

# REPORTE DE DATOS - AGUA-02

Proyecto 13 | Generado el 25/11/2025 16:14:02

Descripción del Dataset:  
 Fecha inserción inicial: 2025-11-10 00:37:07  
 Fecha inserción final: 2025-11-25 15:22:08  
 Código interno: AGUA-02

Archivos: 5 | Registros: 331 | Fechas: 3

Archivo	Fecha Carpeta	Registros
AGUA-02_paquete_001_20251114.csv	2025-11-10	100
AGUA-02_paquete_002_20251116.csv	2025-11-10	58
AGUA-02_paquete_001_20251120.csv	2025-11-17	69
AGUA-02_paquete_001_20251125.csv	2025-11-20	100
AGUA-02_paquete_002_20251125.csv	2025-11-20	4

## METRICAS DE CALIDAD DE DATOS

Variable	Completitud %	Consistencia %	Estabilidad %	Continuidad %	Quality Score	Clasificación	N Outliers	Coef. Variación
DS18B20 [Grados celcius (°C)]	100.0%	99.1%	100.0%	91.8%	98.5%	EXCELENTE	3	8.73%
DS3231 [Grados celcius (°C)]	100.0%	100.0%	80.0%	91.8%	93.8%	EXCELENTE	0	29.41%
Divisor de Voltaje [Voltaje (V)]	100.0%	100.0%	100.0%	91.8%	98.8%	EXCELENTE	0	0.33%

ENV-20-EC-K1.0 [Electroconductividad ambiental (µS/cm)]	100.0%	86.7%	100.0%	91.8%	94.8%	EXCELENTE	44	11.77%
ENV-20-pH [pH ambiental (pH)]	100.0%	90.6%	100.0%	91.8%	96.0%	EXCELENTE	31	3.96%
SIM7600G [Intensidad señal telefónica (Adimensional)]	100.0%	77.0%	60.0%	91.8%	81.9%	BUENA	76	33.90%

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)]	22.9899	22.9400	20.5600	2.0081	4.0324	18.6200	29.5000	21.5300	24.2500	331
DS3231 [Grados celcius (°C)]	26.5121	24.2500	19.0000	7.7975	60.8014	14.0000	44.2500	20.2500	32.2500	331
Divisor de Voltaje [Voltaje (V)]	12.2323	12.2400	12.2400	0.0404	0.0016	12.1600	12.3200	12.2000	12.2600	331
ENV-20-EC-K1.0 [Electroconductivida d ambiental (µS/cm)]	1528.6378	1578.0000	1538.0000	179.8472	32345.0081	938.2000	1762.0000	1510.0000	1631.0000	331
ENV-20-pH [pH ambiental (pH)]	7.8963	8.0000	8.0200	0.3125	0.0976	6.6300	8.3200	7.8200	8.0900	331

SIM7600G [Intensidad señal telefónica (Adimensional)]	17.9819	21.0000	22.0000	6.0962	37.1633	3.0000	24.0000	18.0000	22.0000	331
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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 00:36:22	2025-11-10 00:37:07	13	AGUA-02	21.69	18.25	12.22	1581.0	8.2	22.0	Primera	Primera
2025-11-10 01:37:07	2025-11-10 01:38:00	13	AGUA-02	21.31	17.5	12.22	1570.0	8.18	20.0	60.9	60.8
2025-11-10 02:38:01	2025-11-10 02:39:21	13	AGUA-02	21.06	16.75	12.21	1559.0	8.15	10.0	61.4	60.9
2025-11-10 03:39:21	2025-11-10 03:40:14	13	AGUA-02	20.88	16.0	12.2	1549.0	8.14	10.0	60.9	61.3
2025-11-10 04:40:28	2025-11-10 04:41:13	13	AGUA-02	20.56	15.25	12.18	1538.0	8.1	20.0	61.0	61.1
2025-11-10 05:41:14	2025-11-10 05:41:58	13	AGUA-02	20.56	14.5	12.19	1529.0	8.11	22.0	60.8	60.8
2025-11-10 06:41:59	2025-11-10 06:42:42	13	AGUA-02	20.25	14.0	12.17	1514.0	8.09	22.0	60.7	60.8
2025-11-10 07:42:46	2025-11-10 07:43:31	13	AGUA-02	19.38	14.5	12.17	1499.0	8.08	20.0	60.8	60.8
2025-11-10 08:43:42	2025-11-10 08:44:35	13	AGUA-02	19.5	17.25	12.18	1509.0	8.06	21.0	61.1	60.9

2025-11-10 09:44:57	2025-11-10 09:45:50	13	AGUA-02	19.75	20.5	12.21	1529.0	7.85	21.0	61.2	61.2
2025-11-10 10:46:05	2025-11-10 10:46:49	13	AGUA-02	20.25	22.75	12.23	1547.0	7.98	22.0	61.0	61.1
2025-11-10 12:48:37	2025-11-10 12:49:21	13	AGUA-02	24.81	27.5	12.25	1623.0	7.52	21.0	122.5	122.5
2025-11-10 13:49:42	2025-11-10 13:50:26	13	AGUA-02	24.06	31.25	12.24	1658.0	7.46	23.0	61.1	61.1
2025-11-10 14:50:37	2025-11-10 14:51:22	13	AGUA-02	24.94	34.25	12.27	1686.0	7.63	23.0	60.9	60.9
2025-11-10 15:51:35	2025-11-10 15:52:19	13	AGUA-02	27.38	34.5	12.28	1719.0	7.86	23.0	61.0	61.0
2025-11-10 16:52:24	2025-11-10 16:53:17	13	AGUA-02	26.88	36.25	12.3	1714.0	7.95	23.0	61.0	60.8
2025-11-10 17:53:27	2025-11-10 17:54:11	13	AGUA-02	25.19	36.0	12.3	1697.0	8.1	22.0	60.9	61.0
2025-11-10 18:53:55	2025-11-10 18:54:39	13	AGUA-02	24.25	30.25	12.3	1675.0	8.23	23.0	60.5	60.5
2025-11-10 19:54:33	2025-11-10 19:55:37	13	AGUA-02	23.56	26.25	12.27	1649.0	8.32	21.0	61.0	60.6
2025-11-10 20:55:23	2025-11-10 20:56:10	13	AGUA-02	22.31	23.0	12.25	1613.0	8.31	22.0	60.5	60.8
2025-11-10 21:56:06	2025-11-10 22:59:12	13	AGUA-02	22.81	22.0	12.25	1603.0	8.3	23.0	123.0	60.7
2025-11-10 22:57:51	2025-11-10 22:59:16	13	AGUA-02	22.38	20.25	12.24	1597.0	8.22	23.0	0.1	61.8
2025-11-10 23:59:14	2025-11-11 00:00:09	13	AGUA-02	21.88	18.75	12.23	1586.0	8.16	24.0	60.9	61.4
2025-11-11 01:00:09	2025-11-11 02:03:00	13	AGUA-02	21.5	17.5	12.22	1574.0	8.12	7.0	122.8	60.9
2025-11-11 03:03:22	2025-11-11 03:04:41	13	AGUA-02	20.56	16.75	12.18	1547.0	8.08	7.0	61.7	123.2
2025-11-11 04:04:44	2025-11-11 04:05:39	13	AGUA-02	20.31	16.25	12.19	1535.0	8.08	7.0	61.0	61.4
2025-11-11 05:05:41	2025-11-11 05:06:29	13	AGUA-02	19.88	15.75	12.18	1523.0	8.06	20.0	60.8	61.0
2025-11-11 06:06:38	2025-11-11 06:07:31	13	AGUA-02	19.56	15.0	12.18	1509.0	8.05	22.0	61.0	61.0
2025-11-11 07:07:32	2025-11-11 07:08:24	13	AGUA-02	19.19	15.25	12.18	1499.0	8.04	23.0	60.9	60.9
2025-11-11 08:08:33	2025-11-11 08:09:17	13	AGUA-02	18.88	16.5	12.17	1491.0	8.05	19.0	60.9	61.0

