



# **AccuPro 1000™**

## **Operator's Manual**

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# 1 Introduction

The AccuPro 1000 is a weight measurement system with single or dual-channel support. It provides real-time weight measurement and an easily adjustable tare function for precise monitoring across various applications. Additionally, an optional 4-20 mA output enables remote monitoring for enhanced operational control.

## 1.1 Scope

This operator manual describes the specifications, assembly, and operation for the control panel portion of the AccuPro 1000 Measurement System.

## 1.2 Acronyms and Abbreviations

- **PSU** Power Supply
- **AWG** American Wire Gauge
- **CH** Channel
- **AC** Alternating Current
- **DC** Direct Current
- **V** Volts
- **A** Amps
- **mA** Milliamps
- **W** Watts

## 1.3 Definitions

- **Channel:** a base that can be monitored by the system
- **Gross Weight:** defined as the total weight (real weight) on the scale base. Determined by net weight plus (+) tare weight
- **Control Board:** Defines the green pcb used for all connections and adjustment for each channel
- **Measurement System:** describes a complete AccuPro 1000
- **Net Weight:** the actual weight of material without the presence of a tank or container. Determined by gross weight minus (-) tare weight
- **Scale-Base:** the physical platform where material is weighed and where the load cell(s) is/are located
- **Tare:** a user-adjustable amount of weight subtracted from the gross weight to display the actual weight of material without the presence of a tank or container

## 2 Hardware and Specifications

System	
Main Power	<u>Supply Voltage:</u> 120/240 VAC +/- 10%, 50/60 Hz <u>Wattage:</u> 8 W (maximum) <u>Fuse:</u> 0.2A 5x20mm slow-blow (1 per control board)
Power Supply	<u>Output:</u> 12 VDC <u>Current:</u> 0.25 Amp <u>Wattage:</u> 3 W
Operational Temperature	0 °C to 60 °C (32 °F to 140 °F)
Operational Altitude	2000 meters (maximum)
Operational Relative Humidity	20% to 90% non-condensing
Enclosure	<u>Nominal Size:</u> 8 x 8 x 4 Inches (LxWxD) with hinged cover <u>Weight:</u> 5 lbs. (approx. maximum) <u>Material:</u> Opaque Polycarbonate, UL Listed Type 4X NEMA <u>Location Recommendation:</u> The enclosure should not be in an area with extreme weather conditions or heavy amounts of liquid soaking. If operating the system indoors, it is recommended to mount the enclosure in an area that protects against chemical splashes and wash-down areas, while still being easily accessible. If operating the system outdoors, it is recommended that a covering be used to protect the indicator from the elements.

