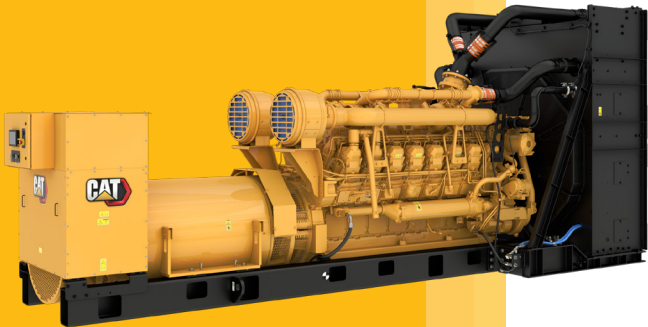




ELECTRIC POWER RATINGS GUIDE

2024



Twentieth Edition



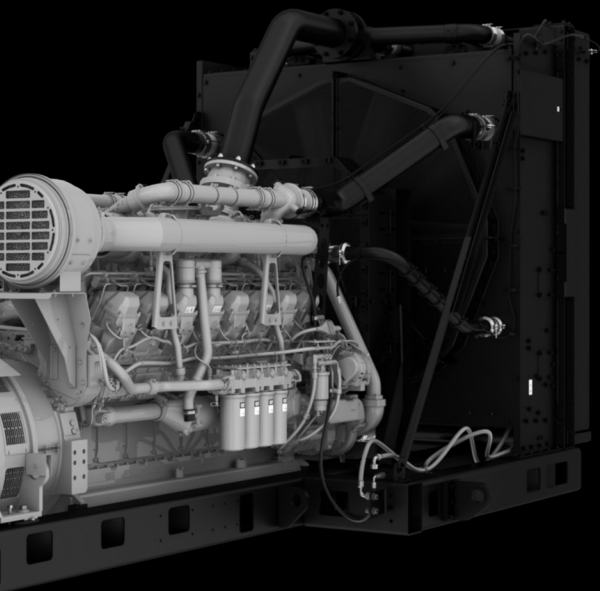
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3516E 3000 kVA 50 Hz

DIESEL GENERATOR SETS



DIESEL

50 Hz, 6.8 – 200 kVA RATINGS

kVA		Generator Set Model	Engine	Configuration
Standby	Prime			
Single Phase Output* 1500 rpm				
7.5	6.8	DE7.5E3S	C1.1	R96/EU Stage IIIA Equivalent
11	10	DE11E3S	C1.5	R96/EU Stage IIIA Equivalent
12	11	DE12E0S	C1.5	Low BSFC
14	13	DE14E3S	C2.2	R96/EU Stage IIIA Equivalent
16.5	15	DE16E3S	C2.2	R96/EU Stage IIIA Equivalent
26	24	DE26E0S	C3.3	Low BSFC
26	24	DE26E3S	C3.3	R96/EU Stage IIIA Equivalent
40	36	DE40E0S	C3.3	Low BSFC
40	36	DE40E2S	C3.3	R96/EU Stage II Equivalent
50	45	DE50E0S	C3.3	Low BSFC
55	50	DE55E3S	C4.4	R96/EU Stage IIIA
90	82	DE90E2S	C4.4	R96/EU Stage II Equivalent
90	82	DE90E3S	C4.4	R96/EU Stage IIIA
Three Phase Output** 1500 rpm				
9.5	8.5	DE9.5E3	C1.1	R96/EU Stage IIIA Equivalent
13.5	12.5	DE13.5E3	C1.5	R96/EU Stage IIIA Equivalent
16	14.5	DE16E0	C1.5	Low BSFC
18	16.5	DE18E3	C2.2	R96/EU Stage IIIA Equivalent
22	20	DE22E3	C2.2	R96/EU Stage IIIA Equivalent
33	30	DE33E0	C3.3	Low BSFC
33	30	DE33E3	C3.3	R96/EU Stage IIIA Equivalent
49	45	DE56AE0	C3.3	Low BSFC
50	45	DE50E0	C3.3	Low BSFC
50	45	DE50E2	C3.3	EU Stage II Equivalent
55	50	DE55E0	C3.3	Low BSFC
55	50	DE55E2	C4.4	EU Stage II Equivalent
65	60	DE65E0	C3.3	Low BSFC
65	60	DE65E3	C4.4	R96/EU Stage IIIA
88	80	DE88E0	C4.4	Low BSFC
65	60	DE75AE0	C3.3	Low BSFC
88	80	DE100AE0	C4.4	Low BSFC
88	80	DE88E3	C4.4	R96/EU Stage IIIA
110	100	DE125AE0	C4.4	Low BSFC
110	100	DE110E2	C4.4	EU Stage II Equivalent
110	100	DE110E3	C4.4	R96/EU Stage IIIA
149	135	DE169AE0	C7.1	Low BSFC
150	135	DE150E0	C7.1	Low BSFC
165	150	DE165E0	C7.1	Low BSFC
165	150	DE165E3	C7.1	R96/EU Stage IIIA Equivalent
175	160	DE175E3	C7.1	R96/EU Stage IIIA Equivalent
200	180	DE200E0	C7.1	Low BSFC

*All ratings at 1.0 pf. **All ratings at 0.8 pf.

50 Hz, 180 – 850 kVA RATINGS

kVA		Generator Set Model	Engine	Configuration
Standby	Prime			
1500 rpm				
200	180	DE218AE0	C7.1	Low BSFC
200	180	DE200E3	C7.1	R96/EU Stage IIIA Equivalent
220	200	DE220E0	C7.1	Low BSFC
250	230	DE250E0	C9	Low BSFC
275	250	DE275E0	C9	Low BSFC
275	250	DE275E3	C9	R96/EU Stage IIIA Equivalent
300	275	DE300E0	C9	Low BSFC
300	275	DE300E3	C9	R96/EU Stage IIIA Equivalent
330	300	DE330E0	C9	Low BSFC
—	350	DE350C3	C13	China Non-Road Stage III
—	400	DE400C3	C13	China Non-Road Stage III
400	350	DE400E0	C13	Low BSFC
450	400	DE450E0	C13	Low BSFC
450	400	DE450E3	C13	R96/EU Stage IIIA Equivalent
450	400	—	C15	Low BSFC
—	450	DE450C3	C15	China Non-Road Stage III
—	500	DE500C3	C15	China Non-Road Stage III
500	455	DE500E0	C15	Low BSFC
550	500	DE550E0	C15	Low BSFC
550	500	DE550E3	C15	R96/EU Stage IIIA Equivalent
605	550	DE605E0	C18	Low BSFC
—	600	DE600C3	C18	China Non-Road Stage III
660	600	DE660E0	C18	Low BSFC
700	635	—	C18	Low BSFC
715	650	DE715E0	C18	Low BSFC
780	706	DE780E0	C18	Low BSFC
850	770	DE850E0	C18	Low BSFC

50 Hz, 680 – 1250 kVA RATINGS

kVA					Generator Set Model	Configuration
Standby	Mission Critical	Prime	Prime-DCP	Contin.		
1500 rpm						
750	—	680	—	—	3412C	Low BSFC
800	—	725	—	—	3412C	Low BSFC
900	—	810	—	—	3412C	Low BSFC
1100	1100	1000	—	910	C32	Low BSFC
1250	1250	1100	—	—	C32	Low BSFC
1250	1250	1150	1150	1000	3512	Low BSFC

DIESEL

50 Hz, 1206 – 7150 kVA RATINGS

kVA					Generator Set Model	Configuration
Standby	Mission Critical	Prime	Prime-DCP	Contin.		
1500 rpm						
1400	1400	1275	—	—	C32	Low BSFC
1400	1400	1275	1275	1206	3512	Low BSFC
1500	1500	1375	—	—	C32	Low BSFC
1500	1500	1360	1360	—	3512B	Low BSFC, Low Emissions
1600	1600	1500	1500	1320	3512B	Low BSFC, Low Emissions
1625	1625	1500	1500	1320	3512B	Low BSFC, Low Emissions
1750	1750	1600	1600	—	3512B	Low BSFC, Low Emissions
1875	1875	1700	1700	1500	3512B	Low BSFC, Low Emissions
2000	2000	1825	1825	1600	3516	Low BSFC
2250	2250	2045	2045	—	3516C	< 2000 mg NO _x , EPA Tier 2
2250	2250	2000	2000	1750	3516B	Low BSFC, Low Emissions
—	—	2000	—	1750	3516B DGB™	Low BSFC
—	—	2275	—	2000	3516B DGB	Low BSFC
2500	2500	2275	2275	2000	3516B	Low BSFC, Low Emissions
2500	2500	2275	2275	—	3516C	< 2000 mg NO _x , EPA Tier 2
2750	2750	2500	2500	—	3516C	< 2000 mg NO _x , EPA Tier 2 Low BSFC, Low Emissions
3000	3000	2725	2725	—	3516E	< 2000 mg NO _x , EPA Tier 2
3000	3000	2725	2725	2500	C175-16	Low BSFC
3000	3000	—	—	—	C175-16	Low Emissions
3000	3000	2750	2750	—	3516E	Low BSFC
3125	3125	2800	2800	—	3516C	EPA Tier 2
3250	3250	2950	2950	—	3516E	< 2000 mg NO _x , EPA Tier 2
3500	3500	3175	3175	—	3516E	EPA Tier 2
3900	3900	3500	3500	3150	C175-20	Low BSFC
3900	3900	—	—	—	C175-20	Low Emissions
4000*	4000*	3600*	3600*	3250*	C175-20	Low BSFC
4000*	4000*	—	—	—	C175-20	Low Emissions
1000 rpm						
2688	—	2425	—	2200	3606	Low BSFC
—	—	2425	—	2200	C280-6	IMO/EPA Tier 2
3575	—	3250	—	2938	3608	Low BSFC
—	—	3250	—	2938	C280-8	IMO/EPA Tier 2
5375	—	4850	—	4400	3612	Low BSFC
—	—	4850	—	4400	C280-12	IMO/EPA Tier 2
7150	—	6500	—	5875	3616	Low BSFC
—	—	6500	—	5875	C280-16	IMO/EPA Tier 2
750 rpm						
1963	—	1963	—	—	3606	Low BSFC
2600	—	2600	—	—	3608	Low BSFC
3925	—	3925	—	—	3612	Low BSFC
5200	—	5200	—	—	3616	Low BSFC

*Rating does not include package mounted radiator.

