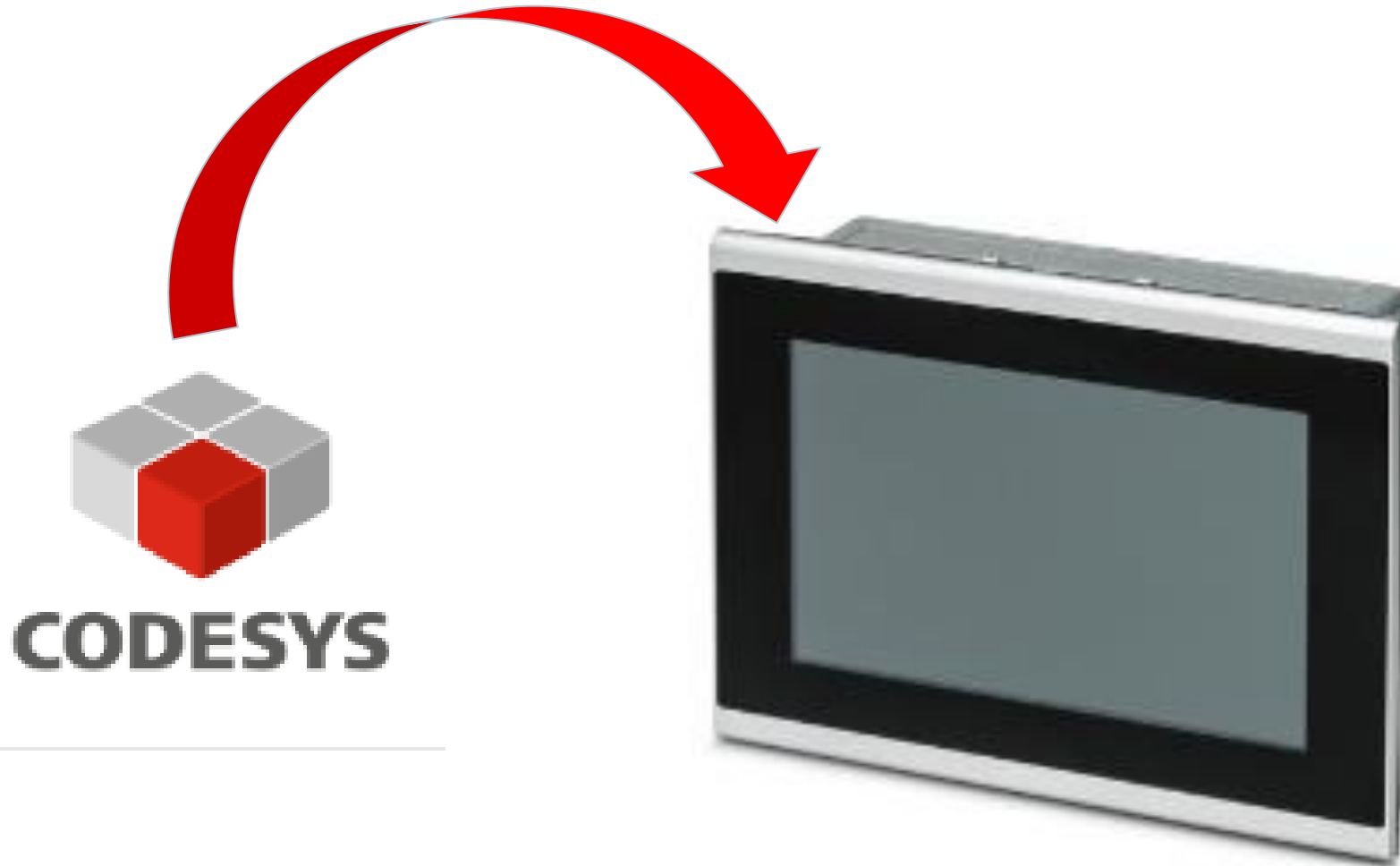


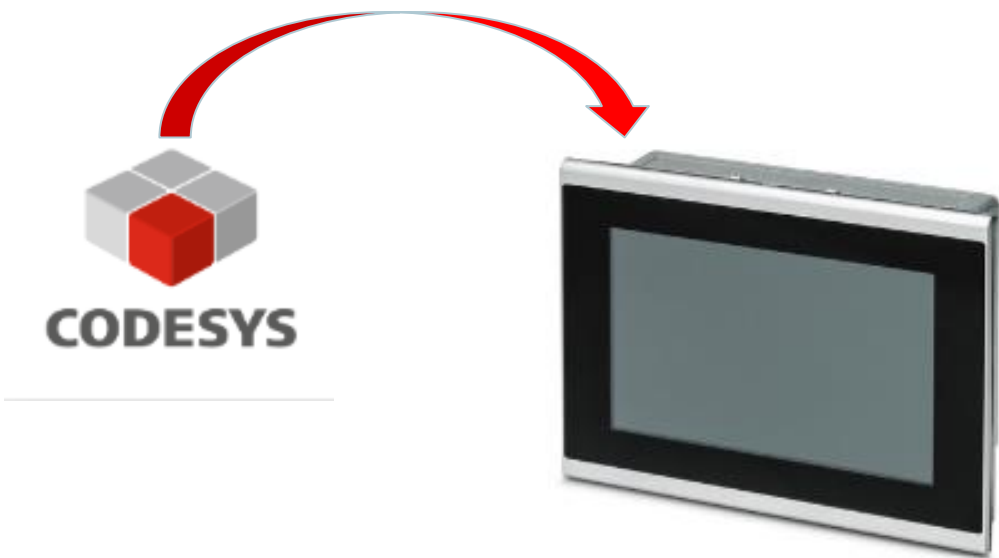
# Installing CodeSys onto a Phoenix Contact WP6xxx Panel



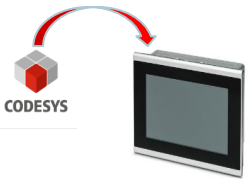
# Requirements:

- Phoenix Contact WP 6xxx with Firmware Version 3.0.15
- CodeSys Software V3.5 SP19, Patch 1.

NOTE: No other Phoenix Contact Panels or CodeSys Software combinations were tested or are verified to work as this document suggests at this time. Please confirm with your local CSIE member for added support.



Valid Part Numbers	Description	Type Code
