

# **CANbus Termination**

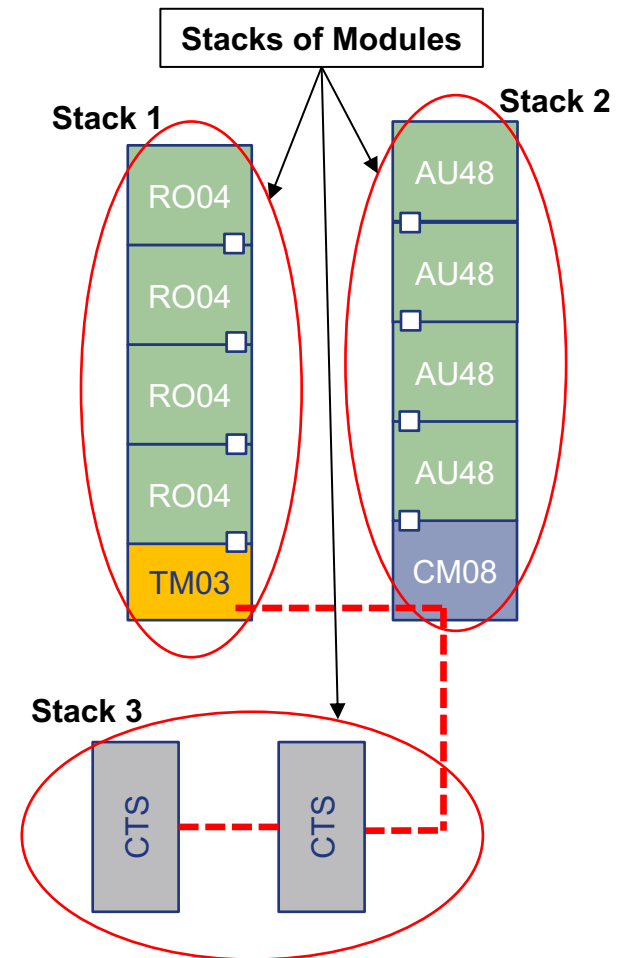
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# CANbus Termination

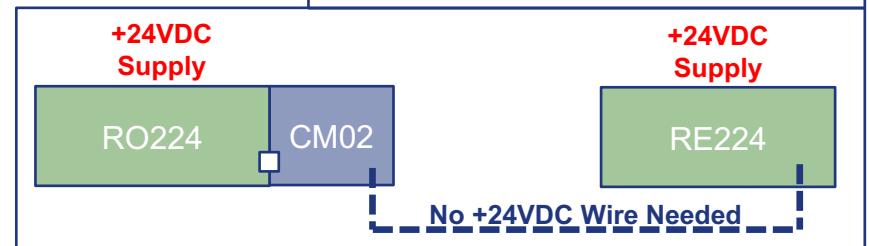
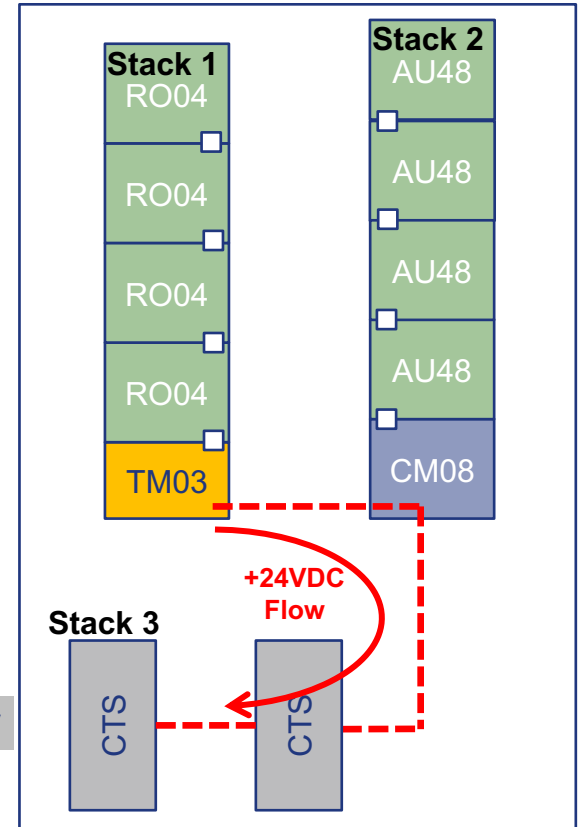
## Definitions

- CANbus is the communication protocol for all BRT pluggable modules and stations.
- The layout of the CANbus network is a daisy chain style that may have “stacks” of modules at the intersections.
- A stack is a section of pluggable modules connected in a single line.
- Certain panel layouts may not have a stack at intersections.
- A single run of CTS stations is considered a stack.
- Intersections may only have 2 runs connected to it.
- Intersections with 3 runs (T-Taps) will not allow the network to function properly.



# CANbus Termination Definitions

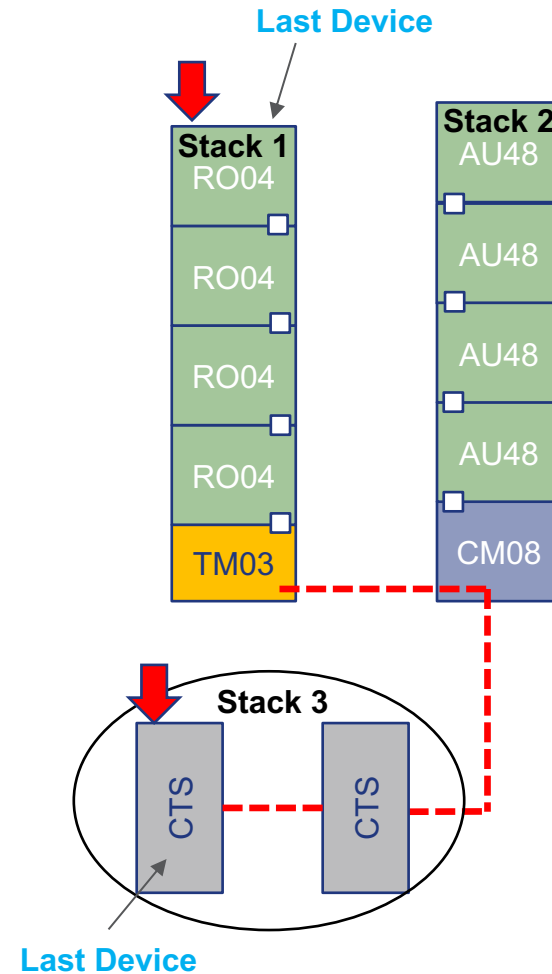
- CANbus wiring comes in 3 forms:
  1. Pluggable modules 4 pin connectors (□)
    - Used when stacking I/O modules & CM's
  2. 4-wire jumping between stacks/panels/CTS's (-----)
    - Used when devices need to be powered
    - Wires are Ground, +24VDC, CANH, & CANL
  3. 3-wire jumping between stacks/panels (-----)
    - Necessary when the stacks at both ends of the wiring are powered by either a TM01 or TM03.
    - Wires are Ground, CAN-H, & CAN-L
- For detailed wiring diagrams, see our drawings on our website, [www.brtint.com](http://www.brtint.com) under Controls>CP>Supporting documents



# CANbus Termination

## Definitions

- “Termination” is defined as establishing end-of-line resistance for the CANbus network. It is essential for the network to function reliably.
- Termination points (↓) are located at the **first and last modules or stacks**.
- Generally, **there are only 2 termination points per CANbus network**.
- Stacks are terminated at the farthest module from the daisy chain intersection. **Middle stacks do not need to be terminated**.
- The points will vary based upon the layout of your network. The examples in the following slides will demonstrate that.



