

## DSS-PS020

### Lead Sulfide Solid State Detector

ELEMENTAL ANALYSIS
FLUORESCENCE
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OPTICAL COMPONENTS
FORENSICS
PARTICLE CHARACTERIZATION
RAMAN
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SPR IMAGING

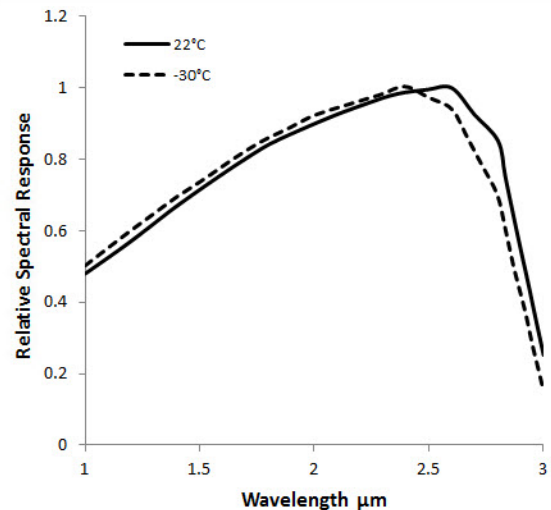
A lead sulfide photodiode, available in two different cooling levels, provides good spectral response in the near-IR.

If you need a single point detector to measure signals in the NIR spectral region, the solid state PbS detector from HORIBA Scientific is an excellent choice. With high sensitivity ( $D^* \sim 10^{12}$ ) and two options for ambient and thermoelectric cooling, responsivity extends from 1000 nm to 2800 nm. This is one of a number of single point detectors available from HORIBA Scientific. Contact us for further information.

Used in conjunction with optically optimized housings, these detectors integrate seamlessly with HORIBA's extensive selection of monochromators. In addition, the SpectrAcq2 acquisition module allows for software integration with LabSpec, SynerJY, or LabVIEW. With all of the additional optical adapters available from HORIBA, a user can easily go from individual components to a complete spectroscopy solution.

### Features and Benefits

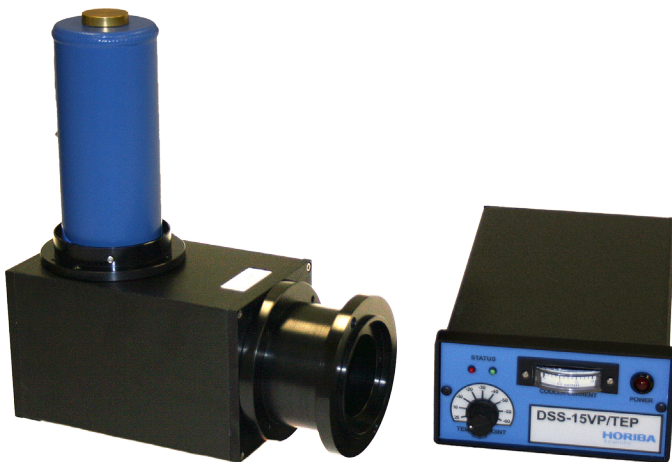
- Wide spectral responsivity from 1000 nm to 2800 nm
- High sensitivity ( $D^* \sim 10^{12}$ )
- Compact ambient and TE detector housing



### Accessories

Various accessories are available for powering the detectors, optically coupling detectors to HORIBA monochromators, and data acquisition.

- Power supply for TE cooled detector, DSS-15V-TEP
- Power supply for ambient, DSS-15VP
- Mirror-based housing, 1427C
- BNC cable, J30646
- SpectrAcq2 data acquisition module
- SMA fiber adapter, DSS-SMA
- Dual 1427C housing adapter, J23078370
- Dual detector housing, J23079050
- BNC switchbox for dual detectors, SWB-AB

