GRUPOS ELECTROGENOS INDUSTRIALES

Model : TC-LC 350

Powered by CUMMINS

Output Rating

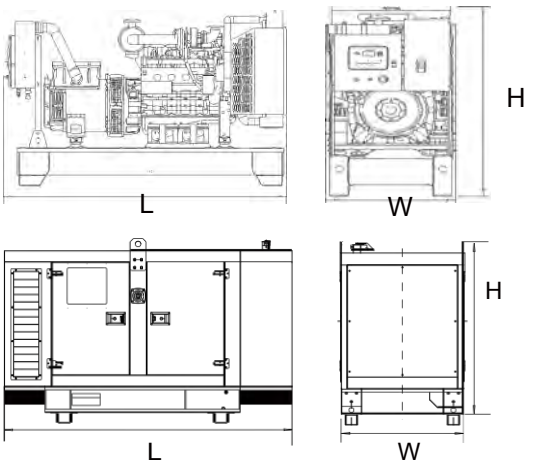
MODEL		Power rating		Voltage available
		PRIME(1)	STANDBY(2)	
C350D5	400V/50HZ	250KW	280KW	380/220V 400/230V 415/240V
	PF:0.8	313KVA	350KVA	

General Information

Model		TC LC 350
Engine		NTA855G1B
Speed control type		Electronic
Phase		3
Control System		Digital
System voltage		24V
Frequency		50HZ
Engine Speed(RPM)		1500
Fuel Consumption L/hr	Standby power(2)	80.7
	Prime Power(1)	71.4
	75% prime power	54.3
	50% prime power	38.2

Dimension and Weight

Dimension	Open	Silent
Length(L)	3050mm	3980mm
Width (W)	1100mm	1420mm
Height (H)	1820mm	2050mm
Net Weight	2870KG	4000KG



* 2006/42/EC Machinery safety.
* 2006/95/EC Low voltage
* EN 60204-1: 2006+A1:2009, EN ISO 12100:2010, EN ISO 13849-1: 2008, EN 12601: 2010

(1)Prime Power(PRP):

According to ISO 8528-1:2005, Prime power is the maximum power which a generating set is capable of delivering continuously whilst supplying a variable electrical load when operated for an unlimited number of hours per year under the agreed operation conditions with the maintenance intervals and procedures being carried out as prescribed by the manufacturer. The permissible average power output (Ppp) over 24h of operationshall not exceed 70% of the PRP.

(2) Standby Power (ESP):

According to ISO 8528-1:2005, standby power is the maximum power available during avariable electrical power sequence, under the stated operation conditions, for which a generating set is capable of delivering in the event of a utility power outage or under test conditions for up to 200h of operation per year with the maintenance intervals and procedures being caried out as prescribed by the manufacturers. The permissible average power output over 24h of operation shall not exceed 70% of the ESP.

▪Engine Specification

GENERAL ENGINE DATA

Type ..... 4-Cycle; In-line; 6Cylinder

Aspiration..... Turbocharged and Aftercooled

Bore x Stroke.....in x in (mm x mm) 5.8 x 6 (140 x 150)

Displacement - in.3(L)……855(14)

Compression Ratio ……14.0:1

Firing Order ……1-5--6-2-4

Dry Weight

--Fan to Flywheel Engine - lb. (kg)……2870 (1300)

--Heat Exchanger Cooled Engine - lb. (kg)……3095(1410)

Wet Weight

--Fan to Flywheel Engine - lb. (kg)……2970 (1350)

--Heat Exchanger Cooled Engine - lb. (kg)……3320(1510)

ENGINE MOUNTING

Maximum Bending Moment at Rear Face of Block ..... lb *ft2(N*m) 1000 (1356)

EXHAUST SYSTEM

Maximum Allowable Back Pressure - in.Hg (kPa)……3.0 (10)

Standard Exhaust Pipe Diameter - in. (mm)……5.0(127)

AIR INTAKE SYSTEM

Maximum Allowable Intake Air Restriction with Heavy Duty Air Cleaner

— Clean Element - in. H2O(kPa) ……15(3.73)

— Dirty Element - in. H2O(kPa) ……25 (6.22)

Minimum Allowable Dirt Holding Capacity with Heavy Duty Air Cleaner - g/cfm(g-L/s)……25 (53)

COOLING SYSTEM

Coolant Capacity - Engine Only - U.S. gal (L)…….. 5.5 (20.8)

- With Radiator - U.S. gal (L)……16.0 (60.6)

Maximum Coolant Friction Head External to Engine - PSI (kPa)……6(41)

Maximum Static Head of Coolant Above Engine Crank Centerline -ft. (m) …… 46(14.0)

Standard Thermostat (Modulating) Range - °F (°C) …… 180 - 202 (82 - 94)

Minimum Allowable Pressure Cap -PSI (kPa)…… 7 .0(48.2)

Maximum Allowable Top Tank Temperature - °F (°C)……160(171)

LUBRICATION SYSTEM

Normal Operating Oil Pressure Range @ Idle – PSI(kPa)……15(103) Minimun

@ Governed Speed - PSI (kPa)……35-50 (241 - 345)

Maximum Allowable Oil Temperature - °F (°C)……250(121)

