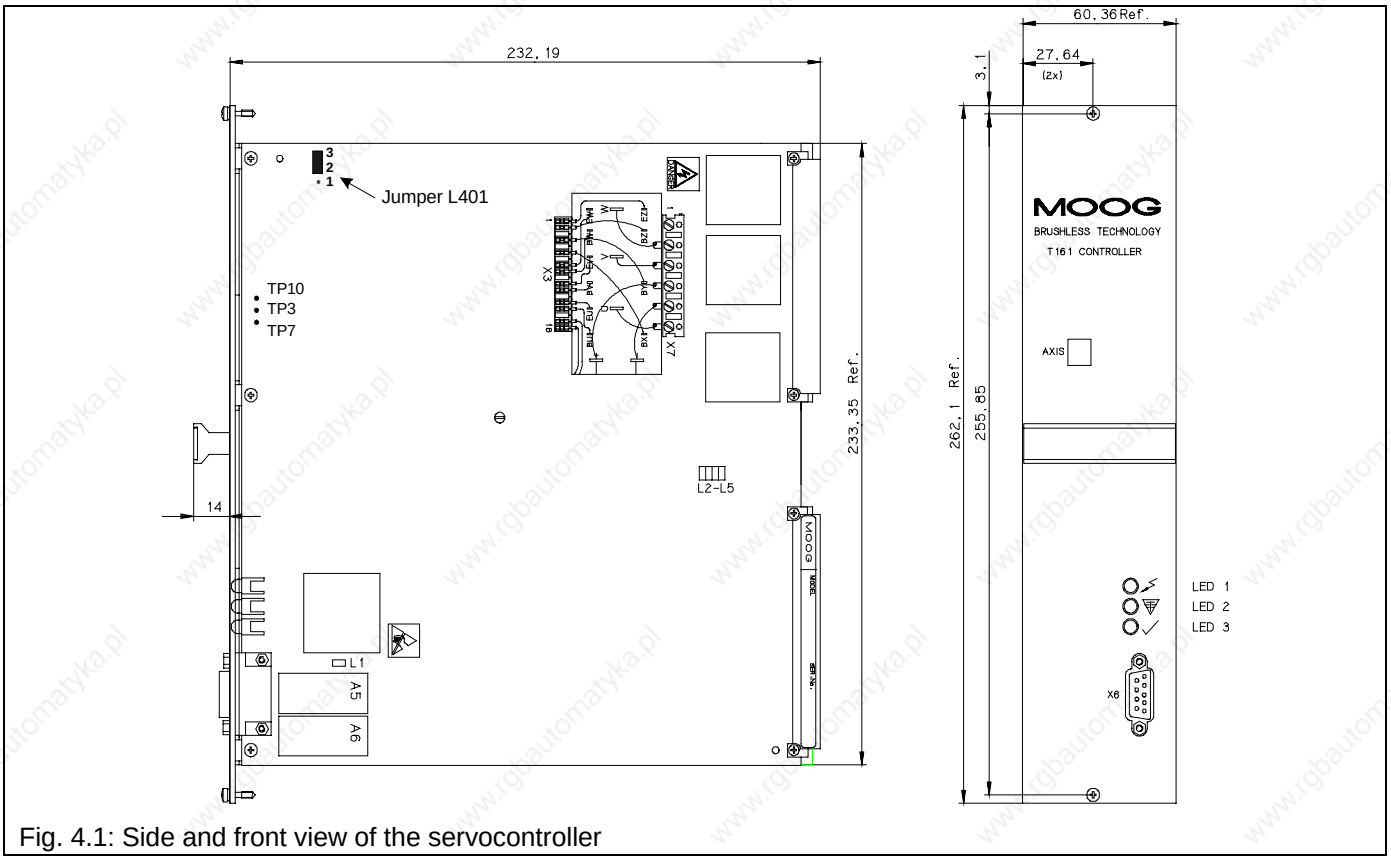
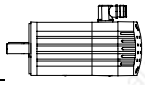



Fig. 4.1: Side and front view of the servocontroller

## 4.1 Name plate

| | |
|---|---|
| x | stands for the performance class.<br>This operating instruction applies for all performance classes (from x = 1 to x =4). |
| # | stands for the revisions index.<br>This operating instruction applies for all revisions. |
| SerNo: T0123 | stands for the serial number.<br>The serial number is incremented with every part produced. |



The name plate identifies the product.
For this reason:

- Check whether the name plate on the device matches the name plate illustrated above.
- This documentation must not be used for commissioning and startup if the name plates do not match.
- Devices without name plate are not covered by the manufacturer's warranty and must not be put into operation.

## 4.2 Functional description

**Basic function of the servocontroller**

The servocontroller electronically commutates the MOOG brushless servomotors. It closes the speed control loop and delivers a 3-phase sinusoidal motor current which is controlled by a current controller with large bandwidth. The LED status indicator permits rapid diagnosis of faults occurring. Two relay outputs permit evaluation by the host controller.

**Higher functions**

The host controller applies an analog voltage as a velocity demand to the servocontroller. The scaling between the voltage (-10 V..0 V..+10 V) and the related velocity demand may be selected freely. The servocontroller has a PI velocity controller and sets the demanded velocity immediately. By means of an optional encoder simulation card, the servocontroller can report its actual position to the host controller, which is able to close the position control loop.

The servomotor can also be operated torque controlled. In this case, a torque proportional to the analog demand is generated.

## 4.3 Technical data

### 4.3.1 Performance data

All current values are peak values.

| Model | Peak current [1] | Continuous current with fan [2] | Continuous current without fan | PWM frequency | Power dissipation |
|---|---|---|---|---|---|
| T161-901 | 8 A | 6 A | 3.5 A | 10 kHz | 13 W + 11 W/A |
| T161-902 | 20 A | 11 A | 4.7 A | 10 kHz | 13 W + 11 W/A |
| T161-903 | 30 A | 15 A | 6.5 A | 5 kHz | 13 W + 8,5 W/A |
| T161-904 | 60 A | 18 A | --- | 5 kHz | 13 W + 8 W/A |

[1] Velocity > 50 $min^{-1}$

[2] Fan performance > 35 $m^3$ / h

### 4.3.2 Dimensions and weights

| Model: | T161-901 to T161-903 | T161-904 |
|---|---|---|
| Weight: | 2.4 kg | 3.5 kg |
| Installation size (W x D x H in mm): | 60.96 x 226.90 x 262.90 | 91.44 x 226.90 x 262.90 |

## 4.4 Installation and commissioning

### 4.4.1 Wiring of the inputs and outputs

**Danger - High voltage on the backplane!**

High voltages are present at the backplane, as well as at some screw terminals and the soldering pins. Since accidental contact with the live terminals / soldering pins is always possible when working on the backplane, the system must be disconnected from the mains voltage and secured against inadvertent reconnection by means of the master switch before starting any work on the backplane.