Basler DECS-300-Based Siemens Allis Static Exciter Replacement Features and Functions

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		
DECS-300 meets ANSI C37.90.1 for Surge Withstand and Fast Transient	Noise Immunity against high energy voltage spikes that can affect equipment reliability		
DECS-300 meets RFI (Radio Frequency Interference)	Meets Conducted and Radiated Noise per IEC 60255-22-6 (Conducted) & 60255-22-3 (Radiated)		
DECS-300 temperature range	-40° to 60°C		
Equipment Features			
Voltage Regulation	Better than 0.25% Accuracy	True RMS Voltage Sensing for optimum performance with harmonic distorted waveforms	
Other 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.

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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 • 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, power rating, beginning at 200 amps and up	6 SCR, 2 quadrant control	
Redundant DECS Controller Option	Independent Power Supplies for each DECS Controller; Online extractable rack	Duplicate features in each DECS-300 controller	
Power System Stabilizer Option	Utilizes Integral of Accelerating Power for best performance		
Freestanding NEMA 1 Cabinet	NEMA I Enclosure		Pan chassis option is designed to fit into existing cabinet when removal of existing enclosure is not practical
Pan Chassis Design Option	Designed for mounting into existing enclosure	Drip proof enclosure available	
Power Transformer	Reuse existing PPT or replace with new	New multifunction 3 phase overcurrent relay to replace existing IAC (option)	