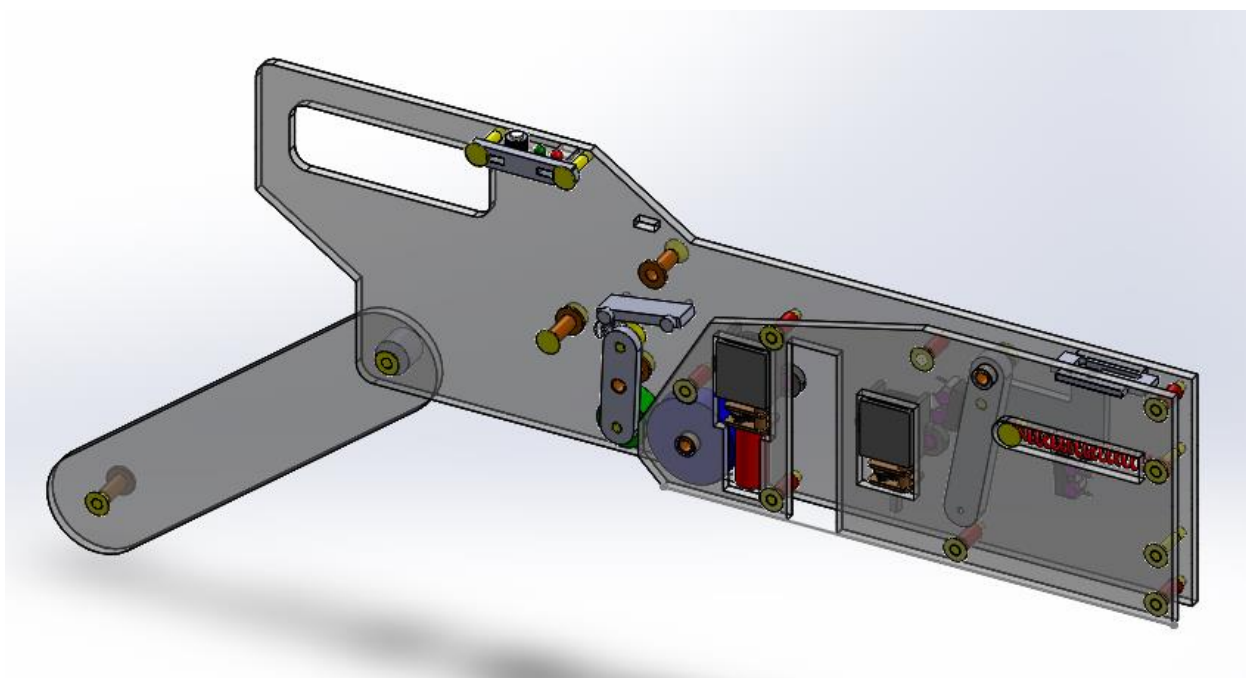


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Mica feeder

Implementation and Maintenance Manual



TPA Tech, HCMC
