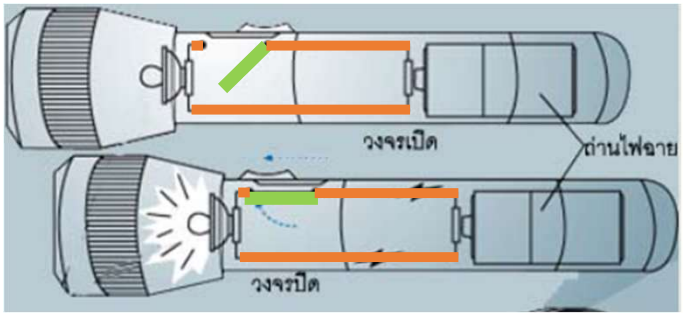
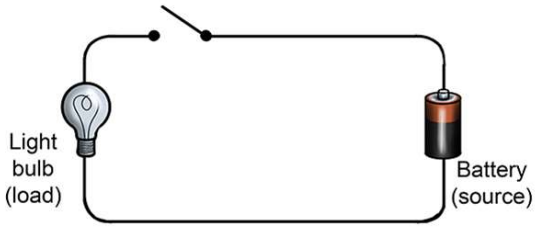
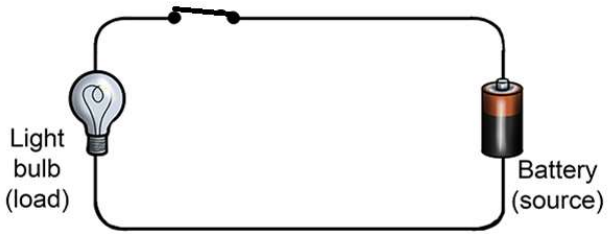
การควบคุมสวิตช์ Switch Control

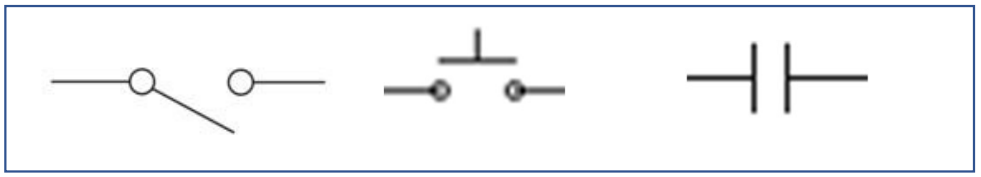






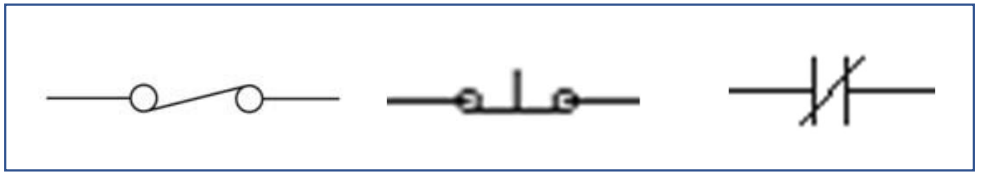
วงจรเปิด (Open Circuit)

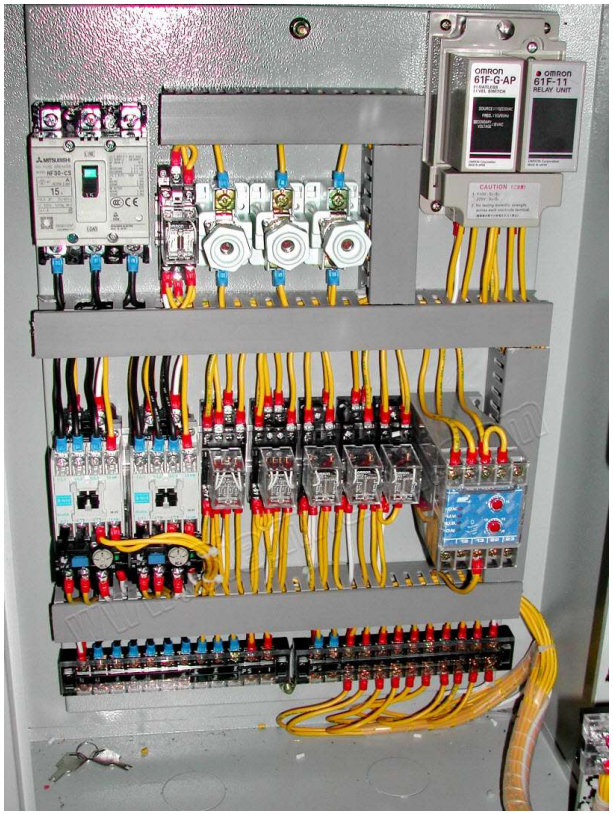
- กระแสไฟฟ้าไม่สามารถไหลผ่านได้ ทำให้อุปกรณ์ไม่ทำงาน
- หน้าสัมผัสไม่เชื่อมต่อกัน (Open Contact)

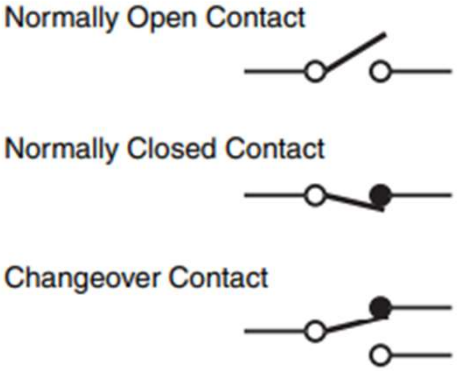


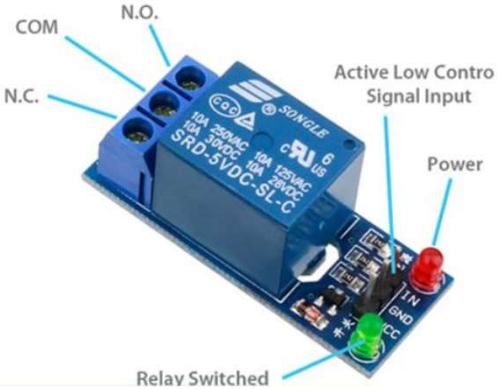
วงจรปิด (Close Circuit)

- หน้าสัมผัสเชื่อมต่อกัน (Close Contact)
- กระแสไฟฟ้าไหลในวงจรได้ ทำให้อุปกรณ์ทำงาน




omron
61F-G-AP
omron
61F-11
RELAY UNIT


Normally Open Contact
Normally Closed Contact
Changeover Contact


COM
N.O.
N.C.
Active Low Contro
Signal Input
Power
Relay Switched
SONGLE
SRD-5VDC-SL-C
IN
GND
VCC

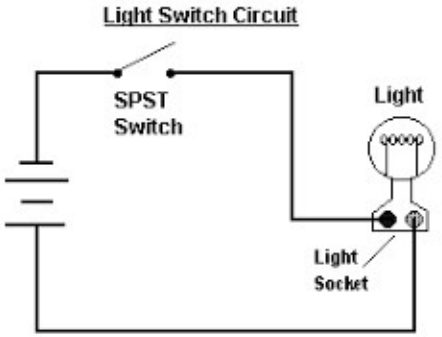

TIMER

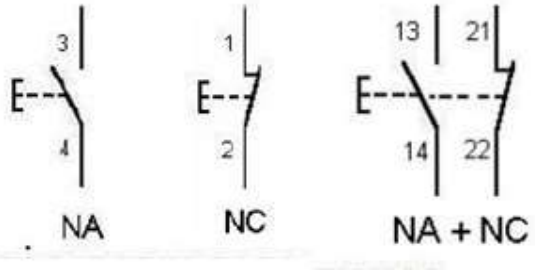

NO


MODEL
S-T10
MITSUBISHI

หมุนปุ่มมาทาง MAN สั่งเปิดปิดจากสวิทช์หน้าตู้

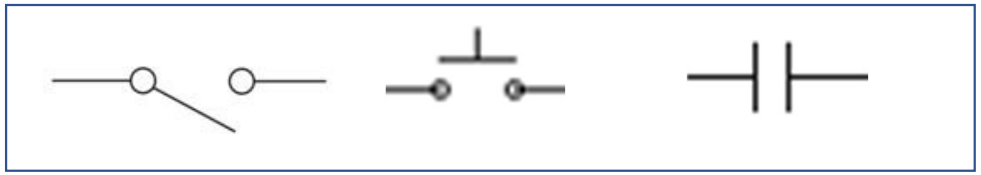
หมุนปุ่มมาทาง AUTO รอเวลาที่ตั้งไว้จาก timer





วงจรเปิด (**Open Circuit**)

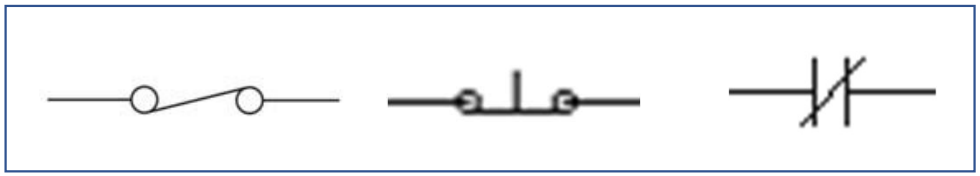
- กระแสไฟฟ้าไม่สามารถไหลผ่านได้ ทำให้อุปกรณ์ไม่ทำงาน
- หน้าสัมผัสไม่เชื่อมต่อกัน (Open Contact)



A Normal Open contact (NO)

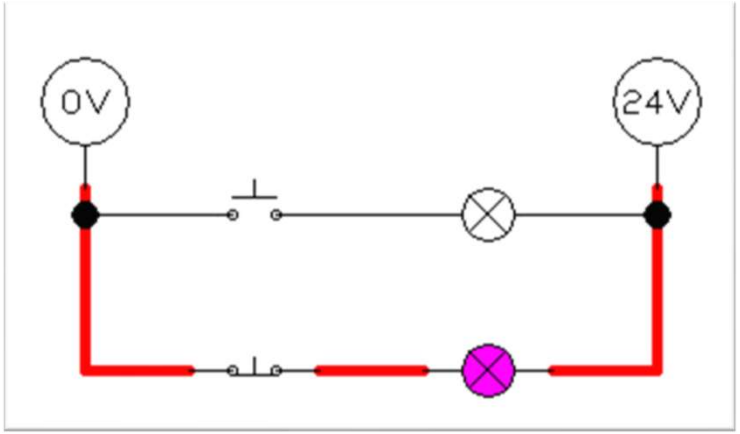
วงจรปิด (**Close Circuit**)

- หน้าสัมผัสเชื่อมต่อกัน (Close Contact)
- กระแสไฟฟ้าไหลในวงจรได้ ทำให้อุปกรณ์ทำงาน

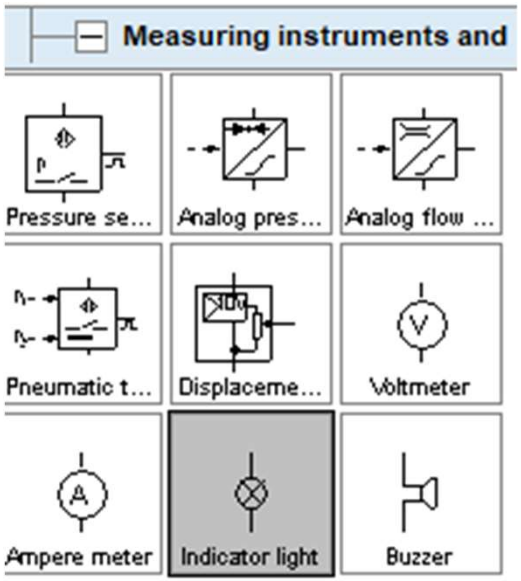


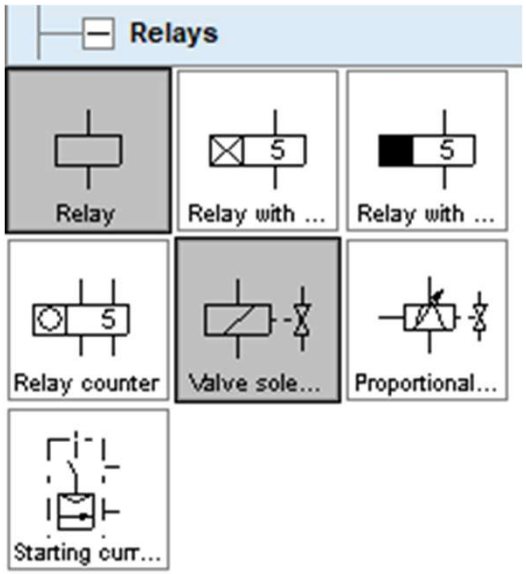
A Normal Closed contact (NC)

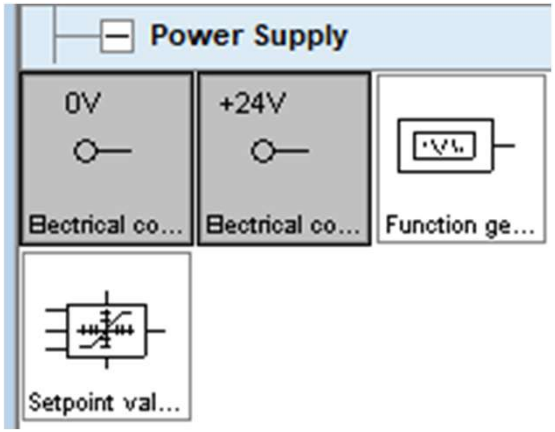
ปกติหน้าสัมผัสเปิด

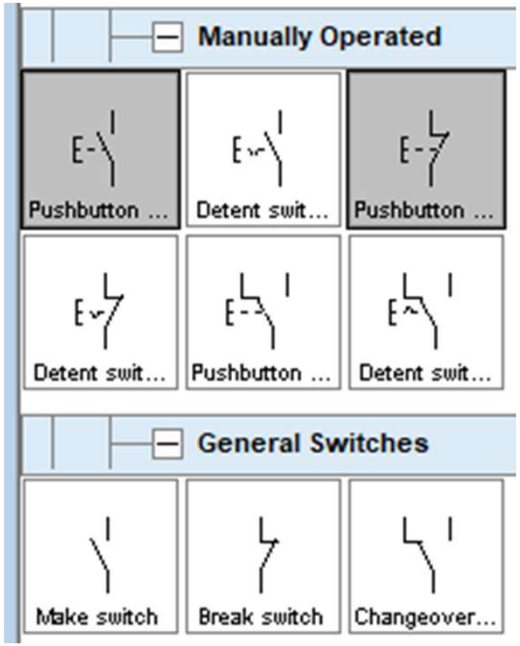


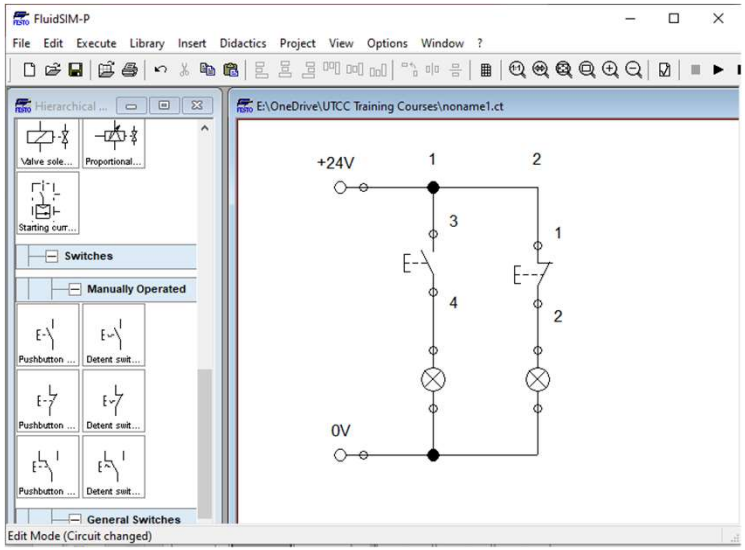
ปกติหน้าสัมผัสปิด

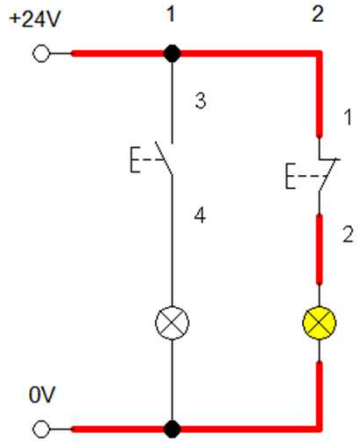

Measuring instruments and
Pressure se...
Analog pres...
Analog flow ...
Pneumatic t...
Displaceme...
Voltmeter
Ampere meter
Indicator light
Buzzer


Relays
Relay
Relay with ...
Relay with ...
Relay counter
Valve sole...
Proportional...
Starting curr...

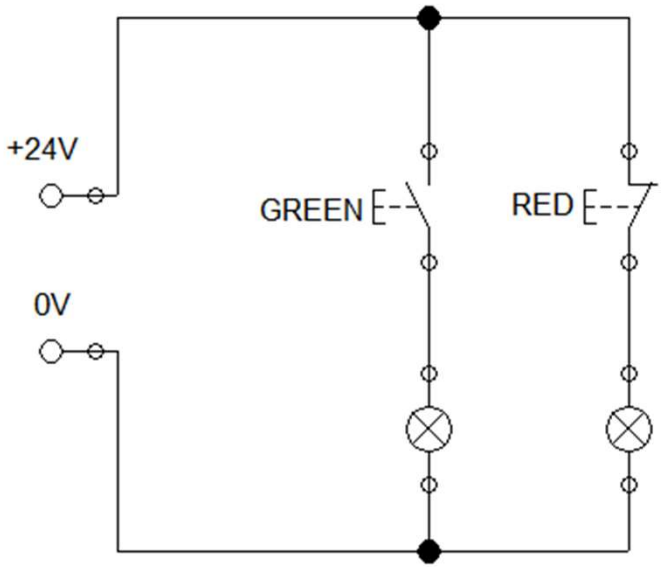

Power Supply
0V
+24V
Electrical co...
Electrical co...
Function ge...
Setpoint val...

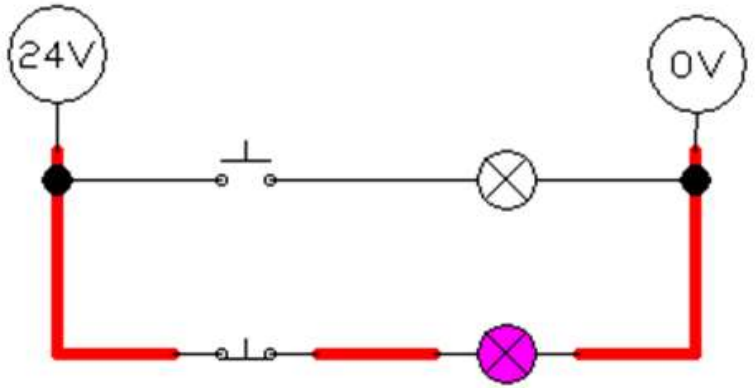

Manually Operated
Pushbutton ...
Detent swit...
Pushbutton ...
Detent swit...
Pushbutton ...
Detent swit...
General Switches
Make switch
Break switch
Changeover...

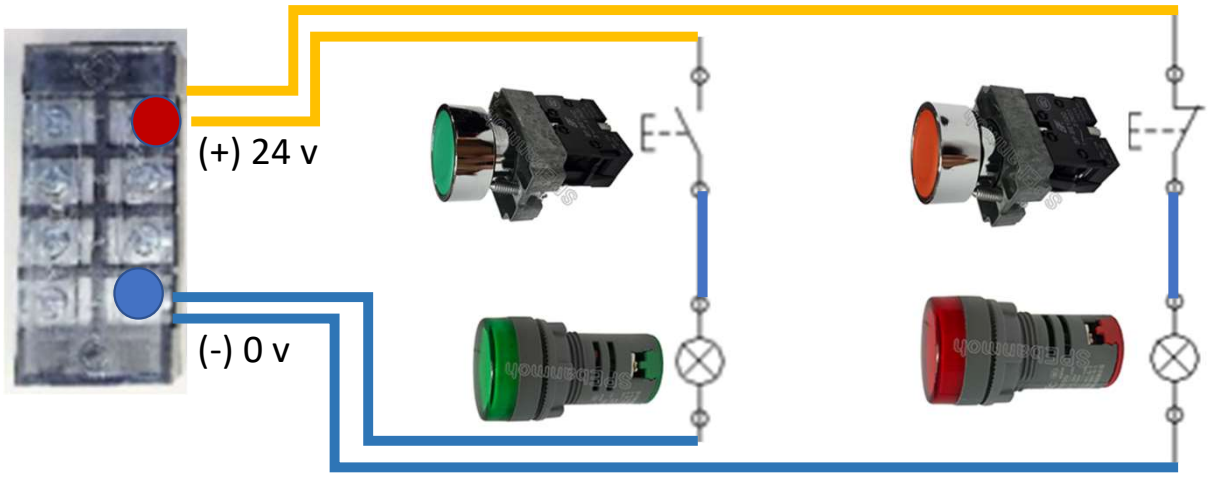

FluidSIM-P
File Edit Execute Library Insert Didactics Project View Options Window ?
Hierarchical ...
Switches
Manually Operated
General Switches
E:\OneDrive\UTCC Training Courses\noname1.ct
+24V
0V
1
2
3
4
Edit Mode (Circuit changed)


+24V
1
2
3
4
0V

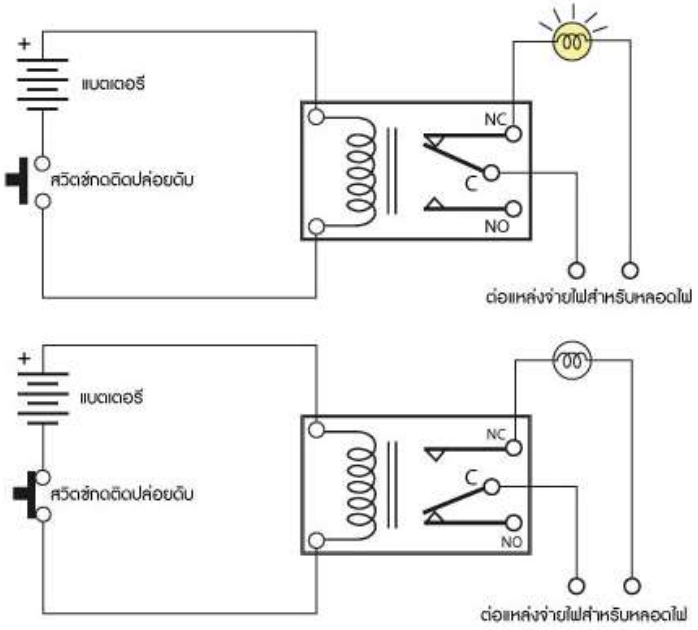
Basic 01 - Switch Control (NO-NC) youtube

