

# REPORTE DE DATOS - AGUA-01

Proyecto 13 | Generado el 25/11/2025 16:14:00

Descripción del Dataset:  
Fecha inserción inicial: 2025-11-10 00:46:40  
Fecha inserción final: 2025-11-25 16:03:50  
Código interno: AGUA-01

Archivos: 5 | Registros: 342 | Fechas: 3

Archivo	Fecha Carpeta	Registros
AGUA-01_paquete_001_20251114.csv	2025-11-10	100
AGUA-01_paquete_002_20251116.csv	2025-11-10	64
AGUA-01_paquete_001_20251120.csv	2025-11-17	69
AGUA-01_paquete_001_20251125.csv	2025-11-20	100
AGUA-01_paquete_002_20251125.csv	2025-11-20	9

## METRICAS DE CALIDAD DE DATOS

Variable	Compleitud %	Consistencia %	Estabilidad %	Continuidad %	Quality Score	Clasificación	N Outliers	Coef. Variación
DS18B20 [Grados celcius (°C)]	100.0%	100.0%	30.0%	95.3%	81.8%	BUENA	0	84.99%
DS3231 [Grados celcius (°C)]	100.0%	100.0%	80.0%	95.3%	94.3%	EXCELENTE	0	26.61%
Divisor de Voltaje [Voltaje (V)]	100.0%	100.0%	100.0%	95.3%	99.3%	EXCELENTE	0	0.33%

ENV-20-EC-K1.0 [Electroconductividad ambiental (µS/cm)]	100.0%	100.0%	30.0%	95.3%	81.8%	BUENA	0	84.66%
ENV-20-pH [pH ambiental (pH)]	100.0%	100.0%	30.0%	95.3%	81.8%	BUENA	0	84.83%
SIM7600G [Intensidad señal telefónica (Adimensional)]	100.0%	92.7%	100.0%	95.3%	97.1%	EXCELENTE	25	9.91%

Métricas de Calidad:

- **Compleitud:** % datos válidos (no nulos)
- **Consistencia:** % datos sin outliers (método IQR)
- **Estabilidad:** Baja variabilidad (Coef. Variación <30%)
- **Continuidad:** Regularidad temporal en mediciones
- **Quality Score:** Puntuación general ponderada

EXCELENTE (≥90%) | BUENA (≥80%) | ACEPTABLE (≥70%) | DEFICIENTE (<70%)

ESTADISTICAS DESCRIPTIVAS

Variable	Media	Mediana	Moda	Desv. Est.	Varianza	Mín	Máx	Q1	Q3	N válidos
DS18B20 [Grados celcius (°C)]	12.1958	18.9400	0.0000	10.3650	107.4326	0.0000	25.0000	0.0000	21.0600	342
DS3231 [Grados celcius (°C)]	28.1864	28.2500	35.2500	7.5006	56.2590	13.2500	43.0000	21.5000	35.0000	342
Divisor de Voltaje [Voltaje (V)]	12.4170	12.4200	12.3900	0.0407	0.0017	12.3200	12.4900	12.3900	12.4600	342
ENV-20-EC-K1.0 [Electroconductivida d ambiental (µS/cm)]	1063.6491	1717.0000	0.0000	900.5096	810917.4953	0.0000	2091.0000	0.0000	1827.7500	342
ENV-20-pH [pH ambiental (pH)]	4.7711	7.6750	0.0000	4.0472	16.3796	0.0000	8.8900	0.0000	8.3900	342

SIM7600G [Intensidad señal telefónica (Adimensional)]	23.8333	24.0000	24.0000	2.3614	5.5762	14.0000	30.0000	23.0000	25.0000	342
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■ **Interpretación:** Media (promedio), Mediana (valor central), Moda (valor más frecuente), Desv. Est. (dispersión), Q1 y Q3 (cuartiles)

DATOS COMPLETOS

■ DATOS COMPLETOS - Página 1 (Filas 1-35)

fecha	fecha_insercion	id_proyecto	codigo_interno	DS18B20 [Grados celcius (°C)]	DS3231 [Grados celcius (°C)]	Divisor de Voltaje [Voltaje (V)]	ENV-20-EC-K1.0 [Electroconductividad ambiental (µS/cm)]	ENV-20-pH [pH ambiental (pH)]	SIM7600G [Intensidad señal telefónica (Adimensional)]	Min. Dif. Insercion	Min. Dif. Medicion
2025-11-10 00:45:58	2025-11-10 00:46:40	13	AGUA-01	19.12	19.25	12.39	1733.0	8.5	25.0	Primera	Primera
2025-11-10 01:46:36	2025-11-10 01:47:18	13	AGUA-01	18.88	17.25	12.38	1717.0	8.53	27.0	60.6	60.6
2025-11-10 02:47:19	2025-11-10 02:48:02	13	AGUA-01	18.75	16.25	12.37	1720.0	8.5	25.0	60.7	60.7
2025-11-10 03:47:58	2025-11-10 03:48:40	13	AGUA-01	18.94	15.25	12.36	1715.0	8.47	25.0	60.6	60.6
2025-11-10 04:48:40	2025-11-10 04:49:23	13	AGUA-01	18.88	14.5	12.34	1720.0	8.38	25.0	60.7	60.7
2025-11-10 05:49:23	2025-11-10 05:50:06	13	AGUA-01	18.94	13.75	12.35	1716.0	8.35	26.0	60.7	60.7
2025-11-10 06:50:06	2025-11-10 06:50:48	13	AGUA-01	18.44	13.25	12.33	1729.0	8.33	25.0	60.7	60.7
2025-11-10 07:50:59	2025-11-10 07:51:42	13	AGUA-01	18.12	18.0	12.38	1754.0	8.3	26.0	60.9	60.9
2025-11-10 08:52:18	2025-11-10 08:53:00	13	AGUA-01	18.19	24.5	12.4	1731.0	8.21	25.0	61.3	61.3

2025-11-10 09:53:13	2025-11-10 09:53:55	13	AGUA-01	18.75	29.5	12.42	1737.0	8.24	25.0	60.9	60.9
2025-11-10 10:54:12	2025-11-10 10:54:55	13	AGUA-01	19.81	32.25	12.44	1739.0	8.38	25.0	61.0	61.0
2025-11-10 11:55:07	2025-11-10 11:55:51	13	AGUA-01	21.06	33.75	12.45	1781.0	7.75	26.0	60.9	60.9
2025-11-10 12:55:42	2025-11-10 12:56:24	13	AGUA-01	21.75	31.0	12.44	1808.0	8.23	25.0	60.5	60.6
2025-11-10 13:56:27	2025-11-10 13:57:10	13	AGUA-01	20.75	31.25	12.46	1786.0	8.06	26.0	60.8	60.8
2025-11-10 14:57:17	2025-11-10 14:57:59	13	AGUA-01	21.0	32.5	12.46	1799.0	7.84	25.0	60.8	60.8
2025-11-10 15:58:04	2025-11-10 15:58:47	13	AGUA-01	21.25	32.25	12.46	1826.0	7.71	25.0	60.8	60.8
2025-11-10 16:58:51	2025-11-10 16:59:33	13	AGUA-01	20.88	32.0	12.46	1813.0	7.75	24.0	60.8	60.8
2025-11-10 17:59:36	2025-11-10 18:00:18	13	AGUA-01	21.06	31.25	12.47	1812.0	8.04	27.0	60.8	60.8
2025-11-10 19:00:19	2025-11-10 19:01:01	13	AGUA-01	20.44	29.5	12.46	1816.0	8.29	27.0	60.7	60.7
2025-11-10 20:00:57	2025-11-10 20:01:39	13	AGUA-01	20.0	26.25	12.44	1804.0	8.4	26.0	60.6	60.6
2025-11-10 21:01:24	2025-11-10 21:02:09	13	AGUA-01	19.62	22.5	12.42	1782.0	8.37	24.0	60.5	60.5
2025-11-10 22:02:08	2025-11-10 22:02:50	13	AGUA-01	19.44	21.75	12.4	1782.0	8.36	28.0	60.7	60.7
2025-11-10 23:02:55	2025-11-10 23:03:37	13	AGUA-01	19.19	21.25	12.4	1751.0	8.35	26.0	60.8	60.8
2025-11-11 00:03:34	2025-11-11 00:04:17	13	AGUA-01	19.0	19.5	12.39	1749.0	8.41	24.0	60.7	60.6
2025-11-11 01:04:15	2025-11-11 01:04:58	13	AGUA-01	18.75	18.5	12.39	1745.0	8.39	25.0	60.7	60.7
2025-11-11 02:05:01	2025-11-11 02:05:44	13	AGUA-01	18.5	18.5	12.38	1735.0	8.31	24.0	60.8	60.8
2025-11-11 03:05:44	2025-11-11 03:06:26	13	AGUA-01	18.56	16.75	12.36	1704.0	8.48	24.0	60.7	60.7
2025-11-11 04:06:27	2025-11-11 04:07:09	13	AGUA-01	18.38	16.0	12.37	1699.0	8.42	25.0	60.7	60.7
2025-11-11 05:07:07	2025-11-11 05:07:49	13	AGUA-01	18.38	14.75	12.35	1710.0	8.28	25.0	60.7	60.7
2025-11-11 06:07:50	2025-11-11 06:08:32	13	AGUA-01	18.25	14.75	12.35	1713.0	8.27	27.0	60.7	60.7

