

# Conversion from ASC/3 to EOS

Best Practices

 **ECONOLITE**

**Saving Lives Through Improved Mobility**

# Objectives

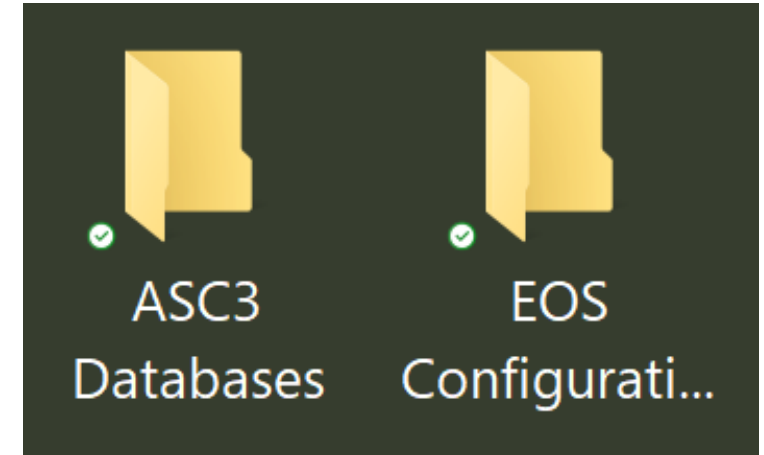
- Avoid using Centracs Export database files
- Collect the proper files
- Generate the proper ASC3 and EOS Configurations

# ASC/3 Virtual Controller Setup



Desktop

- Create two new folders on Desktop
  - “ASC3 Databases”
  - “EOS Configurations”

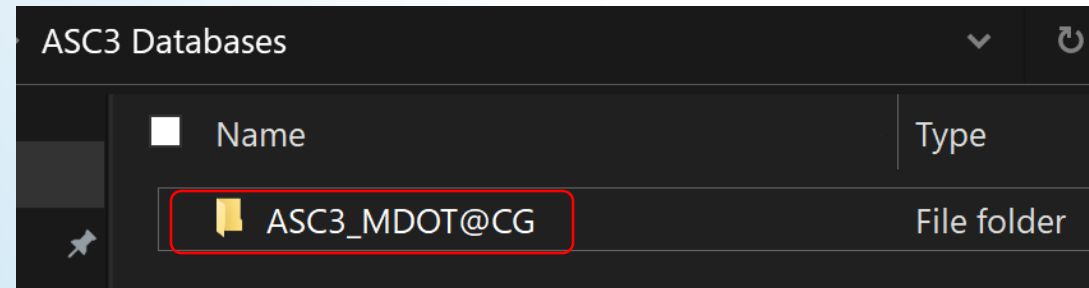


# ASC/3 Virtual Controller Setup



## ASC3 Databases

- In the “ASC3 Databases” folder, create a new folder
  - Name it “ASC3\_*Intersection\_name*”

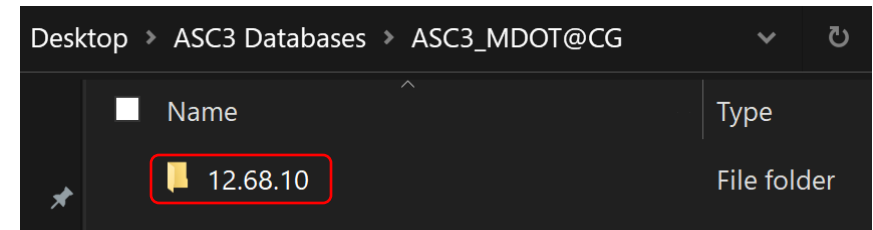
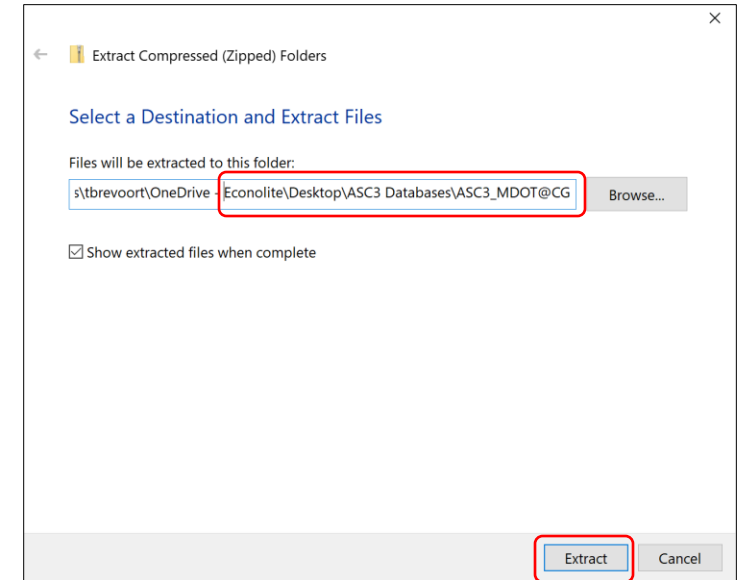


# ASC/3 Virtual Controller Setup



## ASC3 Databases











- Download and Open the “12.68.10.zip” file
- Select “Extract All” and Browse to the “ASC3\_*Intersection\_name*” folder
- Once Extracted, the ASC3 Utility and Virtual Controller are ready to use for this intersection



# ASC/3 Virtual Controller Setup



12.68.10

 ASC3_2070_Utility	Application	356 KB
 ASC3_UTILITY	Application	264 KB
 ASC3Screens.defs	DEFS File	255 KB
 ASC3Screens.defsZ	DEFSZ File	80 KB
 ASC3Screens.help	HELP File	455 KB
 ASC3Screens.text	TEXT File	78 KB
 ASC3Screens.textZ	TEXTZ File	27 KB
 ASC3Screens2.defsZ	DEFSZ File	74 KB
 ASC3Screens2.textZ	TEXTZ File	25 KB
 ASC3-Virtual_Controller-12.68.10-21460	Application	3,829 KB