2025-11-11 09:09:29	2025-11-11 09:10:13	13	AGUA-02	18.62	18.75	12.18	1504.0	7.97	21.0	60.9	60.9
2025-11-11 10:10:30	2025-11-11 10:11:14	13	AGUA-02	18.94	20.75	12.2	1513.0	7.77	21.0	61.0	61.0
2025-11-11 11:11:26	2025-11-11 11:12:50	13	AGUA-02	19.75	22.75	12.24	1538.0	8.03	7.0	61.6	60.9
2025-11-11 12:13:05	2025-11-11 13:16:10	13	AGUA-02	20.12	25.0	12.24	1558.0	7.65	8.0	123.3	61.6
2025-11-11 14:16:52	2025-11-11 14:18:31	13	AGUA-02	22.56	31.5	12.26	1616.0	7.35	23.0	62.4	123.8

## ■ 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 15:18:55	2025-11-11 15:19:52	13	AGUA-02	23.5	36.5	12.27	1645.0	7.42	21.0	61.4	62.0
2025-11-11 16:20:04	2025-11-11 16:20:59	13	AGUA-02	23.69	38.75	12.3	1650.0	7.57	19.0	61.1	61.1
2025-11-11 17:21:01	2025-11-11 17:21:45	13	AGUA-02	25.38	38.25	12.31	1660.0	7.82	22.0	60.8	61.0
2025-11-11 19:22:29	2025-11-11 19:23:22	13	AGUA-02	23.19	32.0	12.31	1594.0	8.11	22.0	121.6	121.5
2025-11-11 20:23:10	2025-11-11 20:23:54	13	AGUA-02	22.31	27.75	12.27	1545.0	8.19	22.0	60.5	60.7
2025-11-11 21:23:47	2025-11-11 21:24:31	13	AGUA-02	21.88	25.0	12.25	1528.0	8.2	23.0	60.6	60.6
2025-11-11 22:24:24	2025-11-11 22:25:28	13	AGUA-02	22.81	23.0	12.25	1520.0	8.17	21.0	61.0	60.6
2025-11-11 23:25:28	2025-11-11 23:26:12	13	AGUA-02	22.12	21.5	12.23	1510.0	8.14	22.0	60.7	61.1
2025-11-12 00:26:11	2025-11-12 00:27:06	13	AGUA-02	21.81	20.5	12.22	1500.0	8.13	22.0	60.9	60.7
2025-11-12 01:27:06	2025-11-12 01:27:50	13	AGUA-02	21.56	19.75	12.22	1490.0	8.09	20.0	60.7	60.9
2025-11-12 02:27:48	2025-11-12 02:28:52	13	AGUA-02	21.25	18.75	12.2	1481.0	8.06	20.0	61.0	60.7
2025-11-12 03:28:53	2025-11-12 03:29:37	13	AGUA-02	20.94	17.75	12.19	1471.0	8.02	22.0	60.8	61.1
2025-11-12 04:29:38	2025-11-12 04:30:58	13	AGUA-02	20.56	16.5	12.19	1462.0	8.02	9.0	61.4	60.8
2025-11-12 05:30:59	2025-11-12 05:31:57	13	AGUA-02	20.19	15.75	12.19	1448.0	8.02	8.0	61.0	61.4
2025-11-12 06:32:08	2025-11-12 06:33:05	13	AGUA-02	19.88	15.0	12.18	1439.0	8.01	21.0	61.1	61.1
2025-11-12 07:33:09	2025-11-12 07:33:53	13	AGUA-02	19.38	15.5	12.18	1430.0	8.03	20.0	60.8	61.0

2025-11-12 08:34:07	2025-11-12 08:35:00	13	AGUA-02	19.38	19.25	12.2	1433.0	8.05	22.0	61.1	61.0
2025-11-12 09:35:19	2025-11-12 09:36:03	13	AGUA-02	19.31	22.0	12.22	1443.0	7.69	21.0	61.0	61.2
2025-11-12 10:36:20	2025-11-12 10:37:04	13	AGUA-02	19.56	24.75	12.24	1447.0	7.86	20.0	61.0	61.0
2025-11-12 11:37:20	2025-11-12 11:38:04	13	AGUA-02	20.12	27.0	12.24	1481.0	7.93	22.0	61.0	61.0
2025-11-12 13:40:18	2025-11-12 13:41:18	13	AGUA-02	22.31	33.75	12.25	1511.0	6.75	6.0	123.2	123.0
2025-11-12 14:41:43	2025-11-12 14:42:41	13	AGUA-02	22.75	37.5	12.28	1509.0	6.63	21.0	61.4	61.4
2025-11-12 15:43:04	2025-11-12 15:43:48	13	AGUA-02	23.62	41.75	12.31	1655.0	6.94	22.0	61.1	61.4
2025-11-12 16:43:58	2025-11-12 16:45:22	13	AGUA-02	24.25	42.75	12.3	1674.0	7.32	6.0	61.6	60.9
2025-11-12 17:45:30	2025-11-12 17:46:28	13	AGUA-02	24.62	44.25	12.32	1688.0	7.47	7.0	61.1	61.5
2025-11-12 18:46:18	2025-11-12 18:47:05	13	AGUA-02	24.69	37.25	12.31	1685.0	7.79	22.0	60.6	60.8
2025-11-12 19:46:59	2025-11-12 19:47:52	13	AGUA-02	23.94	34.0	12.3	1664.0	7.98	20.0	60.8	60.7
2025-11-12 20:47:36	2025-11-12 20:48:20	13	AGUA-02	23.19	29.5	12.28	1639.0	8.12	23.0	60.5	60.6
2025-11-12 21:48:10	2025-11-12 21:48:54	13	AGUA-02	22.75	26.0	12.25	1623.0	8.14	23.0	60.6	60.6
2025-11-12 22:48:47	2025-11-12 22:50:12	13	AGUA-02	23.31	23.75	12.24	1610.0	8.16	5.0	61.3	60.6
2025-11-12 23:50:10	2025-11-12 23:51:16	13	AGUA-02	22.81	22.25	12.24	1599.0	8.11	12.0	61.1	61.4
2025-11-13 00:51:25	2025-11-13 00:52:48	13	AGUA-02	22.38	20.75	12.21	1589.0	8.07	3.0	61.5	61.2
2025-11-13 01:52:50	2025-11-13 01:53:46	13	AGUA-02	22.0	19.75	12.22	1583.0	8.03	7.0	61.0	61.4
2025-11-13 02:53:58	2025-11-13 02:55:08	13	AGUA-02	21.56	18.75	12.21	1568.0	8.01	21.0	61.4	61.1
2025-11-13 03:55:09	2025-11-13 03:55:52	13	AGUA-02	21.25	17.75	12.19	1558.0	7.99	21.0	60.7	61.2

