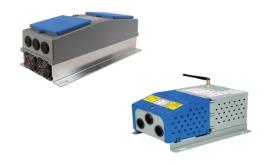


Motor Controller Jumper Pin and Switch Options

Turntide motor controllers are designed for several applications. The jumpers and switches are used to configure the motor controller for a specific application.

Before connecting the controller to the Turntide motor, verify the controller configuration.



Jumper Pins (P04, P05, and SL120 Motor Controllers)



SL121 Motor Controller Switch Options



P06 Motor Controller Switch Options

Jumper Pins (P04, P05, and SL120 Motor Controllers)

Digital Input Mode jumpers	Determine the inputs the motor controller recognizes.
Universal Input (UI) jumpers	 Define the connected device type. Currently UI1 and UI2 are used in applications with Supply and Return Air sensors. Setting the respective jumpers across pins 1 & 2 configure the control to respond to the resistive load of the thermistor.



Input mode selection must be jumpers 1&2 and 3&4 or 1&2 and 5&6.

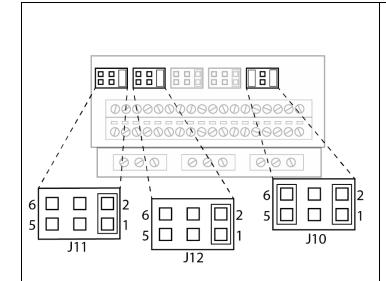
Go to Table 1 Jumper Pin Options

Table 1 Jumper Pin Options

Motor	Modbus EOL	Digital Input						
Controller	Jumper	Mode Jumper			nput Mode Jumpers			
Model			UI1	UI2	UI3	UI4		
P04W	J96	J96	J5125	J111	J112	J113		
P05	J96	J96	J5125	J111	J112	J113		
SL120	J10	J10	J11	J12	J13	J14		
- 1 -		Mod	dbus EOL Select	ion				
	ections	Mode				Examples		
1 & 2		Installed: Enables EOL Resistor (End of line) Removed: Disables EOL Resistor (End of line)				Install if wiring to terminals D+/D is end of daisy chain.		
		Digital	Input Mode Se	lection				
	ections		Mode			Examples		
1 0 0	1 0 0 5		ables digital inputs LOGIC or dry contact de.			Install if S1 through S7 will be used to receive contact closures for control.		
1 0 (1 0 0 5		Enables digital inputs 24VAC signaling mode.			Install if S1 through S7 will be used to receive 24VAC input signal from existing BMS or thermostat.		
		Universa	al Input Mode S	election				
	ections		Mode			Examples		
1 & 2	5 6	Resistive/LOGIC: Returns resistance of connected element or ON/OFF if declared as resistive or LOGIC mode respectively.			LOGIC:	Ω thermistor t closure = ON t open = OFF		
3 & 4	5 6	Voltage: 0-10V signal end	ded voltage inpu	ut.	power soul	3-wire device with external power source that provides 0-10V signal. (1 signal, 1 common, 1 power)		
5 & 6 1 0	5 6	Current: 0-20mA current	input.		power sour	3-wire device with external power source that provides a 0-20mA signal. (1 signal, 1 common, 1 power)		

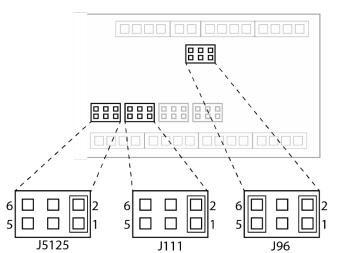
To ensure the motor controller jumper pins are set correctly for an RTU installation, consult the following:

Table 2 Motor Controller Jumper Pins (Image rotated 90 degrees)



SL120 Motor Controller Jumper Pins

- Confirm J11 and J12 jumper bridges are set on pins 1&2.
- Confirm J10 jumper bridges are set on pins 1&2 and 5&6.