**Do Not use extracted files from Centracs Export to convert to EOS.**



**ASC/3 Utility** - Upload the controller database files over the network

**WinSCP** - Retrieve the ASC3.CFG from the controller over network

**ASC/3 Virtual Controller** - Convert .db, .dt, .ext, usercfg files into one ASC3.CFG file

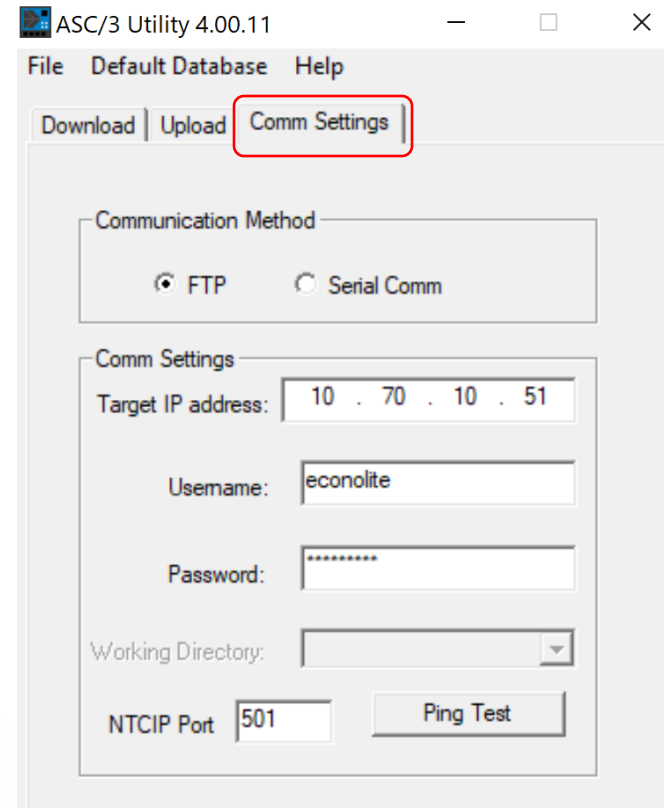
**EOS Controller Utility** - Convert the ASC3.CFG to EOS.CFG



# Network Connectivity

## ASC/3 Utility 4.00.11

- Start the “ASC3\_Utility.exe”
- Select the “Comm Settings” Tab







# Network Connectivity

## ASC/3 Utility 4.00.11

- Select FTP
- Enter the following fields:
  - “Target IP” – Controller’s IP
  - “Username” – econolite
  - “Password” – ecpi2ecpi
  - “NTCIP Port” – MM-1-5-5 UDP Port

A screenshot of the ASC/3 Utility 4.00.11 software interface. The window title is "ASC/3 Utility 4.00.11" and it has a menu bar with "File", "Default Database", and "Help". Below the menu bar are three tabs: "Download", "Upload", and "Comm Settings", with "Comm Settings" being the active tab. The "Communication Method" section has two radio buttons: "FTP" (selected) and "Serial Comm". The "Comm Settings" section contains several fields: "Target IP address" with the value "10 . 70 . 10 . 51", "Username" with the value "econolite", "Password" with a masked field of eight asterisks, "Working Directory" with a dropdown menu, and "NTCIP Port" with the value "501". A "Ping Test" button is located to the right of the "NTCIP Port" field. Red boxes highlight the "FTP" radio button, the "Target IP address" field, the "Username" field, the "Password" field, and the "NTCIP Port" field.



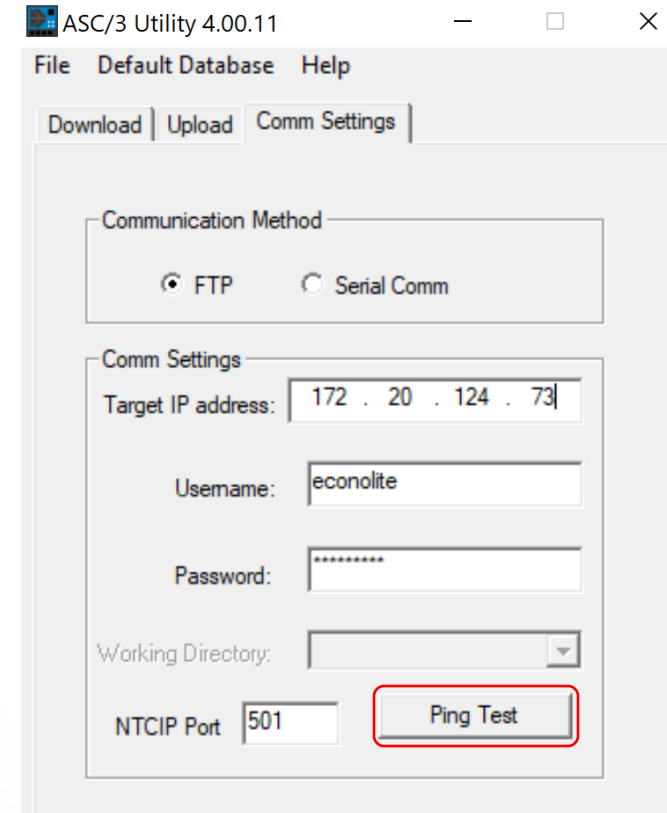
# Network Connectivity

## ASC/3 Utility 4.00.11

- Ping Test the controller
- If communication is established, you will get a “Reply”

```
C:\Windows\System32\PING.EXE

Pinging 172.20.124.73 with 32 bytes of data:
Reply from 172.20.124.73: bytes=32 time=15ms TTL=62
Reply from 172.20.124.73: bytes=32 time=13ms TTL=62
Reply from 172.20.124.73: bytes=32 time=12ms TTL=62
```

