



LN2 Dewar Sensor test unit

Senseseeker's LN₂ pour-fill sensor test units (STUs) have been an industry standard fixture in laboratories across the United States for many years. 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 personality board and the optics can be reconfigured 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 semi-custom models. 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 LN ₂ pour-fill Dewar cryostat with 22 stainless coax lines	68-pin, 84-pin.
STU-LN2-LG-DB37	Large LN ₂ pour-fill Dewar cryostat with four DB37 hermetic feedthrough connectors for high-speed data transmission.	68-pin, 84-pin, 100-pin, 124-pin. Other LCCs up to 2.3" x 2.3" and custom FPA/Sensor modules up to 4" x 4".
STU-LN2-LG-FLEX198	Large LN ₂ pour-fill Dewar cryostat with Flex198 interface to connect directly to CoaxSTACK™ electronics.	68-pin, 84-pin, 100-pin, 124-pin. Other LCCs up to 2.3" x 2.3" and custom FPA/Sensor modules up to 4" x 4".
STU-LN2-XXX-XL	Semi-custom extra large STUs for large FPAs and simultaneous multiple FPA testing.	All LCC package sizes and custom FPA/Sensor modules up to 8.5" x 8.5".

Parameter	STU-LN ₂ -ST	STU-LN ₂ -LG-DB ₃₇	STU-LN ₂ -LG-FLEX ₁₉₈	STU-LN ₂ -XXX-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 size (LCC)	1.35" x 1.35"	2.3" x 2.3"	2.3" x 2.3"	5" x 5"
Maximum module size	N/A	4" x 4"	4" x 4"	8.5" x 8.5"
Max # connections	48	148	198	> 1500
Capable of accommodating sensor/FPA modules	No	Yes	Yes	Yes
Senseseeker commercial readout ICs supported		Oxygen® RD0092, RD0033 Calcium™ RP0033, RP0210 Magnesium® MIL RP0092 Neon™ RD0033, RD0131 Zinc™ RP0033	Oxygen® RD0092, RD0033 Calcium™ RP0033, RP0210 Magnesium® MIL RP0092 Neon™ RD0033, RD0131 Zinc™ RP0033	Very large format DROICs
Teledyne FLIR FPAs supported	ISC analog output ROICs	ISC analog output ROICs	Digital output ROICs	

Availability and Contact Information

Senseseeker STUs are built to order. You can configure your own STU at the Senseseeker 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 Senseseeker LN₂ STUs are available to order now.

Contact sales for pricing information:
products@senseseeker.com

Customization

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

Senseseeker can configure the sensor test unit to accommodate the exact FPA that is to be tested. There are a wide range of personality 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.

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