50 Hz, 33 – 1500 kVA RATINGS — Cat® GC GLOBAL

kVA		Generator Set Model	Engine	Configuration
Standby	Prime			
1500 rpm				
33	—	DE33 GC	C3.3	Low BSFC
50	—	DE50 GC	C3.3	Low BSFC
55	—	DE55 GC	C3.3	Low BSFC
65	—	DE65 GC	C3.3	Low BSFC
88	—	DE88 GC	C4.4	Low BSFC
110	—	DE110 GC	C4.4	Low BSFC
150	—	DE150 GC	C7.1	Low BSFC
165	—	DE165 GC	C7.1	Low BSFC
200	—	DE200 GC	C7.1	Low BSFC
217	—	DE220 GC	C7.1	Low BSFC
400	—	DE400 GC	C9.3B	Low BSFC
450	—	DE450 GC	C13	Low BSFC
500	—	DE500 GC	C13	Low BSFC
550	—	DE550 GC	C13	Low BSFC
605	—	DE605 GC	C15	Low BSFC
660	—	DE660 GC	C15	Low BSFC
715	—	DE715 GC	C15	Low BSFC
1100	—	DE1100 GC	C32	Low BSFC
1250	—	DE1250 GC	C32	Low BSFC
1400	—	DE1400 GC	C32	Low BSFC
1500	—	DE1500 GC	C32	Low BSFC

DIESEL

60 Hz, 8 – 600 kW RATINGS

kW		Generator Set Model	Engine	Configuration
Standby	Prime			
Single Phase Output* 1800 rpm				
8.8	8	DE7.5E3S	C1.1	R96/EU Stage IIIA Equivalent
13	12	DE11E3S	C1.5	R96/EU Stage IIIA Equivalent
17	15.5	DE14E3S	C2.2	R96/EU Stage IIIA Equivalent
19.4	17.6	DE16E3S	C2.2	R96/EU Stage IIIA Equivalent
45	40	DE40E0S	C3.3	Low BSFC
60	55	DE50E0S	C3.3	Low BSFC
99.5	90	DE90E2S	C4.4	EU Stage II Equivalent
Three Phase Output** 1800 rpm				
8.8	8	DE9.5E3	C1.1	R96/EU Stage IIIA Equivalent
13.2	12	DE13.5E3	C1.5	R96/EU Stage IIIA Equivalent
17.6	16	DE18E3	C2.2	R96/EU Stage IIIA Equivalent
20	18	DE22E3	C2.2	R96/EU Stage IIIA Equivalent
30	27	DE33E0	C3.3	Low BSFC
45	40	DE56AE0	C3.3	Low BSFC
45	40	DE50E0	C3.3	Low BSFC
50	45	DE55E0	C3.3	Low BSFC
60	55	DE75AE0	C3.3	Low BSFC
60	55	DE65E0	C3.3	Low BSFC
80	72	DE100AE0	C4.4	Low BSFC
80	72	DE88E0	C4.4	Low BSFC
100	90	DE125AE0	C4.4	Low BSFC
100	90.4	DE110E2	C4.4	EU Stage II Equivalent
132	120	DE150E0	C7.1	Low BSFC
135	120	DE169AE0	C7.1	Low BSFC
150	135	DE165E0	C7.1	Low BSFC
174	157	DE218AE0	C7.1	Low BSFC
175	160	DE200E0	C7.1	Low BSFC
200	180	DE200SE0	C9	Low BSFC
250	225	DE250SE0	C9	Low BSFC
275	250	DE275SE0	C9	Low BSFC
300	270	DE300SE0	C9	Low BSFC
350	320	DE350SE0	C13	Low BSFC
400	350	DE400SE0	C13	Low BSFC
450	410	DE450SE0	C15	Low BSFC
500	455	DE500SE0	C15	Low BSFC
550	500	DE550SE0	C18	Low BSFC
600	545	DE600SE0	C18	Low BSFC

*All ratings at 1.0 pf. **All ratings at 0.8 pf.

60 Hz, 600 – 750 kW RATINGS

kW		Generator Set Model	Engine	Configuration
Standby	Prime			
1800 rpm				
650	600	DE650SE0	C18	Low BSFC
716	650	DE715SE0	C18	Low BSFC
750	680	DE750SE0	C18	Low BSFC

60 Hz, 20 – 400 kW RATINGS EPA Stationary Emergency – North America.

kW		Generator Set Model	Engine	Configuration
Standby	Prime			
Single Phase Output* 1800 rpm				
20	—	D20	C2.2	ESE
25	—	D25	C2.2	ESE
30	—	D30	C2.2	ESE
40	36	D40S	C4.4	ESE
50	45	D50S	C4.4	ESE
60	55	D60S	C4.4	ESE
80	72	D80S	C4.4	ESE
100	90	D100S	C4.4	ESE
Three Phase Output** 1800 rpm				
20	—	D20	C2.2	ESE
25	—	D25	C2.2	ESE
30	—	D30	C2.2	ESE
40	36	D40	C4.4	ESE
50	45	D50	C4.4	ESE
60	55	D60	C4.4	ESE
80	72	D80	C4.4	ESE
100	90	D100	C4.4	ESE
125	114	D125	C7.1	ESE
150	136	D150	C7.1	ESE
175	158	D175	C7.1	ESE
200	—	D200	C7.1	ESE
200	180	200	C9	ESE
250	225	250	C9	ESE
300	275	300	C9	ESE
350	320	350	C13	ESE
400	365	400	C13	ESE
350	320	350	C15	ESE
400	365	400	C15	ESE

*All ratings at 1.0 pf. **All ratings at 0.8 pf. ESE = "EPA Stationary Emergency".

DIESEL

60 Hz, 410 – 750 ekW RATINGS EPA Stationary Emergency – North America.

ekW		Generator Set Model	Engine	Configuration
Standby	Prime			
1800 rpm				
450	410	450	C15	ESE
500	455	500	C15	ESE
500	455	500	C18	EPA Tier 4 Final
550	500	550	C18	ESE
600	545	600	C18	ESE
650	600	650	C18	ESE
700	635	700	C18	ESE
750	680	750	C18	ESE

ESE = "EPA Stationary Emergency".

60 Hz, 635 – 2750 ekW RATINGS

ekW					Generator Set Model	Configuration
Standby	Mission Critical	Prime	Prime-DCP	Contin.		
1800 rpm						
700	—	635	—	—	3412C	Low BSFC
750	—	680	—	—	C27	ESE, Low BSFC
750	—	680	—	—	3412C	Low BSFC
800	800	725	—	—	C27	ESE, Low BSFC
800	—	725	—	—	3412C	Low BSFC
1000	1000	910	—	830	C32	ESE, Low BSFC
1100	1100	1000	1000	890	3512	Low BSFC
1100	1100	1000	—	—	C32	ESE, Low BSFC
1250	1250	1136	—	—	C32	ESE, Low BSFC
1250	1250	1135	1135	1010	3512	Low BSFC
1400	1400	1275	1275	—	3512B	Low BSFC, Low Emissions
1500	1500	1360	1360	1230	3512B	Low BSFC, Low Emissions
1500	1500	1360	1360	1230	3512C	ESE
1750	1750	1600	1600	—	3512C	ESE
1750	1750	1600	1600	1450	3516	Low BSFC
2000	2000	1825	1825	1640	3516B	Low BSFC, Low Emissions
—	—	1825	—	1640	3516B DGB	Low BSFC
2000	2000	1825	1825	1650	3516C	ESE
2000	2000	1825	1825	—	3516C	EPA Tier 4 Final
2250	2250	—	—	—	3516B	Low BSFC
2250	2250	2045	2045	—	3516C	ESE
2500	2500	2250	2250	2050	3516C	ESE
2500	2500	2250	2250	—	3516C	EPA Tier 4 Final
2750	2750	2500	2500	—	3516E	ESE

ESE = "EPA Stationary Emergency".

60 Hz, 2725 – 4000 ekW RATINGS

ekW					Generator Set Model	Configuration
Standby	Mission Critical	Prime	Prime-DCP	Contin.		
1800 rpm						
3000	3000	2725	2725	—	3516E	ESE
3000	3000	2725	2725	2500	C175-16	EPA Tier 4 Final, ESE, Low BSFC
3250	3250	3000	3000	—	C175-16	ESE
3500	3500	3180	3180	—	C175-20	ESE
3900	3900	3500	3500	3150	C175-20	ESE, Low BSFC
4000*	4000*	3600*	3600*	3250*	C175-20	ESE, Low BSFC

ESE = "EPA Stationary Emergency".