## ■ 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 ambiental (pH)]	SIM7600G [Intensidad señal telefónica (Adimensional)]	Min. Dif. Insercion	Min. Dif. Medicion
2025-11-13 04:55:54	2025-11-13 04:56:47	13	AGUA-02	20.94	17.0	12.18	1549.0	7.99	22.0	60.9	60.8
2025-11-13 05:56:48	2025-11-13 05:57:34	13	AGUA-02	20.62	17.25	12.18	1556.0	7.99	19.0	60.8	60.9
2025-11-13 06:57:45	2025-11-13 06:58:48	13	AGUA-02	20.31	17.25	12.18	1545.0	8.02	21.0	61.2	61.0
2025-11-13 07:58:55	2025-11-13 07:59:38	13	AGUA-02	20.19	19.25	12.18	1538.0	8.02	22.0	60.8	61.2
2025-11-13 09:00:00	2025-11-13 09:01:04	13	AGUA-02	19.81	22.75	12.22	1542.0	7.86	21.0	61.4	61.1
2025-11-13 10:01:23	2025-11-13 10:02:15	13	AGUA-02	21.44	25.5	12.24	1557.0	7.46	21.0	61.2	61.4
2025-11-13 11:02:33	2025-11-13 12:06:26	13	AGUA-02	20.31	28.25	12.25	1565.0	7.84	7.0	124.2	61.2
2025-11-13 12:04:35	2025-11-13 12:06:31	13	AGUA-02	21.31	30.5	12.25	1577.0	6.99	7.0	0.1	62.0
2025-11-13 14:08:25	2025-11-13 14:09:24	13	AGUA-02	23.38	37.0	12.26	1644.0	6.67	22.0	122.9	123.8
2025-11-13 15:09:38	2025-11-13 15:10:57	13	AGUA-02	24.0	39.75	12.29	1661.0	6.99	8.0	61.5	61.2
2025-11-13 16:11:15	2025-11-13 16:12:17	13	AGUA-02	24.56	43.0	12.3	1662.0	7.13	3.0	61.3	61.6
2025-11-13 17:12:37	2025-11-13 17:13:41	13	AGUA-02	25.12	43.0	12.31	1652.0	7.47	20.0	61.4	61.4
2025-11-13 18:13:41	2025-11-13 18:14:25	13	AGUA-02	25.0	40.5	12.31	1618.0	7.64	21.0	60.7	61.1
2025-11-13 19:14:05	2025-11-13 19:14:49	13	AGUA-02	26.12	37.25	12.29	1573.0	7.91	22.0	60.4	60.4
2025-11-13 20:14:41	2025-11-13 20:15:25	13	AGUA-02	23.5	32.75	12.29	1534.0	8.04	23.0	60.6	60.6
2025-11-13 21:15:12	2025-11-13 21:16:16	13	AGUA-02	23.44	28.75	12.26	1506.0	8.11	23.0	60.9	60.5



2025-11-13 22:16:08	2025-11-13 22:17:14	13	AGUA-02	23.12	26.25	12.24	1483.0	8.13	23.0	61.0	60.9
2025-11-13 23:17:10	2025-11-13 23:18:03	13	AGUA-02	22.75	24.75	12.24	1464.0	8.13	21.0	60.8	61.0
2025-11-14 00:18:01	2025-11-14 00:18:45	13	AGUA-02	22.31	23.5	12.24	1524.0	8.09	22.0	60.7	60.9
2025-11-14 01:18:45	2025-11-14 01:19:48	13	AGUA-02	23.5	22.0	12.22	1623.0	8.1	22.0	61.0	60.7
2025-11-14 02:19:49	2025-11-14 02:20:33	13	AGUA-02	22.94	20.75	12.21	1617.0	8.04	20.0	60.8	61.1
2025-11-14 03:20:37	2025-11-14 03:21:29	13	AGUA-02	22.38	20.0	12.19	1610.0	8.02	20.0	60.9	60.8
2025-11-14 04:21:29	2025-11-14 04:22:33	13	AGUA-02	22.0	19.0	12.18	1602.0	8.0	24.0	61.1	60.9
2025-11-14 05:22:32	2025-11-14 05:23:36	13	AGUA-02	21.62	18.0	12.18	1589.0	8.0	20.0	61.0	61.0
2025-11-14 06:23:38	2025-11-14 06:24:31	13	AGUA-02	21.25	17.5	12.18	1573.0	7.98	20.0	60.9	61.1
2025-11-14 07:24:33	2025-11-14 07:26:02	13	AGUA-02	20.88	17.5	12.18	1564.0	8.0	12.0	61.5	60.9
2025-11-14 08:26:12	2025-11-14 08:27:09	13	AGUA-02	21.62	19.75	12.19	1564.0	8.03	6.0	61.1	61.6
2025-11-14 09:27:30	2025-11-14 09:28:16	13	AGUA-02	20.81	23.25	12.21	1574.0	7.79	21.0	61.1	61.3
2025-11-14 10:28:32	2025-11-14 10:29:16	13	AGUA-02	20.94	26.0	12.24	1584.0	7.82	21.0	61.0	61.0
2025-11-14 11:29:31	2025-11-14 11:30:24	13	AGUA-02	21.56	28.25	12.25	1599.0	7.96	22.0	61.1	61.0
2025-11-14 12:30:37	2025-11-14 12:31:21	13	AGUA-02	22.88	30.25	12.25	1629.0	7.23	23.0	61.0	61.1
2025-11-14 13:31:38	2025-11-14 13:32:22	13	AGUA-02	23.94	33.75	12.26	1662.0	7.32	23.0	61.0	61.0
2025-11-14 14:32:36	2025-11-14 14:33:40	13	AGUA-02	24.75	36.5	12.28	1693.0	7.33	23.0	61.3	61.0
2025-11-14 15:34:00	2025-11-14 15:34:44	13	AGUA-02	25.62	39.0	12.3	1719.0	7.58	23.0	61.1	61.4
2025-11-14 16:34:46	2025-11-14 16:35:30	13	AGUA-02	25.69	40.0	12.28	1709.0	7.72	21.0	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 17:35:34	2025-11-14 17:36:18	13	AGUA-02	26.25	39.75	12.3	1712.0	7.92	19.0	60.8	60.8
2025-11-14 18:36:15	2025-11-14 18:37:00	13	AGUA-02	27.62	34.5	12.3	1716.0	8.02	24.0	60.7	60.7
2025-11-14 19:36:47	2025-11-14 19:37:31	13	AGUA-02	24.94	31.25	12.3	1708.0	8.1	22.0	60.5	60.5
2025-11-14 20:37:14	2025-11-14 20:38:40	13	AGUA-02	24.62	27.0	12.24	1690.0	8.14	7.0	61.1	60.5
2025-11-14 21:38:35	2025-11-14 21:39:34	13	AGUA-02	24.12	24.5	12.24	1673.0	8.18	8.0	60.9	61.4
2025-11-14 22:39:42	2025-11-14 22:40:45	13	AGUA-02	24.19	22.75	12.24	1657.0	8.14	22.0	61.2	61.1
2025-11-14 23:40:42	2025-11-14 23:41:35	13	AGUA-02	23.81	21.0	12.24	1644.0	8.08	24.0	60.8	61.0
2025-11-15 00:41:33	2025-11-15 00:42:17	13	AGUA-02	23.44	19.75	12.22	1631.0	8.04	23.0	60.7	60.9
2025-11-15 01:42:19	2025-11-15 01:43:03	13	AGUA-02	23.0	19.25	12.22	1618.0	7.99	19.0	60.8	60.8
2025-11-15 02:43:08	2025-11-15 02:43:52	13	AGUA-02	22.81	19.25	12.21	1613.0	8.0	20.0	60.8	60.8
2025-11-15 03:43:56	2025-11-15 03:45:17	13	AGUA-02	22.44	19.25	12.2	1604.0	7.98	7.0	61.4	60.8
2025-11-15 04:45:22	2025-11-15 05:48:12	13	AGUA-02	22.25	19.0	12.18	1600.0	7.97	6.0	122.9	61.4
2025-11-15 06:48:44	2025-11-15 06:49:28	13	AGUA-02	21.94	19.25	12.18	1586.0	7.95	21.0	61.3	123.4
2025-11-15 07:49:34	2025-11-15 07:50:17	13	AGUA-02	21.69	19.5	12.18	1579.0	7.94	23.0	60.8	60.8
2025-11-15 08:50:22	2025-11-15 08:51:06	13	AGUA-02	21.5	19.75	12.18	1573.0	7.94	22.0	60.8	60.8
2025-11-15 09:51:15	2025-11-15 09:52:19	13	AGUA-02	21.38	20.25	12.2	1568.0	7.96	21.0	61.2	60.9

