

# Aerotech Innovations

## How To Calculate Motor Cost Efficiencies

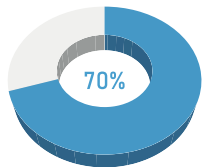
Start

(Further Efficiencies Are Variable By  
Blade Type & Static resistances)



3HP Motor

$$240V \times 15A = 3,600 W$$



Motor Efficiency

$$\rightarrow 0.7$$

$$\frac{3,600 W}{0.7} =$$

5143 W

Input #1



$$\times 7$$

Sun Mon Tue Wed Thu Fri Sat



Days Per Week

$$=$$

8,760

Hours Per Year

Input #2

(KWH= Input 1 x Input 2)

$$5143 \times 8,760 =$$

45,052

.08/kw-hr

\*Enter Your Energy Rate Plus  
Demand Surcharge Every Month

$$45,052 KWH \times$$



$$=$$

\$3,604

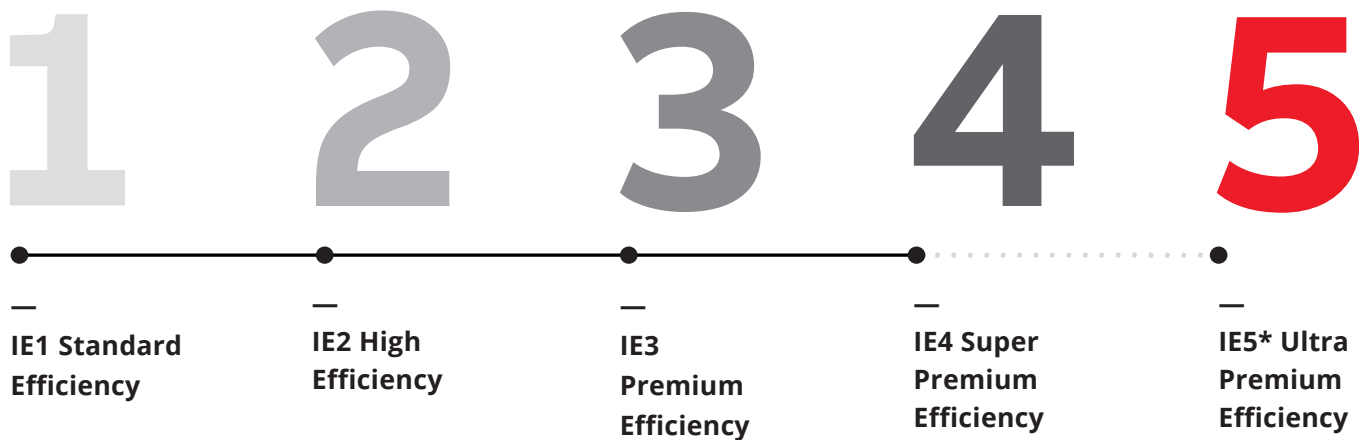
Annual Cost