# CANbus Termination Definitions

- Pluggable I/O modules are terminated using the included jumpers.
- CM modules are terminated by turning on dip switch #5.
- CTS stations are terminated by turning on dip switch #8.
- Termination Modules do not need to be terminated.

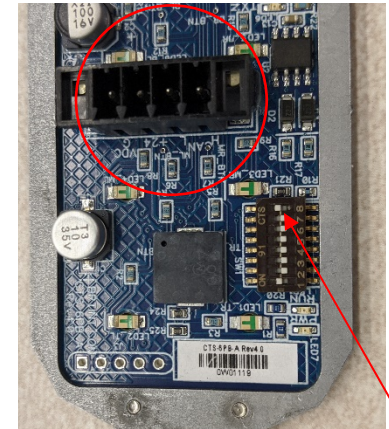


Photo of the back of CTS Station With CANbus terminal and termination Dip switch #8

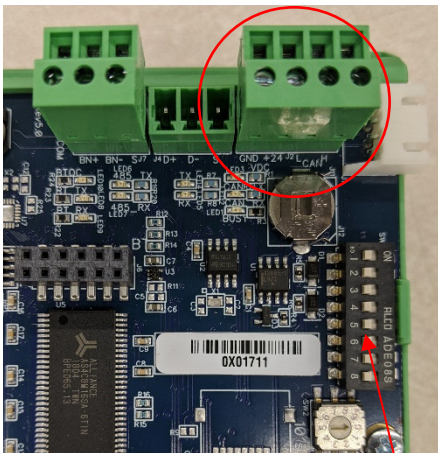


Photo of CM with CANbus Terminal and termination Dip switch #5

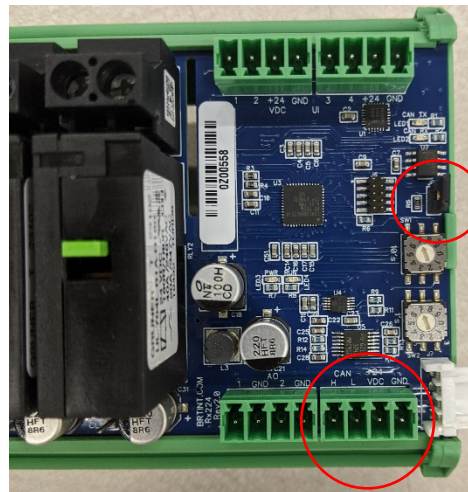
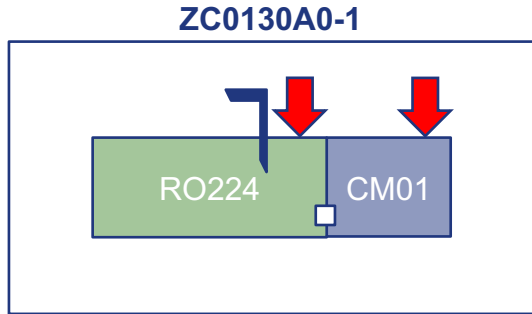


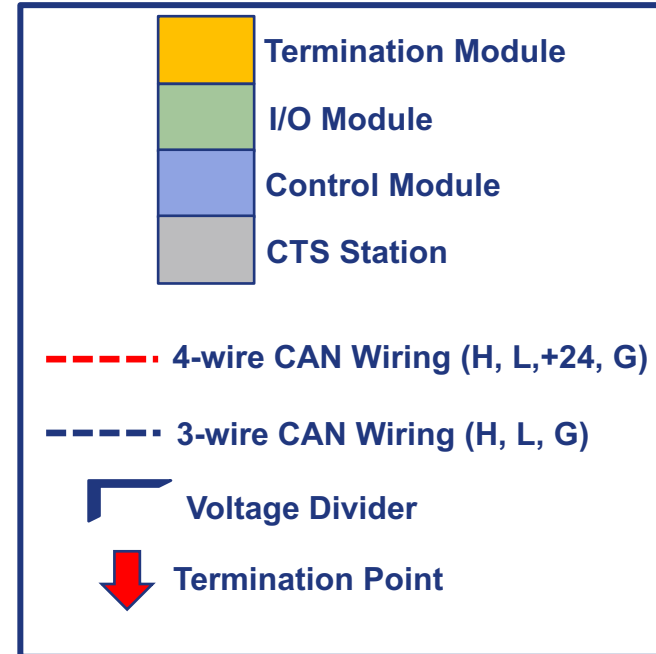
Photo of RO224 with CANbus Terminal and termination Jumper 'JP1'



Photo of TM02 with CANbus Terminal

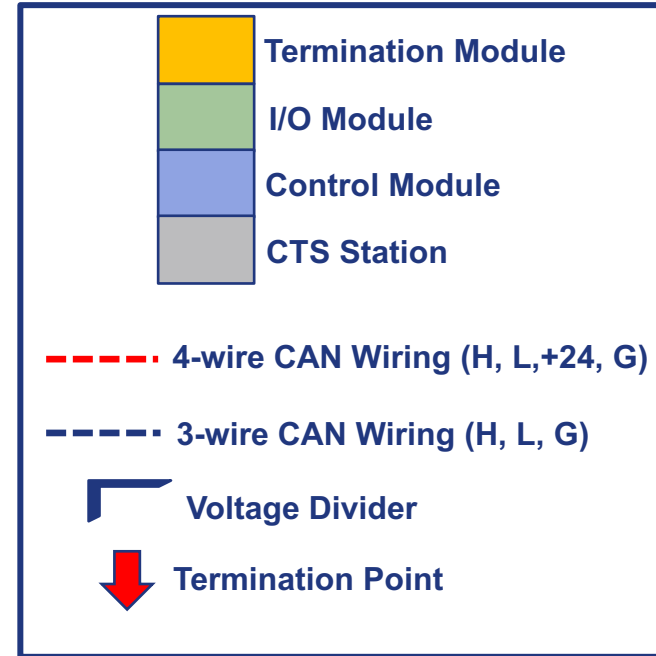
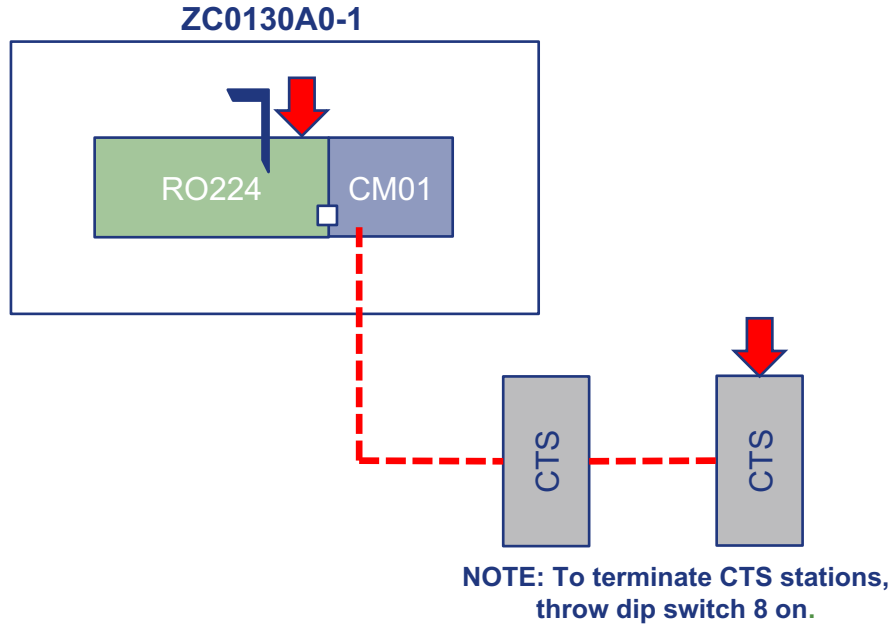


NOTE: To terminate CM Modules,  
throw dip switch 5 on.



