Detector kit IRDetector30-S	30-S
STLR.449600.013	Detector kit IRDetector32-S	32-S
STLR.449600.020	Detector kit IRDetector30U-L	30U-L
STLR.449600.021	Detector kit IRDetector32U-L	32U-L
STLR.449600.022	Detector kit IRDetector30U-S	30U-S
STLR.449600.023	Detector kit IRDetector32U-S	32U-S
STLR.449400.001	Shielding blend	-B
STLR.449400.010	Tube for 25.4 mm (1") OD focusing or attenuating optics with 25 mm focus distance	-T25
STLR.449400.011	Tube for 25.4 mm (1") OD focusing or attenuating optics with 50 mm focus distance	-T50
STLR.449400.012	Tube for 25.4 mm (1") OD focusing or attenuating optics with 25.4 mm (1") focus distance	-T1"
STLR.449400.013	Tube for 25.4 mm (1") OD focusing or attenuating optics with 50.8 mm (2") focus distance	-T2"

Any part from "parts and accessories list" (see above) is available on request.

Manufacturer data

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e-mail: sales@lc-solutions.com

Warranties

24 month from date of sale.

Disclaimer

All data are subject to change without notification.

Document history

Date	Rev.	Description	Notes
14.07.2016	1.0	Initial release	