

Variant	KEA 3X0 Series		KEA 3X0 Series			
	320 RP	320	350 RP	350 RP	350	350
Package	P1	P1 (-LT)	P1	P2	P1	P2
Measuring						
Generator voltage (3-phase/4-wire)	120 / 480 V AC		120 / 480 / 690 V AC			
Generator current (3x true r.m.s.)	1 / 5 A		1 / 5 A			
Mains voltage (3-phase/4-wire)	120 / 480 V AC		120 / 480 / 690 V AC			
Mains or ground current (1x true r.m.s.); Mains or ground current (selectable)	1 / 5 A		1 / 5 A			
Busbar voltage	2-phase / 120 / 480 V AC		2-phase	3-phase	2-phase	3-phase
			120 / 480 / 690 V AC			
Control						
Generator breaker control	✓		✓			
Mains breaker control	✓		✓			
Generator group breaker	-		✓			
Run-Up Synchronization	-		✓			
No of supported LS-5-devices #5 (1 or 2 breaker controls)	-		16			
Breaker control logic (open and closed transition <100 ms)	2		3			
Automatic, Manual, Stop, and test operating modes	✓		✓			
Single and multiple-unit operation	✓		✓			
Mains parallel multiple-unit operation (up to 32 units)	✓		✓			
AMF (auto mains failure) and stand-by operation	✓		✓			
Critical mode operation	✓		✓			
GCB and MCB synchronization (±slipping / phase matching)	✓		✓			
Import / export control (kW and kvar)	✓		✓			
Load-dependent start/stop	✓		✓			
n/f, V, P, Q, and PF control via analog input or interface	✓		✓			
Load/var sharing for up to 32 gensets	✓		✓			
Freely configurable PID controllers	3		3			
HMI						
Display	remote	integrated	remote		integrated	
Color Display with Softkey operation	-	✓	-		✓	
Start/stop logic for diesel / gas engines	✓		✓			
Counters for operating hours / starts / maintenance / active/reactive energy	✓		✓			
Configuration via PC (serial connection and ToolKit software (included))	✓		✓			
Event recorder entries with real time clock (battery backup)	1000		1000			
Operating Temperature	-40 to 70 °C	(-40/-)20 to 70°C	-40 to 70 °C		(-40/-)20 to 70 °C	

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Protection	ANSI						
Generator: voltage / frequency	59/27/810/81U	✓			✓		
Generator: overload, reverse/reduced	32/32R/32F	✓			✓		
Generator: Synch Check	25	✓			✓		
Generator: unbalanced load	46	✓			✓		
Generator: instantaneous overcurrent	50	✓			✓		
Generator: time-overcurrent (IEC 255 compliant)	51/51V	✓			✓		
Generator: ground fault (measured ground current)	50G	✓			✓		
Generator: power factor	55	✓			✓		
Generator: rotation field		✓			✓		
Engine: overspeed / underspeed	12/14	✓			✓		
Engine: speed / frequency mismatch		✓			✓		
Engine: D+ auxiliary excitation failure		✓			✓		
Engine: Cylinder temperature		✓			✓		
Mains: voltage / frequency / synch check	59/27/810/81U/25	✓			✓		
Mains: phase shift / rotation field / ROCOF (df/dt)	78	✓			✓		
Busbar: voltage/frequency/rotation field		-		✓/✓/-	✓/✓/✓	✓/✓/-	✓/✓/✓
I/Os							
Internal digital I/O expansion board		-		-	✓	-	✓
Speed input: magnetic / switching; Pickup		✓			✓		
Battery voltage monitor		1			1		
Discrete alarm inputs (configurable)		12 (10)		12 (9)	23 (20)	12 (9)	23 (20)
Discrete outputs, configurable		max. 12		max. 12	max. 22	max. 12	max. 22
External discrete inputs / outputs via CANopen		32/32		32/32			
Analog inputs ^{#1} , configurable		3		3	10	3	10
Analog outputs: +/- 10V, +/- 20mA, PWM; configurable		2		2	2	2	2
Analog outputs: 0-20mA, (0-10V with external 500 Ω resistor)		-		-	4	-	4
External analog inputs / outputs via CANopen		16 / 4		16 / 4			
Display and evaluation of J1939 analog values, "supported SPNs"		100		100			
CANbus communication interfaces ^{#2, #3}		2		3			
Ethernet Modbus TCP Slave interface ^{#3}		1		3			
USB Serial interface		1		1			
RS-485 Modbus RTU Slave interface		1		1			

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Listings/Approvals						
CE Marked, VDE-AR-4105/4110, EAC	✓		✓			
Part Numbers						
Front panel mounting with display #4	-	2A320CS100	-	-	2A350CS100	2A350CS200
Cabinet back mounting without display	2A320RS100	-	2A350RS100	2A350RS200	-	-
Spare connector kit	2A320PS100	2A320PS100	2A350PS100	2A350PS200	2A350PS100	2A350PS200

- #1 selectable senders: VDO (0 to 180 Ohm, 0 to 5 bar), VDO (0 to 180 Ohm, 0 to 10 bar), VDO (0 to 380 Ohm, 40 to 120°C), VDO (0 to 380 Ohm, 50 to 150°C), Pt100, Pt1000, resistive input (one- or two-pole, 2pt. linear or 9pt. user defined)
- #2 CAN#2 freely selectable during configuration between CANopen or J1939; please feel free to request more information
- #3 KEA 320: It is possible to toggle between CAN and Ethernet load share line in STOP mode ("warm redundancy")
- #4 a screw and a clamp kit are delivered with the unit for fastening
- #5 The KEA 350/LS5 communication system allows up to 48 members on the bus. If the KEA count is reduced from 32, the LS-5 count can be increased (up to 32).