Overview and Specifications

The ECT8-SSOA (for 32VDC drivers) and ECT8-SSOB (for 40VDC drivers) Control Modules are accessory products for use exclusively with Delta Regis 'CESL8' Series DC Brushless Screwdrivers and their respective standard Hi/Lo Speed Controllers. The module plugs in-line between the controller and the screwdriver. It provides an adjustable slow start function as well as I/O signal communication for interfacing with external equipment.

UP / DOWN push buttons and LED display for setting slow start and run time parameters.

Indicator lights show status of input / output signals.

The ECT8-SSO Module plugs in-line between a CESL8 Series driver and a standard 32V or 40VDC Hi/Lo Speed Controller.
ECT8-SSOA and ECT8-SSOB modules differ by their 6-pin connector, suitable for use with either 32V or 40V tools.

ECT8-SSOA
32VDC CESL8
Series Drivers

ECT8-SSOB
40VDC CESL8
Series Drivers

DIP switch settings control specific I/O functions

Bypass switch to disable control functionality.

ON = Disable all I/O Control Function and turn off LED display.

OFF = Enable all control functions

An integral 6-pin, 0.3 m long whip cable connects the module to the controller. The 6-pin connector at the output attaches to the screwdriver using the driver's standard tool cable.

INPUTS (dry switch contact required)
•   Remote Start
•   Remote Reverse
•   Remote Enable/Disable

OUTPUTS (MOS relay, max. 40VDC, 250mA)
•   Tool Started/Running
•   Clutch Tripped
•   Tool in Reverse

Advanced Multi-function Input/Output Signal Modules

Model Number	Use with Screwdriver and Controller Models	Dimensions L x W x H (mm)	Weight (g)
ECT8-SSOA	CESL810-812, 823-827(P/F/PF) ; BECT620C/IC	103 x 100 x 32	180
ECT8-SSOB	CESL828-829(P/F/PF), CESP835-865, CESL835M-865M(PM) ; BECT640HL		

Features	
Slow Start Time Adjustment	0 - 9.9 sec
Slow Start Speed Adjustment	~ 30 - 100%
Max. Run Time Setting	0 - 9.9 sec

Inputs (dry contact switch req'd)
1. Remote Start
2. Remote Reverse
3. Remote Enable/Disable

Relay Outputs (max. 40VDC, 250mA)
1. Tool Started/Running
2. Clutch Activated
3. Tool in Reverse

Installation

• Ensure that the screwdriver controller is turned off. Connect the tool cable from the CESL8 series screwdriver to the output connector on the ECT8-SSO module. Make sure that the cable connector is seated properly and hand-tighten the retaining ring.
• Connect the whip cable of the ECT8-SSOA/B to the controller and secure. Turn on the controller. The red power LED will light.
• Verify that the bypass switch is in the OFF position. When the bypass switch is turned ON, all I/O control functions will be disabled and the LED display will turn off.

Setting Slow Start Parameters and Max Run Time

• Press and hold the UP + DOWN buttons together for 2 seconds to enter the parameter setting mode. 'RC' will show in the display, followed by the current value for 'RC'. There are three settable parameters available:
• **RC = Slow Start Time** - 0.1 second increments from 0.0 to 9.9 seconds, 0.0 = slow start OFF
• **SP = Slow Start Speed** - 10 settings: L0 (full speed), L1 - L9 (graduated steps from ~30 - 90% full speed)
• **Ut = Max Run Time** - 0.0 to 9.9 seconds, 0.0 = OFF; any value higher than 0.0 will cause the module to count down from the set value when the screwdriver is started. The driver will stop running when zero is reached.
• Adjust each parameter's value by pressing either the UP or the DOWN button until the desired value is reached.
• Proceed to the next parameter by pressing the UP and DOWN buttons together for 1 second.
• After the 'Ut' value has been set/verified, pressing UP and DOWN together will exit the setting mode.
• While in the setting mode, the screwdriver will be disabled and the power LED will flash every 5 seconds.
• NOTE - the slow start function is intended to assist in aligning fastener threads at the beginning of the screwing cycle. The slow start time must be set so that the tool is running at full speed before the fastener seats, otherwise the screwdriver's clutch may not function properly.
• Pressing the UP button for 6 seconds will reset the parameters to the factory default values. The default values are RC = 0.0 seconds (no slow start) , SP = L0 (full speed), Ut = 0.0 seconds (max run time function OFF)

LED Input/Output Status Indicators

LED status indicators are provided on the display panel to show the condition of the I/O.

