

# Teledyne Isco 2105 Interface Module

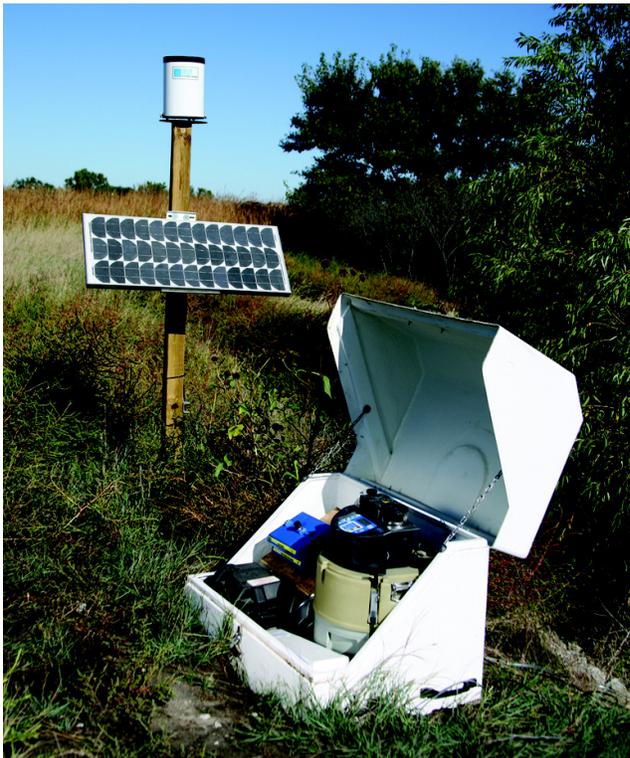
The 2105 Interface Module is a powerful solution for environmental monitoring professionals to interface different monitoring and recording instruments.

The 2105 will monitor the recorded data and take intelligent actions, such as sampler enabling, pacing, and/or alarm generation, based on user-specified conditions.

Its unique flexibility allows connection to several devices at the same time. Isco 2100 Series Flow Modules, Isco's pulse Doppler Flow Meters, 6712 Samplers, 4200 Series Flow Meters, and Isco Rain Gauges are directly compatible. It can also be used with non-Isco instruments that have SDI-12 or Modbus output. Additional input options (4-20 mA, etc.) are possible using readily-available aftermarket converters.

An optional built-in cell phone modem allows remote access to data that has been stored within the 2105, or has been fed to a central server — or the Internet.

Isco's modular design allows the 2105 to be stacked with other 2100 Series flow, communication, interface, or display modules.



*The 2105 system shown here interfaces with a rain gauge, flow meters, automatic sampling, and a multi-parameter sonde.*



## Applications

- Capacity assessments
- I&I, cMOM, SSO and other collection system monitoring
- Permit compliance and enforcement
- Stormwater runoff monitoring
- Non-point source monitoring
- River and stream gauging

## Standard Features

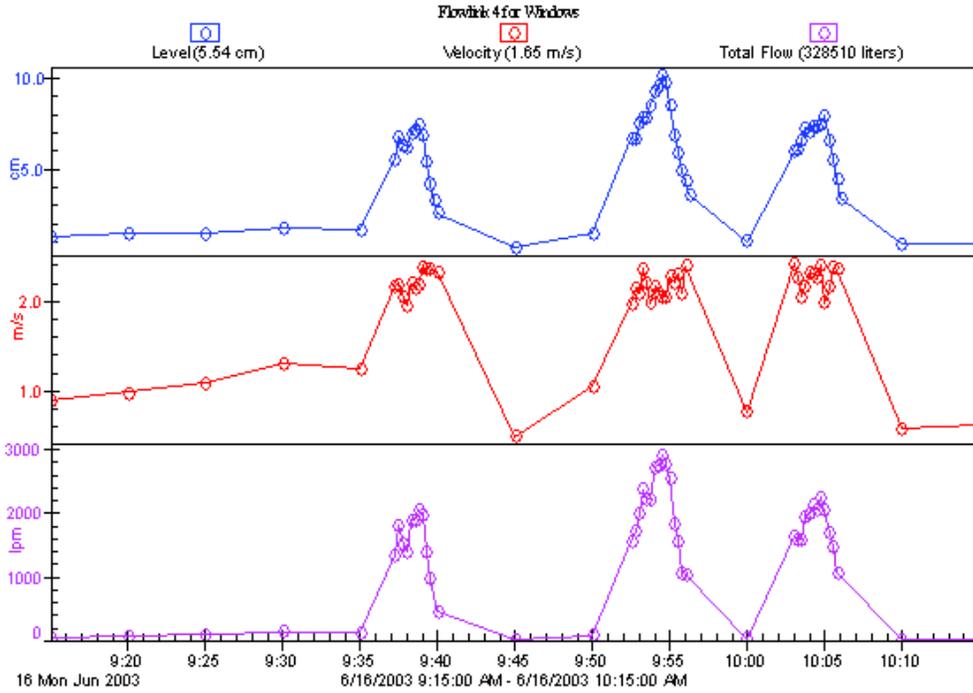
- Rugged, submersible enclosure meets NEMA 4X, 6P and IP68 requirements.
- May be stacked together with up to three other Teledyne Isco 2100 Modules
- A variety of factory-available cables allows literally dozens of multiple instrument configuration possibilities