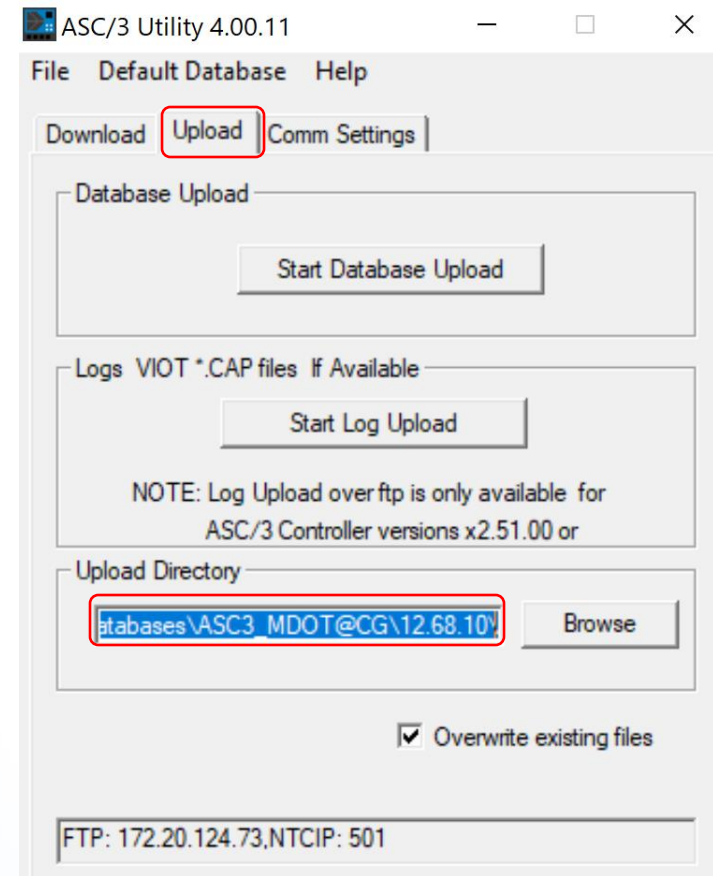




# Upload Database

## ASC/3 Utility 4.00.11

- Select the “Upload” Tab
- The “Upload Directory” is already pointed to the intersection virtual controller folder created earlier





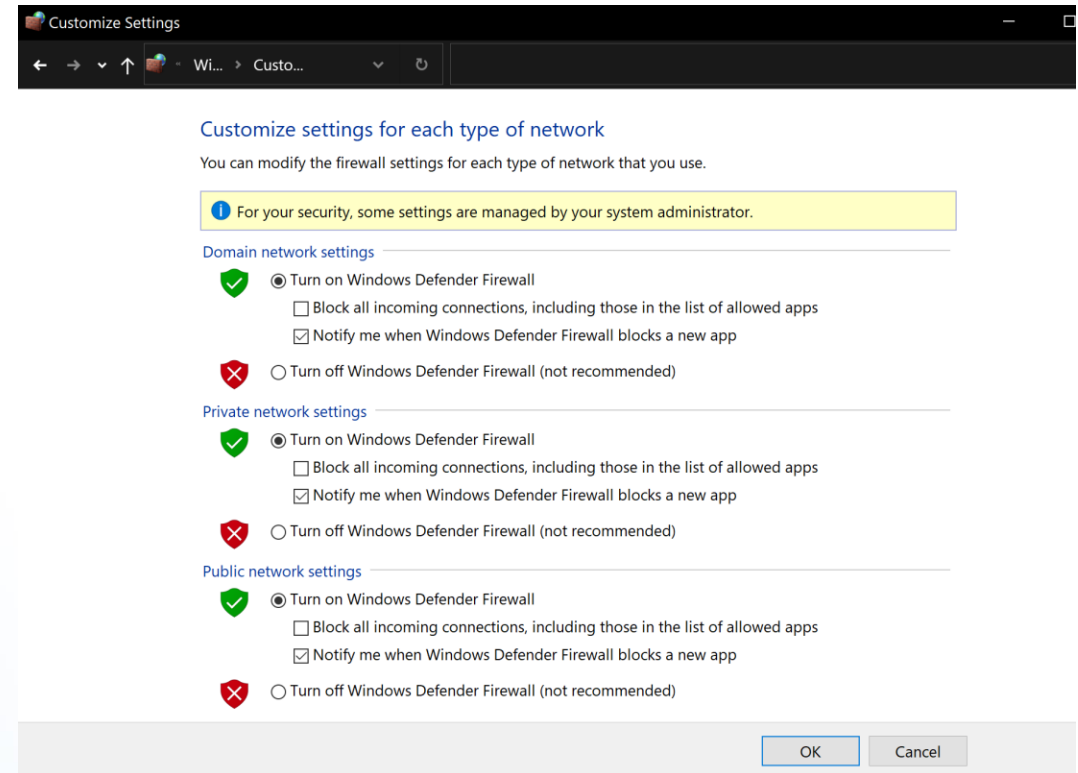
# Network Connectivity

## ASC/3 Utility 4.00.11

- If you cannot reach the controller
- Windows Firewall may have to be disabled

```
C:\Windows\System32\PING.EXE
```

```
Pinging 172.20.124.73 with 32 bytes of data:  
Request timed out.  
Request timed out.  
Request timed out.
```

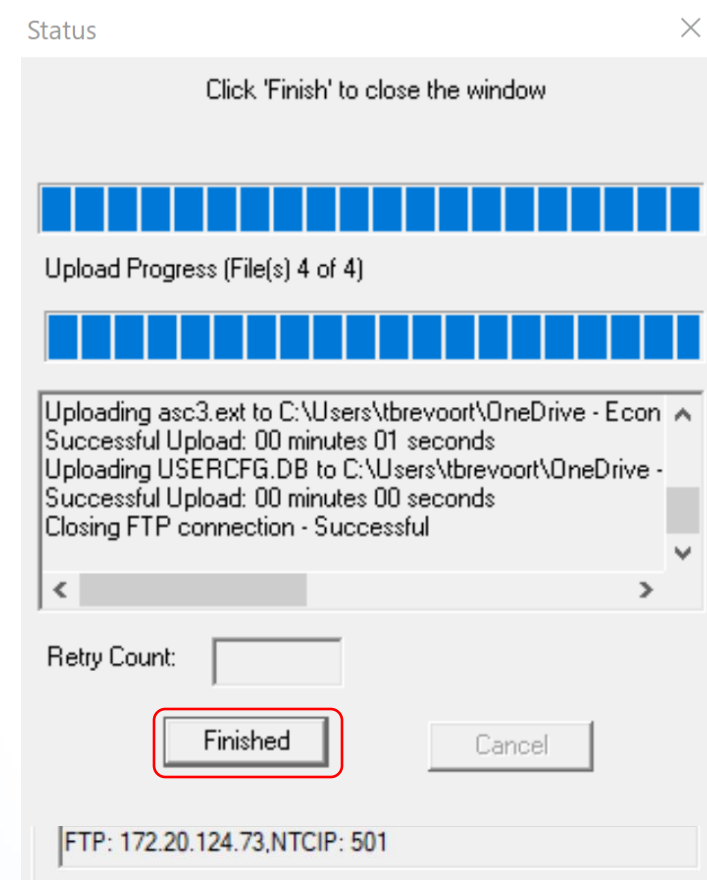




# Upload Database

## ASC/3 Utility 4.00.11

- Check “Overwrite existing files”
- Start the upload process by selecting “Start Database Upload”
- Read the instructions then click “Start”
- After the upload starts, you will see a progress bar and status of the files





