GRW360V

Generator engineered and designed to work in a wide variety of applications where temporary power supply is needed. Versatility, high efficiency, high structural resistance, high degree of protection and low noiseemissions together with easy-to-use and easy access for maintenance make these generator sets theideal solution for Rental companies.

Regim De Putere		
Frecvenţă	Hz	50
Tensiune	V	400
Faze	№	3
Factor de putere	cos ϕ	0.8
Putere pasivă LTP	kVA	358.00
Putere pasivă LTP	kW	286.40
Curent maxim	A	517
Putere nominala PRP	kVA	325.00
Putere nominala PRP	kW	260.00
Curent NOMINAL	A	469

Definiţie clasificări (Conform standardului ISO8528 1:2005)

PRP - Putere primă: Se defineşte ca fiind puterea maximă pe o poate livra continuu un grup electrogen, furnizând în acelaşi timp o sarcină electrică variabilă, când este utilizat un număr nelimitat de ore pe an în condiţiile de utilizare convenite, cu intervalele de întreţinere şi procedurile respectate conform prevederilor producătorului. Puterea medie permisă în 24 h de funcţionare nu va depăşi 70% din puterea primă.

LTP - Putere de funcţionare pe perioadă limitată: Se defineşte ca puterea maximă disponibilă, în condiţiile de funcţionare convenite, pe care grupul electrogen o poate livra pentru până la 500 h de funcţionare pe an (şi nu mai mult de 300 de utilizare continuă) cu intervalele de întreţinere şi procedurile respectate conform prevederilor producătorilor. Nu este disponibilă o capacitate de suprasarcină.

Alimentare 60Hz 480V trifazic (cu optional DFS)		
Frecvenţă	Hz	60
Tensiune	V	480
Faze	№	3
Factor de putere	cos ϕ	0.8
Putere pasivă LTP	kVA	379.93
Putere pasivă LTP	kW	303.94
Curent maxim	A	457
Putere nominala PRP	kVA	345.82
Putere nominala PRP	kW	276.66
Curent NOMINAL	A	416

Date tehnice motor		
Producător motor		Volvo
Model piesă		TAD1351GE
Sistem de răcire motor		Apă
Număr cilindri şi amplasare		6 in line
Deplasament	cm³	12780
Aspiraţie		Turbocharged
Regulator de viteză		Electronic
Capacitate ulei	l	36
Consum lubrifiant la PRP (max)	%	0.1
Putere lichid de răcire	l	24
Circuit electric	V	24
VERSIUNE INTERSCHIMBABILA [50/60Hz]		YES
DATE MOTOR	Hz	50
Frecventa 50Hz: Viteza nominala de operare	rpm	1500
Frecventa 50Hz: Viteza nominala de operare	rpm	1500
Emisii de eşapament optimizate pentru 97/68 50Hz (COM)		Stage IIIA
[50Hz] Consum specific de combustibil la @ 75% PRP	g/kWh	204
[50Hz] Consum specific de combustibil la @ 100% PRP	g/kWh	200
DATE MOTOR	Hz	60
Frecventa 60Hz: Viteza nominala de operare	rpm	1800
Frecventa 60Hz: Viteza nominala de operare	rpm	1800
Emisii de eşapament optimizate pentru EPA nivel 60Hz (EPA)		Tier 3
[60Hz] Consum specific de combustibil la @ 75% PRP	g/kWh	214
[60Hz] Consum specific de combustibil la @ 100% PRP	g/kWh	211

ENGINE EQUIPMENT

Standards

The engine performance corresponds to ISO 3046, BS 5514 and DIN 6271. Power output guaranteed within 0 to +2% att rated ambient conditions at delivery. Ratings are based on ISO 8528. Engine speed governing in accordance with ISO 3046/IV, class A1 and ISO 8528-5 class G3

Engine and block

• Optimized cast iron cylinder block with optimum distribution of forces
• Wet, replaceable cylinder liners
• Crankshaft induction hardened bearing surfaces and fillets with seven bearings for moderate load on main and high-end bearings
• Keystone top compression rings for long service life
• Replaceable valve guides and valve seats
• Tapered connecting rods for increased piston lifetime
• Over head camshaft and four valves per cylinder