2025-11-15 10:52:27	2025-11-15 10:53:10	13	AGUA-02	20.25	21.5	12.22	1562.0	7.96	23.0	60.9	61.2
2025-11-15 11:53:23	2025-11-15 11:54:28	13	AGUA-02	20.5	23.0	12.24	1558.0	7.97	22.0	61.3	60.9
2025-11-15 12:54:41	2025-11-15 13:57:44	13	AGUA-02	21.25	24.5	12.24	1587.0	7.82	24.0	123.3	61.3
2025-11-15 13:56:47	2025-11-15 13:57:49	13	AGUA-02	23.88	28.25	12.26	1611.0	7.63	24.0	0.1	62.1
2025-11-15 14:58:09	2025-11-15 14:58:53	13	AGUA-02	23.5	33.5	12.27	1646.0	7.61	22.0	61.1	61.4
2025-11-15 15:59:16	2025-11-15 16:00:09	13	AGUA-02	24.12	37.5	12.27	1662.0	7.7	22.0	61.3	61.1
2025-11-15 17:00:36	2025-11-15 17:01:40	13	AGUA-02	24.69	39.75	12.29	1683.0	7.85	23.0	61.5	61.3
2025-11-15 18:01:39	2025-11-15 18:02:31	13	AGUA-02	26.12	37.0	12.3	1682.0	8.02	24.0	60.9	61.0
2025-11-15 19:02:07	2025-11-15 19:03:11	13	AGUA-02	23.81	31.5	12.28	1666.0	8.17	23.0	60.7	60.5
2025-11-15 20:03:12	2025-11-15 20:04:05	13	AGUA-02	23.38	28.5	12.27	1645.0	8.17	23.0	60.9	61.1
2025-11-15 21:03:52	2025-11-15 21:04:56	13	AGUA-02	23.0	24.75	12.24	1631.0	8.2	23.0	60.9	60.7
2025-11-15 22:04:49	2025-11-15 22:05:52	13	AGUA-02	22.44	23.25	12.24	1619.0	8.18	24.0	60.9	61.0
2025-11-15 23:05:52	2025-11-15 23:06:39	13	AGUA-02	22.88	21.75	12.22	1610.0	8.11	22.0	60.8	61.0
2025-11-16 00:06:41	2025-11-16 00:07:25	13	AGUA-02	22.75	21.0	12.22	1602.0	8.1	20.0	60.8	60.8
2025-11-16 01:07:32	2025-11-16 01:08:16	13	AGUA-02	22.56	20.75	12.21	1596.0	8.1	22.0	60.9	60.9
2025-11-16 02:08:18	2025-11-16 02:09:22	13	AGUA-02	22.44	20.25	12.21	1588.0	8.09	22.0	61.1	60.8
2025-11-16 03:09:24	2025-11-16 03:10:07	13	AGUA-02	22.5	20.0	12.19	1581.0	8.09	19.0	60.8	61.1
2025-11-16 04:10:12	2025-11-16 04:11:04	13	AGUA-02	22.25	19.75	12.19	1573.0	8.07	21.0	61.0	60.8
2025-11-16 05:11:07	2025-11-16 05:12:00	13	AGUA-02	21.44	19.5	12.19	1566.0	8.03	23.0	60.9	60.9

## ■ 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 06:12:05	2025-11-16 06:13:09	13	AGUA-02	21.19	19.5	12.18	1555.0	8.02	22.0	61.1	61.0
2025-11-16 07:13:14	2025-11-16 07:14:33	13	AGUA-02	21.0	19.25	12.18	1543.0	7.99	6.0	61.4	61.1
2025-11-16 08:14:39	2025-11-16 08:15:35	13	AGUA-02	21.25	20.25	12.19	1538.0	7.99	6.0	61.0	61.4
2025-11-16 09:15:45	2025-11-16 09:16:31	13	AGUA-02	20.56	22.25	12.18	1552.0	7.9	22.0	60.9	61.1
2025-11-16 10:16:44	2025-11-16 10:17:41	13	AGUA-02	20.75	24.25	12.23	1568.0	7.76	19.0	61.2	61.0
2025-11-16 11:17:57	2025-11-16 11:18:41	13	AGUA-02	21.75	26.25	12.24	1590.0	8.04	22.0	61.0	61.2
2025-11-16 12:18:53	2025-11-16 12:19:57	13	AGUA-02	23.69	28.25	12.24	1614.0	7.49	22.0	61.3	60.9
2025-11-16 13:20:14	2025-11-16 13:21:43	13	AGUA-02	24.12	32.25	12.25	1656.0	7.4	11.0	61.8	61.4
2025-11-16 14:21:58	2025-11-16 14:22:59	13	AGUA-02	25.31	34.75	12.27	1692.0	7.52	9.0	61.3	61.7
2025-11-16 15:23:20	2025-11-16 15:24:19	13	AGUA-02	26.38	38.75	12.29	1734.0	7.66	23.0	61.3	61.4
2025-11-16 16:24:31	2025-11-16 16:25:14	13	AGUA-02	26.62	40.5	12.27	1735.0	7.78	23.0	60.9	61.2
2025-11-16 17:25:14	2025-11-16 18:28:23	13	AGUA-02	26.88	39.25	12.29	1716.0	7.97	8.0	123.2	60.7
2025-11-16 18:26:58	2025-11-16 18:28:27	13	AGUA-02	28.38	35.75	12.29	1681.0	8.08	8.0	0.1	61.7
2025-11-16 19:28:12	2025-11-16 19:29:11	13	AGUA-02	25.44	32.75	12.27	1616.0	8.2	9.0	60.7	61.2
2025-11-16 20:29:01	2025-11-16 20:29:58	13	AGUA-02	25.12	29.25	12.26	1687.0	8.21	22.0	60.8	60.8
2025-11-16 21:29:50	2025-11-16 21:30:42	13	AGUA-02	24.62	26.5	12.24	1669.0	8.2	18.0	60.7	60.8

