**ZPW Sensor Conversions**

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| IR Radiometer | | | |
| *Program Variable* | *Measurement* | *Symbol* | *Equation(s)* |
| IR\_Rad\_TP | Thermopile [Volts] | x |  |
| IR\_Rad\_T | Air Temperature [°C] | Tair |
| mC2, mC1, mC0, bC2, bC1, bC0 | Calibration constants |  |
| IR\_Rad\_Target | Surface Temp [°C] | Ttarget |

**Sources:** Infrared Radiometer Owner’s Manual. Apogee Instruments. 2016.

Sample Datalogger Programs: Infrared Radiometers – Analog. Apogee Instruments. 2016.

<http://www.apogeeinstruments.com/standard-field-of-view-infrared-radiometer-sensor-si-111/>

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| --- | --- | --- | --- |
| Soil Moisture | | | |
| *Program Variable* | *Measurement* | *Symbol* | *Equation(s)* |
| SensorOut(1) = SM\_Eb | Bulk dielectric |  |  |
| SensorOut(2) = SM\_Temp | Soil Temperature [°C] | Tsoil |
| SensorOut(3) = SM\_EC | Bulk conductivity | (unused) |
| VWCp | Volumetric water content (peat) [%] |  |
| VWCm | Volumetric water content (mineral) [%] |  |

**Source:** GS3 Water Content, EC and Temperature Sensors, Operator’s Manual. Decagon Devices, Inc. March 11, 2016 — 11:59:15.

<http://www.decagon.com/en/soils/volumetric-water-content-sensors/gs3-vwc-temp-ec/>

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| --- | --- | --- | --- |
| NDVI | | | |
| *Program Variable* | *Measurement* | *Symbol* | *Equation(s)* |
| DownNIR\_NDVI | 810 nm Spectral  Radiance |  |  |
| UpNIR\_NDVI | 810 nm Spectral  Irradiance |  |
| DownRed\_NDVI | 650 nm Spectral  Radiance |  |
| UpRed\_NDVI | 650 nm Spectral  Irradiance |  |

**Sources:** NDVI Integration Guide: Spectral Reflectance Sensor (SRS). Decagon Devices. 2015.

Spectral Reflectance Sensor (SRS) Manual. Decagon Devices. 2015.

<http://www.decagon.com/en/canopy/canopy-measurements/spectral-reflectance-sensor-srs/#Support>

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| --- | --- | --- | --- |
| PRI | | | |
| *Program Variable* | *Measurement* | *Symbol* | *Equation(s)* |
| DownNIR\_PRI | 570 nm Spectral  Radiance |  | (Incorrectly used for real-time data calculations)  (corrected) |
| UpNIR\_PRI | 570 nm Spectral  Irradiance |  |
| DownRed\_PRI | 532 nm Spectral  Radiance |  |
| UpRed\_PRI | 532 nm Spectral  Irradiance |  |

**Sources:** PRI Integration Guide: Spectral Reflectance Sensor (SRS). Decagon Devices. 2015.

Spectral Reflectance Sensor (SRS) Manual. Decagon Devices. 2015.

<http://www.decagon.com/en/canopy/canopy-measurements/spectral-reflectance-sensor-srs/#Support>