

Code/Environmental Compliance	Comments	Special Functions	Additional Functions
DECS-300 is: UL Recognized, CSA Qualified, CE Compliant	Qualified to meet all electrical spacing, heat dissipations		
Meets ANSI C37.90.1 for Surge Withstand and Fast Transient	Noise Immunity against high energy voltage spikes that can affect equipment reliability		
RFI (Radio Frequency Interference)	Meets Conducted and Radiated Noise per IEC 60255-22-6 (Conducted) & 60255-22-3 (Radiated)		
Temperature	-40° to 60°C		
Equipment Features			
Redundant Digital Controller Standard (DECS-300)	Independent Power Supplies for each DECS Controller; Online extractable rack	Each digital controller complete with AVR, Field Current Limiters, Protection, etc.	Autotracking between dual DECS controllers
Voltage Regulation	.25% Accuracy	True RMS Voltage Sensing for optimum performance with harmonic distorted waveforms	
Operating Modes Field Current Regulation	1% Accuracy	Bumpless Transfer between operating modes	Compensates for changes in field resistance
Var or Power Factor Control	A supplementary control to voltage regulator to regulate Vars or P.F.	Adjustable gains for Vars or Power Factor. Allows for fast or slow response.	
Automatic Nulling	Between active and all inactive control modes	Nulling between operating modes and redundant DECS	
Selectable Underfrequency or Volts/Hertz Ratio Limiter		Field Programmable	
Generator Voltage Softstart	Active in both AVR and Manual Mode	Controls rate of voltage rise and time to reach rated output (programmable)	
Minimum Excitation Limiter	Flexible 5 point map on real/reactive power axis	Programmable to match machine or system underexcited stability or monitor generator voltage capability limit	
Maximum Excitation Limiter	Off-Line Excitation Limiter (Breaker Open)	On-Line Excitation Limiter (Breaker Closed) Monitors Field Current	Limits repeated maximum instantaneous forcing current based upon field heating cool down period.
Stator Current Limiter	Prevents extended stator overcurrent for long periods	Includes adjustable time delay function	
Dual PID Setting Groups	Allows for programmed changes in PID gain settings for use with Power System Stabilizer or alternate transmission system configurations	Automatic Switching to slower PID Setting group when PSS is disabled or when the system is below the PSS power pickup level.	Fast PID setting group can lead to system instability when Power System Stabilizer is below threshold pickup.

Equipment Features (continued)	Comments	Special Functions	Additional Functions
Autovoltage Matching	Automatically matches generator voltage to bus voltage	Programmable for different PT ratios of generator and bus	
(2) Preposition Setpoints	Programmable for AVR, Manual, Var/PF Controller	Reset system to known configuration on startup	
Reactive Droop Or Line Drop Compensation	Programmable	Line Drop compensates for step-up transformer impedances direct connected to the generator	Reactive Droop compensates for circulating currents between the generator bus and the utility bus where there is little or no impedance difference
Loss of Voltage Sensing		Transfers to manual control automatically (Programmable) due to loss of voltage sensing at the voltage regulator	
Oscillography		600 points, 13 programmable parameters, sequence of events, holds up to 8 records	
Protection <ul style="list-style-type: none"> • Field Over Voltage • Generator Over/Under Voltage • Field Overcurrent • Loss of Voltage Sensing • Loss of Field 		Microprocessor watchdog monitors the processor, DSP and power supply voltages	
Independent Power Sources for Microprocessor	125 Vdc and 120 Vac into controller to provide constant power supply		
HMI Metering, Operating Screen		Metering, Control, Annunciation	
Communications	Modbus	RS 485	
Equipment Setup	Basler Windows BESTCOMS	Password Protected	
Power Bridges	3Ø, 6 SCR, 270 amp rated	100% Redundant	Automatic transfer to redundant bridge
PPT		Shutdown - Full Negative Inversion to speed generator voltage decay; SCR Crowbar with Field Discharge Resistor	
Power System Stabilizer Option	Utilizes Integral of Accelerating Power for best performance		
Optional AC Bus Transfer	Dual 600V Class station service sources to PPT	Bus Transfer Switch	Automatic Transfer to redundant AC power source for power bridges
Optional Redundant Voltage Sensing Input from Existing Instrument Transformer	ANSI 60 device supervises transfer to healthy source		Provides constant PT voltage sensing in the event of loss of fuse in primary PT
851 Overcurrent Fault Transfer Option	Senses overcurrent at Alterrex output, transfers to redundant DECS		
Cabinet	NEMA I Enclosure		