

Technical Definitions Abbreviations

A-Ampere

A measurement of the current flow. One ampere is equal to the electrical force of one Volt acting across the resistance of one Ohm.

AC

Electricity as produced by the electrical components (utility). The unique characteristics of this form of electricity is that it reverses direction at regular intervals. For example, 120 V AC 60 Hz power reverses flow 60 times a second, hence the rating 60 Hz (cycles). In Europe is typically 50 Hz, in the USA, parts of South America and the Caribbean 60 Hz (120 volt current).

Ampere Hour (AH)

One amp of electrical current flowing for one hour.

Expresses the relationship between current (A) and time (Ohms law $A = VR$). AH is the measurement for battery capacity.

AGT -Advanced Generator Technology

All Fischer Panda generators, which are constructed as permanent electro-magnetic generators, are made from ceramic "Hightech" electro magnetic materials. These materials are also known as "rare earth". Fischer Panda, especially uses the high quality material Niodym. The AGT generators are used as battery charging generators or as propulsion generators.

AGT-DDC - Direct-Direct Current

Panda AGT generator high frequency permanent electromagnetic synchronous generator (12 - 24 pole). This type of generator is especially effective. AC is transformed to DC by means of an especially effective rectifier. The aggregate is especially effective for charging batteries.

AGT-DE - Diesel Electric

This version of the AGT Generator version supplies a 3-phase output voltage (without diodes) and is used in the variable speed operation for supplying diesel-electric drives.

AGT-HD AGT Heavy Duty

The AGT-HD supplies direct voltage in the same way as the AGT-DC generators. An enhanced cooling system, external diodes and the ability to restrict maximum performance makes these generators suitable for driving DC motors (e.g. electro motors with heavy loads) over extended periods of time.

ASB-Automatic Start Booster

An electronically controlled high starting current in the control box. Suitable for all Panda asynchronous generators, to compensate the high starting current of electric motors (i.e air conditioning units etc). ASB should always be chosen if a generator is to be driven by an inductive load (electric motors, air-conditioning units etc). All generators from Panda 8000 up to Panda 14.000 are fitted, as a rule, with ASB as standard.

AGT-IDC - Indirect-Direct Current

Panda AGT Generator, which is designed like the AGTDDC to load the battery bank. In this version the rectifier is in a separate box. This rare configuration is used if the battery bank is far away from the generator (more than 4- 6m). The AC Power will be delivered from the generator to the rectifier which will load the battery bank.

Current

The amount of electrical charge. The flowing current measured in amperes.

Consumer

All devices that require electricity.

DAPS-DC-AC-Power-System

The very efficient power supply system is battery supported. The generator supplies direct current to charge the batteries, whilst the accumulative current is produced via an inverter. The generator runs intermittently and charges the battery, and at the same time the inverter is provided with power.

DC

Term for DC (direct current). DC is generated by alternators and battery charging devices or Panda AGT generators with auxiliary rectifier, or DC is drawn from a battery.

DZ

Fischer Panda abbreviation for Deutz motors.

EK: Single Circuit Cooling

Cooling system for generator and motor. Both components are either cooled by seawater (marine generators) or by cooling liquid (standard for vehicle / stationary generators)

FAR

Fischer Panda abbreviation for Farymann motors.

FPB

Fischer Panda breakaway secures anti vibration buffer

FC - Freshwater Cooling

Motor and generator are cooled with freshwater by the heat exchanger. This cooling version avoids galvanic corrosion and is standard for Panda 4500 FCB and from Panda 5000 LPE / AGT upwards (see ZK).

HTG

High Performance Alternator

HTL

HTG inverter for battery charge

HTL-G

Battery charging converter for AGT-DE generators

Hz - Hertz

Hertz denotes the frequency within one second. The frequency is determined by the number of periods in which flow of current changes. The frequency in Europe is normally 50 Hz, the USA is 60 Hz.

JD

Fischer Panda abbreviation for John Deere motors.

KUB / KU

Fischer Panda abbreviation for Kubota motor.

kVA - Kilovolt Ampere

Unit for apparent power, reactive current. The value is the combination of voltage and current.

kW - Kilowatt

Physical unit for real output. The value is the combination of voltage and current. It concerns the effective electrical performance available. So-called apparent power which is affected reactive current is not taken into consideration.

kW/h - Kilowatt hour

One kW per hour.

LED - Light Emitting Diode

Very small electrical lamp with an extremely low power consumption. It is used, in order to represent the operating systems on displays, remote control panels or other indicators.

LK

The abbreviation used by Fischer Panda for all systems that use air-cooling (contrary to water-cooling).

LP

Low Profile (special low style).

MB

Term used for MTU motors.

ND

Generator without VCS voltage regulation system.

NE

Generator with VCS voltage regulation system.

Overload

A consumer attached to an inverter or generator, which requires too much current thereby overloads the device. Panda generators are internally protected against overloading.

