

YASKAWA

VFD TRAINING KIT



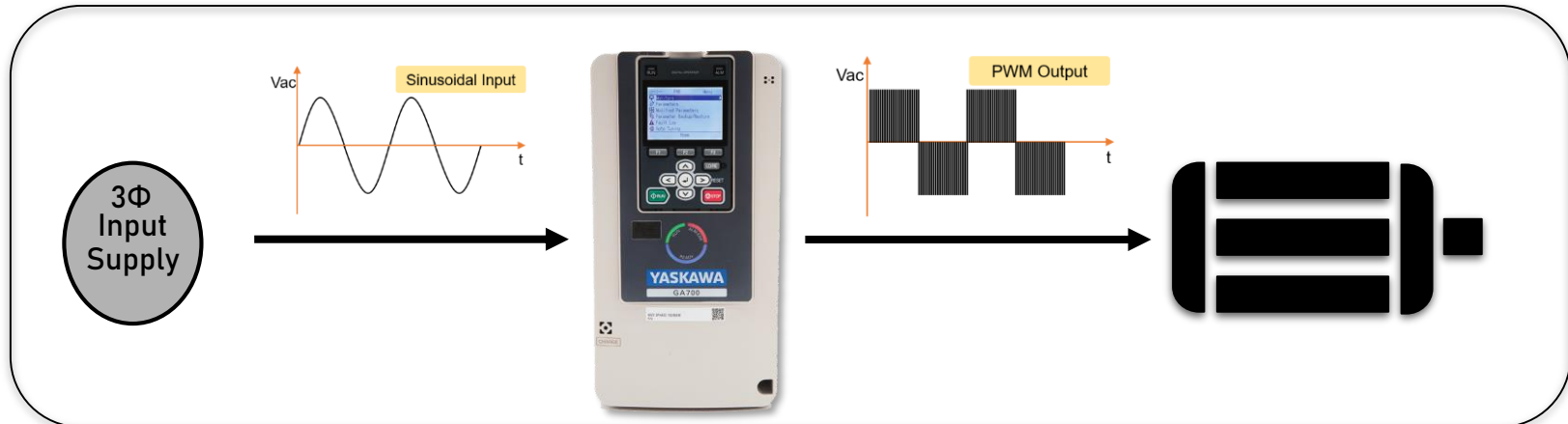
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What is a VFD ?

- A VFD (Variable Frequency Drive) is a device or an equipment which converts a constant AC supply to variable AC supply in PWM form to control characteristics like voltage, current and torque of a motor .
- By controlling the speed and torque of the motor we can achieve the required process to operate the machine .
- Presently, drives have evolved as VVVF Drives with more advanced Control Techniques to suit the process requirements like PID, PLC Logic programing capabilities , motor protection functions, IOT functions, Industry 4.0 compatibility, Bluetooth connectivity., etc

BENEFITS

- Energy savings on most variable torque applications.
- Run a machine at a desired speed - Better process control
- Speeding up or slowing down a machine - safe acceleration / deceleration
- Use power efficiently to produce the necessary torque at a given speed.
- Protection the machine from external system faults.



VFD in Various Segments



Building
Automation
& HVAC

Cement

Steel

Power
Plant

Mining

Textile

Food and
Beverage



Where are VFDs used ?

Cement

- Fan
- Classifier
- Ball Mill
- Mixer
- Reclaimer
- Wagon Tippler
- Crusher



Oil and Gas

- Pumps
- Conveyor
- Compressor
- Fans
- HVAC
- Cooling Tower
- Feeders



Textile

- Winder
- Ring Frame
- Compressor
- Mill
- HVAC
- Cutting M/c
- Traverse operation



Food and Beverage

- Compressor
- Fans
- Pumps
- Conveyor
- Blower
- Agitator
- Centrifuge
- Rotary valve



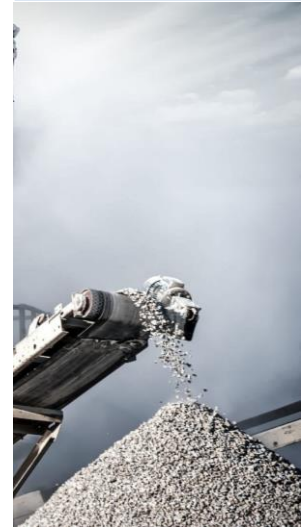
Building Automation

- Elevator
- HVAC
- Compressor
- Blower
- Escalator
- Water Pump



Metals & Mining

- Crusher
- Mixer
- Conveyor
- Disc Filter
- Slurry Pump
- Ball Mill
- Hot Metal car
- Ladle Crane



Where are VFDs used ? Cont...

