



Niniejszy dokument zawiera materiały do
„Kursy programowania PLC i HMI firmy Siemens – poziom 1”.

Jest on udostępniony tylko i wyłącznie uczestnikom kursu pod warunkiem wykorzystania go wyłącznie do celów związanych z kursem.

Jakakolwiek forma udostępnienia dokumentu lub wykorzystania jego fragmentów lub całości do innych celów wymaga pisemnej zgody autora.

AKADEMIA GÓRNICZO-HUTNICZA
IM. STANISŁAWA STASZICA W KRAKOWIE

Kurs: Programowanie PLC i HMI firmy Siemens – poziom 1

część 1

dr inż. Stanisław Flaga
stanislaw.flaga@agh.edu.pl

tel. [(0-12)617] 37-89

WIMiR
Katedra Automatykacji Procesów
Kraków

Modele pracy z TIA

1. Programowanie fizycznego stanowiska



Modele pracy z TIA

2. Fizyczne PLC + symulator HMI



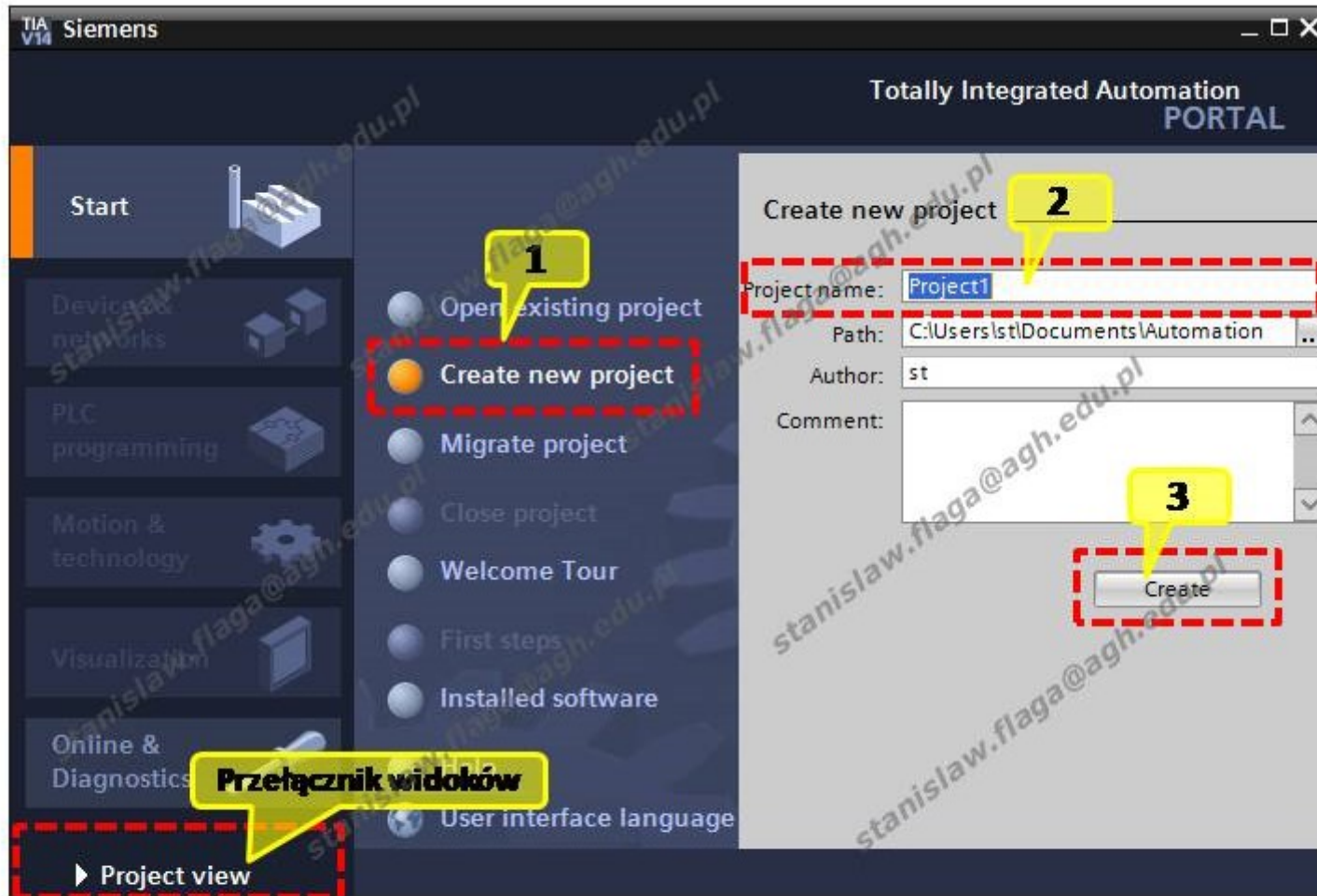
Modele pracy z TIA

3. Symulator PLC + symulator HMI



Symulator działa dla jednostek w wersji od 4.0

Nowy projekt

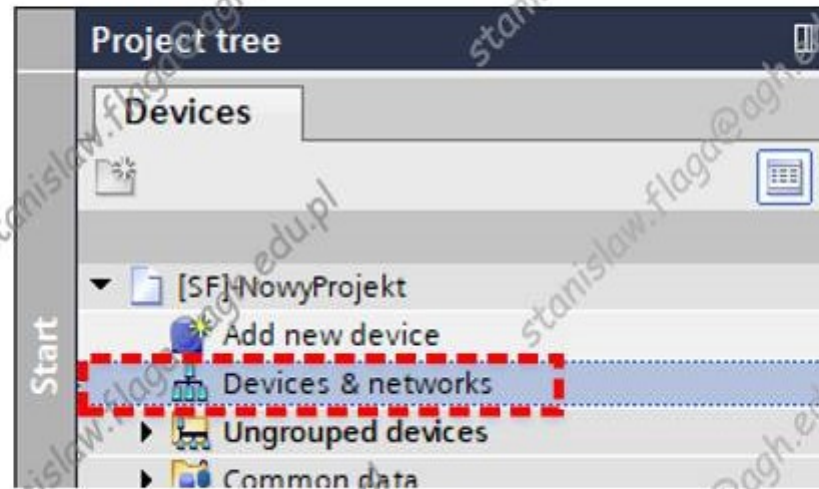


The screenshot shows the Siemens TIA Portal V14 interface. The main window title is "TIA V14 Siemens" and the subtitle is "Totally Integrated Automation PORTAL". The left sidebar contains a "Start" button and several menu items: "Device networks", "PLC programming", "Motion & technology", "Visualization", and "Online & Diagnostics". The "Project view" button at the bottom of the sidebar is highlighted with a red dashed box and a yellow callout bubble labeled "1" containing the text "Przełącznik widoków". The central pane shows a list of actions: "Open existing project", "Create new project" (highlighted with a red dashed box and a yellow callout bubble labeled "1"), "Migrate project", "Close project", "Welcome Tour", "First steps", and "Installed software". The right pane is titled "Create new project" and contains a form with the following fields: "Project name:" (containing "Project1" and highlighted with a red dashed box and a yellow callout bubble labeled "2"), "Path:" (containing "C:\Users\lst\Documents\Automation ..."), "Author:" (containing "st"), and "Comment:". The "Create" button at the bottom of the form is highlighted with a red dashed box and a yellow callout bubble labeled "3".