# Upload Database



12.68.10

- Now you will see the files that were uploaded
  - **asc3.db** – Primary Database
    - Timing, configuration, I/O
    - 110 KB
  - **asc3.dt** – Secondary Database
    - Extended or optional features, TSP
  - **asc3.ext** – Extended Logic 101-200
  - **usercfg.db** – Security and Sign-on

Name	Type	Size
asc3	Data Base File	110 KB
asc3.dt	DT File	64 KB
asc3.ext	EXT File	1 KB
ASC3_2070_UTILITY	Application	356 KB
ASC3_UTILITY	Application	264 KB
ASC3Screens.defs	DEFS File	255 KB
ASC3Screens.defsZ	DEFSZ File	80 KB
ASC3Screens.help	HELP File	455 KB
ASC3Screens.text	TEXT File	78 KB
ASC3Screens.textZ	TEXTZ File	27 KB
ASC3Screens2.defsZ	DEFSZ File	74 KB
ASC3Screens2.textZ	TEXTZ File	25 KB
ASC3-Virtual_Controller-12.68.10-214...	Application	3,829 KB
USERCFG	Data Base File	2 KB



# Converting to ASC3.CFG



12.68.10

- Start the “ASC3-Virtual\_Controller-12.68.10-21460.exe”
- Select “Mapping”

p501-VIRTUAL I/O TEST PANEL-12.68.10 ASC/3-1000 -

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Green	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Yellow	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Red	<input checked="" type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>
Walk	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ped Clear	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Don't Walk	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>
O'tap Green	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
O'tap Yellow	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
O'tap Red	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>
Check	<input checked="" type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
On	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Next	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

TSP Test  
 Automatic Flash  
 External Start  
 Import DB/DT Save DB/DT  
 Controller: ASC3-1000

Fault Monitor (FM)   
 Voltage Monitor (CVM)   
 Flash Relay

Momentary  
 Momentary  
 Phase Omit  
 Ped Omit  
 Low Priority Preemptor Inputs

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Veh Det																		
Ped Det																		
Hold																		
Phase Omit																		
Ped Omit																		
Preempt																		

	R1	R2	R3	R4		C1	C2	C3	C4
Inhibit Max					Min Recall				
Max 2					WRM				
Max 3					CNA 1				
Omit Red Clr					CNA 2				
Red Rest					StopTime All				
Ped Recycle					Spare				
Force Off					MCE				
Stop Time					Man Adv				
					Coord Free				

CMD HDW 1 - RUN HDW 1

RECORDING seconds: 25  
 Pause Memo  
 Turbo:  x1  x5  x10

Exit Mapping HW I/O SDLC ECIPIP  
 Coord Diamond



# Converting to ASC3.CFG

## ASC/3 Configurator

- Select “ATC” for Controller Type
- Review instructions and click “Yes”

I/O Mode	Conn	HIB/HOB Name	Base DB	Current DB
1,	B-out,	B-e *Phase 4 On	TBC AUXILIARY 2	FALSE LOGICAL 0
1,	B-out,	B-r Phase 3 Check	TBC AUXILIARY 3	FALSE LOGICAL 0
1,	B-out,	B-s Phase 3 On	TBC AUXILIARY 1	FALSE LOGICAL 0
1,	B-In,	B-R *Phase 3 Omit	SPL BIT 1 - TP C	TIMING PLAN BIT C
1,	B-In,	B-q *Phase 4 Omit	SPL BIT 2 - TP D	NOT ASSIGNED OFF
1,	B-In,	B-3 *Phase 3 Ped Omit	CYC BIT 1 - TP A	TIMING PLAN BIT A
1,	B-In,	B-x *Phase 4 Ped Omit	CYC BIT 2 - TP B	TIMING PLAN BIT B
2,	B-out,	B-e *Phase 4 On	TBC AUXILIARY 2	FALSE LOGICAL 0
2,	B-out,	B-r Phase 3 Check	TBC AUXILIARY 3	FALSE LOGICAL 0
2,	B-out,	B-s Phase 3 On	TBC AUXILIARY 1	FALSE LOGICAL 0
NA,	BIUS,	6a Out 5 -----	TLM SPEC FUNC 1	TLM SPEC FUNC 2

Changing Controller Type With Similar I/O Connector

You are changing the DB to a new controller type with potentially different IO mapping.  
 YES: If you want to retain the I/O mapping and accept responsibility  
 NO: If you want to reset to default IO mapping  
 CANCEL: to Abort