2025-11-11 07:08:32	2025-11-11 07:09:14	13	AGUA-01	18.44	14.25	12.35	1723.0	8.3	26.0	60.7	60.7
2025-11-11 08:09:31	2025-11-11 08:10:13	13	AGUA-01	17.75	19.25	12.39	1736.0	8.2	25.0	61.0	61.0
2025-11-11 09:10:39	2025-11-11 09:11:21	13	AGUA-01	17.94	23.0	12.41	1721.0	8.12	26.0	61.1	61.1
2025-11-11 11:12:49	2025-11-11 11:13:31	13	AGUA-01	19.69	31.0	12.46	1752.0	7.96	25.0	122.2	122.2
2025-11-11 12:13:38	2025-11-11 12:14:20	13	AGUA-01	20.19	31.25	12.44	1778.0	7.24	25.0	60.8	60.8

## ■ DATOS COMPLETOS - Página 2 (Filas 36-70)

fecha	fecha_insercion	id_proyecto	codigo_interno	DS18B20 [Grados celcius (°C)]	DS3231 [Grados celcius (°C)]	Divisor de Voltaje [Voltaje (V)]	ENV-20-EC-K1.0 [Electroconductividad ambiental (μS/cm)]	ENV-20-pH [pH a mbiental (pH)]	SIM7600G [Intensidad señal telefónica (Adimensional)]	Min. Dif. Insercion	Min. Dif. Medicion
2025-11-11 13:14:24	2025-11-11 13:15:06	13	AGUA-01	20.12	32.0	12.45	1786.0	6.67	27.0	60.8	60.8
2025-11-11 14:15:13	2025-11-11 14:15:55	13	AGUA-01	20.5	33.0	12.45	1794.0	6.84	27.0	60.8	60.8
2025-11-11 15:15:56	2025-11-11 15:16:38	13	AGUA-01	21.06	32.25	12.46	1847.0	7.18	25.0	60.7	60.7
2025-11-11 16:16:43	2025-11-11 16:17:25	13	AGUA-01	22.0	33.0	12.47	1823.0	7.96	25.0	60.8	60.8
2025-11-11 17:17:32	2025-11-11 17:18:14	13	AGUA-01	21.81	34.0	12.47	1778.0	8.19	24.0	60.8	60.8
2025-11-11 19:19:14	2025-11-11 19:19:56	13	AGUA-01	21.12	33.5	12.47	1716.0	8.1	24.0	121.7	121.7
2025-11-11 20:19:50	2025-11-11 20:20:32	13	AGUA-01	19.88	28.25	12.44	1692.0	8.21	24.0	60.6	60.6
2025-11-11 21:20:21	2025-11-11 21:21:03	13	AGUA-01	19.62	25.75	12.42	1664.0	8.42	26.0	60.5	60.5
2025-11-11 22:21:02	2025-11-11 22:21:44	13	AGUA-01	19.38	24.5	12.41	1672.0	8.35	25.0	60.7	60.7
2025-11-11 23:21:44	2025-11-11 23:22:27	13	AGUA-01	19.12	23.5	12.4	1699.0	8.34	25.0	60.7	60.7
2025-11-12 00:22:21	2025-11-12 00:23:03	13	AGUA-01	18.88	21.0	12.41	1696.0	8.28	24.0	60.6	60.6
2025-11-12 01:23:03	2025-11-12 01:23:45	13	AGUA-01	18.81	20.0	12.39	1703.0	8.28	25.0	60.7	60.7
2025-11-12 02:23:48	2025-11-12 02:24:30	13	AGUA-01	18.69	20.5	12.39	1702.0	8.27	24.0	60.8	60.8
2025-11-12 03:24:32	2025-11-12 03:25:14	13	AGUA-01	18.62	18.75	12.38	1709.0	8.25	24.0	60.7	60.7
2025-11-12 04:25:14	2025-11-12 04:25:57	13	AGUA-01	18.81	19.25	12.39	1707.0	8.7	24.0	60.7	60.7
2025-11-12 05:26:06	2025-11-12 05:26:48	13	AGUA-01	18.69	19.5	12.37	1687.0	8.67	24.0	60.9	60.9

2025-11-12 06:26:42	2025-11-12 06:27:25	13	AGUA-01	18.56	16.5	12.37	1712.0	8.61	24.0	60.6	60.6
2025-11-12 07:27:25	2025-11-12 07:28:08	13	AGUA-01	18.5	17.5	12.36	1710.0	8.47	25.0	60.7	60.7
2025-11-12 08:28:37	2025-11-12 08:29:19	13	AGUA-01	18.56	24.5	12.4	1716.0	8.36	25.0	61.2	61.2
2025-11-12 09:29:34	2025-11-12 09:30:16	13	AGUA-01	18.94	28.0	12.42	1724.0	8.47	27.0	61.0	61.0
2025-11-12 10:30:42	2025-11-12 10:31:25	13	AGUA-01	19.69	33.0	12.44	1757.0	8.41	23.0	61.1	61.1
2025-11-12 11:31:37	2025-11-12 11:32:20	13	AGUA-01	21.19	36.25	12.46	1817.0	7.16	24.0	60.9	60.9
2025-11-12 12:32:28	2025-11-12 12:33:19	13	AGUA-01	20.44	37.0	12.45	1792.0	6.08	17.0	61.0	60.9
2025-11-12 13:33:24	2025-11-12 13:34:07	13	AGUA-01	21.56	36.75	12.47	1834.0	6.05	25.0	60.8	60.9
2025-11-12 14:34:11	2025-11-12 14:34:53	13	AGUA-01	22.19	36.75	12.47	1851.0	6.36	26.0	60.8	60.8
2025-11-12 15:34:55	2025-11-12 15:35:37	13	AGUA-01	21.88	36.5	12.47	1859.0	6.7	24.0	60.7	60.7
2025-11-12 16:35:41	2025-11-12 16:36:23	13	AGUA-01	22.5	37.0	12.47	1847.0	7.72	23.0	60.8	60.8
2025-11-12 17:36:30	2025-11-12 17:37:13	13	AGUA-01	22.19	37.75	12.48	1817.0	7.79	24.0	60.8	60.8
2025-11-12 18:37:18	2025-11-12 18:38:00	13	AGUA-01	21.75	37.75	12.47	1775.0	7.89	23.0	60.8	60.8
2025-11-12 19:38:00	2025-11-12 19:38:43	13	AGUA-01	20.88	36.5	12.47	1718.0	8.04	24.0	60.7	60.7
2025-11-12 20:38:32	2025-11-12 20:39:14	13	AGUA-01	20.5	30.5	12.46	1686.0	8.48	23.0	60.5	60.5
2025-11-12 21:39:06	2025-11-12 21:39:48	13	AGUA-01	19.81	28.25	12.44	1665.0	8.49	26.0	60.6	60.6
2025-11-12 22:39:49	2025-11-12 22:40:31	13	AGUA-01	19.62	27.0	12.42	1684.0	8.41	21.0	60.7	60.7
2025-11-12 23:40:25	2025-11-12 23:41:07	13	AGUA-01	19.56	24.0	12.41	1708.0	8.41	21.0	60.6	60.6
2025-11-13 00:41:07	2025-11-13 00:41:49	13	AGUA-01	19.38	23.0	12.39	1708.0	8.36	23.0	60.7	60.7