Automation Department

Version:1

Date : 2017.7

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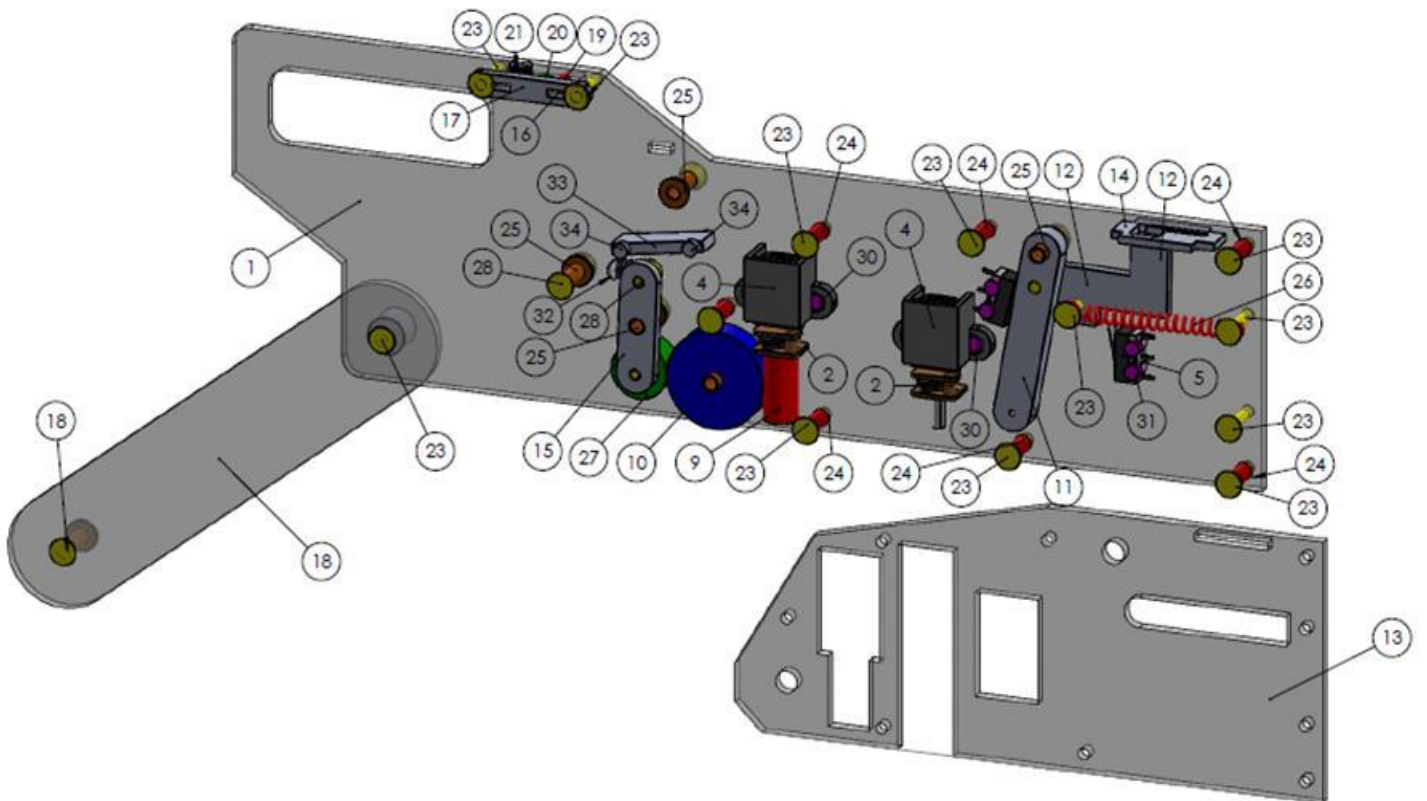
1. Introduction