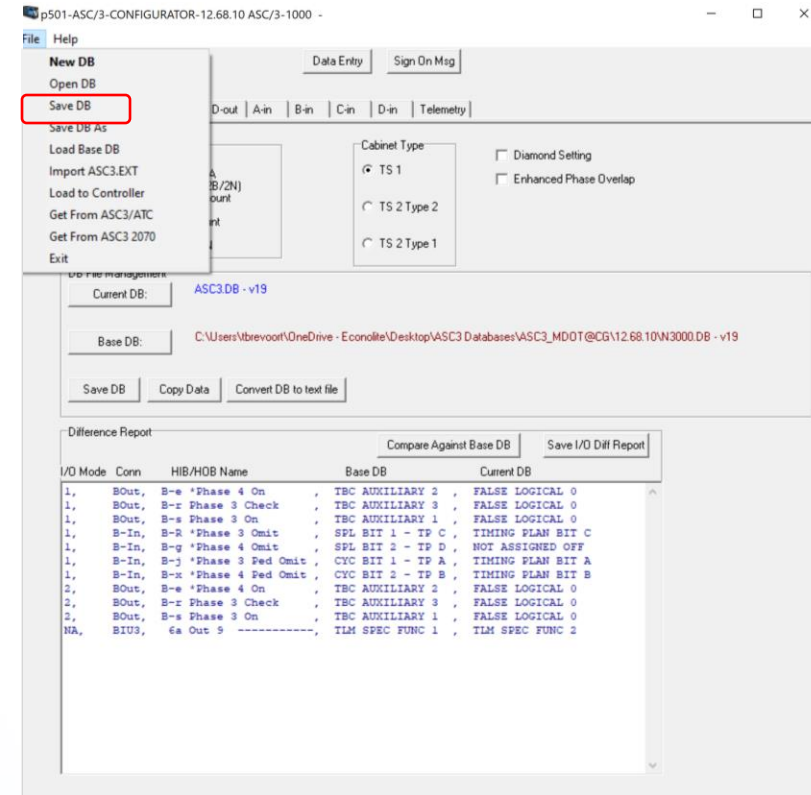




# Converting to ASC3.CFG

## ASC/3 Configurator

- Select File then “Save DB”
- Select “OK”



Save File Confirmation ×

Are you sure you want to save ASC3.DB?





# Converting to ASC3.CFG



12.68.10

- Now we have successfully converted the four asc3 files into a single 110 KB **ASC3.CFG**

Name	Type	Size
DefaultVIOTTrace	File	6,433 KB
ASC3.CFG	CFG File	110 KB
DBPrint-DFT	Text Document	1,316 KB
asc3	Data Base File	110 KB
asc3.dt	DT File	64 KB
ASC3.EXT	EXT File	1 KB
USERCFG	Data Base File	2 KB
A3000	Data Base File	110 KB
B3000	Data Base File	110 KB
L3000.CFG	CFG File	110 KB
N3000	Data Base File	110 KB
N3000.DT	DT File	64 KB
R3000	Data Base File	110 KB
ASC3Screens.defs	DEFS File	255 KB
ASC3Screens.text	TEXT File	78 KB
ASC3-Virtual_Controller-12.68.10-21460	Application	3,829 KB
ASC3Screens.help	HELP File	455 KB
ASC3Screens2.defsZ	DEFSZ File	74 KB
ASC3Screens.defsZ	DEFSZ File	80 KB
ASC3_Utility	Application	264 KB
ASC3_2070_Utility	Application	356 KB
ASC3Screens.textZ	TEXTZ File	27 KB
ASC3Screens2.textZ	TEXTZ File	25 KB

# Cobalt ASC/3-LX



**WinSCP** - Retrieve the ASC3.CFG  
from the controller over network



# Network Connectivity

## WinSCP

- Start “WinSCP”
- EBOS versions 06.15.00 and later
  - Select Secure File Transfer Protocol
- EBOS versions earlier than 06.15.00
  - Select File Transfer Protocol
- Enter the following fields:
  - “Host name” – Controller’s IP
  - “User name” – econolite
  - “Password” – ecpi2ecpi
- Click “Login”

Login

New Site

Session

File protocol: SFTP

Host name: 192.168.1.69 Port number: 22

User name: econolite Password: ●●●●●●

Save Advanced...

Tools Manage Login Close Help

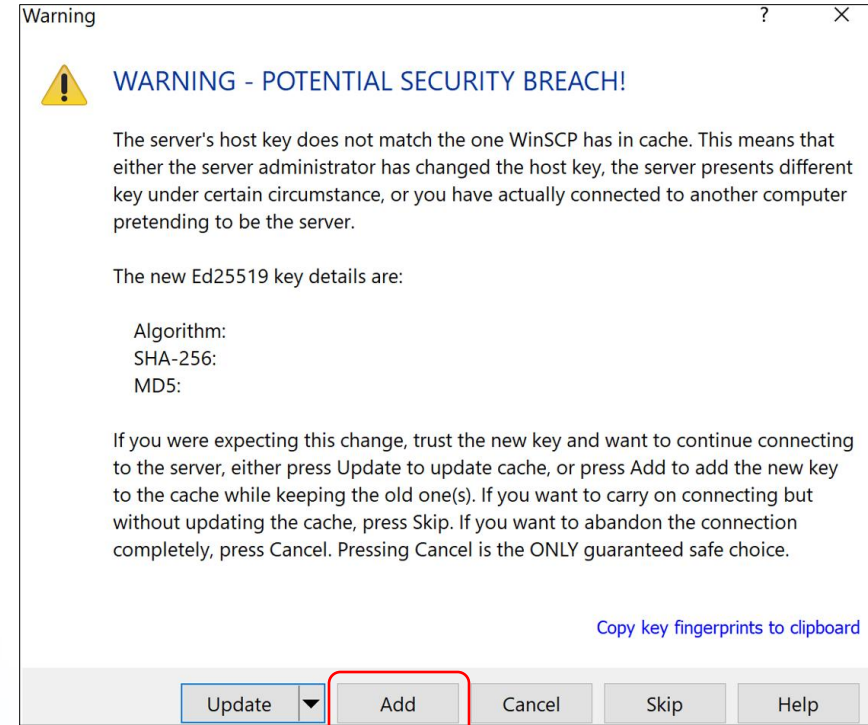
Show Login dialog on startup and when the last session is closed

# Network Connectivity

## WinSCP

- Connecting to a new controller
  - Add the host key to WinSCP's cache

ASC/3-LX





# Configuration Retrieval

## WinSCP

- Go to the intersection's ASC3 virtual controller folder
- Go to /opt/econolite/app1