2025-11-16 22:30:38	2025-11-16 22:31:22	13	AGUA-02	24.19	24.75	12.24	1667.0	8.17	23.0	60.7	60.8
2025-11-16 23:31:21	2025-11-16 23:32:49	13	AGUA-02	24.06	23.75	12.23	1652.0	8.14	5.0	61.5	60.7
2025-11-17 00:32:51	2025-11-17 00:33:45	13	AGUA-02	24.25	22.5	12.22	1642.0	8.08	6.0	60.9	61.5
2025-11-17 01:33:54	2025-11-17 01:34:38	13	AGUA-02	23.69	21.25	12.2	1632.0	8.06	19.0	60.9	61.0
2025-11-17 02:34:37	2025-11-17 02:35:57	13	AGUA-02	23.31	20.25	12.2	1624.0	8.01	9.0	61.3	60.7
2025-11-17 03:35:59	2025-11-17 03:36:54	13	AGUA-02	22.94	19.5	12.19	1613.0	7.96	7.0	61.0	61.4
2025-11-17 04:37:07	2025-11-17 04:38:27	13	AGUA-02	22.5	18.75	12.18	1600.0	7.95	9.0	61.5	61.1
2025-11-17 05:38:31	2025-11-17 05:39:28	13	AGUA-02	22.12	18.25	12.18	1587.0	7.95	8.0	61.0	61.4
2025-11-17 07:41:26	2025-11-17 07:42:21	13	AGUA-02	21.38	19.0	12.18	1564.0	7.96	9.0	122.9	122.9
2025-11-17 08:42:49	2025-11-17 08:43:46	13	AGUA-02	21.0	23.25	12.2	1565.0	7.94	24.0	61.4	61.4
2025-11-17 09:44:04	2025-11-17 09:45:08	13	AGUA-02	22.44	26.25	12.2	1581.0	7.5	19.0	61.4	61.2
2025-11-17 10:45:20	2025-11-17 10:46:03	13	AGUA-02	21.69	28.25	12.2	1596.0	7.88	21.0	60.9	61.3
2025-11-17 11:46:16	2025-11-17 11:47:09	13	AGUA-02	24.19	30.5	12.24	1614.0	7.71	23.0	61.1	60.9
2025-11-17 12:47:23	2025-11-17 12:48:18	13	AGUA-02	23.69	33.25	12.24	1641.0	6.87	21.0	61.1	61.1
2025-11-17 13:48:40	2025-11-17 13:49:24	13	AGUA-02	24.19	37.25	12.27	1658.0	7.29	22.0	61.1	61.3
2025-11-17 14:49:34	2025-11-17 14:50:18	13	AGUA-02	24.75	40.0	12.27	1671.0	6.91	24.0	60.9	60.9
2025-11-17 15:50:45	2025-11-17 15:51:49	13	AGUA-02	25.12	43.25	12.29	1678.0	7.17	23.0	61.5	61.2
2025-11-17 16:51:50	2025-11-17 16:52:34	13	AGUA-02	25.38	43.0	12.31	1683.0	7.47	24.0	60.8	61.1
2025-11-17 17:52:40	2025-11-17 17:53:24	13	AGUA-02	25.44	43.25	12.28	1678.0	7.66	23.0	60.8	60.8

## ■ 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 19:54:47	2025-11-17 19:55:47	13	AGUA-02	27.5	36.25	12.3	1672.0	8.03	6.0	122.4	122.1
2025-11-17 20:55:46	2025-11-17 20:56:29	13	AGUA-02	24.75	32.5	12.27	1656.0	8.14	19.0	60.7	61.0
2025-11-17 21:56:21	2025-11-17 21:57:04	13	AGUA-02	24.5	29.0	12.24	1640.0	8.11	23.0	60.6	60.6
2025-11-17 22:56:58	2025-11-17 22:58:25	13	AGUA-02	24.12	27.0	12.24	1626.0	8.06	7.0	61.4	60.6
2025-11-17 23:58:23	2025-11-17 23:59:30	13	AGUA-02	23.75	25.25	12.24	1616.0	8.03	10.0	61.1	61.4
2025-11-18 00:59:29	2025-11-18 01:00:17	13	AGUA-02	24.31	23.5	12.24	1609.0	7.97	20.0	60.8	61.1
2025-11-18 02:00:18	2025-11-18 02:01:02	13	AGUA-02	23.81	22.25	12.21	1602.0	7.93	22.0	60.8	60.8
2025-11-18 03:01:02	2025-11-18 03:02:11	13	AGUA-02	23.38	21.25	12.19	1594.0	7.9	7.0	61.1	60.7
2025-11-18 04:02:21	2025-11-18 05:05:09	13	AGUA-02	22.94	20.5	12.2	1579.0	7.83	22.0	123.0	61.3
2025-11-18 05:04:12	2025-11-18 05:05:13	13	AGUA-02	22.56	19.75	12.19	1568.0	7.87	22.0	0.1	61.9
2025-11-18 06:05:15	2025-11-18 06:06:08	13	AGUA-02	22.19	19.0	12.18	1558.0	7.88	20.0	60.9	61.0
2025-11-18 07:06:09	2025-11-18 07:07:13	13	AGUA-02	21.88	18.75	12.18	1575.0	7.91	22.0	61.1	60.9
2025-11-18 08:07:21	2025-11-18 08:08:05	13	AGUA-02	22.06	21.5	12.2	1572.0	7.93	20.0	60.9	61.2
2025-11-18 09:08:27	2025-11-18 09:09:19	13	AGUA-02	21.38	25.0	12.19	1576.0	7.74	20.0	61.2	61.1
2025-11-18 10:09:34	2025-11-18 10:10:18	13	AGUA-02	23.56	27.25	12.2	1585.0	7.46	22.0	61.0	61.1
2025-11-18 11:10:32	2025-11-18 11:11:35	13	AGUA-02	22.06	29.25	12.23	1605.0	7.92	21.0	61.3	61.0

2025-11-18 12:11:47	2025-11-18 12:12:39	13	AGUA-02	22.94	31.25	12.24	1608.0	7.13	24.0	61.1	61.2
2025-11-18 13:12:55	2025-11-18 13:13:39	13	AGUA-02	23.5	34.75	12.25	1638.0	6.75	21.0	61.0	61.1
2025-11-18 14:13:58	2025-11-18 14:15:02	13	AGUA-02	24.94	37.25	12.27	1693.0	7.11	24.0	61.4	61.0
2025-11-18 15:15:24	2025-11-18 15:16:28	13	AGUA-02	25.44	42.0	12.27	1721.0	7.1	19.0	61.4	61.4
2025-11-18 16:16:40	2025-11-18 16:17:24	13	AGUA-02	26.12	43.75	12.29	1728.0	7.36	22.0	60.9	61.3
2025-11-18 17:17:31	2025-11-18 17:18:15	13	AGUA-02	26.25	43.0	12.3	1713.0	7.64	19.0	60.9	60.9
2025-11-18 19:19:37	2025-11-18 19:20:47	13	AGUA-02	27.38	37.0	12.3	1662.0	8.01	10.0	122.5	122.1
2025-11-18 20:20:39	2025-11-18 20:21:37	13	AGUA-02	23.88	33.75	12.27	1630.0	8.08	22.0	60.8	61.0
2025-11-18 21:21:32	2025-11-18 21:22:25	13	AGUA-02	24.06	31.75	12.26	1660.0	8.12	22.0	60.8	60.9
2025-11-18 22:22:19	2025-11-18 22:23:46	13	AGUA-02	23.88	28.5	12.24	1651.0	8.1	5.0	61.4	60.8
2025-11-18 23:23:45	2025-11-18 23:24:48	13	AGUA-02	23.56	26.0	12.23	1642.0	8.11	6.0	61.0	61.4
2025-11-19 00:24:56	2025-11-19 00:25:55	13	AGUA-02	23.44	24.25	12.23	1632.0	8.09	21.0	61.1	61.2
2025-11-19 01:25:55	2025-11-19 01:27:16	13	AGUA-02	24.12	23.0	12.21	1630.0	8.03	7.0	61.4	61.0
2025-11-19 02:27:16	2025-11-19 02:28:10	13	AGUA-02	23.38	22.0	12.19	1617.0	8.01	6.0	60.9	61.4
2025-11-19 03:28:11	2025-11-19 03:29:02	13	AGUA-02	23.06	20.75	12.18	1607.0	8.02	20.0	60.9	60.9
2025-11-19 04:29:03	2025-11-19 04:30:25	13	AGUA-02	22.75	19.75	12.2	1600.0	8.02	4.0	61.4	60.9
2025-11-19 05:30:29	2025-11-19 05:31:24	13	AGUA-02	22.5	19.0	12.18	1588.0	8.01	5.0	61.0	61.4
2025-11-19 06:31:32	2025-11-19 06:32:25	13	AGUA-02	22.31	18.25	12.18	1572.0	8.01	22.0	61.0	61.0
2025-11-19 07:32:29	2025-11-19 07:33:52	13	AGUA-02	22.0	18.75	12.18	1568.0	7.98	5.0	61.5	61.0