1290800	7" Touch Screen - 800 x 480 Resolution	WP6070-WVPS
1290801	10" Touch Screen - 1280 x 800 Resolution	WP6101-WXPS
1290802	12" Touch Screen - 1280 x 800 Resolution	WP6121-WXPS
1290803	15.6" Touch Screen - 1920 x 1080 Resolution	WP6156-WHPS
1290807	18.5 "Touch Screen - 1920 x 1080 Resolution	WP6185-WHPS
1290809	21.5 "Touch Screen - 1920 x 1080 Resolution	WP6215-WHPS

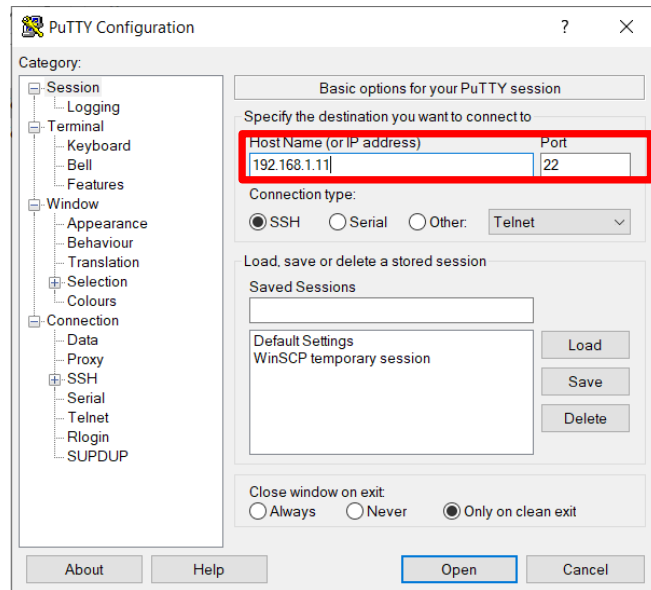


This document assumes that the user has some basic Linux command Line or other experience, as not all specific details are given in this manual.