Name	Size	Type	Name	Size	C...	Rights	Owner
..		Parent directory	..		7...	rw-rwxrwx	root
ASC3.CFG	110 KB	CFG File	html		7...	rw-rwxrwx	econolite
ASC3_2070_UTILITY.exe	356 KB	Application	ASC3.CFG	110 KB	7...	rw-r--r--	root
ASC3_UTILITY.exe	264 KB	Application	asc3app	1 KB	7...	rw-rwxrwx	root
ASC3Screens.defs	255 KB	DEFS File	asc3app-32.68.10	4,072 KB	7...	rw-r-xr-x	econolite
ASC3Screens.defsZ	80 KB	DEFSZ File	ASC3Screens.defs	255 KB	7...	rw-r--r--	root
ASC3Screens.help	455 KB	HELP File	ASC3Screens.help	455 KB	7...	rw-r--r--	root
ASC3Screens.text	78 KB	TEXT File	ASC3Screens.text	78 KB	7...	rw-r--r--	root
ASC3Screens.textZ	27 KB	TEXTZ File	ASC3Screens.text	78 KB	7...	rw-r--r--	root
ASC3Screens2.defsZ	74 KB	DEFSZ File	L3000.CFG	110 KB	7...	rw-r--r--	root
ASC3Screens2.textZ	25 KB	TEXTZ File					
ASC3-Virtual_Controller...	3,829 KB	Application					

Desktop

Controller



# Configuration Retrieval

## WinSCP

- Locate the 110 KB **ASC3.CFG** in the controller's "app1" directory
- Drag and drop into the ASC3 Virtual Controller folder

12.68.10 - econolite@192.168.1.69 - WinSCP

Local Mark Files Commands Session Options Remote Help

Synchronize Queue Transfer Settings Default

econolite@192.168.1.69 X New Session

C:\...\Desktop\ASC3 Databases\ASC3\_TB2@TB2\12.68.10\

Name	Size	Type
..		Parent directory
ASC3.CFG	110 KB	CFG File
ASC3_2070_Utility.exe	356 KB	Application
ASC3_Utility.exe	264 KB	Application
ASC3Screens.defs	255 KB	DEFS File
ASC3Screens.defsZ	80 KB	DEFSZ File
ASC3Screens.help	455 KB	HELP File
ASC3Screens.text	78 KB	TEXT File
ASC3Screens.textZ	27 KB	TEXTZ File
ASC3Screens2.defsZ	74 KB	DEFSZ File
ASC3Screens2.textZ	25 KB	TEXTZ File
ASC3-Virtual_Controlle...	3,829 KB	Application

/opt/econolite/app1/

Name	Size	C...	Rights	Owner
..		7...	rwxrwxrwx	root
html		7...	rwxrwxrwx	econolite
ASC3.CFG	110 KB	7...	rw-r--r--	root
asc3app	1 KB	7...	rwxrwxrwx	root
asc3app-32.68.10	4,072 KB	7...	rwxr-xr-x	econolite
ASC3Screens.defs	255 KB	7...	rw-r--r--	root
ASC3Screens.help	455 KB	7...	rw-r--r--	root
ASC3Screens.text	78 KB	7...	rw-r--r--	root
L3000.CFG	110 KB	7...	rw-r--r--	root

Desktop

Controller



**ASC/3 Utility** - Upload the controller database files over the network

**WinSCP** - Retrieve the ASC3.CFG from the controller over network

**ASC/3 Virtual Controller** - Convert .db, .dt, .ext, usercfg files into one ASC3.CFG file

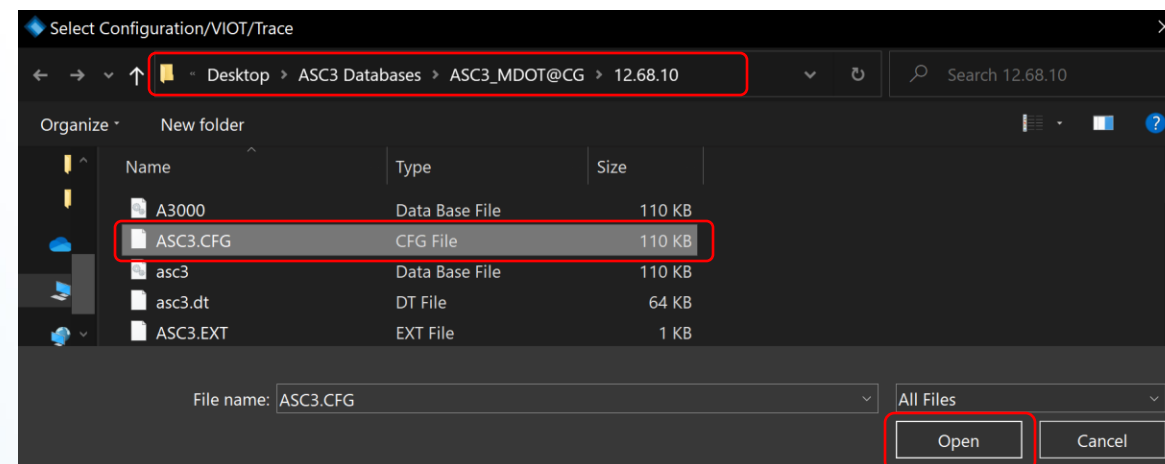
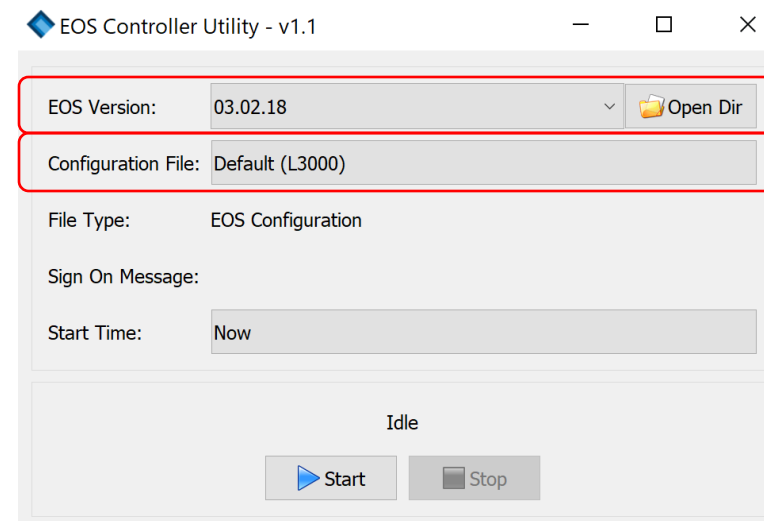
**EOS Controller Utility** - Convert the ASC3.CFG to EOS.CFG



