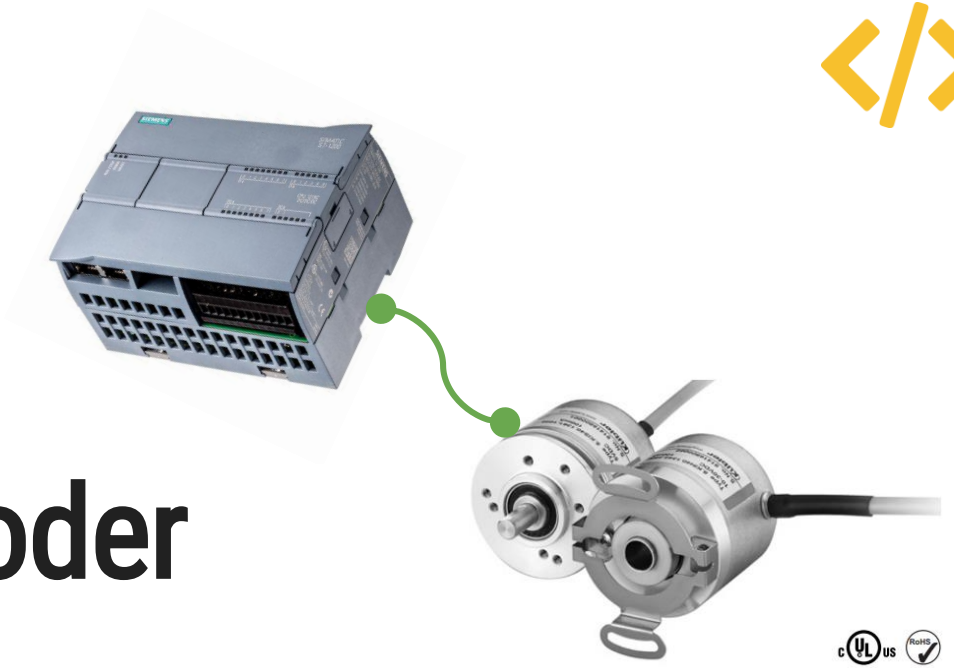
Code and Compile

*presents*



How to read

# Incremental encoder In PLC S7-1200

## Using High-speed counter

# Why we need encoders?

**Aerospace**
In the aerospace industry, encoder applications combine demands for high-precision feedback w ...more

**Material Handling**
Actions such as conveying, lifting, pick-and-place, and other automated functions represent o ...more

**Mobile Equipment**
Automated and electronically controlled systems abound in modern mobile equipment u ...more

**Packaging**
The packaging industry typically utilizes equipment involving rotary motion along severa ...more

**Food & Beverage**
Machinery in the food and beverage manufacturing industry includes a wide range of operations ...more

**Printing**
The wide variety of automated machinery used in the printing industry presents innumerable ap ...more

**Textiles**
In textile manufacturing machinery, rotary encoders are employed to provide critical feedback ...more

**Timber Products**
A demanding industry for machinery and machine components, timber products manufacturing mach ...more

**Converting**
In converting machinery, rotary encoders are employed to provide critical feedback for speed, ...more

**Metal Forming & Fabrication**
As an industry that dates back to the Bronze Age, metal forming and fabrication still has ...more

Source:
http://encoder.com/applications/by-industry/

# What we are going to learn in this section:

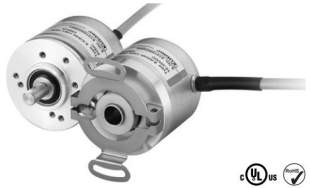
## Tasks:

1. Understanding encoder type and how to wire it to PLC?
2. Configuration of Siemens S7-1200 PLC to read the encoder and understanding various modes of counting- A Phase, A/B Phase, A/B Counter, A/B Counter four fold.
3. Converting counter pulses to degrees (for rotary measurement) or mm (for linear measurement)
4. Actuating PLC output at certain encoder position