*Rating does not include package mounted radiator.

60 Hz, 1525 – 5320 ekW RATINGS

ekW			Generator Set Model	Configuration
Standby	Prime	Continuous		
900 rpm				
2000	1820	1650	3606	Low BSFC
—	1820	1650	C280-6	IMO/EPA Tier 2
2660	2420	2200	3608	Low BSFC
—	2420	2200	C280-8	IMO/EPA Tier 2, EPA Tier 4 Final*
4000	3640	3300	3612	Low BSFC
—	3640	3300	C280-12	IMO/EPA Tier 2, EPA Tier 4 Final*
5320	4840	4400	3616	Low BSFC
—	4840	4400	C280-16	IMO/EPA Tier 2, EPA Tier 4 Final*
720 rpm				
—	1525	—	3606	Low BSFC
—	2020	—	3608	Low BSFC
—	3050	—	3612	Low BSFC
—	4040	—	3616	Low BSFC

*Tier 4 Final is met using AVERAGE, BANKING, and TRADING PROGRAM.

60 Hz, 30 – 100 ekW RATINGS — Cat GC GLOBAL

ekW		Generator Set Model	Engine	Configuration
Standby	Prime			
1800 rpm				
30	—	DE33 GC	C3.3	Low BSFC
45	—	DE50 GC	C3.3	Low BSFC
50	—	DE55 GC	C3.3	Low BSFC
60	—	DE65 GC	C3.3	Low BSFC
80	—	DE88 GC	C4.4	Low BSFC
100	—	DE110 GC	C4.4	Low BSFC

DIESEL

60 Hz, 132 – 1250 kW RATINGS — Cat GC GLOBAL

kW		Generator Set Model	Engine	Configuration
Standby	Prime			
1800 rpm				
132	—	DE150 GC	C7.1	Low BSFC
150	—	DE165 GC	C7.1	Low BSFC
175	—	DE200 GC	C7.1	Low BSFC
350	—	DE350S GC	C9.3	Low BSFC
400	—	DE400S GC	C9.3	Low BSFC
450	—	DE450S GC	C13	Low BSFC
500	—	DE500S GC	C13	Low BSFC
550	—	DE550S GC	C15	Low BSFC
600	—	DE600S GC	C15	Low BSFC
800	—	DE800S GC	C27	Low BSFC
1000	—	DE1000S GC	C32	Low BSFC
1250	—	DE1250S GC	C32	Low BSFC

60 Hz, 40 – 400 kW RATINGS — Cat GC NORTH AMERICA

kW		Generator Set Model	Engine	Configuration
Standby	Prime			
Single Phase Output* 1800 rpm				
40	—	D40 GC	C4.4	ESE
50	—	D50 GC	C4.4	ESE
60	—	D60 GC	C4.4	ESE
80	—	D80 GC	C4.4	ESE
100	—	D100 GC	C4.4	ESE
Three Phase Output** 1800 rpm				
40	—	D40 GC	C4.4	ESE
50	—	D50 GC	C4.4	ESE
60	—	D60 GC	C4.4	ESE
80	—	D80 GC	C4.4	ESE
100	—	D100 GC	C4.4	ESE
125	—	D125 GC	C7.1	ESE
150	—	D150 GC	C7.1	ESE
175	—	D175 GC	C7.1	ESE
200	—	D200 GC	C7.1	ESE
250	—	D250 GC	C9	ESE
300	—	D300 GC	C9	ESE
350	—	D350 GC	C13	ESE
400	—	D400 GC	C13	ESE

*All ratings at 1.0 pf. **All ratings at 0.8 pf. ESE = "EPA Stationary Emergency".

60 Hz, 450 – 1250 ekW RATINGS — Cat GC NORTH AMERICA

ekW		Generator Set Model	Engine	Configuration
Standby	Prime			
1800 rpm				
450	—	D450 GC	C15	ESE
500	—	D500 GC	C15	ESE
550	—	D550 GC	C18	ESE
600	—	D600 GC	C18	ESE
800	—	D800 GC	C27	ESE
1000	—	D1000 GC	C32	ESE
1250	—	D1250 GC	C32	ESE

ESE = "EPA Stationary Emergency".

50 Hz, 20 – 1893 kVA RATINGS — RENTAL POWER

kVA			Generator Set Model	Configuration
Standby	Prime	Continuous		
1500 rpm				
22	20	—	XQP20	EU Stage V
33	30	—	XQP30	Low BSFC
65	60	—	XQP60	R96/EU Stage IIIA Equivalent
110	100	—	XQP100	Low BSFC
125	114	—	XQP115	EU Stage V
165	150	—	XQP150	Low BSFC
220	200	—	XQP200	EU Stage V
330	300	—	XQP300	Low BSFC
340	310	—	XQP310	EU Stage V
550	500	—	XQP500	Low BSFC
605	550	—	XQP550	EU Stage V
1210	1100	—	XQP1100	Low BSFC
—	—	1438	XQC1200	Low BSFC / Low Emissions
—	—	1893	XQC1600	Low BSFC / Low Emissions

DIESEL

60 Hz, 28 – 1705 ekW RATINGS — RENTAL POWER

ekW			Generator Set Model	Configuration
Standby	Prime	Continuous		
1800 rpm				
31	28	—	XQP30	Low BSFC
60	54	—	XQP60	R96/EU Stage IIIA Equivalent
103	94	—	XQP100	Low BSFC
137	125	—	XQP115	EU Stage V
149	135	—	XQP150	Low BSFC
198	180	—	XQP200	EU Stage V
302	275	—	XQP300	Low BSFC
297	270	—	XQP310	EU Stage V
460	420	—	XQP500	Low BSFC
512	470	—	XQP550	EU Stage V
1067	970	—	XQP1100	Low BSFC
—	—	1260	XQC1200	Low BSFC, Low Emissions
—	—	1705	XQC1600	Low BSFC, Low Emissions

60 Hz, 35 – 2500 kVA RATINGS — RENTAL POWER

kVA			Generator Set Model	Configuration
Standby	Prime	Continuous		
1800 rpm				
38	35	—	XQ35	EPA Tier 4 Final
—	60	—	XQ60	EPA Tier 4 Final
138	125	—	XQ125	EPA Tier 4 Final
250	228	—	XQ230	EPA Tier 4 Final
360	330	—	XQ330	EPA Tier 4 Final
469	425	—	XQ425	EPA Tier 4 Final
625	568	—	XQ570	EPA Tier 4 Final
1250	1136	—	XQ1140	EPA Tier 4 Final
2500	2280	—	XQ2280	EPA Tier 4 Final

DEFINITIONS

Standby: Output available with varying load for the duration of the interruption of the normal source power. Average power output is 70% of the standby rated ekW. Typical operation is 200 hours per year, with maximum expected usage of 500 hours per year.

Mission Critical: Output available with varying load for the duration of the interruption of the normal source power. Average power output is 85% of the mission critical rated ekW. Typical peak demand up to 100% of rated ekW for up to 5% of the operating time. Typical operation is 200 hours per year, with maximum expected usage of 500 hours per year.

Prime: Output available with varying load for an unlimited time. Average power output is 70% of the prime rated ekW. Typical peak demand is 100% of prime rated ekW with 10% overload capability for emergency use for a maximum of 1 hour in 12. Overload operation cannot exceed 25 hours per year.

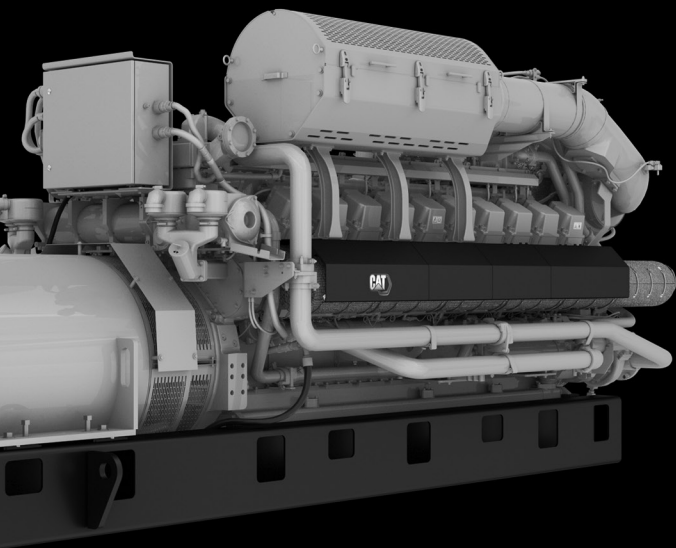
Prime-DCP: For data center applications only. Prime-DCP power output available with varying load for unlimited time. Average power output is not to exceed 100% of Prime-DCP rated ekW. Typical peak demand is 100% of the prime-DCP rated ekW with 10% overload capability for emergency use for a maximum of 1 hour in 12. Overload operation cannot exceed 25 hours per year.

Continuous: Output available with non-varying load for an unlimited time. Average power output is 70-100% of the continuous rated ekW. Typical peak demand is 100% of continuous rated ekW for 100% of the operating hours.



