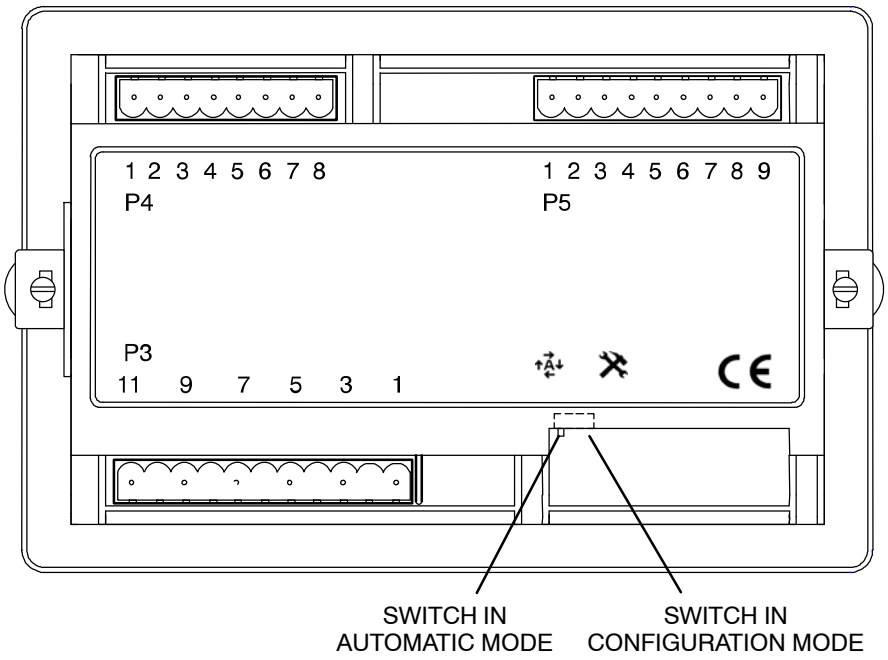
To modify the control function settings:

⚠WARNING ***AC power within the transfer switch cabinet and the rear side of the cabinet door presents a shock hazard that can cause severe personal injury or death. Use extreme caution to avoid touching electrical contacts whenever the cabinet door is open.***

1. Open the transfer switch door.
2. Slide the selector switch to the **Configuration Mode** position on the back of the control panel (see the illustration below).

   NOTE: Configuration Mode can be entered at any time, but once it is selected, all automatic operation is suspended.
3. Press the **Test** pushbutton to scroll through the various control function codes displayed with the first five LEDs. TDES is always the first function shown.
4. Once the desired function is selected, press the **Override** pushbutton to change the associated value code displayed with the last three LEDs.
5. When configuration is completed, slide the selector switch back to the **Automatic Mode** position.

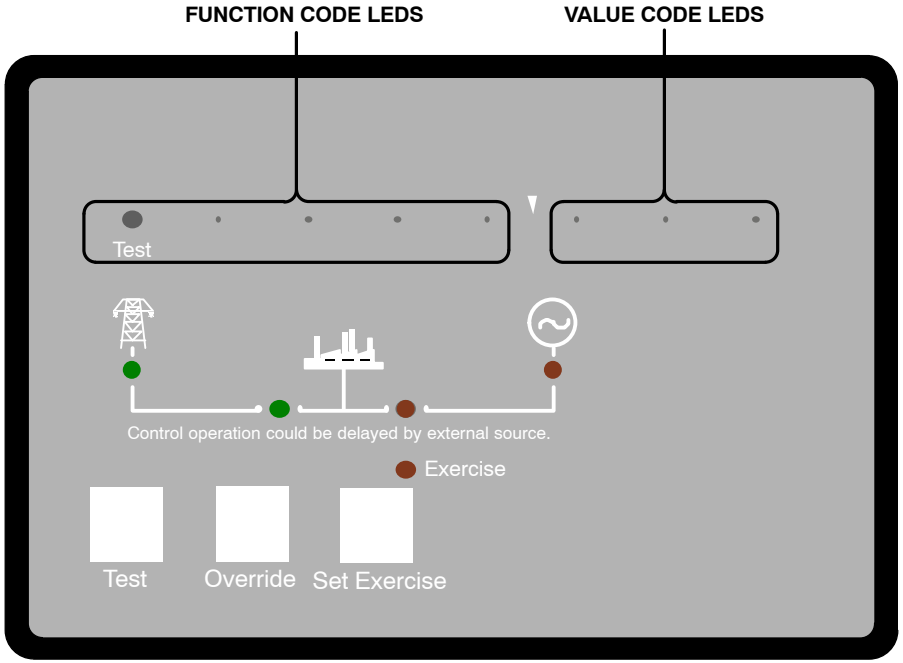


Transfer Switch Control TS1311 (Line-to-Neutral Sensing)
Quick Reference Card

The control functions can be configured using the control panel. The inside of this card shows the settings available for each control function. Default settings are shown in bold italics. The black-filled circles indicate which LEDs are lit for the function and value codes listed. For more information on these functions, refer to the transfer switch Operator's Manual or the control Instruction Sheet.

⚠CAUTION ***Incorrect settings can result in the transfer switch failing to operate correctly. Only authorized trained personnel should make changes to the control function settings. When sold with a Cummins Power Generation (CPG) transfer switch, External Exercise, System Nominal Voltage, System Nominal Frequency, and Single Phase/Three Phase functions are set at the factory and should not require any additional adjustments.***

The control panel has a series of eight LEDs that display codes indicating various control functions. The first five LEDs display the function code and the last three LEDs display the value code for the displayed function (see the illustation below). Information on how to modify control function settings is included on the back of this card.