Paper and Packaging

- Cutting
- Winder
- Conveyor
- Blower
- Chiller
- Vacuum pump



Automobile

- Conveyor
- Compressor
- Cranes
- Test Bench
- Rubber mill
- Banburry feeder



Pharma Industry

- Winder
- Conveyor
- Compressor
- HVAC
- Agitator



Machine Tools

- Press
- Cutting Machines
- CNC
- Drilling
- Extruder



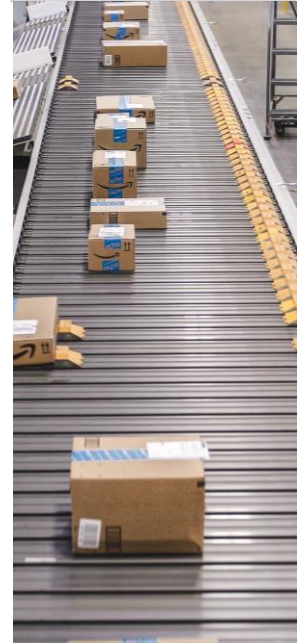
Renewable Energy

- Solar Pumps
- Wind mill
- Solar Compressor



Material Handling

- Conveyor
- Lifts
- Apron feeder
- Separator
- Vacuum pump



Training Kit



- ## How is the kit useful?
- PID Function Simulation
 - VFD output characteristics monitoring
 - I/O terminal simulation
 - Real time motor control
 - Test Industrial Modbus Communication protocol with RS485 interface provided
 - Understand motor operation control



Mini USB cable
Drive Wizard connection



Micro USB OTG cable
adapter DWM connection



RS485 to USB
Modbus Converter



Free Drive Wizard
Software

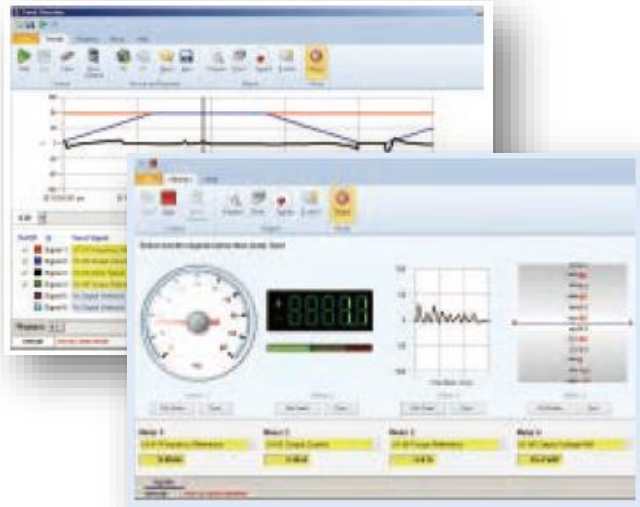


Programming Guide



3 phase Induction
Motor 50Hz 25W

VFD Features



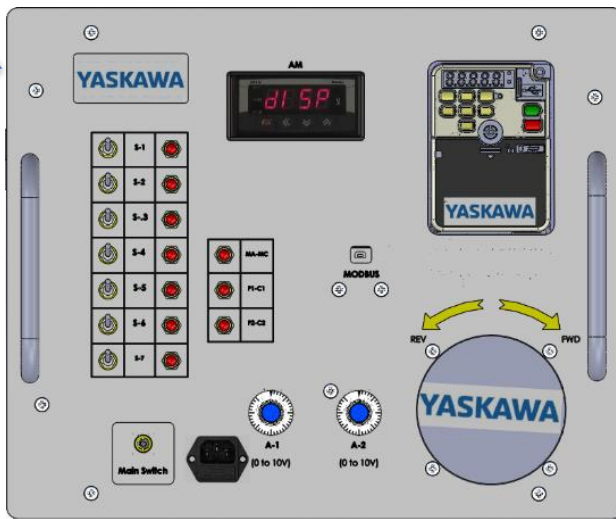
Free software with advanced Live Trend Plotting function

Monitor all output Characteristics

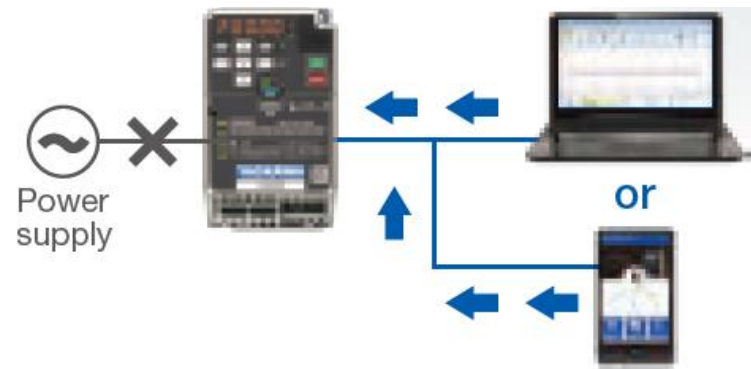
Voltage, Power, Current and Speed monitoring facility

Easy to carry, set up and operate with easy controls. Free programming guide for understanding.