G3520H

GAS GENERATOR SETS



GAS

50 Hz, 374 – 4500 ekW RATINGS — NATURAL GAS

ekW Continuous*	Generator Set Model
1500 rpm	
374	G3412C
400	CG132B-8
600	CG132B-12
800	CG132B-16
1000	CG132B-16
1000	CG170-12
1030	G3516
1125	CG170-12
1200	CG170-12
1380	CG170B-12
1500	CG170-16
1500	G3512H
1560	CG170-16
1840	CG170B-16
2000	CG170B-20
2000	G3516H
2300	CG170B-20
2500	G3520H
2600	G3520 with FAST RESPONSE (1800 rpm)**
1000 rpm	
3333	CG260-12
4300	CG260-16
4500	CG260-16

*All ratings at 0.8 pf. Electric output depends on final generator specification.

< 250 mg/Nm³ NO_x at an oxygen content of 5%.

**ekW Standby.

50 Hz, 174 – 1105 ekW RATINGS — BIOGAS

ekW Continuous*	Generator Set Model
1500 rpm	
174	G3412
400	CG132B-8
600	CG132B-12
800	CG132B-16
1000	CG170-12
1041	G3516
1105	G3516

*All ratings at 0.8 pf.

50 Hz, 1200 – 3770 ekW RATINGS — BIOGAS

ekW Continuous*	Generator Set Model
1500 rpm	
1200	CG170-12
1380	CG170B-12
1560	CG170-16
1840	CG170B-16
1984	G3520C
2000	CG170B-20
2300	CG170B-20
1000 rpm	
3770	CG260-16

*All ratings at 0.8 pf.

50 Hz, 252 – 3420 ekW RATINGS — PROPANE

ekW Continuous	Generator Set Model	Configuration
1500 rpm		
252	CG132B-08	250 mg/Nm ³ NO _x
378	CG132B-12	250 mg/Nm ³ NO _x
504	CG132B-16	250 mg/Nm ³ NO _x
505	CG132B-16	250 mg/Nm ³ NO _x
750	CG132B-16	250 mg/Nm ³ NO _x
842	CG170B-12	250 mg/Nm ³ NO _x
878	CG170-12	250 mg/Nm ³ NO _x
913	G3512H	500 mg/Nm ³ NO _x
948	CG170-12	250 mg/Nm ³ NO _x
950	CG170-12	250 mg/Nm ³ NO _x
1122	CG170B-16	250 mg/Nm ³ NO _x
1144	G3516H	500 mg/Nm ³ NO _x
1170	CG170-16	250 mg/Nm ³ NO _x
1186	CG170-16	250 mg/Nm ³ NO _x
1429	G3520H	500 mg/Nm ³ NO _x
1472	CG170B-20	250 mg/Nm ³ NO _x
1880	CG170B-20	250 mg/Nm ³ NO _x
1000 rpm		
2100	CG260-12	250 mg/Nm ³ NO _x
2795	CG260-16	250 mg/Nm ³ NO _x
3420	CG260-16	250 mg/Nm ³ NO _x

Propane ratings of natural gas gensets are very sensitive to site conditions, fuel composition and emissions setting. Site specific limitations may apply, maintenance intervals may be affected. Nitrogen oxide (NO_x) emissions at an oxygen content of 5%.

GAS

50 Hz, 400 – 4500 kW RATINGS — 25 VOL.-% HYDROGEN IN NATURAL GAS

kW Continuous	Generator Set Model	Configuration
1500 rpm		
400	CG132B-08	NG with 25% hydrogen
600	CG132B-12	NG with 25% hydrogen
800	CG132B-16	NG with 25% hydrogen
1000	CG132B-16	NG with 25% hydrogen
1380	CG170B-12	NG with 25% hydrogen
1500	G3512H	NG with 25% hydrogen
1840	CG170B-16	NG with 25% hydrogen
2000	G3516H	NG with 25% hydrogen
2000	CG170B-20	NG with 25% hydrogen
2300	CG170B-20	NG with 25% hydrogen
2500	G3520H	NG with 25% hydrogen
1000 rpm		
3333	CG260-12	NG with 25% hydrogen
4300	CG260-16	NG with 25% hydrogen
4500	CG260-16	NG with 25% hydrogen

Generator sets operating on Natural Gas containing up to 25 vol.-% of hydrogen.

60 Hz, 175 – 500 kW RATINGS — NATURAL GAS

kW Standby	Generator Set Model	Engine	Configuration
Single Phase Output* 1800 rpm			
175	DG175-2 GC	14.2	ESE
200	DG200-2 GC	14.2	ESE
Three Phase Output** 1800 rpm			
175	DG175-2 GC	14.2	ESE
200	DG200-2 GC	14.2	ESE
230	DG230-2 GC	14.2	ESE
250	DG250-2 GC	14.2	ESE
275	DG275-2 GC	14.2	ESE
300	DG300-2 GC	14.2	ESE
350	DG350	18.1	ESE
350	DG350-2 GC	21.9	ESE
400	DG400	18.1	ESE
400	DG400-2 GC	21.9	ESE
450	DG450	18.1	ESE
450	DG450-2 GC	21.9	ESE
500	DG500	18.1	ESE

*All ratings at 1.0 pf. **All ratings at 0.8 pf.

The above Certifications are applicable for US Sales: ESE = "EPA Stationary Emergency".

60 Hz, 500 – 2500 kW RATINGS — NATURAL GAS

ekW Standby	Generator Set Model	Engine	Configuration
1800 rpm			
500	G3412	G3412 with FAST RESPONSE	EPA Factory Certified
750	G3512	G3512 with FAST RESPONSE	EPA Factory Certified
1000	G3512	G3512 with FAST RESPONSE	EPA Factory Certified
1250	G3512	G3512 with FAST RESPONSE	1 g/bhp-hr NO _x
1500	G3516	G3516 with FAST RESPONSE	EPA Factory Certified
2000	G3520	G3520 with FAST RESPONSE	EPA Factory Certified
2500	G3520	G3520 with FAST RESPONSE	EPA Factory Certified

All ratings at 0.8 pf.

Nitrogen oxide (NO_x) emissions at an oxygen content of 5%.

60 Hz, 100 – 150 kW RATINGS — NATURAL GAS

ekW Emergency Standby	Generator Set Model	Engine	Configuration
Single Phase Output* 1800 rpm			
100	DG100	6.2	ESE
Three Phase Output** 1800 rpm			
100	DG100	6.2	ESE
125	DG125	6.2	ESE
150	DG150	9.1	ESE

*All ratings at 1.0 pf. **All ratings at 0.8 pf.

The above Certifications are applicable for US Sales: ESE = "EPA Stationary Emergency".

60 Hz, 86 – 122 kW RATINGS — NATURAL GAS

ekW Prime	Generator Set Model	Engine	Configuration
Single Phase Output* 1800 rpm			
86	DG125	6.2	EPA Non-Emergency
Three Phase Output** 1800 rpm			
88	DG125	6.2	EPA Non-Emergency
122	DG150	6.2	EPA Non-Emergency

*All ratings at 1.0 pf. **All ratings at 0.8 pf.

GAS

60 Hz, 100 – 500 kW RATINGS — NATURAL GAS

ekW Demand Response	Generator Set Model	Engine	Configuration
Single Phase Output* 1800 rpm			
100	DG125	6.2	EPA Non-Emergency
175	DG175-2 GC	14.2	EPA Non-Emergency
200	DG200-2 GC	14.2	EPA Non-Emergency
Three Phase Output* 1800 rpm			
105	DG125	6.2	EPA Non-Emergency
125	DG125	6.2	EPA Non-Emergency
150	DG150	9.1	EPA Non-Emergency
175	DG175-2 GC	14.2	EPA Non-Emergency
200	DG200-2 GC	14.2	EPA Non-Emergency
230	DG230-2 GC	14.2	EPA Non-Emergency
250	DG250-2 GC	14.2	EPA Non-Emergency
275	DG275-2 GC	14.2	EPA Non-Emergency
300	DG300-2 GC	14.2	EPA Non-Emergency
350	DG350	18.1	EPA Non-Emergency
350	DG350-2 GC	21.9	EPA Non-Emergency
400	DG400	18.1	EPA Non-Emergency
400	DG400-2 GC	21.9	EPA Non-Emergency
450	DG450	18.1	EPA Non-Emergency
450	DG450-2 GC	21.9	EPA Non-Emergency
500	DG500	18.1	EPA Non-Emergency

*All ratings at 0.8 pf.

60 Hz, 400 – 4050 ekW RATINGS — NATURAL GAS

ekW Continuous*	Generator Set Model
1800 rpm	
400	CG132B-8
423	G3412C
453	G3412
600	CG132B-12
800	CG132B-16
1500 rpm	
1125	CG170-12
1200	CG170-12
1490	G3512H
1500	CG170-16
1560	CG170-16
1982	G3516H
2000	CG170B-20
2300	CG170B-20
2490	G3520H
900 rpm	
3000	CG260-12
4000	CG260-16
4050	CG260-16

*All ratings at 0.8 pf. Electric output depends on final generator specification.

< 250 mg/Nm³ NO_x at an oxygen content of 5%.

GAS

60 Hz, GAS POWER SOLUTION RATINGS, 1500 – 2400 ekW

ekW Continuous*	Generator Set Model	Engine / Configuration
1500 rpm		
1490	CHP1500	G3512H w/CHP Solution
1982	CHP2000	G3516H w/CHP Solution
2400	CHP2500	G3520H w/CHP Solution

*All ratings at 0.8 pf.