FUNCTION	FUNCTION CODE					VALUE CODE			VALUE (Default in bold italics)
Not Available	○	○	○	○	○	NA	NA	NA	
TDES (Time Delay Engine Start)	○	○	○	○	●	○	○	○	0 Seconds (Disabled)
						○	○	●	0.5 Second
						○	●	○	1 Second
						○	●	●	2 Seconds
						●	○	○	***3 Seconds***
						●	○	●	4 Seconds
						●	●	○	6 Seconds
						●	●	●	10 Seconds
TDNE (Time Delay Normal to Emergency)	○	○	○	●	○	○	○	○	0 Seconds (Disabled)
						○	○	●	1 Second
						○	●	○	2 Seconds
						○	●	●	3 Seconds
						●	○	○	***5 Seconds***
						●	○	●	30 Seconds
						●	●	○	120 Seconds
						●	●	●	300 Seconds
TDEN (Time Delay Emergency to Normal)	○	○	○	●	●	○	○	○	0 Minutes (Disabled)
						○	○	●	0.1 Minutes (For Testing)
						○	●	○	5 Minutes
						○	●	●	***10 Minutes***
						●	○	○	15 Minutes
						●	○	●	20 Minutes
						●	●	○	25 Minutes
						●	●	●	30 Minutes
TDEC (Time Delay Engine Cooldown)	○	○	●	○	○	○	○	○	0 Minutes (Disabled)
						○	○	●	0.1 Minutes (For Testing)
						○	●	○	5 Minutes
						○	●	●	***10 Minutes***
						●	○	○	15 Minutes
						●	○	●	20 Minutes
						●	●	○	25 Minutes
						●	●	●	30 Minutes
TDPT (Time Delay Program Transition)	○	○	●	○	●	○	○	○	***0 Seconds (Disabled)***
						○	○	●	0.5 Second
						○	●	○	1 Second
						○	●	●	2 Seconds
						●	○	○	3 Seconds
						●	○	●	4 Seconds
						●	●	○	6 Seconds
						●	●	●	10 Seconds

= THESE CONTROL FUNCTIONS ARE SET AT THE FACTORY AND SHOULD NOT REQUIRE ADJUSTING.

Note 1: If enabled, Utility overvoltage detection drops out at 125% or rated voltage and picks up at 120%.

Note 2: Utility frequency detection covers both under frequency and over frequency. If enabled, under frequency drops out at 70% of rated frequency and picks up at 80% while over frequency drops out at 140% of rated frequency and picks up at 130%.

FUNCTION	FUNCTION CODE					VALUE CODE			VALUE (Default in bold italics)	
TDEL (Time Delay Elevator Signal)	○	○	●	●	○	○	○	○	***0 Seconds (Disabled)***	
						○	○	●	1 Second	
						○	●	○	2 Seconds	
						○	●	●	3 Seconds	
						●	○	○	5 Seconds	
						●	○	●	30 Seconds	
						●	●	○	120 Seconds	
						●	●	●	300 Seconds	
Test With/Without Load	○	○	●	●	●	○	○	○	***Without Load***	
						○	○	●	With Load	
External Exercise On/Off	○	●	○	○	○	○	○	○	***Off***	
						○	○	●	On	
Exercise With/Without Load	○	●	○	○	●	○	○	○	***Without Load***	
						○	○	●	With Load	
System Nominal Voltage Table Selection	○	●	○	●	○	○	○	○	Table 1 ↓	
						○	○	●		***Table 2 ↓***
System Nominal Voltage	○	●	○	●	●	○	○	○	110	230
						○	○	●	115	***240***
						○	●	○	120	255
						○	●	●	127	277
						●	○	○	139	347
						●	○	●	220	347
System Nominal Frequency 50/60 Hz	○	●	●	○	○	○	○	○	60 Hz	
						○	○	●	***50 Hz***	
Single Phase/Three Phase	○	●	●	○	●	○	○	○	***Three Phase***	
						○	○	●	Single Phase	
Utility Undervoltage Pickup	○	●	●	●	○	○	○	○	***90%***	
						○	○	●	95%	
						○	●	○	80%	
Utility Undervoltage Dropout	○	●	●	●	●	○	○	○	90%	
						○	○	●	***85%***	
						○	●	○	80%	
						○	●	●	70%	
Phase Check On/Off	●	○	○	○	○	○	○	○	***Off***	
						○	○	●	On	
Return to Programmed Transition On/Off	●	○	○	○	●	○	○	○	***Off***	
						○	○	●	On	
Elevator Post Transfer Delay On/Off	●	○	○	●	○	○	○	○	***Off***	
						○	○	●	On	
Exercise Repeat Interval	●	○	○	●	●	○	○	○	***Every 7 Days***	
						○	○	●	Every 14 Days	
						○	●	○	Every 21 Days	
						○	●	●	Every 28 Days	
Utility Overvoltage Detection (See Note 1)	●	○	●	○	○	○	○	○	**Disable**	
						○	○	●	Enable	
Utility Frequency Detection (See Note 2)	●	○	●	○	●	○	○	○	**Disable**	
						○	○	●	Enable	