## ■ 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 08:34:08	2025-11-19 08:35:02	13	AGUA-02	22.25	21.25	12.19	1566.0	7.98	8.0	61.2	61.6
2025-11-19 09:35:18	2025-11-19 09:36:03	13	AGUA-02	21.75	24.0	12.2	1582.0	7.75	23.0	61.0	61.2
2025-11-19 10:36:17	2025-11-19 10:37:01	13	AGUA-02	22.25	26.5	12.2	1599.0	7.89	21.0	61.0	61.0
2025-11-19 11:37:17	2025-11-19 11:38:01	13	AGUA-02	23.0	29.0	12.22	1622.0	7.93	22.0	61.0	61.0
2025-11-19 12:38:16	2025-11-19 12:49:19	13	AGUA-02	24.75	31.75	12.24	1669.0	7.41	21.0	71.3	61.0
2025-11-19 13:39:27	2025-11-19 14:10:19	13	AGUA-02	25.81	35.25	12.25	1695.0	7.4	10.0	81.0	61.2
2025-11-19 14:41:11	2025-11-19 15:30:26	13	AGUA-02	26.81	38.25	12.26	1727.0	7.57	11.0	80.1	61.7
2025-11-19 15:42:46	2025-11-19 16:47:16	13	AGUA-02	27.44	40.25	12.28	1745.0	7.78	11.0	76.8	61.6
2025-11-19 16:44:29	2025-11-19 17:17:15	13	AGUA-02	27.94	40.5	12.28	1762.0	7.97	11.0	30.0	61.7
2025-11-19 17:45:51	2025-11-19 17:46:43	13	AGUA-02	28.44	40.75	12.27	1739.0	8.02	22.0	29.5	61.4
2025-11-19 18:46:36	2025-11-19 18:47:28	13	AGUA-02	29.5	35.0	12.28	1717.0	8.15	20.0	60.8	60.8
2025-11-19 19:47:21	2025-11-19 19:48:04	13	AGUA-02	26.44	31.25	12.27	1680.0	8.23	20.0	60.6	60.8
2025-11-19 20:47:51	2025-11-19 20:48:43	13	AGUA-02	25.81	28.0	12.24	1649.0	8.19	22.0	60.6	60.5
2025-11-19 21:48:39	2025-11-19 21:49:22	13	AGUA-02	25.12	26.0	12.24	1631.0	8.14	21.0	60.6	60.8
2025-11-19 22:49:20	2025-11-19 22:50:03	13	AGUA-02	25.06	24.25	12.24	1618.0	8.09	19.0	60.7	60.7
2025-11-19 23:50:03	2025-11-19 23:50:46	13	AGUA-02	25.0	23.0	12.24	1616.0	8.1	22.0	60.7	60.7



2025-11-20 00:50:45	2025-11-20 00:51:28	13	AGUA-02	25.06	22.0	12.21	1606.0	8.13	23.0	60.7	60.7
2025-11-20 00:50:45	2025-11-20 00:51:28	13	AGUA-02	25.06	22.0	12.21	1606.0	8.13	23.0	0.0	0.0
2025-11-20 01:51:31	2025-11-20 01:52:15	13	AGUA-02	25.06	21.25	12.22	1609.0	8.1	19.0	60.8	60.8
2025-11-20 02:52:19	2025-11-20 02:53:22	13	AGUA-02	24.31	20.5	12.2	1581.0	8.07	21.0	61.1	60.8
2025-11-20 03:53:24	2025-11-20 03:54:07	13	AGUA-02	23.69	20.25	12.19	1573.0	8.03	19.0	60.8	61.1
2025-11-20 04:54:09	2025-11-20 04:54:53	13	AGUA-02	23.12	19.5	12.17	1569.0	8.01	19.0	60.8	60.8
2025-11-20 05:54:57	2025-11-20 05:55:49	13	AGUA-02	22.94	19.0	12.17	1549.0	7.97	20.0	60.9	60.8
2025-11-20 06:55:53	2025-11-20 06:56:37	13	AGUA-02	22.75	19.0	12.18	1543.0	7.96	20.0	60.8	60.9
2025-11-20 07:56:43	2025-11-20 07:57:35	13	AGUA-02	23.06	20.0	12.19	1541.0	7.96	19.0	61.0	60.8
2025-11-20 08:57:48	2025-11-20 08:58:40	13	AGUA-02	22.06	21.5	12.21	1538.0	7.98	17.0	61.1	61.1
2025-11-20 09:58:54	2025-11-20 09:59:37	13	AGUA-02	22.0	23.5	12.23	1542.0	8.0	19.0	61.0	61.1
2025-11-20 10:59:47	2025-11-20 11:00:30	13	AGUA-02	22.19	24.75	12.24	1544.0	8.04	23.0	60.9	60.9
2025-11-20 12:00:42	2025-11-20 12:01:34	13	AGUA-02	22.5	26.0	12.24	1540.0	8.08	17.0	61.1	60.9
2025-11-20 13:01:45	2025-11-20 13:02:29	13	AGUA-02	22.94	27.75	12.25	1590.0	8.08	23.0	60.9	61.0
2025-11-20 14:02:36	2025-11-20 14:03:19	13	AGUA-02	23.06	28.5	12.26	1593.0	8.1	21.0	60.8	60.9
2025-11-20 15:03:21	2025-11-20 15:04:04	13	AGUA-02	23.06	26.75	12.26	1585.0	8.16	23.0	60.8	60.8
2025-11-20 16:04:09	2025-11-20 16:05:12	13	AGUA-02	23.0	27.25	12.24	1600.0	8.21	20.0	61.1	60.8
2025-11-20 17:05:17	2025-11-20 17:06:00	13	AGUA-02	23.0	28.25	12.27	1598.0	8.26	22.0	60.8	61.1
2025-11-20 18:06:23	2025-11-20 18:07:07	13	AGUA-02	23.25	32.5	12.28	1610.0	8.21	22.0	61.1	61.1