60 Hz, 194 – 3510 ekW RATINGS — BIOGAS

ekW Continuous*	Generator Set Model
1800 rpm	
194	G3412
400	CG132B-8
600	CG132B-12
800	CG132B-16
1200 rpm	
824	G3516
1000	G3516+
1626	G3520C
1500 rpm	
1200	CG170-12
1560	CG170-16
1950	G3520C
2000	CG170B-20
2300	CG170B-20
900 rpm	
3510	CG260-16

*All ratings at 0.8 pf.

50/60 Hz, 1900 ekW RENTAL POWER RATINGS

ekW Continuous*	Generator Set Model	Configuration
1500/1800 rpm		
1900	XGC1900	500 mg/Nm ³ NO _x
1800 rpm		
1900	XGC1900	250 mg/Nm ³ NO _x

*All ratings at 0.8 pf.
At an oxygen content of 5%.

60 Hz, 253 – 2613 kW RATINGS — PROPANE

ekW Continuous	Generator Set Model	Configuration
1800 rpm		
253	CG132B-08	250 mg/Nm ³ NO _x
378	CG132B-12	250 mg/Nm ³ NO _x
505	CG132B-16	250 mg/Nm ³ NO _x
607	G3512 with FAST RESPONSE*	500 mg/Nm ³ NO _x
750	CG132B-16	250 mg/Nm ³ NO _x
932	G3516 with FAST RESPONSE*	500 mg/Nm ³ NO _x
1097	G3520 with FAST RESPONSE*	500 mg/Nm ³ NO _x
1500 rpm		
878	CG170-12	250 mg/Nm ³ NO _x
892	G3512H	500 mg/Nm ³ NO _x
948	CG170-12	250 mg/Nm ³ NO _x
950	CG170-12	250 mg/Nm ³ NO _x
1112	G3516H	500 mg/Nm ³ NO _x
1170	CG170-16	250 mg/Nm ³ NO _x
1186	CG170-16	250 mg/Nm ³ NO _x
1391	G3520H	500 mg/Nm ³ NO _x
1472	CG170B-20	250 mg/Nm ³ NO _x
1880	CG170B-20	250 mg/Nm ³ NO _x
900 rpm		
1770	CG260-12	250 mg/Nm ³ NO _x
2229	CG260-16	250 mg/Nm ³ NO _x
2613	CG260-16	250 mg/Nm ³ NO _x

Propane ratings of natural gas gensets are very sensitive to site conditions, fuel composition and emissions setting. Site specific limitations may apply, maintenance intervals may be affected. Nitrogen oxide (NO_x) emissions at an oxygen content of 5%.

*Primary Standby use.

GAS

60 Hz, 400 – 4500 ekW RATINGS — 25 VOL.-% HYDROGEN IN NATURAL GAS

ekW Continuous	Generator Set Model	Configuration
1800 rpm		
400	CG132B-08	NG with 25% hydrogen
600	CG132B-12	NG with 25% hydrogen
800	CG132B-16	NG with 25% hydrogen
1500 rpm		
1490	G3512H	NG with 25% hydrogen
1982	G3516H	NG with 25% hydrogen
2000	CG170B-20	NG with 25% hydrogen
2300	CG170B-20	NG with 25% hydrogen
2490	G3520H	NG with 25% hydrogen
900 rpm		
3000	CG260-12	NG with 25% hydrogen
4000	CG260-16	NG with 25% hydrogen
4500	CG260-16	NG with 25% hydrogen

Generator sets operating on Natural Gas containing up to 25 vol.-% of hydrogen.

DEFINITIONS

Standby Power Rating / Demand Response: Output available with varying load for the duration of the interruption of normal source power. Average power output is 70% of the standby rated ekW. Typical operation is 200 hours per year, with maximum expected usage of 500 hours per year.

Emergency Standby Power (ESP): Output available with varying loads for the duration of the interruption of the normal source power. Average power output is 70% of the ESP rated ekW. Typical operation is 50 hours per year with a maximum expected usage of 200 hours per year.

Prime Power Rating: Output available with varying load for an unlimited time. Average power output is 70% of the prime rated ekW. Typical peak demand is 100% of prime rated ekW.

Continuous Power Rating: Output available with non-varying load for an unlimited time. Average power output is 70-100% of the continuous rated ekW. Typical peak demand is 100% of continuous rated ekW for 100% of operating hours.



A black and white photograph of a vast solar farm. The foreground and middle ground are filled with rows of solar panels, each with a grid pattern, mounted on metal frames. The panels are tilted towards the sun. The background shows a flat, arid landscape with some distant structures and a range of mountains under a clear sky. The overall scene conveys a sense of large-scale renewable energy production in a natural setting.

RENEWABLE HYBRID ENERGY SOLUTIONS

RENEWABLE HYBRID SOLUTIONS

Microgrids & Renewable Energy Systems

Cat® microgrids provide cost-effective power for on- and off-grid communities and commercial or industrial installations. By combining our advanced energy storage solutions with renewable energy from photovoltaic solar modules and traditional generation from utilities or generator sets, we can develop an energy system specifically designed for your needs. The Cat microgrid combines all sources into a single, controllable entity to optimize the flow of energy so it can be produced at the lowest total cost.

Power Grid Stabilization (PGS)

Power Grid Stabilization modules provide a pre-engineered solution to energy storage needs. The modules integrate with diesel or gas generator sets, photovoltaic (PV), or other renewable systems to provide short duration power. The module holds closely regulated system voltage and frequency during periods of rapid load addition or removal, or during periods of intermittent output from the renewables.

Model	Nameplate Energy	Nameplate Power	15 Minutes Output	10 Second Output
PGS840	448 kWh	767 kW	795 kW	840 kW
PGS1260	672 kWh	1000 kW	1170 kW	1260 kW
PGS1260 HD mobile	672 kWh	1000 kW	1170 kW	1260 kW



RENEWABLE HYBRID SOLUTIONS

Energy Time Shift (ETS)

Energy Time Shift modules provide a pre-engineered solution to energy storage needs. The scalable system integrates with photovoltaic (PV) or other renewable systems to store energy from renewables, generator sets, or the grid for use at a later time. The ETS module contains the bi-directional power inverter with a fixed number of batteries and support equipment.

Model	Nameplate Energy	Nameplate Power	15 Minutes Output	10 Second Output
ETS1500 (stand alone)	1518 kWh	570 kW	570 kW	570 kW
ETS1500*	1518 kWh	1000 kW	1140 kW	1140 kW
ETS1500**	1518 kWh	1000 kW	1170 kW	1260 kW

*When paired with a single ECE1500.

**When paired with multiple ECE1500 or any combination with ECE2000 or ECE2500.



Energy Capacity Expansion (ECE)

The Energy Capacity Expansion modules provide increased energy capacity and discharge duration when connected for use with the ETS module.

Model	Nameplate Energy
ECE1500	1518 kWh
ECE2000	2024 kWh
ECE2500	2530 kWh



RENEWABLE HYBRID SOLUTIONS

Compact ESS

The compact ESS is a mobile battery energy storage system that supplements traditional mobile power solutions to reduce noise, enable deployment of renewable energy sources, and, under certain conditions, allow customers to operate their generator more efficiently. Designed for rapid plug-and-play installation and integration, the Cat Compact ESS module can be used with any combination of diesel, natural gas or renewable energy sources such as solar or wind.

Model	Nameplate energy	Nameplate power	Voltage	Frequency
XES60	56.8 kWh	24 kW (30 kVA)	280/120V	60 Hz
XES60	56.8 kWh	36 kW (45 kVA)	400/230V	50 Hz
XES120	127.9 kWh	48 kW (60 kVA)	280/120V	60 Hz
XES120	127.9 kWh	72 kW (90 kVA)	400/230V	50 Hz

Weather Stations

Weather Stations provide a pre-engineered system that cost-effectively scales to Microgrid Solution size and complexity. The Weather station delivers best-practice PV performance tracking and correlation technology.