# Save Energy

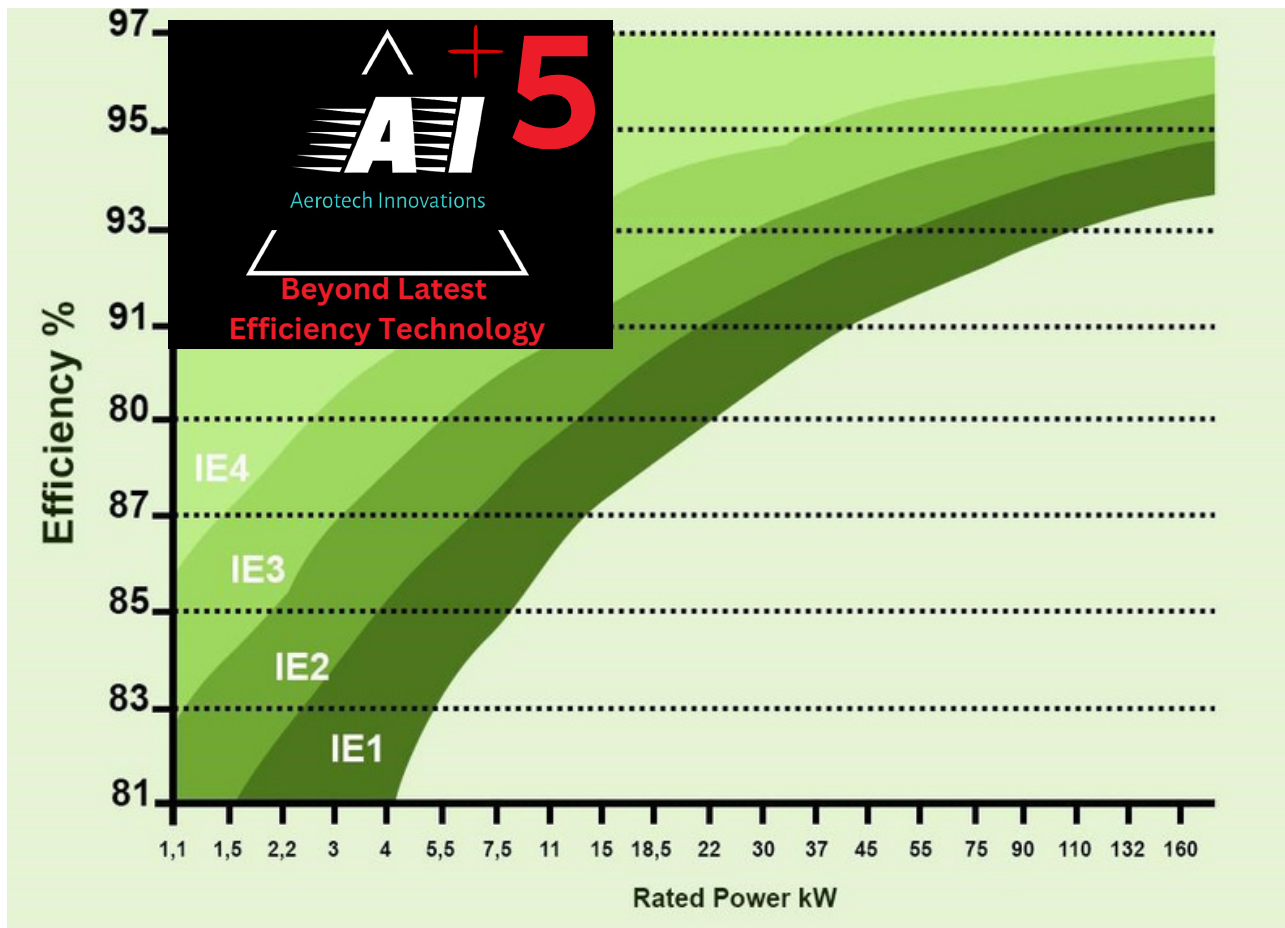
International Efficiency (IE) standards stipulate the energy efficiency of low voltage AC motors.

These IE codes serve as a reference for governments who specify the efficiency levels for their minimum energy performance standards (MEPS).

## Five levels of motor efficiency



The purpose of IEC/TS is to create a level playing field between established and new, innovative motor technologies in order to enable fair competition and market development.



# PC & Mobile tools

## Intuitive and easy-to-use software

### PC Software

Programming can be done in real-time or offline using a hard wired cable or Bluetooth interface.