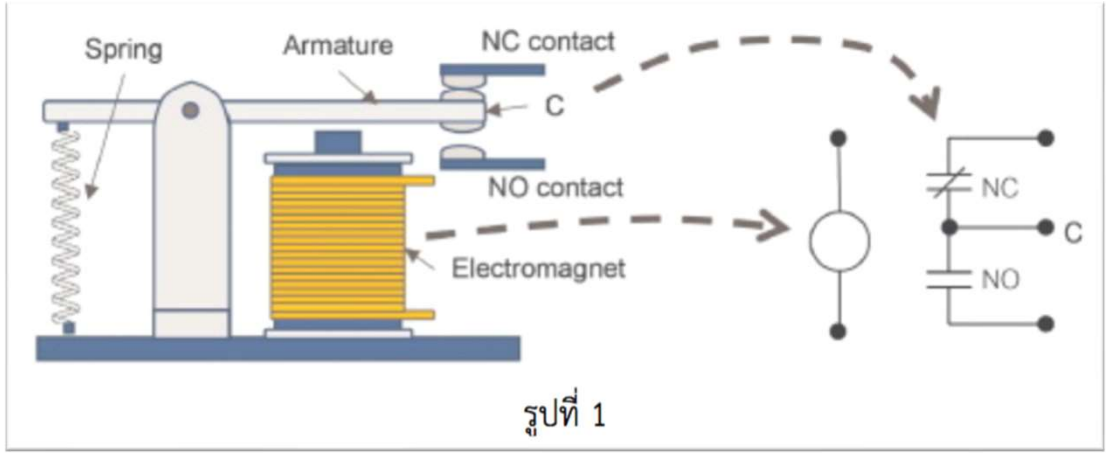


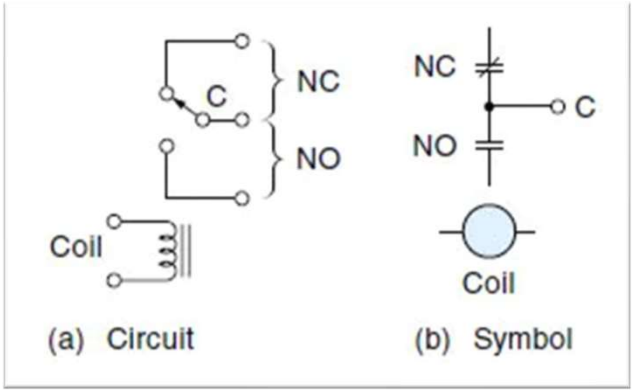


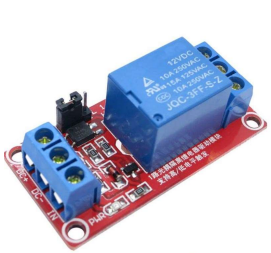


รีเลย์ Relay (สวิตช์ ที่ใช้กระแสไฟฟ้าในสั่งงาน หน้าสัมผัสเปิดปิด)

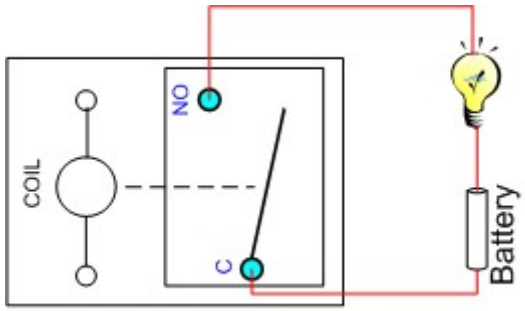




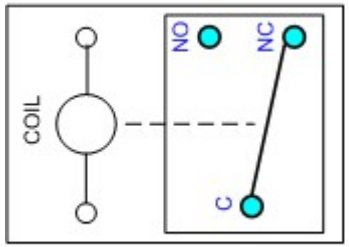




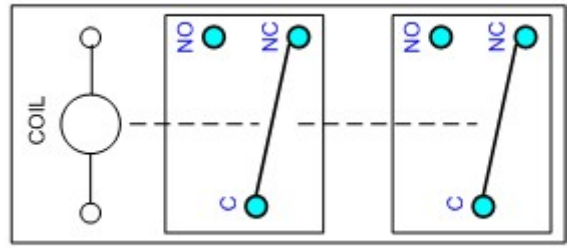
รีเลย์ Relay Switch



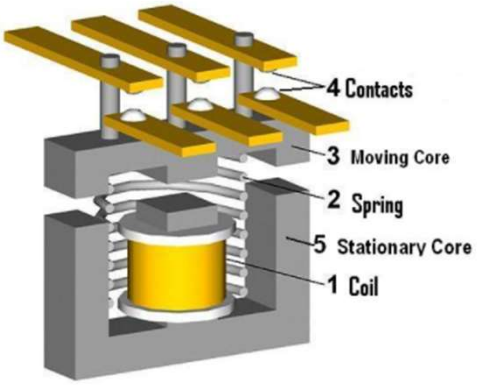
Single Pole, Single Throw (SPST)



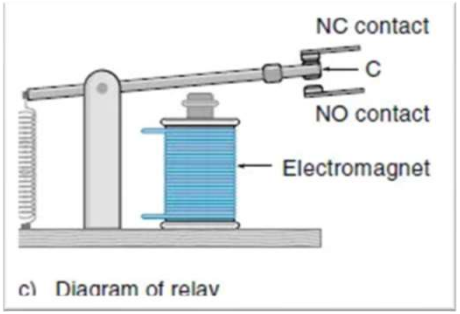
Single Pole, Double Throw (SPDT)

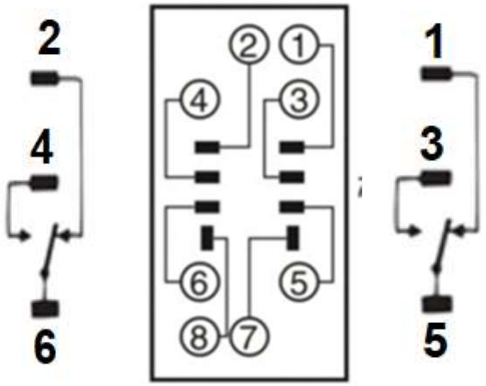


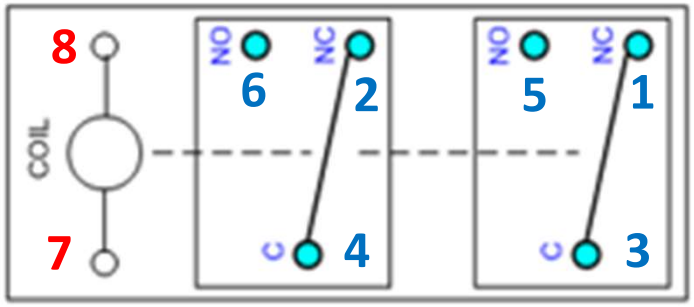
Double Pole, Double Throw (DPDT)

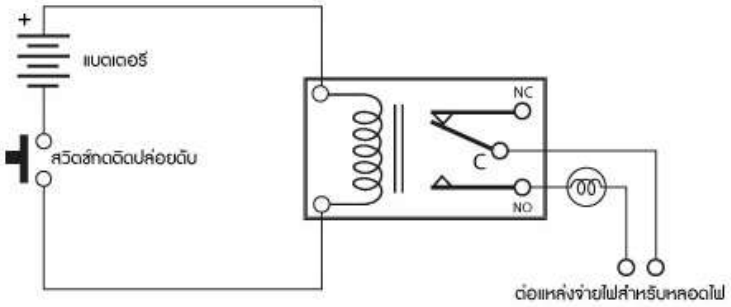


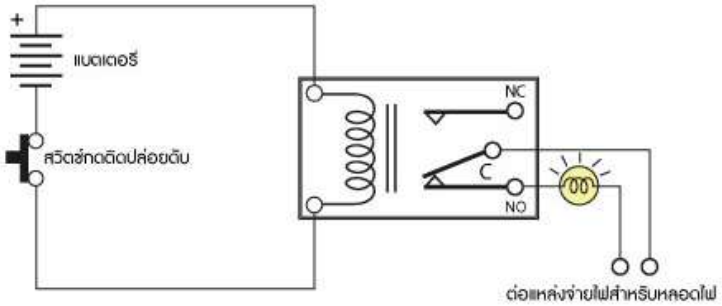
รูปที่ 2

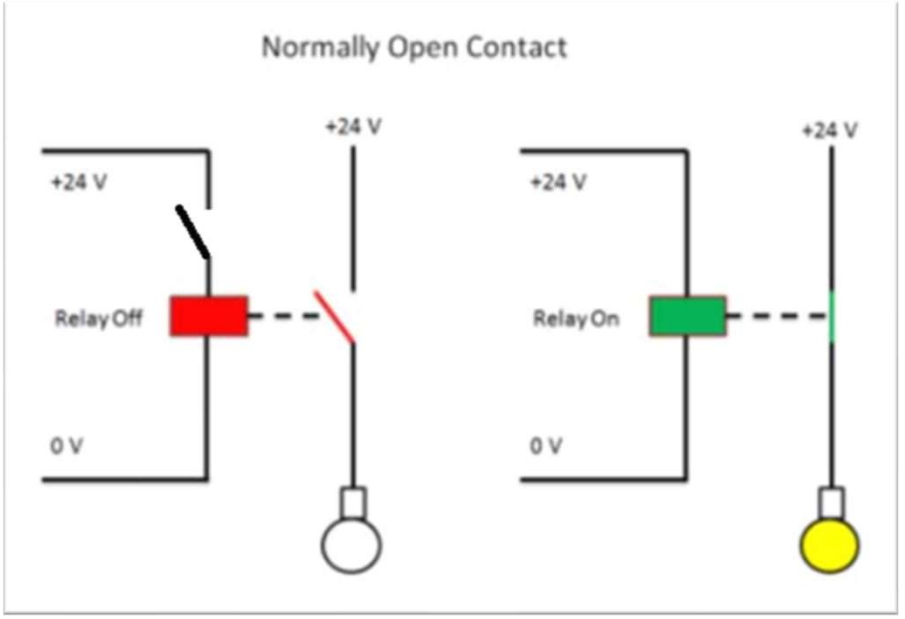


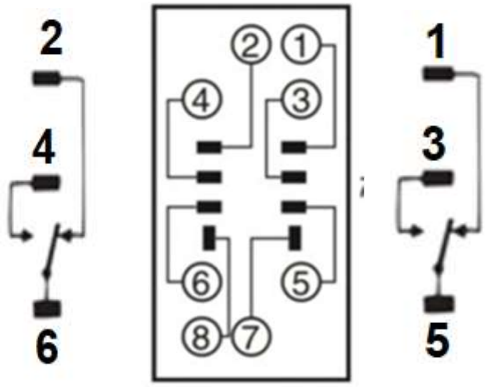

2
4
6
1
3
5
2
1
4
3
6
5
8
7

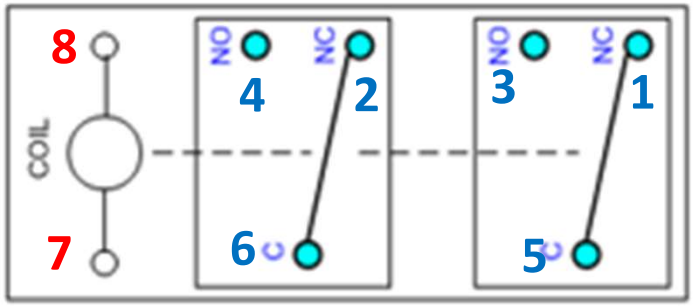

8
7
COIL
NO
NC
C
6
2
4
NO
NC
C
5
1
3

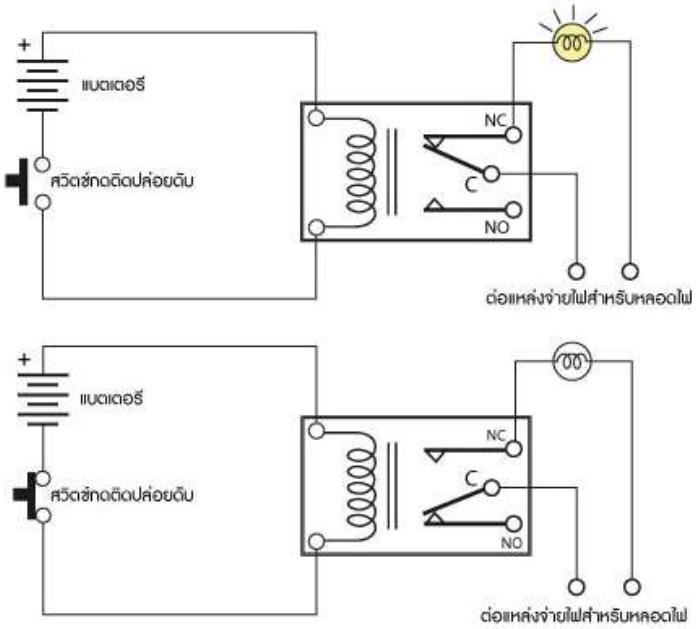

+
แบตเตอรี่
สวิตช์กดติดปล่อยดับ
NC
C
NO
ต่อแหล่งจ่ายไฟสำหรับหลอดไฟ

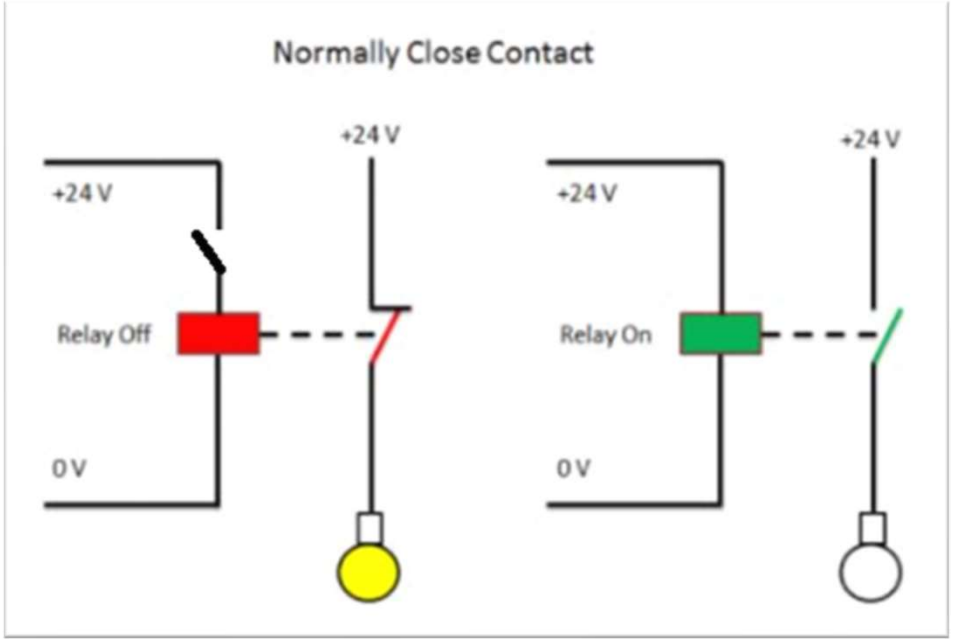

+
แบตเตอรี่
สวิตช์กดติดปล่อยดับ
NC
C
NO
ต่อแหล่งจ่ายไฟสำหรับหลอดไฟ


Normally Open Contact
+24 V
+24 V
Relay Off
0 V
+24 V
+24 V
Relay On
0 V

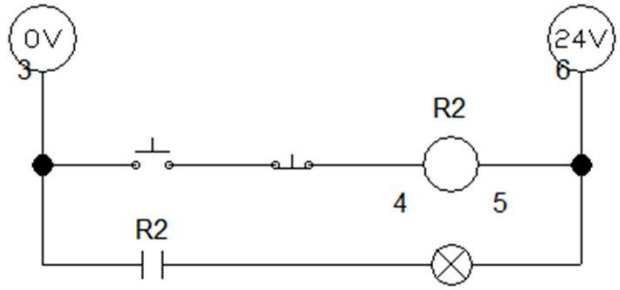

2
4
6
1
3
5
2
1
4
3
6
5
8
7

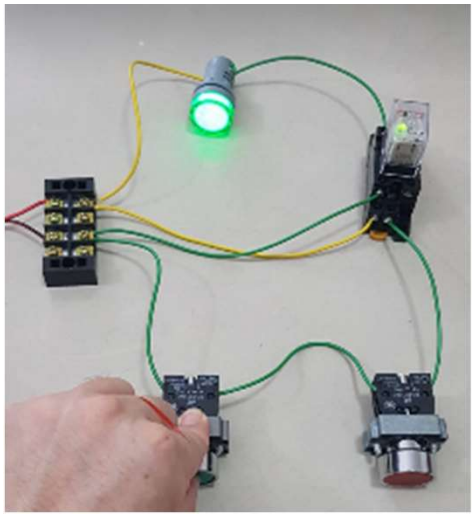

8
7
COIL
NO
NC
4
2
6
3
1
5

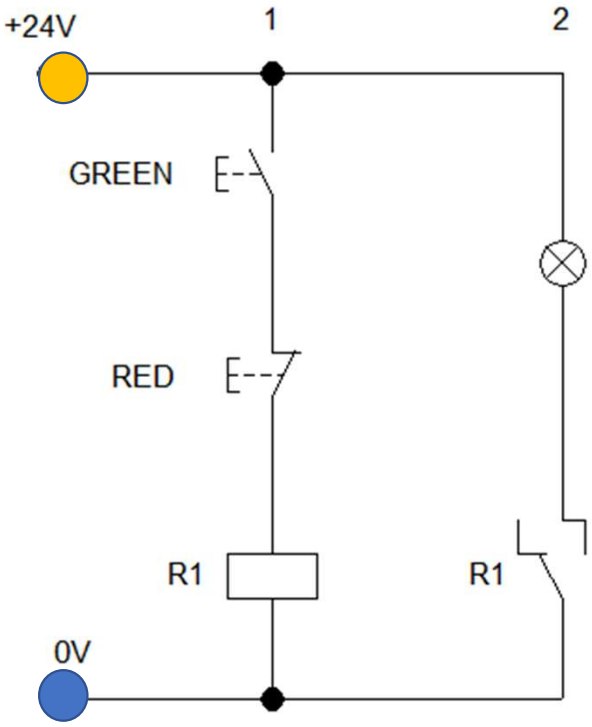

แบตเตอรี่
สวิตช์กดติดปล่อยดับ
NC
C
NO
ต่อแหล่งจ่ายไฟสำหรับหลอดไฟ
แบตเตอรี่
สวิตช์กดติดปล่อยดับ
NC
C
NO
ต่อแหล่งจ่ายไฟสำหรับหลอดไฟ