Power / Comm. Error LED - the red LED next to the push buttons lights when the module is powered on. If communication is lost, the red LED will flash (every 0.5 seconds).

The 3 green output status LED's function as follows:
REV. - lights when screwdriver is run in reverse
STOP - lights when clutch trips, resets to off based on DIP SW2
START - lights when screwdriver is running

The 2 white input LED's function as follows:
REV. - lights when the remote reverse + remote start are activated
START - lights when the remote start input is activated

Input / Output Terminal Strip
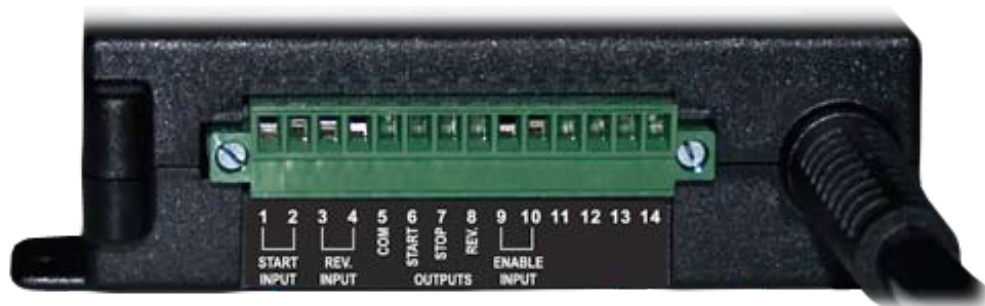
Connection Number	Type	Function	Description
1 & 2	Input	Remote Start Input	Short connection 1 to 2 to start screwdriver remotely
3 & 4	Input	Remote Reverse Input (used with remote start input)	Short connection 3 to 4 for remote start to run driver in reverse
5	Output	COM	Common connection for outputs. One leg of each output relays is internally connected to COM
6	Output	Start Output	MOS Relay - contact closes (6 to COM5) when driver has been started
7	Output	Stop (Clutch) Output	MOS Relay - contact closes (7 to COM5) when clutch activates, reset depends on DIP SW2
8	Output	Reverse Output	MOS Relay - contact closes (8 to COM5) when screwdriver is in reverse
9 & 10	Input	Tool Enable Input	Short connection 9 to 10 to enable the screwdriver to start, DIP SW1 must be set to ON
11 - 14	No Connection		

Notes regarding I/O connections:
- Do not power input connections, short connection pair through a dry contact to activate input
- Output MOS relays have a maximum rating of +/- 40VDC, 250mA. Please note that since all three relays share the COM connection, the DC polarity of outputs 7, 8, 9 must be the same. (eg - if COM5 is 0 VDC, 7-9 must be +VDC; if COM5 is +VDC, 7-9 must be 0 VDC)

DIP Switch	Function	Description
SW1	Activate ENABLE input functionality	ON = inputs 9 & 10 active OFF = inputs 9 & 10 disabled
SW2	Clutch output signal reset logic	ON = output 7 resets at trigger release OFF = output 7 resets at next start
SW3 & SW4	No Function	

LED Display Error Signals

Display showing	Indicates	Description
E3	Low Voltage Protection	Screwdriver stopped because the operating voltage was too low
E4	High Temperature Protection	Screwdriver stopped due to excessive operating temperature
E5	Stall Protection	Screwdriver stopped due to an abnormal stall after start activated
E7	Push Plate Error	Screwdriver stopped due to abnormal clutch action
E8	Brake Error	Screwdriver stopped due to abnormal brake signal before start
E9	Memory Error	Screwdriver stopped due to failure of internal flash memory