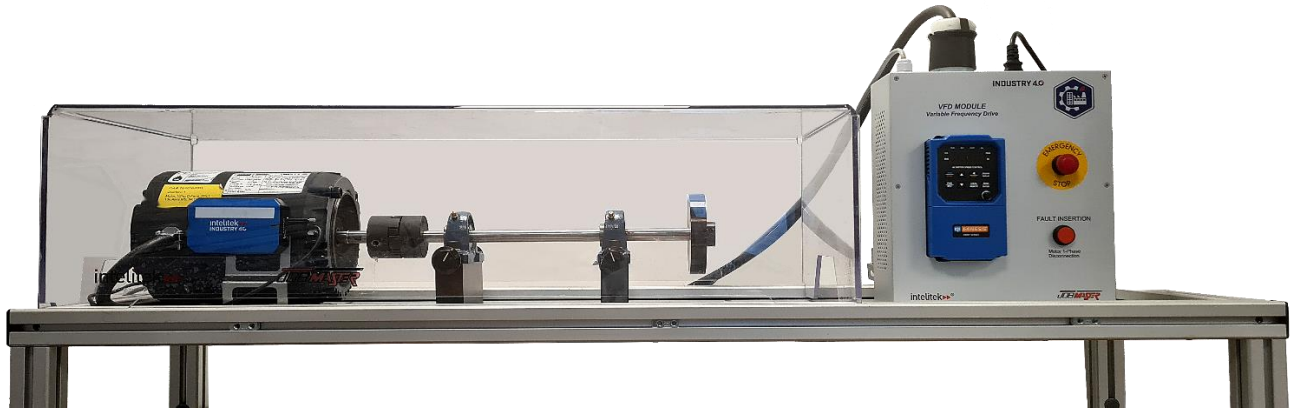


# Condition Based Monitoring Experimentation Package



## LAB ACTIVITY GUIDE

*Catalog #34-8000-0018 Rev. A*

**intelitek** ▶▶<sup>®</sup>

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Intelitek software and documentation are available at <http://intelitekdownloads.com>.

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# 1. Getting Started

## 1.1. OVERVIEW

Thank you for purchasing the Intelitek *Condition Based Monitoring Experimentation Package* for use in your classroom or laboratory. Condition based monitoring, or CBM, is used for predictive maintenance purposes in industrial settings, and gives manufacturing companies greater control over the use and well-being of their assets. The Intelitek *CBM Experimentation Package with the JobMaster Mechanical Training Bench* is meant to provide a scaled-down, smart sensor-monitored motor drive system that is usable in an educational setting, while still providing would-be technicians and integrators with authentic, industry-recognized hardware and software.

This guide is meant to help you get started with the laboratory curriculum and provide you with access to the various lab activities.

## 1.2. PREREQUISITES

It is strongly recommended that you complete Intelitek's Level 1 and Level 2 Industry 4.0 courses before performing these lab activities.

## 1.3. WHERE ARE THE LAB ACTIVITIES?

You can find a list of lab activities in Section 4, List of Lab Activities, on page 6. All lab activities are available on downloadable and printable PDF documents.

# 2. Materials

Materials required for each lab activity are also listed at the beginning of each activity. Ensure that all materials are ready before the beginning of each lab period.

Individual lab activity exercises contain hyperlinks to download any required software. All software should be downloaded and installed before starting a lab activity.

Intelitek software and documentation are available at <http://intelitekdownloads.com>.

## 3. Navigating the Lab Activities

### 3.1. OVERVIEW AND PREPARATION

Lab activities include tasks that must be performed using the Intelitek CBM Monitor.

Participants are assigned with reading the lab activity PDFs (see Section 4, List of Lab Activities, below) and performing the tasks. Both participants and instructors are encouraged to read through the activities ahead of each lab period as preparation.

All activities require instructor verification to ensure that the work of the participants meet the requirements in the performance objectives. Performance objectives are listed at the beginning of each lab activity.

### 3.2. VIDEOS AND QR CODES

Lab activities may contain QR codes like the one below. Click these codes or scan them with your smartphone to watch instructional or illustrative videos that are relevant for the specific lab activity task.

An example QR code is given here:



## 4. List of Lab Activities

Below is a list of lab activities in the *CBM Experimentation Package*.

- ① **Note:** Lab activities may be password protected. Contact [support@intelitek.com](mailto:support@intelitek.com) if you have not received passwords for the activities.