## ■ DATOS COMPLETOS - Página 3 (Filas 71-105)

fecha	fecha_insercion	id_proyecto	codigo_interno	DS18B20 [Grados celcius (°C)]	DS3231 [Grados celcius (°C)]	Divisor de Voltaje [Voltaje (V)]	ENV-20-EC-K1.0 [Electroconductividad ambiental (μS/cm)]	ENV-20-pH [pH a mbiental (pH)]	SIM7600G [Intensidad señal telefónica (Adimensional)]	Min. Dif. Insercion	Min. Dif. Medicion
2025-11-13 01:41:50	2025-11-13 01:42:32	13	AGUA-01	19.31	22.25	12.4	1723.0	8.35	23.0	60.7	60.7
2025-11-13 02:42:32	2025-11-13 02:43:15	13	AGUA-01	19.19	20.5	12.39	1714.0	8.35	23.0	60.7	60.7
2025-11-13 03:43:13	2025-11-13 03:43:55	13	AGUA-01	19.19	19.0	12.39	1743.0	8.36	24.0	60.7	60.7
2025-11-13 04:43:54	2025-11-13 04:44:36	13	AGUA-01	19.19	17.75	12.38	1718.0	8.51	24.0	60.7	60.7
2025-11-13 05:44:36	2025-11-13 05:45:18	13	AGUA-01	19.06	16.75	12.36	1717.0	8.47	25.0	60.7	60.7
2025-11-13 06:45:20	2025-11-13 06:46:03	13	AGUA-01	18.94	16.25	12.36	1713.0	8.5	24.0	60.8	60.7
2025-11-13 07:46:12	2025-11-13 07:46:54	13	AGUA-01	18.81	20.0	12.39	1711.0	8.46	24.0	60.9	60.9
2025-11-13 08:47:28	2025-11-13 08:48:11	13	AGUA-01	19.0	27.0	12.41	1730.0	8.11	23.0	61.3	61.3
2025-11-13 09:48:25	2025-11-13 09:49:07	13	AGUA-01	19.38	32.0	12.45	1747.0	8.18	23.0	60.9	61.0
2025-11-13 10:49:23	2025-11-13 10:50:06	13	AGUA-01	21.12	36.0	12.46	1793.0	8.01	27.0	61.0	61.0
2025-11-13 11:50:21	2025-11-13 11:51:03	13	AGUA-01	22.19	38.25	12.46	1843.0	7.17	24.0	61.0	61.0
2025-11-13 12:51:09	2025-11-13 12:51:52	13	AGUA-01	22.38	39.0	12.47	1851.0	7.4	26.0	60.8	60.8
2025-11-13 13:51:51	2025-11-13 13:52:33	13	AGUA-01	22.19	36.75	12.47	1826.0	8.05	25.0	60.7	60.7
2025-11-13 14:52:36	2025-11-13 14:53:18	13	AGUA-01	22.12	38.0	12.47	1838.0	7.26	26.0	60.8	60.8
2025-11-13 15:53:25	2025-11-13 15:54:07	13	AGUA-01	22.31	38.75	12.47	1841.0	7.16	24.0	60.8	60.8
2025-11-13 16:54:13	2025-11-13 16:54:55	13	AGUA-01	22.25	39.75	12.47	1795.0	7.32	24.0	60.8	60.8



2025-11-13 17:55:01	2025-11-13 17:55:44	13	AGUA-01	22.12	39.75	12.47	1735.0	7.64	25.0	60.8	60.8
2025-11-13 18:55:47	2025-11-13 18:56:29	13	AGUA-01	21.62	39.0	12.48	1764.0	8.02	23.0	60.8	60.8
2025-11-13 19:56:31	2025-11-13 19:57:13	13	AGUA-01	21.12	35.75	12.47	1780.0	8.29	14.0	60.7	60.7
2025-11-13 20:56:58	2025-11-13 20:57:41	13	AGUA-01	20.94	30.75	12.46	1726.0	8.47	21.0	60.5	60.5
2025-11-13 21:57:38	2025-11-13 21:58:21	13	AGUA-01	20.25	30.0	12.45	1731.0	8.57	26.0	60.7	60.7
2025-11-13 22:58:22	2025-11-13 22:59:05	13	AGUA-01	20.06	27.75	12.44	1741.0	8.5	23.0	60.7	60.7
2025-11-13 23:58:54	2025-11-13 23:59:36	13	AGUA-01	19.94	25.0	12.42	1748.0	8.55	24.0	60.5	60.5
2025-11-14 00:59:32	2025-11-14 01:00:14	13	AGUA-01	19.81	22.75	12.41	1744.0	8.45	24.0	60.6	60.6
2025-11-14 02:00:11	2025-11-14 02:00:53	13	AGUA-01	19.75	21.0	12.39	1743.0	8.41	24.0	60.6	60.6
2025-11-14 03:00:54	2025-11-14 03:01:36	13	AGUA-01	19.75	20.0	12.39	1741.0	8.41	24.0	60.7	60.7
2025-11-14 04:01:34	2025-11-14 04:02:17	13	AGUA-01	19.62	18.75	12.38	1760.0	8.38	24.0	60.7	60.7
2025-11-14 05:02:19	2025-11-14 05:03:01	13	AGUA-01	19.38	18.25	12.37	1729.0	8.41	24.0	60.7	60.8
2025-11-14 06:03:03	2025-11-14 06:03:46	13	AGUA-01	19.25	17.5	12.37	1723.0	8.4	23.0	60.8	60.7
2025-11-14 07:03:47	2025-11-14 07:04:29	13	AGUA-01	19.12	17.0	12.38	1734.0	8.37	24.0	60.7	60.7
2025-11-14 08:04:44	2025-11-14 08:05:27	13	AGUA-01	19.06	23.25	12.39	1744.0	8.26	23.0	61.0	61.0
2025-11-14 09:05:59	2025-11-14 09:06:41	13	AGUA-01	19.44	27.75	12.42	1785.0	8.08	22.0	61.2	61.2
2025-11-14 10:07:03	2025-11-14 10:07:46	13	AGUA-01	20.62	34.75	12.45	1747.0	8.46	23.0	61.1	61.1
2025-11-14 11:08:02	2025-11-14 11:08:45	13	AGUA-01	21.75	37.75	12.46	1782.0	8.0	25.0	61.0	61.0
2025-11-14 12:08:50	2025-11-14 12:09:33	13	AGUA-01	21.25	36.75	12.46	1801.0	7.26	27.0	60.8	60.8

## ■ DATOS COMPLETOS - Página 4 (Filas 106-140)

fecha	fecha_insercion	id_proyecto	codigo_interno	DS18B20 [Grados celcius (°C)]	DS3231 [Grados celcius (°C)]	Divisor de Voltaje [Voltaje (V)]	ENV-20-EC-K1.0 [Electroconductividad ambiental (μS/cm)]	ENV-20-pH [pH ambiental (pH)]	SIM7600G [Intensidad señal telefónica (Adimensional)]	Min. Dif. Insercion	Min. Dif. Medicion
2025-11-14 13:09:28	2025-11-14 13:10:10	13	AGUA-01	21.88	35.25	12.46	1884.0	7.37	24.0	60.6	60.6
2025-11-14 14:10:13	2025-11-14 14:10:55	13	AGUA-01	22.12	35.25	12.47	1892.0	7.52	23.0	60.8	60.8
2025-11-14 15:10:58	2025-11-14 15:11:41	13	AGUA-01	22.69	35.0	12.47	1960.0	7.59	25.0	60.8	60.8
2025-11-14 16:11:44	2025-11-14 16:12:26	13	AGUA-01	22.81	35.0	12.47	1984.0	7.77	22.0	60.8	60.8
2025-11-14 17:12:30	2025-11-14 17:13:12	13	AGUA-01	22.38	35.25	12.48	1910.0	7.98	23.0	60.8	60.8
2025-11-14 18:13:15	2025-11-14 18:13:57	13	AGUA-01	22.19	34.25	12.47	1878.0	8.28	22.0	60.8	60.8
2025-11-14 19:13:55	2025-11-14 19:14:37	13	AGUA-01	22.0	32.25	12.47	1863.0	8.5	24.0	60.7	60.7
2025-11-14 20:14:33	2025-11-14 20:15:15	13	AGUA-01	21.31	28.5	12.46	1847.0	8.62	25.0	60.6	60.6
2025-11-14 21:15:09	2025-11-14 21:15:52	13	AGUA-01	21.19	27.25	12.43	1838.0	8.62	24.0	60.6	60.6
2025-11-14 22:15:48	2025-11-14 22:16:31	13	AGUA-01	20.94	24.75	12.43	1822.0	8.64	24.0	60.6	60.6
2025-11-14 23:16:27	2025-11-14 23:17:10	13	AGUA-01	20.81	23.0	12.41	1825.0	8.62	25.0	60.6	60.6
2025-11-15 00:17:07	2025-11-15 00:17:49	13	AGUA-01	20.69	21.5	12.39	1822.0	8.6	24.0	60.6	60.7
2025-11-15 01:17:48	2025-11-15 01:18:30	13	AGUA-01	20.62	20.0	12.39	1812.0	8.55	26.0	60.7	60.7
2025-11-15 02:18:29	2025-11-15 02:19:11	13	AGUA-01	20.44	18.75	12.39	1768.0	8.58	27.0	60.7	60.7
2025-11-15 03:19:11	2025-11-15 03:19:53	13	AGUA-01	20.31	18.25	12.38	1801.0	8.56	25.0	60.7	60.7
2025-11-15 04:19:54	2025-11-15 04:20:37	13	AGUA-01	20.19	17.75	12.38	1825.0	8.47	24.0	60.7	60.7