# CANbus Termination

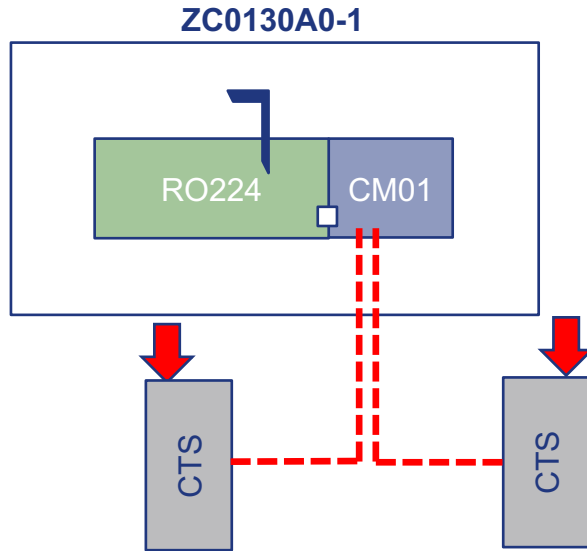
## ZC w/CTS



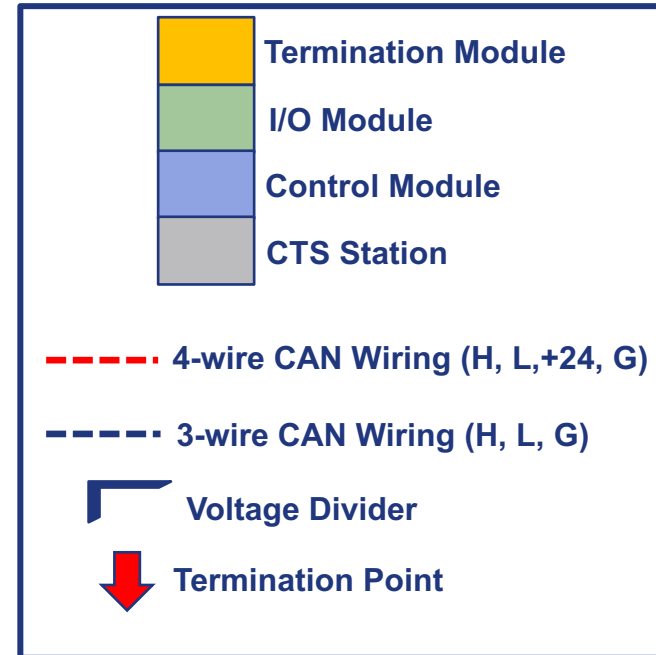


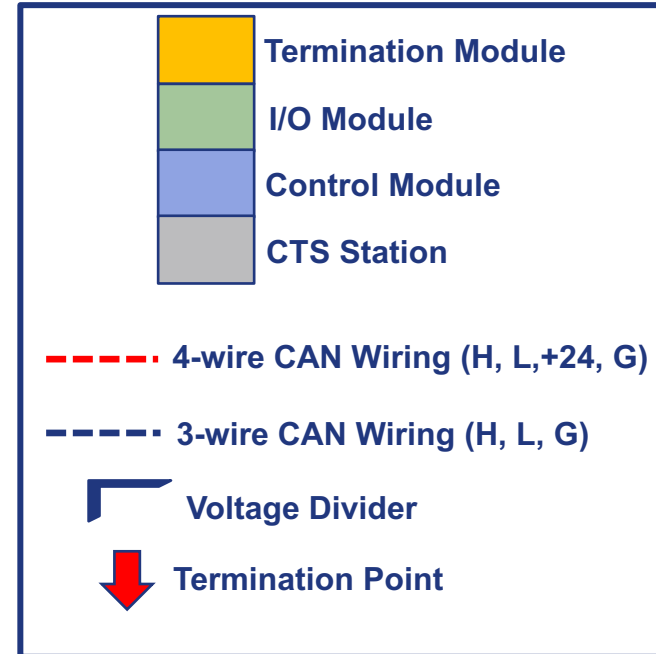
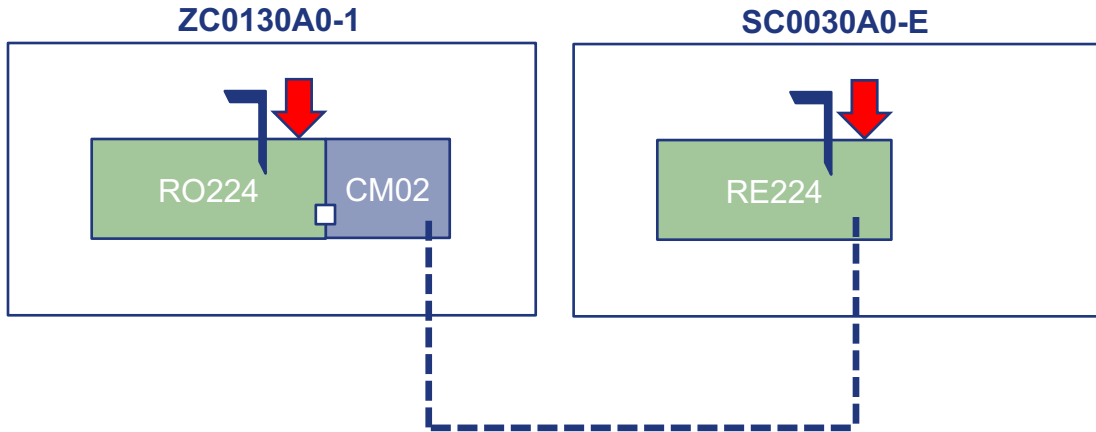
# CANbus Termination

