Isco 4210 Flow Meter - Specifications	
Size (HxWxD):	17.0 x 11.5 x 10.5 in. (43 x 29 x 26.7 cm) (without power source)
Weight:	17.3 lbs (7.8 kg) (without power source)
Material	High-impact moulded polystyrene structural foam
Enclosure:	NEMA 4X (iP65)
Power:	12 to 14V DC, 24 mA average at 12.5V DC
Typical Battery Life (printer set at 1 in/hr, 1 minute level reading interval)	
934 NiCad Battery:	7 to 8 days
946 Lead-Acid Battery:	10 to 12 days
948 Lead-Acid Battery:	2 to 2½ months
Program Memory:	Non-volatile, programmable flash. Updateable without opening enclosure.
Display:	Backlit LCD, 2-line, 80-character (5.5 mm high x 3.2 mm wide)
Level-to-Flow Rate Conversions	
Weirs:	V-notch, rectangular with and without end contractions, Cipolletti
Flumes:	Parshall, Palmer-Bowlus, Leopold-Lagco,Trapezoidal, H, HS, HL
Manning Formula:	Round, U-channel, rectangular, trapezoidal Data Points Four sets of 50 level-flow rate points Equation Two-term polynomial
Totalizers	
LCD:	9-digit, floating decimal point, resettable
Mechanical (optional):	7-digit, non-resettable
Inputs and Output	
Rain Gauge Input:	Contact closure, normally open. Resolution 0.01 or 0.004 in (0.25 or 0.1 mm)
Parameter Inputs:	pH, dissolved oxygen, conductivity, and temperature (with optional YSI 600 sonde); pH and temperature (with optional Isco 201 Parameter Module); or dissolved oxygen and temperature (with optional Isco 270 Parameter Module)
Sampler Activation Conditions:	Enabled, disabled, AND and OR combinations of any two of level, flow rate, rainfall, pH, DO, conductivity, and temperature
Sampler Pacing Output:	12V pulse
Sampler Input:	Event mark, bottle number
Printer	
Recording Modes:	Up to 3 graphs of level, flow rate, pH, DO, conductivity, and temperature vs time; includes totalized flow. Rainfall and sampler events (time and bottle number) are also recorded
Speed:	Off, 0.5, 1, 2, 4 in/hr (1.25, 2.5, 5, 10 cm/hr)
Recording Span:	User selectable with multiple over-ranges
Resolution:	1/240 of recording span
Reports Printed:	Flow meter program, 2 independent time interval reports, flow meter history, sampler history
Interval Report Contents:	Site number; time interval; total flow; minimum, maximum, and average flow rate, level, pH, DO, conductivity, and temperature, and time of occurrence; interval

	flow; total rainfall; number of samples, flow meter history and sampler history
Character Size (HxW):	0.09 x 0.07 in (2.4 x 1.7 mm)
Paper:	4.5 in. wide x 65 ft. (11.4 cm x 19.8 m), plain white paper, replaceable roll
Ribbon:	19.7 ft. (6.0 m) black nylon, replaceable
Data Storage Memory	
Capacity:	80,000 bytes (approx. 40,000 readings) divided into a maximum of 12 memory partitions. Equal to 100 days of level, rainfall, pH, DO, conductivity, and temperature readings at 15 minute intervals, plus 3,000 sample events. Optional expansion to 473,000 bytes (approx 236,500 readings)
Setup and Data Retrieval:	IBM PC or compatible computer with Isco Flowlink 4 for Windows
Communication:	Direct connection, optional internal 2400 baud telephone modem with voice messaging
Data Retrieval (optional):	Isco 581 Rapid Transfer Device (RTD)
Voice Messaging (with optional internal modem):	Calls up to 5 telephone numbers with programmable delay between calls, activated based on AND and OR combinations telephone of any two of level, flow rate, rainfall, pH, DO, conductivity, and temperature
Analog Outputs:	(optional) Up to 3 isolated internal outputs, 0 to 20 mA or 4 to 20 mA, scaleable based on level, flow rate, pH, DO, conductivity, or temperature, into a maximum of 750 ohms each
Relay Outputs:	2 form C relays with field selectable trip points based on flow rate (with optional High/Low Alarm Relays)
Serial Output:	Current status and readings, in response to command or automatically at selectable time intervals, ASCII comma separated values at 1200, 2400, 4800, or 9600 baud
Storage Temperature:	-40° to 140°F (-40° to 60°C)
-40° to 140°F (-40° to 60°C)	0° to 140°F (-18° to 60°C)
Ultrasonic Sensor	
Length x diameter:	6.9 x 3.6 in (17.5 x 9.1 cm)
Cable Lengthxdiameter:	25 ft x 0.3 in (7.6 m x 0.8 cm)
Weight (incl cable):	2.6 lbs (1.2 kg)
Enclosure:	NEMA 4X, 6; IP67
Frequency:	40 kHz
Range (distance from sensor to liquid):	Minimum 2 ft (0.6 m); Maximum 12 ft (3.7 m)
Span:	0 to 10 ft (0 to 3 m)
Blanking Distance:	2 to 12 ft. (0.6 to 3.7 m)
Level Measurement Accuracy - at 22°C (72°F), still air, 40 to 70% humidity. Head change is actual change in vertical distance from ultrasonic sensor to liquid surface)	
for head change	maximum error is ±0.02 ft. (±0.006 m)

<1.0 ft (<0.31 m):	
for head change of 1.0 to 10 ft (0.31 to 3.05 m):	maximum error is ±0.03 ft. (±0.009 m)
maximum error is ±0.03 ft. (±0.009 m)	Maximum error over compensated temperature range (per degree of temperature change) ±0.000047 x D per °F (±0.000085 x D per °C) where D is the distance from the transducer to the liquid surface
Operating Temperature:	-22° to 140°F (-30° to 60°C)
Compensated Temperature:	-22° to 140°F (-30° to 60°C)
Materials:	Sensor housing is Xenoy 6120; Cable jacket is Polyvinyl chloride (PVC)