

Turntide SL121 Motor Controller

Turntide Smart Motor System™

Providing the power and intelligence behind the Turntide Smart Motor System, the Turntide SL121 motor controller provides the next-generation architecture for Turntide smart motors running at lower horsepower ranges (1-3 hp).

With a new and improved design topology, SL121 is engineered for stable and continuous performance of Turntide's optimal efficiency V01 motor, providing reliable operation while drastically reducing energy use within HVAC systems and other industrial motor applications.



Turntide SL121 Motor Controller: Key Benefits



Seamless Speed Modulation

SL121 modulates motor speed in sync with the Turntide V01 motor, leveraging fan affinity laws to produce massive energy savings



Designed for Energy Reduction

SL121 runs proprietary controls that monitor motor feedback to use the least amount of energy possible at any motor speed

Other Features of the SL121 Motor Controller

- **Provides optimal performance for low HP motor applications** – up to 3HP
- **High bus capacitance** for stable and safe thermal performance during motor operation
- **Two +24VDC power outputs** for connecting additional sensors to monitor equipment operating conditions
- **Easy-to-access I/O terminals** to simplify system installation
- **Plenum rated** to ensure product safety in harsh operating environments
- **Programmable inputs and outputs** to allow for full customization of sequences and settings

The SL121 motor controller is engineered specifically for Turntide's optimal efficiency V01 motor, enabling maximized reduction of energy use and carbon footprint. Unlike a variable frequency drive (VFD), an SL121 controller can modulate speed without any hindrance to motor longevity or performance.

IMPORTANT: The Turntide SL121 motor controller only works with the Turntide V01 motor.



Motor Controller System Characteristics

| | | | |
|---|---------------------|---------------------------------------|---------------------------------------|
| Product Name | Motor Controller | Model | SL121 |
| Compatible Turntide Motor Series | V01 | Ingress Protection Code | IP20 |
| Rated Output Power Range | 3 hp (2.2 kW) | Motor to Controller Power Wire | 14 AWG |
| Peak Motor Controller Efficiency | 98.0% | Ambient Temperature Range | -10°C to +40°C |
| Mounting Hole Pattern | 183.0 mm x 163.1 mm | Relative Humidity | 95%, non-condensing |
| Mounting Fastener | 1/4 inch or M7 | Wi-Fi Frequency Range | 2.4 GHz ~ 2.5 GHz (single band) |
| Motor Controller Weight | 6.7 lb (3.0 kg) | Wi-Fi Interface | 802.11 b/g/n (802.11n up to 150 Mbps) |

| SKU | Input Line Voltage | Input Frequency | Input Line Current | Rated Output Voltage |
|-------------|--------------------|-----------------|--------------------|------------------------------------|
| SL121-2030A | 3PH 208 / 230 V~ | 60 Hz | 10.3A (@208 V~) | 3PH @208 V~ (295 V \Rightarrow) |
| | | | 9.1A (@230 V~) | 3PH @230 V~ (340 V \Rightarrow) |
| | | 50 Hz | 10.5A (@200 V~) | 3PH @200 V~ (280 V \Rightarrow) |
| | | | 9.3A (@230 V~) | 3PH @230 V~ (340 V \Rightarrow) |
| SL121-4030A | 3PH 460 V~ | 60 Hz | 6.5A (@460 V~) | 3PH @460 V~ (680 V \Rightarrow) |
| | | 50 Hz | 6.7A (@400 V~) | 3PH @400 V~ (590 V \Rightarrow) |

