

WATER QUALITY MONITORING



APPLICATION BACKGROUND

Water quality measurements are performed for water in streams, rivers, lakes and in groundwater systems.

There are different parameters that can be measured and used as indicators of water quality, for example electro conductivity (EC), acidity or alkalinity of a solution (pH) or dissolved oxygen (DO).

Water depth, flow and temperature can add valuable insight into water quality. For that purpose 6542 hydrostatics depth probe or 6526 Starflow instrument can be added to a water quality measurement station.

APPLICATION DETAIL

Unidata supplies a wide range of water quality systems. In the example shown in the illustration, water conductivity, temperature, pH, dissolved oxygen and water depth are measured and data stored and wirelessly transmitted by a Neon Remote Logger.

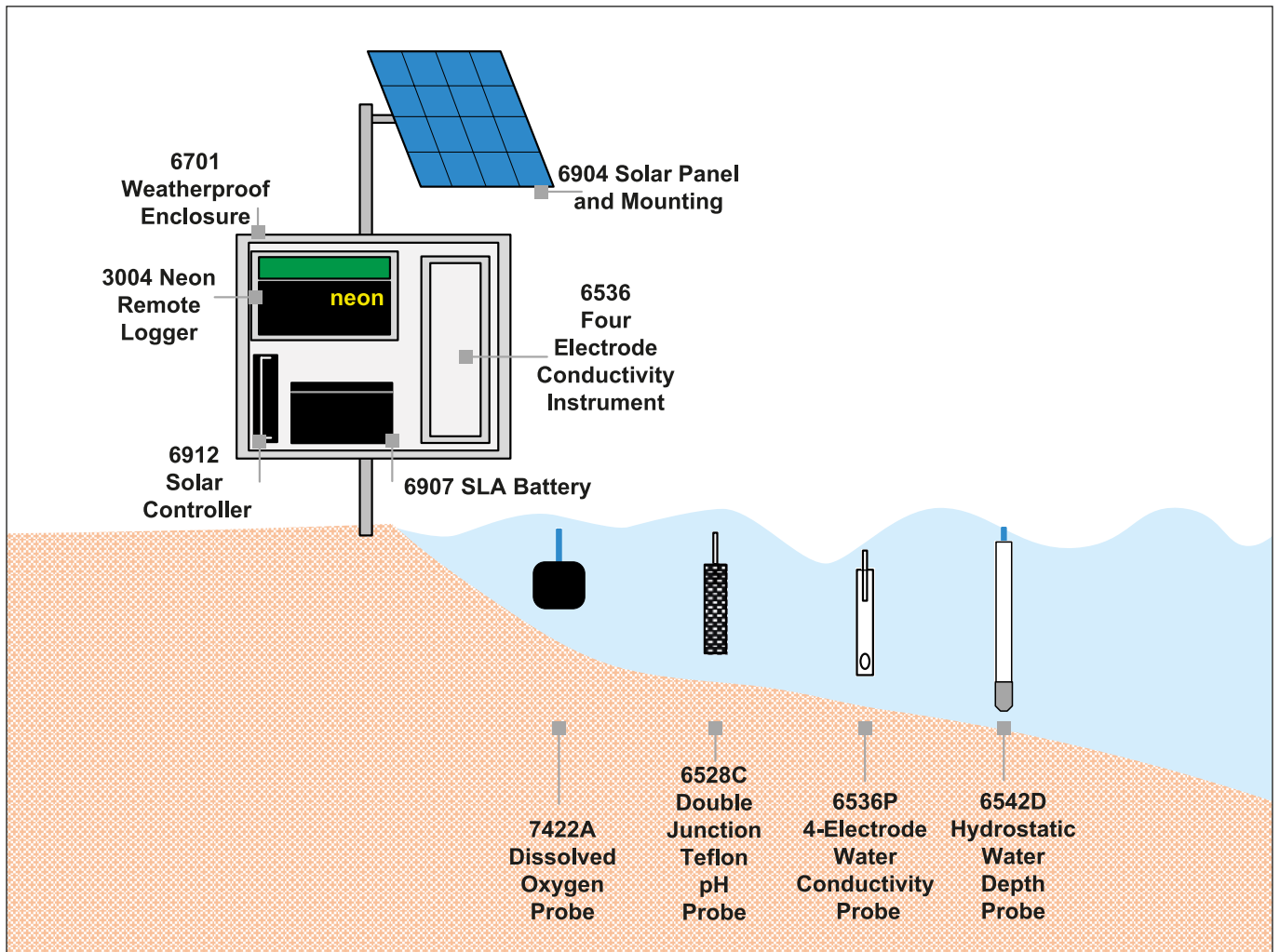
The water conductivity probe 6536P-2 is connected to the 6536E Water Electro Conductivity instrument via an SDI-12 bus. The 6536E Conductivity instrument runs local scheme to collect conductivity reading every 5 minutes. Neon Remote Logger is set up to collect / log readings from conductivity instrument, pH probe, dissolved oxygen probe and hydrostatic depth probe every hour and to transmit this data to central Neon server every 4 hours.