## Software Features

- Secure data storage. All data are continuously stored in flash memory to protect against loss in case of power failure.
- Easy to upgrade. New operating software can be downloaded into non-volatile flash memory, without affecting stored program and data.
- Records and stores input voltage and temperature data.

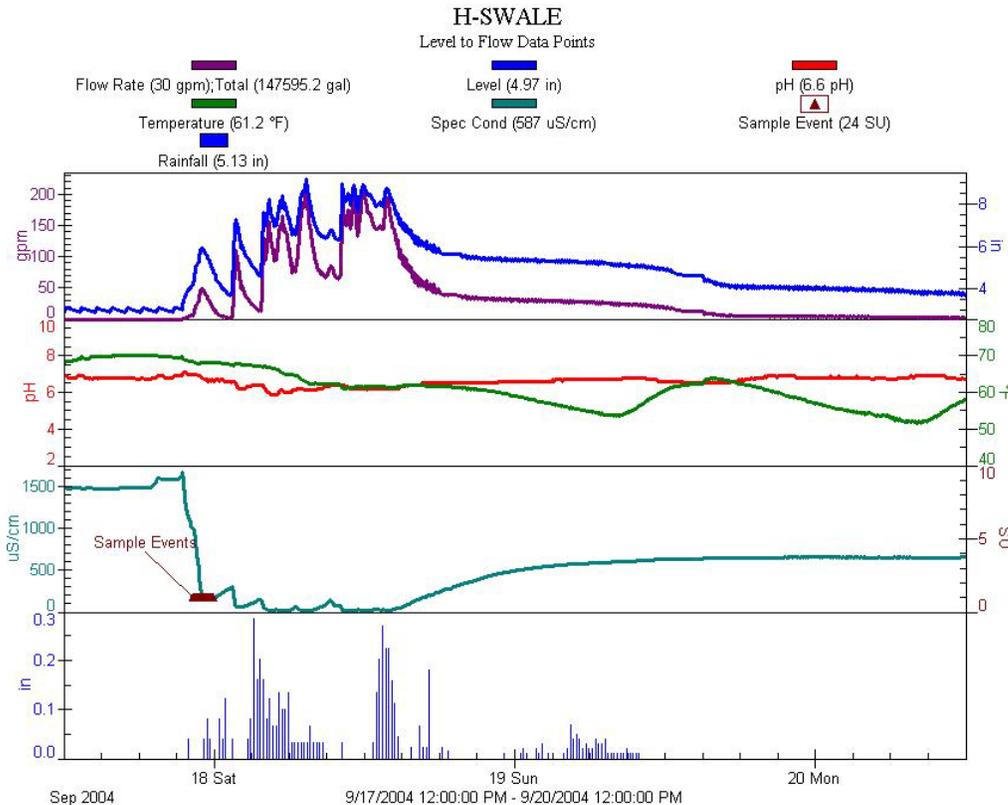
- Variable rate data storage lets you change the data storage interval when programmed conditions occur. This feature assures maximum information about an exceptional event - such as an overflow - while conserving power and data capacity during normal conditions.
- 38,400 bps communication via the serial connector provides speedy setup and data retrieval.



### Variable rate data storage

The 2105 module has the ability to automatically switch data storage rates based on varying conditions.

In the example at left, the 5-minute data storage rate automatically changed to 20 seconds when the flow rose above a programmed level.