Maximum Oil Consumption - U.S.qt./h (L/h)……0.25 (0.24)

Oil Flow - GPM (L/s) ……34.9 (2.2)

Oil Pan Capacity - Low / High - U.S. gal. (L)……7.5…/ 9.5 (28.4 / 36.0)

Total System Capacity - U.S. gal. (L)……10.2(38.6)

Angularity of Oil Pan - Front Down/Front Up/Side to Side……38°/38°/38°

FUEL SYSTEM

Type Injection System.....Direct Injection Cummins PT

Maximum Restriction at PT Fuel Injection Pump-with Clean Fuel Filter.....in Hg (kPa) 4.0 (13.5)

-with Dirty Fuel Filter .....in Hg (kPa) 8.0 (27.1)

Maximum Allowable Head on Injector Return Line

-- With Check Valve - in.Hg (kPa)……6.5(22.0)

-- Without Check Valve - in.Hg (kPa)……2.5 (8.5)

Fuel Rail Pressure - PSI (kPa)……165 (1141)

Maximum Fuel Temperature °F (°C)……160(71)

ELECTRICAL SYSTEM

Cranking Motor (Heavy Duty, Positive Engagement).....volt 24

Maximum Allowable Resistance of Cranking Circuit.....ohm 0.002

Minimum Recommended Battery Capacity

-Cold Soak @ 50 °F(10°C) and Above.....0 °F CCA 1200

Cold Soak @ 32°Fto 50 °C (0 °C to 10°C).....0 °F CCA 1280

-Cold Soak @ 0 °F to 32 °C (-18 °C to 0 °C).....0 °F CCA1800

▪ Alternator

Alternator		
Poles	Num	4
Winding Connections (standard)		Star-serie
Insulation	Class	H class
Enclosure (according IEC-34-5)		IP23
Exciter System		Brushless
Voltage Regulator		A.V.R. (Electronic)
Bearing		Single bearing
Coupling		Flexible disc
Coating type		Standard (Vacuum impregnation)

The Chart of Functions of InteliLite ®Controllers

FUNCTIONS/CONTROLLERS	IL-AMF 20	IL-AMF 25	IL-MRS 10	IL-MRS 15	IL-MRS 11	IL-MRS 16
Binary inputs/outputs	7 / 7	7 / 7	6 / 6	6 / 6	6 / 6	6 / 6
Analog inputs	3	3	3	3	3	3
Pick-up	●	●	●	●	●	●
AMF function	●	●	-	-	-	-
Input configuration	●	●	●	●	●	●
Output configuration	●	●	●	●	●	●
Voltage measurement Gen./Mains	3ph / 3ph	3ph / 3ph	3ph / -	3ph / -	3ph / -	3ph / -
Current measurement	3ph	3ph, IDMT overcurrent	3ph	3ph, IDMT overcurrent	3ph	3ph, IDMT overcurrent
kW/kWh measurement	● / -	● / ●	● / -	● / ●	● / -	● / ●
GCB/MCB control with feedback	● / ●	● / ●	- / -	- / -	●[1]/ -	● / -
Extension units (periph.)	-	IGL-RA15, IG-IOM, IGS-PTM	-	IGL-RA15, IG-IOM, IGS-PTM	-	IGL-RA15, IG-IOM, IGS-PTM
Communication interfaces	RS232[2]	RS232, CAN[3]	RS232[2]	RS232, CAN[3]	RS232[2]	RS232, CAN[3]
Modem support	-	●	-	●	-	●
Battery charging alternator circuit	●	●	●	●	●	●

Key: ● included; - excluded
1) GCB control, but without feedback
2) For IL-AMF 20, IL-MRS 10/11 AT-LINK CONV cable necessary
3) CAN for periph.

Legend: IG-IOM/IGS-PTM: I/O extension modules
IGL-RA15: Remote annunciator
I-RD: Remote display

▪ Control Panel: AMF20

Benefits

- Less wiring and components
- Integrated solution
- Less engineering and programming
- Perfect price/performance ratio

Features

- Support of engines equipped with Electronic Control Unit (J1939 interface)
- Comprehensive diagnostic messages; SPN/FMI codes; KWP2000 support
- Automatic or manual start/stop of the gen-set
- Push buttons for simple control, lamp test
- Graphic back-lit LCD display 128x64 pixels
- 6 LED indicators
- Parameters adjustable via keyboard or PC
- Generator C.B. and Mains C.B. control with feedback and return timer
- RS232 interface (AT-LINK CONV cable is necessary for IL-AMF 20)
- Modem communication support (IL-AMF 25 only)
- Dimensions 180x120 mm (front panel)
- Sealed to IP65

- Mains measurements (50/60 Hz): U1-U3, Hz
- Generator measurements (50/60 Hz): U1-U3, I1-I3, Hz, kW, kVAr, kWh
- Selectable protections alarm/ shutdown
- 3 phase Generator protections
  - Over-/under voltage
  - Over-/under frequency
  - Current/voltage asymmetry
  - Overcurrent/overload
- 3 phase AMF function
  - Over-/under frequency
  - Over-/under voltage
  - Voltage asymmetry
- Configurable analog inputs
- Battery voltage, engine speed (pick-up) measurement
- Configurable programmable binary inputs and outputs
- Warm-up and cooling functions