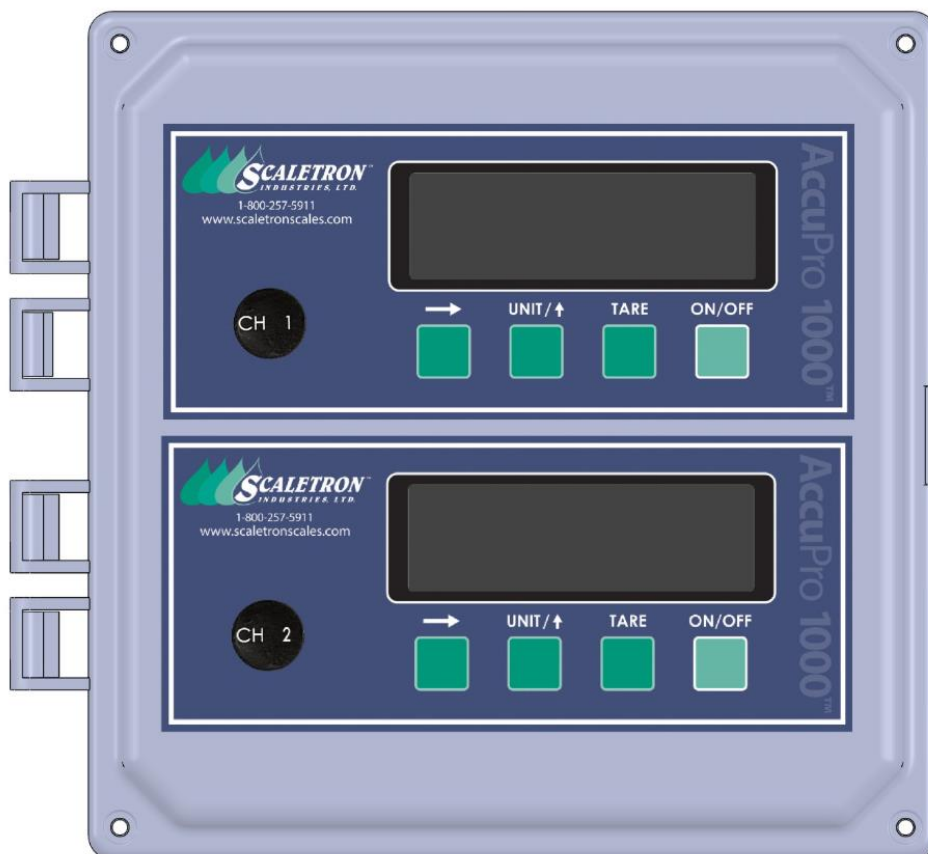


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Channels	Supports single or dual-channel configuration. Each channel is independently controlled and operated.
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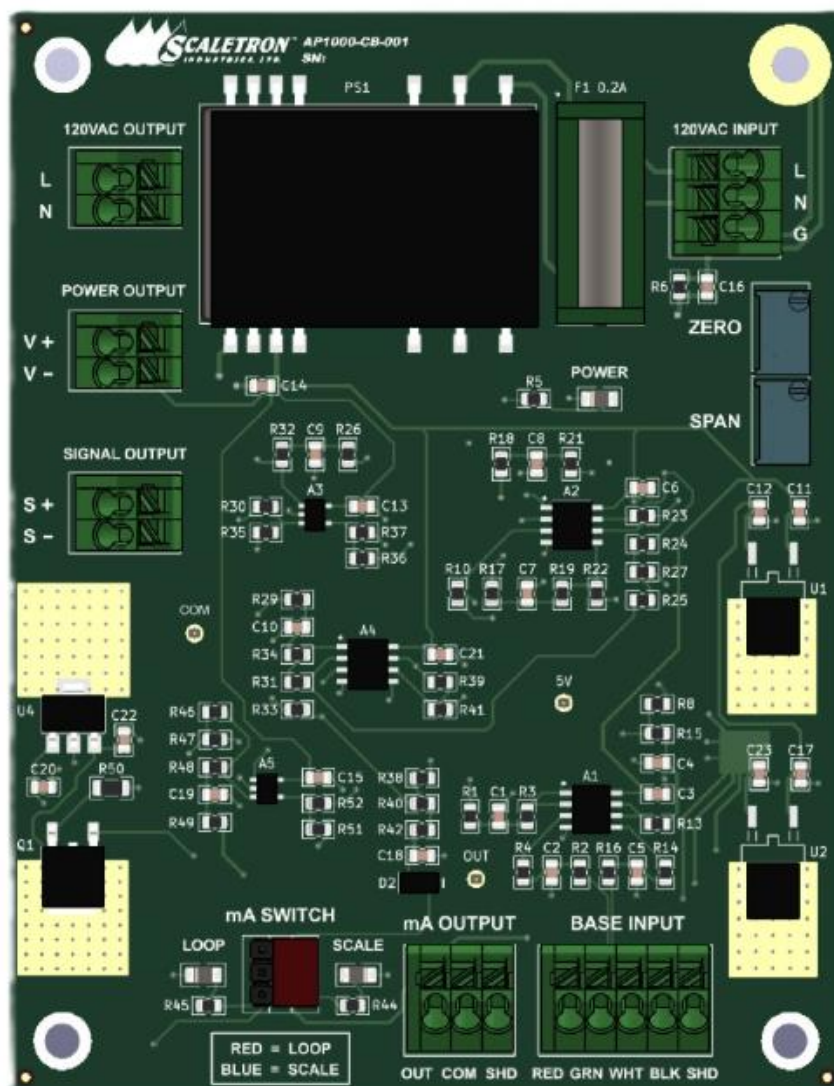
Measurement	<u>Display Range:</u> 5.5 digits (maximum) <u>Working Capacity:</u> determined, in part, by factory limits and scale base specifications. Reference scale base documentation. <u>Units:</u> user-defined units of pounds/kilograms <u>Performance:</u> 0.1% to 0.25% full scale accuracy.
Display	5 1/2 digits, 0.58" (15mm) high, 7 segments LCD display with backlight
Controls	<u>Control Type:</u> Buttons
mA Output (Optional)	<u>Type:</u> Scale (self-powered) or Loop 12-30 VDC (loop-powered) <u>Maximum Load:</u> 500 Ohms