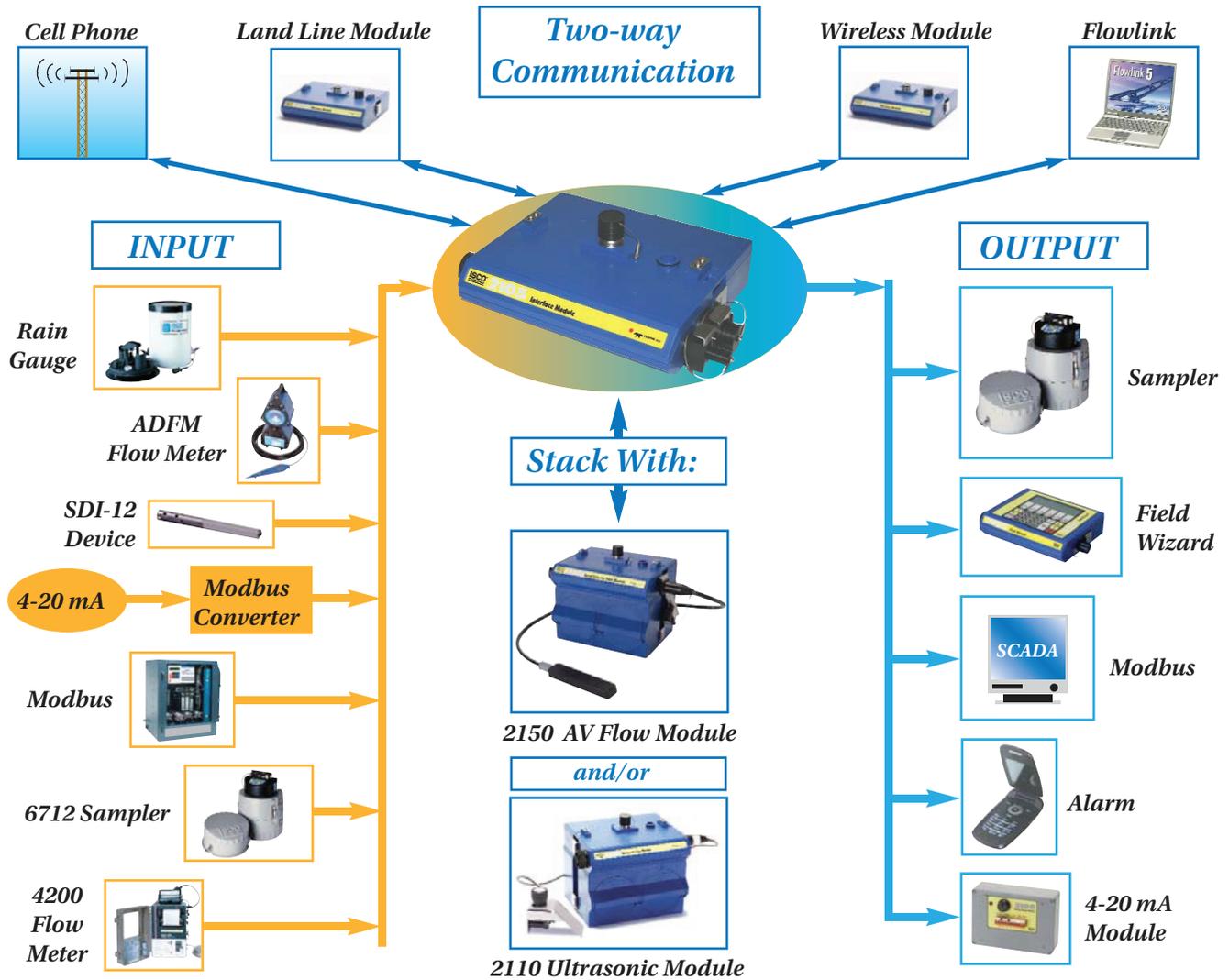
### Typical stormwater channel

In the example at left, the single 2105 is recording multiple parameters.

It also triggered the sample at user-defined conditions.

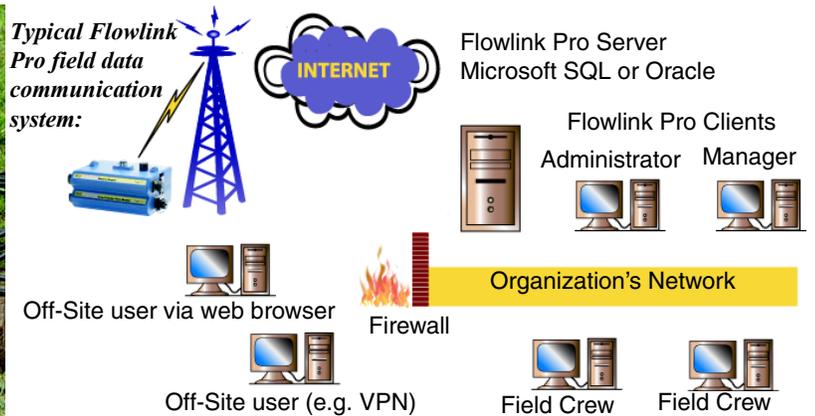
## 2105 Interface Options

Potential variations for interfacing different hardware and software to make up the comprehensive data system you desire are virtually unlimited with the 2105. Input/output choices are shown below - and may be enhanced by using available aftermarket converters.