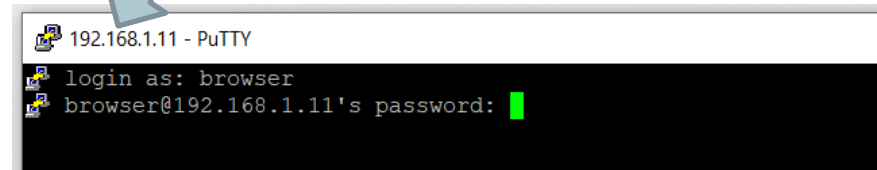
Also, Make sure that your Web Panel has an IP Address assigned to it and that it is on the same Ethernet Subnet as your PC.

You will need to install Putty and CodeSys PC Software before beginning this Tutorial.

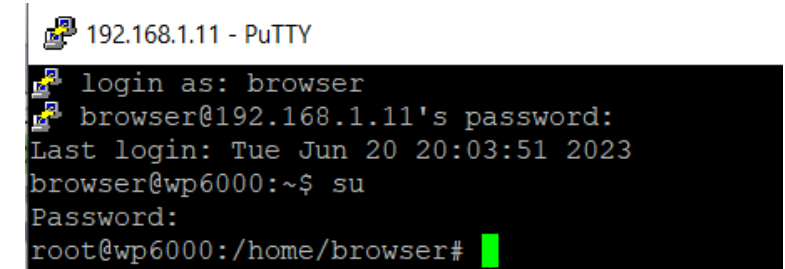
Using Putty (or Similar Terminal editor), we need to access the Web Panels Linux Command Line.

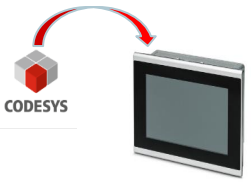


Enter the IP address of the  
Connected Web Panel



At the command Linux Line, Log in as 'browser' (pw: browser),  
Once Logged in, Enter the command 'su' <ENTER>  
(this requests Linux to let you login in as a 'Super User').  
Type in 'foo' as the Password.  
The prompt will now show logged in a root... (e.g root@wp6000:....)





From here, we will be adding a single command to the config file of the WP.

NOTE: only arrow keys will work (mouse is deactivated)... also, be very careful to type in the exact phrase as described. Incorrect typing may cause undesired effects.

Type the following 'nano /etc/ssh/sshd\_config' <ENTER> (this opens the file in a text editor).

We need to add the following command to the file. 'PermitRootLogin yes' (as shown in the screen capture Below – with a single space after the command / before 'yes').

NOTE: Command Entry (Caps, No Caps) critical, so it must be entered exactly as stated. It is, however, not critical that the command be inserted exactly where described, but this is the suggested location.

```
192.168.1.11 - PuTTY
GNU nano 4.4 sshd_config
#IgnoreUserKnownHosts no
# Don't read the user's ~/.rhosts and ~/.shosts files
#IgnoreRhosts yes

# To disable tunneled clear text passwords, change to no here!
#PasswordAuthentication yes
PermitEmptyPasswords yes
PermitRootLogin yes

# Change to no to disable s/key passwords
ChallengeResponseAuthentication no

# Kerberos options
#KerberosAuthentication no
#KerberosOrLocalPasswd yes
#KerberosTicketCleanup yes
#KerberosGetAFSToken no

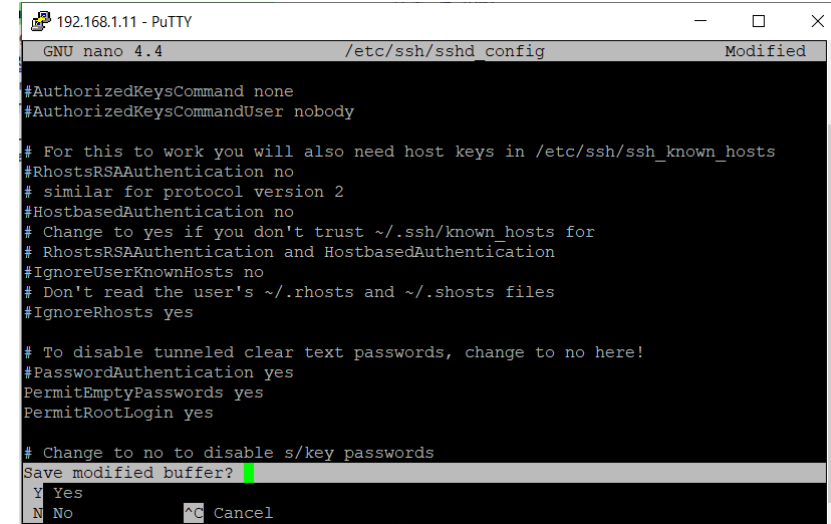
# GSSAPI options
#GSSAPIAuthentication no

^G Get Help  ^O Write Out ^W Where Is  ^K Cut Text  ^J Justify  ^C Cur Pos
^X Exit      ^R Read File ^\ Replace  ^U Paste Text ^T To Spell  ^_ Go To Line
```