## ■ 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 ambiental (pH)]	SIM7600G [Intensidad señal telefónica (Adimensional)]	Min. Dif. Insercion	Min. Dif. Medicion
2025-11-20 19:07:08	2025-11-20 19:07:51	13	AGUA-02	23.12	30.75	12.26	1604.0	8.25	22.0	60.7	60.8
2025-11-20 20:07:52	2025-11-20 20:08:36	13	AGUA-02	23.19	28.5	12.25	1596.0	8.3	20.0	60.8	60.7
2025-11-20 21:08:25	2025-11-20 21:09:55	13	AGUA-02	22.75	25.25	12.24	1578.0	8.31	7.0	61.3	60.5
2025-11-20 22:09:49	2025-11-20 22:10:51	13	AGUA-02	22.12	23.25	12.23	1562.0	8.22	4.0	60.9	61.4
2025-11-20 23:10:51	2025-11-20 23:11:52	13	AGUA-02	22.44	21.75	12.24	1551.0	8.18	6.0	61.0	61.0
2025-11-21 00:12:04	2025-11-21 00:13:18	13	AGUA-02	21.88	20.5	12.22	1540.0	8.13	21.0	61.4	61.2
2025-11-21 01:13:19	2025-11-21 01:14:02	13	AGUA-02	21.56	19.75	12.2	1529.0	8.09	18.0	60.7	61.2
2025-11-21 02:14:04	2025-11-21 02:15:29	13	AGUA-02	21.06	19.0	12.2	1516.0	8.05	7.0	61.5	60.8
2025-11-21 03:15:32	2025-11-21 03:16:26	13	AGUA-02	20.56	18.25	12.18	1501.0	8.03	7.0	61.0	61.5
2025-11-21 04:16:40	2025-11-21 04:17:24	13	AGUA-02	20.19	17.75	12.19	1491.0	8.06	22.0	61.0	61.1
2025-11-21 05:17:25	2025-11-21 05:18:29	13	AGUA-02	20.12	17.0	12.18	1489.0	8.06	19.0	61.1	60.8
2025-11-21 06:18:32	2025-11-21 06:19:35	13	AGUA-02	19.94	17.0	12.17	1483.0	8.06	18.0	61.1	61.1
2025-11-21 07:19:39	2025-11-21 07:21:06	13	AGUA-02	19.62	16.75	12.17	1475.0	8.1	9.0	61.5	61.1
2025-11-21 08:21:17	2025-11-21 08:22:12	13	AGUA-02	19.5	19.0	12.18	1468.0	8.05	7.0	61.1	61.6
2025-11-21 09:22:43	2025-11-21 09:23:26	13	AGUA-02	19.75	23.0	12.2	1494.0	7.98	21.0	61.2	61.4
2025-11-21 10:23:47	2025-11-21 10:24:30	13	AGUA-02	21.81	26.5	12.22	1514.0	7.72	19.0	61.1	61.1

2025-11-21 11:24:45	2025-11-21 11:25:28	13	AGUA-02	20.69	29.0	12.23	1526.0	7.97	21.0	61.0	61.0
2025-11-21 12:25:43	2025-11-21 12:26:26	13	AGUA-02	22.5	31.75	12.24	1567.0	7.1	20.0	61.0	61.0
2025-11-21 13:26:43	2025-11-21 13:27:36	13	AGUA-02	23.81	35.75	12.24	1610.0	6.91	19.0	61.2	61.0
2025-11-21 15:29:05	2025-11-21 15:31:16	13	AGUA-02	25.88	41.75	12.27	1674.0	7.41	21.0	123.7	122.4
2025-11-21 16:30:11	2025-11-21 16:43:12	13	AGUA-02	26.62	42.5	12.29	1678.0	7.69	23.0	71.9	61.1
2025-11-21 17:31:05	2025-11-21 17:56:27	13	AGUA-02	26.38	44.0	12.31	1657.0	7.76	22.0	73.2	60.9
2025-11-21 18:32:12	2025-11-21 19:12:50	13	AGUA-02	26.38	39.0	12.3	1634.0	7.91	22.0	76.4	61.1
2025-11-21 19:32:44	2025-11-21 20:27:53	13	AGUA-02	27.94	34.75	12.27	1613.0	8.07	20.0	75.0	60.5
2025-11-21 20:33:25	2025-11-21 21:45:05	13	AGUA-02	24.94	31.5	12.26	1586.0	8.21	21.0	77.2	60.7
2025-11-21 21:34:33	2025-11-21 23:01:30	13	AGUA-02	24.5	28.25	12.24	1567.0	8.21	21.0	76.4	61.1
2025-11-21 22:35:19	2025-11-22 00:17:06	13	AGUA-02	23.94	25.25	12.24	1552.0	8.16	19.0	75.6	60.8
2025-11-21 23:36:06	2025-11-22 01:33:34	13	AGUA-02	24.62	23.75	12.22	1536.0	8.12	22.0	76.5	60.8
2025-11-22 00:36:59	2025-11-22 02:51:21	13	AGUA-02	24.31	22.5	12.2	1526.0	8.07	6.0	77.8	60.9
2025-11-22 02:39:40	2025-11-22 05:05:17	13	AGUA-02	22.75	20.25	12.19	1510.0	7.96	18.0	133.9	122.7
2025-11-22 05:43:38	2025-11-22 08:12:11	13	AGUA-02	21.38	18.0	12.19	1477.0	7.91	18.0	186.9	184.0
2025-11-22 07:46:27	2025-11-22 10:19:26	13	AGUA-02	20.56	18.25	12.17	1460.0	7.96	9.0	127.2	122.8
2025-11-22 08:47:49	2025-11-22 11:22:47	13	AGUA-02	20.19	21.5	12.19	1465.0	7.93	20.0	63.4	61.4
2025-11-22 10:51:03	2025-11-22 13:22:59	13	AGUA-02	20.88	28.5	12.24	1490.0	7.92	7.0	120.2	123.2
2025-11-22 11:52:47	2025-11-22 14:21:32	13	AGUA-02	23.0	30.75	12.23	1505.0	7.62	7.0	58.5	61.7

## ■ 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 a mbiental (pH)]	SIM7600G [Intensidad señal telefónica (Adimensional)]	Min. Dif. Insercion	Min. Dif. Medicion
2025-11-22 12:54:07	2025-11-22 15:24:18	13	AGUA-02	23.06	33.75	12.24	1529.0	6.84	21.0	62.8	61.3
2025-11-22 15:57:47	2025-11-22 18:28:57	13	AGUA-02	25.38	42.25	12.29	1570.0	7.49	20.0	184.7	183.7
2025-11-22 16:58:54	2025-11-22 19:28:42	13	AGUA-02	25.31	41.25	12.29	1526.0	7.77	22.0	59.8	61.1
2025-11-22 17:59:51	2025-11-22 20:29:15	13	AGUA-02	25.31	43.0	12.29	1457.0	7.77	22.0	60.5	61.0
2025-11-22 19:00:28	2025-11-22 21:29:09	13	AGUA-02	25.38	36.0	12.29	1426.0	7.95	23.0	59.9	60.6
2025-11-22 20:01:14	2025-11-22 22:28:40	13	AGUA-02	24.06	32.25	12.27	1369.0	8.1	22.0	59.5	60.8
2025-11-22 21:02:16	2025-11-22 23:29:38	13	AGUA-02	23.88	28.75	12.24	1346.0	8.16	22.0	61.0	61.0
2025-11-23 00:05:28	2025-11-23 02:39:05	13	AGUA-02	23.69	21.5	12.2	1317.0	8.1	22.0	189.4	183.2
2025-11-23 01:06:36	2025-11-23 03:38:33	13	AGUA-02	22.88	20.5	12.19	1310.0	8.07	8.0	59.5	61.1
2025-11-23 02:08:05	2025-11-23 04:37:53	13	AGUA-02	22.5	19.75	12.2	1305.0	8.04	7.0	59.3	61.5
2025-11-23 03:09:15	2025-11-23 05:44:30	13	AGUA-02	22.12	19.25	12.18	1296.0	8.03	19.0	66.6	61.2
2025-11-23 07:14:21	2025-11-23 09:45:02	13	AGUA-02	21.06	19.0	12.18	1280.0	8.01	19.0	240.5	245.1
2025-11-23 08:15:31	2025-11-23 10:45:57	13	AGUA-02	21.0	19.5	12.18	1275.0	8.04	19.0	60.9	61.2
2025-11-23 12:20:42	2025-11-23 12:22:03	13	AGUA-02	24.06	27.5	12.24	1302.0	7.65	20.0	96.1	245.2
2025-11-23 13:21:52	2025-11-23 13:38:58	13	AGUA-02	22.88	30.75	12.26	1305.0	7.38	21.0	76.9	61.2
2025-11-23 14:23:00	2025-11-23 14:55:36	13	AGUA-02	23.88	33.75	12.26	1311.0	7.51	21.0	76.6	61.1

