

DEPTH

Non-Contact Flow Depth Monitoring System for Stormwater Infrastructure



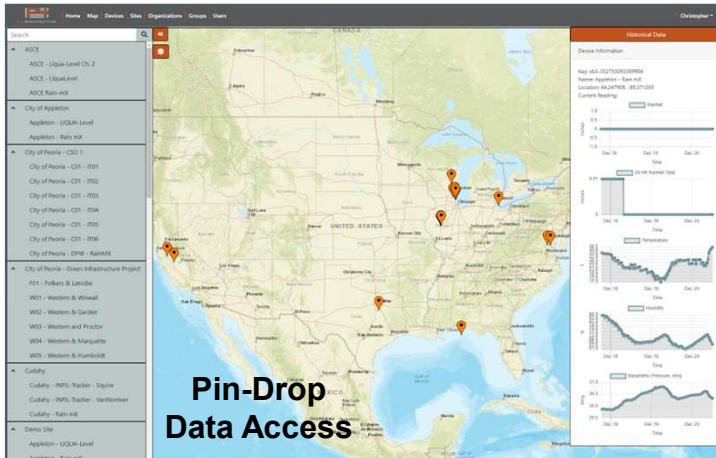
Image acknowledgements:
<https://pulsarmeasurement.com/>

DEPTH is a robust non-contact flow depth monitoring system for stormwater infrastructure.

Coupling DEPTH with P4's Rain-mX system creates a stormwater infrastructure monitoring and performance documentation system.

Battery health and (solar) re-charging cycles are documented and displayed.

Wireless data transmission.



Applications & Value

Open channel & surface systems

Larg(er) diameter pipe

Flow depth

Performance documentation

Data Sampling & Resolution

Variable or Fixed (10-min std)

Depth: 4.9 in. to 49.2 ft



Nationwide cellular connectivity (LoRa and WiFi possible)

Flow depth measurements for:



- Round pipe systems
- Trapezoidal channel systems
- Elliptical pipe systems
- Other custom open channels
- Non-pressurized flow



Browser-based dashboard (viewing and data download). Advanced notice of potential problems. Data visualization. Data-driven maintenance notification.



Flow depth monitoring system to complement other sensor systems (synchronized data)



DEPTH – Specifications

Communication

- Cat-M1 cellular (2G, 3G, 4G LTE compatible)
 - Wi-Fi option
 - Long Range WAN (LoRa) option
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Power

- Voltage – 12V DC
 - Battery – 5,000 mAh NiMH pack (modular)
 - No external power required
 - Remote battery health monitoring
 - Solar re-charging with remote monitoring
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Operating Temperatures & Compliance

- Fahrenheit: -40 °F to 176 °F (discharge)
 - Celsius: -40 °C to 80 °C (discharge)
 - FCC and RoHS
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Installation & Accuracy

- Post-construction installation
 - Accuracy: 0.04 in to 0.20 in (range dependent)
 - Min. separation (blanking): 5 in. to 19.7 in.
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Maintenance

- Modular system (sensors, computer, battery)
 - Remote battery health monitoring
 - Solar panel cleaning (every 6 months – location dependent)
 - Sensor inspection (annual – site dependent)
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User Interface & Data

- Browser-based access & display
 - CSV downloading
 - Mobile via iOS and Android
 - 90%+ data reliability
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How can you document the performance of stormwater infrastructure systems?

How does the depth of flow in surface stormwater infrastructure systems vary with rainfall events?

How can you monitor and document stormwater infiltration in surface infiltration basins?

DEPTH