Once the Command is entered, saving the file and rebooting are the next required steps.

Press the keys <CNTRL> + X to Exit.

You will be asked to 'Save modified buffer? ...  
press 'Y' (for Yes).



```

192.168.1.11 - PuTTY
GNU nano 4.4 /etc/ssh/sshd_config Modified
#AuthorizedKeysCommand none
#AuthorizedKeysCommandUser nobody

# For this to work you will also need host keys in /etc/ssh/ssh_known_hosts
#RhostsRSAAuthentication no
# similar for protocol version 2
#HostbasedAuthentication no
# Change to yes if you don't trust ~/.ssh/known_hosts for
# RhostsRSAAuthentication and HostbasedAuthentication
#IgnoreUserKnownHosts no
# Don't read the user's ~/.rhosts and ~/.shosts files
#IgnoreRhosts yes

# To disable tunneled clear text passwords, change to no here!
#PasswordAuthentication yes
PermitEmptyPasswords yes
PermitRootLogin yes

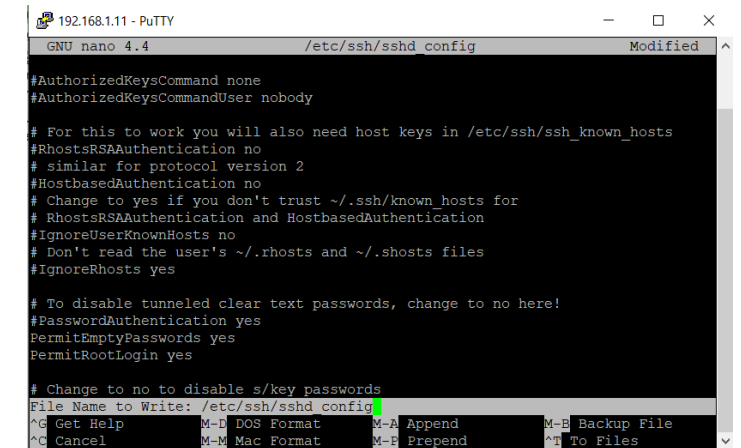
# Change to no to disable s/key passwords
Save modified buffer?
Y Yes
N No      ^C Cancel
  
```

Then, you will asked to verify the Filename.. press <ENTER>

After exiting the editor, you will be back at the prompt...

Type 'reboot' + <ENTER>

at this time, the panel will reboot and then the CodeSys Software will  
now able to access and Install the appropriate Run Time version.



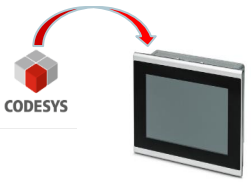
```

192.168.1.11 - PuTTY
GNU nano 4.4 /etc/ssh/sshd_config Modified
#AuthorizedKeysCommand none
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#RhostsRSAAuthentication no
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#HostbasedAuthentication no
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# RhostsRSAAuthentication and HostbasedAuthentication
#IgnoreUserKnownHosts no
# Don't read the user's ~/.rhosts and ~/.shosts files
#IgnoreRhosts yes

# To disable tunneled clear text passwords, change to no here!
#PasswordAuthentication yes
PermitEmptyPasswords yes
PermitRootLogin yes

# Change to no to disable s/key passwords
File Name to Write: /etc/ssh/sshd_config
^C Get Help      M-D DOS Format  M-A Append      M-B Backup File
^C Cancel       M-M Mac Format  M-E Prepend     ^H To Files
  