Fuel system

• Electronic unit injectors
• Fuel prefilter with water separator and waterin-fuel indicator / alarm
• Fine fuel filter with manual feed pump and fuel pressure switch

Lubrication system

• Full flow oil cooler
• Full flow disposable spin-on oil filter, for extra high filtration
• Gear type lubricating oil pump, gear driven by the transmission

Cooling system

• Efficient cooling with accurate coolant control through a water distribution duct in the cylinder block. Reliable sleeve thermostat with minimum pressure drop
• Belt driven coolant pump with high degree of efficiency

Date tehnice alternator		
Alternator		LEROY SOMER
Model piesă		LSA 46.3 L10
Tip		Fara perii
Clasă		H
Clasificare protectie infiltrare		23
Insulation Protection Systems		Protection System 2
Borne		4
Winding leads		12
Sistem de regulare tensiune		Electronic
Standard AVR		R 450M
Toleranţă tensiune	%	0.5

SPECIALLY ADAPTED TO APPLICATIONS
The alternator is designed to be suitable for typical generator applications, such as: backup, marine applications, rental, telecommunications, etc.

TOP OF THE RANGE ELECTRICAL PERFORMANCE
- Class H insulation.
- Standard 12 wire re-connectable winding, 2/3 pitch, type no. 6.
- Voltage range:
- 50 Hz: 220 V - 240 V and 380 V - 415 V
- 60 Hz: 208 V - 240 V and 380 V - 480 V
- High efficiency and motor starting capacity.
- R 791 interference suppression conforming to standard EN 55011 group 1 class B standard for European zone (CE marking).

EXCITATION AND REGULATION SYSTEM
- Excitation system: AREP
- Voltage A.V.R.: R 450

REINFORCED MECHANICAL STRUCTURE
- Compact rigid assembly to better withstand generator vibrations.
- Steel frame
- Cast iron flanges and shields.
- single-bearing designed to be suitable for heat engines.
- Half-key balancing bearing.
- Sealed for life ball bearing.

PROTECTION SYSTEM SUITED TO THE ENVIRONMENT
- The LSA is IP 23.
- Winding Protection Standard: for clean environments with relative humidity ≤ 95%, including indoor marine environments.
- Winding Protection System 2: reinforced insulation for tropical environment (abrasive atmosphere), rental (except for coastal area), relative humidity > 95%

COMPLIANT WITH INTERNATIONAL STANDARDS
The LSA alternator conforms to the main international standards and regulations:
- IEC 60034, NEMA MG 1.32-33, ISO 8528-3, CSA / UL 1146 (UL 1004 on request), marine regulations, etc.
It can be integrated into a CE marked generator.
The LSA is designed, manufactured and marketed in an ISO 9001 environment and ISO 14001.

Echipare generator

CANOPY
Canopy painted in RAL9016 made up of modular panels with 1000h+ tested salt spray resistant zinced metal sheet, with access doors on each side with high quality gaskets and lockable handles for easy maintenance and service.

SUPERSILENT
Soundproofing by means washable and fireproof soundproofing material.
Exaust silencer integrated in the genset shape with flat rain flap.

BASE FRAME
Heavy duty base guarantees the highest standards of durability and resistance, painted using a high quality powder coating process (1000+h tested salt spray resistance).
Fully bunded, able to retain 110% of all the sets fluids, the base frame is provided with integrated fork pockets for easy maneuverability and site positioning.

FUEL TANK
Integrated metal fuel tank complete with double fuel refiling point (one each side)

LEAK PROOF TRAY WITH DETECTOR SENSOR
Fluid leak check in the leak proof tray .