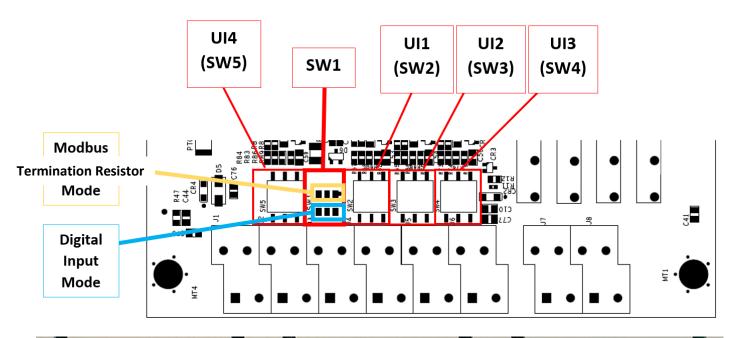


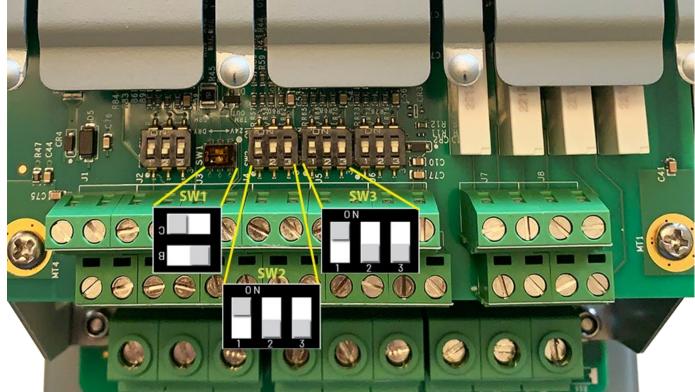
P05 Motor Controller Jumper Pins

- Confirm J5125 jumper bridges are set on pins 1&2.
- Confirm J111 bridges are set on 1&2 and J96 bridges on pins 1&2 and 5&6.

SL121 Motor Controller Switch Options

Figure 1 User-Selectable Switches SL121





SW1 for Modbus Termination Resistor and Digital Input Mode

SW1 is used for both the Modbus Termination Resistor and Digital Input Mode settings selection. Digital or Discrete Inputs initiate a programmed response of the motor controller based on parameter settings.

UI1 to UI4

The Universal inputs define the connected device type. The Universal inputs may be configured in one of **three modes (I, V, R)** via DIP Switches.

- **Voltage (V):** 0-10V (may be used to control the inverter directly or used to monitor CO2 or other sensors in HVAC systems)
- **Current (I):** 0-20mA or 4-20mA (may be used for direct current loop control of the motor controller)
- **Resistive (R):** Thermistor temperature sensors (may be used to monitor ambient air, return air, and supply air temperatures in HVAC systems)

Notes:

- Position 1 ON is the resistive mode
- Position 2 ON is the voltage mode
- Position 3 ON is the current mode.



ONLY one switch position should be ON at a time.

SL121 Motor Controller User-Selectable Switch Options Usage & Example

Table 3 SL121 Motor Controller User-Selectable Switch Options Usage & Examples

	Digital Input						
Termination	Mode Switch	Universal Input Mode Switches					
Resistor Switch		UI1	UI2	UI3	UI4		
SW1	SW1	SW2	SW3	SW4	SW5		
Modbus Termination Resistor Selection							
Position	N	Mode		Examples			
Top LEFT position		Modbus termination resistor is enabled			Set if wiring to terminals D+/D is end of daisy chain.		
S							
tion	Modbus termination	on resistor i	s disabled				
	Digital Input M	ode Selectio	on				
Position	Ŋ	Mode	Exar	mples			
sition	Enables digital inp	uts LOGIC o	Set if DI1 the	rough DI7 will			
	contact mode.			be used to re	eceive		
			contact closures for control.				
oosition	Enables digital inp	uts 24VAC s	ignaling	Set if DI1 thi	rough DI7 will		
	mode.			be used to received 24VAC input signal from existing BMS or thermostat.			
	Resistor Switch SW1 Position Ition Position Sition Position Sition Position Sition	Modbus Termination Position Modbus termination Modbus terminatio	Modbus Termination Resistor Solution Mode	Modbus Termination Resistor Selection	Modbus Termination Resistor Selection		

84-4	N.C. allassa	District toward					
Motor Controller	Modbus Termination	Digital Input Mode Switch	-			ut Mode Switches	
Model	Resistor Switch	UI1 UI2					
		CWA			UI3	UI4	
SL121	SW1	SW1	SW2	SW3	SW4	SW5	
1114 +- 1114 5	ND Coultab ON	Universal Input I	viode Select Mode	lion			
UII to UI4 L	OIP Switch ON	ľ	viode		Examples		
。 Caution	n: ONLY one	Resistive/LOGIC:			Resistive:		
	oosition should	Returns resistance	of connecte	ed element	2 wire 10K Ω thermistor		
	at a time;	or ON/OFF if decla	red as resist	tive or			
	cause damage	LOGIC mode respe			LOGIC:		
to the motor co	ontroller.	·	•		Dry contact of	closure = ON	
					Dry contact of	open = OFF	
R					bry contact open – or i		
Caution	n: ONLY one	Voltage:			3-wire device	e with	
	position should	0-10V signal ended	d voltage inp	out.	external pow		
	at a time;				that provide	s 0-10V	
· · · · · ·	cause damage				signal.	_	
to the motor co	ontroller.				(1 signal, 1 coponer)	ommon, 1	
V	2 3				<i>ponci</i> ,		
	n: ONLY one	Current:			3-wire device		
	oosition should	0-20mA current in	put.		external pow		
	at a time;				that provide:	s a 0-20mA	
· · · · ·	cause damage				signal.		
to the motor co	nitroller.				(1 signal, 1 co	OITHIUH, I	
ı					power)		
	2 3						