## ZC w/CTS



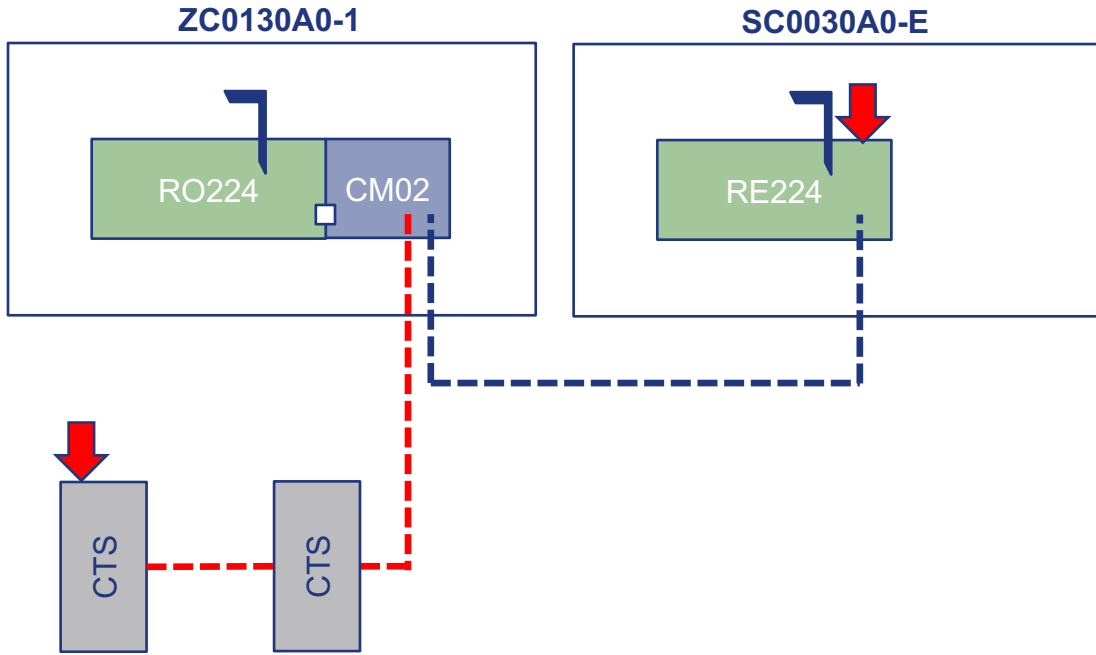
**NOTE:** To terminate CTS stations, throw dip switch 8 on.



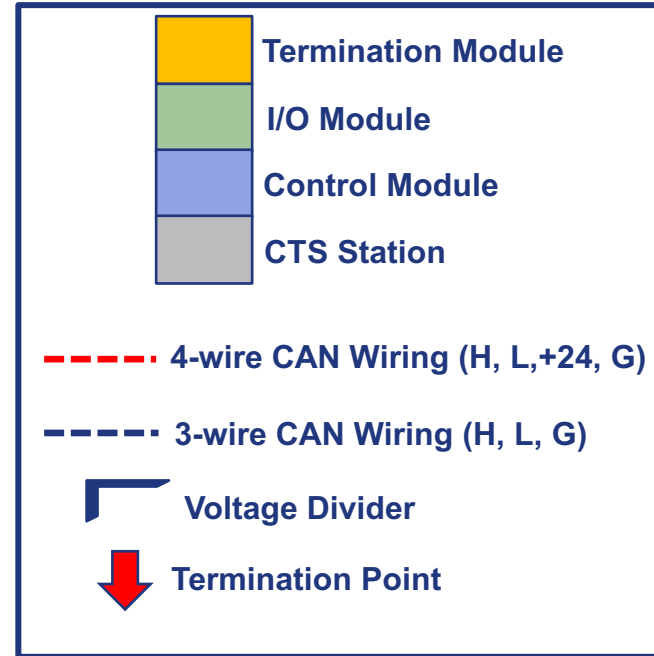


# CANbus Termination

## ZC/SC w/CTS

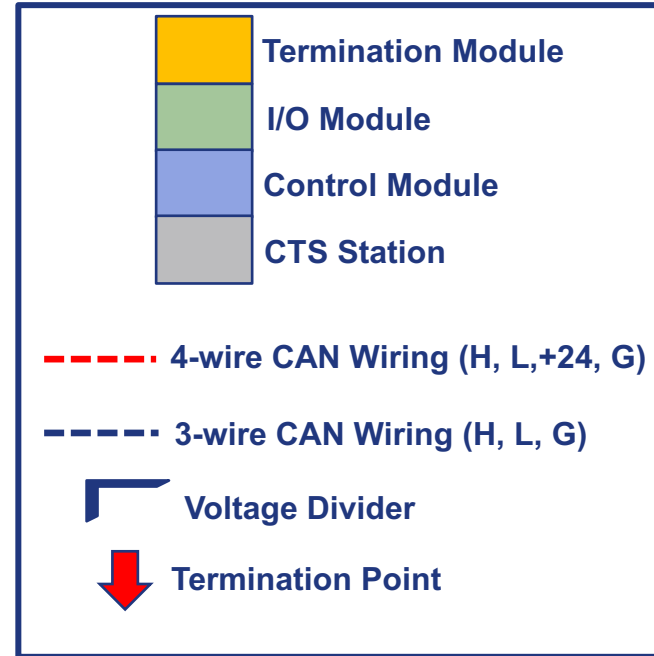
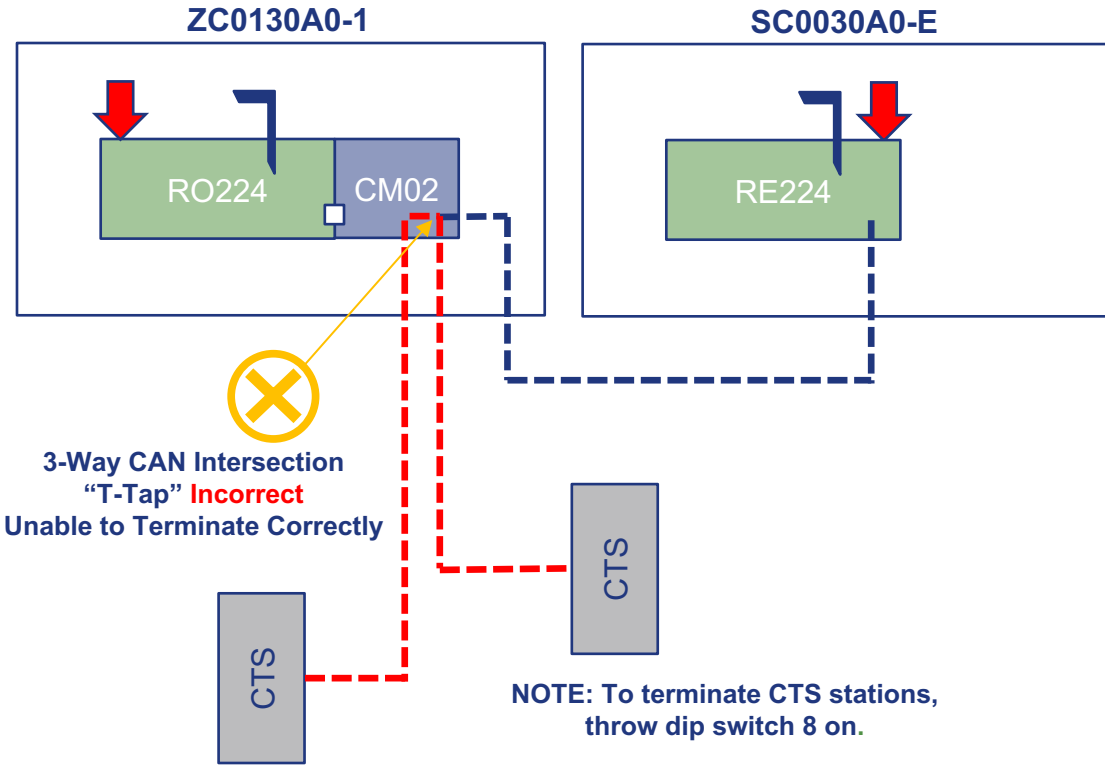


