DATASHEET

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	Designed for Energy Reduction
SL121 modulates motor speed in sync with the Turntide V01 motor, leveraging fan affinity laws to produce massive energy savings	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⎓)
			9.1A (@230 V~)	3PH @230 V~ (340 V⎓)
		50 Hz	10.5A (@200 V~)	3PH @200 V~ (280 V⎓)
			9.3A (@230 V~)	3PH @230 V~ (340 V⎓)
SL121-4030A	3PH 460 V~	60 Hz	6.5A (@460 V~)	3PH @460 V~ (680 V⎓)
		50 Hz	6.7A (@400 V~)	3PH @400 V~ (590 V⎓)

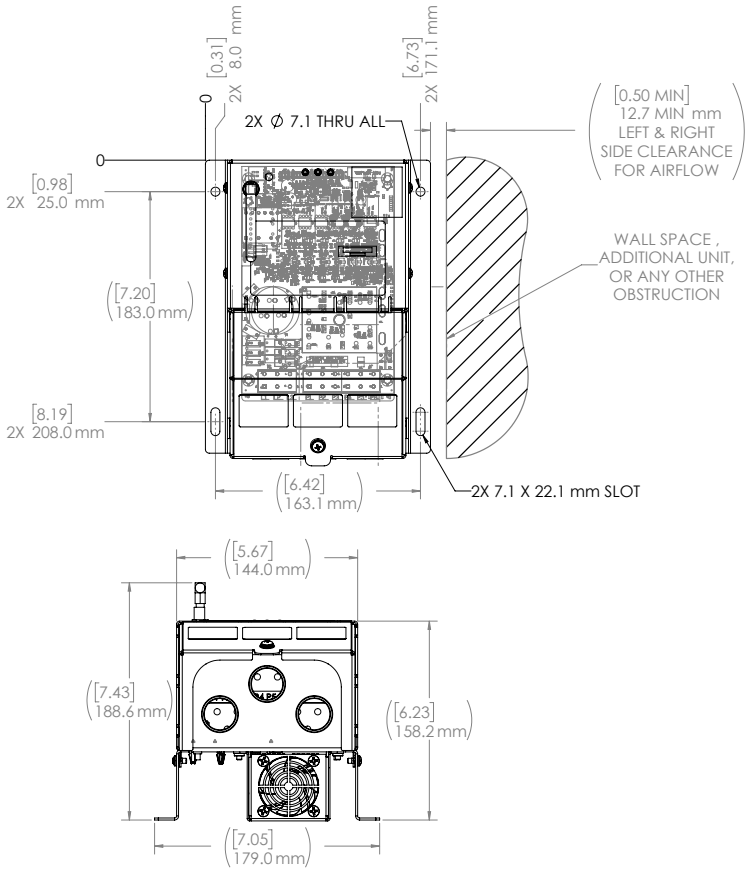
Certifications

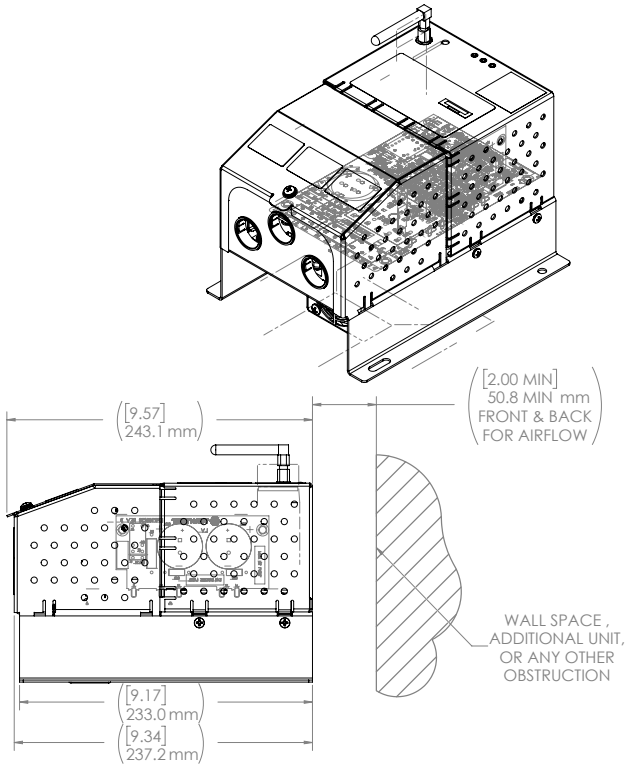
RECOGNIZED COMPONENT
C ETL US LISTED
Intertek

RoHS COMPLIANT

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

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: • 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 Controler 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						✓	

Indemnity

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