FUEL VALVE (6 WAY)
System designed for use the fuel from external tank and increase the autonomy of the generator
LUBE OIL DRAIN PUMP
Makes it easier to the engine oil change

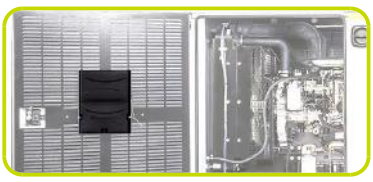
SINGLE LIFTING POINT
Access easy by rung and handle incorporated (available on both sides)

PLASTIC BUMPER
Protections for the transport and stocking

MANUAL BATTERY SWITCH

EARTH ROD
Earth stock with cable fixed inside the genset

DOCS HOLDER
Box intenal for documents, manuals and electrical drawings



Date dimensionale		
Lungime	(L) mm	4165
Lăţime	(W) mm	1500
Înălţime	(H) mm	2130
Greutate fără combustibil	Kg	4515
Fuel tank material		Metal
Capacitate rezervor combustibil	l	1180

Autonomie		
[50Hz] Consum combustibil la @ 75% PRP	l/h	51.87
[50Hz] Consum combustibil la @ 100% PRP	l/h	67.52
[50hz] Timp de funcţionare la @ 75% PRP	h	22.75
[50Hz] Timp de funcţionare la@ 100% PRP	h	17.48
[60Hz] Consum combustibil la @ 75% PRP	l/h	59.11
[60Hz] Consum combustibil la @ 100% PRP	l/h	76.87
[60hz] Timp de funcţionare la @ 75% PRP	h	19.96
[60Hz] Timp de funcţionare la @ 100% PRP	h	15.35

Nivel zgomot 50Hz (2000-14)		
Nivelul de zgomot garantat (LWA)	dBA	97
Nivel de stridenţă a zgomotului la 1 mt	dB(A)	78
Nivel de stridenţă a zgomotului la 7 mt	dB(A)	67

Date instalare		
[50Hz] Circuitul aerului de răcire	m³/min	446.80
[50Hz] Flux gaze eşapament la @ PRP	m³/min	54.8
[50Hz] Temperatură gaze de eşapament la LTP	°C	500
[60Hz] Circuitul aerului de răcire	m³/min	522.80
[60Hz] Flux gaze eşapament la @ PRP	m³/min	62.7
[60Hz] Temperatură gaze de eşapament la LTP	°C	535

DISPONIBILITATE PANOU DE COMANDĂ	
Panou de control automat	ACP
Panou paralel modular	MPP

ACP - Panou de control automat

Mounted on the genset, complete with digital control unit (AC-03) for monitoring, control and protection of the generating set, protected through doors with lockable handle.

CONTROL SECTION
- ON/OFF selector switch
- Emergency push button
- Differential protection with internal switch
- 5A Battery charger.
- Potentiometer for voltage adjustment (internal)
- Alternator AVR (single plug wiring)

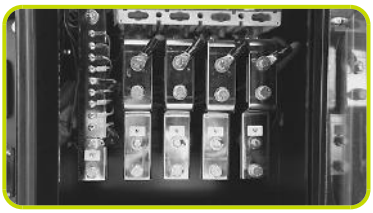
Control unit (AC-03)
- Generating set: Voltage, Current, Frequency.
- Generating set Power (kVA - kW - kVAr - Cos φ).
- Mains: voltage.
- Hours-counter.
- Battery voltage.
- Engine speed r.p.m.
- Fuel level (%), Engine temperature, Oil Pressure

Command and others:
- Four operation modes: OFF - Manual starting - Automatic starting - Automatic test.
- Pushbutton for forcing Mains contactor or Genset contactor.
- Push-buttons: start/stop, fault reset, up/down/page/enter selection.
- Acoustic alarm.
- RS232 Communication port.

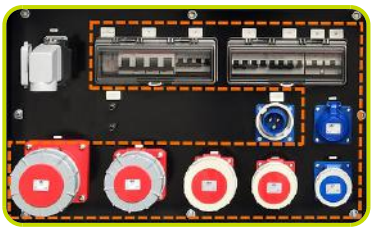
Protections:
- Engine protections: low fuel level, low oil pressure, high engine temperature,
- Genset protection: under/over voltage, overload, under/over battery voltage, battery charger failure.

Extra Instrumentation (analogue)
- Fuel level meter
- Mechanical hour counter

POWER SECTION
- It integrates 4 poles modular circuit breaker suitably rated with thermal and magnetic overloads.
- Large and robust busbar with cables passage opening from the bottom for easy power cable connection.
- Provided with safety switch to trip circuit breaker if operator open the power section door to operate on the bus bar.



PANOU IEȘIRE ACP



• Posibilitate start/stop de la distanta		√
• Priza pentru alimentare cu tensiune din sursa externa		√
• Conector pentru LTS		√
SUPPLEMENT - Only available when order		:
Socket Kit	Type	SPKB1
3P+N+T CEE 400V 125A	n	1
3P+N+T 400V 63A	n	1
3P+N+T CEE 400V 32A	n	1
3P+N+T CEE 400V 16A	n	1
2P+T CEE 230V 16A	n	1
230V 16A SCHUKO	n	1
Fiecare priza cu intrerupator propriu		●
Protectie diferentiala pentru prizele trifazice		●
Fiecare faza este protejata cu impamantare		●
Other Kit Socket combinations available		√

MPP - Panou paralel modular

Mounted on the genset, complete with digital control unit InteliVision5 for monitoring, control, protection and load sharing for both single and multiple gen-sets operating in standby or parallel modes (up to 32 gen-sets in island).

CONTROL SECTION
- ON/OFF selector switch
- Emergency push button
- Differential protection with internal switch
- 5A Battery charger.
- Potentiometer for voltage adjustment (internal)
- Alternator AVR (single plug wiring)

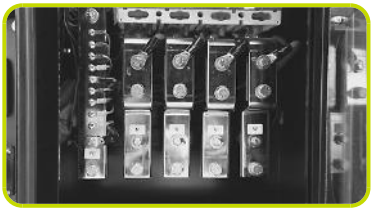
Control Unit InteliVision5 (5,7" Colour TFT display 320×240 pixels)
Majors Measures Available:
- Generating set: Voltage, Current, Frequency, Hours-counter
- Generating set Power: kVA, kW, kVAr, Cos φ, kWh, kVAh.
- Mains: Voltage, Current, Frequency, kW, kVAr, Cos φ.
- Engine: Speed (r.p.m.), Temperature, Oil Pressure
- Fuel level, Battery voltage

Comand and Others:
- Operation modes: OFF, AMF function, Single Parallel to mains Island application, Single Parallel to Mains AMF application, Multiple parallel genset Island application.
- Pushbuttons: start/stop, fault reset, up/down/page/enter selection.
- Acoustic alarm.

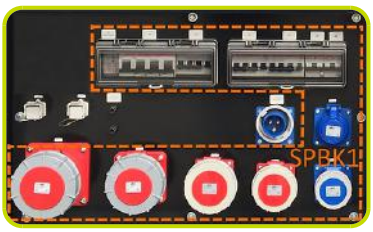
Protection:
- Engine protections: low fuel level, low oil pressure, high engine temperature.
- Genset protections: under/over voltage, overload, under/over frequency, starting failure, under/over battery voltage
- Others: overcurrent, short circuit, reverse power, Earth fault.

Extra Instrumentation (analogue)
- Fuel level meter
- Mechanical hour counter

POWER SECTION
- It integrates 4 poles motorized moulded case circuit breaker suitably rated with thermal and magnetic overloads
- Large and robust busbar with cables passage opening from the bottom for easy power cable connection.
- Provided with safety switch to trip circuit breaker if operator open the power section door to operate on the bus bar.



PANOU IEȘIRE MPP



• Conector pentru functionare in paralel		√
• Posibilitate start/stop de la distanta		√
• Priza pentru alimentare cu tensiune din sursa externa		√
SUPPLEMENT - Only available when order		:
Socket Kit	Type	SPKB1
3P+N+T CEE 400V 125A	n	1
3P+N+T 400V 63A	n	1
3P+N+T CEE 400V 32A	n	1
3P+N+T CEE 400V 16A	n	1
2P+T CEE 230V 16A	n	1
230V 16A SCHUKO	n	1
Fiecare priza cu intrerupator propriu		●
Protectie diferentiala pentru prizele trifazice		●
Fiecare faza este protejata cu impamantare		●
Other Kit Socket combinations available		√