```

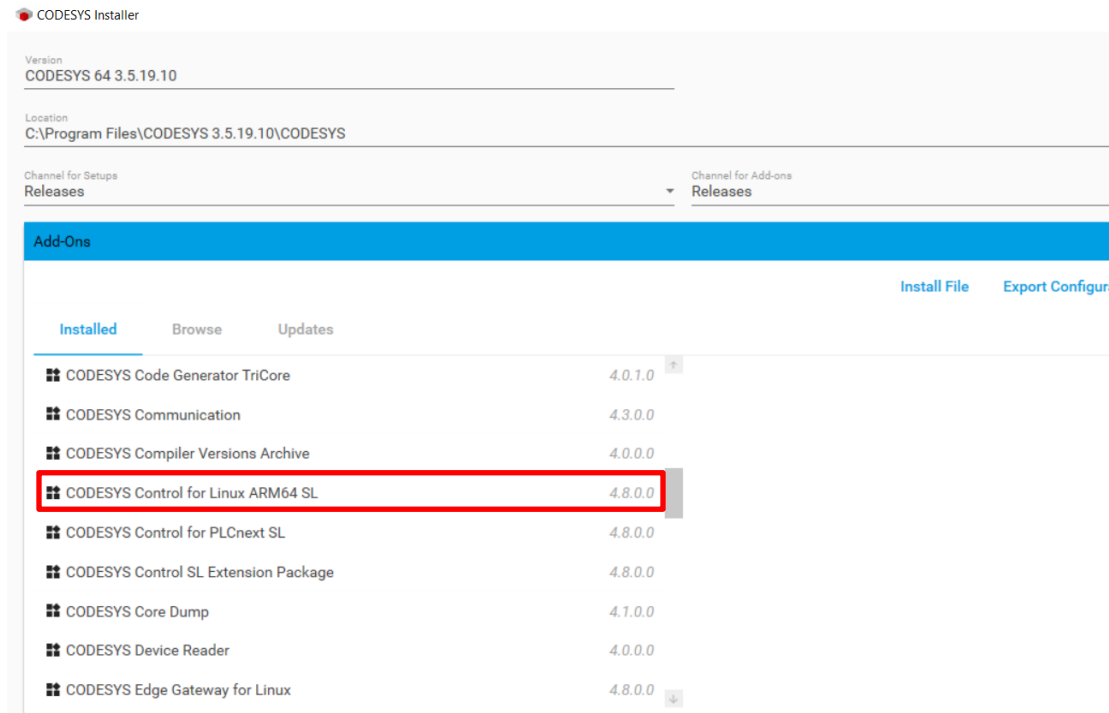


Open CodeSys Software.

From Tools -> CodeSys Installer, The following shows the installed 'Add-ons'.

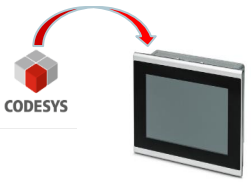
From the CodeSys Store, get and install the Linux ARM64 SL Package (as below):

*Note: If you do need to install, make sure that you '**Restart as Administrator**'*