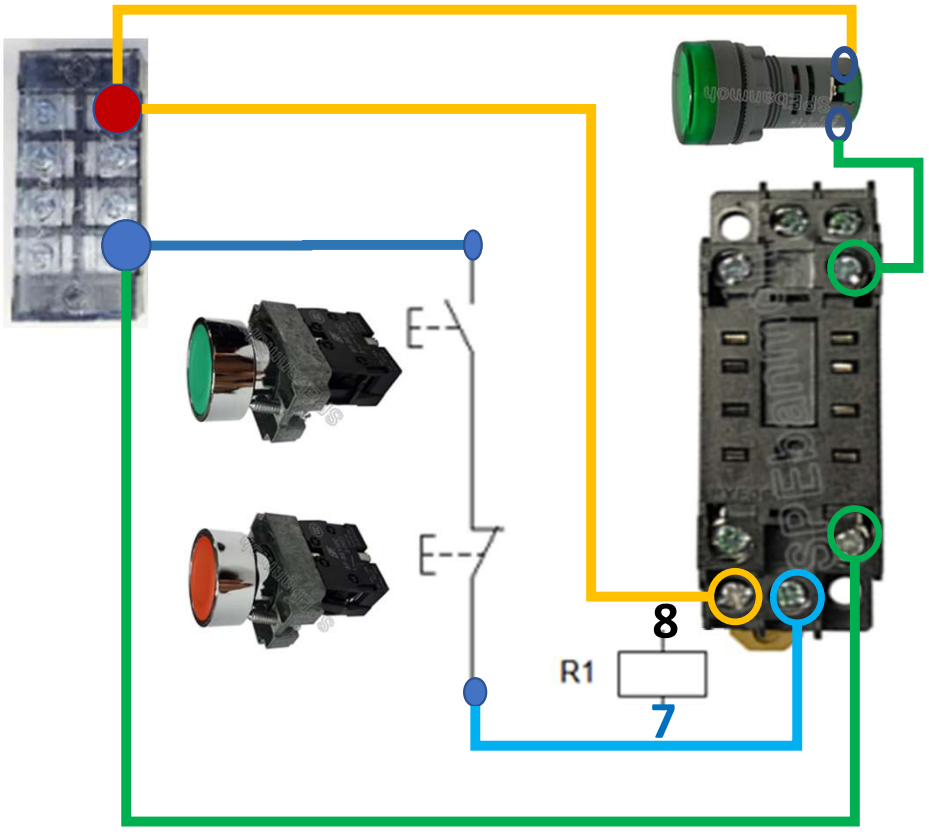

Normally Close Contact
+24 V
+24 V
Relay Off
0 V
+24 V
+24 V
Relay On
0 V

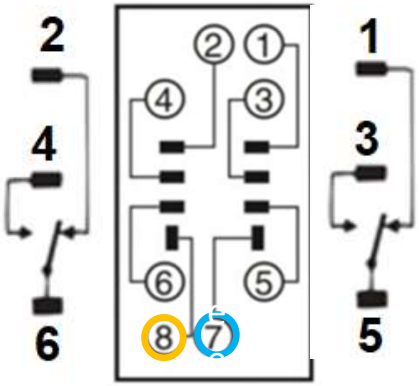
Basic 02 - Relay Control youtube



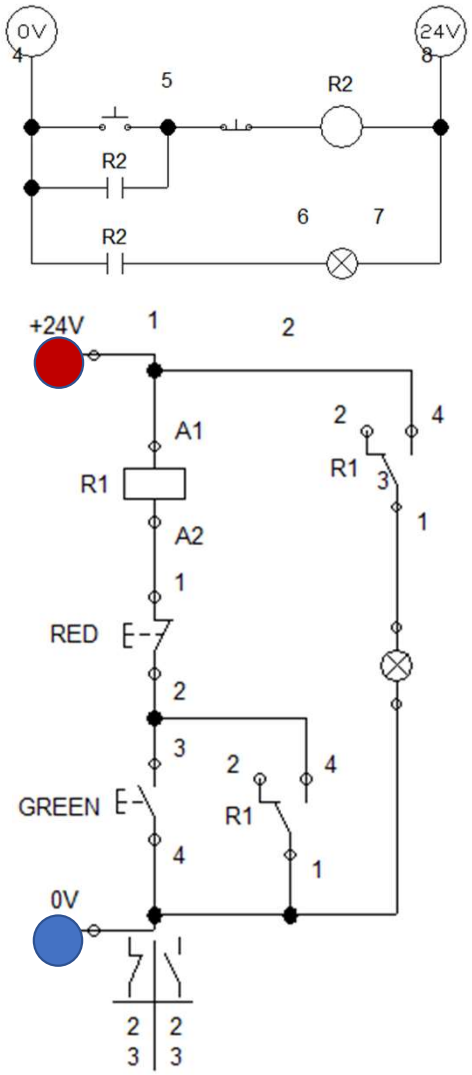


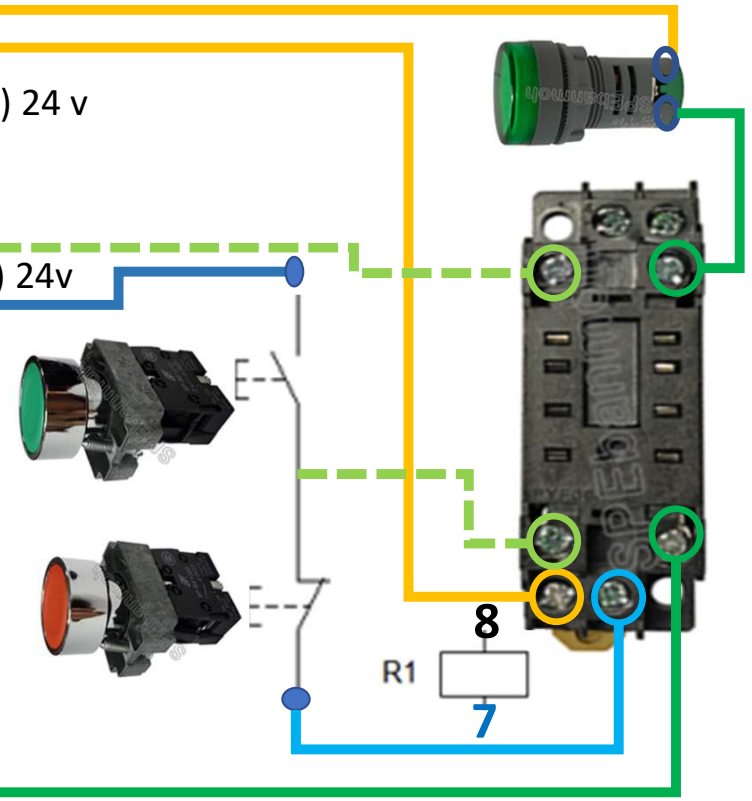


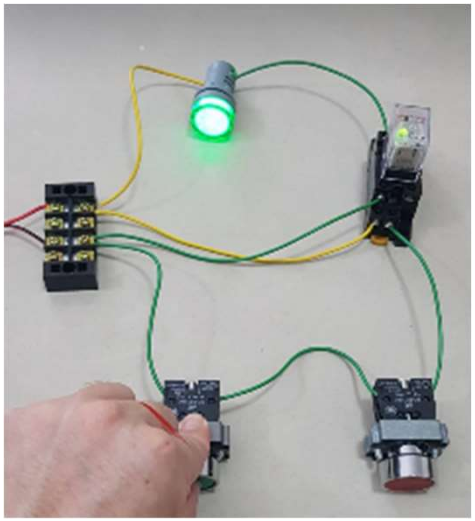


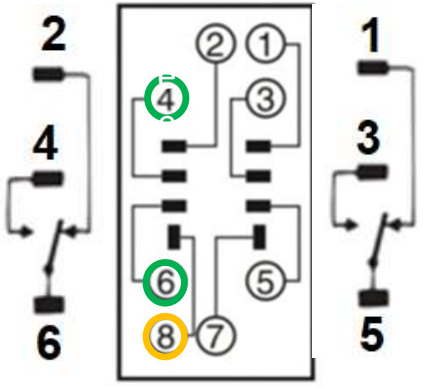


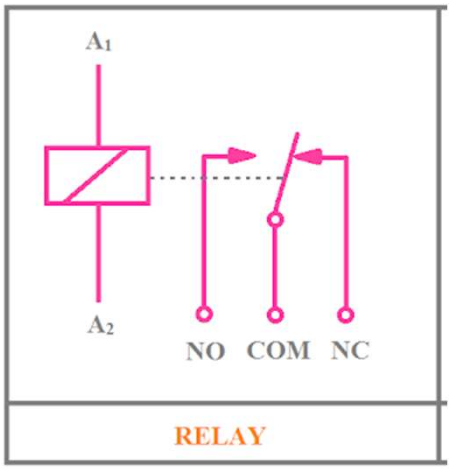
Basic 03 - Relay Control (Self Holding) youtube



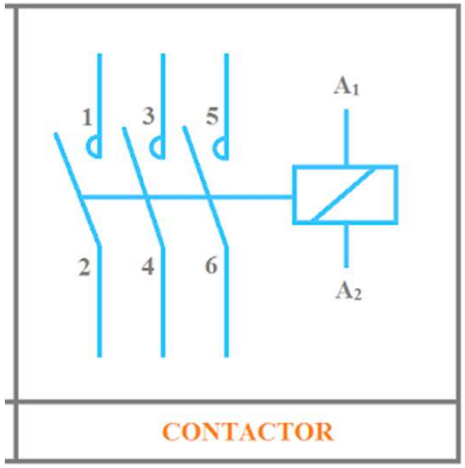








RELAY



CONTACTOR

MY2 N **Price:**

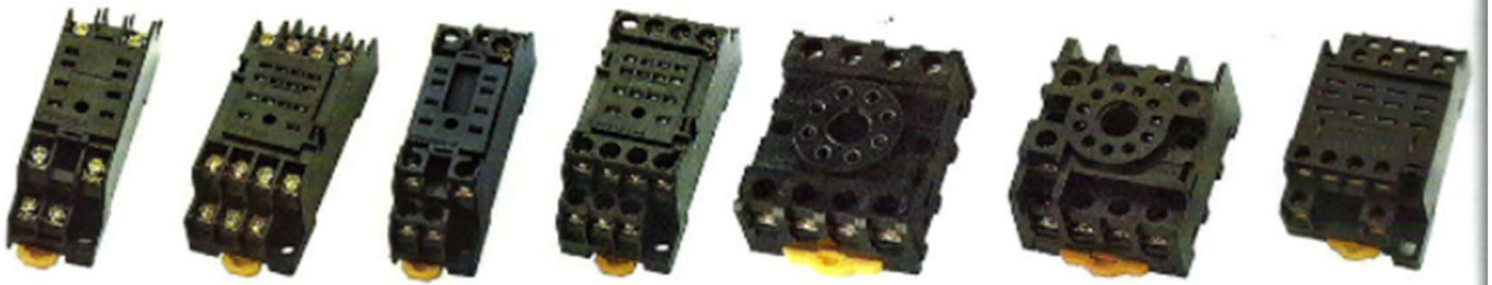
MY4 N **Price:**

LY2N **Price:**

LY4N **Price:**

MK2P-I **Price:**

MK3P-I **Price:**



PYF08A **Price:**

PYF14A **Price:**

PYF08A-E **Price**

PYF14A-E **Price:**

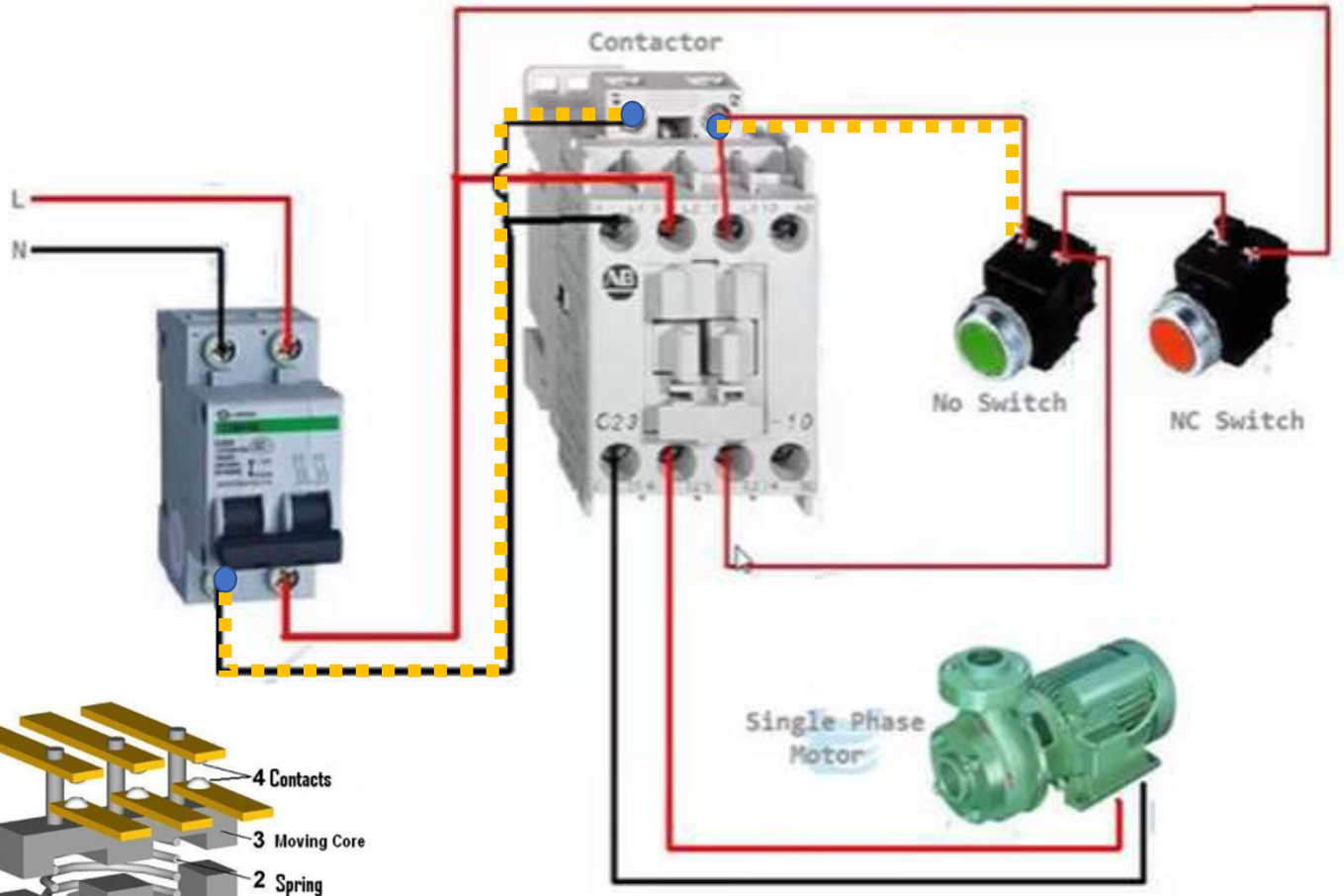
PF083A-E **Price:**

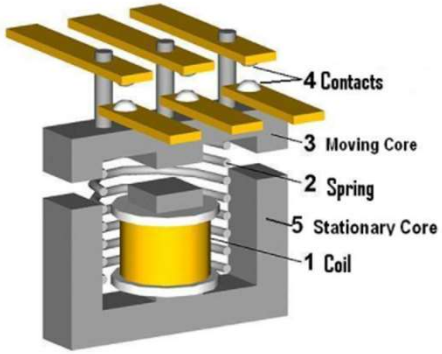
PF113A-E **Price:**

PTF14A-E **Price:**

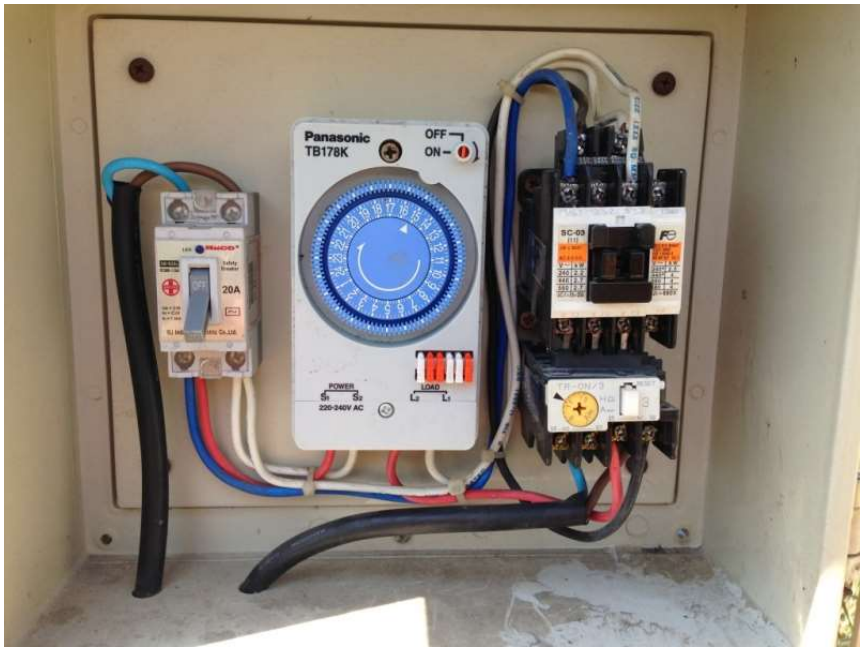
Specifications / Model		MY2 N	MY4 N	LY2	LY4	MK2P-I	MK3P-I
Contact capacity	AC Position	5A 250V	3A 250V	10A 250V	10A 250V	10A 250V	10A 250V
	DC	5A 30V	3A 30V	10A 30V	10A 30V	10A 30V	10A 30V


MODEL
MSO-T10
S-T10
MITSUBISHI

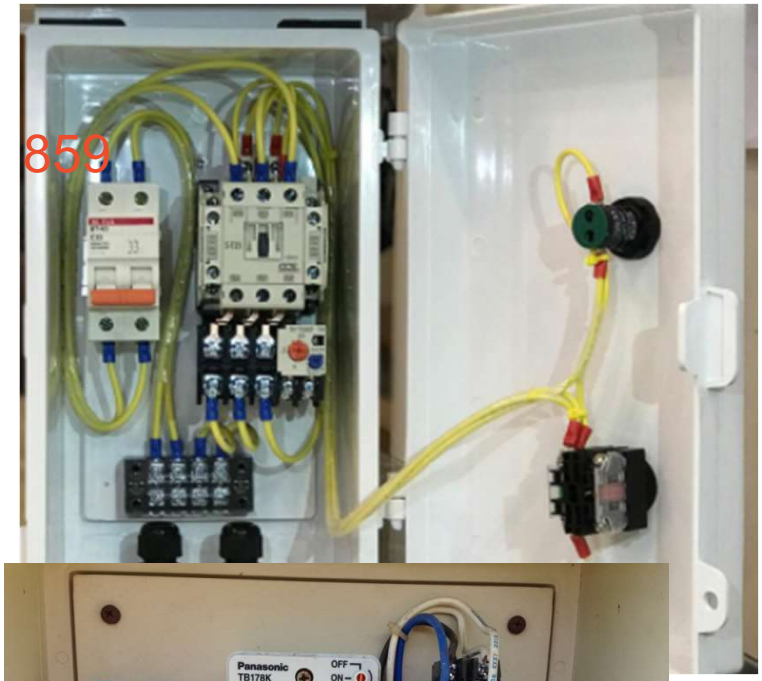

Contactor
L
N
No Switch
NC Switch
Single Phase
Motor

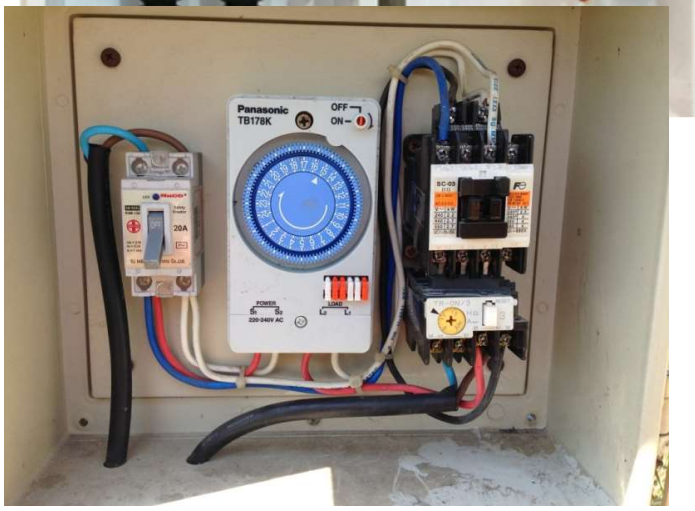

4 Contacts
3 Moving Core
2 Spring
5 Stationary Core
1 Coil

Timer



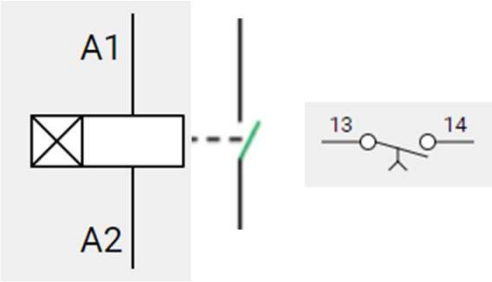
859

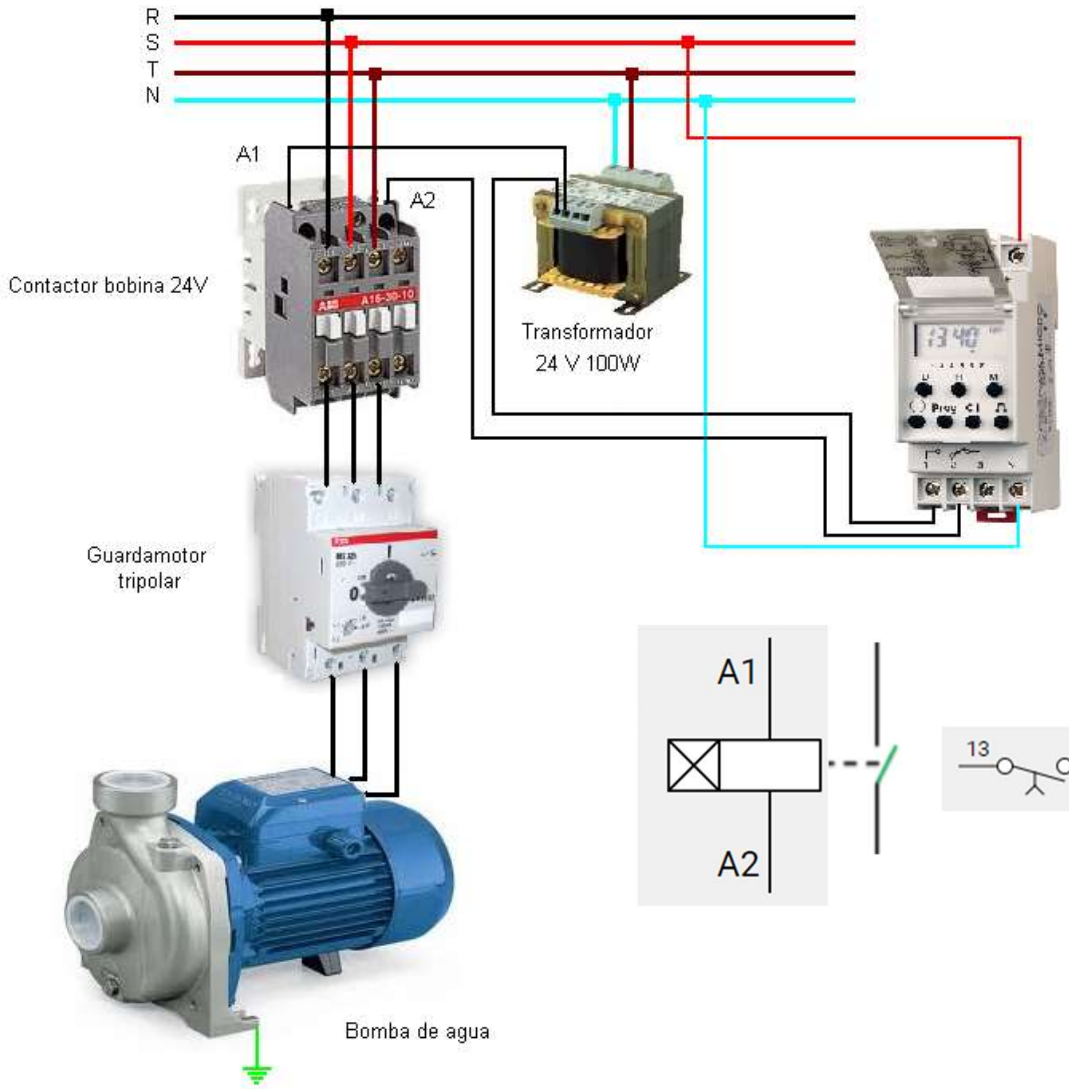




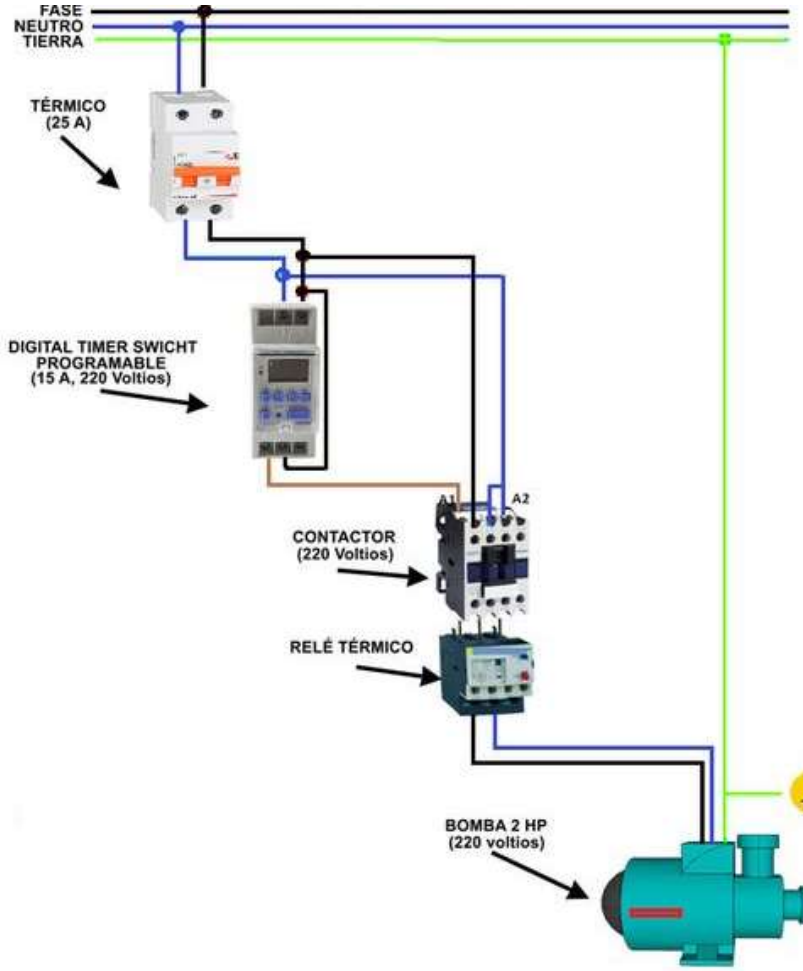
ตัวตั้งเวลา

Timer - 1,495



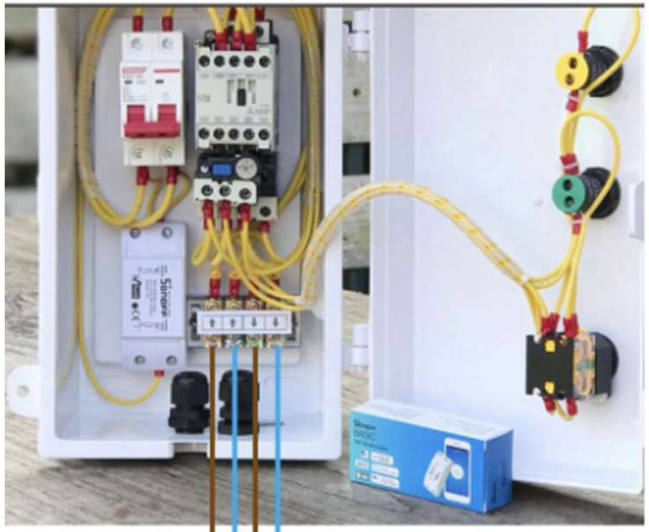

R
S
T
N
A1
A2
Contactor bobina 24V
Transformador
24 V 100W
Guardamotor
tripolar
Bomba de agua