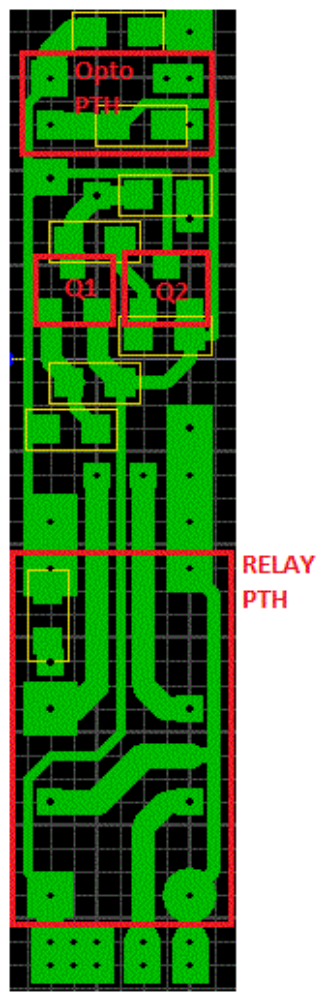
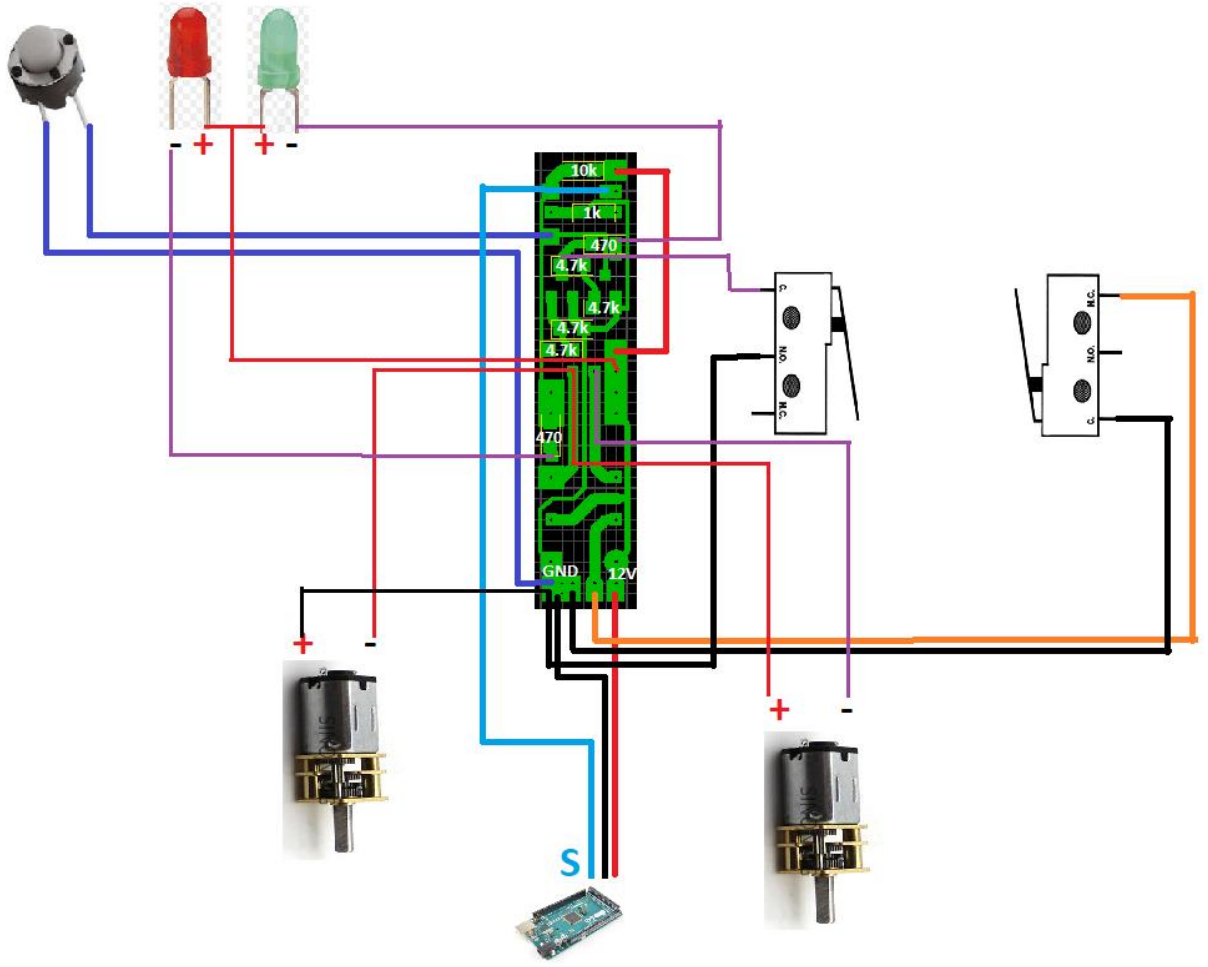
The Mica feeder was designed for Jason's Open PnP machine with low cost and easily for implementation and maintenance.

Feature

- *Feeding speed 3600 CPH*
- *Peeling system by worm gear*
- *High accuracy and reliability*
- *Manual feeding mode*

2. Feeder Key Compartments





Feeder mechanical BOM

Item	Part number	Description	Quantity	Actual picture
1	01	Feeder main	1	
2	02	Micro DC reducer motor (1:20)	2	
3	04	Micro DC reducer motor bracket	2	
4	05	Micro switch	2	
5	09	Worm gear	1	
6	10	Big gear	1	
7	11	Feeding seesaw	1	
8	12	Feeding	1	
9	13	Feeder cover	1	

10	14	Feeding plate	1	
11	15	Peeling seesaw	1	
12	16	Manual panel control	1	
13	17	Manual panel control holder	1	
14	18	Reel holder	1	
15	19	LED 3mm Red color	1	
16	20	LED 3mm Green color	1	
17	21	Micro button	1	
18	23	M3 0.5/14mm screw	12	
19	24	Wedge1	7	