Basic Features	Class A	Class B	Class C
Plane of Array	•	•	•
Back of Module Temperature	•	•	•
Air Temperature	•	•	•
Relative Humidity	•	•	—
Wind Speed	•	•	—
Wind Direction	•	•	—
Barometric Pressure	•	•	—
Global Horizontal Irradiance	•	—	—

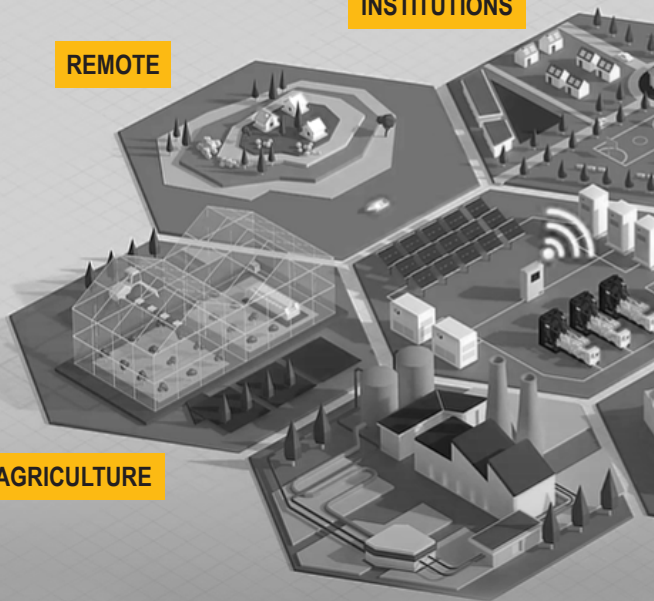


INSTITUTIONS

REMOTE

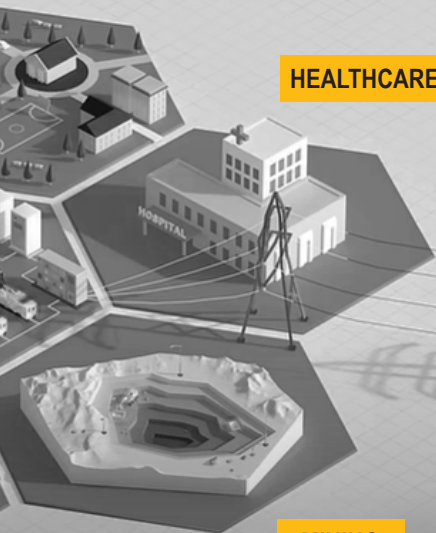
AGRICULTURE

COMMERCIAL & INDUSTRIAL

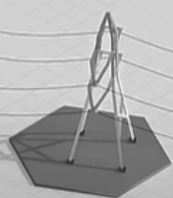
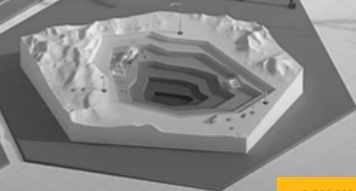


CONTROLS

HEALTHCARE



MINING



CAT ENERGY CONTROL SYSTEM (ECS)



Cat Energy Control System (ECS)

As the energy ecosystem evolves, so does the need for distributed generation resources and more control of advanced energy systems, the Cat ECS portfolio utilizes simple, scalable architecture, which allows customers to layer additional functionality and serviceability in line with changing energy needs.

The energy control system range support customer operations with the:

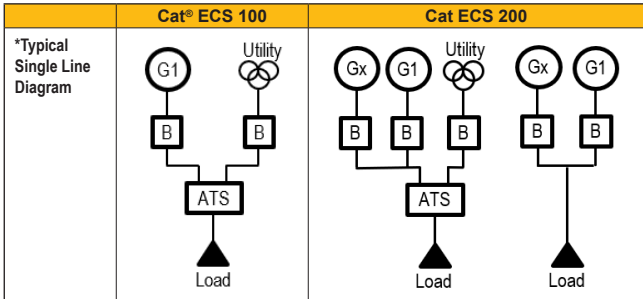
Cat ECS 100 – a powerful standby control system

Cat ECS 200 – for genset paralleling, cogeneration systems, balance of plant control, and grid code

The Cat ECS controllers meet new regulatory requirements and are powerful enough to meet future ones. Factory-engineered to ensure compatibility and a consistent customer experience with on-site power products, the Cat ECS controllers include an innovative plug-and-play feature to make installation and commissioning of additional modules faster.

CAT ENERGY CONTROL SYSTEM (ECS)

Features & Benefits	
SIMPLICITY	A new color touchscreen for a more intuitive user experience and simplified control, customizable to your specific business needs.
FLEXIBILITY	User-defined tasks, integrated programmable logic controller (PLC) functionality, and additional remote human-machine interfaces (HMIs) for greatly enhanced flexibility, safety, and site monitoring.
CONNECTIVITY	Full integration via Cat Connect services, with performance insights to ensure optimum engine efficiency and greater remote monitoring.
COMPATIBILITY	Innovative plug-and-play system, compatible with your existing on-site power products for faster, easier installation and commissioning of additional features.
COMPLIANCY	Compliance with UL 2200 3rd edition requirements and UL 6200.
SAFETY	Full automatic mains failure functionality featuring 3-phase generator, mains voltage sensing, and breaker transfer pair control.
SCALABILITY	With options for expanded functionality, you can build your energy management system from a single generator to cohesive site-level solutions by simple modular upgrades.
SERVICEABILITY	Our global network of dealers is on hand to provide you with full product support, warranty, training, and servicing.



* More single line diagrams are available to meet application requirements. Contact your local Cat® dealer for more information.

CAT ENERGY CONTROL SYSTEM (ECS)

Feature Summary	Cat® ECS 100	Cat ECS 200
Intuitive 8-inch color smart-screen navigation, customized to customers' needs	•	•
Enhanced programmable logic controller (PLC) functionality	•	•
Four optional remote human machine interfaces (HMIs) for greatly enhanced site monitoring, flexibility, and safety	•	•
Compatibility with Cat Connect and Product Link™ devices	•	•
Automatic Mains Failure (AMF) featuring 3-phase generator & mains voltage sensing with breaker transfer pair control (open transition return to Utility)	•	•
Integrated annunciator function to meet requirements of NFPA 110 for simplified site regulatory compliance	•	•
Compliance with UL2200 3rd edition standard,	•	•
Including UL 6200 functional safety requirements	•	•
Ethernet Modbus TCP for external communications	•	•
Multi-language support	•	•
Lockout security provision to assure platform integrity with three programmable security levels	•	•
IVR or CDVR voltage regulation compatibility	•	•
Load Sharing	•	•
Island mode	•	•
Island parallel (load share)	–	•
Single Gen Transient Load Relief (TLR)	•	–
Simple BOP capability (limited I/O count)	•	–
Balance of plant control (BOP)	–	•
Load add / load shed	–	•
Automatic/manual synchronization	–	•
Dead bus arbitration	–	•
Real and reactive load sharing	–	•
Support for ring network configuration	–	•
Paralleling of generator sets	–	•
Gen Paralleling Breaker Control	–	•
Advanced Paralleling Control Data Link (APCDL)	–	•
Utility Base Load	–	•
Combined heat and power (CHP) operation	–	•

CAT ENERGY CONTROL SYSTEM (ECS)

Summary of Genset Control Functions

Description	Cat® ECS 100	Cat ECS 200	EMCP 4.4	
			Standard	(1G1U)
Operating Modes				
Emergency Standby / Island Mode	•	•	•	•
Utility Paralleling	–	–	–	•
System Capacity				
Number of Units	1	32 –APCDL ⁽¹⁾	8 – Hardwired 16 – MGD ⁽²⁾	1
Voltages				
Voltage	•	•	•	•
	(208V – 15 kV)		(208V – 15 kV)	
Generator Paralleling Functions				
Dead Bus Arbitration	–	•	•	–
Synchronization	–	•	•	•
Load Sharing	–	•	•	–
Load Sense / Load Demand (LS / LD)	–	•	•	–
LS / LD – Engine Hours Balancing	–	•	•	–
Load Shed / Load Add Stages	–	1 per genset	Up to 4 ⁽³⁾	•
Utility Paralleling Functions				
Base Load Control	–	•	•	•
Load Management / Peak Shaving (Utility)	–	–	–	•
Utility Transfer / Control	–	–	–	•
Utility Protection Relaying (Industrial Grade)	–	–	–	•

KEY

- Standard
- Not Available

Notes:

⁽¹⁾ Advanced Paralleling Control Data Link (APCDL).

⁽²⁾ Multi-Gen Data Link (MGDL).

⁽³⁾ Includes 1 fully featured load shed stage (feeder breaker control) plus 3 programmable generator set kW-based load shed stages.

Other: Multi-Gen Data Link (MGDL).

EMCP 4.4 CONTROLS



EMCP 4.4

The EMCP 4.4 has a 5.5-inch graphical display, context specific navigation keys, a Modbus TCP port functionality, and fully automatic multi generator set paralleling. The EMCP 4.4 provides all the functions required to automatically parallel generator sets, including dead bus arbitration, automatic or manual modes of operation, and load sharing (real and reactive). Optional provisions allow for extended parallel operation of a single generator with Utility for Base Load/Import/Export capability.

MICROGRID MASTER CONTROLLER



MICROGRID MASTER CONTROLLER (MMC)

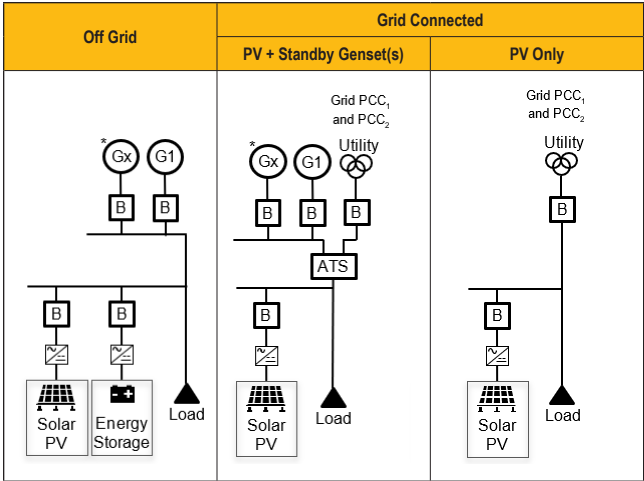
The MMC is designed for applications with a limited number of power generation assets. It integrates the photovoltaic (PV) system, generator set, and energy storage system.

It provides basic controls functionality.

Typical Single Line Diagrams

More single line diagrams are available to meet application requirements. Contact your local Cat dealer for more information.

