DEEC
DEPARTAMENTO DE ENGENHARIA
ELECTROTÉCNICA E DE COMPUTADORES
TÉCNICO LISBOA

PROJECT SELECTION FORM

1 GROUP: 9 [DIOGO LUÍS (96922), DUARTE MARQUES (96523)]

2 PROJECT

Title	SolarMax
Description	Solar panel installed on a rotatory support. The rotation (in two different planes) is performed by two servo motors, in order to maximize efficiency considering the direction of the incident light – measured with LRD sensors. An Arduino UNO WiFi Rev2 is used so that the position of the solar panel and the power generation efficiency can be tracked in real-time by an Android application.

3 REQUIRED HARDWARE

	HW Item Reference	**Quantity**
HW provided by IST	Arduino UNO WiFi Rev2	1
	Sunfounder Sensor Kit V1 for Arduino – **apenas interessados em alguns jumper wires** (poderão ser jumper wires disponíveis no laboratório, não necessariamente deste kit…)	(1)
HW provided by the students	Servo motor MG996R - https://www.botnroll.com/pt/servos/3168-servo-mg996r-180-11kg-cm.html	2
	Placa PCB perfurada 5cm x 7cm - https://www.lojapm.pt/product/placa-pcb-perfurada-5-x-7-cm	2
	Sensores LRD 5mm - https://www.electrofun.pt/sensores-arduino/sensor-luz-ldr	5
	Resistências de 10kΩ - https://mixtronica.com/0-25w-carvao/9229-resistencia-carvao-0-25w-10kohm.html	5
	LM2596 DC-DC Buck Converter - https://mixtronica.com/alimentacao-modulos/7588-mx130731002-lm2596-dc-dc-buck-converter-step-down-power.html	2
	Interruptor On/Off - https://www.electrofun.pt/switch-on-off/interruptor-onoff-15a-250v-vermelho	2
	Pequeno painel solar de 12V - https://cb-electronics.com/products/solar-panel-12v/	1
	Bateria 12V - https://mauser.pt/catalog/product_info.php?cPath=74_60_285&products_id=115-2018	1
	LED display module - https://www.aliexpress.com/item/32870739404.html	1
	Female DC Barrel Jack - https://www.ptrobotics.com/fonte-de-alimentacao/2229-21mm-female-dc-barrel-jack-to-alligator-clips.html	1
	Interruptor de pressão - https://www.ptrobotics.com/push-button/5050-cmt302b-interruptor-de-pressao-n-fechado-prok.html	1