### 3 System Assembly and Configuration



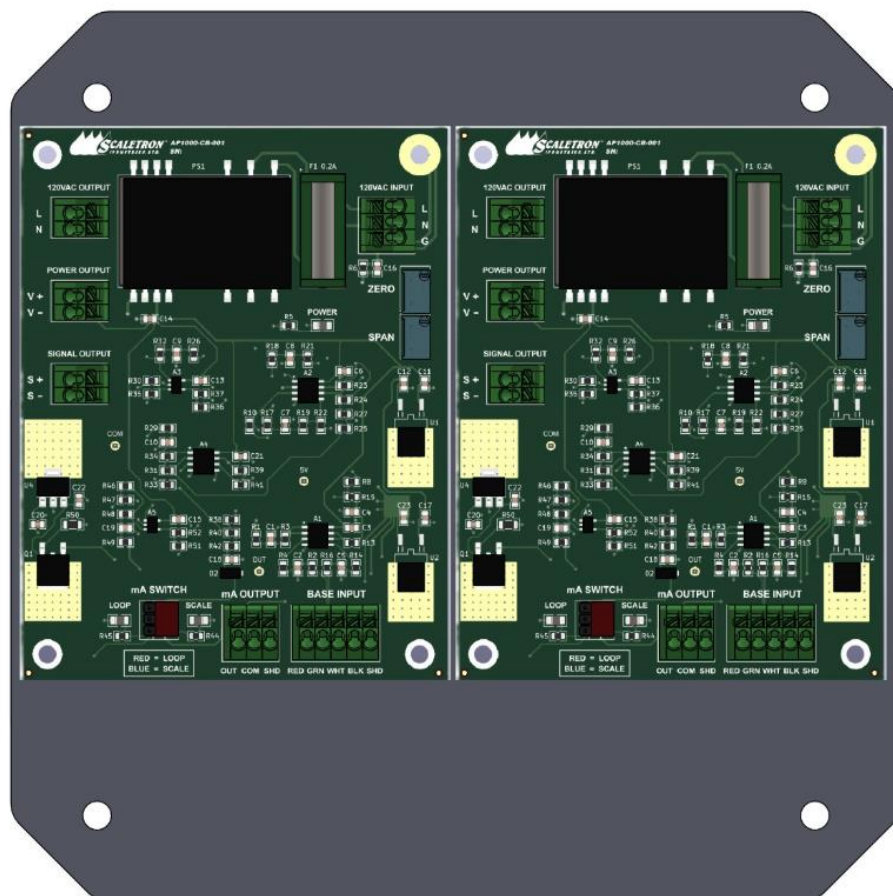
**Figure 1: Indicator Front View**

As shown is a dual channel configuration. Ch #1 is located on the top, Ch #2 is located on the bottom. When configured for a single channel, only Ch #1 display will be present.



**Figure 2: Control Board**

Each channel has its own control board for all user connection points and adjustments. Board power is indicated by the green power LED near the top-right corner of the board.