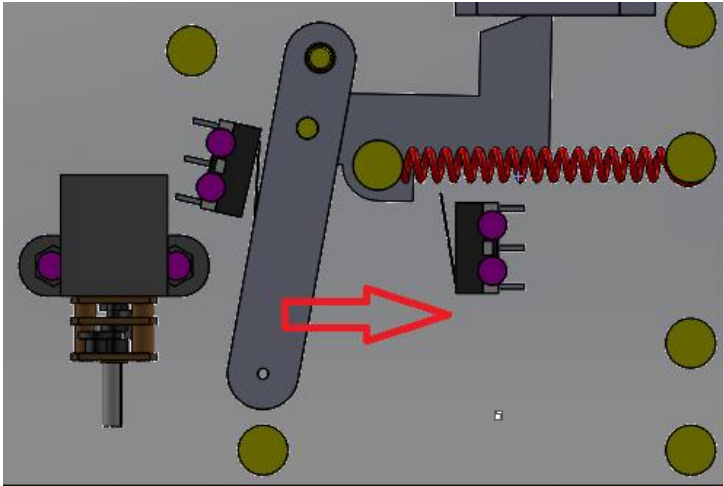
20	25	M3 Female screwing	4	
21	26	Feeding spring	1	
22	27	Small gear	1	
23	28	M3 0.5/6mm screw	5	
24	30	M2 6mm screw	4	
25	31	M2 10mm screw	4	
26	32	Peeling spring	1	
27	33	Reel base	1	
28	34	M2 13mm screw	2	

Feeder PCBA BOM

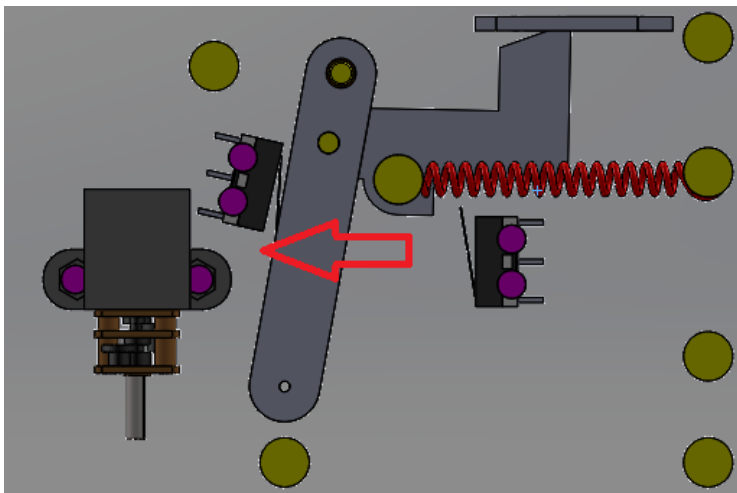
Item	Description	Quantity	Actual picture
1	Opto PC817	1	
2	Transistor C1815	2	
3	Relay 12v 8 pins HK19F-DC12V-SHG	1	
4	Resistor 4.7k	4	
5	Resistor 470 Ohm	2	
6	Resistor 10k	1	
7	Resistor 1k	1	

3. Feeder Operation

1. When we turn on the power supply (12v), transistor 1 closes, transistor 2 opens, The feeding and peeling motor turn in a clockwise direction until the feeding lever move to the front switch, cause break switch, both motors stops



2. When the Feeder controller get 5v signal from sub-driver or 0V from feeding manual mode, transistor 1 opens, transistor 2 closes, relay is triggered by transistor 2 and converts the direction of feeding motor. The feeding lever comes back (the peeling motor no run)



3. When the feeding lever comes back, impact to rear switch, transistor 1 closes, transistor 2 opens. The feeding and peeling motor turn in a clockwise direction until the feeding lever move to the front switch, cause break switch, both motors stops, the reel moves 1 step.

4. Maintenance

Part	Method	Frequency
Motor	Check abnormal noise. If you find noise, please stop motor immediately and inform professional person. -Check temperature	Every monthly
Feeding and peeling lever	Check any abnormal noise during the movement	Every monthly
Microswitch	Check conductive of switch by VOM	Every monthly
Belt	Wear and tear	Every 3month
Feeding and peeling spring	Check the force of spring	Every 3month
Calibration	Check the accuracy	Every 3month