2025-11-23 15:24:11	2025-11-23 16:13:00	13	AGUA-02	24.69	38.0	12.28	1309.0	7.54	23.0	77.4	61.2
2025-11-23 16:25:14	2025-11-23 17:29:37	13	AGUA-02	25.06	39.0	12.3	1283.0	7.76	23.0	76.6	61.0
2025-11-23 17:26:17	2025-11-23 18:47:25	13	AGUA-02	25.31	40.25	12.3	1268.0	7.85	23.0	77.8	61.0
2025-11-23 18:27:32	2025-11-23 20:04:01	13	AGUA-02	25.44	36.25	12.3	1245.0	7.93	21.0	76.6	61.2
2025-11-23 19:28:06	2025-11-23 21:20:17	13	AGUA-02	26.31	32.25	12.29	1216.0	8.06	22.0	76.3	60.6
2025-11-23 20:29:08	2025-11-23 22:37:35	13	AGUA-02	24.25	29.0	12.26	1189.0	8.14	8.0	77.3	61.0
2025-11-24 00:34:39	2025-11-24 03:04:56	13	AGUA-02	23.69	20.75	12.22	1128.0	8.07	21.0	267.4	245.5
2025-11-24 01:35:32	2025-11-24 04:04:45	13	AGUA-02	23.38	20.0	12.21	1130.0	8.01	20.0	59.8	60.9
2025-11-24 04:38:31	2025-11-24 07:10:54	13	AGUA-02	21.69	20.5	12.17	1125.0	7.93	19.0	186.2	183.0
2025-11-24 07:42:01	2025-11-24 10:14:13	13	AGUA-02	21.06	20.25	12.18	1116.0	7.92	17.0	183.3	183.5
2025-11-24 08:43:19	2025-11-24 11:15:41	13	AGUA-02	21.25	20.5	12.16	1116.0	8.0	19.0	61.5	61.3
2025-11-24 09:44:28	2025-11-24 12:14:23	13	AGUA-02	20.56	21.75	12.2	1111.0	8.01	7.0	58.7	61.1
2025-11-24 10:46:09	2025-11-24 12:31:34	13	AGUA-02	20.62	23.75	12.24	1109.0	8.02	5.0	17.2	61.7
2025-11-24 12:49:44	2025-11-24 12:50:27	13	AGUA-02	22.5	27.5	12.24	1110.0	7.55	19.0	18.9	123.6
2025-11-24 13:50:50	2025-11-24 13:51:53	13	AGUA-02	22.69	31.0	12.25	1116.0	7.39	20.0	61.4	61.1
2025-11-24 14:52:14	2025-11-24 14:52:57	13	AGUA-02	23.62	35.75	12.26	1121.0	7.37	20.0	61.1	61.4
2025-11-24 15:53:14	2025-11-24 15:54:42	13	AGUA-02	24.75	37.75	12.27	1127.0	7.63	7.0	61.8	61.0
2025-11-24 16:54:52	2025-11-24 16:55:54	13	AGUA-02	25.06	39.25	12.27	1104.0	7.79	7.0	61.2	61.6
2025-11-24 17:56:14	2025-11-24 17:57:15	13	AGUA-02	24.88	40.75	12.3	1068.0	7.83	17.0	61.4	61.4

## ■ DATOS COMPLETOS - Página 10 (Filas 316-331)

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 18:57:00	2025-11-24 18:57:44	13	AGUA-02	26.0	33.5	12.26	1106.0	7.96	21.0	60.5	60.8
2025-11-24 19:57:36	2025-11-24 19:58:28	13	AGUA-02	23.62	29.75	12.28	1075.0	8.11	20.0	60.7	60.6
2025-11-25 00:03:21	2025-11-25 00:04:04	13	AGUA-02	23.56	21.5	12.2	979.3	8.08	21.0	245.6	245.8
2025-11-25 01:04:06	2025-11-25 01:04:50	13	AGUA-02	22.31	21.5	12.2	972.5	8.02	20.0	60.8	60.8
2025-11-25 02:04:58	2025-11-25 02:05:41	13	AGUA-02	22.0	21.75	12.21	968.3	7.98	21.0	60.9	60.9
2025-11-25 03:05:46	2025-11-25 04:08:32	13	AGUA-02	21.62	21.75	12.19	964.3	7.96	7.0	122.8	60.8
2025-11-25 05:08:53	2025-11-25 05:09:40	13	AGUA-02	21.75	21.25	12.18	959.9	7.97	18.0	61.1	123.1
2025-11-25 06:09:45	2025-11-25 06:10:37	13	AGUA-02	21.75	21.25	12.18	958.2	7.95	20.0	61.0	60.9
2025-11-25 07:10:43	2025-11-25 07:11:26	13	AGUA-02	20.81	21.5	12.18	959.1	7.94	19.0	60.8	61.0
2025-11-25 08:11:33	2025-11-25 08:12:36	13	AGUA-02	20.69	21.75	12.17	959.6	7.97	19.0	61.2	60.8
2025-11-25 09:12:44	2025-11-25 09:13:47	13	AGUA-02	20.88	22.25	12.18	961.4	7.97	19.0	61.2	61.2
2025-11-25 10:13:56	2025-11-25 10:14:39	13	AGUA-02	20.81	23.0	12.2	960.8	7.98	21.0	60.9	61.2
2025-11-25 11:14:49	2025-11-25 11:15:32	13	AGUA-02	20.88	24.25	12.23	955.7	8.0	20.0	60.9	60.9
2025-11-25 12:15:47	2025-11-25 12:21:38	13	AGUA-02	21.38	27.0	12.24	958.9	7.86	10.0	66.1	61.0
2025-11-25 13:17:34	2025-11-25 14:20:31	13	AGUA-02	24.44	28.5	12.24	959.9	7.74	9.0	118.9	61.8
2025-11-25 15:21:20	2025-11-25 15:22:08	13	AGUA-02	23.75	35.0	12.27	938.2	7.73	21.0	61.6	123.8

## DIAGNOSTICO DEL RENDIMIENTO DEL SISTEMA

### RESUMEN GENERAL:

- Total de días con datos: **16**
- Total de mediciones: **331**
- Promedio de mediciones por día: **20.7**
- Rango de mediciones diarias: **14 - 24**

Metrica	Intervalos Medicion (min)	Intervalos Insercion (min)
Media	68.14	68.14
Mediana	61.05	61.02
Desv. Estándar	28.28	29.51
Mínimo	0.00	0.00
Máximo	245.75	267.35
Q1 (25%)	60.83	60.82
Q3 (75%)	61.31	61.38
Total Intervalos	330	330