This guide provides specifications for Unitronics’ controller V560-T25B, which comprises a built-in operating panel containing a 5.7” color touchscreen and an alpha-numeric keypad with function keys. You can find additional documentation on the Unitronics’ Setup CD and in the Technical Library at www.unitronics.com.

**Technical Specifications**

### Power Supply

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input voltage</td>
<td>12 or 24VDC</td>
</tr>
<tr>
<td>Permissible range</td>
<td>10.2-28.8VDC</td>
</tr>
<tr>
<td>Max. current consumption</td>
<td>540mA@12V&lt;br&gt;270mA@24V</td>
</tr>
</tbody>
</table>

### Battery

- Back-up: 7 years typical at 25°C, battery back-up for RTC and system data, including variable data.
- Replaceable: Yes, without opening the controller.

### Graphic Display Screen

- See Note 1
- LCD Type: TFT
- Illumination backlight: White LED
- Display resolution, pixels: 320x240 (QVGA)
- Viewing area: 5.7”
- Colors: 65,536 (16-bit)
- Touchscreen: Resistive, analog
- ‘Touch’ indication: Via buzzer
- Screen brightness: Via software (Store value to SI 9).
- Keypad: Displays virtual keyboard when the application requires data entry.

**Notes:**

1. Note that the LCD screen may have a single pixel that is permanently either black or white.

### Keypad

- Number of keys: 24 programmable function keys
- Key type: Metal dome, sealed membrane switch
- Slides: Slides may be installed in the operating panel faceplate to custom-label the keys. One blank set of slides is supplied with the controller.
### Program

<table>
<thead>
<tr>
<th>Operand type</th>
<th>Quantity</th>
<th>Symbol</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Memory Bits</td>
<td>8192</td>
<td>MB</td>
<td>Bit (coil)</td>
</tr>
<tr>
<td>Memory Integers</td>
<td>4096</td>
<td>MI</td>
<td>16-bit</td>
</tr>
<tr>
<td>Long Integers</td>
<td>512</td>
<td>ML</td>
<td>32-bit</td>
</tr>
<tr>
<td>Double Word</td>
<td>256</td>
<td>DW</td>
<td>32-bit unsigned</td>
</tr>
<tr>
<td>Memory Floats</td>
<td>64</td>
<td>MF</td>
<td>32-bit</td>
</tr>
<tr>
<td>Timers</td>
<td>384</td>
<td>T</td>
<td>32-bit</td>
</tr>
<tr>
<td>Counters</td>
<td>32</td>
<td>C</td>
<td>16-bit</td>
</tr>
</tbody>
</table>

**Data Tables**
- 120K dynamic data (recipe parameters, datalogs, etc.)
- 192K fixed data (read-only data, ingredient names, etc)

**HMI displays**
- Up to 1024

**Program scan time**
- 9 µsec per 1K of typical application

### Removable Memory

- SD card compatible with fast SD cards; store datalogs, Alarms, Trends, Data Tables, backup Ladder, HMI, and OS. See Note 2

#### Notes:

2. User must format via Unitronics SD tools utility.

### Communication

**Serial ports**

- RS232:
  - Galvanic isolation: Yes
  - Voltage limits: ±20VDC absolute maximum
  - Baud rate range: 300 to 115200 bps
  - Cable length: Up to 15m (50')

- RS485:
  - Galvanic isolation: Yes
  - Voltage limits: −7 to +12VDC differential maximum
  - Baud rate range: 300 to 115200 bps
  - Nodes: Up to 32
  - Cable type: Shielded twisted pair, in compliance with EIA RS485
  - Cable length: 1200m maximum (4000')

- USB:
  - Specification: USB 2.0 compliant; full speed
  - Baud rate range: 300 to 115200 bps
  - Cable: USB 2.0 compliant; up to 3m
### CANbus port

<table>
<thead>
<tr>
<th>Nodes</th>
<th>CANopen</th>
<th>Unitronics’ CANbus protocols</th>
</tr>
</thead>
<tbody>
<tr>
<td>127</td>
<td>60</td>
<td></td>
</tr>
</tbody>
</table>

- **Power requirements**: 24VDC (±4%), 40mA max. per unit. See Note 5
- **Galvanic isolation**: Yes, between CANbus and controller
- **Cable length/baud rate**: See Note 5
  - 25 m: 1 Mbit/s
  - 100 m: 500 Kbit/s
  - 250 m: 250 Kbit/s
  - 500 m: 125 Kbit/s
  - 1000 m*: 50 Kbit/s
  - 1000 m*: 20 Kbit/s

*If you require cable lengths over 500 meters, contact technical support.

- **Optional port**: User may install a single Ethernet port, or an RS232/RS485 port. Available by separate order.

### Notes:

3. The standard for each port is set to either RS232/RS485 according to DIP switch settings. Refer to the Installation Guide.

4. The USB port may be used for programming, OS download, and PC access.
   - Note that COM port 1 function is suspended when this port is physically connected to a PC.

5. Supports both 12 and 24VDC CANbus power supply, (±4%), 40mA maximum per unit. Note that if 12 VDC is used, the maximum cable length is 150 meters.

### I/Os

- **Number of I/Os and types vary according to module. Supports up to 1024 digital, high-speed, and analog I/Os.**
- **Snap-in I/O modules**: Plugs into rear port to create self-contained PLC with up to 62 I/Os.
- **Expansion modules**:
  - Local adapter (P.N. EX-A1), via I/O Expansion Port. Integrate up to 8 I/O Expansion Modules comprising up to 128 additional I/Os.
  - Remote adapter (P.N. EX-RC1), via CANbus port. Connect up to 60 adapters; connect up to 8 I/O expansion modules to each adapter.
- **Exp. port isolation**: Galvanic

### Dimensions

- **Size**: 228.4X146.5X70.5mm (8.99”X5.76”X2.77”). See Note 6
- **Weight**: 750 gm (26.4 oz)

### Notes:

6. For exact dimensions, refer to the product’s Installation Guide.
**Mounting**
Panel-mounting Via brackets

**Environment**
- Inside cabinet: IP20 / NEMA1 (case)
- Panel mounted: IP65 / NEMA4X (front panel)
- Operational temperature: 0 to 50ºC (32 to 122ºF)
- Storage temperature: -20 to 60ºC (-4 to 140ºF)
- Relative Humidity (RH): 5% to 95% (non-condensing)