2025-11-15 05:20:39	2025-11-15 05:21:22	13	AGUA-01	20.06	17.0	12.36	1815.0	8.46	25.0	60.8	60.8
2025-11-15 06:21:23	2025-11-15 06:22:05	13	AGUA-01	19.94	16.5	12.36	1811.0	8.45	25.0	60.7	60.7
2025-11-15 07:22:10	2025-11-15 07:22:52	13	AGUA-01	19.94	17.75	12.37	1817.0	8.43	24.0	60.8	60.8
2025-11-15 08:23:05	2025-11-15 08:23:48	13	AGUA-01	19.81	19.75	12.39	1817.0	8.39	27.0	60.9	60.9
2025-11-15 09:23:57	2025-11-15 09:24:40	13	AGUA-01	19.81	21.25	12.4	1816.0	8.35	25.0	60.9	60.9
2025-11-15 10:24:51	2025-11-15 10:25:34	13	AGUA-01	19.88	23.25	12.41	1814.0	8.28	24.0	60.9	60.9
2025-11-15 11:25:52	2025-11-15 11:26:35	13	AGUA-01	20.75	28.25	12.44	1830.0	7.86	24.0	61.0	61.0
2025-11-15 12:26:50	2025-11-15 12:27:33	13	AGUA-01	21.25	30.5	12.44	1866.0	7.59	25.0	61.0	61.0
2025-11-15 13:27:40	2025-11-15 13:28:23	13	AGUA-01	21.69	32.0	12.45	1901.0	7.04	25.0	60.8	60.8
2025-11-15 14:28:38	2025-11-15 14:29:21	13	AGUA-01	22.56	34.5	12.46	1927.0	6.94	27.0	61.0	61.0
2025-11-15 15:29:27	2025-11-15 15:30:09	13	AGUA-01	22.56	33.5	12.47	1903.0	7.98	24.0	60.8	60.8
2025-11-15 16:30:10	2025-11-15 16:30:53	13	AGUA-01	22.56	33.0	12.47	1900.0	8.38	27.0	60.7	60.7
2025-11-15 17:31:00	2025-11-15 17:31:43	13	AGUA-01	22.69	34.25	12.47	1929.0	8.47	28.0	60.8	60.8
2025-11-15 18:31:46	2025-11-15 18:32:29	13	AGUA-01	22.44	33.75	12.46	1929.0	8.56	23.0	60.8	60.8
2025-11-15 19:32:25	2025-11-15 19:33:08	13	AGUA-01	22.38	31.5	12.46	1924.0	8.67	21.0	60.6	60.6
2025-11-15 20:33:00	2025-11-15 20:33:42	13	AGUA-01	21.56	26.25	12.44	1880.0	8.86	25.0	60.6	60.6
2025-11-15 21:33:32	2025-11-15 21:34:15	13	AGUA-01	21.31	24.0	12.41	1854.0	8.89	28.0	60.5	60.5
2025-11-15 22:34:18	2025-11-15 22:35:01	13	AGUA-01	21.0	23.75	12.4	1855.0	8.82	25.0	60.8	60.8
2025-11-15 23:35:04	2025-11-15 23:35:47	13	AGUA-01	20.75	23.5	12.39	1827.0	8.76	24.0	60.8	60.8

## ■ DATOS COMPLETOS - Página 5 (Filas 141-175)

fecha	fecha_insercion	id_proyecto	codigo_interno	DS18B20 [Grados celcius (°C)]	DS3231 [Grados celcius (°C)]	Divisor de Voltaje [Voltaje (V)]	ENV-20-EC-K1.0 [Electroconductividad ambiental (µS/cm)]	ENV-20-pH [pH ambiental (pH)]	SIM7600G [Intensidad señal telefónica (Adimensional)]	Min. Dif. Insercion	Min. Dif. Medicion
2025-11-16 00:35:44	2025-11-16 00:36:26	13	AGUA-01	20.69	22.0	12.39	1829.0	8.69	25.0	60.6	60.7
2025-11-16 01:36:28	2025-11-16 01:37:11	13	AGUA-01	20.56	21.75	12.39	1828.0	8.61	22.0	60.8	60.7
2025-11-16 02:37:14	2025-11-16 02:37:56	13	AGUA-01	20.62	21.25	12.39	1823.0	8.65	22.0	60.8	60.8
2025-11-16 03:37:57	2025-11-16 03:38:39	13	AGUA-01	20.5	21.0	12.39	1831.0	8.53	25.0	60.7	60.7
2025-11-16 04:38:45	2025-11-16 04:39:27	13	AGUA-01	20.31	21.5	12.36	1835.0	8.47	27.0	60.8	60.8
2025-11-16 05:39:33	2025-11-16 05:40:16	13	AGUA-01	20.25	21.75	12.38	1840.0	8.46	24.0	60.8	60.8
2025-11-16 06:40:18	2025-11-16 06:41:01	13	AGUA-01	20.19	21.0	12.37	1833.0	8.44	25.0	60.8	60.8
2025-11-16 07:41:04	2025-11-16 07:41:47	13	AGUA-01	20.06	21.25	12.39	1835.0	8.43	25.0	60.8	60.8
2025-11-16 08:42:02	2025-11-16 08:42:44	13	AGUA-01	20.19	25.75	12.39	1806.0	8.37	23.0	61.0	61.0
2025-11-16 09:42:56	2025-11-16 09:43:39	13	AGUA-01	20.5	29.75	12.42	1810.0	8.6	24.0	60.9	60.9
2025-11-16 10:43:58	2025-11-16 10:44:40	13	AGUA-01	21.5	34.25	12.44	1829.0	8.68	28.0	61.0	61.0
2025-11-16 11:44:56	2025-11-16 11:45:39	13	AGUA-01	23.06	36.25	12.46	1877.0	7.99	24.0	61.0	61.0
2025-11-16 12:45:42	2025-11-16 12:46:24	13	AGUA-01	23.06	36.5	12.46	1894.0	7.51	23.0	60.8	60.8
2025-11-16 13:46:24	2025-11-16 13:47:06	13	AGUA-01	23.44	34.25	12.46	1920.0	8.26	26.0	60.7	60.7
2025-11-16 14:47:07	2025-11-16 14:47:50	13	AGUA-01	22.25	34.75	12.47	1865.0	8.01	23.0	60.7	60.7
2025-11-16 15:47:55	2025-11-16 15:48:38	13	AGUA-01	22.25	35.0	12.47	1897.0	7.9	22.0	60.8	60.8