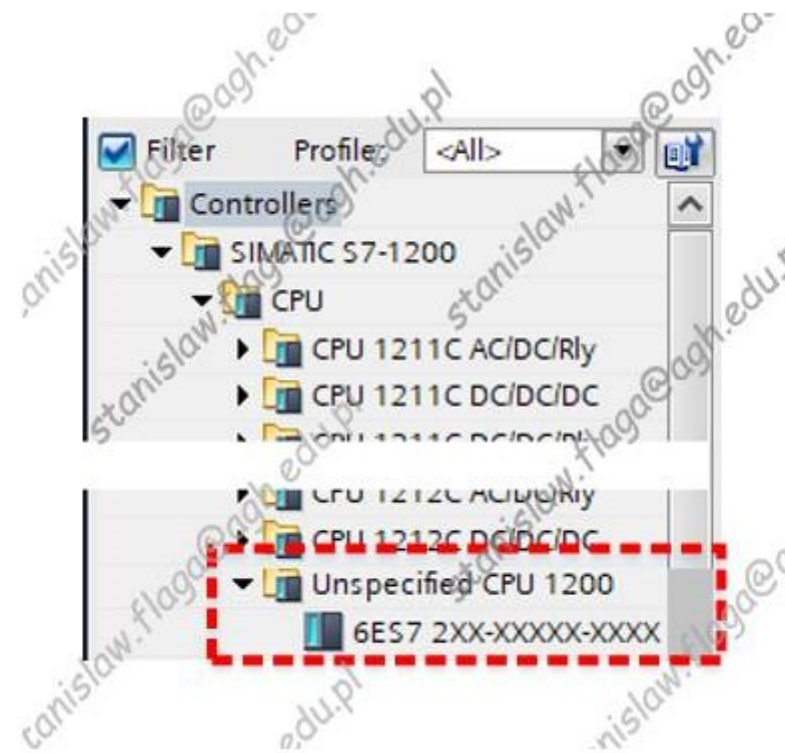
Nowy projekt

Create new project


Project name:	[SF]-NowyProjekt
Path:	C:\Users\stf\Desktop\57-1200-projekty
Author:	stf
Comment:	Kreowanie nowego projektu



Nowy projekt



Nowy projekt

Device: 