# ECU Setup

## EOS Controller Utility – v1.1

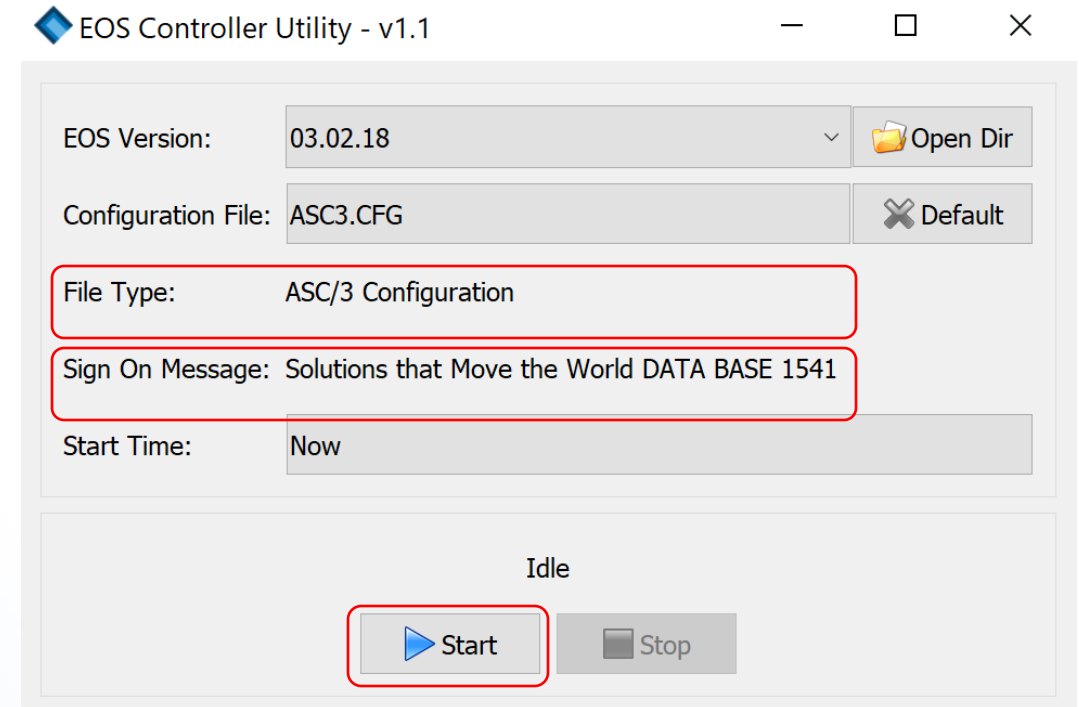
- Select an EOS Version
  - Select the version you will be running in the field
- Select “Configuration File”
  - Browse to the intersection’s ASC3 Virtual Controller folder from earlier
  - Select the 110 KB **ASC3.CFG**



# ECU Setup

## EOS Controller Utility – v1.1

- File Type
  - “ASC/3 Configuration” will be displayed if proper ASC3.CFG is chosen
- Sign On Message
  - Commonly renamed to be the intersection name or agency
- Click “Start”



# Converting to EOS.CFG

## EOS Controller Utility – v1.1

- Report
- EOS VC web front panel

**ecu** ✕

Converting eos.CFG  
 Converting controller type to cabinet type...  
 TS2-1  
 Converting load switch source and type...

**WARNING: Dimming was enabled, but is not yet supported in Eos**

**WARNING: LOAD SWITCH POWER UP FLASH COLOR is deprecated in Eos**

Importing ASC3 TF Rack mappings  
 Default ASC3 mappings differ from EOS mappings. Import will impose ASC3 mappings.  
**WARNING: Auto detection is deprecated, proper configuration might be required.**  
 Conversion complete

The screenshot displays the EOS Controller Utility web interface. At the top, it shows the company name 'ECONOLITE CONTROL PRODUCTS, INC.', model 'EOS-1000', and copyright 'Copyright (c) 2020'. It also displays 'Solutions that Move the World DATA BASE 1541' and 'SOFTWARE VERSION 03.02.18'. The configuration is for 'STATE OF MI L3580' and is in 'COLD START' mode. A progress bar shows steps: Step, Slow, Real, Fast, Turbo, Sync. The interface includes a navigation keypad with buttons for Sub Menu, Main Menu, and a numeric keypad (1-9, 0+). Configuration sections include:
 

