

USM RIVER-EYE SENSOR



**Intelligent Radar, Flow, and Level Monitoring,
for Rivers and Open Channels**





USM RIVER-EYE SENSOR

ACCURATE FLOW MEASUREMENT FOR RIVERS, CANALS, AND LARGE CHANNELS

Monitor and manage water movement with confidence using Smart Storm’s River-Eye Monitoring System - a cutting-edge radar solution for precise **flow and level measurement** in rivers, open water bodies and, industrial applications. Designed for **environmental compliance, flood risk assessment, and water resource management**, the River-Eye delivers **reliable, cost-effective monitoring with maintenance-free performance** even in the toughest conditions. Powered by advanced **80 GHz non-contact radar technology**, it provides **highly accurate results** regardless of medium, process, or environment. **From Rivers, water treatment plants and pumping stations to rain overflow basins, silos, and open containers**, the River-Eye combines **simplicity, durability, and precision**—making it the smart choice for dependable measurement every time.

THE USM RIVER-EYE DELIVERS:-

- **High-accuracy monitoring** in rivers, canals, and large channels
- **Rugged, reliable sensor** built to withstand extreme conditions
- **Real-time data** for flow, velocity, and water level
- **Connectivity** with Smart Storm controllers and cloud platforms for instant reporting
- **Rugged IP68** protection for harsh environments

USM UNIVERSAL SMART METER

The USM is a small but powerful meter for intelligent water systems

In common with all Smart Storm products, the USM has been designed with the user in mind, Its 4-button keypad allows fast and simple programming. The intuitive menu guide the user through clearly worded choice fields allowing navigation to a successfully programmed unit in minutes.



USM CONTROLLER

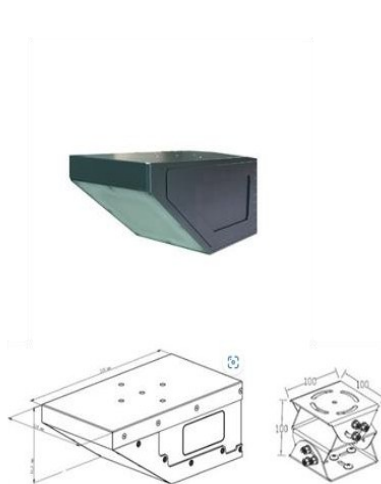
DISPLAY	
Display	3" graphic LCD display 128 x 64 px, white on blue
PHYSICAL	
Dimensions mm	130 (H) x 160 (W) x 60 (D) mm
Ratings	IP66/NEMA 4X
Approvals	ASA+PC, UL 94V-0
Mounting	Wall mounted
POWER	
Supply (AC)	100 - 240Vac, 5W (5V @ 0.38A)
Supply (DC)	9 - 36Vdc, 5W (5V @ 0.38A)
ELECTRONIC PERFORMANCE	
Processor	Texas Instrument MSP430, 16-Bit architecture
Temperature Range	-20 to +80°C (-4 to +176°F)
INPUTS & OUTPUTS	
Outputs	2 x 4-20mA Isolated
Comms	RS485 Modbus RTU
Relays	3 x Relays, 230Vac 5A/30Vdc 6A contact rating
Options	Datalogger—20years' storage. Inquisitor Windows based reporting software



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GENERAL	
Display	3" Graphical LCD. White on Blue with Backlight
Configuration	4 Key Interface
Security	User Selectable Password
Operating Temperature	-20 to 80 C
Processor	Texas Instrument MSP430, 16-Bit Architecture
Data Logger	16 GB SD card > 20GB
Reporting Software	Window based software to display tables and graphs CSV file
OUTPUTS AND COMMUNICATIONS	
Analogue	2 x 4-20mA galvanic isolation
Relays	3 x NO/NC user programmable. 230Vac 5A/ 30Vdc 6A
Comms	RS485 Modbus RTU
IOT	Optional GPRS unit for use with RS485 interface
PHYSICAL	
Dimensions	130(H) x 160(W) x 60(D) mm
Weight	1 kg
Approvals	ASA+PC, UL 94V-0V
Mounting	Wall Mounted
POWER	
Supply (AC)	100 -240V/5W
Supply (DC)	9 -36V/6W





FLOW MEASUREMENT SYSTEM	
Principal	Planar microstrip array antenna CW + PCR
Working Temp	-30 to 80 C
Size	100(H) x 110(W) x 210(L) mm
Weight (including Bracket)	3.5 kg
Protection Level	IP68
Lightening Protection	6KV
Measurement Interval	1 minute
RADAR FLOW VELOCITY SENSOR	
Radar Power	100mW
Radar Frequency	24 GHz
Effective Distance	40m
Measurement Range	0.03 – 20m/s
Measurement Resolution	0.01m/s
Measurement Accuracy	+/- 2%
Antenna Angle	14 x 32 degrees
RADAR FLOW LEVEL SENSOR	
Radar Power	100mW
Radar Frequency	60 GHz
Effective Distance	40m
Measurement Range	0.2 – 20m
Measurement Resolution	1mm
Measurement Accuracy	+/- 2%
Antenna Angle	11 x 11 degrees