Lab Activity	Description
<a href="#">Driver Installations</a>	Install the VCP driver and monitoring software.
<a href="#">Installing the System</a>	Learn to setup and install the CBM Monitor on the motor drive system.
<a href="#">The VFD Module</a>	Work with the variable frequency drive (VFD) control and drive the motor at different speeds and directions.
<a href="#">Local Monitoring Software</a>	Run the motor and generate data using the CBM Monitor sensors and the local monitoring software.
<a href="#">Cloud Management Software</a>	Take data from the local monitoring software and analyze it using the CBM monitoring system's cloud management software.

## 5. The VFD Controller Program Reset

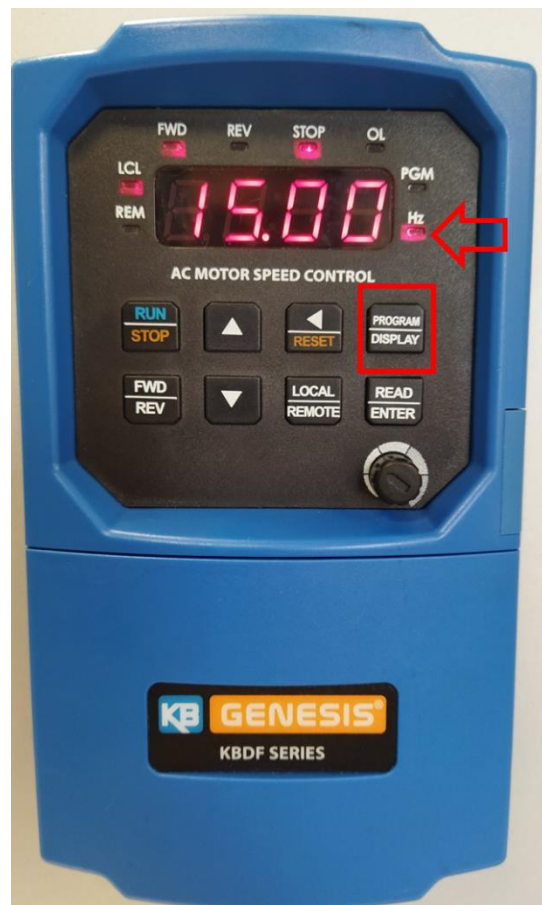
The *VFD controller* allows you to regulate the speed of your JobMaster Training Bench's AC motor by changing the input power supply frequency to the motor.

For first time use - or if the VFD controller has been reset to factory settings - several of the programs (functions) must be modified to the following values:

Program	Value
02.00	0001.
03.02	50.00
07.01	0012.

To change the value of a program:

1. Connect the VFD Module to a power source and turn it on.
2. If the Hz LED is on, press **PROGRAM|DISPLAY**. If the PGM LED is on and the Hz LED is off, skip to step 3.



The PGM LED is on.



3. Use the left, up, and down arrow keys to select desired program. The left arrow moves the cursor (flashing digit), and the up and down buttons change the value of the digits.





- When the correct program number is displayed on the screen, press **READ|ENTER**.



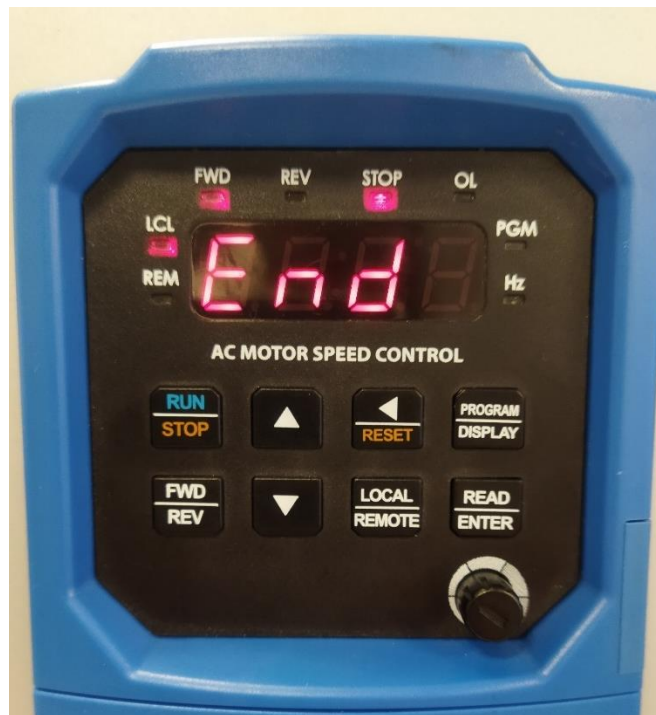
- The value of the program is displayed. Use the left, up, and down arrow keys to change the value of the program.



- When the desired value is displayed, press **READ|ENTER**.



The word END is displayed momentarily on the screen, indicating that the value has been entered for the program.



7. Press **PROGRAM|DISPLAY** to return the controller to frequency mode.



The Hz LED is illuminated.