2025-11-16 16:48:44	2025-11-16 16:49:27	13	AGUA-01	22.5	35.75	12.47	1893.0	8.14	23.0	60.8	60.8
2025-11-16 17:49:33	2025-11-16 17:50:16	13	AGUA-01	22.56	37.25	12.47	1882.0	8.23	23.0	60.8	60.8
2025-11-16 18:50:22	2025-11-16 18:51:04	13	AGUA-01	22.56	36.5	12.47	1871.0	8.69	20.0	60.8	60.8
2025-11-16 19:51:02	2025-11-16 19:51:45	13	AGUA-01	22.56	34.0	12.47	1843.0	8.77	22.0	60.7	60.7
2025-11-16 20:51:31	2025-11-16 20:52:13	13	AGUA-01	21.81	28.75	12.45	1833.0	8.86	22.0	60.5	60.5
2025-11-16 21:52:11	2025-11-16 21:52:53	13	AGUA-01	21.69	27.5	12.42	1833.0	8.74	22.0	60.7	60.7
2025-11-16 22:52:52	2025-11-16 22:53:35	13	AGUA-01	21.5	25.75	12.42	1830.0	8.76	26.0	60.7	60.7
2025-11-16 23:53:33	2025-11-16 23:54:16	13	AGUA-01	21.38	25.0	12.41	1834.0	8.68	26.0	60.7	60.7
2025-11-17 00:54:24	2025-11-17 00:55:07	13	AGUA-01	21.19	26.5	12.41	1832.0	8.59	22.0	60.9	60.9
2025-11-17 01:55:02	2025-11-17 01:55:45	13	AGUA-01	21.06	24.25	12.4	1834.0	8.55	23.0	60.6	60.6
2025-11-17 02:55:41	2025-11-17 02:56:23	13	AGUA-01	20.94	21.75	12.39	1828.0	8.54	22.0	60.6	60.6
2025-11-17 03:56:22	2025-11-17 03:57:05	13	AGUA-01	20.81	20.5	12.39	1819.0	8.59	23.0	60.7	60.7
2025-11-17 04:57:02	2025-11-17 04:57:45	13	AGUA-01	20.69	19.25	12.38	1831.0	8.56	23.0	60.7	60.7
2025-11-17 05:57:45	2025-11-17 05:58:28	13	AGUA-01	20.62	18.5	12.37	1838.0	8.51	25.0	60.7	60.7
2025-11-17 06:58:28	2025-11-17 06:59:11	13	AGUA-01	20.56	18.75	12.36	1848.0	8.47	23.0	60.7	60.7
2025-11-17 07:59:23	2025-11-17 08:00:06	13	AGUA-01	20.44	23.5	12.39	1857.0	8.32	26.0	60.9	60.9
2025-11-17 09:00:36	2025-11-17 09:01:18	13	AGUA-01	20.69	28.0	12.42	1851.0	7.98	25.0	61.2	61.2
2025-11-17 10:01:38	2025-11-17 10:02:20	13	AGUA-01	21.69	34.5	12.45	1830.0	8.54	25.0	61.0	61.0
2025-11-17 11:02:35	2025-11-17 11:03:18	13	AGUA-01	22.5	37.0	12.45	1880.0	8.12	23.0	61.0	61.0

## ■ DATOS COMPLETOS - Página 6 (Filas 176-210)

fecha	fecha_insercion	id_proyecto	codigo_interno	DS18B20 [Grados celcius (°C)]	DS3231 [Grados celcius (°C)]	Divisor de Voltaje [Voltaje (V)]	ENV-20-EC-K1.0 [Electroconductividad ambiental (μS/cm)]	ENV-20-pH [pH ambiental (pH)]	SIM7600G [Intensidad señal telefónica (Adimensional)]	Min. Dif. Insercion	Min. Dif. Medicion
2025-11-17 12:03:26	2025-11-17 12:04:09	13	AGUA-01	23.44	39.0	12.45	1919.0	7.31	23.0	60.9	60.9
2025-11-17 13:04:18	2025-11-17 13:05:01	13	AGUA-01	24.12	40.75	12.47	1966.0	6.57	23.0	60.9	60.9
2025-11-17 14:05:43	2025-11-17 14:06:26	13	AGUA-01	25.0	43.0	12.48	2001.0	6.58	25.0	61.4	61.4
2025-11-17 15:07:03	2025-11-17 15:07:45	13	AGUA-01	23.62	41.25	12.47	1931.0	6.82	25.0	61.3	61.3
2025-11-17 16:09:13	2025-11-17 16:09:55	13	AGUA-01	23.12	42.0	12.48	1916.0	6.8	28.0	62.2	62.2
2025-11-17 17:11:23	2025-11-17 17:12:05	13	AGUA-01	23.06	41.5	12.47	1930.0	7.58	26.0	62.2	62.2
2025-11-17 18:13:54	2025-11-17 18:14:37	13	AGUA-01	0.0	41.25	12.47	0.0	0.0	23.0	62.5	62.5
2025-11-17 19:16:25	2025-11-17 19:17:08	13	AGUA-01	0.0	39.75	12.49	0.0	0.0	24.0	62.5	62.5
2025-11-17 20:18:57	2025-11-17 20:19:40	13	AGUA-01	0.0	36.75	12.47	0.0	0.0	23.0	62.5	62.5
2025-11-17 21:21:08	2025-11-17 21:21:51	13	AGUA-01	0.0	32.25	12.44	0.0	0.0	22.0	62.2	62.2
2025-11-17 22:23:37	2025-11-17 22:24:19	13	AGUA-01	0.0	30.0	12.41	0.0	0.0	25.0	62.5	62.5
2025-11-17 23:26:09	2025-11-17 23:26:51	13	AGUA-01	0.0	29.75	12.41	0.0	0.0	22.0	62.5	62.5
2025-11-18 00:28:44	2025-11-18 00:29:26	13	AGUA-01	0.0	29.25	12.42	0.0	0.0	22.0	62.6	62.6
2025-11-18 01:31:10	2025-11-18 01:31:53	13	AGUA-01	0.0	28.75	12.39	0.0	0.0	22.0	62.5	62.4
2025-11-18 02:33:43	2025-11-18 02:34:26	13	AGUA-01	0.0	27.5	12.39	0.0	0.0	23.0	62.5	62.5
2025-11-18 03:36:15	2025-11-18 03:36:58	13	AGUA-01	0.0	26.5	12.39	0.0	0.0	23.0	62.5	62.5

2025-11-18 04:38:44	2025-11-18 04:39:27	13	AGUA-01	0.0	24.75	12.39	0.0	0.0	21.0	62.5	62.5
2025-11-18 05:41:10	2025-11-18 05:41:53	13	AGUA-01	0.0	23.75	12.38	0.0	0.0	23.0	62.4	62.4
2025-11-18 06:43:42	2025-11-18 06:44:25	13	AGUA-01	0.0	22.5	12.38	0.0	0.0	23.0	62.5	62.5
2025-11-18 07:46:14	2025-11-18 07:46:57	13	AGUA-01	0.0	24.75	12.39	0.0	0.0	23.0	62.5	62.5
2025-11-18 09:51:55	2025-11-18 09:52:38	13	AGUA-01	0.0	34.25	12.43	0.0	0.0	23.0	125.7	125.7
2025-11-18 10:54:50	2025-11-18 10:55:33	13	AGUA-01	0.0	37.5	12.45	0.0	0.0	25.0	62.9	62.9
2025-11-18 11:57:31	2025-11-18 11:58:14	13	AGUA-01	0.0	39.75	12.46	0.0	0.0	22.0	62.7	62.7
2025-11-18 13:00:08	2025-11-18 13:00:51	13	AGUA-01	0.0	39.5	12.46	0.0	0.0	22.0	62.6	62.6
2025-11-18 14:01:55	2025-11-18 14:02:38	13	AGUA-01	23.25	38.25	12.46	2061.0	7.71	25.0	61.8	61.8
2025-11-18 15:04:32	2025-11-18 15:05:15	13	AGUA-01	0.0	39.0	12.46	0.0	0.0	26.0	62.6	62.6
2025-11-18 16:07:07	2025-11-18 16:07:50	13	AGUA-01	0.0	39.75	12.47	0.0	0.0	23.0	62.6	62.6
2025-11-18 17:09:45	2025-11-18 17:10:28	13	AGUA-01	0.0	40.75	12.47	0.0	0.0	26.0	62.6	62.6
2025-11-18 18:12:23	2025-11-18 18:13:06	13	AGUA-01	0.0	40.75	12.47	0.0	0.0	26.0	62.6	62.6
2025-11-18 19:14:55	2025-11-18 19:15:38	13	AGUA-01	0.0	39.75	12.47	0.0	0.0	22.0	62.5	62.5
2025-11-18 20:17:23	2025-11-18 20:18:06	13	AGUA-01	0.0	35.25	12.45	0.0	0.0	24.0	62.5	62.5
2025-11-18 21:19:36	2025-11-18 21:20:19	13	AGUA-01	0.0	31.75	12.44	0.0	0.0	25.0	62.2	62.2
2025-11-18 22:22:07	2025-11-18 22:22:50	13	AGUA-01	0.0	30.75	12.42	0.0	0.0	24.0	62.5	62.5
2025-11-18 23:24:36	2025-11-18 23:25:19	13	AGUA-01	0.0	29.5	12.4	0.0	0.0	24.0	62.5	62.5
2025-11-19 00:27:05	2025-11-19 00:27:48	13	AGUA-01	0.0	27.75	12.4	0.0	0.0	23.0	62.5	62.5

