



LN2 DEWAR SENSOR TEST UNIT

Senseker’s SEIR LN2 sensor test units (STUs) have been an industry standard fixture in laboratories across the United States for decades. These units enable efficient testing of infrared focal plane arrays (FPAs) at cryogenic temperatures.

Features

- ◆ Modular design concept enables the unit to be easily reconfigured to support different FPAs
- ◆ Both the FPA Daughter board and the optics can be re-configured for maximum flexibility
- ◆ Robust design intended for practical use in the lab
- ◆ Supports high-speed readout of electronics signals and data with robust electrical feedthrough connectors
- ◆ These LN2 Dewars are favored for use when both electrical noise and audible noise must be minimized
- ◆ Available in standard, large and extra-large sizes to accommodate different FPA sizes
- ◆ Design optimized to allow generous allocation of working space for reconfiguration, in a compact footprint
- ◆ Many customization options offered including optics configuration and lens choices
- ◆ Support for many existing industry standard readouts and FPAs available

Product Options

LN2 STU products are available in three sizes: standard, large and extra large. The larger STU sizes accommodate larger FPA package sizes and support more electrical feedthrough connections for higher speed data transfer.

Part Number	Description	LCC and Package Sizes
STU-LN2-ST	Standard LN2 pour-fill Dewar cryostat with 22 stainless coax lines	68-pin, 84-pin
STU-LN2-LG-DB25	Large LN2 pour-fill Dewar cryostat with four DB25 hermetic feedthrough connectors for high-speed data transmission.	68-pin, 84-pin, 100-pin, 124-pin. Other large LCC packages up to 2.3" x 2.3" possible. Also can accommodate custom FPA/Sensor module.
STU-LN2-LG-DB37	Large LN2 pour-fill Dewar cryostat with four DB37 hermetic feedthrough connectors for high-speed data transmission.	68-pin, 84-pin, 100-pin, 124-pin. Other large LCC packages up to 2.3" x 2.3" possible. Also can accommodate custom FPA/Sensor module.
STU-LN2-XL	Extra large LN2 pour-fill Dewar cryostat with feedthrough port for FPA cable.	All LCC package sizes up to 5" x 5". Also can accommodate custom FPA/Sensor module.

Key Specifications

Parameter	STU-LN ₂ -ST	STU-LN ₂ -LG-DB ₂₅	STU-LN ₂ -LG-DB ₃₇	STU-LN ₂ -XL
Operating temperature (K)	79	80	80	TBD
Cool-down time (minutes)	30	30	30	60
Warm-up time @ 25W (minutes)	60	60	60	120
Vacuum pressure (Torr)	1E-6	1E-6	1E-6	1E-6
Cryogen volume (L)	0.35	0.35	0.35	2.0
Accuracy (K)	±0.25	±0.25	±0.25	±0.25
Maximum FPA/module size	Up to 1.35" x 1.35"	Up to 2.3" x 2.3"	Up to 2.3" x 2.3"	Up to 5" x 5"
Number of electrical feed-through connections	48	100	148	>240. Intended for large format FPAs
Capable of accommodating sensor/FPA modules	No	Yes	Yes	Yes
Senseeker commercial readout ICs supported			Oxygen® RD0092 Oxygen® RD0033 Calcium™ RD0033 Magnesium® MIL RP0092	Calcium™ RP0419 (2k x 2k)
Teledyne FLIR FPAs supported	ISC0002, ISC0209, ISC0402, ISC0403, ISC0802, ISC0903, ISC1308, ISC1601, ISC9705, ISC0309, ISC9809	ISC0002, ISC0209, ISC0403, ISC0802, ISC0804, ISC9705, ISC0309, ISC0404, ISC0903, ISC0905, ISC1202, ISC1308		

Availability and Contact Information

Senseeker SEIR STUs are built to order. You can configure your own STU at the Senseeker website. The web-hosted configuration tool allows you to consider and select the appropriate options that best fit your objectives for using the STU.

All versions of the Senseeker LN₂ STUs are available to order now.

Contact sales for pricing information:
products@senseeker.com

Customization

Senseeker SEIR LN₂ sensor test units are commercial off-the-shelf products that can be configured to meet exact customer requirements before shipment.

Senseeker can configure the sensor test unit to accommodate the exact FPA that is to be tested. There are a wide range of daughter boards available that are already configured for industry-standard FPAs. A window type that supports the waveband of interest can be selected when the STU is ordered. The diameter size for the window, aperture and cold shield may also be selected.

Senseeker offers options of a stiffened shell and higher capacity shells up to 2L.