A1
A2
13
14


FASE
NEUTRO
TIERRA
TÉRMICO
(25 A)
DIGITAL TIMER SWICHT
PROGRAMABLE
(15 A, 220 Voltios)
CONTACTOR
(220 Voltios)
RELÉ TÉRMICO
BOMBA 2 HP
(220 voltios)

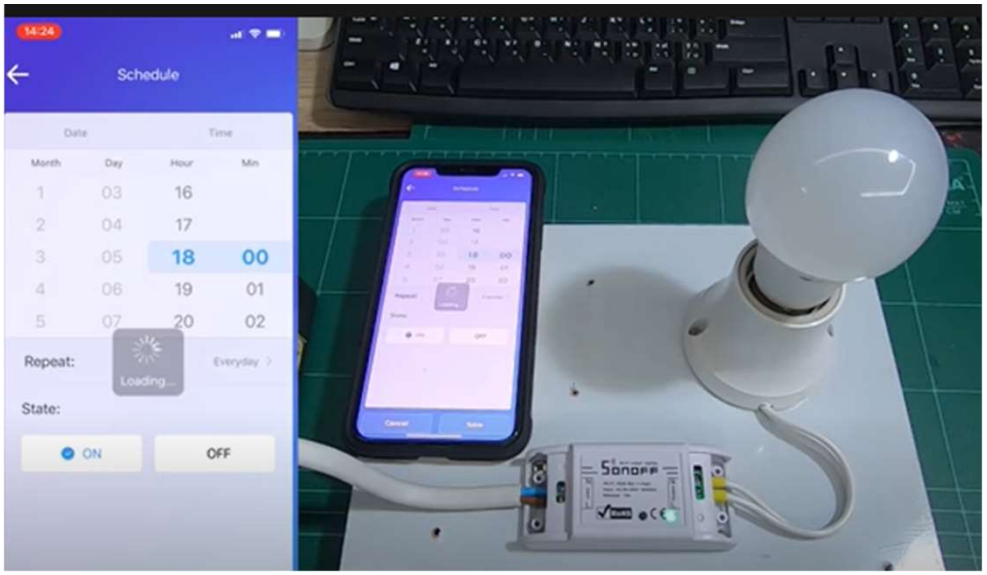

L
Input N
SONOFF PRO
L
N Output

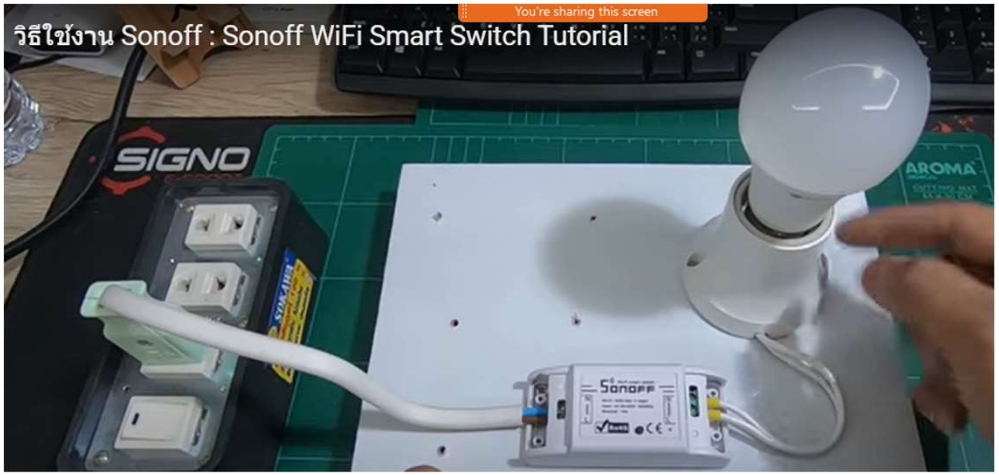

OVERLOAD
แสดงสถานะกระแสเกิน
ON
แสดงสถานะทำงาน
ปิด
อัตโนมัติ AUTO OFF MAN เปิด

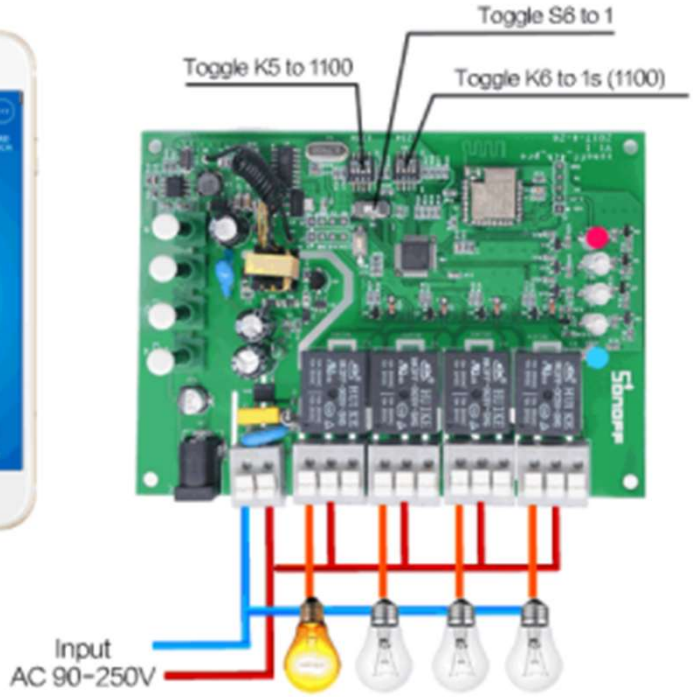



L
N
Contactor
No Switch
NC Switch
Single Phase
Motor


L
N

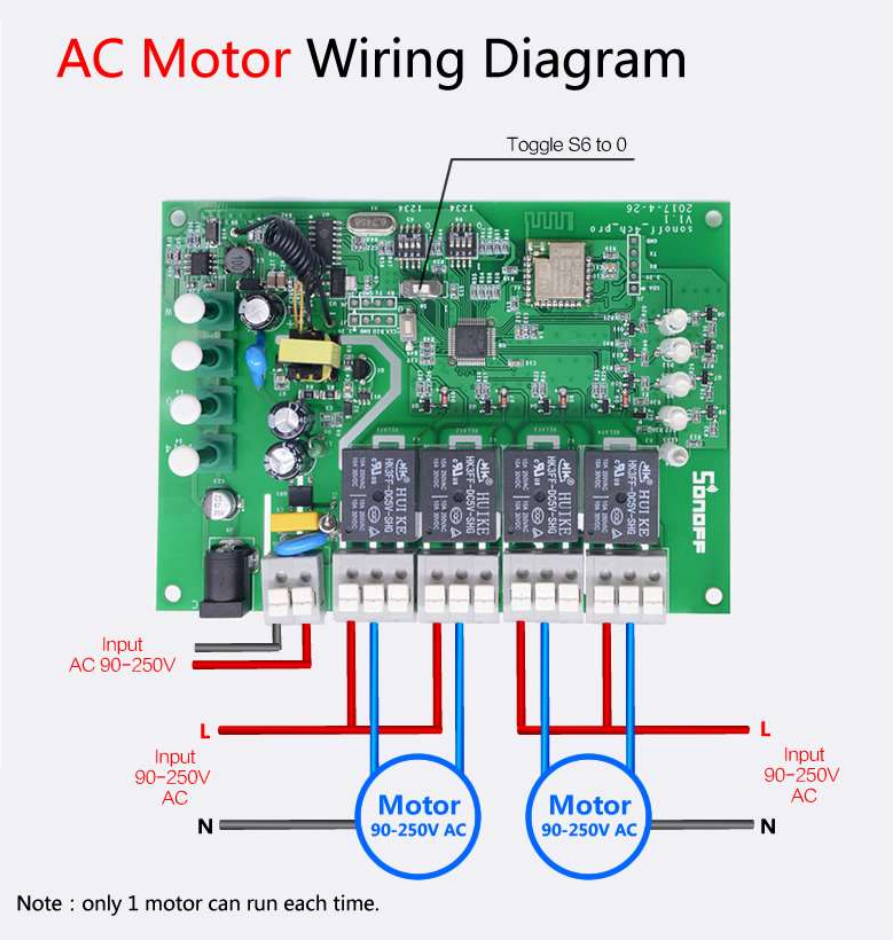

14:24
Schedule
Date
Time
Month
Day
Hour
Min
1
03
16
2
04
17
3
05
18
00
4
06
19
01
5
07
20
02
Repeat:
Loading...
Everyday
State:
ON
OFF
Sonoff

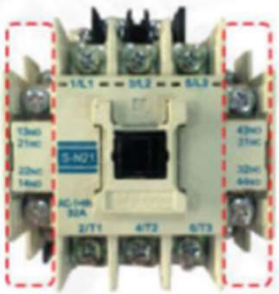
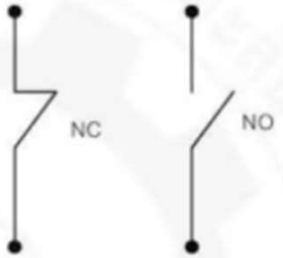
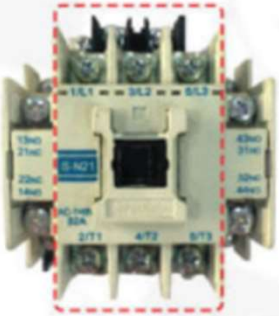
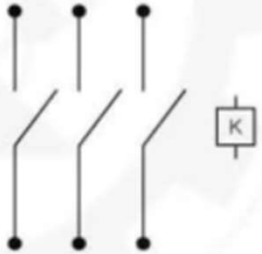
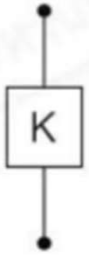

You're sharing this screen
วิธีใช้งาน Sonoff : Sonoff WiFi Smart Switch Tutorial
SIGNO
AROMA
Sonoff

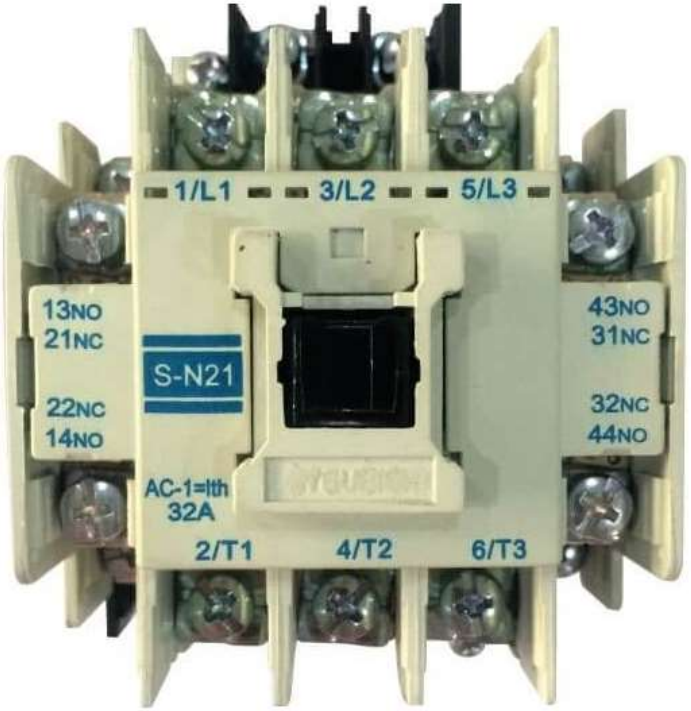


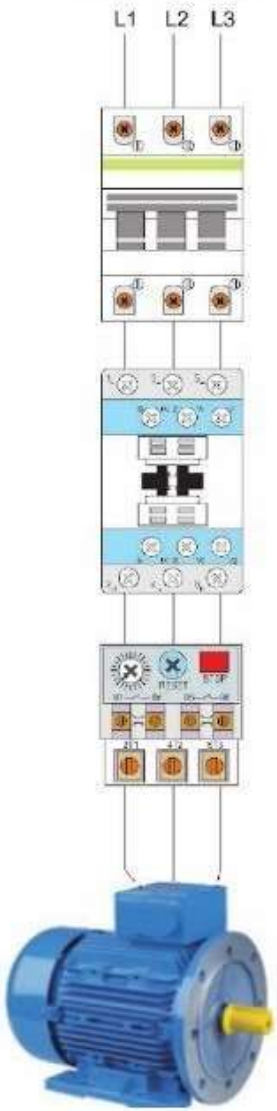
Sonoff 4CH Pro R3 สวิตช์สั่งงานผ่าน WiFi 4 ช่อง แถมฟรี รีโมท RF

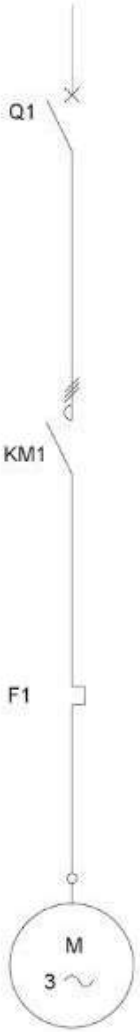
฿1,000.00

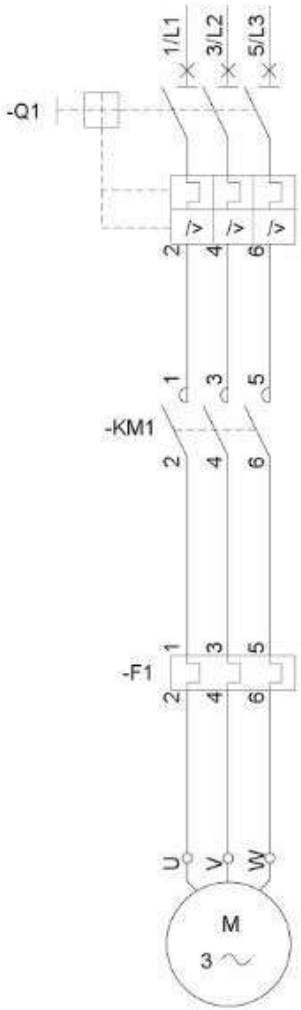


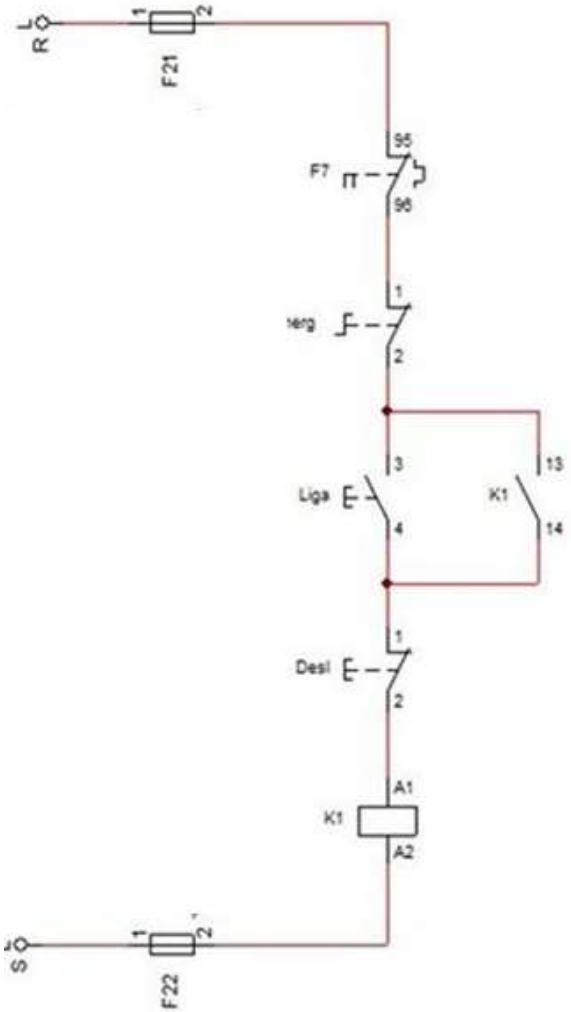
ลักษณะ	วงจรไฟฟ้า
	
	
	