# Things required

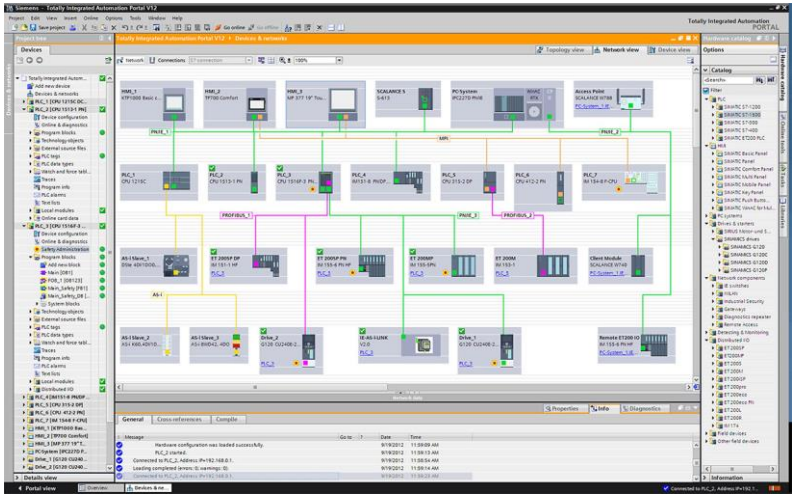
## Hardware used:

Siemens PLC
S7-1200



Incremental Encoder
Type:8 KIS40.1342.2500

## Software used:



Siemens TIA Portal
V13/V14/V15

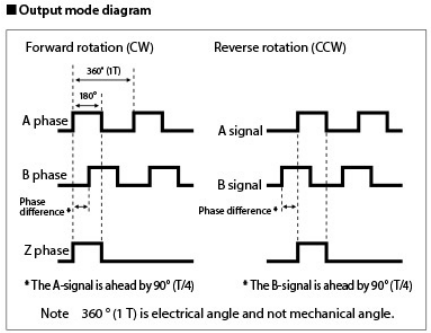
# What we are going to learn in this section:

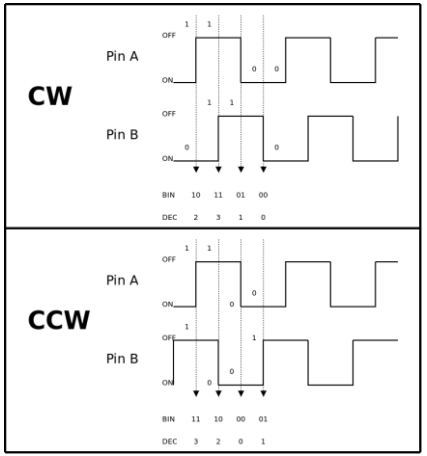
## Task 1: Understanding encoder type and how to wire it to PLC?

