



Geolux has installed a HydroStation monitoring system on a small irrigation stream, enabling real-time water level and discharge measurement with quick installation, remote data access via HydroView, and improved accuracy through a V-notch weir for low-flow conditions.

To monitor water discharge on a small stream, Geolux has installed HydroStation – highly integrated hydrological monitoring station that consists of radar-based water level sensor, surface velocity radar, Lithium battery pack, solar panel, Geolux HydroCam camera and GPRS datalogger. The station is installed on a bridge above the channel, to measure water level and total discharge. The measurement site is specific because on such a small channel, expected discharge is very small. To improve discharge measurement when the water level is very low, we have installed additional V-notch weir. This channel is used for irrigation of a nearby field, and the study that uses Geolux instruments aims to determine if more fields can use the same channel for irrigation, or additional construction work will be required.

The main benefit of using Geolux instruments on this site is simple and quick installation. HydroStation comes pre-installed with all instruments and solar panel already attached, and on-site installation requires only attaching the station to the fence that exists on the bridge. The calibration for discharge measurement is also easy, as the channel below the bridge is rectangular and made from concrete. Geolux HydroCam is used to take images of the staff gauge for redundancy, and to provide visual information about water icing or aggregation of driftwood and garbage.



Measured data is transmitted to Geolux HydroView cloud-based software, that stores it in an internal database. HydroView provides a user interface that allows users to monitor hydrological data in real time. HydroView also allows the users to setup and remotely re-configure the operating parameters of a SmartObserver datalogger, and to remotely change the operating parameters of hydrological instruments that are connected to the datalogger. Integrated in HydroView software is a water discharge calculation module. This software module calculates water discharge based on indirect measurements of water level and surface velocity in one or more points on the river profile. If surface velocity radars are not present on-site, discharge can be calculated using a predefined Q-H curve. Or, if a V-notch is used on-site, the V-notch parameters together with the water level are used for discharge calculation.