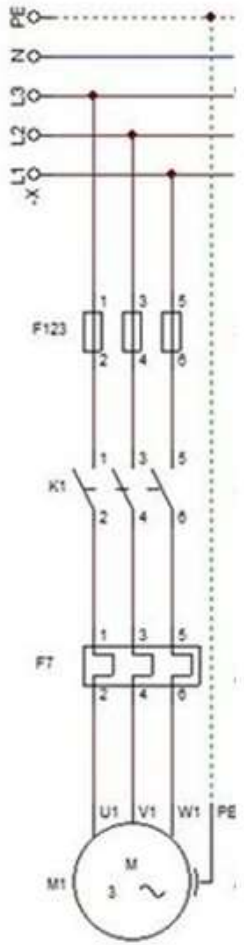


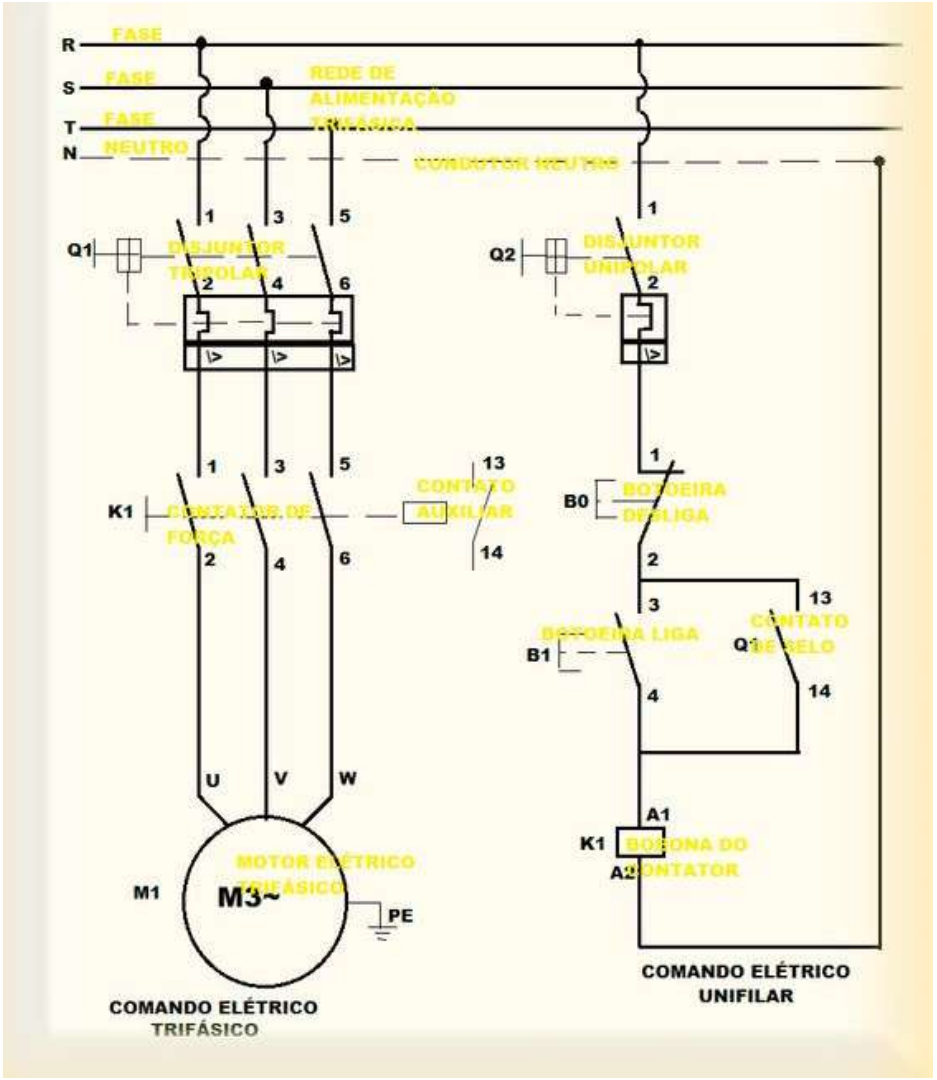

L1
L2
L3

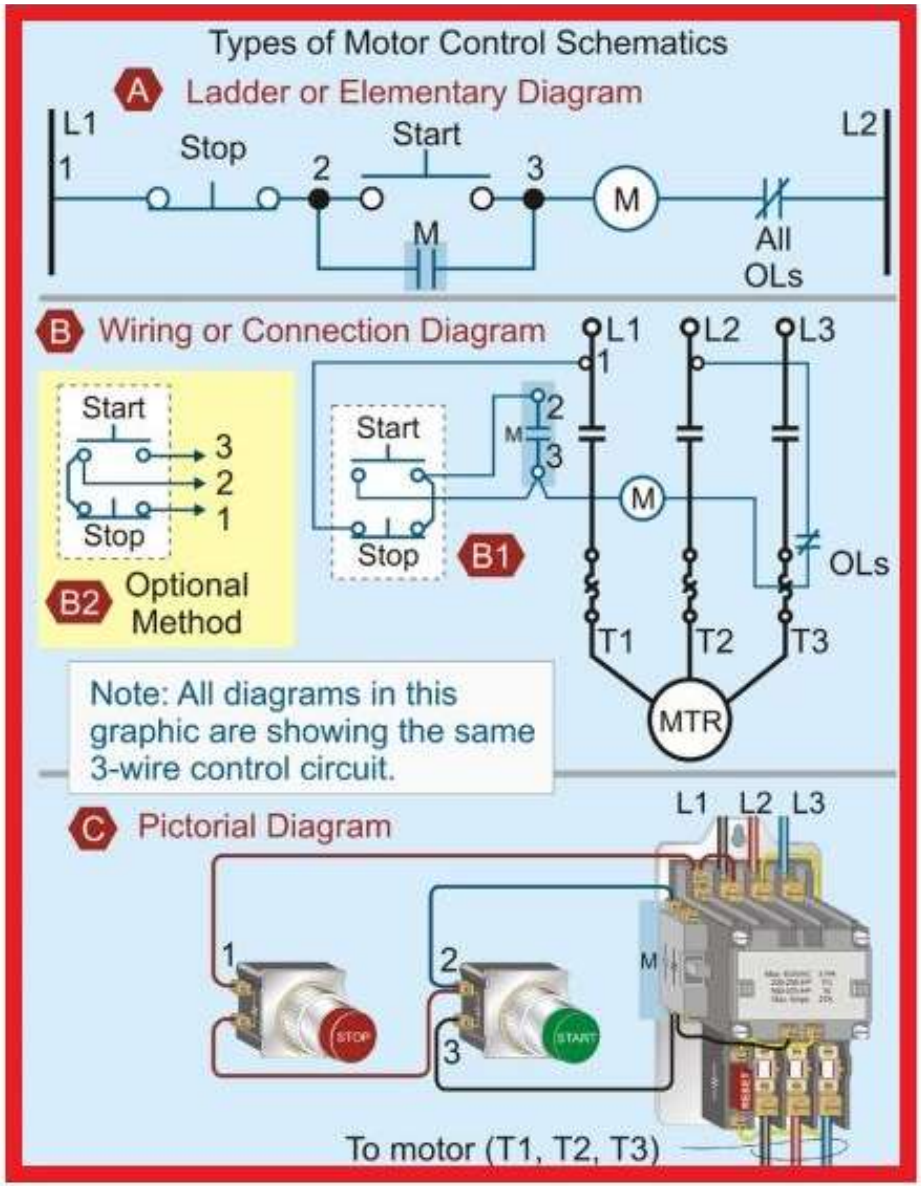

Q1
KM1
F1
M
3

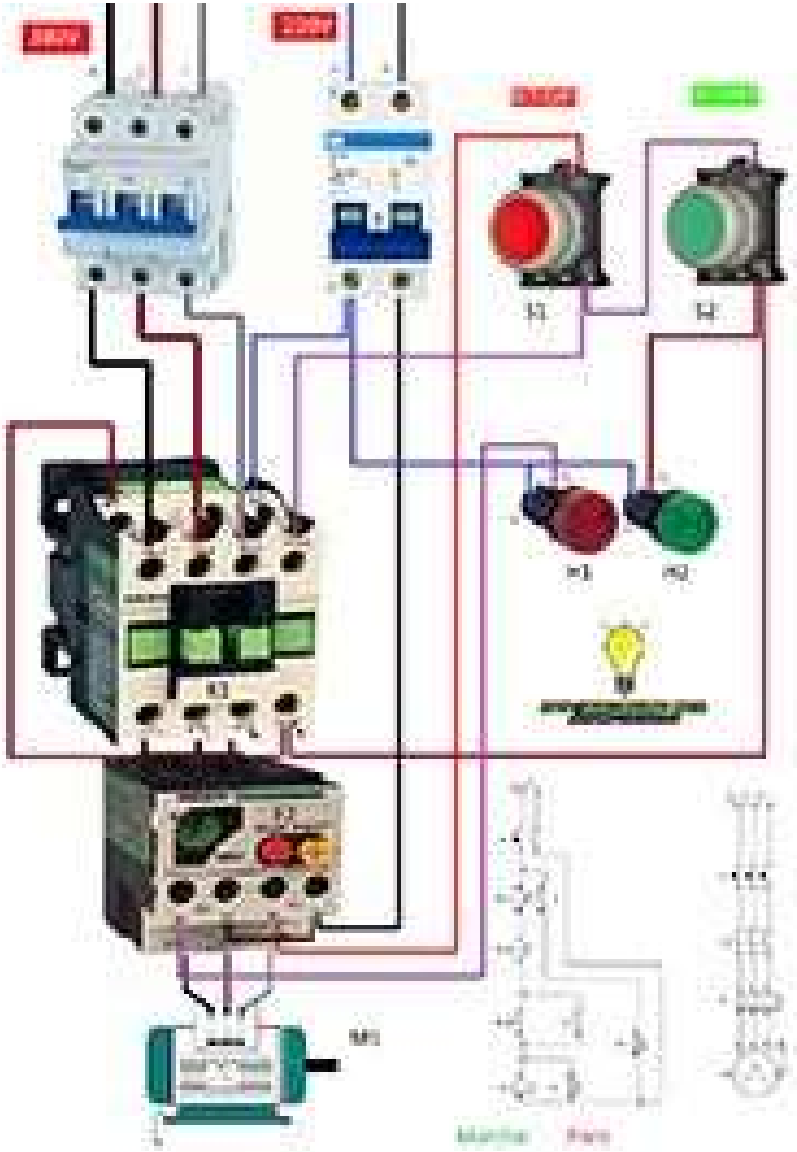

-Q1
1/L1
3/L2
5/L3
-KM1
-F1
U
V
W
M
3

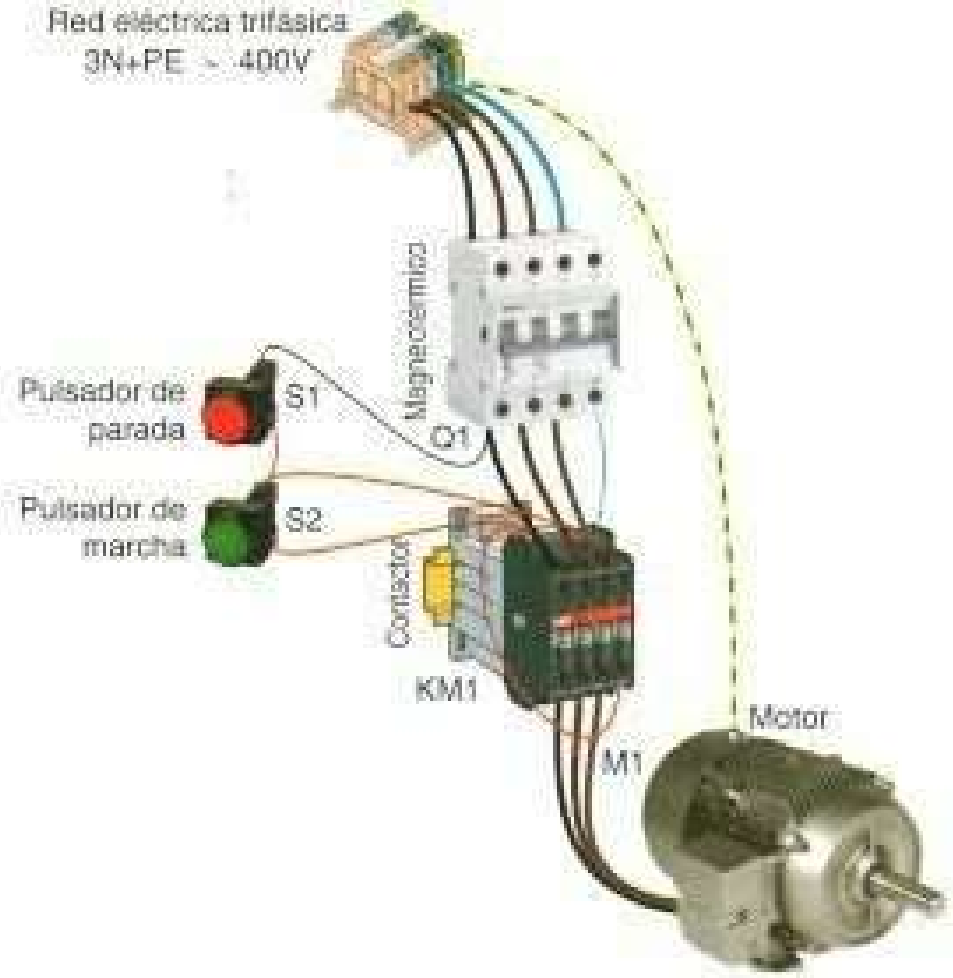

R
L
F21
F7
95
96
Ligg
Liga
K1
13
14
Desl
A1
A2
S
F22

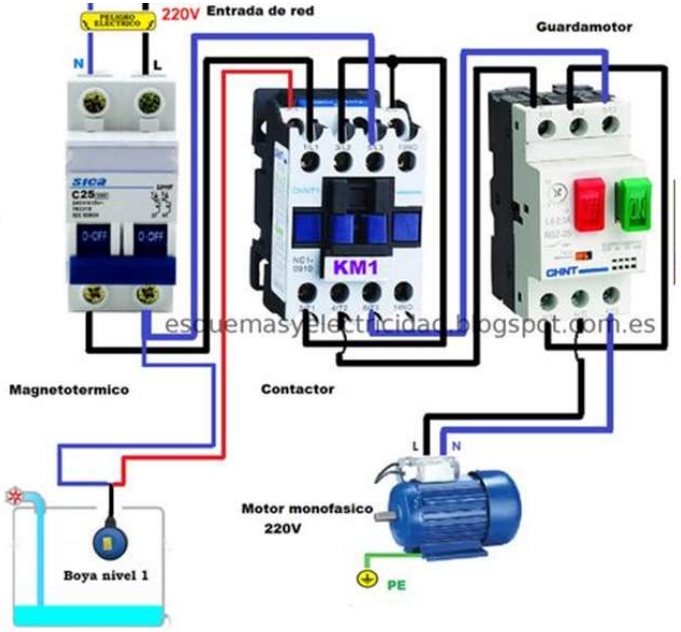

PE
N
L3
L2
L1
F123
K1
F7
U1
V1
W1
PE
M1
M
3

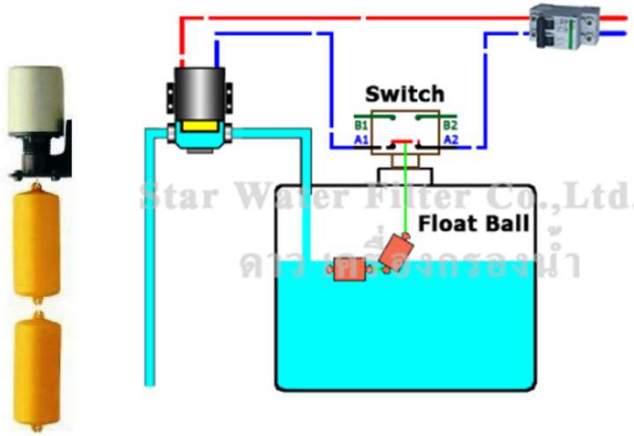

R
S
T
N
FASE
FASE
FASE
NEUTRO
REDE DE ALIMENTAÇÃO TRIFÁSICA
CONDUTOR NEUTRO
Q1
DISJUNTOR TRIPOLAR
Q2
DISJUNTOR UNIPOLAR
K1
CONTATOR DE FORÇA
CONTATO AUXILIAR
B0
BOTOEIRA DESLIGA
B1
BOTOEIRA LIGA
CONTATO DE SELO
A1
A2
BOBINA DO CONTATOR
U
V
W
M1
M3~
MOTOR ELÉTRICO TRIFÁSICO
PE
COMANDO ELÉTRICO TRIFÁSICO
COMANDO ELÉTRICO UNIFILAR

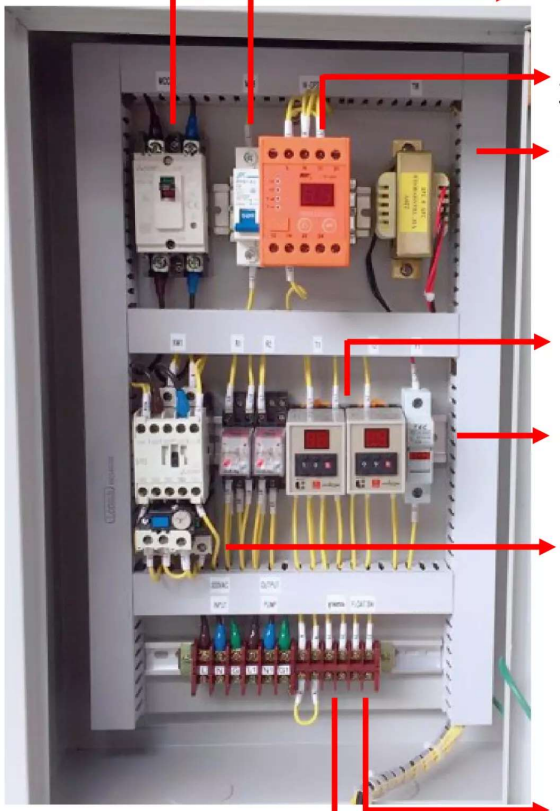

Types of Motor Control Schematics
A
Ladder or Elementary Diagram
L1
L2
Stop
Start
M
All OLs
B
Wiring or Connection Diagram
Start
Stop
B1
B2
Optional Method
OLs
T1
T2
T3
MTR
Note: All diagrams in this graphic are showing the same 3-wire control circuit.
C
Pictorial Diagram
STOP
START
To motor (T1, T2, T3)




Red eléctrica trifásica
3N+PE ~ 400V
Magnetotérmico
Q1
Pulsador de
parada
S1
Pulsador de
marcha
S2
Contactor
KM1
M1
Motor





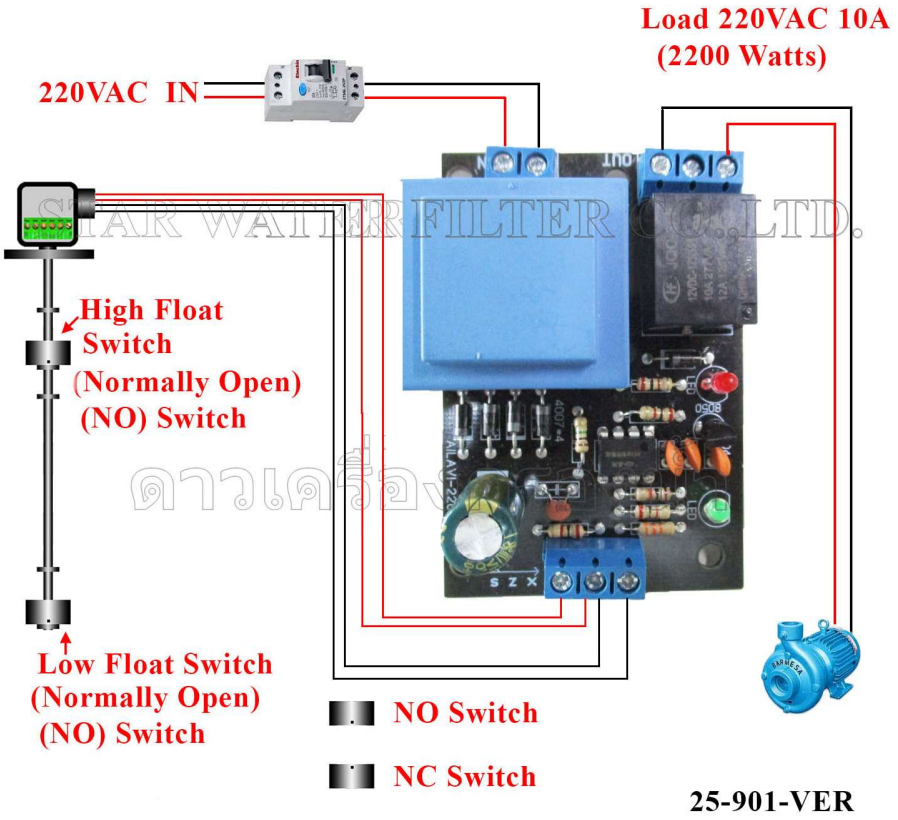


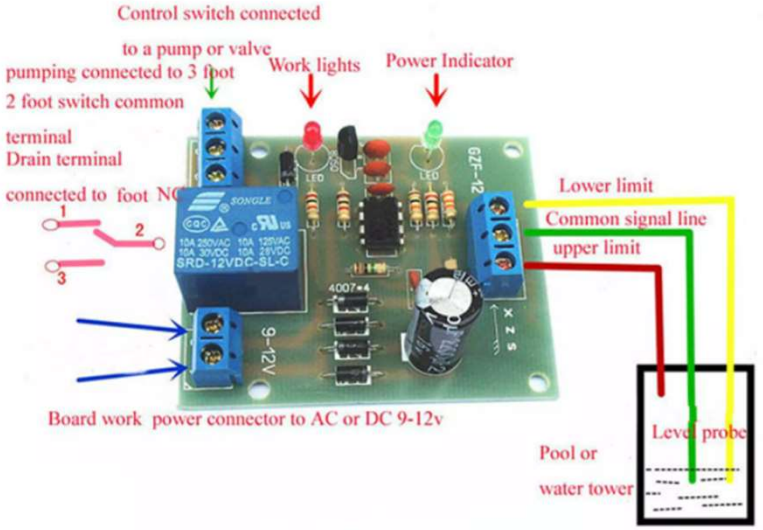
- มี MCCB , MCB ป้องกันการลัดวงจร
- มีระบบป้องกันไฟตกไฟเกิน เพื่อไม่ให้อุปกรณ์ภายในตู้เสียหายได้ รวมถึงปั๊มด้วย
- มีระบบหม้อแปลงไฟจาก 220vac เป็น 24vac เพื่อความปลอดภัยต่อผู้ใช้งาน
- มี Timer หน่วงเวลาเช็คระบบน้ำในเส้นท่อ แล้วกลับมาทำงานของปั๊มน้ำแบบอัตโนมัติ
- มี Fuse control ป้องกันการลัดวงจรแรงดันต่ำ
- มีโอเวอร์โหลดรีเลย์ ป้องกัน การกินเกินกระแสมอเตอร์

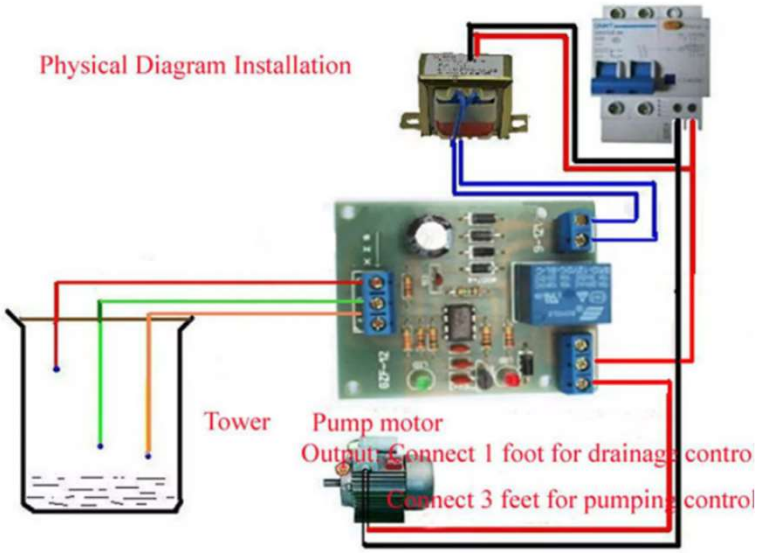
- มีระบบป้องกันปั๊มน้ำ Run dry เพื่อไม่ให้ปั๊มน้ำทำงานตัวเปล่าอาจทำให้ปั๊มไหม้เสียหายได้ ด้วย โฟสวิทช์

Float Switch

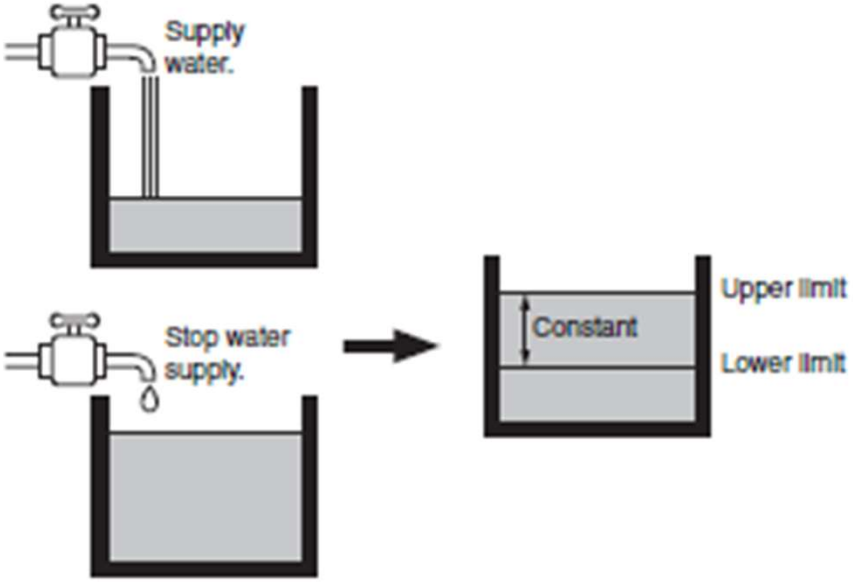
High Low Water Level Controller Module 10A 220VAC