**Figure 3: Back Plate**

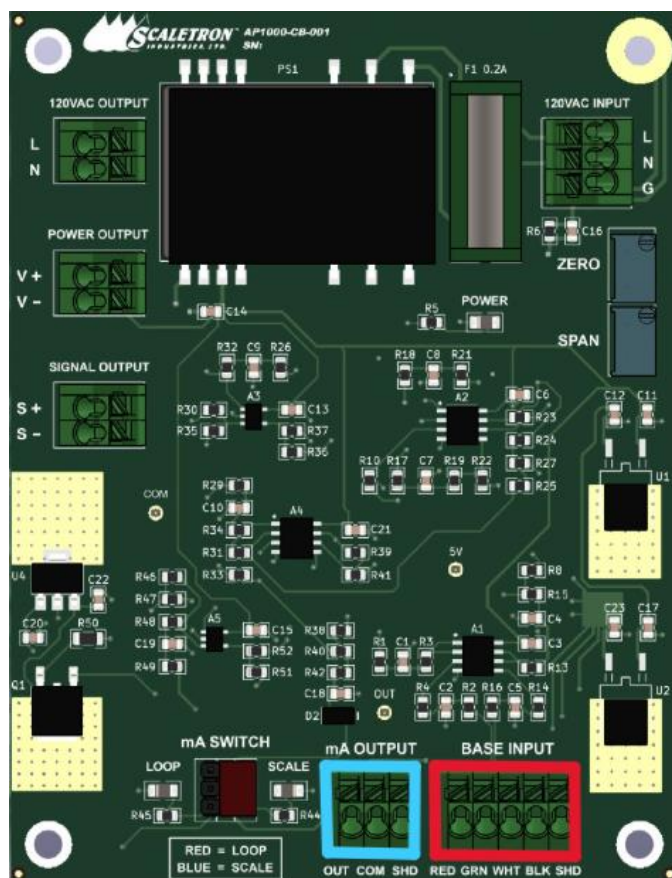
As shown is a dual channel configuration. Ch #1 control board is mounted on the left, Ch #2 control board is mounted on the right. Each control board is operated independently from each other. All Ch #1 connections and adjustments are made on the Ch #1 control board, and all Ch #2 connections and adjustments are made on the Ch #2 control board. When configured for a single channel, only the Ch #1 control board will be present.



### **3.1 Control Panel Preparation and Mounting**

The Control Panel is shipped with a factory-installed power cord which utilizes a liquid-tight fitting. Do not modify nor restrict the ability to disconnect the power cord from an outlet. All other user connections to the Control Panel must be made in the field per specific needs. With power to the Control Panel OFF, access its interior by following the procedure described in section titled Servicing the Control Panel. Take time to identify the optimal location for all additional fittings or conduit. Be careful when drilling holes to avoid any damage to internal components or cabling. All drilled holes **MUST** be sealed to prevent both liquids and gasses from penetrating the enclosure and damaging the electronics. Avoid using fittings that do not provide a tight seal. It is recommended that all fittings be liquid-tight and 4X NEMA rated. If there is a gap or opening in the enclosure's wall that isn't sealed by the connector design, use a silicon caulk to seal the opening and eliminate exposure. The Control Panel is intended to be mounted to a wall using the four holes in the corner flanges of the enclosure. It should be mounted at operational level and away from the floor. Though the enclosure is 4X NEMA rated, it is not designed to withstand wash-down procedures nor chemical contact beyond accidental exposure. Avoid direct contact with chemicals or regular soaking of water as it may cause substantial damage to the electronics. Any damage resulting from non-adherence to these requirements will not be considered for warranty repair.

### 3.2 User Connections and Wiring



**Figure 4: User Connections**

1. **Scale base cable:** Connect to the "BASE INPUT" terminal block (highlighted in red). Ensure each color wire is connected to the corresponding terminal location matching its color.
2. **mA output cable:** If applicable, connect to the "mA OUTPUT" terminal block (highlighted in blue). mA SWITCH configured for SCALE: user analog input to "OUT", user COM to "COM"; mA SWITCH configured for LOOP: user V+ (12-30VDC) to "OUT", user V- to "COM".