## ■ DATOS COMPLETOS - Página 7 (Filas 211-245)

fecha	fecha_insercion	id_proyecto	codigo_interno	DS18B20 [Grados celcius (°C)]	DS3231 [Grados celcius (°C)]	Divisor de Voltaje [Voltaje (V)]	ENV-20-EC-K1.0 [Electroconductividad ambiental (μS/cm)]	ENV-20-pH [pH ambiental (pH)]	SIM7600G [Intensidad señal telefónica (Adimensional)]	Min. Dif. Insercion	Min. Dif. Medicion
2025-11-19 01:29:35	2025-11-19 01:30:18	13	AGUA-01	0.0	26.5	12.39	0.0	0.0	23.0	62.5	62.5
2025-11-19 02:32:02	2025-11-19 02:32:45	13	AGUA-01	0.0	25.25	12.39	0.0	0.0	22.0	62.5	62.5
2025-11-19 03:34:32	2025-11-19 03:35:15	13	AGUA-01	0.0	23.25	12.39	0.0	0.0	24.0	62.5	62.5
2025-11-19 04:36:59	2025-11-19 04:37:43	13	AGUA-01	0.0	21.25	12.37	0.0	0.0	21.0	62.5	62.5
2025-11-19 05:39:26	2025-11-19 05:40:09	13	AGUA-01	0.0	20.0	12.36	0.0	0.0	23.0	62.4	62.5
2025-11-19 06:41:56	2025-11-19 06:42:39	13	AGUA-01	0.0	19.0	12.35	0.0	0.0	26.0	62.5	62.5
2025-11-19 07:44:34	2025-11-19 07:45:17	13	AGUA-01	0.0	22.0	12.38	0.0	0.0	24.0	62.6	62.6
2025-11-19 08:47:34	2025-11-19 08:48:17	13	AGUA-01	0.0	28.25	12.39	0.0	0.0	25.0	63.0	63.0
2025-11-19 09:50:17	2025-11-19 09:51:00	13	AGUA-01	0.0	34.25	12.42	0.0	0.0	24.0	62.7	62.7
2025-11-19 10:53:08	2025-11-19 10:53:51	13	AGUA-01	0.0	38.25	12.44	0.0	0.0	21.0	62.9	62.9
2025-11-19 11:55:41	2025-11-19 11:56:25	13	AGUA-01	23.12	39.5	12.45	1987.0	7.76	26.0	62.6	62.5
2025-11-19 12:57:45	2025-11-19 13:14:35	13	AGUA-01	23.38	38.0	12.45	2063.0	7.81	23.0	78.2	62.1
2025-11-19 14:00:21	2025-11-19 14:36:32	13	AGUA-01	0.0	37.5	12.46	0.0	0.0	25.0	82.0	62.6
2025-11-19 15:02:27	2025-11-19 15:57:35	13	AGUA-01	23.38	36.75	12.46	2048.0	8.66	24.0	81.0	62.1
2025-11-19 16:05:06	2025-11-19 17:14:03	13	AGUA-01	0.0	36.25	12.46	0.0	0.0	25.0	76.5	62.6
2025-11-19 17:07:50	2025-11-19 17:17:16	13	AGUA-01	0.0	37.25	12.46	0.0	0.0	22.0	3.2	62.7



2025-11-19 18:10:35	2025-11-19 18:11:18	13	AGUA-01	0.0	37.25	12.46	0.0	0.0	25.0	54.0	62.8
2025-11-19 19:13:07	2025-11-19 19:13:50	13	AGUA-01	0.0	35.25	12.47	0.0	0.0	21.0	62.5	62.5
2025-11-19 20:15:28	2025-11-19 20:16:11	13	AGUA-01	0.0	30.0	12.43	0.0	0.0	24.0	62.4	62.4
2025-11-19 21:17:45	2025-11-19 21:18:27	13	AGUA-01	0.0	27.5	12.42	0.0	0.0	23.0	62.3	62.3
2025-11-19 22:20:19	2025-11-19 22:21:02	13	AGUA-01	0.0	27.5	12.41	0.0	0.0	23.0	62.6	62.6
2025-11-19 23:22:44	2025-11-19 23:23:26	13	AGUA-01	0.0	25.25	12.39	0.0	0.0	26.0	62.4	62.4
2025-11-20 00:25:12	2025-11-20 00:25:55	13	AGUA-01	0.0	23.75	12.39	0.0	0.0	24.0	62.5	62.5
2025-11-20 00:25:12	2025-11-20 00:25:55	13	AGUA-01	0.0	23.75	12.39	0.0	0.0	24.0	0.0	0.0
2025-11-20 01:27:43	2025-11-20 01:28:26	13	AGUA-01	0.0	22.5	12.37	0.0	0.0	22.0	62.5	62.5
2025-11-20 02:30:15	2025-11-20 02:30:57	13	AGUA-01	0.0	21.75	12.36	0.0	0.0	23.0	62.5	62.5
2025-11-20 03:32:43	2025-11-20 03:33:26	13	AGUA-01	0.0	21.25	12.36	0.0	0.0	25.0	62.5	62.5
2025-11-20 04:35:18	2025-11-20 04:36:01	13	AGUA-01	0.0	20.75	12.36	0.0	0.0	22.0	62.6	62.6
2025-11-20 05:37:48	2025-11-20 05:38:31	13	AGUA-01	0.0	20.25	12.33	0.0	0.0	24.0	62.5	62.5
2025-11-20 07:43:12	2025-11-20 07:43:54	13	AGUA-01	0.0	22.0	12.39	0.0	0.0	27.0	125.4	125.4
2025-11-20 08:45:53	2025-11-20 08:46:36	13	AGUA-01	0.0	25.0	12.39	0.0	0.0	23.0	62.7	62.7
2025-11-20 09:48:41	2025-11-20 09:49:26	13	AGUA-01	0.0	28.5	12.41	0.0	0.0	23.0	62.8	62.8
2025-11-20 10:51:20	2025-11-20 10:52:02	13	AGUA-01	0.0	29.0	12.41	0.0	0.0	22.0	62.6	62.6
2025-11-20 11:53:56	2025-11-20 11:54:39	13	AGUA-01	0.0	31.25	12.42	0.0	0.0	25.0	62.6	62.6
2025-11-20 12:56:36	2025-11-20 12:57:19	13	AGUA-01	0.0	31.75	12.44	0.0	0.0	26.0	62.7	62.7

■ DATOS COMPLETOS - Página 8 (Filas 246-280)