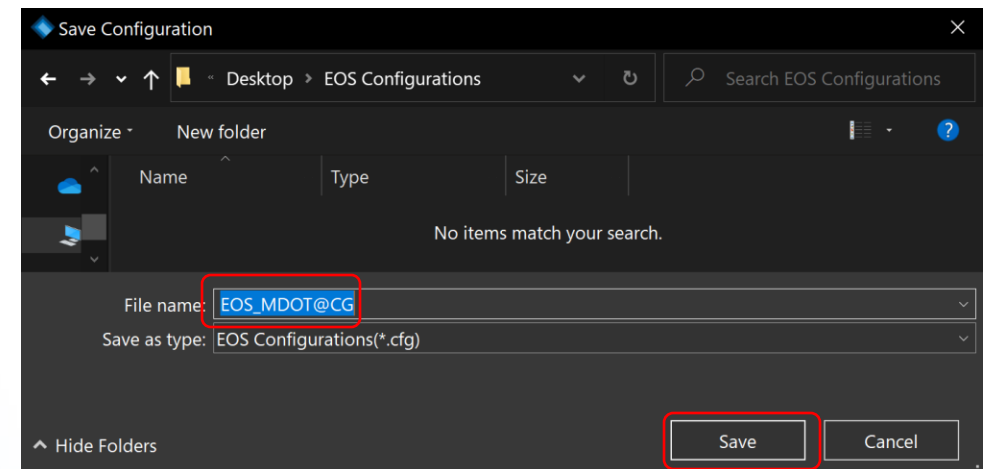
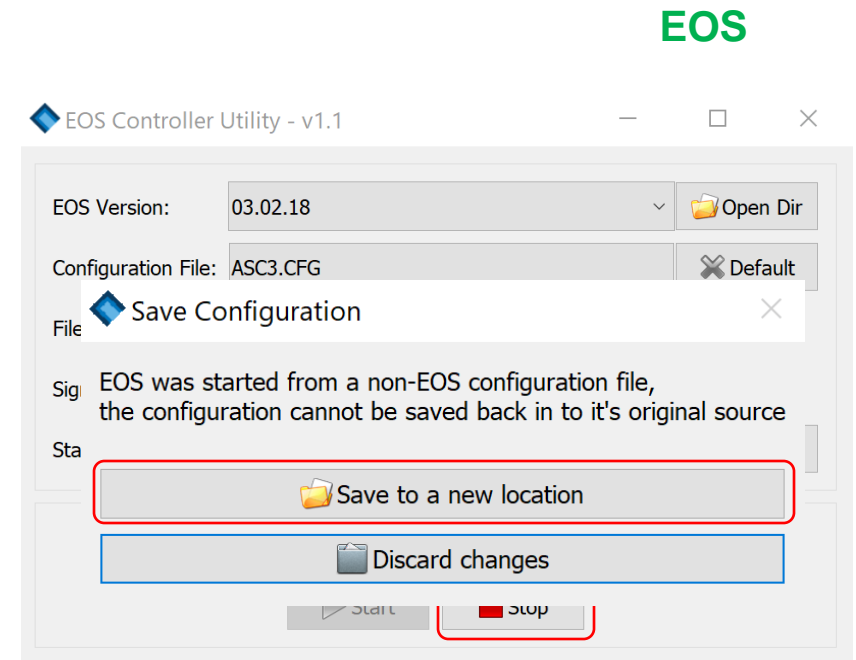
- Phase Output**: A row of 16 buttons for channels 1-16.
- Channel Output**: A grid for channels 1-16 with Red, Yellow, and Green indicators. Channel 1 is Red, channel 5 is Green.
- Coordination Dial**: A section for Detector Input with a 4x4 grid of buttons (1-16).
- Vehicle**: A 4x4 grid of buttons (17-48).
- Pedestrian**: A 1x16 row of buttons (1-16).
- Unit Control Override**: Buttons for Min Recall, WRM, CNA1, CNA2, Stop Time, MCE, Manual Advance, Coord Free, and External Start.
- Ring Control**: A grid for Inhibit Max (1-4), Max 2 (1-4), Max 3 (1-4), and Omit Red Clear (1-4), along with Red Rest (1-4), Ped Recycle (1-4), Force-Off (1-4), and Stop Time (1-4).

 The bottom of the screen features the 'ECONOLITE' logo and the text 'Copyright © 2020 Econolite. All rights reserved.'

# Converting to EOS.CFG

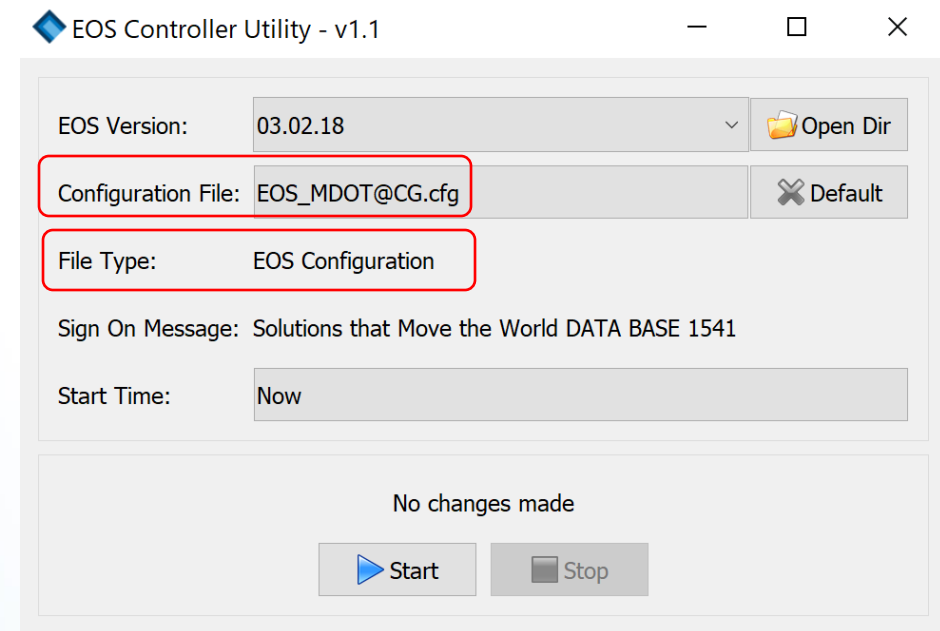
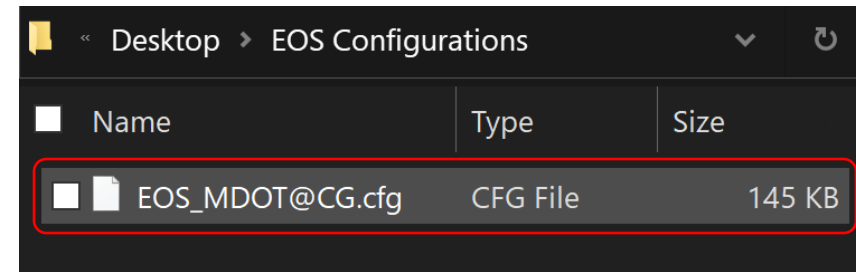
## EOS Controller Utility – v1.1

- Click “Stop”
  - Select “Save to a new location”
  - Browse to the “EOS Configurations” folder on Desktop
  - Name the file “EOS\_*intersection\_name*”
  - Click “Save”



# EOS.CFG

- Now in the “EOS Configurations” folder
  - 145 KB EOS Configuration file
- Now in the ECU
  - Renamed .cfg
  - File Type is “EOS Configuration”.
- Linux-based Engine Board Only
- Not ASC/3 backwards compatible



# Summary

- Collect VxWorks database set through ASC/3 Utility
- Modify and save ASC/3 Configurator to generate ASC3 Configuration
- Retrieve ASC3 Configuration through WinSCP
- Convert to EOS Configuration and generate RPT through ECU

# Live Demo