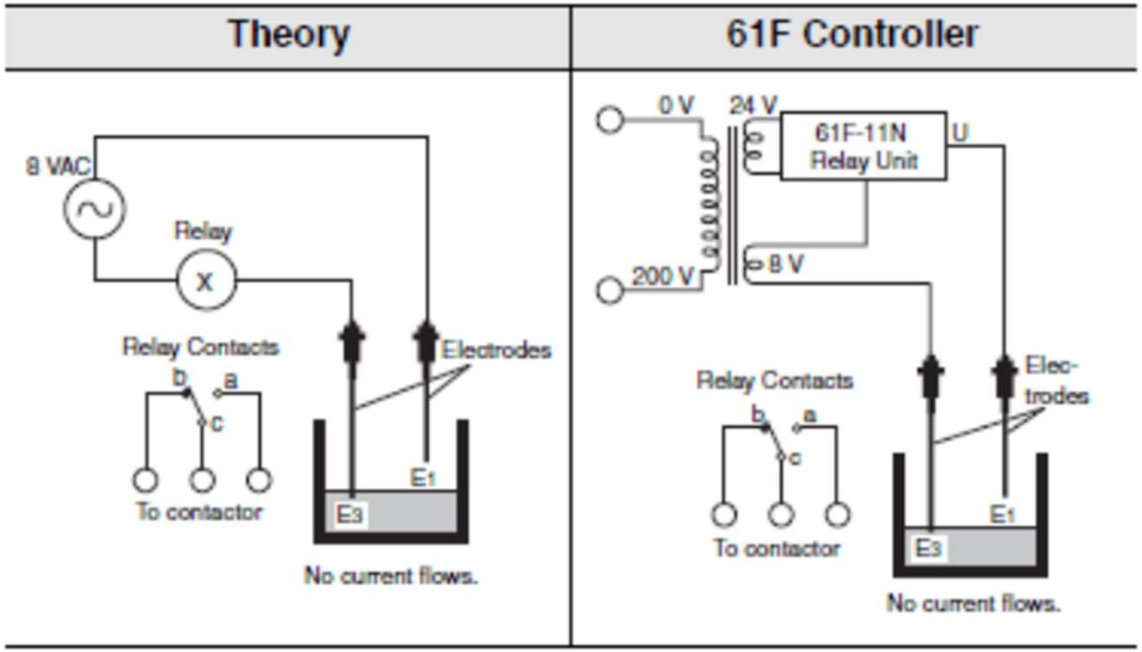


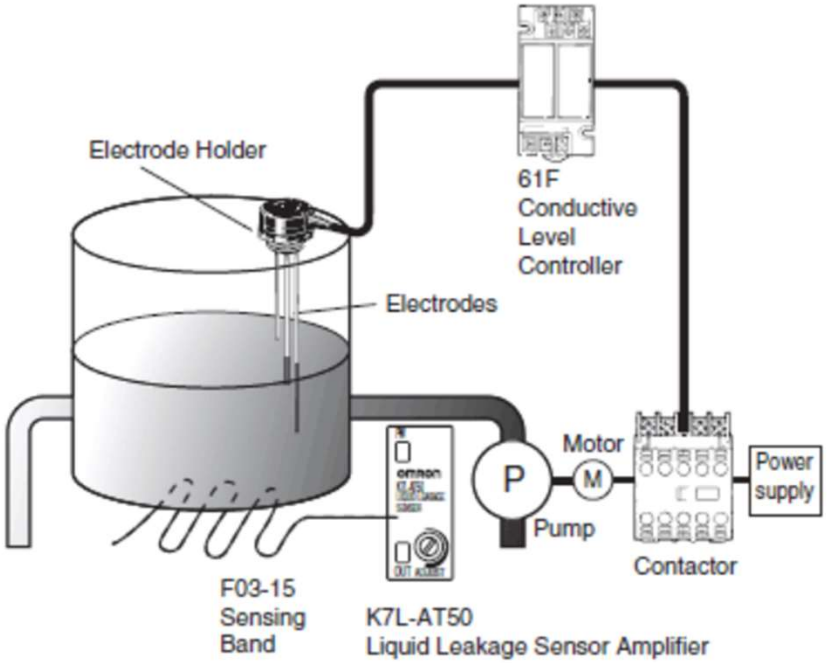




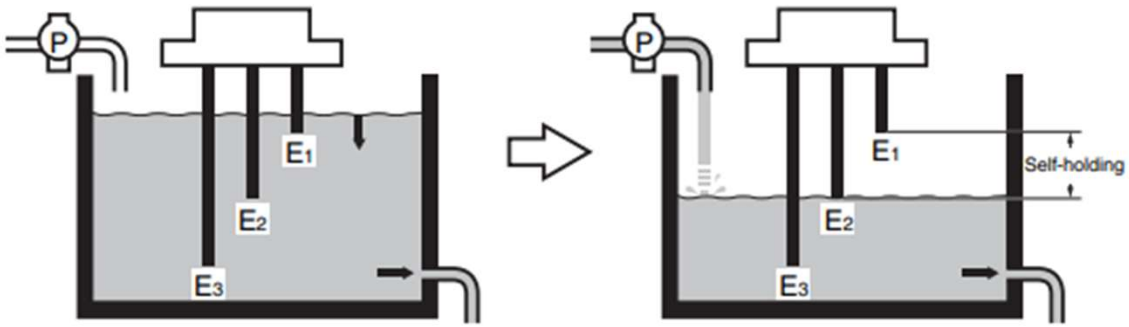

61F-G
61F-11
RELAY UNIT

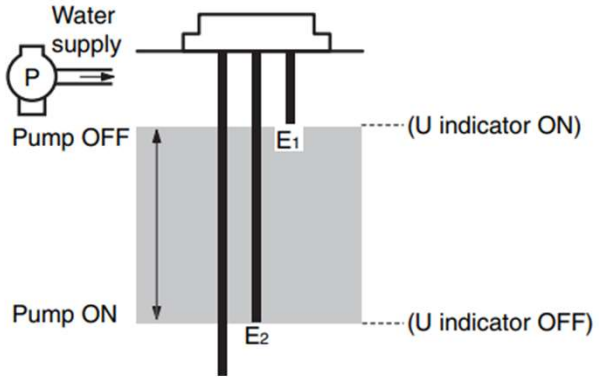

Supply water.
Stop water supply.
Constant
Upper limit
Lower limit


Theory
61F Controller
8 VAC
Relay
X
Relay Contacts
b
a
c
To contactor
Electrodes
E1
E3
No current flows.
0 V
24 V
61F-11N
Relay Unit
U
200 V
8 V
Relay Contacts
b
a
c
To contactor
Elec-
trodes
E1
E3
No current flows.


Electrode Holder
61F
Conductive
Level
Controller
Electrodes
Motor
P
M
Pump
Power
supply
Contactor
F03-15
Sensing
Band
K7L-AT50
Liquid Leakage Sensor Amplifier


Electrodes
Electrode Holder

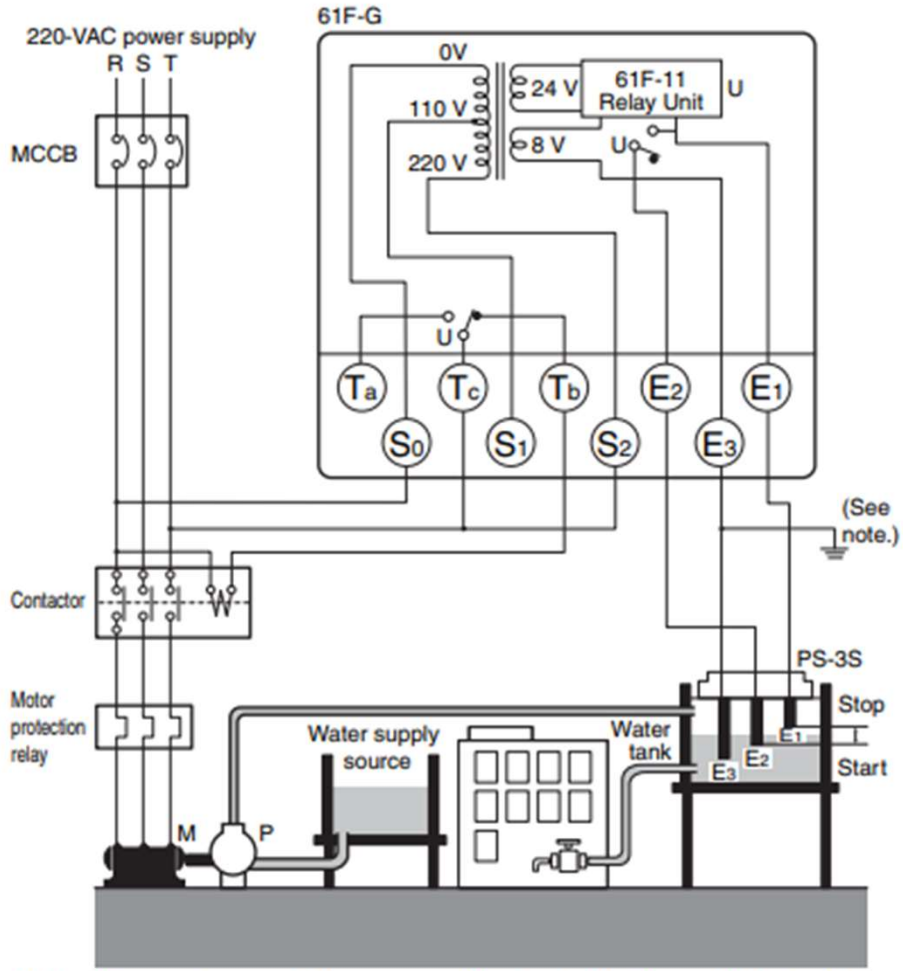

P
E1
E2
E3
P
E1
E2
E3
Self-holding



- Connect Tb to the contactor's coil terminal.
- Power Supply Connections (for models with 110/220-V power)
  110 VAC: Connect S_0 and S_1.
  220 VAC: Connect S_0 and S_2.

Automatic Water Supply Control

Connections

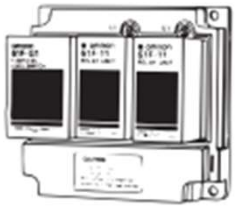


Note: Be sure to ground the common Electrode (the longest Electrode).

Basic Type

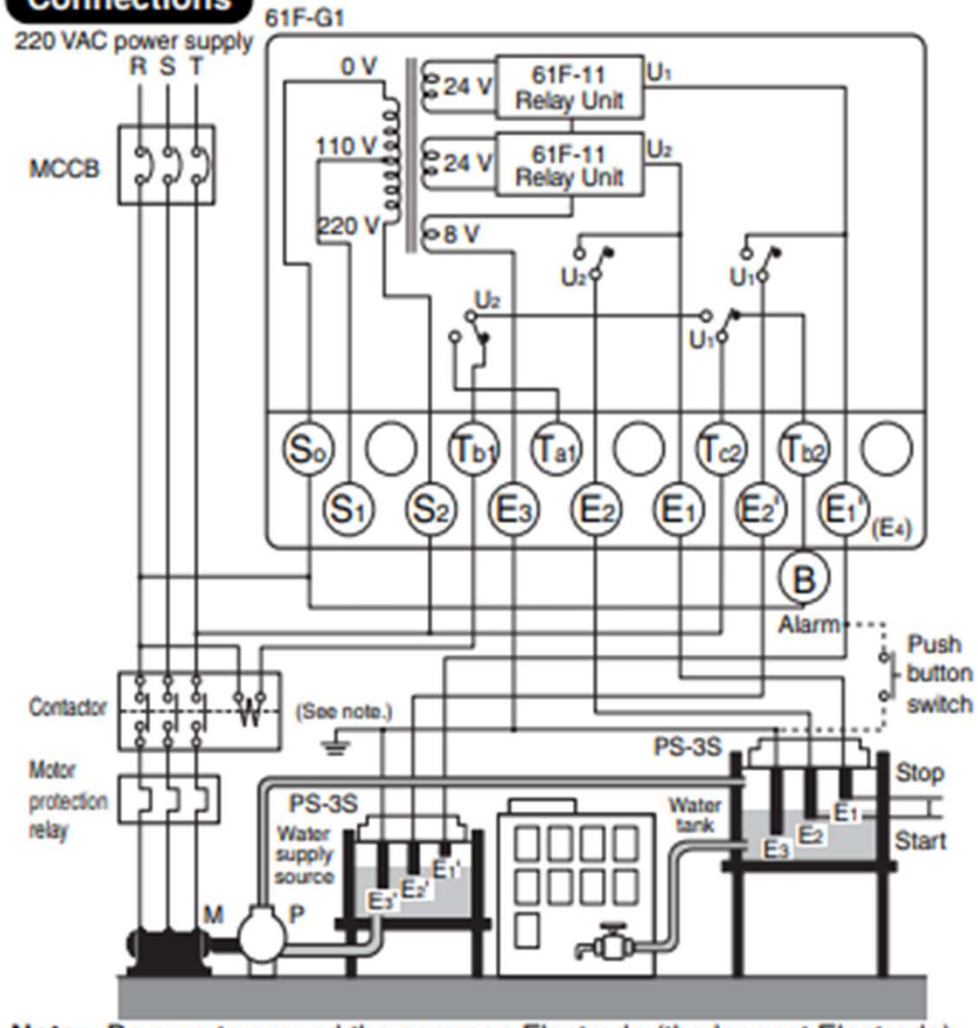
61F-G1

Dimensions: page 14

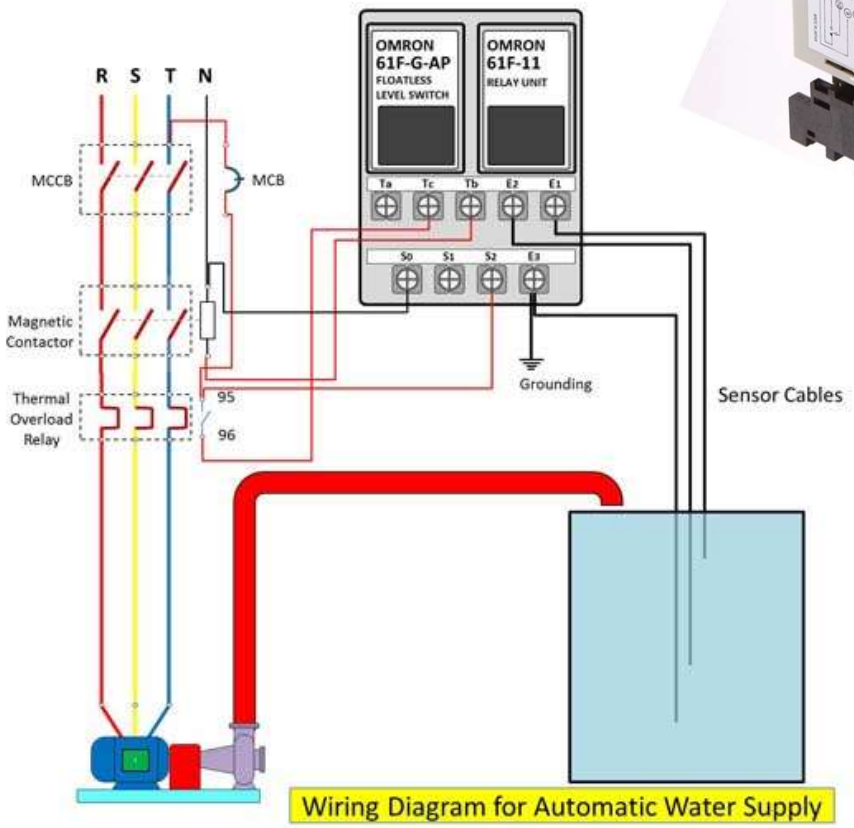


Automatic Water Supply Control with Pump Idling Prevention

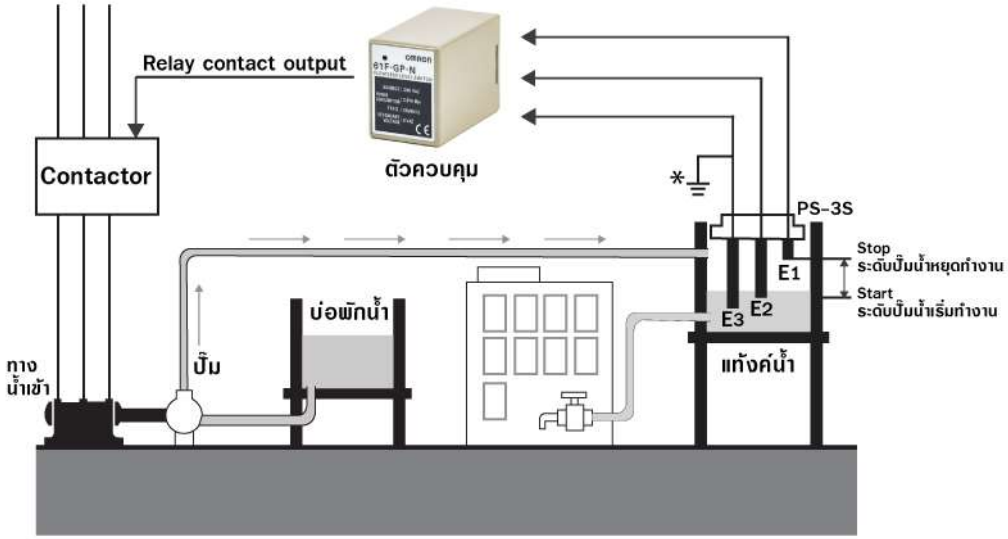
Connections



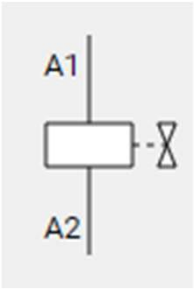
Note: Be sure to ground the common Electrode (the longest Electrode).