fecha	fecha_insercion	id_proyecto	codigo_interno	DS18B20 [Grados celcius (°C)]	DS3231 [Grados celcius (°C)]	Divisor de Voltaje [Voltaje (V)]	ENV-20-EC-K1.0 [Electroconductividad ambiental (μS/cm)]	ENV-20-pH [pH a mbiental (pH)]	SIM7600G [Intensidad señal telefónica (Adimensional)]	Min. Dif. Insercion	Min. Dif. Medicion
2025-11-20 13:59:09	2025-11-20 13:59:51	13	AGUA-01	0.0	30.0	12.41	0.0	0.0	26.0	62.5	62.5
2025-11-20 15:01:38	2025-11-20 15:02:21	13	AGUA-01	0.0	29.5	12.42	0.0	0.0	24.0	62.5	62.5
2025-11-20 16:04:08	2025-11-20 16:04:51	13	AGUA-01	0.0	28.5	12.41	0.0	0.0	24.0	62.5	62.5
2025-11-20 17:06:47	2025-11-20 17:07:29	13	AGUA-01	0.0	29.5	12.42	0.0	0.0	24.0	62.6	62.6
2025-11-20 18:09:18	2025-11-20 18:10:09	13	AGUA-01	0.0	30.5	12.42	0.0	0.0	26.0	62.7	62.5
2025-11-20 19:12:07	2025-11-20 19:12:50	13	AGUA-01	0.0	33.5	12.46	0.0	0.0	24.0	62.7	62.8
2025-11-20 20:14:53	2025-11-20 20:16:17	13	AGUA-01	0.0	31.75	12.44	0.0	0.0	18.0	63.5	62.8
2025-11-20 21:17:37	2025-11-20 21:18:26	13	AGUA-01	0.0	26.25	12.41	0.0	0.0	18.0	62.1	62.7
2025-11-20 22:20:08	2025-11-20 22:20:58	13	AGUA-01	0.0	23.75	12.39	0.0	0.0	18.0	62.5	62.5
2025-11-20 23:22:43	2025-11-20 23:23:34	13	AGUA-01	0.0	22.0	12.39	0.0	0.0	17.0	62.6	62.6
2025-11-21 00:25:19	2025-11-21 00:26:09	13	AGUA-01	0.0	20.5	12.37	0.0	0.0	18.0	62.6	62.6
2025-11-21 01:27:57	2025-11-21 01:28:47	13	AGUA-01	0.0	20.0	12.37	0.0	0.0	17.0	62.6	62.6
2025-11-21 02:30:34	2025-11-21 02:31:26	13	AGUA-01	0.0	18.75	12.35	0.0	0.0	17.0	62.6	62.6
2025-11-21 03:33:16	2025-11-21 03:34:08	13	AGUA-01	0.0	18.25	12.36	0.0	0.0	17.0	62.7	62.7
2025-11-21 04:35:59	2025-11-21 04:36:51	13	AGUA-01	0.0	17.75	12.33	0.0	0.0	17.0	62.7	62.7
2025-11-21 05:38:41	2025-11-21 05:39:34	13	AGUA-01	0.0	17.0	12.34	0.0	0.0	17.0	62.7	62.7

2025-11-21 06:41:23	2025-11-21 06:42:17	13	AGUA-01	0.0	16.25	12.32	0.0	0.0	17.0	62.7	62.7
2025-11-21 07:44:10	2025-11-21 07:45:08	13	AGUA-01	0.0	18.75	12.36	0.0	0.0	17.0	62.9	62.8
2025-11-21 08:47:23	2025-11-21 08:48:15	13	AGUA-01	0.0	25.0	12.39	0.0	0.0	17.0	63.1	63.2
2025-11-21 09:50:18	2025-11-21 09:51:07	13	AGUA-01	0.0	31.5	12.41	0.0	0.0	17.0	62.9	62.9
2025-11-21 10:53:21	2025-11-21 10:54:11	13	AGUA-01	0.0	37.25	12.42	0.0	0.0	17.0	63.1	63.0
2025-11-21 11:56:18	2025-11-21 11:57:11	13	AGUA-01	0.0	40.25	12.44	0.0	0.0	16.0	63.0	63.0
2025-11-21 12:59:08	2025-11-21 12:59:57	13	AGUA-01	0.0	39.75	12.45	0.0	0.0	18.0	62.8	62.8
2025-11-21 14:01:42	2025-11-21 14:02:32	13	AGUA-01	0.0	38.75	12.44	0.0	0.0	18.0	62.6	62.6
2025-11-21 15:03:52	2025-11-21 15:07:34	13	AGUA-01	24.56	39.0	12.46	2086.0	8.12	17.0	65.0	62.2
2025-11-21 16:06:18	2025-11-21 16:13:15	13	AGUA-01	24.56	39.5	12.46	2091.0	8.12	18.0	65.7	62.4
2025-11-21 17:09:08	2025-11-21 18:47:35	13	AGUA-01	0.0	40.0	12.46	0.0	0.0	25.0	154.3	62.8
2025-11-21 18:12:51	2025-11-21 18:49:05	13	AGUA-01	0.0	40.0	12.46	0.0	0.0	25.0	1.5	63.7
2025-11-21 19:15:45	2025-11-21 20:06:35	13	AGUA-01	0.0	38.5	12.47	0.0	0.0	26.0	77.5	62.9
2025-11-21 20:18:19	2025-11-21 21:25:38	13	AGUA-01	0.0	33.0	12.44	0.0	0.0	26.0	79.0	62.6
2025-11-21 21:20:06	2025-11-21 22:43:13	13	AGUA-01	24.62	30.5	12.41	1989.0	8.53	24.0	77.6	61.8
2025-11-21 22:22:45	2025-11-22 00:01:20	13	AGUA-01	22.38	28.25	12.4	1976.0	8.47	25.0	78.1	62.6
2025-11-21 23:25:15	2025-11-22 01:20:14	13	AGUA-01	0.0	26.0	12.39	0.0	0.0	24.0	78.9	62.5
2025-11-22 00:27:49	2025-11-22 02:38:58	13	AGUA-01	0.0	23.25	12.39	0.0	0.0	24.0	78.7	62.6
2025-11-22 01:30:26	2025-11-22 03:52:33	13	AGUA-01	0.0	21.5	12.37	0.0	0.0	24.0	73.6	62.6

## ■ DATOS COMPLETOS - Página 9 (Filas 281-315)

fecha	fecha_insercion	id_proyecto	codigo_interno	DS18B20 [Grados celcius (°C)]	DS3231 [Grados celcius (°C)]	Divisor de Voltaje [Voltaje (V)]	ENV-20-EC-K1.0 [Electroconductividad ambiental (µS/cm)]	ENV-20-pH [pH ambiental (pH)]	SIM7600G [Intensidad señal telefónica (Adimensional)]	Min. Dif. Insercion	Min. Dif. Medicion
2025-11-22 06:43:46	2025-11-22 09:13:54	13	AGUA-01	0.0	18.0	12.32	0.0	0.0	23.0	321.4	313.3
2025-11-22 07:46:30	2025-11-22 10:19:26	13	AGUA-01	0.0	20.75	12.37	0.0	0.0	22.0	65.5	62.7
2025-11-22 10:54:30	2025-11-22 13:26:13	13	AGUA-01	21.5	39.25	12.44	1982.0	8.27	23.0	186.8	188.0
2025-11-22 14:01:19	2025-11-22 16:31:08	13	AGUA-01	22.69	38.0	12.44	2002.0	8.17	23.0	184.9	186.8
2025-11-22 16:06:46	2025-11-22 18:37:48	13	AGUA-01	0.0	38.75	12.47	0.0	0.0	23.0	126.7	125.5
2025-11-22 17:09:29	2025-11-22 19:40:11	13	AGUA-01	0.0	39.25	12.46	0.0	0.0	22.0	62.4	62.7
2025-11-22 18:12:13	2025-11-22 20:41:51	13	AGUA-01	0.0	38.75	12.47	0.0	0.0	27.0	61.7	62.7
2025-11-22 19:14:53	2025-11-22 21:43:33	13	AGUA-01	0.0	37.0	12.46	0.0	0.0	24.0	61.7	62.7
2025-11-22 21:18:22	2025-11-22 23:45:12	13	AGUA-01	23.12	31.5	12.42	2008.0	8.46	28.0	121.7	123.5
2025-11-23 00:23:16	2025-11-23 02:56:25	13	AGUA-01	0.0	23.25	12.41	0.0	0.0	30.0	191.2	184.9
2025-11-23 01:25:31	2025-11-23 03:56:22	13	AGUA-01	22.31	21.5	12.39	1963.0	8.48	25.0	60.0	62.2
2025-11-23 02:28:11	2025-11-23 04:59:08	13	AGUA-01	0.0	20.25	12.37	0.0	0.0	23.0	62.8	62.7
2025-11-23 03:30:48	2025-11-23 06:06:45	13	AGUA-01	0.0	19.25	12.36	0.0	0.0	24.0	67.6	62.6
2025-11-23 04:33:26	2025-11-23 07:09:27	13	AGUA-01	0.0	18.5	12.35	0.0	0.0	23.0	62.7	62.6
2025-11-23 05:36:10	2025-11-23 08:07:56	13	AGUA-01	0.0	18.25	12.36	0.0	0.0	23.0	58.5	62.7
2025-11-23 06:38:51	2025-11-23 09:08:37	13	AGUA-01	0.0	17.5	12.33	0.0	0.0	23.0	60.7	62.7