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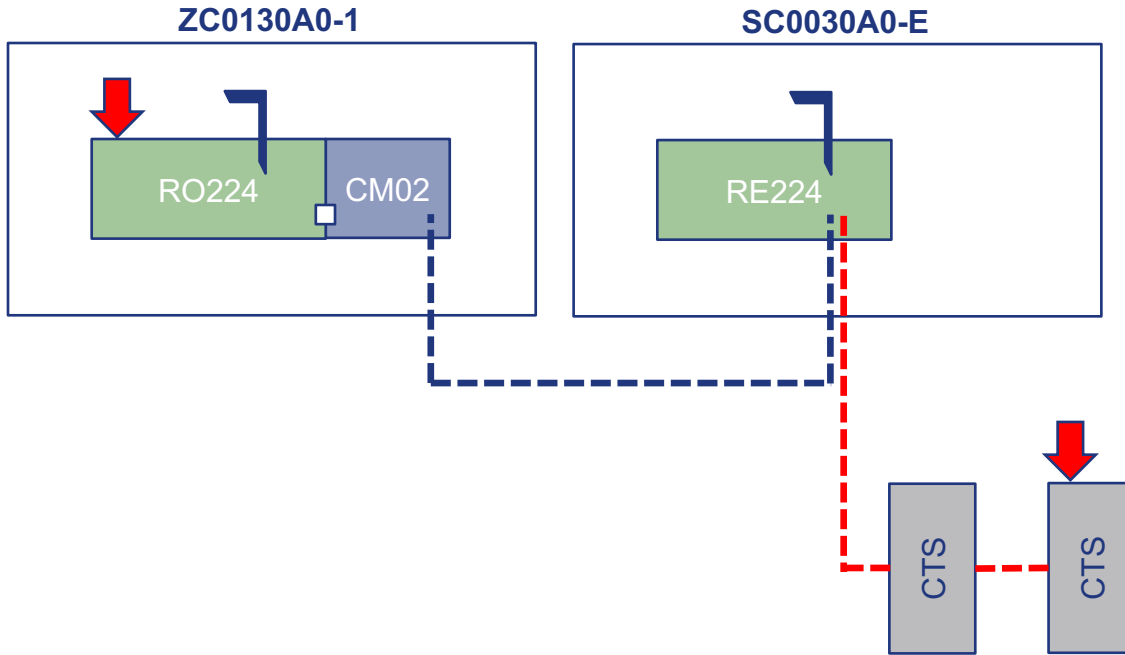
# CANbus Termination



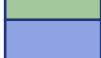

## ZC/SC w/CTS







# CANbus Termination

## ZC/SC w/CTS

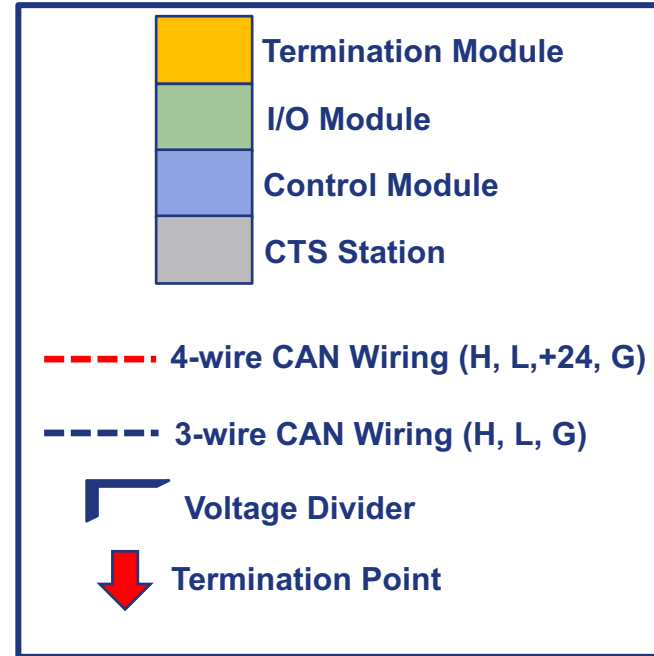
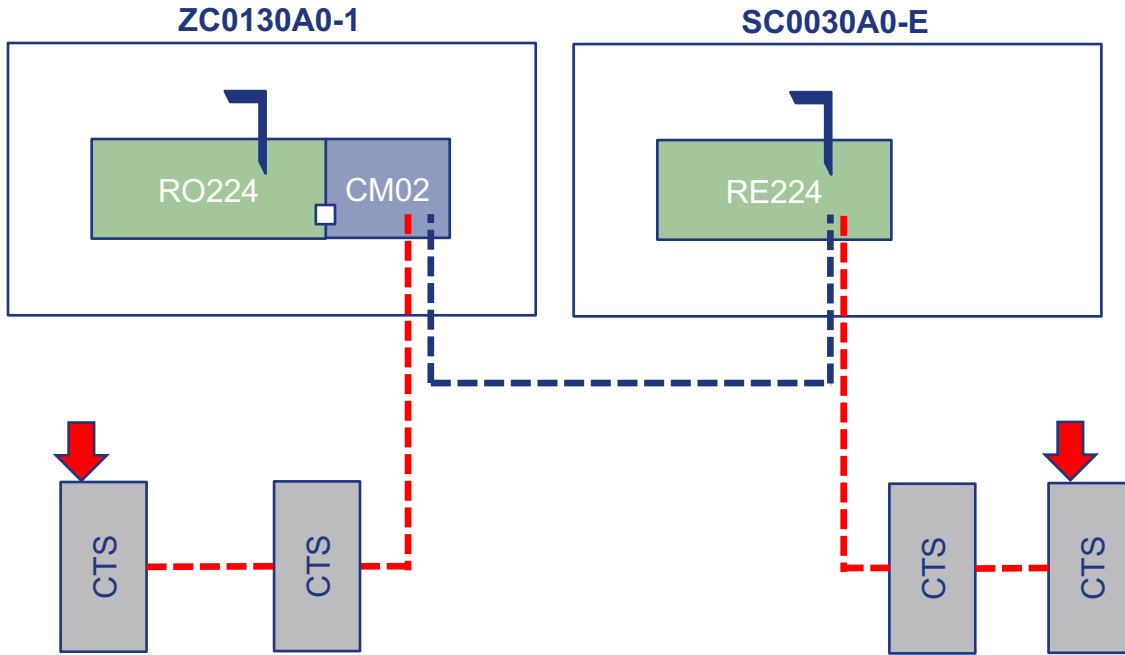


	Termination Module
	I/O Module
	Control Module
	CTS Station

 4-wire CAN Wiring (H, L,+24, G)  
 3-wire CAN Wiring (H, L, G)  
 Voltage Divider  
 Termination Point

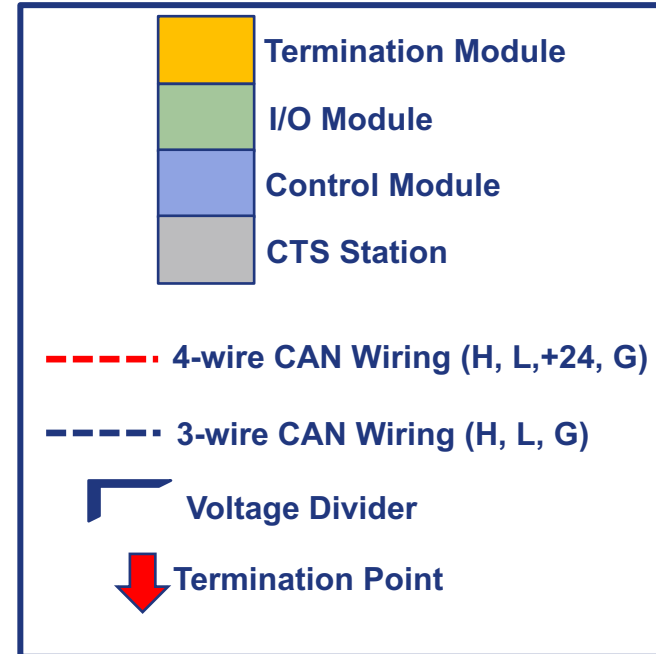
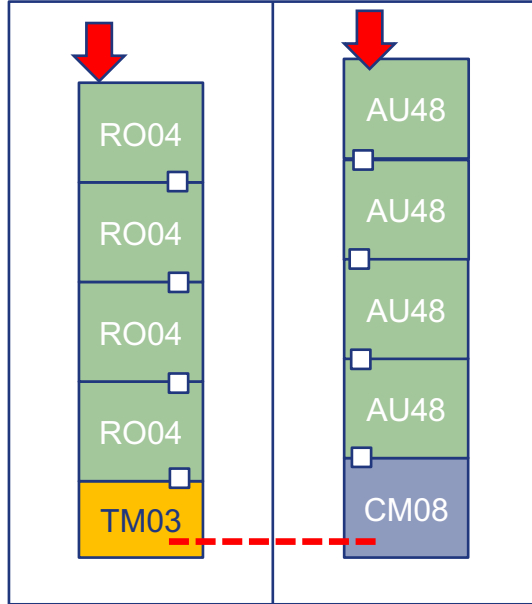
# CANbus Termination