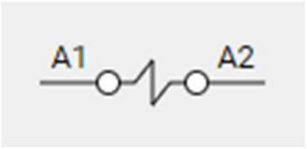


Wiring Diagram for Automatic Water Supply

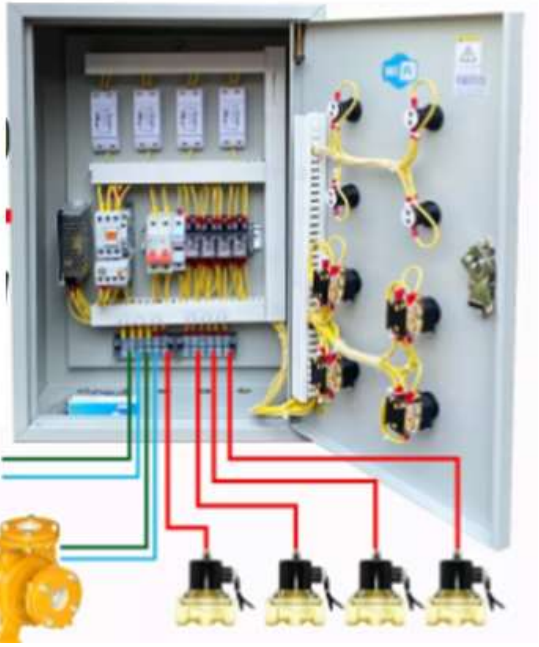


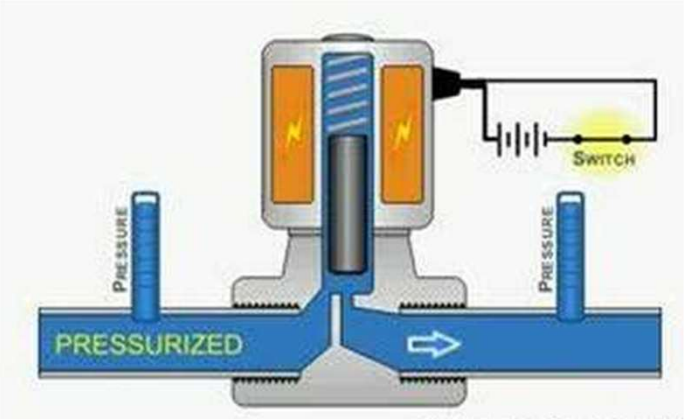
Solenoid Valves

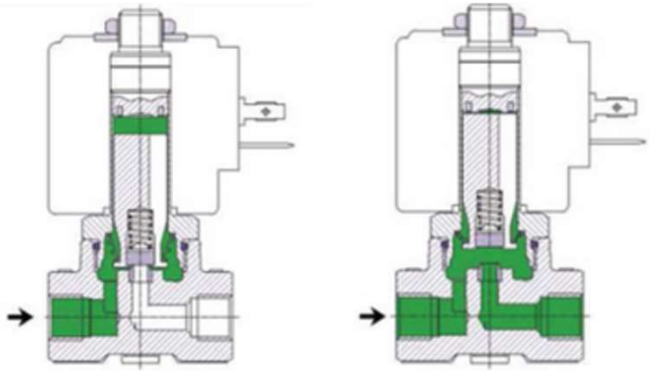




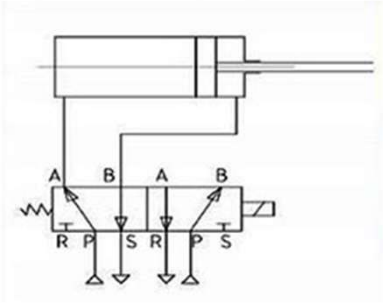
ระบบรดน้ำอัตโนมัติ 4 โซน

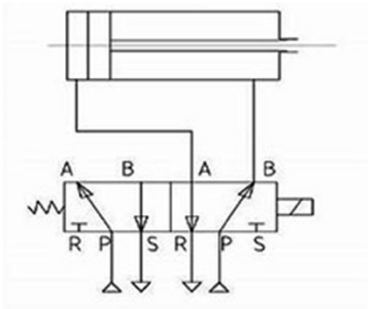


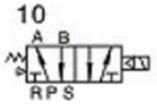


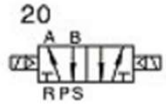


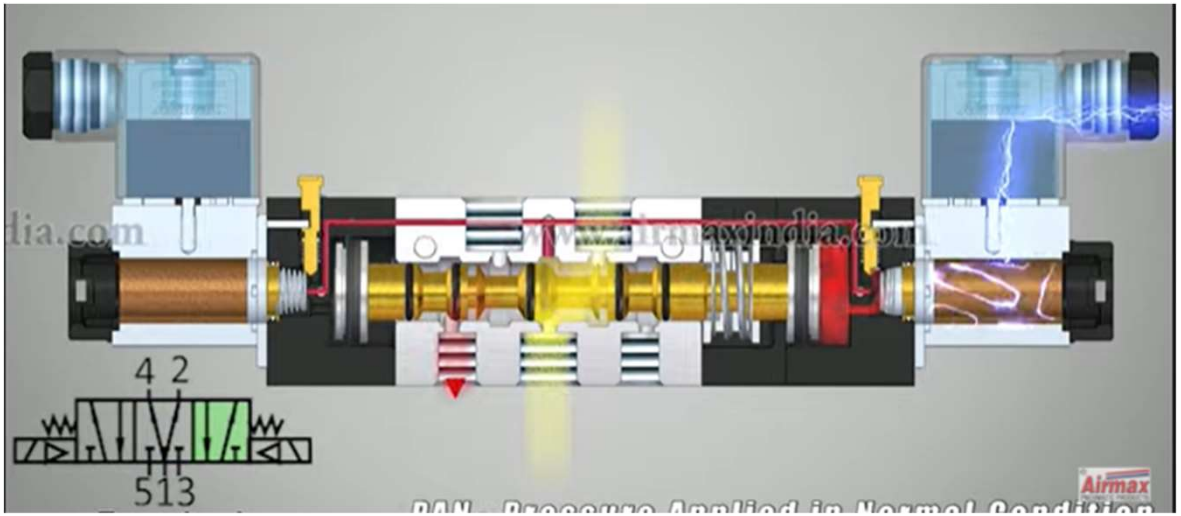
Solenoid Valves



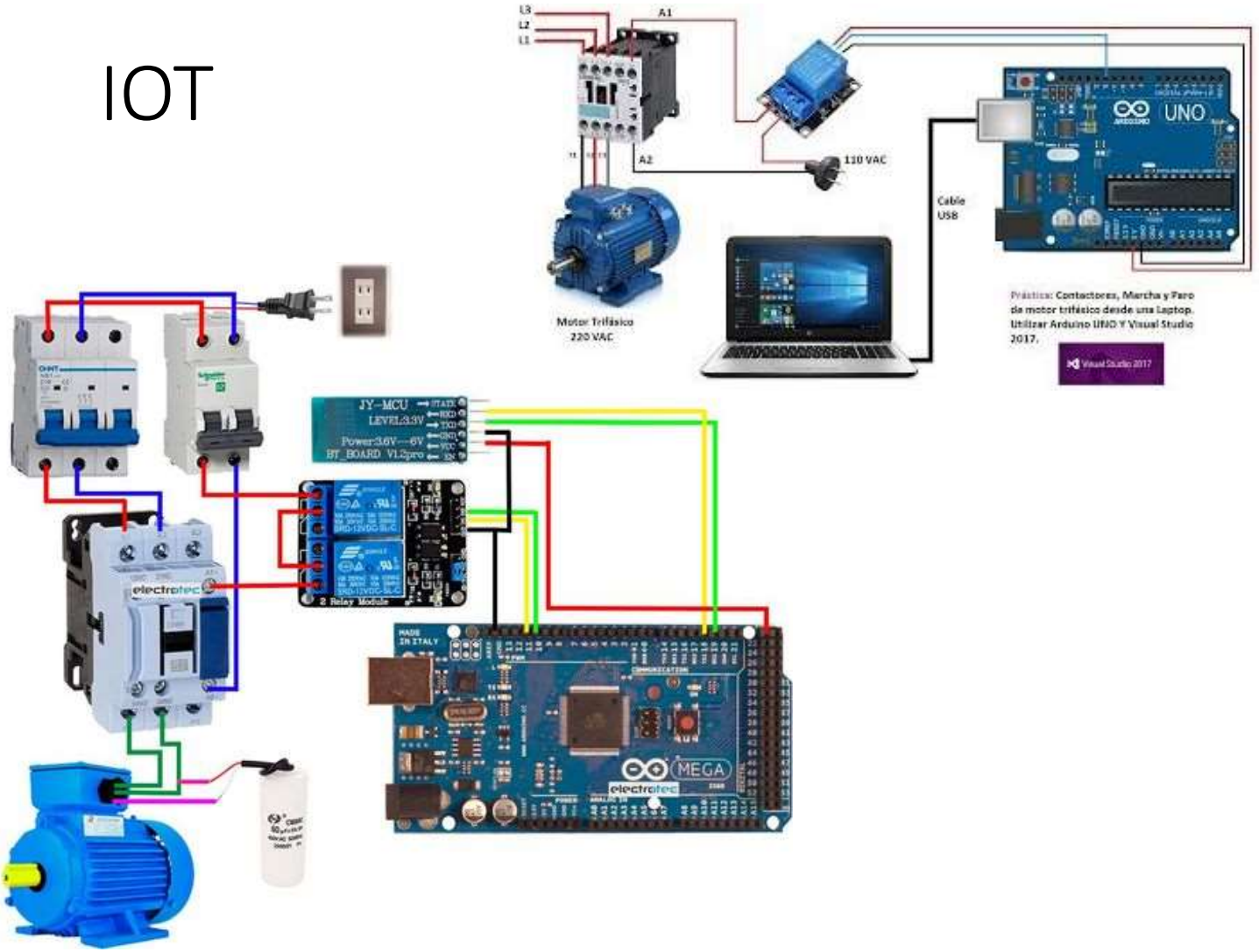


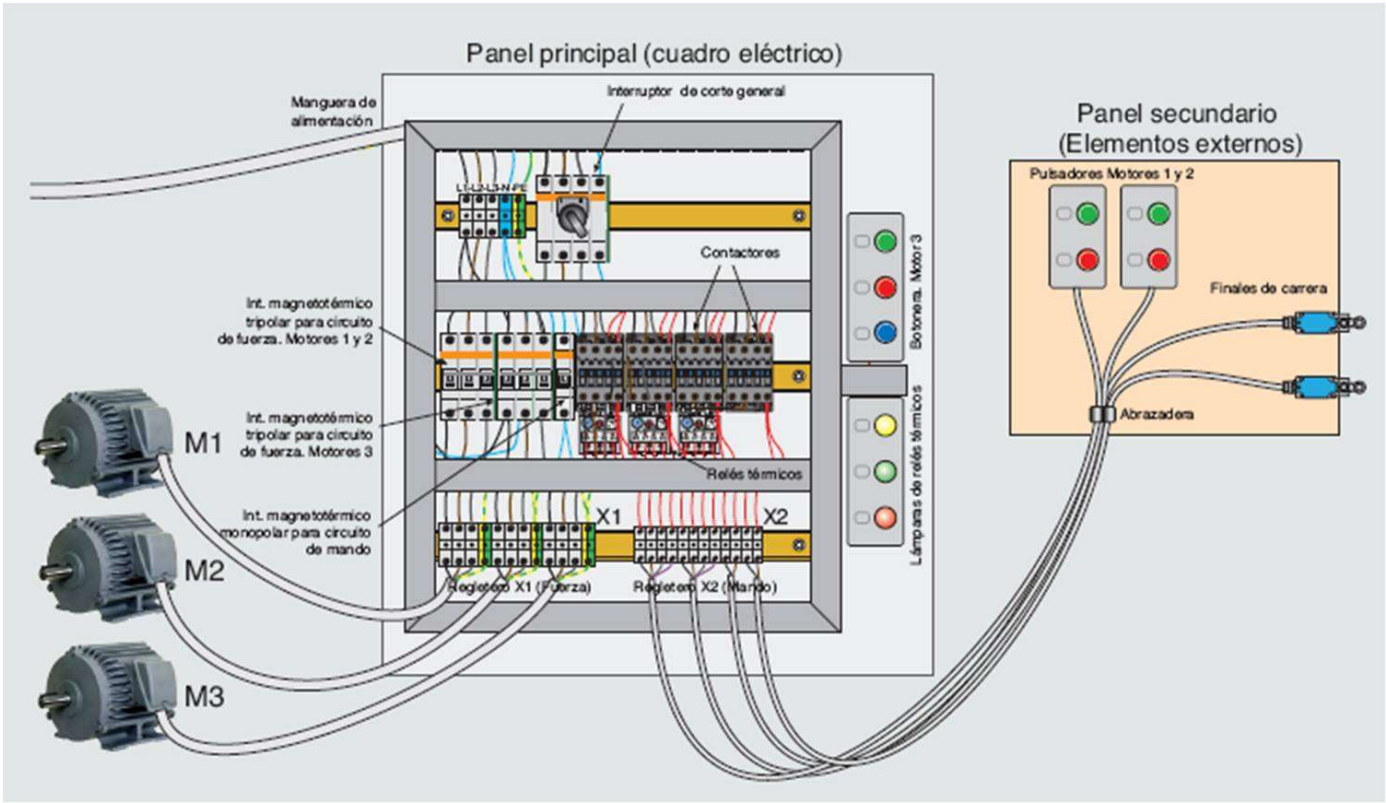


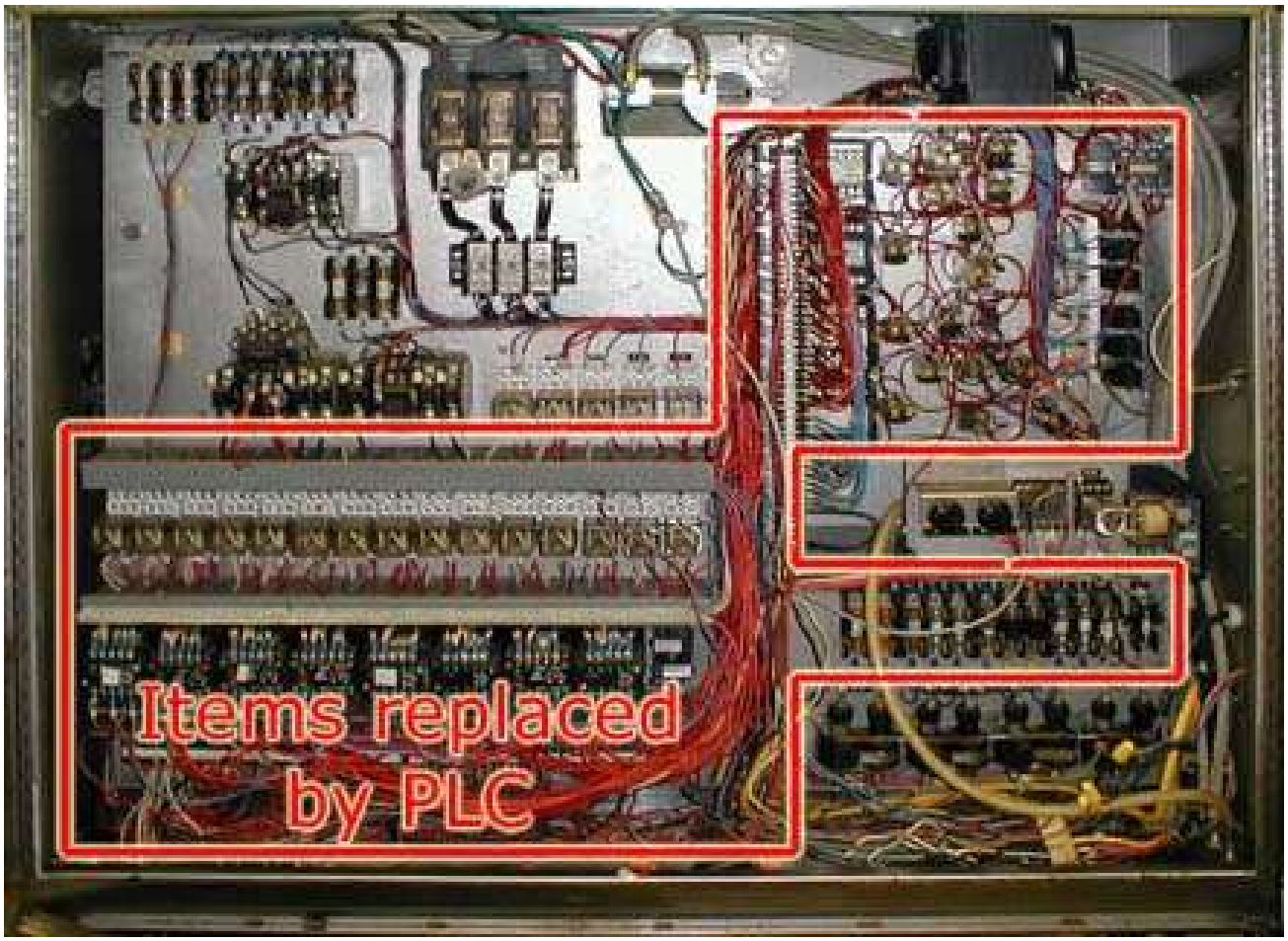


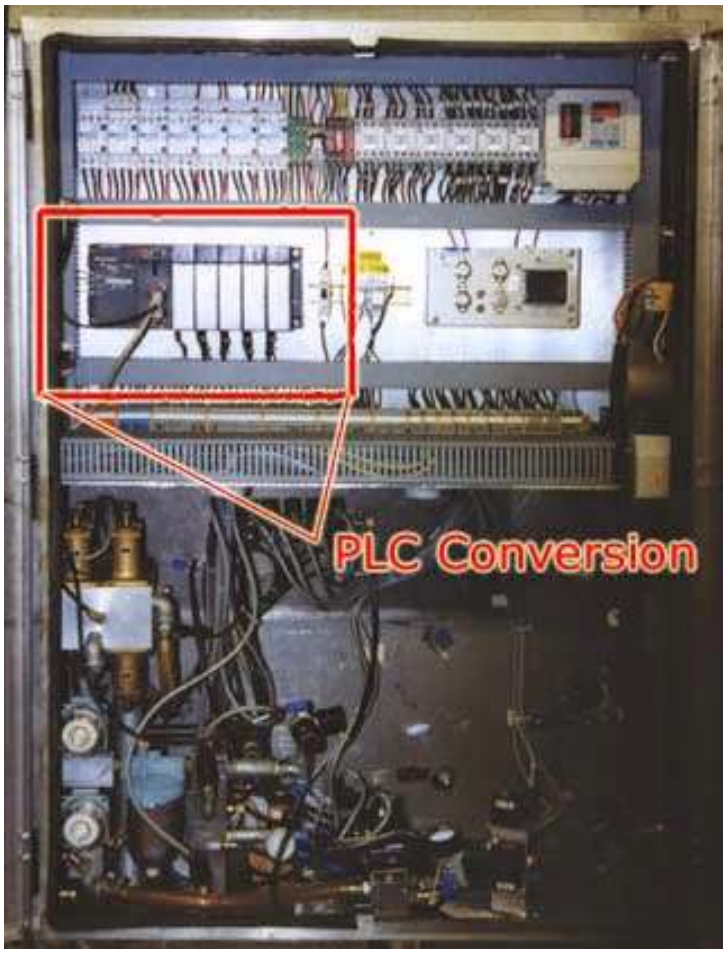


IOT

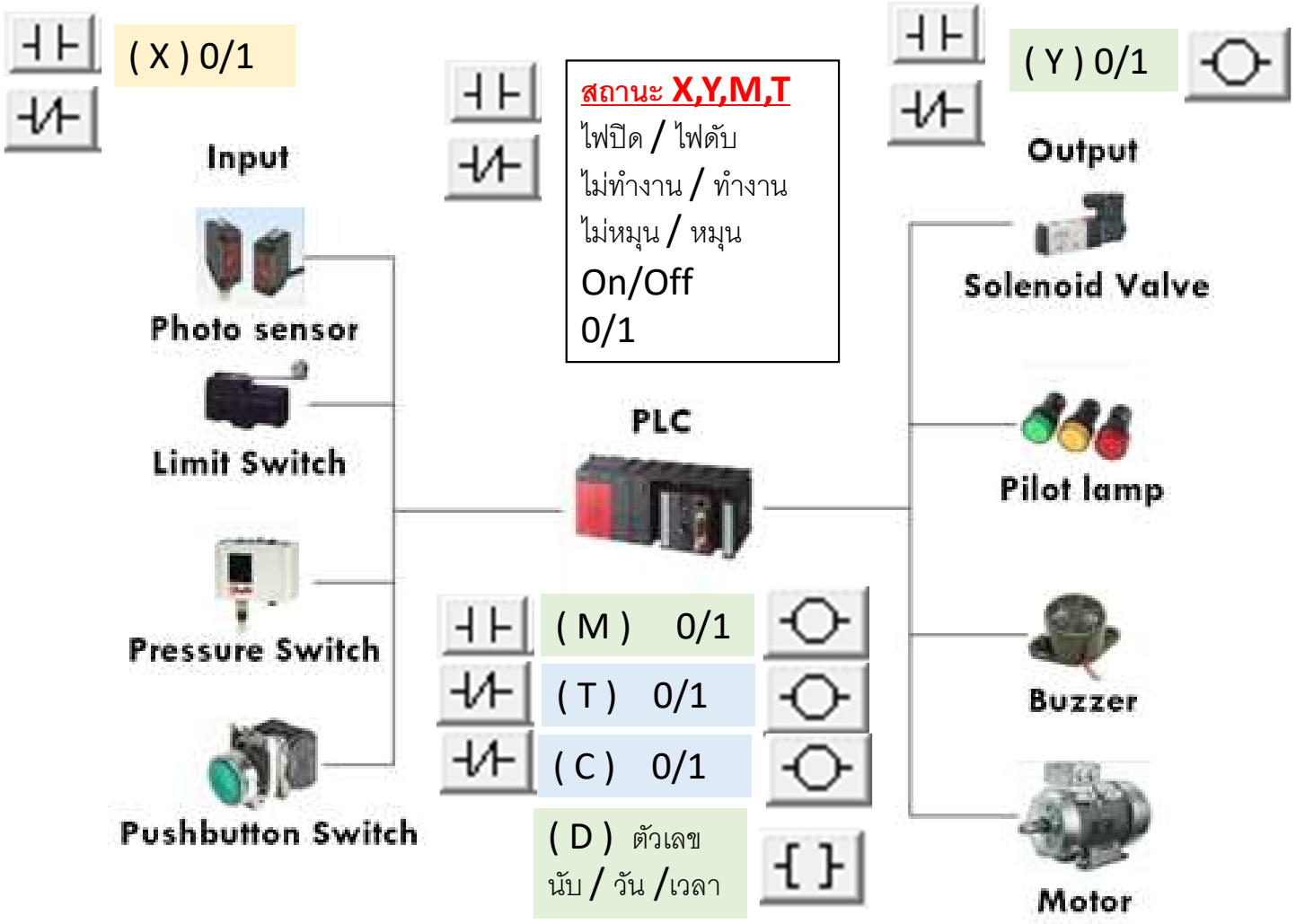

L3
L2
L1
A1
A2
110 VAC
Cable USB
UNO
Motor Trifásico 220 VAC
Práctica: Contactores, Marcha y Paro de motor trifásico desde una Laptop. Utilizar Arduino UNO Y Visual Studio 2017.
Visual Studio 2017
JY-MCU
LEVEL:3.3V
Power:3.6V---6V
BT_BOARD V1.2pro
2 Relay Module
MEGA
electrotec


Panel principal (cuadro eléctrico)
Manguera de alimentación
Interruptor de corte general
Contactores
Int. magnetotérmico tripolar para circuito de fuerza. Motores 1 y 2
Int. magnetotérmico tripolar para circuito de fuerza. Motores 3
Int. magnetotérmico monopolar para circuito de mando
Relés térmicos
X1
X2
Regletero X1 (Fuerza)
Regletero X2 (Mando)
Botonera. Motor 3
Lámparas de relés térmicos
M1
M2
M3
Panel secundario (Elementos externos)
Pulsadores Motores 1 y 2
Finales de carrera
Abrazadera

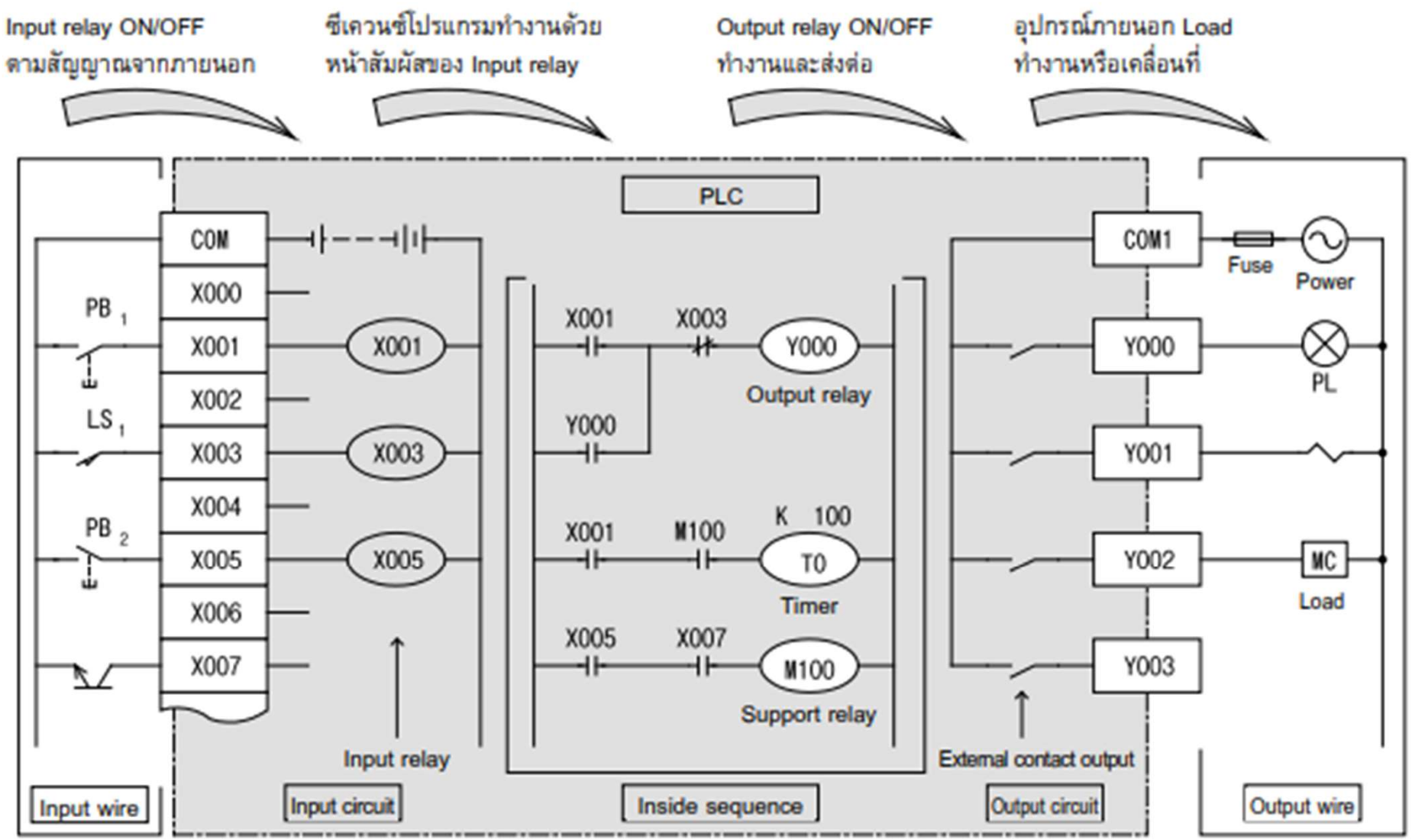

Items replaced
by PLC

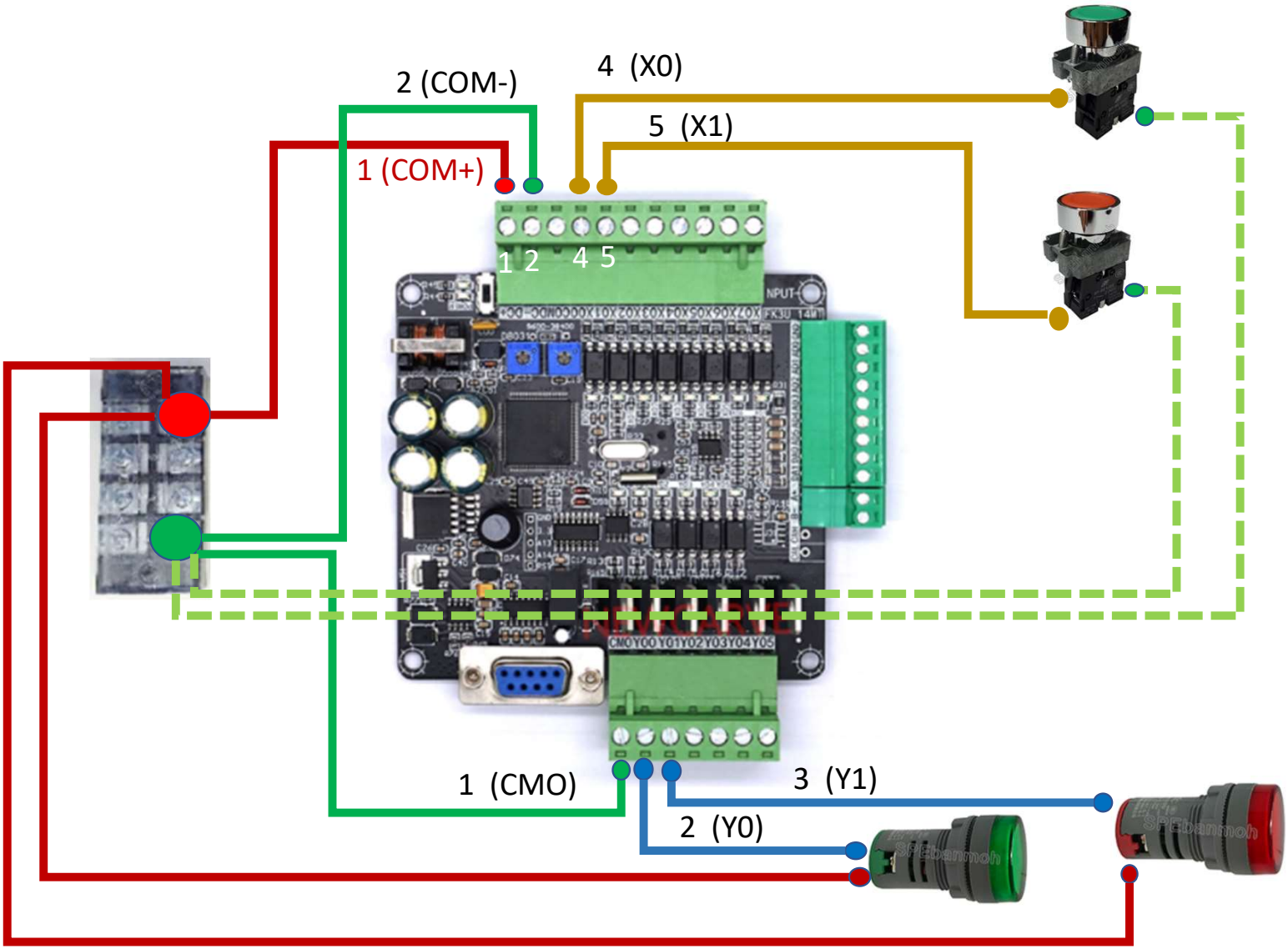

PLC Conversion

PLC (Programable Logic Control)