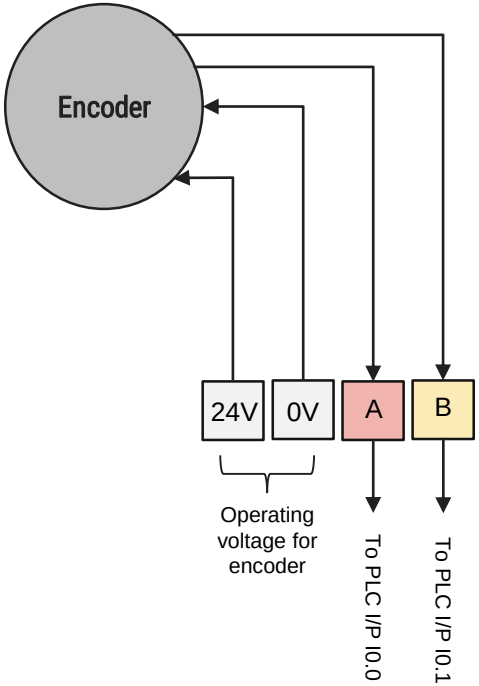
**Encoder used:**

Incremental Encoder
Type:8 KIS40.1342.2500

**Operating voltage**: 10 ~ 30VDC
**Resolution**: 2500 pulses per revolution
**Phase**: A, B and Z



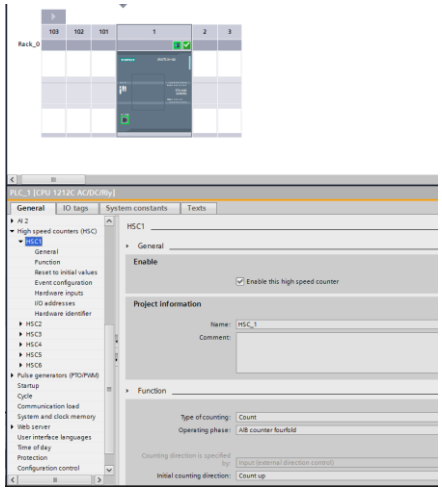



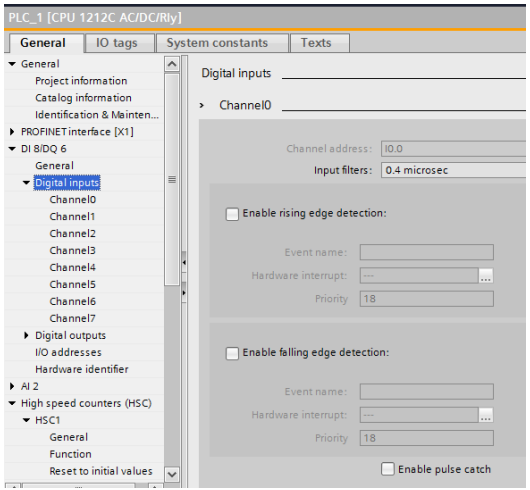
# What we are going to learn in this section:

## Task 2: Configuration of Siemens S7-1200 PLC to read the encoder and understanding various modes of counting.

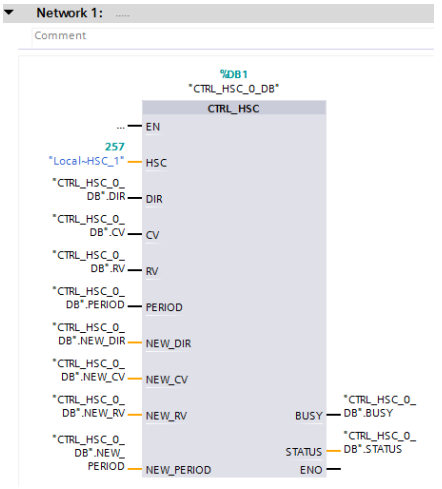
### Step 1:
Define HSC in Controller properties