Unspecified CPU 1200

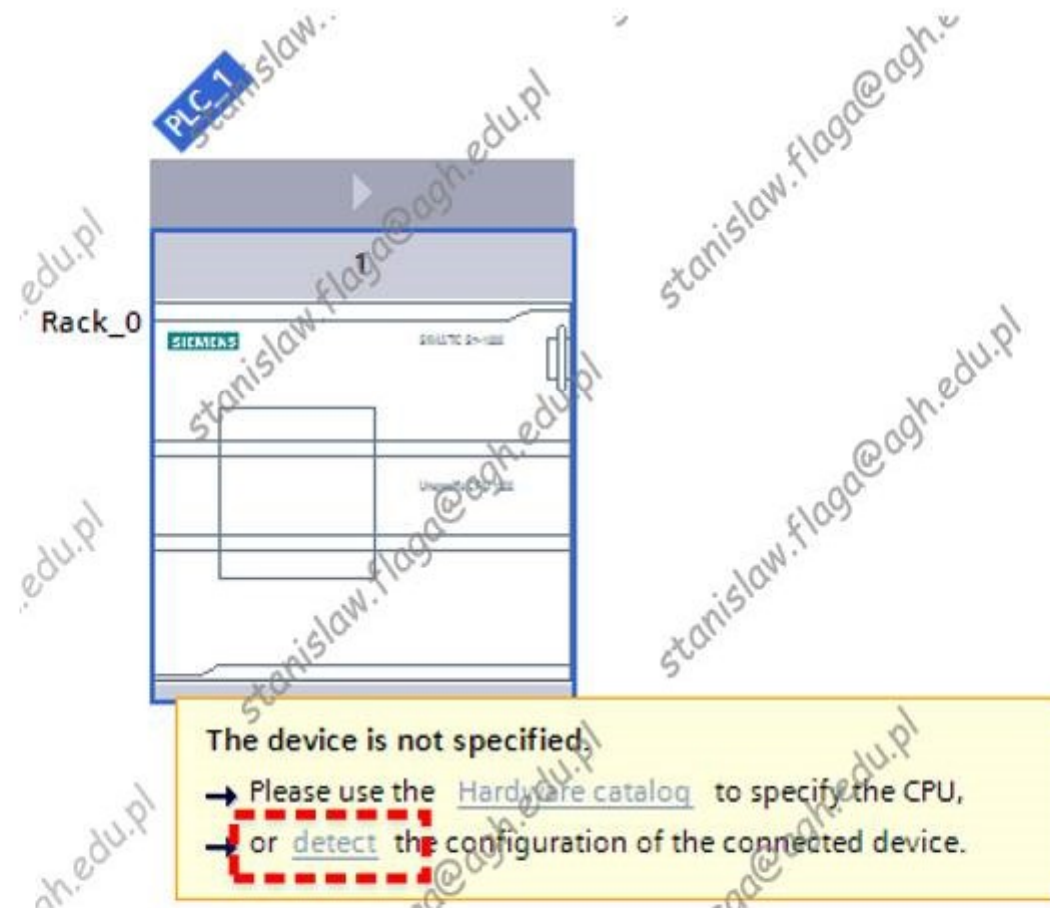
Article no.: 6E57 2XX-XXXXX-XXXX

Version:

Description:

- V4.2
- V2.2
- V3.0
- V4.0
- V4.1
- V4.2

Nowy projekt




The image shows a screenshot of a software interface for configuring a PLC rack. At the top, a blue label reads "PLC_1". Below it, a rack structure is shown with "Rack_0" on the left. A Siemens PLC module is visible in the rack, with "SIEMENS" and "SILICON" labels. A yellow warning box at the bottom contains the following text:

The device is not specified.

- Please use the [Hardware catalog](#) to specify the CPU,
- or [detect](#) the configuration of the connected device.

Nowy projekt

Hardware detection for PLC_1



Type of the PG/PC interface: PN/IE

PG/PC interface: Realtek PCIe GBE Family Controller

Compatible accessible nodes of the selected interface:

Device	Device type	Interface type	Address


Flash LED

Online status information: Display only error messages

Start search

Nowy projekt

Hardware detection for PLC_1



Type of the PG/PC interface:

PG/PC interface:

Compatible accessible nodes of the selected interface:

Device	Device type	Interface type	Address	MAC address
plc_1	S7-1200	PN/IE	192.168.0.10	00-1C-06-10-6C-8

Flash LED

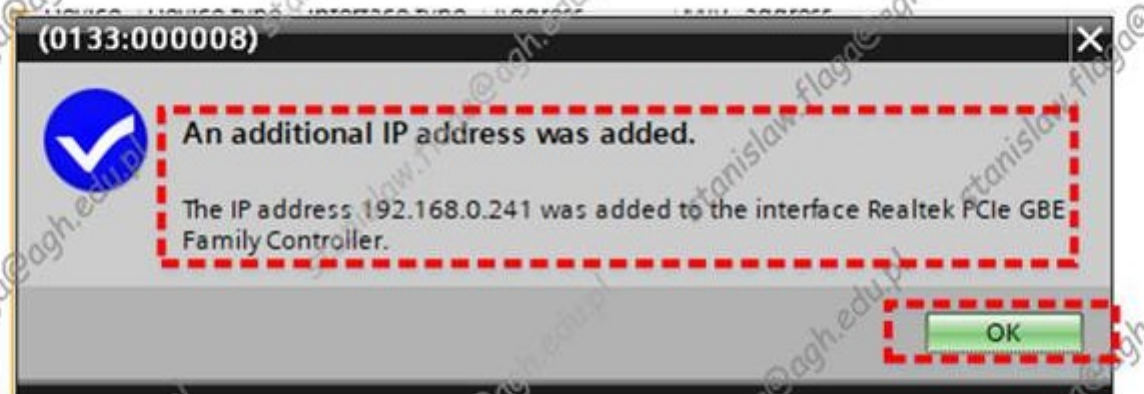
Start search

Online status information: Display only error messages

- Scan completed. 1 compatible devices of 1 accessible devices found.
- Retrieving device information...
- Scan and information retrieval completed.