## Flowlink® Data Analysis

Isco Flowlink® software is a powerful tool for analyzing flow and water quality data. It provides site setup, data retrieval, and comprehensive data analysis, as well as advanced reporting and graphing. See separate data sheets for details on Flowlink and Flowlink Pro software.



With the cellular modem option using package-switched communication, data can be made available on the remotely located server or on the Internet.

**Table 1: 2105 Interface Module Specifications<sup>a</sup>**

<b>Dimensions (H x W x D):</b>	2.9 x 11.3 x 7.5 in.	7.4 x 28.7 x 19.1 cm
<b>Weight:</b>	2 lbs	0.9 Kg
<b>Material:</b>	High-impact molded polystyrene	
<b>Enclosure:</b>	NEMA 4X, 6P, IP68	
<b>Power:</b>	Provided by Isco 2191 Battery Module	
<b>Typical Battery Life:</b>	Using 15-Minute data storage interval, Energizer® Model 529 alkaline: 15 Months Using Isco rechargeable lead-acid batteries: 254 Days.	
<b>Operating Temperature:</b>	-4° to 140°F	(-20° to 60°C)
<b>Storage Temperature:</b>	-40° to 140°F	(-40° to 60°C)
<b>— Data Handling and Communications —</b>		
<b>Serial Port Communication Speeds (not modem):</b>	Up to 38,400 bps	
<b>Cellular Communication:</b>	Serial Over IP (SOIP): CDMA/1xRTT (2105Ci); GSM/GPRS (2105Gi)	
<b>Data Storage:</b>	Non-volatile flash; Retains stored data during program updates. Capacity 798,000 bytes (up to 158,000 readings, equal to over 270 days of rainfall, temperature, conductivity, and pH readings at 15-minute intervals, plus input voltage readings stored at 12 hour intervals)	
<b>Data Types:</b>	Flow rate, level, rainfall, conductivity, dissolved oxygen, temperature, pH, percent, velocity, volume, total dissolved solids, salinity, phosphate, ammonia, nitrate, TOC, COD, total suspended solids, sludge index, sludge volume, SAC, turbidity, load, input voltage, wireless signal, rainfall intensity, specific conductance, chloride, chlorophyll, O.R.P., ammonium	
<b>Storage Mode:</b>	Rollover; 5 bytes per reading	
<b>Storage Interval:</b>	15 or 30 seconds; 1, 2, 5, 15, or 30 minutes; or 1, 2, 4, 12, or 24 hours. Storage rate variable based on level, velocity, flow rate, total flow, or input voltage	
<b>Data Retrieval:</b>	Serial connection to PC or optional 2101 Field Wizard module; optional modules for spread spectrum radio; land-line or cellular modem. Modbus and 4-20 mA analog available.	
<b>Software:</b>	Isco Flowlink for setup, data retrieval, editing, analysis, and reporting	
<b>Multi-module Networking:</b>	Up to four 2100 Series Flow Modules, stacked and/or remotely connected. Max distance between modules 3300 ft (1000 m).	

a. Teledyne Isco is continually improving its products and reserves the right to change specifications without notice.

**Table 2: Ordering Information**

<b>2105 Interface Module</b>	60-2004-560
<b>2105 Interface Module w/ 2191 Battery Module</b>	68-2000-048
<b>2105Ci Interface Module w/ built-in CDMA cellular modem &amp; 2191 Battery Module</b>	68-2000-099
<b>2105Gi Interface Module w/ built-in GSM cellular modem &amp; 2191 Battery Module</b>	68-2000-096
<b>2105Ci Magnetic-Mount Antenna</b>	60-2004-550
<b>2105Gi Magnetic-mount Antenna</b>	60-2004-551
<b>In-Street Antenna</b>	60-2004-564
<b>Manhole Lid Antenna</b>	60-5314-820
<b>Flowlink 5.1 Software</b>	68-2540-200
<b>Flowlink Pro Software</b>	68-2540-276

*Note: The customer is responsible for confirming that local cellular service provides coverage where the cellular module will be deployed.*



### Teledyne Isco

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