

# CONSTITUTION OF SERVOSYSTEMS

The constitution of a servosystem can be defined by two basic elements: A and B.

## A) DRIVER SERVO AMPLIFIER

The driver or servo amplifier on a single machine is made entirely of:

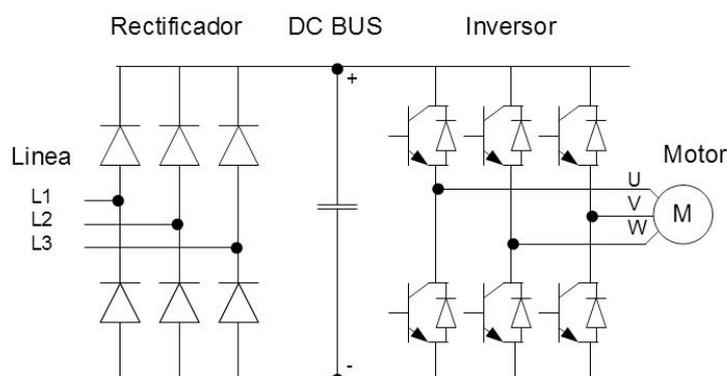
- Power supply.
- Control circuit.
- Power circuit.
- Inputs and outputs analog and digital signals.
- Connectors communication , Profibus, SERCOS I - II - III , Ethernet , Cam bus , Device net etc. Protocol RS232 , RS485, etc...
- Cooling system
- Key pad display

## CONTROL LOGIC CIRCUIT

- Microcontroller
- Micro processor
- Converter DA / AD
- Memory integrated circuits IC, RAM , EPROM , PAL , GAL
- Encoders , Decoders and investors (AND, NAND , OR, NOR XOR)
- Analog operational circuits
- Other components SMD, resistors capacitors etc ...
- Analog operational circuits

## POWER CIRCUIT

- PWM (PULSE-WIDTH-MODULATION)
- IGBT. (Insulated Gate Bipolar Transistor).
- Thyristors, power diodes etc...
- Battery electrolytical capacitors.
- Optocouplers , diodes and CI prior control doors.
- Transformers P / S , heat sinks.
- Other components SMD (Surface Mount Device)



## B) SERVOMOTOR-ROTARY SERVO MOTOR

The servomotor can be called " brushless " which as a whole is formed by a stator , a rotor with permanent magnets (with an equal number of the stator poles ) anchored to the bearings allowing rotation and an encoder which can be serial, incremental or absolute, as well as a resolver and hall effect.

In some cases, it incorporates an electromagnetic brake .

This high performance engine has a high power value (N / m ) in relation to its small size and the commutation encoder by the two magnetic fields can control the position of the motor shaft with great precision.

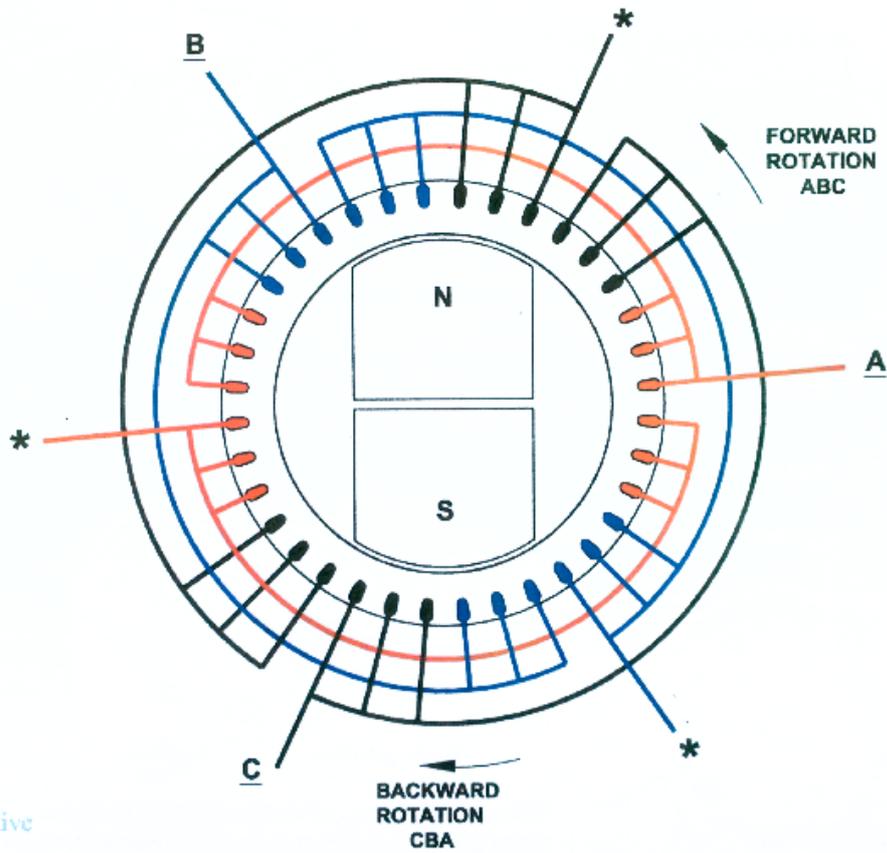
Thus the servo motor ( slave ) , is attached to the driver by two cables, a connector for power control and other media forming a feedback which allows the driver to give and receive signals in the form of electrical pulses determines the angle position motor and shaft rotating runs in both ways , controlling the nominal , minimum and maximum speed .



Another feature is that at low speed, maintaining a high torque (N / m) so that it can be defined as a DC motor without brushes.

A servosystem may also be formed by a servo controller and induction motor "spindle" whose

main action is the rapid speed change reaction 1000/800 0 rpm



live