MICROGRID MASTER CONTROLLER



Notes key:

- (*) Paralleling Genset controllers (Cat ECS 200, EMCP4.4) or Paralleling Switchgear Required.
- (PCC) Points of Common Coupling
- (G) Genset
- (B) Breaker
- (ATS) Automatic Transfer Switch
- (PV) Photovoltaic Panel



ATTENTION: 5
TOP
PROTECT



SEL

SEL-101	SEL-102
SEL-103	SEL-104
SEL-105	SEL-106
SEL-107	SEL-108
SEL-109	SEL-110
SEL-111	SEL-112
SEL-113	SEL-114
SEL-115	SEL-116
SEL-117	SEL-118
SEL-119	SEL-120

SPACE



EMERGENCY STOP

A circular emergency stop button with a red center and a black ring, used for quickly halting operations.

STOP

A rectangular stop button with a black face and a white label, used for stopping the machine.

STOP

A rectangular stop button with a black face and a white label, used for stopping the machine.

⚠ DANGER

SAFETY

A black and white icon of a person falling, used to indicate a fall hazard.

WARNING

CAUTION

NOTICE

A black rectangular button with a white label, used for displaying a notice.

STOP

A rectangular stop button with a black face and a white label, used for stopping the machine.

STOP

A rectangular stop button with a black face and a white label, used for stopping the machine.

NOTICE

A black rectangular button with a white label, used for displaying a notice.

TAP BOX



SYSTEMS PRODUCTS



SYSTEMS PRODUCTS

Advanced Control

Flexible control products and architectures for tailoring the performance of Cat Electric Power sources to meet any application. Designed around customer requirements or pre-configurable solutions.

Description	EMCP 4.4 SCP Supervisory Control	EMCP 4.4 Master Control Panel			
		(EGP4)	(EGP)	(XLM)	
Operating Modes					
Emergency Standby / Island Mode	●	●	●	●	
Utility Paralleling	–	–	–	●	
System Capacity					
Number of Units	16	4	8 (Standard)	8 (Standard)	
Voltages					
Voltage	●	●	●	●	
(208V – 15 kV)					
Generator Paralleling Functions					
Dead Bus Arbitration		●	●	●	
Synchronization		(Note 1)	(Note 1)	(Note 1)	
Load Sharing	(Note 1)	●	●	●	
Load Sense / Load Demand (LS / LD)		●	●	●	
LS / LD – Engine Hours Balancing		●	●	●	
Load Shed / Load Add Stages	16	4	8	8	
Utility Paralleling Functions					
Base Load Control	–	–	–	●	
Load Management / Peak Shaving (Utility)	–	–	–	●	
Utility Transfer / Control	–	–	–	●	
Utility Protection Relaying (Industrial Grade)	–	–	–	●	

KEY

- Standard
- Not Available

Notes:

(1) Function included as part of the system – performed by the EMCP 4.4 Generator Set Controller.

SYSTEMS PRODUCTS

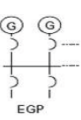



	EPIC	CHP	Controls and Switchgear	
	Modular Control Panels Ideal for Adding Additional Generation Capacity	Combined Heat and Power (CHP) Loop System Controls	Configurable Controls and Switchgear with Standardized Sequence of Operations	Design to Order Controls and Switchgear with Customizable Sequence of Operations
	•	–	•	•
	•	•	•	•
	≤12	≤12	≤12	Unlimited
	•	•	•	•
	(208V – 38 kV)			
	•	–	•	•
	•	•	•	•
	•	–	•	•
	•	–	•	•
	•	–	•	•
	12	–	12	Unlimited
	–	•	–	–
	•	•	•	•
	•	–	•	•
	–	•	•	•

SYSTEMS PRODUCTS

Paralleling Switchgear

Cat standard switchgear products can support a wide variety of applications, or we can provide a custom Voltage designed system to meet your specific project needs. The XLM product supports transfer between the utility source and generator bus and allows for sustained parallel operation with the utility for load management applications. The EGP product supports paralleling on an

Cat Switchgear Selector

Application Guide Tab Section	Voltage Range		Parallel Multiple Gensets	Parallel with Utility	Standby Applications	Transfer Switches	
Emergency Generator Paralleling Switchgear (EGP)							
3  EGP	208-600V	UL 1558, UI 891 CSA Arc Res 2B	•	–	•	•	
	2.4-27 kV	ANSI C37.20.2 ANSI C37.20.3 UL MV, CSA Arc Res 2B, 2C, 2BC	•	–	•	•	
Transfer and Load Management Paralleling Switchgear (XLM)							
4  XLM	208-600V	UL 1558, UI 891 CSA Arc Res 2B	•	•	•	–	
	2.4-27 kV	ANSI C37.20.2 ANSI C37.20.3 UL MV, CSA Arc Res 2B, 2C, 2BC	•	•	•	–	
Additional Medium Voltage Features							
5  MV	2.4-27 kV	ANSI C37.20.2 ANSI C37.20.3 UL MV, CSA Arc Res 2B, 2C, 2BC	•	•	•	•	
Custom Paralleling Switchgear Features							
6 	208V-27 kV	UL 1558 UI 891 CSA Arc Res 2B ANSI C37.20.2 ANSI C37.20.3 UL MV, CSA Arc Res 2B, 2C, 2BC	•	•	•	•	

SYSTEMS PRODUCTS

isolated generator bus and is commonly used in prime power or emergency standby systems. Caterpillar switchgear is available in ratings from 600V through 27 kV and provides a solution able to combine all elements of monitoring and control for Cat generator sets in a single-source package.

	Modes of Operation					Application Considerations
	Emergency Standby	Closed Transition / Soft Load	Peak Shaving	Load Shed / Add Control	Utility Export	
	•	–	–	•	–	EGP product is used to parallel multiple gensets to a common bus where interconnect with the utility is not required. EGP systems are commonly used where there are downstream transfer switches.
	•	–	–	•	–	
	•	•	•	•	•	XLM Product is used when generators will be paralleled with a utility (Utility Breaker may be local or remote). Allows closed transition transfer to/from utility as well as continuous paralleling.
	•	•	•	•	•	
	•	•	•	•	•	Medium Voltage product utilize vacuum circuit breakers. This section covers equipment specific to applications >600V.
	•	•	•	•	•	Customize products are available to meet the most demanding or unique requirements including multiple utilities, multiple ties, custom sequence of operations, etc.

SYSTEMS PRODUCTS

ATS

Operating Modes:

- Open Transition
- Closed Transition
- Delayed Transition
- Bypass Isolation

ATC Line

Product	Amp Range	Controllers
ATC – Contactor-type ATS	40A – 3000A	ATC 300+ or 900
ATC – Power Breaker & Power Case-type ATS	200A – 5000A	ATC 900
ATC – Molded Case-type ATS	30A – 1000A	ATC 300+ or 900
ATC – Service Entrance Rated MCCB & Power Breaker-type ATS	30A – 5000A	ATC 300+ or 900
ATC – Contactor-type ATS with Bypass Isolation	100A – 3000A	ATC 300+ or 900
ATC – Power Breaker-type ATS with Bypass Isolation	200A – 5000A	ATC 900

TruOne & MX Line

Product	Amp Range	Controllers
CG – Contactor-type, Open Transition ATS for general purpose applications	30A – 3000A	TruOne L3 Type
CGD – Contactor-type, Delayed Transition ATS for general purpose applications	30A – 3000A	TruOne L3 Type
CS – Contactor-type, Open Transition ATS (Spec Grade)	30A – 3000A	TruOne L4 Type
CSD – Contactor-type, Delayed Transition ATS (Spec Grade)	30A – 3000A	TruOne L4 Type
CSCT – Contactor-type, Closed Transition ATS (Spec Grade)	400A – 3000A	TruOne L4 Type
CBS – Contactor-type, Open Transition ATS w/ Bypass Isolation (Spec Grade)	30A – 3000A	TruOne L4 Type
CBSD – Contactor-type, Delayed Transition ATS w/ Bypass Isolation (Spec Grade)	30A – 3000A	TruOne L4 Type
CBSCT – Contactor-type, Closed Transition ATS w/ Bypass Isolation (Spec Grade)	1000A – 3000A	TruOne L4 Type

SYSTEMS PRODUCTS

Temporary Generator Connections

Features:

- Listed to UL standards
- Visual indication of L-L voltage (3 phase)
- Color Coded Cam-Locks
- Selectable Cam-Lock receptacle gender or mechanical lug connection to generator
- Available Phase Rotation, Loss and Undervoltage Protection
- Padlockable Wingnob latch
- Density rated (1000A/in²) bus
- Mechanically Interlocked access doors

Functions:

- Provides simple connection of temporary generator or load bank
- Provides for permanent lug or circuit breaker connection to building distribution equipment
- Weatherproof enclosures with temporary generator cable access doors

Product	Amp Range	Enclosures	Controllers
Lug-to-Lug Tap Box	200A – 3000A	NEMA3R	Lugs Only
Wallmount Camlock Tap Box	400A – 2400A	NEMA3R or NEMA3R 316 Stainless	Male or Female
Free Standing Camlock Tap Box	1600A – 4000A	NEMA3R or NEMA3R 316 Stainless	Male or Female
Enclosed Circuit Breaker Box	200A – 800A	NEMA3R, 4X Stainless	Male or Female



7/24/2017 1:04:03

LOW COST MO

LOAD

(P) 437 kW

$\frac{4}{4}$



(Q) 137 kVar

$\frac{4}{4}$

(PF) 0.95

437 kW



6.7

153.1

480 v

60 Hz

5 kW



GEN

(P) 5 kW

$\frac{1}{3}$



(Q) 136 kVar

$\frac{3}{3}$

(PF) 0.03 MMC in Control

PV

(P) 451 kW

20

(Q) 0 kVar

20

(PF) 1

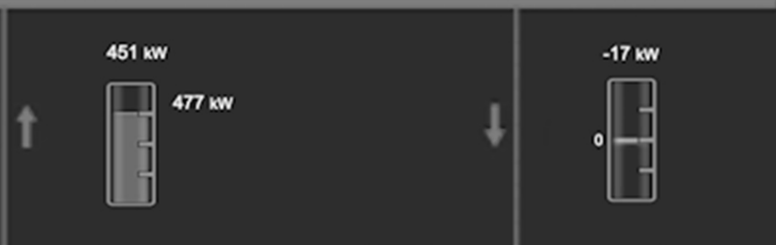
CAT CONNECT AND PRODUCT SUPPORT

4:03 PM

MODE



HIGH VOLTAGE



CAT CONNECT

Technologies and Services

Electric Power Cat Connect offerings give you an easier way to manage your assets and optimize every aspect of performance.