### Step 2:
Configure the Digital inputs

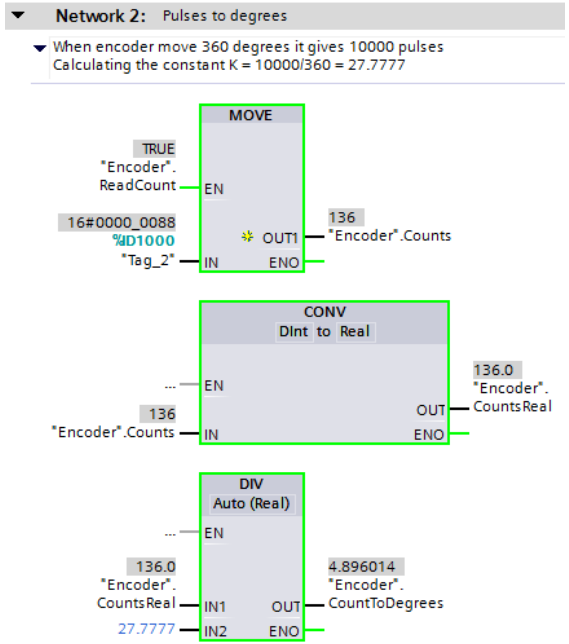


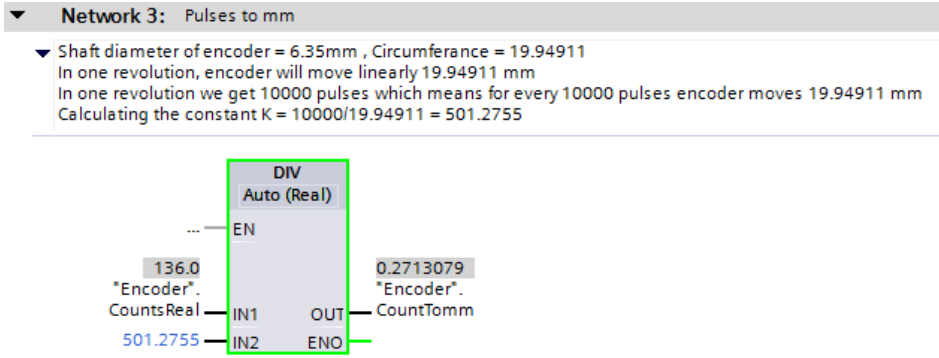

### Step 3:
Úsing CTRL_HSC to read/write encoder information



# What we are going to learn in this section:

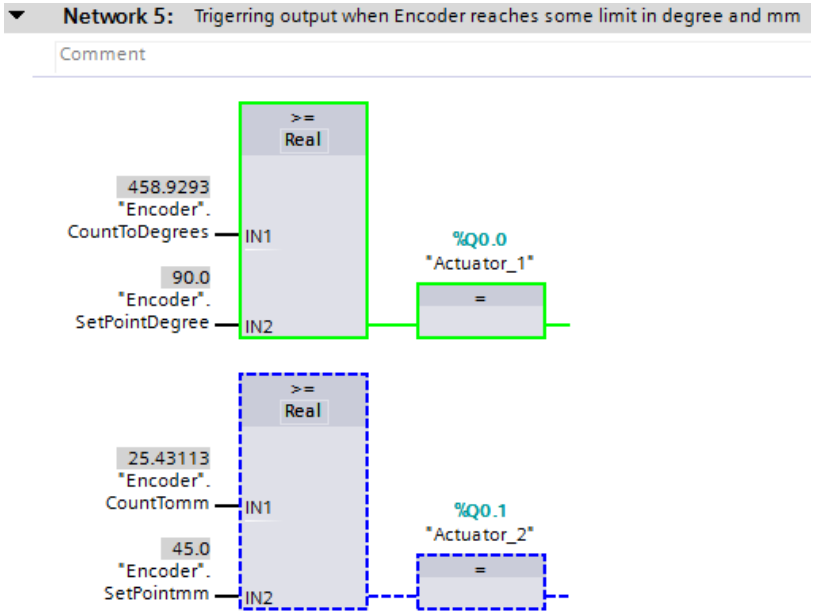
## Task 3: Converting counter pulses to degrees (for rotary measurement) or mm (for linear measurement)

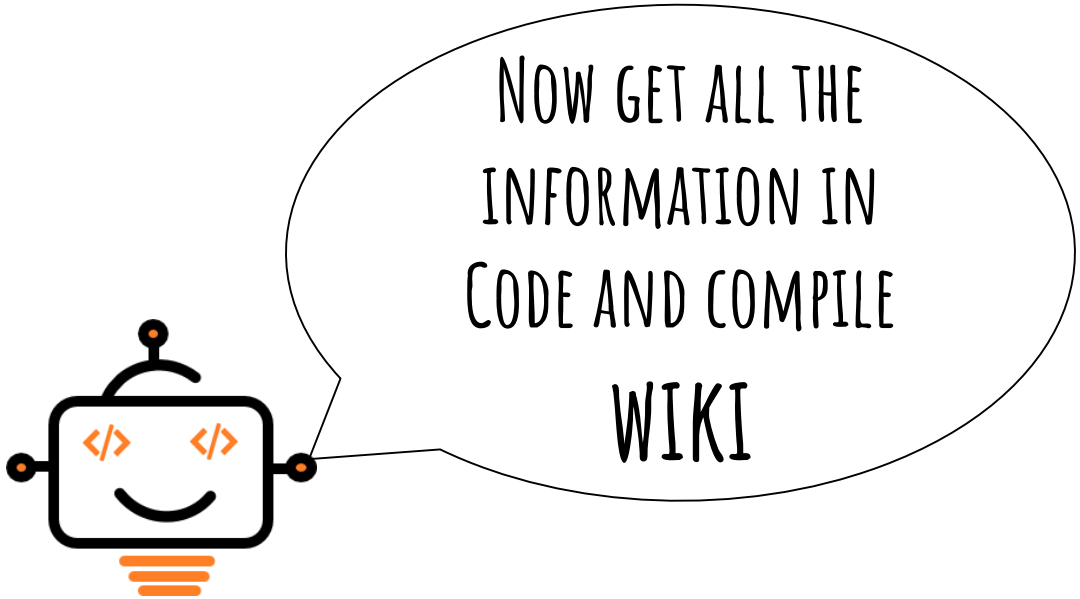


# What we are going to learn in this section:

## Task 4: Actuating PLC output at certain encoder position






## To get more information visit

https://www.codeandcompile.com

*Link is also given in the video description*