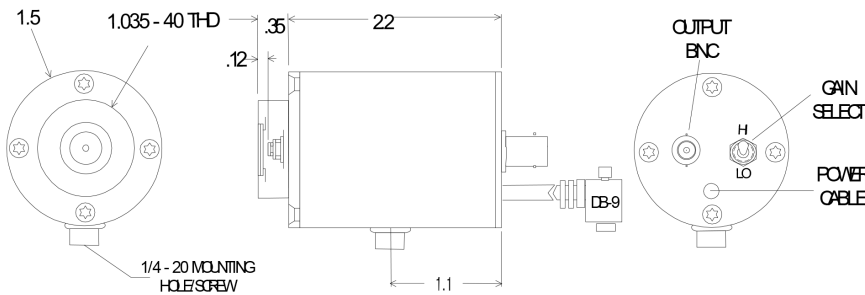


## Specifications

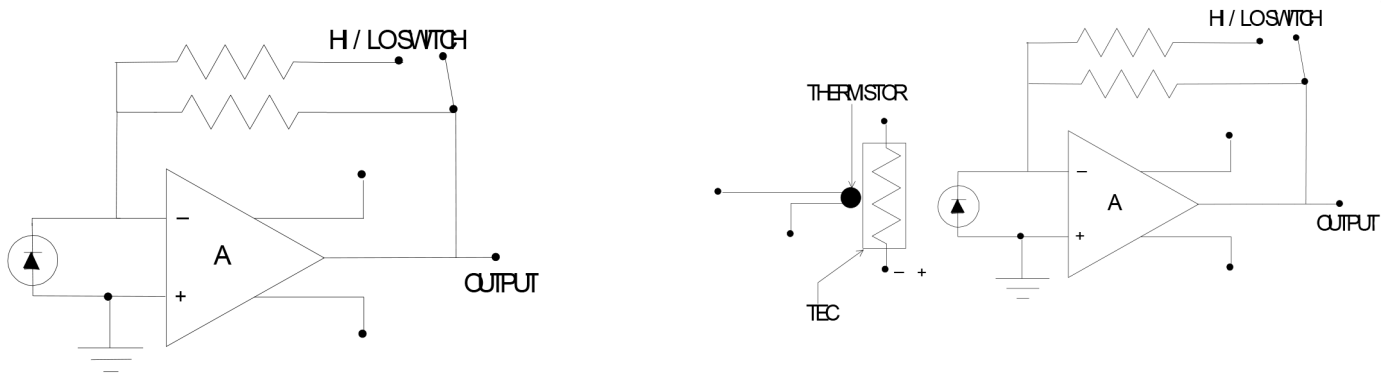
<b>Part number</b>	DSS-PS020A	DSS-PS020T
<b>Detector type</b>	2 mm x 2 mm lead sulfide photodiode	
<b>Operating temperature (°C)</b>	22°C ambient	-30°C TE cooled
<b>Operating wavelength (µm)</b>	1.2 – 2.8 µm	1.0 – 2.8 µm
<b>Responsivity (V/W @ peak)</b>	10 <sup>7</sup> / 10 <sup>6</sup>	2 x 10 <sup>7</sup> / 10 <sup>6</sup> typical
<b>Noise (V/Hz<sup>1/2</sup>)</b>	2 x 10 <sup>-5</sup> / 10 <sup>-6</sup>	0.6 x 10 <sup>-5</sup> / 10 <sup>-6</sup>
<b>NEP pk, (W/Hz<sup>1/2</sup>)</b>	2.0 x 10 <sup>-12</sup>	< 0.3 x 10 <sup>-12</sup>
<b>Detectivity (D*)</b>	1.00 x 10 <sup>12</sup>	6.67 x 10 <sup>12</sup>
<b>Bandwidth (-3dB – Hz, typical)</b>	5 – 500 Hz	5 – 400 Hz
<b>Power requirements</b>	± 9 VDC to ± 15 VDC	
<b>Connections</b>	BNC signal output. Shielded power cable terminated with a DB-9 connector directly couples the unit with the PS/TC-1 Low Noise Power Supply / Controller.	

## Mechanical Dimensions, Ambient and TE Housing

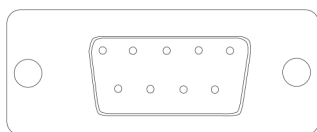
(All measurements are in inches)



## Electrical Diagrams, Ambient and TE Cooled



## DB-9 Pin Out Diagrams, TE Cooled [Ambient]



- |                            |             |
|----------------------------|-------------|
| 1. Cooler (+) [No connect] | 6. +V       |
| 2. Cooler (-) [No connect] | 7. -V       |
| 3. Thermistor [No connect] | 8. GND      |
| 4. Thermistor [No connect] | 9. Case GND |
| 5. No connect              |             |



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