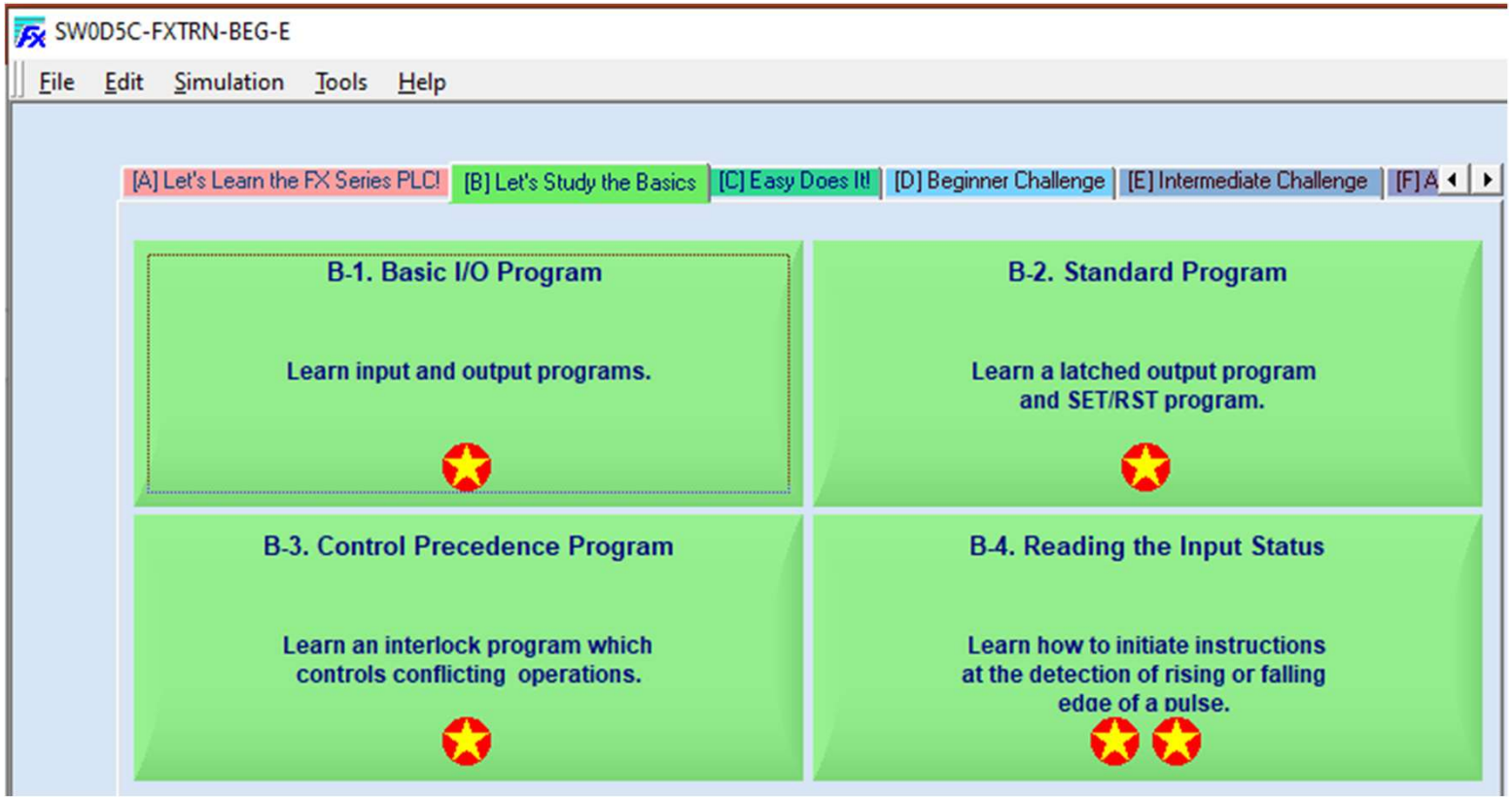


(X) Input
(Y) Output
(M) Mem Relay
(T) Timer
(C) Counter
(D) Memory

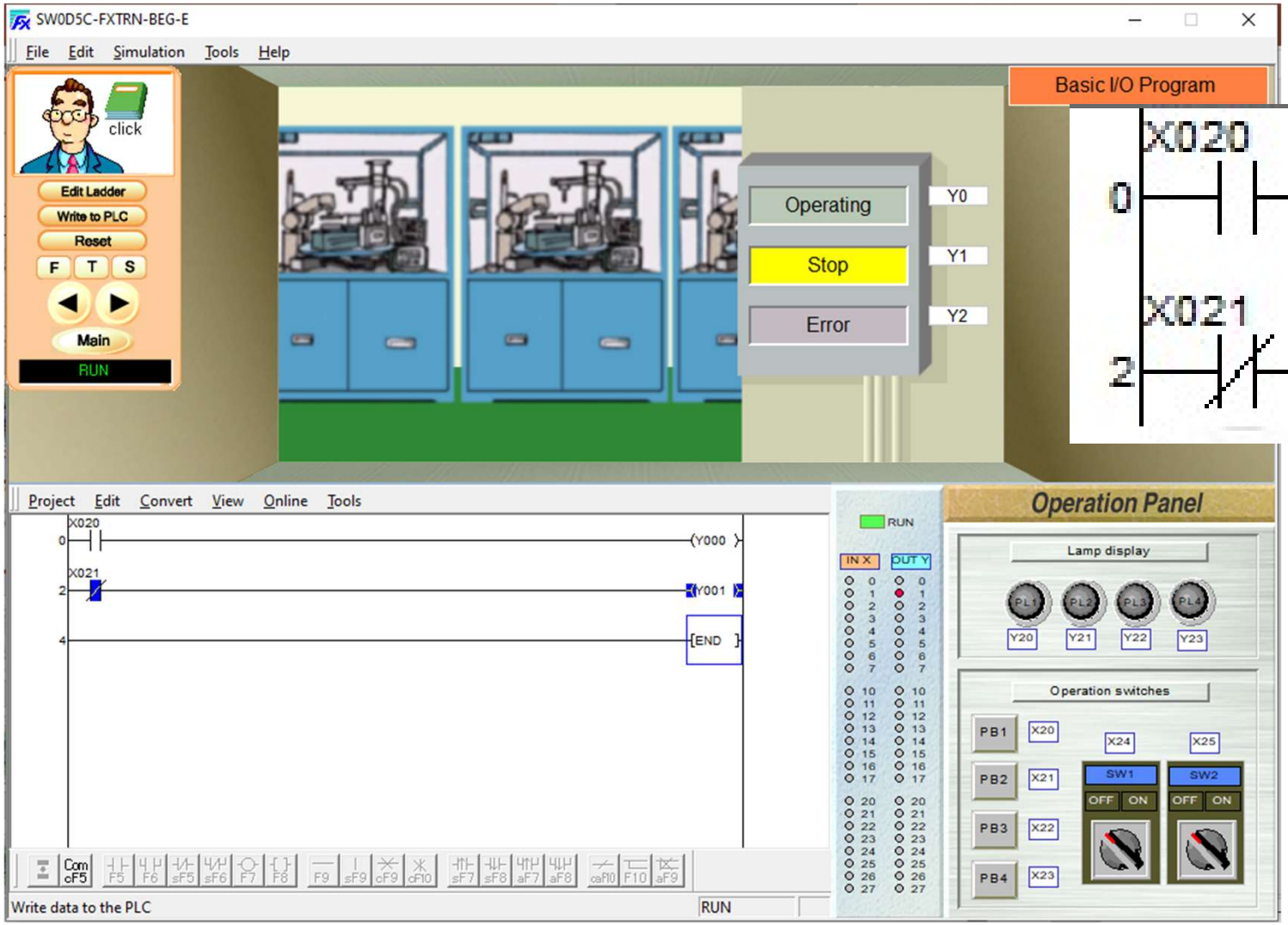

Input relay ON/OFF
ตามสัญญาณจากภายนอก
ซีเควนซ์โปรแกรมทำงานด้วย
หน้าสัมผัสของ Input relay
Output relay ON/OFF
ทำงานและส่งต่อ
อุปกรณ์ภายนอก Load
ทำงานหรือเคลื่อนที่
PLC
COM
X000
X001
X002
X003
X004
X005
X006
X007
PB 1
LS 1
PB 2
X001
X003
X005
Input relay
X001
X003
Y000
Output relay
Y000
X001
M100
K 100
T0
Timer
X005
X007
M100
Support relay
External contact output
COM1
Y000
Y001
Y002
Y003
Fuse
Power
PL
MC
Load
Input wire
Input circuit
Inside sequence
Output circuit
Output wire

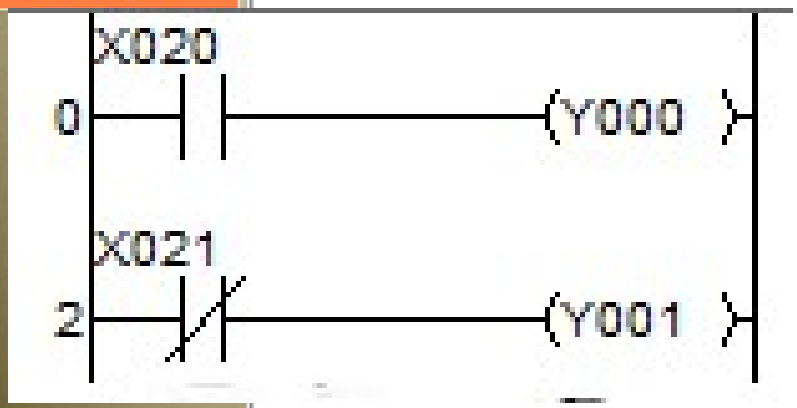

2 (COM-)
4 (X0)
5 (X1)
1 (COM+)
1 2 4 5
1 (CMO)
3 (Y1)
2 (Y0)

FXTRN

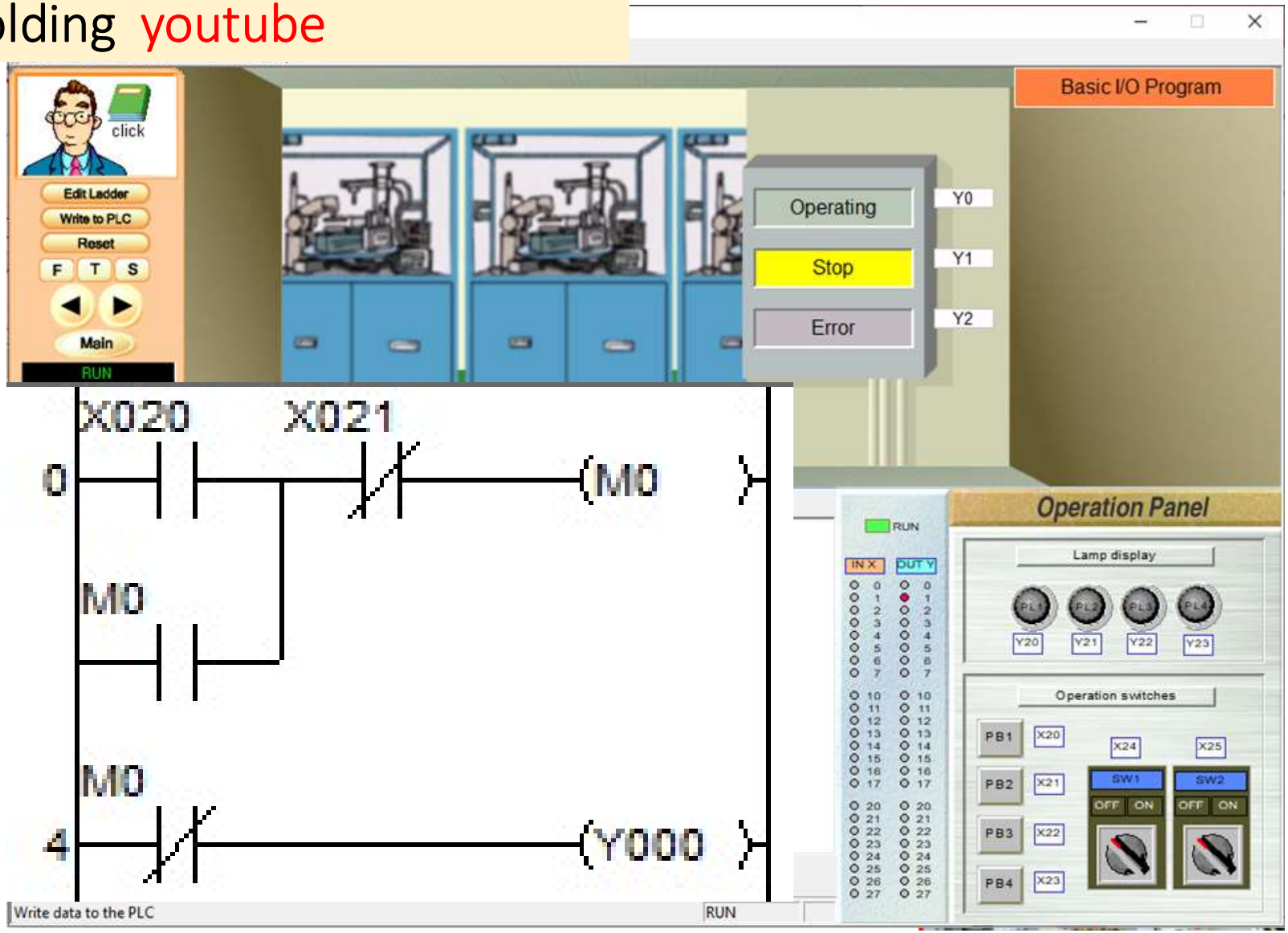

SW0D5C-FXTRN-BEG-E
File
Edit
Simulation
Tools
Help
[A] Let's Learn the FX Series PLC!
[B] Let's Study the Basics
[C] Easy Does It!
[D] Beginner Challenge
[E] Intermediate Challenge
[F] A
B-1. Basic I/O Program
Learn input and output programs.
B-2. Standard Program
Learn a latched output program and SET/RST program.
B-3. Control Precedence Program
Learn an interlock program which controls conflicting operations.
B-4. Reading the Input Status
Learn how to initiate instructions at the detection of rising or falling edge of a pulse.

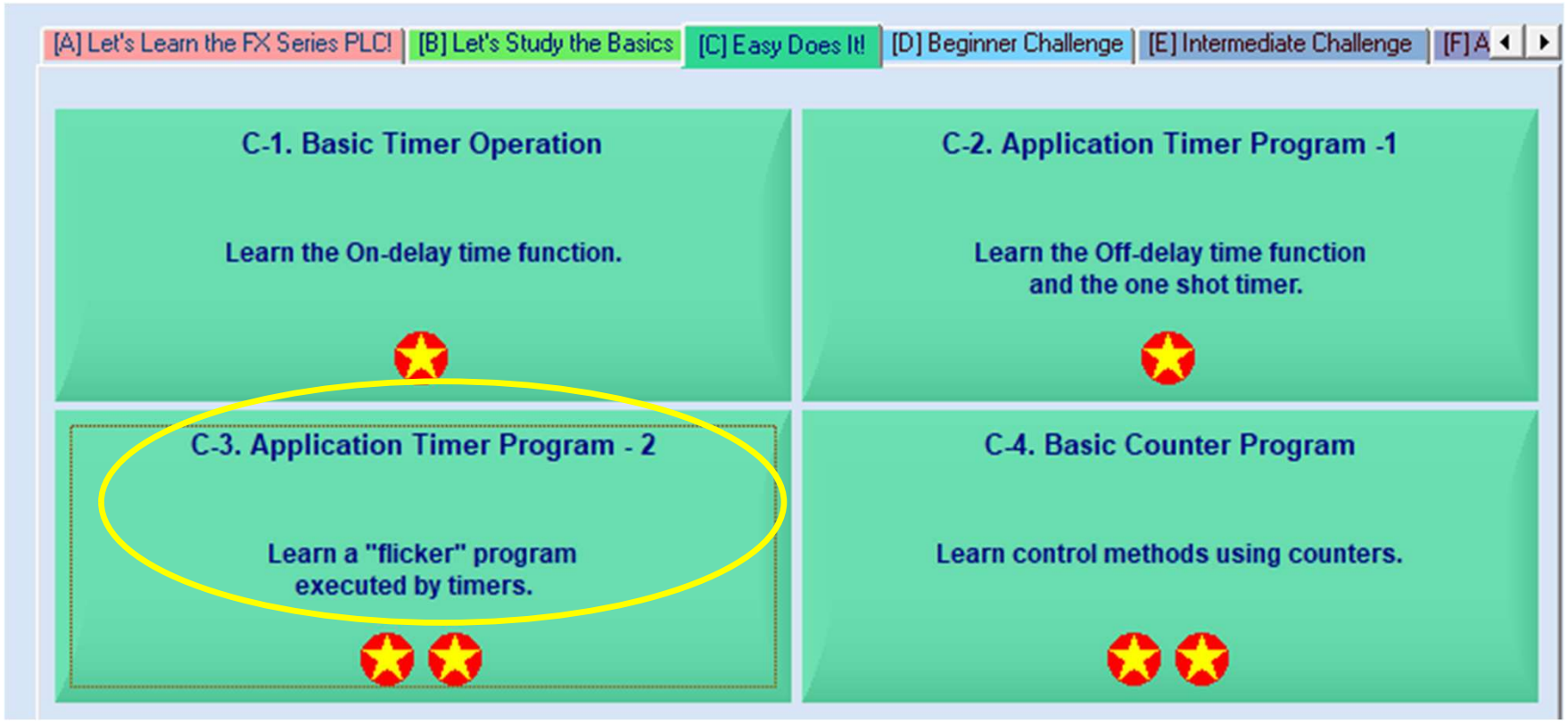
PLC 01 – NO NC Contact youtube



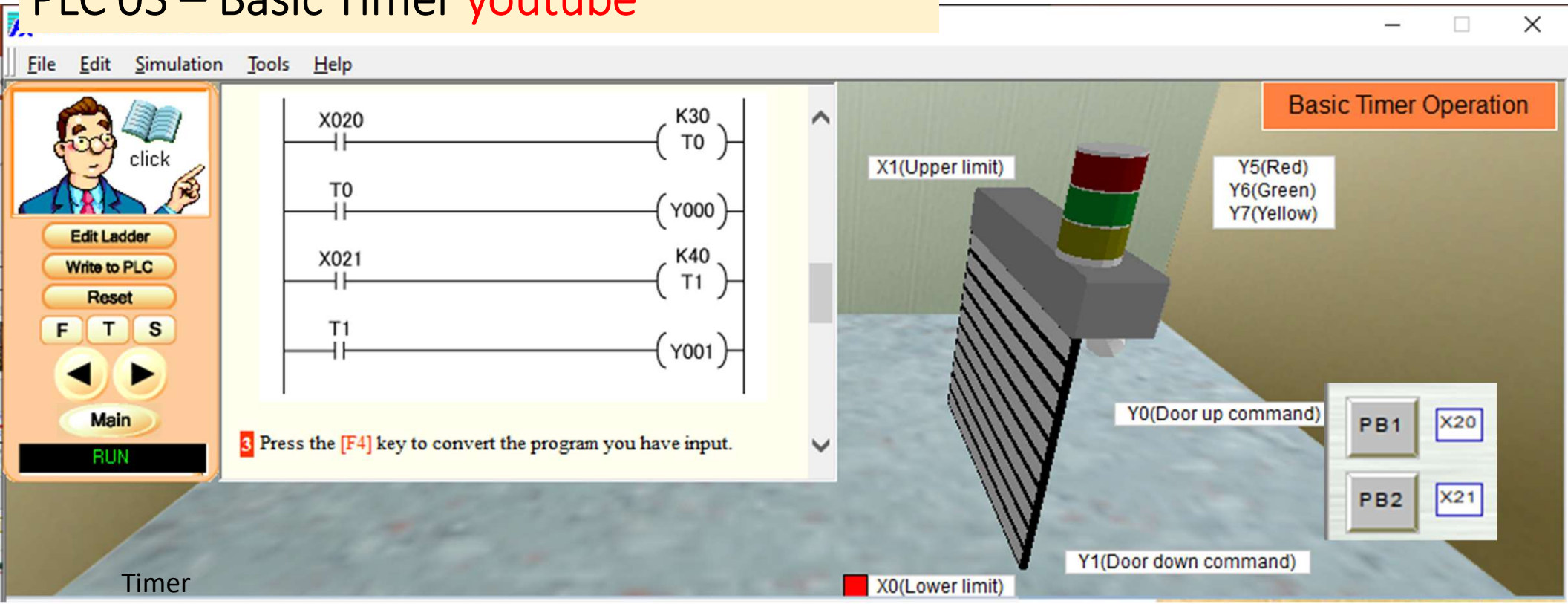


PLC 02 – Self Holding youtube

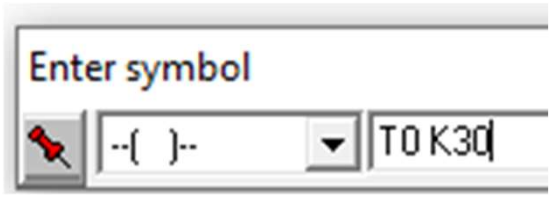


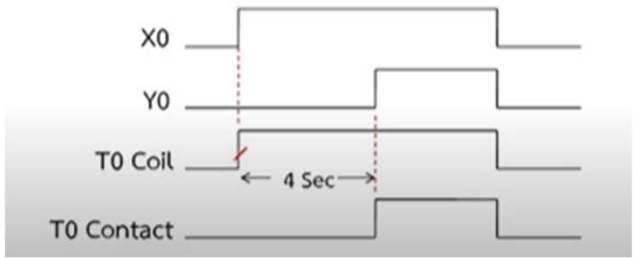

[A] Let's Learn the FX Series PLC!
[B] Let's Study the Basics
[C] Easy Does It!
[D] Beginner Challenge
[E] Intermediate Challenge
[F] A
C-1. Basic Timer Operation
Learn the On-delay time function.
C-2. Application Timer Program -1
Learn the Off-delay time function
and the one shot timer.
C-3. Application Timer Program - 2
Learn a "flicker" program
executed by timers.
C-4. Basic Counter Program
Learn control methods using counters.

PLC 03 – Basic Timer youtube



Timer





PLC 04 – Open and Close Door YouTube