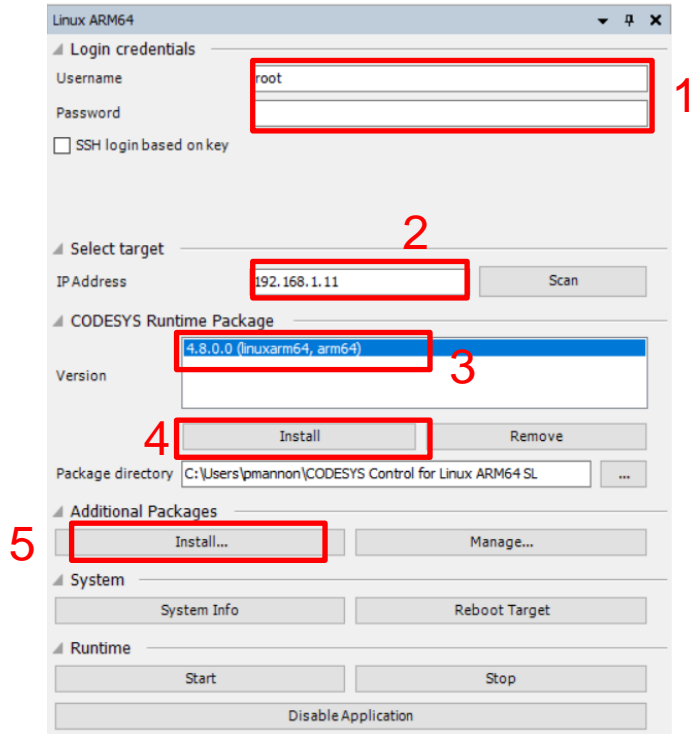


Once the installation is verified, Close this Window and Choose 'Tools -> Update Linux ARM64' from the Menu



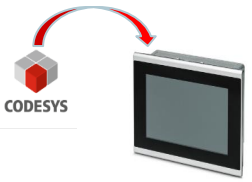


Using the Installer, Install the Linux ARM64 SL  
User: root, password: foo  
Install 'Linux ARM64 SL'



1. User: 'root' password: 'foo'
2. Enter the IP Address of the WP6 Panel.
3. Verify that the Runtime Package is 4.8.0.0 (linuxarm64, arm64).
4. Press the 'Install' Button. The Panel will be connected and the proper Runtime will be installed on the Panel. If there are errors, verify that the IP Address is correct and all of the previous steps have been completed correctly.
5. You can verify that the install is correct, by pressing and viewing the 'System Info' information on the panel.





When Connecting to the Web Panel for the First Time, pay very close attention and Document the User Name and Password entered. **THIS CANNOT BE RECOVERED !!!**

NOTE: If you do forget or something happens, the 'recovery' of the WP6xxx is to reinstall the WP6xxx Firmware, which wipes out and resets the panel.

All Characters (CAPS, etc.. Must be noted !)

I normally use..

Name: admin

Password: phoenix1234

Be sure to check the 'Keep Password' checkbox.

When Going 'Online' with CodeSys, the Device User Logon Screen (as below will appear).



The user name and Password Created on the Previous Page will allow successful Login.

A screenshot of the 'Device User Logon' dialog box. The dialog has a title bar with a close button. Below the title bar is a message icon (a yellow key) and a text message: 'You are currently not authorized to perform this operation on the device. Please enter the name and password of a user account which has got the sufficient rights.' Below this message are four input fields: 'Device name' (empty), 'Device address' (containing '0301.1000.2DDC.C0A8.010B'), 'User name' (empty), and 'Password' (empty). The 'User name' and 'Password' fields are highlighted with a red rectangular border. At the bottom left, there is a label 'Operation: View' and 'Object: "Device"'. At the bottom right, there are two buttons: 'OK' and 'Cancel'.

This Tutorial is complete... Simply program, download and execute CodeSys as normal. The following page shows a very basic program running on the controller.



Untitled3.project\* - CODESYS

File Edit View Project Build Online Debug Tools Window Help BACNet

Application [Device: PLC Logic]

Devices

- Untitled3
  - Device [connected] (CODESYS Control for Linux ARM64 SL)
    - PLC Logic
      - Application [run]
        - Library Manager
        - PLC\_PRG (PRG)
        - Task Configuration
          - MainTask (IEC-Tasks)
            - PLC\_PRG
  - SoftMotion General Axis Pool

Device

PLC\_PRG

Device.Application.PLC\_PRG

Expression

- TON1
- TON2
- CTU1
- CurrentVal

```
1 TON1 (IN TRUE := NOT TON2.Q FALSE, PT T#1s := T#1s);
2 TON2 (IN TRUE := TON1.Q TRUE, PT T#1s := T#1s);
3
4 CTU1 (CU TRUE := TON1.Q TRUE, RESET FALSE := CTU1.Q FALSE, PV 500 := 500);
5 CurrentVal 28 := CTU1.CV 28; RETURN
```