2025-11-23 07:41:35	2025-11-23 10:10:44	13	AGUA-01	0.0	20.0	12.35	0.0	0.0	23.0	62.1	62.7
2025-11-23 08:44:35	2025-11-23 11:13:57	13	AGUA-01	0.0	25.25	12.4	0.0	0.0	23.0	63.2	63.0
2025-11-23 12:55:51	2025-11-23 13:05:55	13	AGUA-01	0.0	37.25	12.46	0.0	0.0	25.0	112.0	251.3
2025-11-23 13:58:23	2025-11-23 14:24:53	13	AGUA-01	22.44	37.5	12.46	2001.0	7.93	25.0	79.0	62.5
2025-11-23 15:00:58	2025-11-23 15:43:39	13	AGUA-01	0.0	35.75	12.45	0.0	0.0	24.0	78.8	62.6
2025-11-23 16:03:40	2025-11-23 17:02:51	13	AGUA-01	0.0	35.75	12.46	0.0	0.0	24.0	79.2	62.7
2025-11-23 17:06:24	2025-11-23 18:22:02	13	AGUA-01	0.0	35.75	12.44	0.0	0.0	25.0	79.2	62.7
2025-11-23 18:09:06	2025-11-23 19:40:45	13	AGUA-01	0.0	36.5	12.46	0.0	0.0	25.0	78.7	62.7
2025-11-23 19:11:49	2025-11-23 20:59:10	13	AGUA-01	0.0	35.25	12.46	0.0	0.0	25.0	78.4	62.7
2025-11-23 20:14:19	2025-11-23 22:18:14	13	AGUA-01	22.94	30.5	12.44	2053.0	8.55	25.0	79.1	62.5
2025-11-23 21:16:42	2025-11-23 23:35:11	13	AGUA-01	0.0	27.0	12.42	0.0	0.0	26.0	77.0	62.4
2025-11-23 23:21:39	2025-11-24 01:45:40	13	AGUA-01	0.0	23.5	12.39	0.0	0.0	25.0	130.5	125.0
2025-11-24 02:29:18	2025-11-24 05:01:09	13	AGUA-01	0.0	20.5	12.37	0.0	0.0	24.0	195.5	187.7
2025-11-24 05:37:19	2025-11-24 08:07:03	13	AGUA-01	0.0	18.75	12.33	0.0	0.0	23.0	185.9	188.0
2025-11-24 06:40:06	2025-11-24 09:09:48	13	AGUA-01	0.0	19.5	12.34	0.0	0.0	28.0	62.8	62.8
2025-11-24 07:42:51	2025-11-24 10:14:34	13	AGUA-01	0.0	20.25	12.34	0.0	0.0	24.0	64.8	62.8
2025-11-24 09:48:35	2025-11-24 12:18:18	13	AGUA-01	0.0	27.5	12.39	0.0	0.0	24.0	123.7	125.7
2025-11-24 10:51:40	2025-11-24 12:31:34	13	AGUA-01	0.0	32.75	12.41	0.0	0.0	24.0	13.3	63.1
2025-11-24 11:54:33	2025-11-24 12:31:34	13	AGUA-01	22.31	35.0	12.42	1987.0	8.08	27.0	0.0	62.9

## ■ DATOS COMPLETOS - Página 10 (Filas 316-342)

fecha	fecha_insercion	id_proyecto	codigo_interno	DS18B20 [Grados celcius (°C)]	DS3231 [Grados celcius (°C)]	Divisor de Voltaje [Voltaje (V)]	ENV-20-EC-K1.0 [Electroconductividad ambiental (μS/cm)]	ENV-20-pH [pH ambiental (pH)]	SIM7600G [Intensidad señal telefónica (Adimensional)]	Min. Dif. Insercion	Min. Dif. Medicion
2025-11-24 12:57:12	2025-11-24 12:57:55	13	AGUA-01	0.0	35.25	12.44	0.0	0.0	25.0	26.4	62.6
2025-11-24 13:59:20	2025-11-24 14:00:04	13	AGUA-01	23.31	37.75	12.42	2026.0	7.75	30.0	62.1	62.1
2025-11-24 15:01:31	2025-11-24 15:02:15	13	AGUA-01	24.31	35.0	12.44	2053.0	8.34	25.0	62.2	62.2
2025-11-24 16:04:03	2025-11-24 16:04:47	13	AGUA-01	0.0	35.0	12.46	0.0	0.0	24.0	62.5	62.5
2025-11-24 17:06:40	2025-11-24 17:07:24	13	AGUA-01	0.0	35.5	12.44	0.0	0.0	24.0	62.6	62.6
2025-11-24 18:09:10	2025-11-24 18:09:53	13	AGUA-01	24.25	35.25	12.44	2011.0	8.4	30.0	62.5	62.5
2025-11-24 19:11:30	2025-11-24 19:12:14	13	AGUA-01	24.12	33.75	12.44	2001.0	8.47	22.0	62.4	62.3
2025-11-24 20:13:55	2025-11-24 20:14:39	13	AGUA-01	0.0	29.0	12.43	0.0	0.0	24.0	62.4	62.4
2025-11-24 21:16:14	2025-11-24 21:16:58	13	AGUA-01	0.0	27.0	12.41	0.0	0.0	24.0	62.3	62.3
2025-11-24 22:18:43	2025-11-24 22:19:29	13	AGUA-01	0.0	25.25	12.39	0.0	0.0	24.0	62.5	62.5
2025-11-24 23:21:15	2025-11-24 23:21:59	13	AGUA-01	0.0	23.5	12.39	0.0	0.0	22.0	62.5	62.5
2025-11-25 00:23:45	2025-11-25 00:24:29	13	AGUA-01	0.0	22.25	12.38	0.0	0.0	22.0	62.5	62.5
2025-11-25 01:26:16	2025-11-25 01:26:59	13	AGUA-01	0.0	21.25	12.39	0.0	0.0	24.0	62.5	62.5
2025-11-25 02:28:47	2025-11-25 02:29:30	13	AGUA-01	0.0	20.75	12.36	0.0	0.0	24.0	62.5	62.5
2025-11-25 03:31:23	2025-11-25 03:32:07	13	AGUA-01	0.0	20.75	12.36	0.0	0.0	23.0	62.6	62.6
2025-11-25 04:34:02	2025-11-25 04:34:45	13	AGUA-01	0.0	21.75	12.35	0.0	0.0	23.0	62.6	62.6

2025-11-25 05:36:39	2025-11-25 05:37:23	13	AGUA-01	0.0	22.0	12.35	0.0	0.0	23.0	62.6	62.6
2025-11-25 06:39:14	2025-11-25 06:39:58	13	AGUA-01	0.0	22.0	12.35	0.0	0.0	25.0	62.6	62.6
2025-11-25 07:41:50	2025-11-25 07:42:34	13	AGUA-01	0.0	22.25	12.36	0.0	0.0	23.0	62.6	62.6
2025-11-25 08:44:27	2025-11-25 08:45:11	13	AGUA-01	0.0	23.25	12.39	0.0	0.0	25.0	62.6	62.6
2025-11-25 09:47:08	2025-11-25 09:47:51	13	AGUA-01	0.0	25.0	12.39	0.0	0.0	22.0	62.7	62.7
2025-11-25 10:49:53	2025-11-25 10:50:36	13	AGUA-01	0.0	29.25	12.4	0.0	0.0	27.0	62.8	62.8
2025-11-25 11:52:44	2025-11-25 11:53:28	13	AGUA-01	0.0	31.75	12.42	0.0	0.0	25.0	62.9	62.9
2025-11-25 12:55:11	2025-11-25 12:55:55	13	AGUA-01	0.0	29.5	12.41	0.0	0.0	23.0	62.5	62.5
2025-11-25 13:57:43	2025-11-25 14:07:37	13	AGUA-01	0.0	29.75	12.42	0.0	0.0	25.0	71.7	62.5
2025-11-25 15:00:31	2025-11-25 15:01:14	13	AGUA-01	0.0	31.0	12.44	0.0	0.0	25.0	53.6	62.8
2025-11-25 16:03:06	2025-11-25 16:03:50	13	AGUA-01	0.0	31.25	12.43	0.0	0.0	26.0	62.6	62.6

DIAGNOSTICO DEL RENDIMIENTO DEL SISTEMA

RESUMEN GENERAL:

- Total de días con datos: 16
- Total de mediciones: 342
- Promedio de mediciones por día: 21.4
- Rango de mediciones diarias: 11 - 24

Metrica	Intervalos Medicion (min)	Intervalos Insercion (min)
Media	66.03	66.03
Mediana	61.20	60.98
Desv. Estándar	24.67	24.80

Mínimo	0.00	0.00
Máximo	313.33	321.35
Q1 (25%)	60.73	60.72
Q3 (75%)	62.60	62.60
Total Intervalos	341	341