## ZC/SC w/CTS



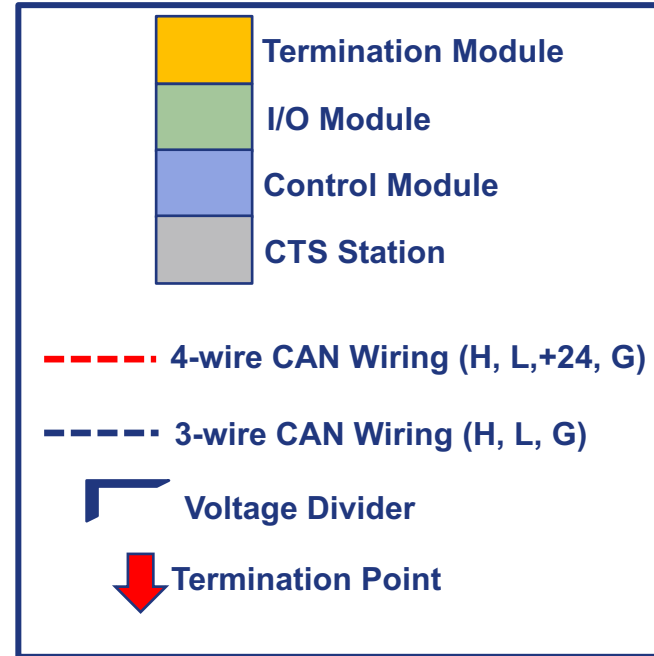
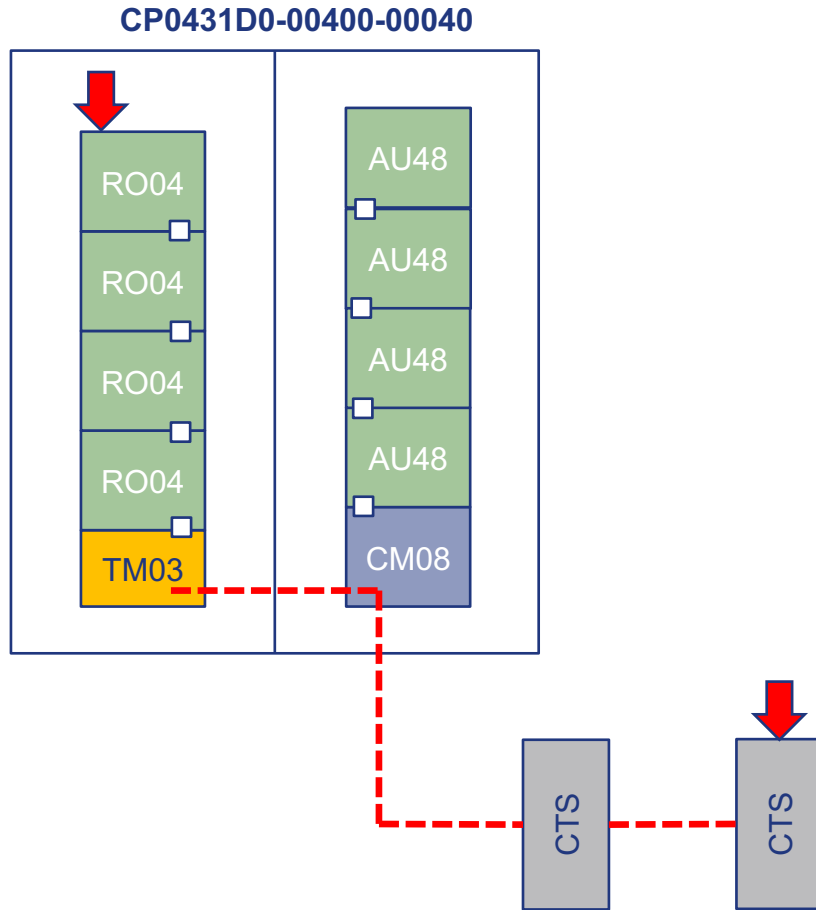
**NOTE:** To terminate CTS stations, throw dip switch 8 on.

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# CANbus Termination

## CP w/CTS

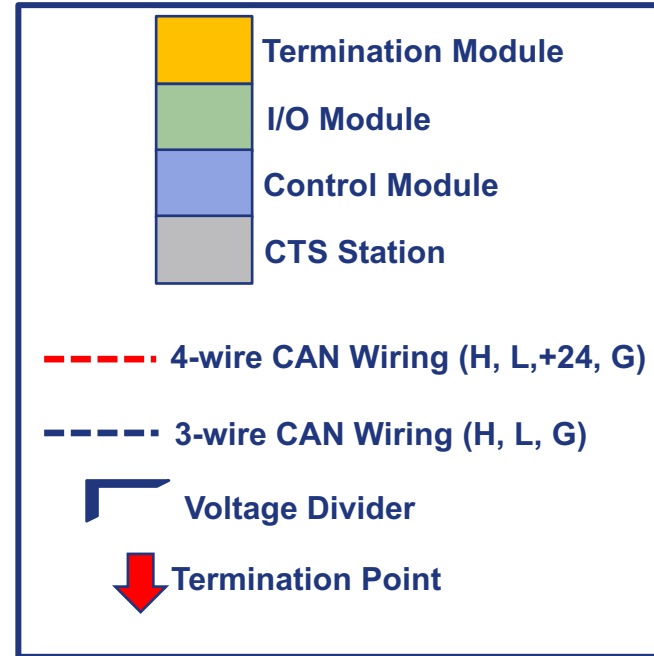
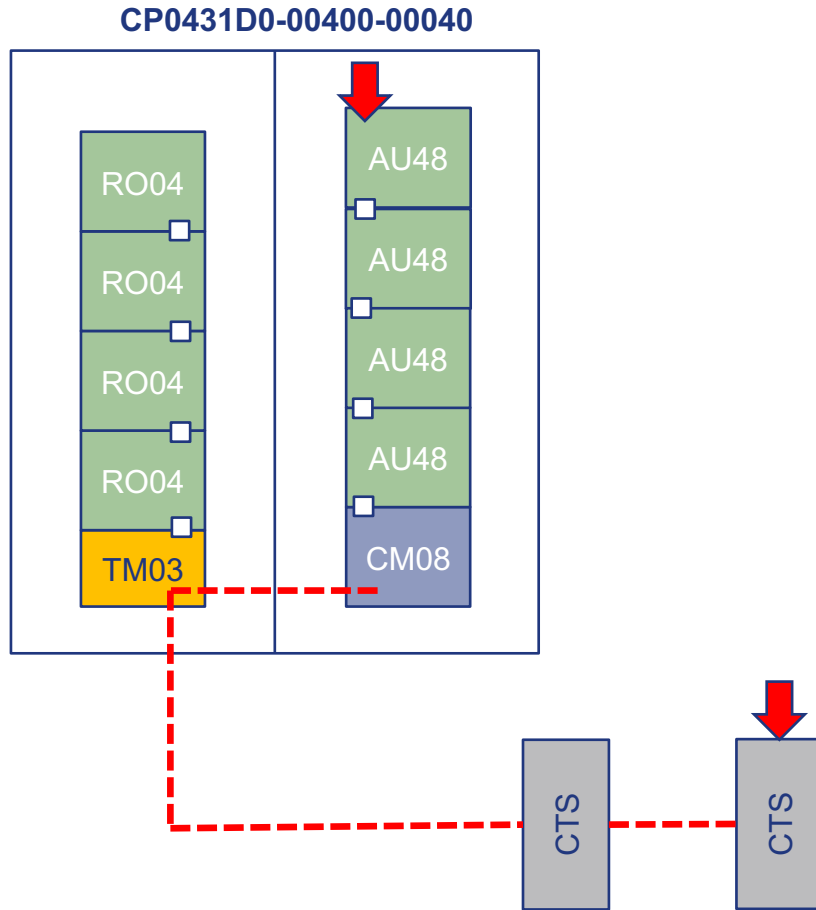