#### Features include:

- Parameter editor, upload / download, saving to a local file or compare values to factory default settings
- Real time control functions for startup and tuning
- Four channel chart recorder for monitoring and diagnostics (trend data, set trigger points, capture, record & store data)
- Firmware upgrade capable

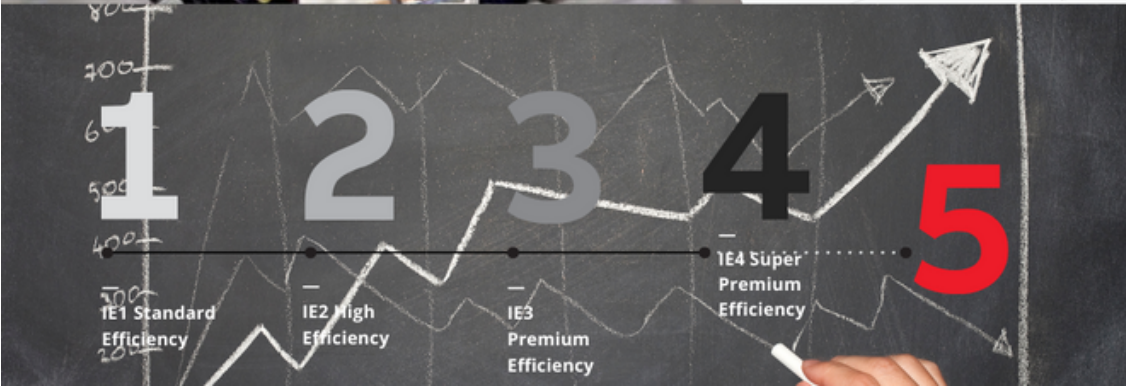
### Mobile

Intuitive and easy-to-use smartphone app for use with Bluetooth drives. Provides wireless configuration and monitoring for the drive.

#### Features include:

- Parameter editor, transfer and real time monitoring
- Save parameters to smartphone, send and receive by email
- Send and receive saved files by email
- Real time motor control from the app
- View drive status, motor speed, motor current and motor power in real-time

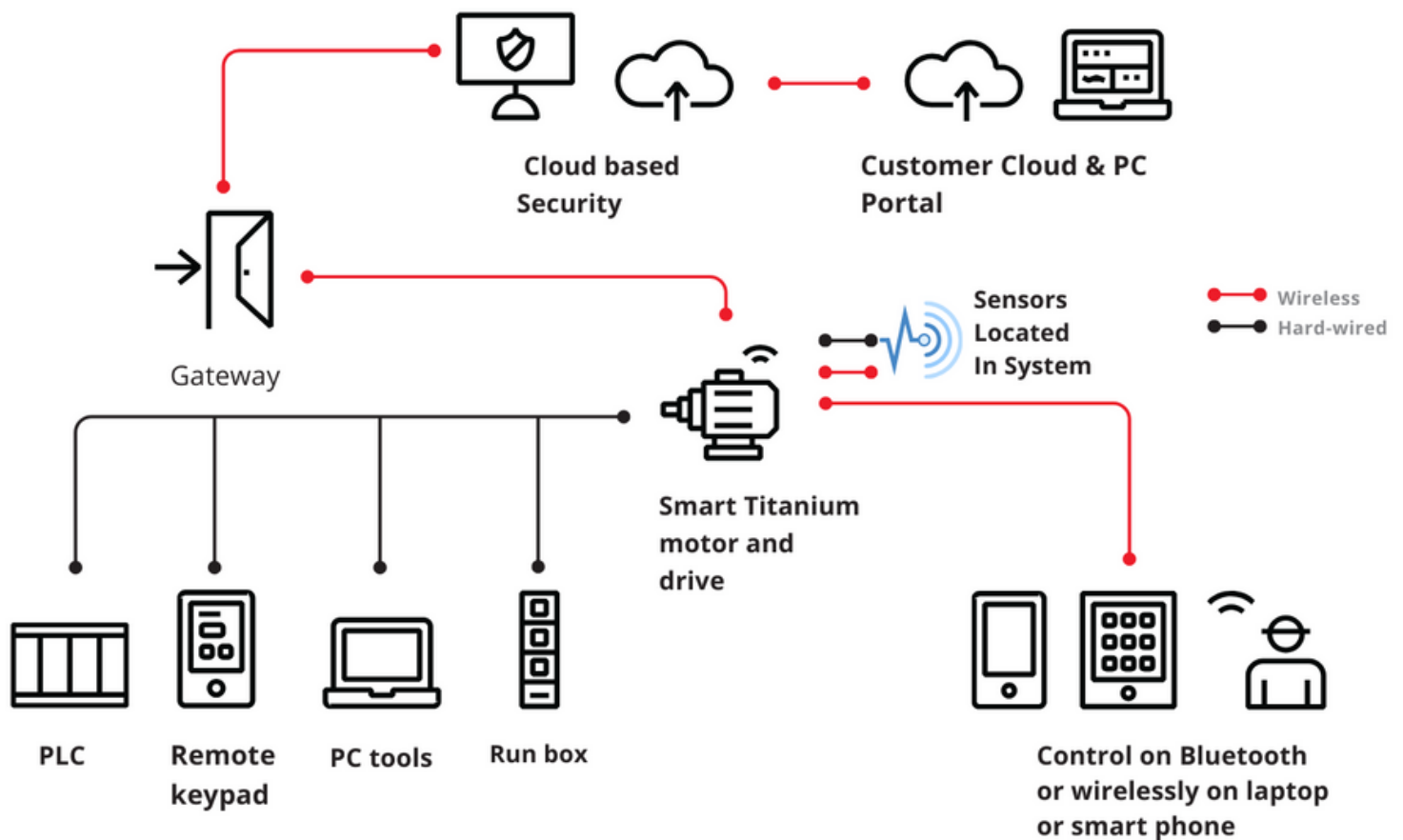
All In One Motor With WIFI, Bluetooth, Remote Monitoring, Hosting System Integration, Limitless Speed Settings, Efficiency Reporting, Self Learning Adaptive cfm Software Can integrate sensors for autonomous Max efficiency outputs.