Cat Remote Asset Monitoring (RAM):

Monitor:

- Status
- Location
- Engine Parameters
- Electrical Parameters
- Current & Historical Faults

Customer Benefits:

- Customizable Dashboards and Alerts
- Remote Operations
- Mobile App Available
- Geofencing



Condition Monitoring

All assets that are connected to Cat RAM will receive research-based automated recommendations as Prioritized Service Events.

Additionally, assets that have a CVA will be monitored by Caterpillar experts using the latest technologies. The Condition Monitoring Advisors will proactively monitor assets, analyze exceptions, and provide operational and repair recommendations.

Analytics

Connectivity enables our analytics team to create reports to better view and understand the data from your devices. Below are some reports offered from these analytics.

- Genset Health
- Fleet Operational KPI
- Critical Standby Performance
- Rental Asset Location
- Emissions

Product Support and Definitions

Extended Service Coverage (ESC)

Depending on the model and application, Silver, Gold, Platinum and Platinum Plus coverage levels are available from Caterpillar with terms to meet most applications, whether prime or standby.

Platinum and Platinum Plus provide additional allowances for overtime, emergency freight, rental, crane and rigging support. Please see the registration contract for details.

Equipment	Coverage Option
New Product	New ESC
Existing Product	Advantage ESC
Overhauls	OVH

Platinum Plus also offers more Additional Allowances and remote troubleshooting fees, up to a maximum of \$50.00 per claim, and disconnect/connect allowance of \$1500 for labor to remove/install covered components mounting and support systems.

Additional Allowances – Standby Power

Engine Displacement ⁴	Travel/Mileage Limitations		Emergency Freight	Rental ⁵		Crane & Rigging ⁶	Overtime
	Silver/Gold/Platinum hr / mile	Platinum Plus Only hr / mile	All Coverage Levels \$ USD	Platinum Only \$ USD	Platinum Plus only \$ USD	Platinum Only \$ USD	Platinum Plus only \$ USD
Up to 4 liters	2 / 100	10 / 500	500	2,500	5,000	1,000	3,000
Over 4 liters up to 7.5 liters	4 / 200	10 / 500	500	5,000	10,000	1,000	3,000
Over 7.5 liters up to 34 liters	8 / 320	10 / 500	500	10,000	20,000	5,000	3,000
Over 34 liters	8 / 320	10 / 500	500	15,000	40,000	12,500	3,000

⁴Please refer to the generator set spec sheets for particular displacement.

⁵Allowance is granted if covered failure repairs cannot be completed within 96 hours (for Platinum) or 48 hours (for Platinum Plus) of the authorized dealer technician's initial visit.

⁶Allowance is granted if covered failure repairs cannot be completed within 48 hours of the authorized dealer technician's initial visit.

PRODUCT SUPPORT

Product Support and Definitions

Extended Service Coverage (ESC)

Depending on the model and application, Silver, Gold, Platinum and Platinum Plus coverage levels are available from Caterpillar with terms to meet most applications, whether prime or standby.

Platinum and Platinum Plus provide additional allowances for overtime, emergency freight, rental, crane and rigging support. Please see the registration contract for details.

Equipment	Coverage Option
New Product	New ESC
Existing Product	Advantage ESC
Overhauls	OPC*

Platinum Plus goes beyond Platinum coverage to include Cat components installed by an authorized dealer. Such components must be approved. See your Cat dealer for details. Platinum Plus also offers more Additional Allowances and remote troubleshooting fees, up to a maximum of \$50.00 per claim.

Additional Allowances – Standby Power

Engine Displacement ⁴	Travel/Mileage Limitations		Emergency Freight	Rental ⁵		Crane & Rigging ⁶	Overtime
	Silver/Gold/Platinum hr / mile	Platinum Plus Only hr / mile	All Coverage Levels \$ USD	Platinum Only \$ USD	Platinum Plus only \$ USD	Platinum Only \$ USD	Platinum Plus only \$ USD
Up to 4 liters	2 / 100	10 / 500	500	2,500	5,000	1,000	3,000
Over 4 liters up to 7.5 liters	4 / 200	10 / 500	500	5,000	10,000	1,000	3,000
Over 7.5 liters up to 34 liters	8 / 320	10 / 500	500	20,000	20,000	5,000	3,000
Over 34 liters	8 / 320	10 / 500	500	40,000	40,000	12,500	3,000

⁴Please refer to the generator set spec sheets for particular displacement.

⁵Allowance is granted if covered failure repairs cannot be completed within 96 hours (for Platinum) or 48 hours (for Platinum Plus) of the authorized dealer technician's initial visit.

⁶Allowance is granted if covered failure repairs cannot be completed within 48 hours of the authorized dealer technician's initial visit.

PRODUCT SUPPORT

Additional Allowances – Prime Power

	Travel / Mileage Limitations		Emergency Freight Allowance	Overtime Allowance
Engine Displacement ⁴	Silver/Gold/Platinum hr / mile	Platinum Plus Only hr / mile	All Coverage Levels \$ USD	Platinum Plus only \$ USD
Up to 4 liters	2 / 100 or 161 km	10 / 500 or 805 km	500	3,000
Over 4 liters up to 7.5 liters	4 / 200 or 322 km	10 / 500 or 805 km	500	3,000
Over 7.5 liters up to 34 liters	8 / 320 or 515 km	10 / 500 or 805 km	500	3,000

⁴Please refer to the generator set spec sheets for particular displacement.

Electric Power ESC reimburses covered parts at customer list price, labor at selling rates and travel and mileage charges (less any deductibles) for covered repairs.

Available worldwide for all Cat Electric Power Products, ESC provides usual and customary parts and labor costs for covered system failures due to defects in materials and workmanship on components over the duration of the covered period.

This is a brief description of Extended Coverage. See your Cat dealer for more information. The Extended Coverage contract will govern.

PRODUCT SUPPORT

Customer Value Agreements

WHAT IS A CUSTOMER VALUE AGREEMENT (CVA)?

A CVA is any arrangement between you and your Cat dealer that helps you control your maintenance cost. Agreements are tailored to fit your business needs and can range from simple Preventive Maintenance Kits to sophisticated Total Maintenance & Repair contracts. No matter which option you choose, you can be assured that your Cat dealer will provide you with careful planning and ongoing attention that will help you succeed.

When you have a CVA with your Cat dealer, you have more time to do what you do best – run your business. Trained dealer technicians assist you by maintaining your equipment and driving down operating costs. In the end, everyone's goal is the same: helping you get more work done at a lower cost.

WHAT ARE THE BENEFITS OF A CUSTOMER VALUE AGREEMENT?

Agreement Flexibility – Adapt to level of support to meet your requirements.

All maintenance parts and tools – Cat maintenance parts/tools for routine services.

Accurate, professional testing – Caterpillar trained technicians have the specialist knowledge, technology, and global backup to check your equipment.

Early Warning – Advanced diagnostics to identify problems and schedule repairs before a failure.

Plan ahead with greater confidence – Improved reliability enables tighter scheduling of maintenance intervals.

Increased uptime – Engines run longer and more efficiently, improving profitability.

HOW DOES A CVA WORK?

A CVA is an individualized plan for all your equipment, regardless of age or application, with no pre-set requirements. Depending on your needs, your costs can be a flat monthly fee or based on production hours. Your agreement can cover one piece of equipment, systems, or entire fleets. Your Cat dealer will help you get more work done at a lower cost for your Cat and non-Cat equipment.

Long Term Service Agreements

WHAT IS A LONG TERM SERVICE AGREEMENT (LTSA)?

A Long Term Service Agreement has all the benefits of a traditional CVA, but is designed to support the customer for a minimum of 5 years. An LTSA is designed to support customers that know constant power is critical and need a reliable partner to help manage the total care of their equipment. With expertise and steady support, a Long Term Service Agreement helps the customer drive their business forward by controlling costs and minimizing risk.

NOTES



For additional information or to find your nearest dealer go to:

www.cat.com/electricpower

LEXE7582-20, February 2024

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