**NOTE: To terminate CTS stations,  
 throw dip switch 8 on.**



# CANbus Termination

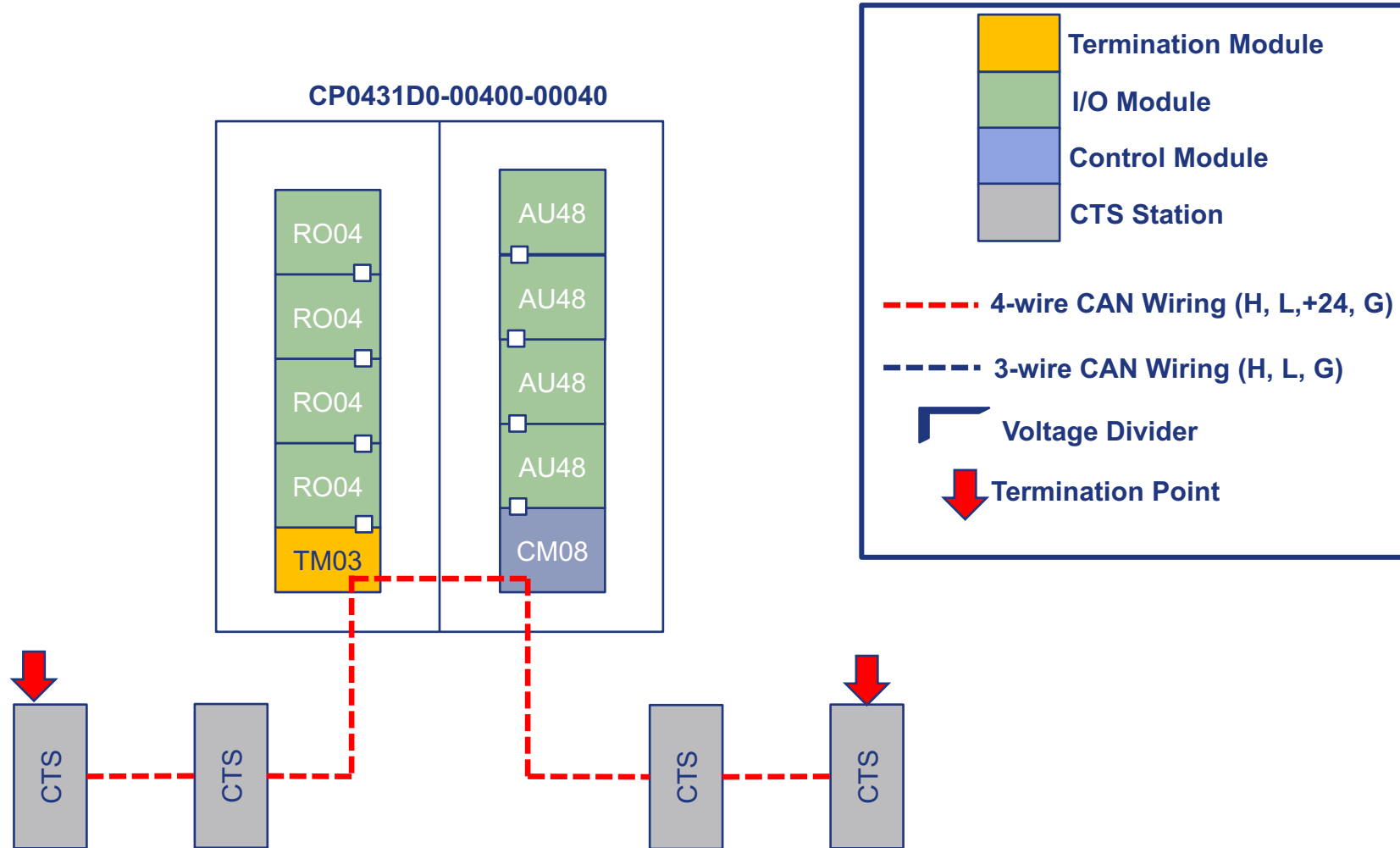
## CP w/CTS



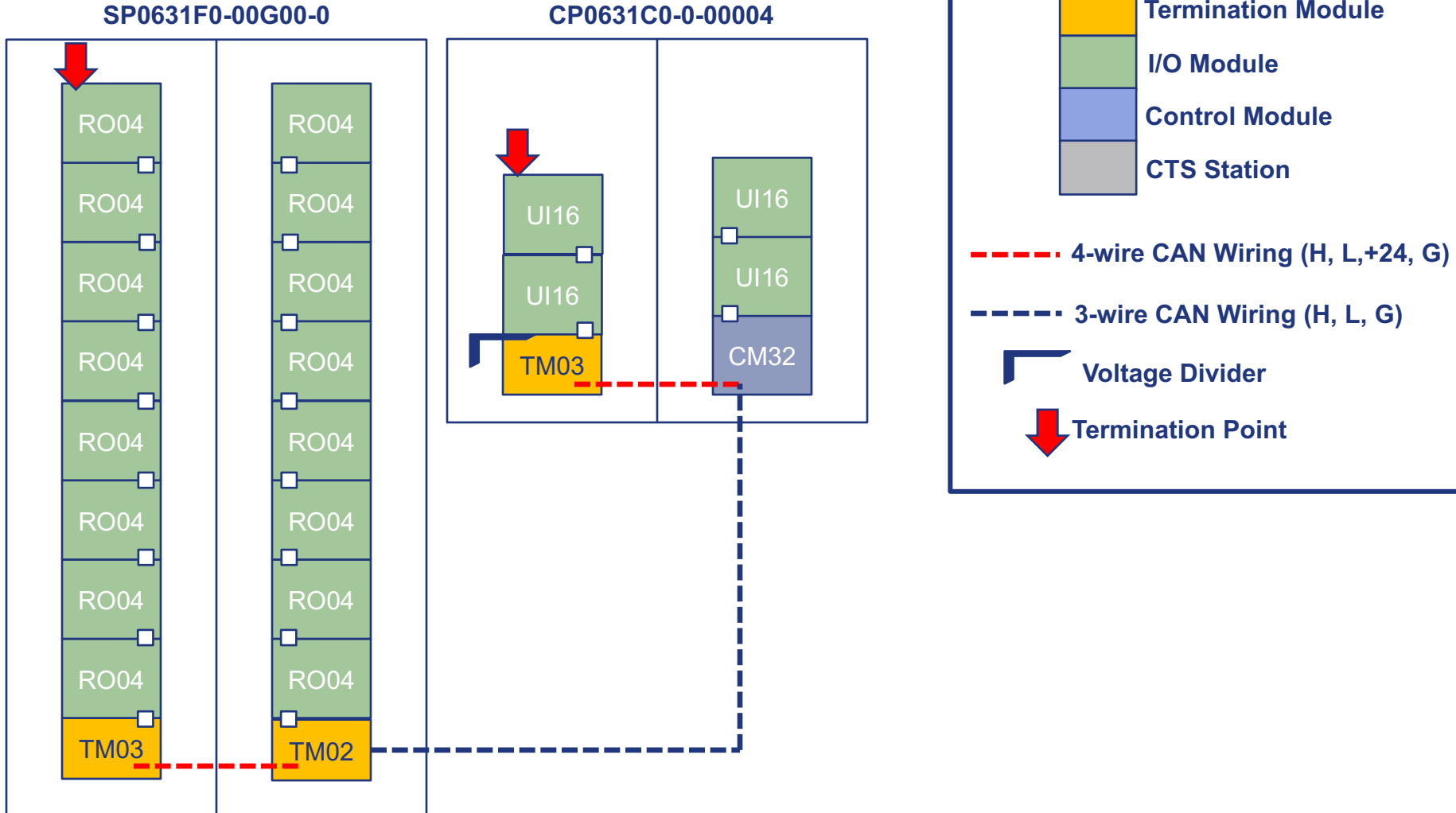