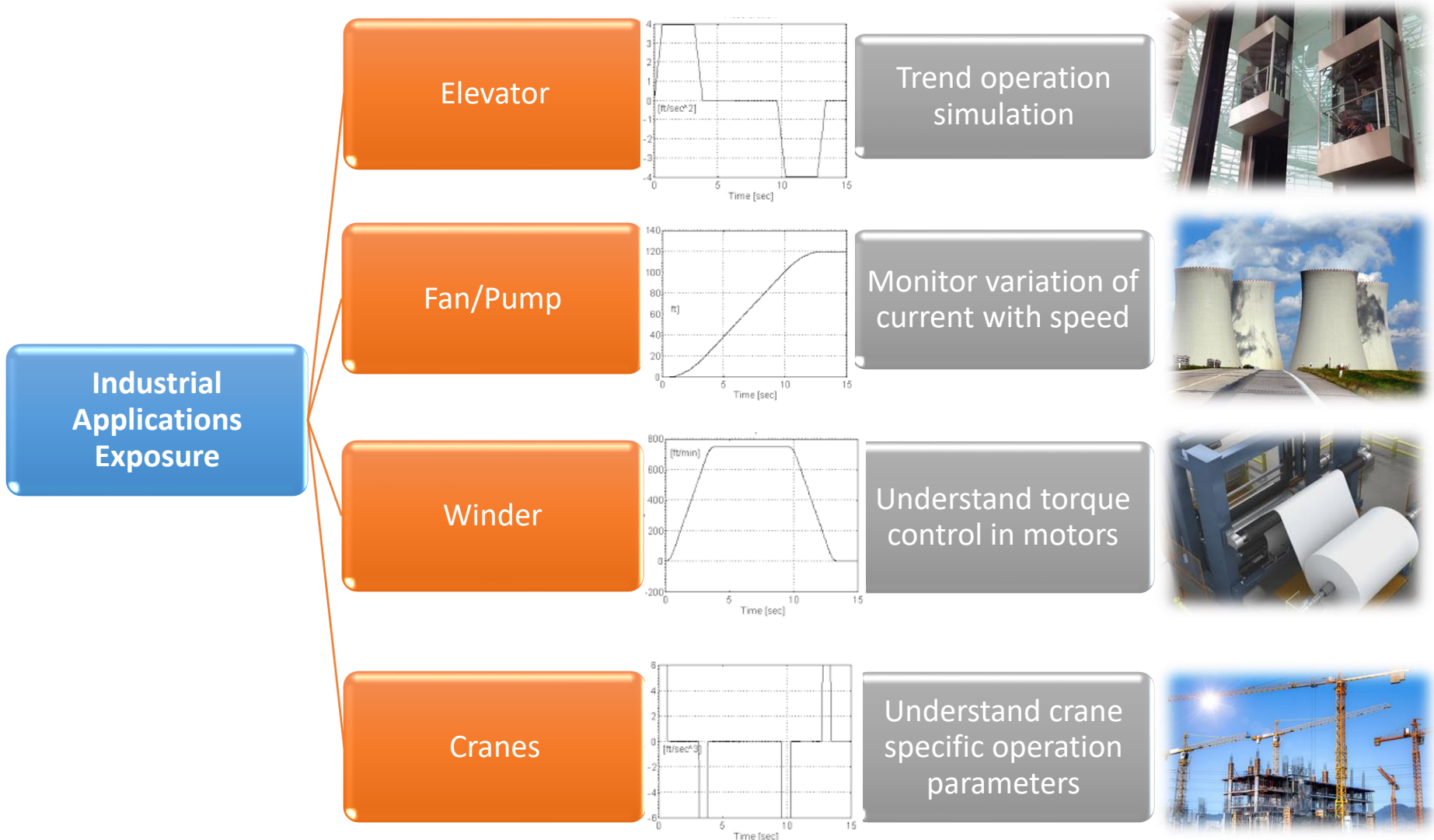
Standard 230VAC supply from any standard socket



VFD programming without supply using mobile or laptop



Learning from VFD kit (Students from college/Institute)



.... & many more

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