



## **MEGA JATI ACADEMY SDN BHD**

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# **Theory and Practical Operation of Low Voltage Electrical Equipment: LOW VOLTAGE MAIN SWITCH BOARD**

TRAINING ID: MJA/ELEC/2020/005

## **MEGA JATI ACADEMY SDN BHD**

**Jalan Marikh U5/174,**

**CB Seksyen U5,**

**40150 Shah Alam, Selangor**

**2020**

# Theory and Practical Operation of Low Voltage Electrical Equipment: LOW VOLTAGE MAIN SWITCH BOARD

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## 1.0 INTRODUCTION

The switchboards shall house their air circuit breakers, moulded case circuit breakers, fuse switches, switch fuses, isolators, contactors, busbars, meters, protective relays, selector switches, indicating lamps, current transformers, cable terminating boxes, cable glands, anti-condensation heaters complete with automatic thermostats and isolators and all other necessary items of equipment as per designed, suitable for operation on a 240/415V, 3 phase, 4 wire, 50Hz. system with solidly earthed neutral. Normally, the switchboards shall be capable of withstanding fault condition of not less than 50kA at 415V for 1 second as defined in MS IEC 60439-1. The switchboards shall comply with MS IEC 60439-1 and the degree of protection shall be IP41 in accordance to MS IEC 60529. Outdoor switchboards shall also comply with MS IEC 60439-5 with protection degree of IP54 in accordance to MS IEC 60529. The types of switchboard shall be as specified in the drawings and shall be of the following types: i) Self-contained, floor mounted, flush fronted, metalclad cubicle type suitable for front and rear access; ii) Self-contained, floor mounted, flush fronted, metalclad cubicle type suitable for front access or iii) Wall mounted metalclad type suitable for front access.

*(Source: Specification For Low Voltage Internal Electrical Installation (L-S1),  
CKE.LS.01.01.(03).2016)*

## 2.0 COURSE OBJECTIVES

The objectives of the course are to extend the knowledge of participants on Practical Operation of Low Voltage Electrical Equipment: LOW VOLTAGE MAIN SWITCH BOARD that important in electrical engineering personnel. The participants will be exposed to the design and operational of switchboard according to the practices and applications. In addition, the basic design of low voltage switchboard will be elaborated and shared. It will combine both theory and practices in operating, handling, troubleshooting and maintenance of low voltage switchboard that been used in the industry based on Malaysian Standard Practices.

## 3.0 LANGUAGE & LOCATION:

The course material will be in English and Malay. Lectures will be held at **suitable places once the course is confirmed.**

**4.0 COURSE FEE:**

<b>NO</b>	<b>METHOD OF PAYMENT</b>	<b>ACCOUNT NAME</b>	<b>BANK</b>	<b>ACCOUNT NUMBER</b>
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**

<b>COURSE</b>	<b>LOW VOLTAGE MAIN SWITCH BOARD</b>		
<b>DURATION REQUIRED</b>	2 DAYS	<b>LEARNING TIME</b>	16 HOURS
<b>METHOD OF LEARNING</b>	LECTURE, HT WORKSHOP, DESIGN CALCULATION, AUDIO VISUAL PRESENTATION		
<b>CPD AWARDED</b>	<b>CIDB 20 CPD FOR EACH PARTICIPANT / HRDF CLAIMABLE</b>		

<b>TIME</b>		<b>10.30 AM 11.00 AM</b>		<b>12.30 PM 2.30 PM</b>	
<b>DAY</b>	<b>8.30 AM – 10.30 AM</b>		<b>11.00 AM – 12.30 PM</b>		<b>2.30 PM 5.30 PM</b>
<b>FIRST DAY</b>	<b>TYPE OF MSB</b>		<b>SINGLE LINE DIAGRAM MSB</b>		<b>LOAD CALCULATION</b>
<b>SECOND DAY</b>	<b>CIRCUIT BREAKER MICRO OHM METER, IR TEST, STAMPING TEST</b>	<b>BREAK</b>	<b>TRIPING COIL</b>	<b>BREAK</b>	<b>PROSEDURE NORMALISE AND SHUT DOWN</b>

*\*Subject to final changes*

*\*Speakers will be disclosed upon request*

## 6.0 PROGRAM DIRECTOR

	<p><b>Ir. Abd. Mokhti B. Salleh</b> has a Master Degree in Lightning Protection System. He is currently a Chairman of Mega Jati Consult Sdn Bhd, the M&amp;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><b>Muhammad Arkam Bin Che Munaaim</b> 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 &amp; electrical building services and project management.</p>

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

# Mega Jati ACADEMY

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