## 4 System Operation

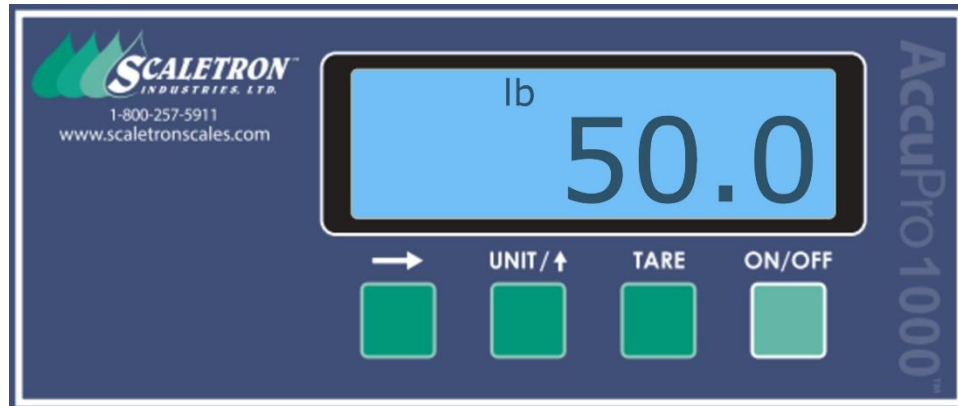
The AccuPro 1000 indicator is designed for simple, intuitive operation, providing accurate real-time net weight readings in pounds (lb) or kilograms (kg). Engineered to withstand harsh industrial environments, it is ideal for applications in wastewater treatment, municipal and industrial process water treatment, chemical processing, and other demanding industries. By ensuring precise monitoring of weight levels, the AccuPro 1000 helps operators maintain safe and efficient processes.

To enhance usability, the AccuPro 1000 can be configured for up to 2 channels and features a versatile tare function. A single press of the Tare button automatically tares the current weight on the scale, setting the display to zero. Holding the Tare button enters the manual tare menu, allowing operators to input a specific tare value.

Additionally, the AccuPro 1000 offers an optional 4-20 mA output based on weight, enabling seamless integration with process control systems. This feature allows users to transmit weight data for monitoring and automation, ensuring precise control over chemical dosing and inventory management.

With its durable design, user-friendly interface, and seamless compatibility with Scaletron's corrosion-resistant scales and feeders, the AccuPro 1000 provides a reliable and efficient solution for chemical handling and weight monitoring in critical treatment and manufacturing applications.

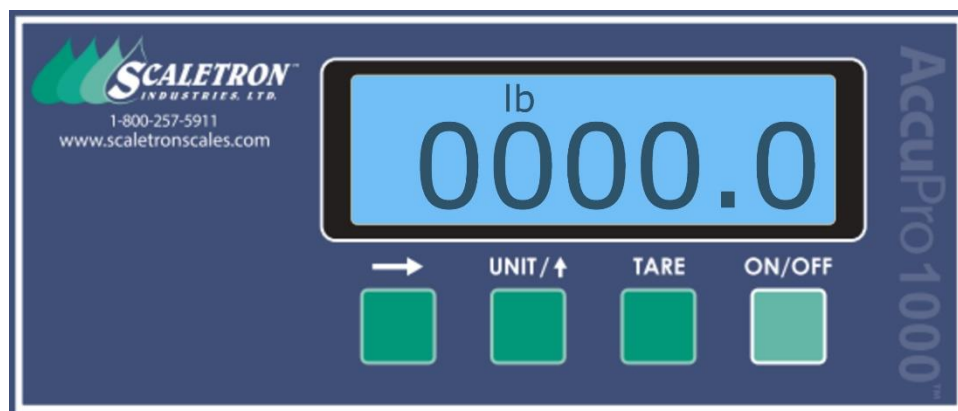
### 4.1 Weight Display



**Figure 5: Weight Display**

The user can view real-time net weight and unit. To change the display unit, press the UNIT button.