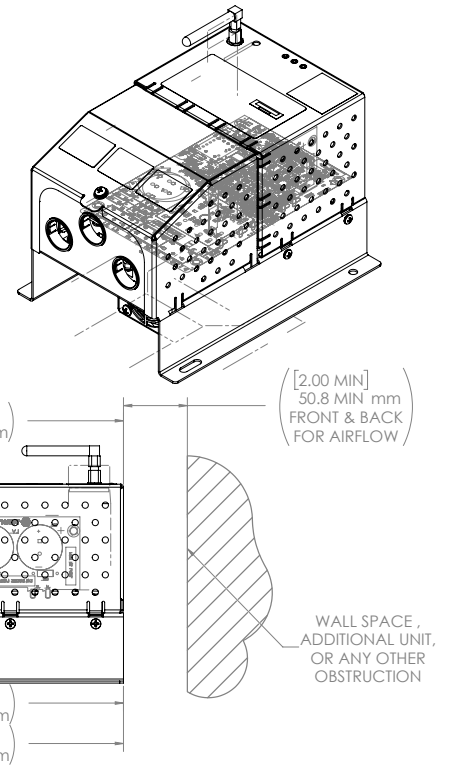
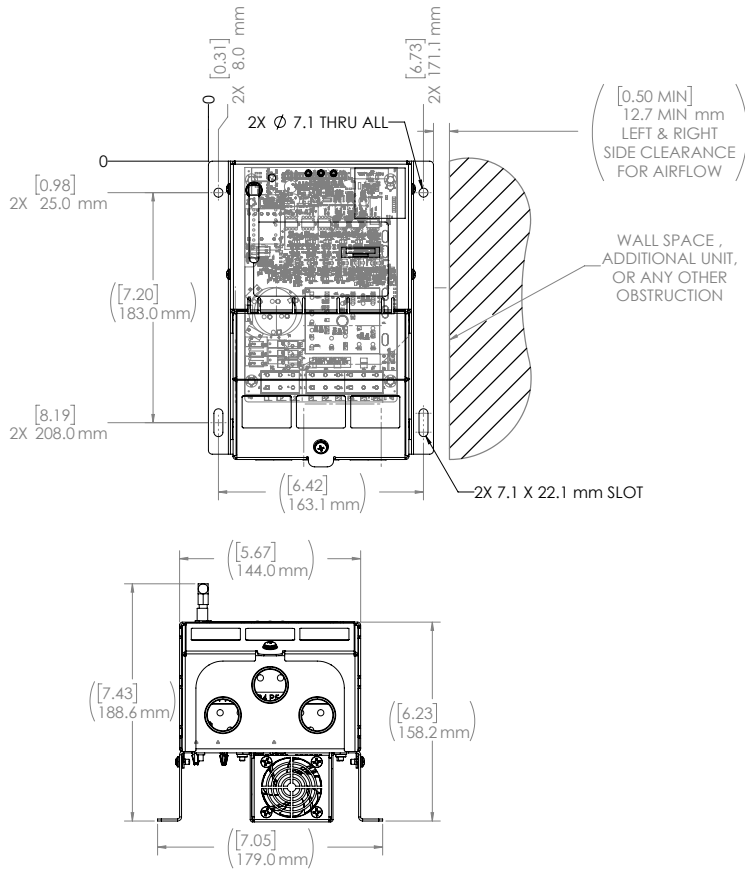
Certifications



UL: 61800-5-1, 61800-5-2
 CSA: C22.2#274, C22.2#61800-5-2
 IEC*: 6100-5-1, 61800-5-2

*Certifications pending

Motor Controller Dimensions



Motor Controller Mounting

Securely install the motor controller to a solid mounting surface with a ¼ inch or M7 fastener using the four screw tabs on the base.

Motor Controller Connectivity

To ensure a stable and reliable connection to Wi-Fi, the SL121 motor controller must be mounted within 40 feet from a networking device.

Motor Controller I/O Points

| QTY | Description |
|-----|---|
| 7 | Programmable digital inputs |
| 1 | 1 programmable analog output: 0-10V, 0-20mA or 4-20mA, user selectable |
| 4 | Relay outputs: 0.3A, 125VAC limit |
| 4 | Universal inputs, individually selectable as: <ul style="list-style-type: none"> Voltage Mode: 0-10V Current Mode: 0-20mA; or 4-20mA Resistive Mode External Logic Mode |
| 2 | 24VDC Aux Power Outputs (up to 500mA) |

SL121 Motor Controller SKU Options

| SKU | Description |
|----------------|---|
| SL121-2030A-RT | 3HP Turntide SL121 Smart Motor Controller with WiFi, 208-230V, RTU Prewired |
| SL121-4030A-RT | 3HP Turntide SL121 Smart Motor Controller with WiFi, 400-460V, RTU Prewired |
| SL121-2030A-AA | 3HP Turntide SL121 Smart Motor Controller with WiFi, 208-230V |
| SL121-4030A-AA | 3HP Turntide SL121 Smart Motor Controller with WiFi, 400-460V |

Turntide Smart Motor System: Motor and Motor Controller SKU Pairing Guide

| Turntide Smart Motor Product Line | Max Horsepower | Voltage Rating | Turntide Smart Motor SKU | Motor Controller SKU | | | | | | | |
|-----------------------------------|----------------|----------------|--------------------------|----------------------|------------|----------|-----------|----------|-----------|--------|--|
| | | | | SL121-2030 | SL121-4030 | P06-0500 | P06C-0500 | P06-1500 | P06C-1500 | P06-SL | |
| V-Series for General Purpose | 3 HP | 208/230V | V01-0300-2 | ✓ | | ✓ | | | | | |
| | | 460V | V01-0300-4 | | ✓ | ✓ | | | | | |
| | | 575V | V01-0300-6 | | | | ✓ | | | | |
| | 5 HP | 208/230V | V02-0500-2 | | | ✓ | | ✓ | | | |
| | | 460V | V02-0500-4 | | | ✓ | | ✓ | | | |
| | | 575V | V02-0500-6 | | | | ✓ | | ✓ | | |
| | 10 HP | 460V | V03-1000-4 | | | | | ✓ | | | |
| | | 575V | V03-1000-6 | | | | | | ✓ | | |
| | 15 HP | 460V | V03-1500-4 | | | | | ✓ | | | |
| | | 575V | V03-1500-6 | | | | | | | ✓ | |

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Our breakthrough technologies accelerate electrification and sustainable operations for energy-intensive industries