Detect Cancel Detect Cancel

Nowy projekt



Project3

Add new device

Device name: HMI_1


Controllers

HMI

PC systems

- HMI
 - SIMATIC Basic Panel
 - 3" Display
 - 4" Display
 - 6" Display
 - KTP600 Basic
 - 6AV6 647-0AB11-3AX0
 - 6AV6 647-0AC11-3AX0
 - 6AV6 647-0AD11-3AX0**
 - KTP600 Basic Portrait
 - 7" Display
 - 9" Display
 - 10" Display
 - 12" Display
 - 15" Display
 - SIMATIC Panel
 - SIMATIC Comfort Panel

Device:



KTP600 Basic color PN

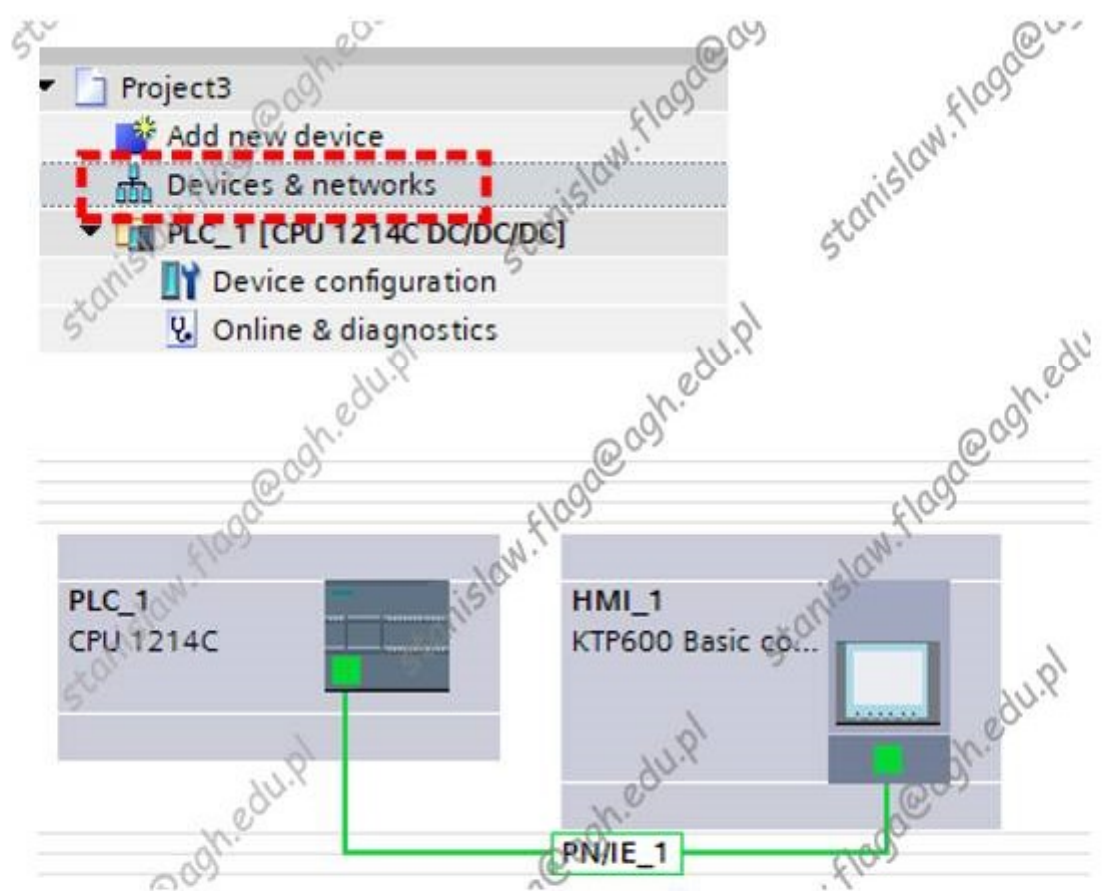
Article no: 6AV6 647-0AD11-3AX0

Version: 12.0.0.0

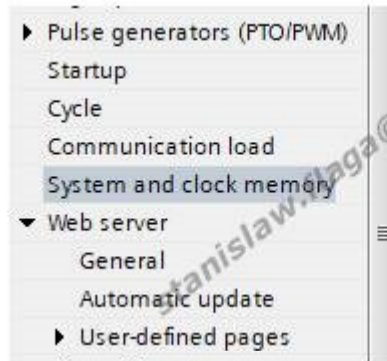
Description: 5.7" TFT display, 320 x 240 pixel, 256 colors and Touch operation, 6 function keys; 1 x PROFINET