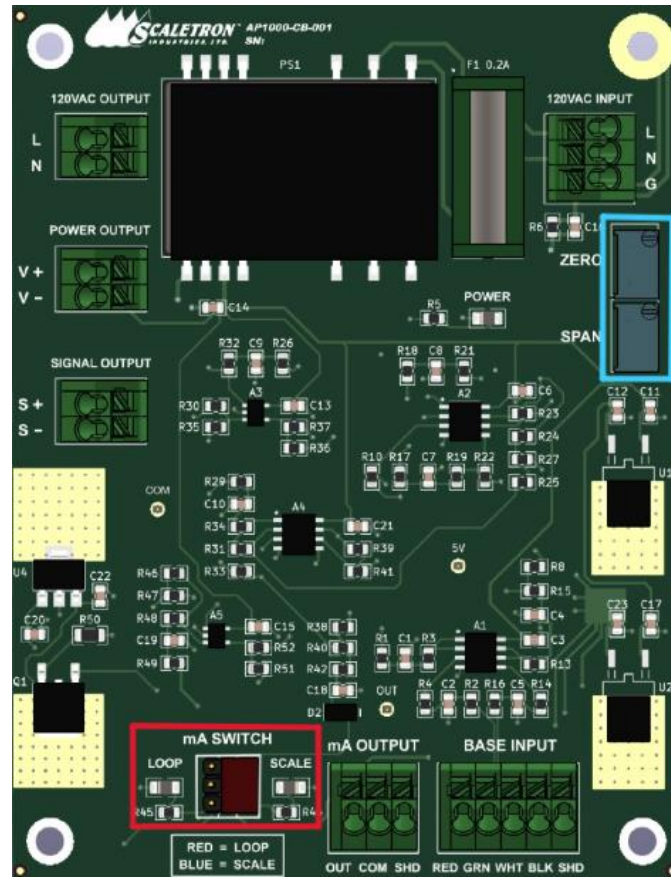
## 4.2 Tare Adjustment



**Figure 6: Tare Adjustment**

Pressing the TARE button momentarily tares all current weight on the scale and sets the display to zero. Holding the TARE button opens the manual tare menu, where operators can enter a specific tare value. In this menu, the flashing digit is the one being adjusted. To set the desired tare value, use the right arrow button to move to the next digit and the up arrow button to change its value. Repeat this process for each digit until the full tare value is entered. For example, to set a tare value of 123 pounds, adjust the first digit to 1, move to the next digit and set it to 2, then move to the last digit and set it to 3. After your target tare value has been manually entered, press the TARE button momentarily to save your tare.

## 4.3 mA Output



**Figure 7: mA Output**  
(Description on next page)

The mA output is based on the scale base weight. The mA output type is configured using the "mA SWITCH" jumper (highlighted in red). To select SCALE (Self-Powered) mode, place the jumper over the middle and rightmost column of pins, which will illuminate the blue indicator LED. To select LOOP (Loop-Powered) mode, place the jumper over the middle and leftmost column of pins, which will illuminate the red indicator LED. As shown, the mA SWITCH jumper is in the SCALE (self-powered) position.

In SCALE mode, the mA output is self-powered, allowing direct connection to a meter or PLC analog input without an external power supply. The proper connection for this mode is user analog input to "OUT" and user COM to "COM". In LOOP mode, an external 12-30VDC power supply is required to drive the loop current, and the current must be measured in series with the power supply. The correct connection for this mode is user V+ to "OUT" and user V- to "COM".

To adjust the 4-20 mA output, use the trimmer potentiometers (highlighted in blue). The ZERO potentiometer adjusts the 4 mA starting point, while the SPAN potentiometer controls the upper range and sensitivity of the output. Turning either potentiometer clockwise increases the setting, while turning them counterclockwise decreases it.