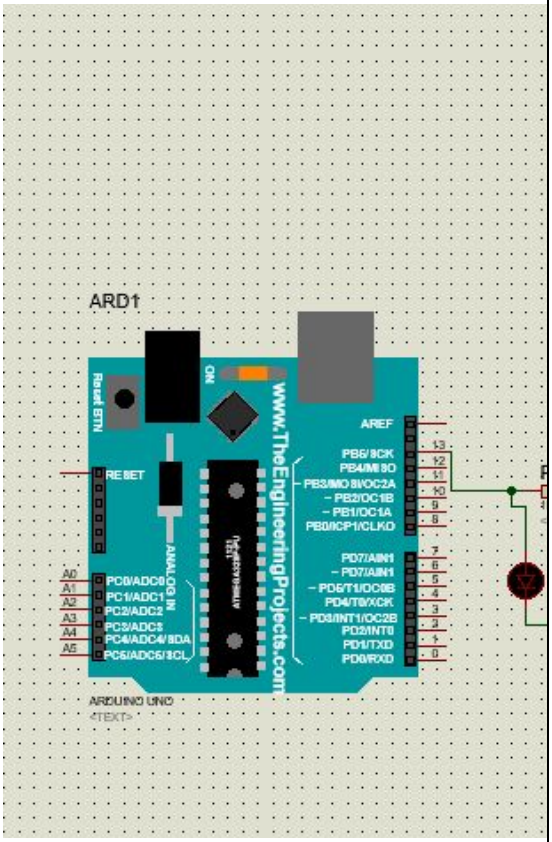
POLITEKNIK MALAYSIA

BORANG INVENTORI PROJEK PELAJAR

PERKARA	**MAKLUMAT** *INFORMATION*
Program *Program*	DET
Jabatan *Department*	KEJURUTERAAN ELEKTRIK
Semester/ Tahun *Semester/ Year*	LIMA
Tajuk Projek *Project Title*	DESIGN A ELECTRONIC CIRCUIT BREAKER USING ARDUINO
Jenis Projek *Type of Project*	INOVASI
Kategori Kluster Penyelidikan *Category/ research Cluster*	TEKNOLOGI DAN KEJURUTERAAN
Ahli Kumpulan *Group member*	1. MOHAMMAD HAQIM BIN MOHAMAD ROSLAN 960723-30-5085 2. MUHAMMAD ZUHAILY BIN ZAKARIA 990228075259 3. 4. 5.
Penyelia *Supervisor*	Puan Hanisah Binti Salam 860226-30-5326
Penyelia Bersama *Co-Supervisor*	
Abstrak *Abstract*	In this modern era, many electrical appliances are being used very complex and sensitive electronic components. These systems are very sensitive and could easily burn out if over-current occurs. Thus, modern day systems demand extremely fast tripping speed and high reliability as well as sensitivity. An electronic circuit breaker is the best way to meet these demands of the modern industry and home appliances. Due to conventional circuit breaker like MCB (miniature circuit breaker) is very slow to trip the circuit because of rely on contact that being heat up. The electronic circuit breaker would have the better way in tripping the circuit if any overload situation occurs. This project senses the current passing through a series element and the corresponding voltage drop is

	rectified to dc. This voltage is converted into a digital value and compared against a preset value by using arduino to generate an output that drives a relay to trip the load through the mosfet. The unit is extremely fast and overcomes the drawback of the conventional circuit breakers that may take from 2 seconds to 2 minutes depend on the value of current. The lower the current the longer the response to isolated the circuit. The higher the current the shorter the response to isolated the circuit. This project is used an Arduino microcontroller. The breaker will automatically isolate the circuit if any situation of overload occurs. Then, it will inform the user by using the internet. The circuit can be reset manually or by using a smart phone device. Due to era internet of things, We planning to create an electronic circuit breaker that is attached to the internet for accomplish our electrical engineering department task.
Keyword *Keyword* (max 5 word)	Smart ECB
Objektif Projek *Project Objectives*	1. To design and develop an electronic circuit breaker that can isolated the circuit faster than electro-mechanical circuit breaker. 2. To validate the performance of an electronic circuit breaker that always in a high quality of tripping the circuit when overload situation occurs. 3. To create an electronic circuit breaker that can reduce time and money for maintenance.
Skop Projek *Project scope*	This project is focusing tripping during overload situation occurs at 6 ampere.

IP No	
Dapatan *Finding* (*500 words max*)	We have make a research of electronic circuit breaker. Therefore, there is many advantage of using the electronic component within miniature circuit breaker. For an example the electronic circuit breaker is more sensitive in tripping the circuit rather than miniature circuit breaker when a overload situation occurs.
Cadangan untuk kerja-kerja akan datang *Suggestion for future work* (*500words*)	In the future, we have suggest to improve the tripping device so that it can capable for short circuit function. Otherwise, it also can improve the sizing of electronics circuit breaker and low cost.
Gambar berkaitan projek *Picture related to project* (700kb)	 
Rating/Level	JABATAN

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Borang ini perlu diisi oleh pelajar dan dihantar kepada penyelia/ penyelaras projek dalam bentuk hardcopy dan softcopy (borang LAMPIRAN J) dan gambar hasil projek dalam format jpeg/bitmap) bersama laporan akhir dan hasil projek.