Start device wizard

OK Cancel



Ustawienie adresów bitów specjalnych



System memory bits

Enable the use of system memory byte

Address of system memory byte (MBx):

First cycle:

Diagnostic status changed:

Always 1 (high):

Always 0 (low):

Clock memory bits

Enable the use of clock memory byte

Address of clock memory byte (MBx):

10 Hz clock:

5 Hz clock:

2.5 Hz clock:

2 Hz clock:

1.25 Hz clock:

1 Hz clock:

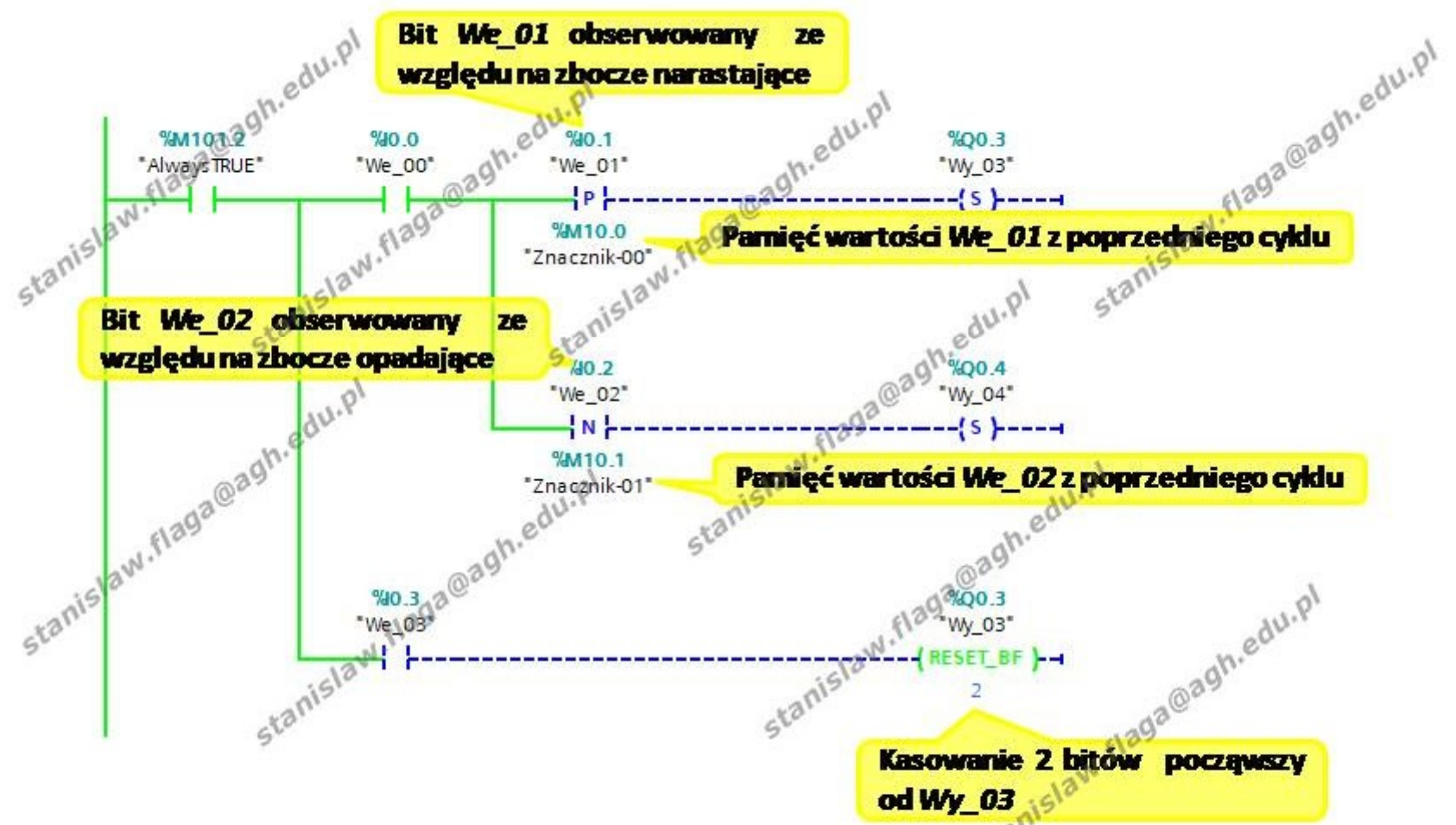
0.625 Hz clock:

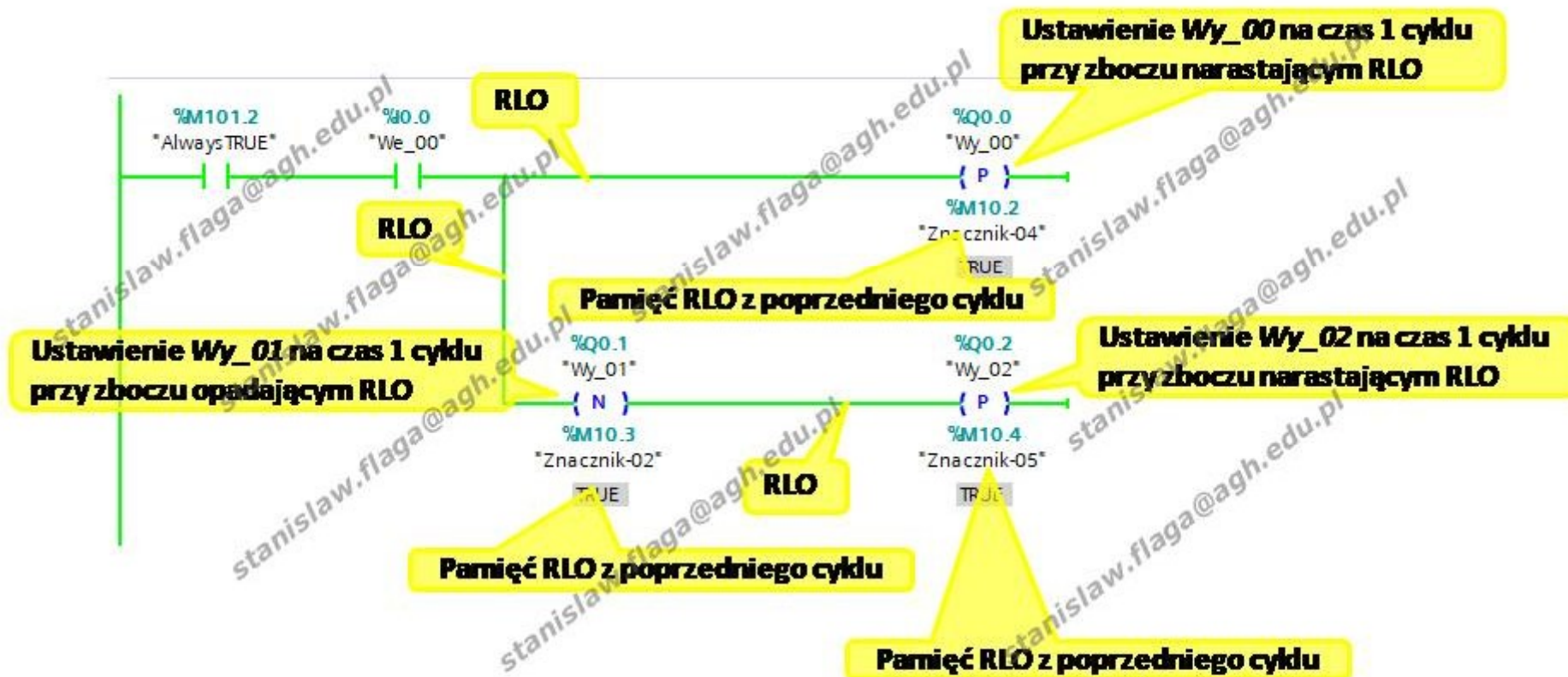
0.5 Hz clock:

--|N|--

--|P|--

RESET_BF





P_TRIG:

N_TRIG:

