

# GMS-150P



## Main Features

Frequency	Hz	50
Voltage	V	400
Power factor	cos $\phi$	0.8
Phase		3

## Power Rating

Standby power LTP	kVA	148.00
Standby power LTP	kW	118.40
Prime power PRP	kVA	137.84
Prime power PRP	kW	110.27

### Ratings definition (According to standard ISO8528 1:2005)

#### PRP - Prime Power:

It is defined as being 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 operating conditions with the maintenance intervals and procedures being carried out as prescribed by the manufacturer. The permissible average power output over 24 h of operation shall not exceed 70 % of the prime power.

#### LTP - Limited-Time running Power:

It is defined as the maximum power available, under the agreed operating conditions, for which the generating set is capable of delivering for up to 500 h of operation per year (whose no more than 300 for continuative use) with the maintenance intervals and procedures being carried out as prescribed by the manufacturers. No overload capability is available.

## Engine specifications

Engine manufacturer	Perkins	
Model	1106A-70TG1	
[50Hz] Exhaust emission level	Non Emission Certified	
Engine cooling system	Water	
Nr. of cylinder and disposition	6 in line	
Displacement	cm <sup>3</sup>	7000
Aspiration	Turbocharged	
Speed governor	Mechanical	
Prime gross power PRP	kW	123.7
Maximum gross power LTP	kW	136.9
Oil capacity	l	14.9
Lube oil consumption @ PRP (max)	%	0.1
Coolant capacity	l	21
Fuel	Diesel	
Specific fuel consumption @ 75% PRP	g/kWh	204
Specific fuel consumption @ PRP	g/kWh	203
Starting system	Electric	
Starting engine capability	kW	4.2
Electric circuit	V	12



## Engine equipment

### Standards

The above ratings represent the engine performance capabilities to conditions specified in ISO 8528/5.

### Lube oil system

Flat-bottomed isolated aluminium sump

### Filter

- Fuel filter
- Air filter
- Oil filter

### Cooling system

- Radiator (incorporating air-to-air charge cooler + fuel cooler)
- Water pump

## Alternator Specifications

Alternator	Mecc Alte	
Model	ECP34-1L	
Voltage	V	400
Frequency	Hz	50
Power factor	cos $\phi$	0.8
Type	Brushless	
Poles	4	
Standard AVR	DSR	
Voltage tolerance	%	1
Efficiency @ 75% load	%	93.4
Class	H	
IP protection	23	

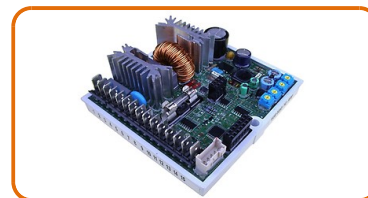


### Mechanical structure

Robust mechanical structure which permits easy access to the connections and components during routine maintenance check-ups.

### Voltage regulator

Voltage regulation with DSR. The digital DSR controls the range of voltage, avoiding any possible trouble that can be made by unskilled personnel. The voltage accuracy is  $\pm 1\%$  in static condition with any power factor and with speed variation between 5% and +30% with reference to the rated speed.



### Windings / Excitation system

Generator stator is wound to 2/3 pitch. This eliminates triplen (3rd, 9th, 15th ...) harmonics on the voltage waveform and is found to be the optimum design for trouble-free supply of non-linear loads. The 2/3 pitch design avoids excessive neutral currents sometimes seen with higher winding pitches. MAUX (Standard): The MAUX MeccAlte Auxiliary Winding is a separate winding within the main stators that feeds the regulator. This winding enables to take an overload of 300% forced current (short circuit maintenance) for 20 seconds. This is ideal for motor starting requirements.

### Insulation / Impregnation

Insulation is of class H standard. Impregnation is made with premium tropicalised epoxy resins by dipping and dripping. High voltage parts are impregnated by vacuum, so the insulation level is always very good. In the high-power models, the stator windings undergo a second insulation process. Grey protection is applied on the main and exciter stator to give enhanced protection.

### Reference standards

Alternator manufactured according to , and complies with , the most common specification such as CEI 2-3, IEC 34-1, EN 60034-1, VDE 0530, BS 4999-5000, CAN/CSA-C22.2 No14-95-No100-95.

## Genset equipment

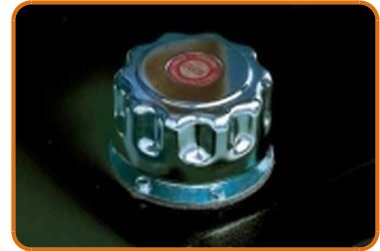
### BASE FRAME MADE OF WELDED STEEL PROFILE, COMPLETE WITH:

- Steel base frame with support legs
- Anti-vibration mountings properly sized
- Grounding point to connect all metal parts of the generating set



### FUEL TANK WITH THE FOLLOWING COMPONENT:

- Filler neck
- Air breather (ventilation pipe)
- Minimum fuel level sensor



### PROTECTIONS:

- Moving and rotating parts protection against accidental contacts.



### ENGINE COMPLETE WITH:

- Battery
- Liquids (no fuel)

### EXHAUST (Standard):

- Industrial silencer (loose)



### Dimensional data

Length	(L) mm	2600
Width	(W) mm	1000
Height	(H) mm	1743
Dry weight	Kg	1417
Fuel tank capacity	l	240
Fuel tank material		Metal



### Autonomy

Fuel consumption @ 75% PRP	l/h	22.72
Fuel consumption @ 100% PRP	l/h	29.89
Running time @ 75% PRP	h	10.56
Running time @ 100% PRP	h	8.03

### Installation data

Exhaust gas flow @ PRP	m <sup>3</sup> /min	20.75
Exhaust gas temperature @ LTP	°C	576

### Electrical Data

Battery capacity	Ah	140
MAX current	A	213.63
Circuit breaker	A	250

### Control panel availability

AUTOMATIC CONTROL PANEL	ACP
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## ACP - Automatic control panel

Mounted on the genset, complete with digital control unit for monitoring, control and protection of the generating set.

### DIGITAL INSTRUMENTATION

- Generating set voltage (3 phases).
- Mains voltage.
- Generating set frequency.
- Generating set current (3 phases).
- Battery voltage.
- Power (kVA - kW - kVAr).
- Power factor Cos  $\phi$ .
- Hours-counter.
- Engine speed r.p.m.
- Fuel level (%).
- Engine temperature (depending on model)

### COMMANDS 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.
- Remote starting availability.
- DC system disconnection switch.
- Acoustic alarm.
- Automatic battery charger.
- RS232 Communication port.
- Settable PASSWORD for protection level.

### PROTECTIONS WITH ALARM

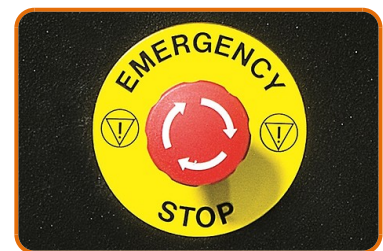
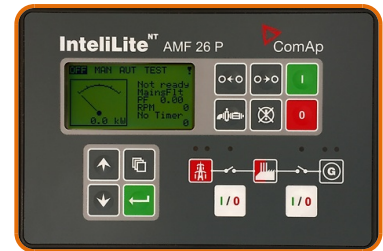
- Engine protections: low fuel level, low oil pressure, high engine temperature.
- Genset protections: under/over voltage, overload, under/over frequency, starting failure, under/over battery voltage

### PROTECTIONS WITH SHUTDOWN

- Engine protections: low fuel level, low oil pressure, high engine temperature,
- Genset protection: under/over voltage, overload, under/over battery voltage, battery charger failure.
- Circuit breaker protection: III poles.
- Earth Fault included in the control unit.

### OTHERS PROTECTIONS

- Emergency stop button.



### OUT PUT PANEL ACP

Plinth row for connection from ACP to LTS panel.	√
Power cables connection to Circuit Breaker.	√

## Supplements:

To be ordered with the equipment :

### CONTROL PANEL SUPPLEMENT

RCG - Various supplements for remote controls - available for models: ACP

TLP - Various supplements for remote signals - available for models: ACP

ADI - Adjustable Differential Intensity - available only for models: ACP

TIF - IV Poles Circuit Breaker instead of III - available for models: ACP

### GENSET EQUIPMENT

AFP - Automatic Fuel Pump ACP

### ENGINE SUPPLEMENTS

PHS - Coolant Pre-Heating System - available for models: ACP

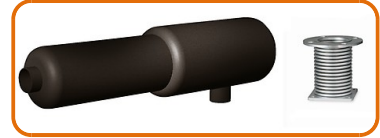


## Accessories

Items available as accessory equipment

FEC - Flexible Exhaust Compensator Bellow and flanges

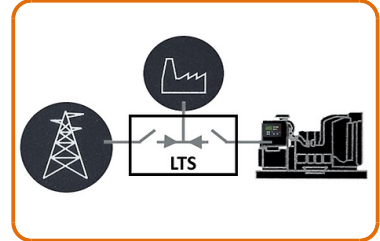
RES - Residential silencer



## LTS - Load Transfer Switch [Accessories for ACP Automatic Control Panel]

The Load Transfer Switch (LTS) panel operates the power supply changeover between the generator and the Mains in backup applications, guarantying the feeding to the load within a short period of time.

It consists of a standalone cabinet which can be installed separate from the generating set. The logic control of the power supply changeover is operated by means of the Automatic Control Panel (ACP) mounted on the generating set, so therefore none logic device is required on the LTS panel.



### LTS Type ATyS\_D:

- Box type: steel enclosures
- Installation mode: Wall mounted <400A; Floor Standing =>630A
- Door: Hinged door closed with double barb locking.
- Ingress Protection: IP43
- Gland Plates: Removable on the top & bottom side
- Connections: Bottom/Bottom
- Motor unit
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- Switch position indicator
- Auto/Manual cover selector
- Housing for manual handle
- Padlocking mechanism
- Two side by side mounted load break switches
- Poles 4
- Double coils self-powered
- Voltage (coils): 208/277VAC (Tolerance+/-20% 166/333VAC)
- Frequency 50 & 60HZ
- Interface ATyS D10, fixed on the door for the status indication: Two lights to indicate the voltage presence of the grid and the diesel generator; Two lights for the switch position; Functionality mode (auto/manual) and cover protection IP65.
- Compliant with IEC 60947-3, EN 61439-6-1 and GB 14048-11



### LTS SUPPLEMENTS AVAILABLE ON REQUEST:

- **ESB** - Emergency Stop Button (installed on the panel front)
- **APP** - Additional IPXXB Protection (internal plexiglass)