

MOTOR DATA

THE SOFTWARE SENSOR



Today, electric motors are the most numerous receivers in industry and tertiary installations, just behind lighting systems. Their function of converting electrical energy into mechanical energy makes them particularly important economically, so no installation or machine designer, installer or operator can ignore them.

In the context of its Labcom Ionesco laboratory, Chauvin Arnoux has been working to develop an analytical and diagnostic environment integrated in its network analysers to monitor electrical drives.

Thanks to this joint work based on a physical and statistical model, Chauvin Arnoux has developed a software sensors capable of providing all the motor's electrical parameters.

With the PEL 104, in addition to power and energy measurements based on voltage and current measurements, you can obtain comprehensive instantaneous data such as the motor's rotation speed, efficiency and torque.



- Maintenance
- Mechanics
- Motors



The software sensor developed by Chauvin Arnoux includes a database containing the profiles of several hundred motors.

By entering the information indicated on the motor's nameplate, the technician performing electrical measurements on the motor will obtain the specifications of the motor in real time, without setting up any specific sensors.



MODEL NO.	DIO036AFG
VOLTS	230/460
AMP	7.8/3.9
HP	3
ENCL. TEFC (IP65)	FRAME NO. 183TC
F/L RPM	1760
MAX. AMB.	40 °C
SERVICE FACTOR	1.15
INS.	H
TIME RATING	CONT.
BIG D.E.	6306VV
3-PHASE	KVA CODE
K	NO. O.D.E.
6206VV	
Hz	60
EFFICIENCY	89.5%
DESIGN	B
Asynchronous MOTOR 3-PHASE INDUCTION	
PI	P2
THERMAL PROTECTION	CONNECT TO INTERLOCK

366.3	kW
4156	kVAR
2078	kVA
TAN	0.25

Nameplate	Measurements
of motor	Electrical power Pe

Calculation 1
<ul style="list-style-type: none"> • PM: mechanical power • h: efficiency

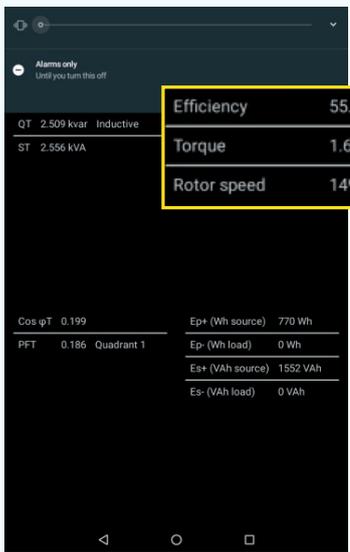
Calculation 2
<ul style="list-style-type: none"> • N: speed • T: mechanical torque



ANDROID application

The software sensor can be accessed with a smartphone or tablet, using the PEL100 ANDROID application.

Available for download free of charge



The rotation speed of the motor is equal to the synchronous speed minus the slippage. The synchronous speed is equal to the frequency divided by the number of pole pairs.

The efficiency of an electric motor corresponds to the speed measured directly at the end of the shaft, after the slippage. It can be determined by calculating the ratio of the useful energy divided by the energy absorbed.

The motor torque is a rotation moment (expressed in Nm) applied to a shaft and owes its name to the way in which the action is obtained by means of two equal, opposite forces. A high torque provides high power.

Software sensor specifications

Power up to 750 kW
Speed up to 3,600 RPM
Torque up to 10,000 N.m

Users can view the results on their ANDROID device. The application is multilingual.

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