

# 0–10 V Field Reference Sheet

Quick reference for analog voltage signals used in controls and instrumentation.

## Reference Points

| Signal | Percent of Span | Typical Reference  |
|--------|-----------------|--------------------|
| 0.0 V  | 0%              | LRV / minimum      |
| 2.5 V  | 25%             | Quarter span       |
| 5.0 V  | 50%             | Midpoint           |
| 7.5 V  | 75%             | Three-quarter span |
| 10.0 V | 100%            | URV / maximum      |

## Linear Scaling

Engineering Value =  $LRV + ((V - 0) \div 10) \times (URV - LRV)$

Example: A 0–10 V signal represents 0–100 °F. At 6 V:  $0 + (6 \div 10) \times 100 = 60$  °F.

## Quick Checks

- Measure signal voltage directly across the signal and common/reference terminals.
- Verify the controller input is configured for the expected voltage range.
- Confirm the signal source and receiving device share the required reference/common.
- A low or unstable reading can result from wiring, reference, source, configuration, or loading problems.
- Do not assume 10 V is always the actual upper operating value; verify the configured range.

## Field Note

0–10 V is a voltage signal, so wiring resistance and shared references can affect the measured value. Keep signal wiring separated from strong electrical noise sources where practical.