PK

Fischer Panda abbreviation for Perkins motors.

PM - Permanent Magnetic Synchronous Generator

A synchronous generator. An electrical field is achieved by permanent electro magnets. These generators are, as a rule, high pole version, i.e 12 to 24 poles, the frequency is 6 - 12 times higher than 2 pole standard generators of the same speed. (Frequency is 3000 rpm, 6 pole: 300 Hz, 24 pole: 1500 Hz). With this "High frequency technology" various additional components are more efficient than conventional generators. In view of the size and weight, a PM generator is up to 60 % larger and 40% lighter than a standard asynchronous generator.

The PM technology is also used for the Fischer Panda electric drive motors.

PMS - Panda Marine Standard

This is the term used for standard marine generators.

PMS-HD-Panda Marine Standard Heavy Duty

Marine generators with an operating speed of 1500 or 1800 rpm.

PMGi - Permanent Magnet Generator Inverter

Fischer Panda 4KW inverter used f.e. with the Panda 4000i

PSA - Panda Standard Asynchronous Generator

An extremely robust generator, with many positive features, that has been developed by Fischer Panda. Extremely stable temperature because of effective watercooling, self exciting because of external capacitors, diodes that do not revolve, no rotor windings, all windings are externally fitted to the stator and can therefore be cooled perfectly by means of an external cooling jacket, voltage stability by means of "VCS", noise depression, excellent sinus curve and therefore suitable for all charging devices, closed construction gives a high level of protection. The PSA generators in conjunction with the ASB-Startbooster system supply an especially high starting current for starting electric motors (see ASB).

PVK-U-Panda Vehicle Compact Underbody

A sound-proof capsule for underbody assembly is supplied, that especially stands out because of its compact form.

PVK-UK

Extremely compact and quiet generators for vehicles which features an integrated radiator. Suitable for mounting externally beneath vehicles.

PVMV-N-Panda Vehicle Module Vertical

Panda vehicle generator, assembled in module form with vertically mounted water-cooled pre-silencer and with integrated, vertically mounted, rear silencer.

PVM-NE

Vehicle generator with sound insulation capsule and external mounted main silencer. Suitable for internal installation

SC - Seawater Cooling

Generator and engine are directly cooled by seawater. This cooling system is very efficient, as the very cold seawater can directly be used for the cooling of the generator. However, in warmer river areas this cooling system could lead to faster corrosion.

Sacrificial Anode

Metal component with negative electrical potential (aluminium, magnesium etc), which is mounted on.

Sound Insulation Capsule 3D

Standard sound-insulation capsule with 3 layered sound-insulation material, total thickness of the sound insulation material: 25mm.

Sound Insulation Capsule 4DS

Special version for all sound-insulation capsules that place great demands on the thickness of the soundinsulation material 4 layers, thickness approx. 40 mm.

Sound Insulation Capsule 6DS

Special version for sound insulation capsules that suffices to meet the greatest demands on the sound-insulation. Sound insulation material, 6 layers, total thickness approx. 60 mm.

Sound Insulation Capsule GFK

Sound insulation capsule GFK version (reinforced glassfibre polyester) hand laminated.

Sound Insulation Capsule MPL

Sound insulation capsule, made from stainless steel, painted sheet steel or aluminium.

Sinus Wave

The output wave of an electrical alternating current. An optimum sinus curve is shown by a smooth wave going above and below zero. The Panda asynchronous generators produce a sinus wave with an almost perfect wave (equates the current drawn from the public electricity network)

SC - Seawater-cooling

Direct cooling system, by which means the generator and the motor are cooled direct by seawater. Cooling of the SK cooling system is essentially more effective, since colder seawater is used to directly cool the generator.

VCS - Voltage Control System

Regulates the speed of the motor and also the generator voltage. The speed of the motor is at the lowest point of tolerance. The speed is adjusted to the highest point of tolerance as performance decreases. This enables a voltage tolerance up to ± 3 volts. Even with very high load alternation, the adjustment time amounts to less than 1.2 seconds. Voltage peaks are limited to a very short period. In the case of VCS, the frequency has a tolerance of ± 2 Hz.

W - Watt

Measuring unit for electrical performance. Product of current and voltage.

Wh - Watt/hour

Measuring unit for electrical performance per hour.

Whisperprop

Synonym for the Diesel-electric Drive Systems from Fischer Panda. The main components are the Panda Generator, the PM Electromotor, a motor controller and include a DC-AC power system (if applicable).

YA

Fischer Panda abbreviation for Yanmar motors.

ZK - Dual circulation cooling

Cooling system for generator or motor, by which an internal cooling system (freshwater cooling) is cooled by an external cooling system (seawater cooling) with the assistance of a heat exchanger. In the case of twin circulation cooling, the generator and motor are cooled with freshwater. The seawater only comes in contact with the heat exchanger and the exhaust supports. As a rule, the heat exchanger is made from high quality material (copper/nickel - CuNi10Fe) (see FC).