Ultra low-power consumption of this system set up is ideal for remote, unattended operation. These instruments and logger will operate for up to 2 years using a small lithium battery package. Installing the Neon Remote Logger enables you to monitor and modify / change data acquisition and check the health of the site, all from a remote location using a web browser anywhere in the world.

The choice of telemetry option would be based on cellular coverage in the measurement area and costs associated with reporting the data back. Satellite services for these applications have reduced in price over the last 5 years, so satellite services are a reasonable option for such measurement stations.

The systems can be powered using lithium battery packs, or a small solar panel and battery.

Like all Unidata systems you can connect many other sensors to the standard system. If water quality measurements are done in relatively shallow waters, 6542 hydrostatic water depth probe can be replaced by 6526 Starflow instrument. Starflow will measure depth of water as well as velocity and rate of flow.





TYPICAL CONFIGURATION

APPLICATION SPECIFIC INSTRUMENTS/INPUTS

Options	Unidata Part Number	Description
Water Electroconductivity Instrument	6536E	Water EC Instrument with Batt, 512K CMOS memory
Four Electrode water Conductivity Probe	6536P-2-10/20/30/50	4EL Water Conductivity Probe - 10m, 20m, 30m or 50m
Double Junction Teflon - pH Industrial Probe	6528C	pH Industrial Probe
Double Junction Gel - ORP Industrial Probe	6528B	ORP Industrial Probe
Dissolved oxygen probe	7422	O ₂ Probe

NEON TELEMETRY - NRL / RTU / FIELD UNITS

Options	Unidata Part Number	Description
Ethernet	3016A-000 / 3008A-000	Neon Remote Logger-16 or 8 Analog Ch / Touch Screen Display
Ethernet & 3G/4G	3016A-C00 / 3008A-C00	Neon Remote Logger-16 or 8 Analog Ch / Touch Screen Display
Ethernet & 3G/4G and LoRa	3016A-CL0 / 3008A-CL0	Neon Remote Logger-16 or 8 Analog Ch / Touch Screen Display
Equatorial Orbit Satellite-Inmarsat	3016A-001 / 3008A-001	Neon Remote Logger-16 or 8 Analog Ch / Touch Screen Display
Equatorial Orbit Satellite-Inmarsat & 3G/4G	3016A-C01 / 3008A-C01	Neon Remote Logger-16 or 8 Analog Ch / Touch Screen Display
Low Earth Orbit Satellite - Globalstar	3016A-00G / 3008A-00G	Neon Remote Logger-16 or 8 Analog Ch / Touch Screen Display
Satellite - Iridium Short Burst Data	3016A-00R / 3008A-00R	Neon Remote Logger-16 or 8 Analog Ch / Touch Screen Display
Standalone RTU/NRL - Industrial	3004A-00 / 3004A-0L	Neon Remote Logger-4 Analog Ch with or without Touch Screen Display
Cellular RTU/NRL 3G/4G - Industrial	3004AC0 / 3004A-CL	Neon Remote Logger-4 Analog Ch with or without Touch Screen Display
M – Series Standalone RTU/NRL	3004A-M000 / 3004A-M0B0	Neon Remote Logger-4 Analog Ch with or without Li Battery
M – Series Cellular RTU/NRL 3G/4G	3004A-MC00 / 3004A-MCB0	Neon Remote Logger-4 Analog Ch with or without Li Battery
M – Series LoRa RTU/NRL	3004A-ML00 / 3004A-MLB0	Neon Remote Logger-4 Analog Ch with or without Li Battery
M – Series Ethernet RTU/NRL	3004A-MEBL	Neon Remote Logger-4 Analog Ch, Li Battery & LCD are optional
M – Series Microsatellite RTU/NRL	3004A-MHBL	Neon Remote Logger-4 Analog Ch, Li Battery & LCD are optional
M – Series Iridium Short Burst Data RTU/NRL	3004A-MIBL	Neon Remote Logger-4 Analog Ch, Li Battery & LCD are optional

NEON APPLICATION SOFTWARE - CUSTOMER SERVER

Options	Unidata Part Number	Description
Neon Applications Software	2302A	Neon Server Software Licence Incl 5 NAL
Neon Applications Software	2302A-10	Additional 10 NRT Access Licence
Neon Applications Software	2302A-20	Additional 20 NRT Access Licence
Neon Applications Software	2302A-50	Additional 50 NRT Access Licence

NEON HOSTING SERVICE - UNIDATA SERVER

Options	Unidata Part Number	Description
Neon Hosting Service	2301A	Neon Data Initial Subscription Setup Fee
Neon Hosting Service	2301A-01	Neon Data Service Fee for 1-50 NRT
Neon Hosting Service	2301A-02	Neon Data Service Fee for 51-100 NRT
Neon Hosting Service	2301A-10	Neon Data Service Fee Metering

DATALOGGER MANAGEMENT SOFTWARE

Options	Unidata Part Number	Description
Starlog V4 Management Software	6308A-AUE	STARLOG V4 Full Licence Key

AVAILABLE FROM: **Unidata Pty Ltd** | 40 Ladner Street, O'Connor, 6163 Western Australia | Tel: +61 8 9331 8600 | info@unidata.com.au