Suplimente:	
Disponibil doar la comandă	:

ECHIPAMENT CONTROL GRUP ELECTROGEN

Switch frecventa 50/60Hz	Y400/230V 50Hz Y480/277V 60Hz	DFS

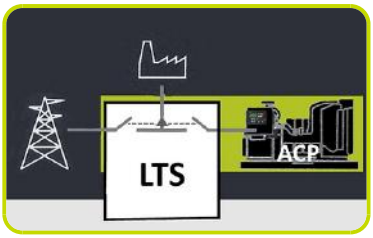
OPTIUNE ELECTRICA

Comunicare prin IL-NT-GPRS + ANTENNA	(ACP)	RCG 16
Contacte libere de potential cu modul IL-NTEFCPM2 si relee IR-B8	(ACP)	TLP 6
Comunicare prin InternetBridge-NT	(only with MPP)	RCG 13
Contacte libere de potential cu modul IGS-PTM si relee IR-B8	(only with MPP)	TLP 4
Protectie diferentiala de tip B		ADI-B
Dispozitiv monitorizare izolatie (inlocuieste protectia diferentiala standard)		IMD
Sistem de prize configurabile		SPKS
Control section internal lighting (automatic with door switch)		CLS
Internal Canopy Lighting system with manual switch		ICL
Engine analogue gauges (water temp / oil pressure)		EAG

OPTIUNE MECANICA

Răcitor Sistem Preîncălzire	PHS
Conectori sistem alimentare combustibil facili	QFC
Sistem de conectare facil in interiorul carcasei	QFC1
Filtru separator apa	WSP
Filtru aer Heavy-DUTY	HDF
Protectie componente supra-incalzite	HPP
Sistem retinere scantei evacuare certificat ATEX	ESA
Supapa de inchidere aer	ASV
Sasiu galvanizat	GGS
Protectie cadru	BFB

LTS - COMUTATOR DE TRANSFER DE SARCINĂ - Accesorii ACP



LTS - Panou de Transfer Sarcina [Optional pentru panoul de control automat ACP]
Panoul de transferului de sarcină (LTS) opereaza comutarea sursei de alimentare intre generator si reteaua de alimentare in aplicații de rezerva, garantand alimentarea intr-o perioada scurta de timp.
Panoul LTS este compus dintr-un dulap independent care poate fi instalat separat de setul de generare. Comanda logică a comutării sursei de alimentare este acționată prin intermediul panoului de control automat (ACP) montat pe generator, deci nu este necesar nici un dispozitiv logic pe panoul LTS.

LTS de tip ATyS_D:

- Cutie: carcasa din otel
- Mod de instalare: Montat pe perete <400A; Montat pe podea => 630A
- Usa: Usa articulata este inchisa cu blocare dubla.
- Tip protectie: IP43
- Placute acces: se pot scoate pe partea superioara si inferioara
- Conexiuni: partea inferioara
- Unitate motor
- Placute acces: se pot scoate pe partea superioara si inferioara
- Conexiuni: partea inferioara
- Unitate motor
- Indicatorul de pozitie a comutatorului
- Selector de acoperire automata / manuala
- Carcasa pentru manerul manual
- Mecanism de blocare
- Doua intrerupatoare a sarcinii
- 4 Poli
- Bobine duble auto-alimentate
- Tensiune (bobine): 208 / 277VAC (Toleranta +/- 20% 166 / 333VAC)
- Frecventa 50 și 60 Hz
- Interfata ATyS D10, fixata pe usa pentru indicarea starii: Doua lumini pentru a indica prezenta tensiunii retelei si a generatorului diesel; Două lumini pentru comutator pozitie; Modul functional (auto / manual) și protectia IP65.
- Conform cu IEC 60947-3, EN 61439-6-1 și GB 14048-11

OTIONALE LTS DISPONIBILE LA CERERE:

- **ESB** - buton de oprire de urgenta (instalat pe panoul frontal)
- **APP** - Protectie suplimentara IPXXB (plexiglas intern)

The information is aligned with the Data file at the time of download. Printed on 18/01/2020 (ID 6324)