Beyond +5  
IE5+ Ultra  
Premium  
Efficiency  
On Board

# Turning insights into actions

Smart sensor ready, Titanium motors allows operators to easily monitor and maintain equipment remotely, minimizing downtime while optimizing energy efficiency and application speed. Cyber-security and data protection Is Priority.



- **Process optimization** monitors key system information to improve energy savings
- **Prevent unexpected downtime** - schedule preventive maintenance based on data trends to reduce overall operating costs
- **Longer equipment lifetime**
- **Improved safety** - the sensor enables easy access to drive information in locations that are difficult or dangerous to access allowing maintenance inspections from a distance

## Health Parameters:

- Drive module temperature
- Drive control board temperature
- DC bus voltage
- Estimated speed
- Output frequency and voltage
- DC ripple
- Drive status and fault indicators
- Digital input status
- Motor power and torque

# Power Drive & Ultra Premium Motor

## Optimized performance and flexibility



Pairing Our Ultra Premium Motors with smart eco drive enables the use of advanced motor control algorithms for higher efficiencies across various speed and load range than traditional motor solutions.

### Motor & Drive pairing advantages:

- Firmware support for Titanium motor
- Accurate motor and speed control while maintaining superior safety and reliability
- Extensive fan drive features
- 3Y warranty behind the motor and VFD drive

### ideal for controlling:

- HVAC system and fans
- Pumps
- Compressors
- Air handling units and chillers
- Data center fan array and CRAC units

Using the latest communications protocols, operators can configure and change parameters, securely control and receive real-time alerts and diagnostic information for troubleshooting. Diagnostic status is displayed with LED indicators on the drive, or with an optional keypad displaying fault type. Commissioning is straightforward by utilizing PC or mobile tools and the onboard Bluetooth wireless interface.

- Easy startup pre-programmed drive, no drive expertise required
- Eliminate expensive wiring
- Ready to run out of the box, minimize personnel

IE4 drive units

