IMP-895 DATA ACQUISITION SYSTEM

FEATURES:

- Our Lowest Cost Data Logger
- Ideal for Small Automatic Weather Stations
- Internal/External Solid-State Storage
- Phone/Dedicated Line or built-in Radio Telemetry for 900 MHz or 2.4GHz
- Low Power
- Built-in Surge Protection
- Uses Same Software and Programming Instructions as the IMP-855/IMP-865

The IMP-895 is a versatile digital data acquisition system suitable for environmental monitoring applications where only a few parameters will be measured. It can function as a stand-alone station or be operated via a computer singly or in a network.

Direct sensor interface including the supply of excitation voltages is possible with the IMP-895. The input signals will then be processed as required. Data will either be stored in internal memory, removable solid-state module, or a remote computer for later processing. The solid-state storage module can be used to transport and download a new operating program.

User programming of the IMP-895 is easily accomplished via an IBM PC-compatible computer with support software or an optional, portable keyboard/display unit. A comprehensive on board instruction set is included, which can be programmed to perform calculations on any desired channel including interactions between channels. A custom operating program is factory supplied and can be modified by the user.

The basic IMP-895 (P/N 102649-G0-H0) consists of a data logger mounted in a 12 x 10 x 6 inch, NEMA-4X enclosure with 128Kbytes of internal memory capable of storing up to 62,000 final data points. The G1 option provides an enclosure size of 16 x 14 x 6 inches and the G2 option is 18 x 16 x 8 inches. A rack mountable version of the IMP-895 is also available which uses only 5-1/4 x 19 inches of panel space.

The IMP-895 require a 12-volt DC power source such as our 8AH battery backup power supply (P/N 101139). When battery backup is not required, our P/N 100520-G0-H1 power supply is provided.

A large selection of communications, storage, measurement and control peripherals are available. Please contact Climatronics for a system quotation based on your specific requirement.
**SPECIFICATIONS**

Electrical specifications are valid over a -40° to +50°C range unless otherwise specified; non-condensing environment required. We recommend that you confirm system configuration and critical specifications with Climatronics Corporation before purchase.

**ANALOG INPUTS; DIGITAL I/O**

Channels SE1 to SE5 can be individually configured for single-ended measurement or digital I/O.

**SINGLE-ENDED MEASUREMENT (SE1 TO SE5):**
- Analog Input Range: 0 ≤ V < 2.5 Vdc
- Measurement Resolution: 0.6 mV
- Measurement Accuracy
  - Typical: ±(0.25% of reading + 1.2 mV offset) over -40° to +50°C
  - Worst-case: ±(1 % of reading + 2.4 mV offset) over -40° to 50°C

**PERIOD AVERAGING (SE1 TO SE4):**
- Half Bridge Measurements: Switch Closure (P_SW):
  - Voltage Threshold: count on transition from <0.9 V to >2.7 Vdc
  - Maximum Input Frequency: 1 kHz
  - Max Input Voltage: C1 & C2 (6.5 V), P_SW (4Vdc)

**LOW LEVEL AC (P_LL):**
- Voltage Threshold: <0.5 to >2 V
- Minimum Input: 20 mV RMS
- Maximum Frequency: 1 kHz
- Maximum Input: ±20 V

**COMMUNICATIONS**
- Serial Interface: Female RS-232 9-pin interface for logger-to-PC communications
- ON-BOARD SPREAD SPECTRUM RADIO:
  - Frequency: 915 MHz (IMP896), 922 MHz (IMP897), or 2.4 GHz (IMP898)
  - Transmission Range: 1 mile with 0 dBd ½ wave antenna (line-of-sight) and 2.4 GHz radio; up to 10 miles with higher gain antenna (line-of-sight)
  - Scheduled Transmission Time: off until transmission checks for incoming communication

**CONTROL PORTS (C1 AND C2)**
- Digital I/O:
  - Voltage Level When Configured as Input: <0.9 Vdc (low state) to >2.7 Vdc (high state)
  - Voltage Level When Configured as Output: 0 V (low state), 5 Vdc (high state) (no load)
  - Logic Level: TTL
  - Drive Current: 1.5 mA @ 4.5 V

**PULSE COUNTERS**
- Maximum Current: 25 mA on +2.5 Vdc range, 10 mA on +5.0 Vdc range
- Pulse Count (P_SW, C1, AND C2):
  - Voltage Threshold: count on transition from <0.9 V to >2.7 Vdc
  - Maximum Input Frequency: 1 kHz
  - Max Input Voltage: C1 & C2 (6.5 V), P_SW (4Vdc)

**POWER**
- **BATTERY VOLTAGE RANGE:** 7 to 16 Vdc (can program data logger to measure internal battery voltage)
- **BATTERY:** 12 Vdc sealed rechargeable with on-board charging circuit. Alkaline cells, lithium, or other non-rechargeable battery types may be connected if the charging circuit is not used (i.e. nothing connected to charging terminals).
- **CHARGER INPUT VOLTAGE:** 16 to 22 Vdc
- **SHELF LIFE OF CLOCK’S BACKUP BATTERY:** 5 years

**CURRENT DRAIN (@12V)**
- **QUIESCENT CURRENT DRAIN:** No Radio or Radio Powered Off: ~0.2 mA
- **ACTIVE CURRENT DRAIN:**
  - Radio receive ~20 mA (IMP896, IMP897), ~36 mA (IMP898)
  - Radio transmits ~75 mA (IMP896, 897 & 898)
- **AVERAGE CONTINUOUS CURRENT DRAIN:**
  - Radio always on ~20 mA (IMP896, 897, ~36 mA (IMP898)
  - Radio in 1 s duty cycle ~2.2 mA (IMP896, IMP897), ~4 mA (IMP898)
  - Radio in 8 s duty cycle ~0.45 mA (IMP896, 897), ~0.8 mA (IMP898)

**CE COMPLIANCE (as of 03/02)** CE COMPLIANT DATALOGGERS: IMP895, IMP896, IMP897, IMP898

**STANDARD(S) TO WHICH CONFORMITY IS DECLARED:**
- EN61326:2002

**EMI AND ESD PROTECTION**
- **IMMUNITY:** Meets or exceeds following standards:
  - ESD: per IEC 1000-4-2; ±8 kV air, ±4 kV contact discharge
  - RF: per IEC 1000-4-3; 3 V/m, 80-1000 MHz
  - EFT: per IEC 1000-4-4; 1 kV power, 500 V I/O Surge: per IEC 1000-4-5; 1 kV power and 1/0 Conducted: per IEC 1000-4-6; 3 V 150 kHz-80 MHz
  - 10 kV pulse for 10 ms

**PHYSICAL**
- **CASE DESCRIPTION:** Aluminum with spring-loaded terminals
- **DIMENSIONS (including terminals):** 5.5" x 3" x 2" (14.0 x 7.6 x 5.1 cm)
- **WEIGHT:** CR211 or CR295: 8.5 oz (242 g) CR200, CR211, or CR221: 9.5 oz (271 g)
- **WARRANTY:** One year covering parts and labor.

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