

Class 1MCT1
 First Name: Daan
 Name De Wilde
 Project Name : Lytter
 Assembly Revision : 2.0
 Approval Date : 04-Mar-21
 Part Count : 27
 Total Cost : €211



Part #	Part Name	Description	Revision	Qty	Supplier	also available from	Units	Unit Cost	Max Cost	Real Cost
1	Raspberry Pi 4 model B 4GB	Raspberry Pi to control the system	1	1	www.raspberrypi.org/products/raspberry-pi-4	sossolutions.nl/raspberry-pi-4	1	\$ 59,50	€ 59,50	€ 60,00
2	Adafruit Pi Cobbler+ kit - Breakout cable for Pi	Breakout board to connect cables to the Raspberry Pi	1	1	https://www.adafruit.com/product/1990	Product/Adafruit-Pi-T-Cobbler-F	1	\$ 6,50	€ 6,50	€ 6,50
3	Magnetic contact switch (door sensor/reed switch)	To register every opening of the lid to empty the bin	1	1	www.antratek.be/magnetic-contact-switch-do	ics.nl/magneetcontact-schakel	1	\$ 3,95	€ 3,95	€ 4,30
4	HC-SR04 ultrasonic distance sensor	To measure how full the bin is	1	1	www.kiwi-electronics.nl/ultrasonic-sensor	htek.be/hc-sr04-ultrasonic-sona	1	\$ 4,95	€ 4,95	€ 4,95
5	Load sensor / weight sensor (5Kg/10Kg)	To weigh how much trash is in the bin	1	1	www.tinytronics.nl/shop/nl/sensoren/load-c/	www.sparkfun.com/products/	1	\$ 5,00	€ 5,00	€ 5,00
6	Load Cell Amplifier - HX711	Helps te read the load cell	1	1	tinytronics.nl/shop/nl/sensoren/load-cell-ver/	www.sparkfun.com/products/	1	\$ 2,00	€ 2,00	€ 2,00
7	LCD display module	To display how full the bin is & if it is locked or not	1	1	tinytronics.nl/product/hd44780-16x2-karakters-lcd-disp	e-66-cm-26-inch-16-x-4-pixel-c	1	\$ 4,45	€ 4,45	€ 4,45
8	I2C PCF8574 chip	To control the LCD display via I2C	1	1	tinytronics.nl/product/hd44780-16x2-karakters-lcd-disp	9b61f9cf7&algo_expid=226f141b-4b01-4dhttps://hackerstore.nl/Artikel/37	1	\$ 2,26	€ 2,26	€ 2,26

9	12V Electromagnet	To close the bin when it is full	1	1	ting-Electromagnet-Solenoid/dp/B01N33861.com/en/products/5b8e35a114	1	\$ 14,49	€ 14,49	€ 15,49
10	12V 4A power adapter	To power the lock and the Raspberry Pi	1	1	cessoires/adapters-12-en-24-volt/48-watt-u/power-supply-adapter-12v4a	1	\$ 14,95	€ 14,95	€ 15,50
11	Resistors (470, 1K, 2K, 2.2K Ohm)		2	2	340aZu0YSy&algo_pvid=27df25f6-9783-43productlist.0.0.3ef1340aZu0YS	1	\$ 0,50	€ 1,00	€ 1,00
12	Female 2,1mm barrel jack terminal block	To plug in the power supply and have easy acces to 12V and GND	2	1	ectronics.nl/2-1mm-DC-barrel-jack-female-ps://www.adafruit.com/product/	1	\$ 2,00	€ 2,00	€ 2,00
13	Push button	To switch the mode of the LCD screen	2	1	1-phap3305-pushbutton-12-v-dc-005-a-1-x-3-Through-Breadboard-Friendly	1	\$ 0,50	€ 0,50	€ 0,50
14	Potentiometer 10K Ohm	To control the contrast of the LCD screen	2	1	cuit.be/Product/10K-Ohm-Lineaire-Potentie://www.martoparts.nl/potmeter	1	\$ 0,75	€ 0,75	€ 0,50
15	TIP120 Mosfet	To control the electromagnet	2	1	v.kiwi-electronics.nl/tip120-darlington-transistor/Product/TIP120-NPN-darlington	1	\$ 2,00	€ 2,00	€ 2,00
16	Diode		2	1	on-semiconductor-gelijkrichter-diode-mur-nica.eu/nl/1-euro/416-6-stuks-1	1	\$ 1,00	€ 1,00	€ 0,50
17	USB-A to USB-C cable	To power the Raspberry Pi	2	1	ibelshop.nl/usb-c-naar-usb-a-kabel-usb2-0-bd0R&pf_rd_r=H3SFQ9MXM2	1	\$ 2,00	€ 2,00	€ 2,00
18	BUCK CONVERTER MODULE 1.25 - 35V 3A LM2596	To convert 12V to 5V for the Raspberry Pi	1	1	k.be/adjustable-dc-dc-power-converter-1-2/Product/Buck-converter-modu	1	\$ 2,55	€ 2,55	€ 2,55
19	Hinges	To attach to the lid to the body and the flap to the lid	1	4	Local hardware store	4	\$ 4,79	€ 19,16	€ 20,00
20	Lumber 35x25	To support the corners	2	2	Local hardware store	1	\$ 5,00	€ 10,00	€ 10,00
21	Paint	TO paint the housing	2	1	Local hardware store	1	\$ 27,00	€ 27,00	€ 27,00

22	Wood MDF panel 9mm thick	To make the bin.	1	1	Local hardware store	1	\$ 25,00	€ 25,00	€ 25,00
Total			27					€ 211,01	€ 213,50