



MEGA JATI ACADEMY SDN BHD

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A Short Course on Variable Frequency Drive (VFD) Overview to Practical Applications

TRAINING ID: MJA/ELEC/2020/002

By

MEGA JATI ACADEMY SDN BHD

**Jalan Marikh U5/174,
CB Seksyen U5,
40150 Shah Alam, Selangor**

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2020

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1.0 INTRODUCTION

A Variable-Frequency Drive (VFD) is a device that controls the voltage and frequency that is being supplied to a motor and therefore controls the speed of the motor and the system it is driving. By meeting the required process demands, the system efficiency is improved. A VFD is capable of adjusting both the speed and torque of an induction motor. A VFD therefore provides continuous range process speed control (as compared to the discrete speed control that gearboxes or multi-speed motors provide). VFDs may be referred to by a variety of other names, such as variable speed drives, adjustable speed drives, or inverters. The speed of the machine is determined by the frequency of the power supply and the number of magnetic poles in the design of the stator. Fixed speed motors serve the majority of applications. In these applications or systems, control elements such as dampers and valves are used to regulate flow and pressure. These devices usually result in inefficient operation and energy loss because of their throttling action. However, it is often desirable to have a motor operate at two or more discrete speeds, or to have fully variable speed operation. The conventional control elements can often be replaced by incorporating variable speed operation using a VFD. Substantial energy savings can be achieved in many of these applications by varying the speed of the motors and the driven load using a commercially available VFD. Savings include capital costs and maintenance costs associated with these control elements.

(Source: VARIABLE FREQUENCY DRIVES Energy Efficiency Reference Guide, NRC, 2009)

2.0 COURSE OBJECTIVES

This guide has been developed as an overview of Variable Frequency Drive (VFD) technology to assist in the effective understanding, selection, application, and operation of VFDs. In this guide, the word “drive” refers to the electronic VFD. This course aims to provide the essential knowledge in Variable Frequency Drive (VFD) Overview to Practical Applications for field based staff such as engineers, electrician, charginan and technician.

3.0 LANGUAGE & LOCATION:

The course material will be in English and Malay. Lectures will be held in the Client's Facilities.

4.0 COURSE FEE:

NO	METHOD OF PAYMENT	ACCOUNT NAME	BANK	ACCOUNT NUMBER
1.	Cek / <i>Online Transfer</i>	Mega Jati ACADEMY Sdn Bhd	Bank Islam Malaysia Berhad	1427-401000-7241
2.	LO / HRDF	Mega Jati Consult Sdn Bhd	Maybank Banking Berhad	5142-7132-6182
3.	e-Perolehan	Mega Jati Consult Sdn Bhd	Nombor e-Perolehan Pembekal eP-140010377	

For help and further information please contact

1) Account: Miss Ria : 012 349 8656

2) Training: Miss Zahafarina : 017 419 3031

5.0 COURSE OUTLINE

COURSE	A SHORT COURSE ON VARIABLE FREQUENCY DRIVE (VFD) OVERVIEW TO PRACTICAL APPLICATIONS FOR UEM EDGENTA'S TECHNICAL STAFF		
DURATION REQUIRED	2 DAYS	LEARNING TIME	16 HOURS
METHOD OF LEARNING	CLASSROOM, SOFTWARE PROGRAM, SITE VISIT (LOCAL FACILITIES)		
CPD AWARDED	CIDB 20 CPD FOR EACH PARTICIPANT		

TIME	8.30 AM – 10.30 AM	10.30 AM 11.00 AM	11.00 AM – 12.30 PM	12.30 PM 2.30 PM	2.30 PM 5.30 PM
DAY					
FIRST DAY	VFD OVERVIEW	BREAK	BASIC OPERATION VFD PROPULSION CONCEPT	BREAK	TYPE OF VFD DC / AC APPLICATION
SECOND DAY	VFD APPLICATION IN INDUSTRY		VFD IN ELECTRIC CAR AND LRT/MRT		PRACTICAL VFD TRAINING WITH KID AND SOFTWARE APPLICATION

**Subject to final changes
Speakers will be disclosed upon request

6.0 COURSE COORDINATOR

	<p>Ir. Abd. Mokhti B. Salleh has a Master Degree in Lightning Protection System. He is currently a Chairman of Mega Jati Consult Sdn Bhd, the M&E Consultant. He has more than 30 years' experience in the field of Lightning and Surge Protection system. Ir Abd. Mokhti was appointed by JKR Electric Department, Malaysia as a Specialist Lightning and Surge Protection System for a period between May 2008 to April 2009. One of the scopes of works is to train the JKR Electric's engineers on the design of the Lightning and Surge Protection System. He has given many talks and seminar on Lightning and Surge Protection System. He was also appointed as Visiting Professor at Universiti Malaysia Perlis in 2015.</p>
	<p>Muhammad Arkam Bin Che Munaaim is a PEPC since 2005 and a MIEM in 2004. He a Certified Energy Manager Registered (REEM) with Suruhanjaya Tenaga Malaysia (ST) and a Certified Construction Project Manager (CCPM) of Construction Industry Development Board Malaysia (CIDB). He obtained his PhD in Energy Conservation from USM, Master of Science in Building Technology USM, where previously in year 2000 obtained his B. Eng. (Hons) in Electrical Engineering from UTM Skudai, Johor, Malaysia. His area of working includes renewable energy (solar, mini hydro), mechanical & electrical building services and project management.</p>

**Course Coordinator is responsible to prepare the Course Outline, syllabus and appointment of the Speaker/s, Course Coordinator is not necessarily the Speaker for the Course.*

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