P06 Motor Controller Switch Options

The Universal inputs define the connected device type. The Universal inputs may be configured in one of **three modes (I, V, R)** via DIP Switches.

- Voltage (V): 0-10V (may be used to control the inverter directly or used to monitor CO2 or other sensors in HVAC systems)
- Current (I): 0-20mA or 4-20mA (may be used for direct current loop control of the motor controller)
- **Resistive (R):** Thermistor temperature sensors (may be used to monitor ambient air, return air, and supply air temperatures in HVAC systems)

Notes:

- Position 1 ON is the resistive mode
- Position 2 ON is the voltage mode
- Position 3 ON is the current mode.

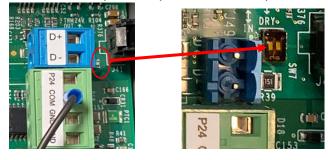


ONLY one switch position should be ON at a time.

SW7 for Modbus Termination Resistor and Digital Input Mode

SW7 is used for both the Modbus Termination Resistor and Digital Input mode settings selection. Digital or Discrete Inputs initiate a programmed response of the motor controller based on parameter settings.

The blue D+ D- cap is easily removed to improve access to SW7.



P06 Motor Controller User-Selectable Switch Options Diagram

Figure 2 User-Selectable Switches on P06

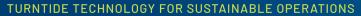


P06 Motor Controller User-Selectable Switch Options Usage & Examples

Table 4 P06 User-Selectable Switch Options

Motor	Modbus	Digital Input						
Controller	Termination	Mode Switch	1114	Universal I	nput Mode Switches			
Model	Resistor Switch	CM7	UI1	UI3	UI4			
P06	SW7	SW7	SW2	SW3	SW4	SW5		
		Modbus Terminat	Modbus Termination Resistor Selection					
Switch	Position		Mode		Examples			
Left DOWN po	sition	Modbus terminati	on resistor i	is enabled	Set if wiring to terminals D+/D			
DRY SWI				is end of dais	y chain.			
Left UP position		Modbus termination resistor is disabled						
		Digital Input		ction				
	Position		Mode			amples		
Right DOWN p	osition	contact mode. Set ii Di tirroug used to receive of closures for cont		inputs LOGIC or dry				
		Enables digital inputs 24VAC signaling mode.		Set if DI1 through DI7 will be used to receive 24VAC input signal from existing BMS or thermostat.				

Motor	Modbus	Digital Input					
Controller	Termination	Digital Input Mode Switch	Universal Input Mode Switches				
Model	Resistor Switch	Widde Switch	UI1	UI2	UI3 UI4		
P06		SW7	SW2	SW3		SW5	
PU6	SW7				SW4	3005	
1111 += 1114 F	ND Coultab ON	Universal Inpu		ection	1	Francisco	
UII to UI4 L	OIP Switch ON	Mode			Examples		
Cautio	n : ONLY one	Resistive/LOGIC:		Resistive:			
switch	position should	Returns resistance	of connect	ed element	2 wire 10K Ω thermistor		
be ON at a time	e; otherwise,	or ON/OFF if decla	red as resis	tive or			
may cause dam	nage to the	LOGIC mode respe	ectively.		LOGIC:		
motor controlle	er.				Dry contac	ct closure = ON	
R					Dry contac	ct open = OFF	
Z							
Caution	n: ONLY one	Voltage:			3-wire dev	vice with external	
switch	position should	0-10V signal ended voltage input.			power source that provides 0-		
be ON at a time; otherwise,					10V signal.		
may cause dam	nage to the				(1 signal, 1 common, 1 power)		
motor controller.							
	n: ONLY one	Current:			3-wire dev	vice with external	
switch	position should	0-20mA current in	put.		power sou	rce that provides a	
be ON at a time	e; otherwise,				0-20mA si	gnal.	
may cause dam	nage to the				(1 signal, 1 common, 1 power)		
motor controlle	_					. ,	
I							
Z O	m N						



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