**NOTE: To terminate CTS stations, throw dip switch 8 on.**

# CANbus Termination

## CP w/CTS

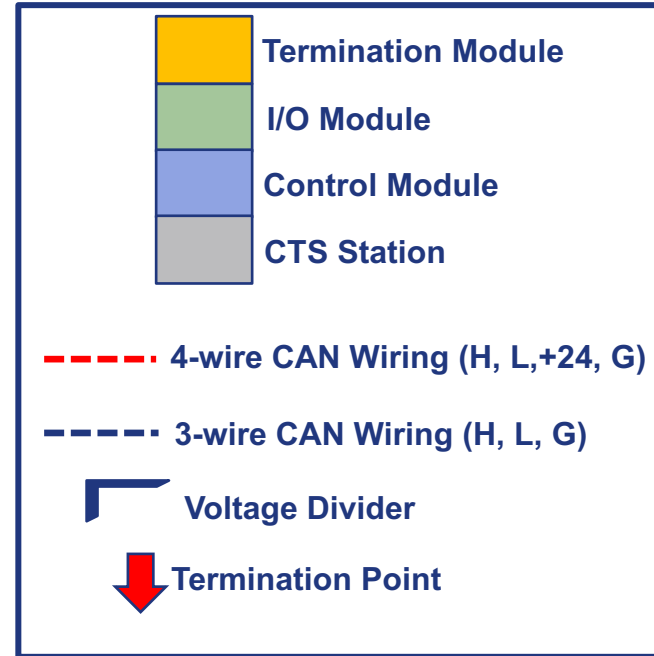
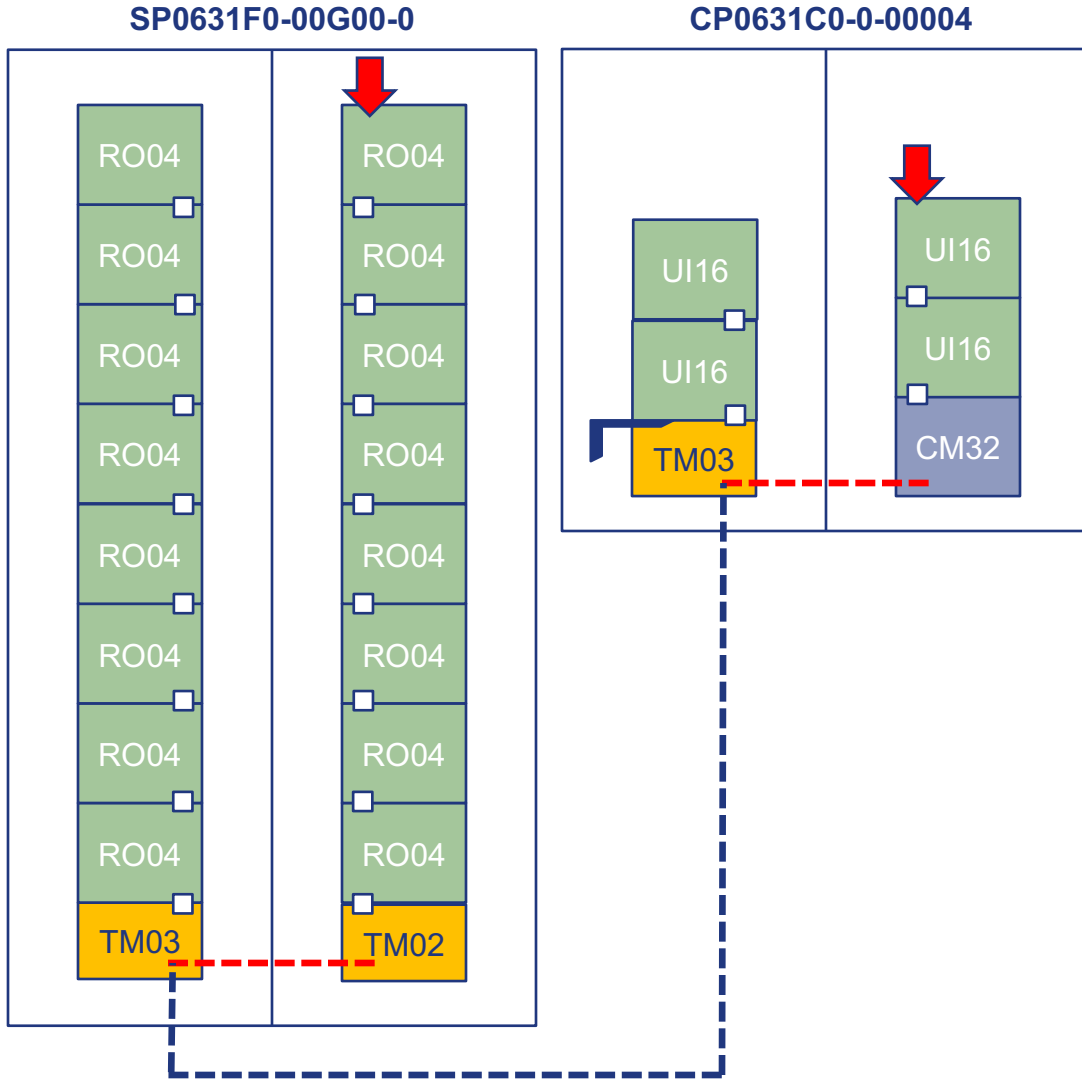


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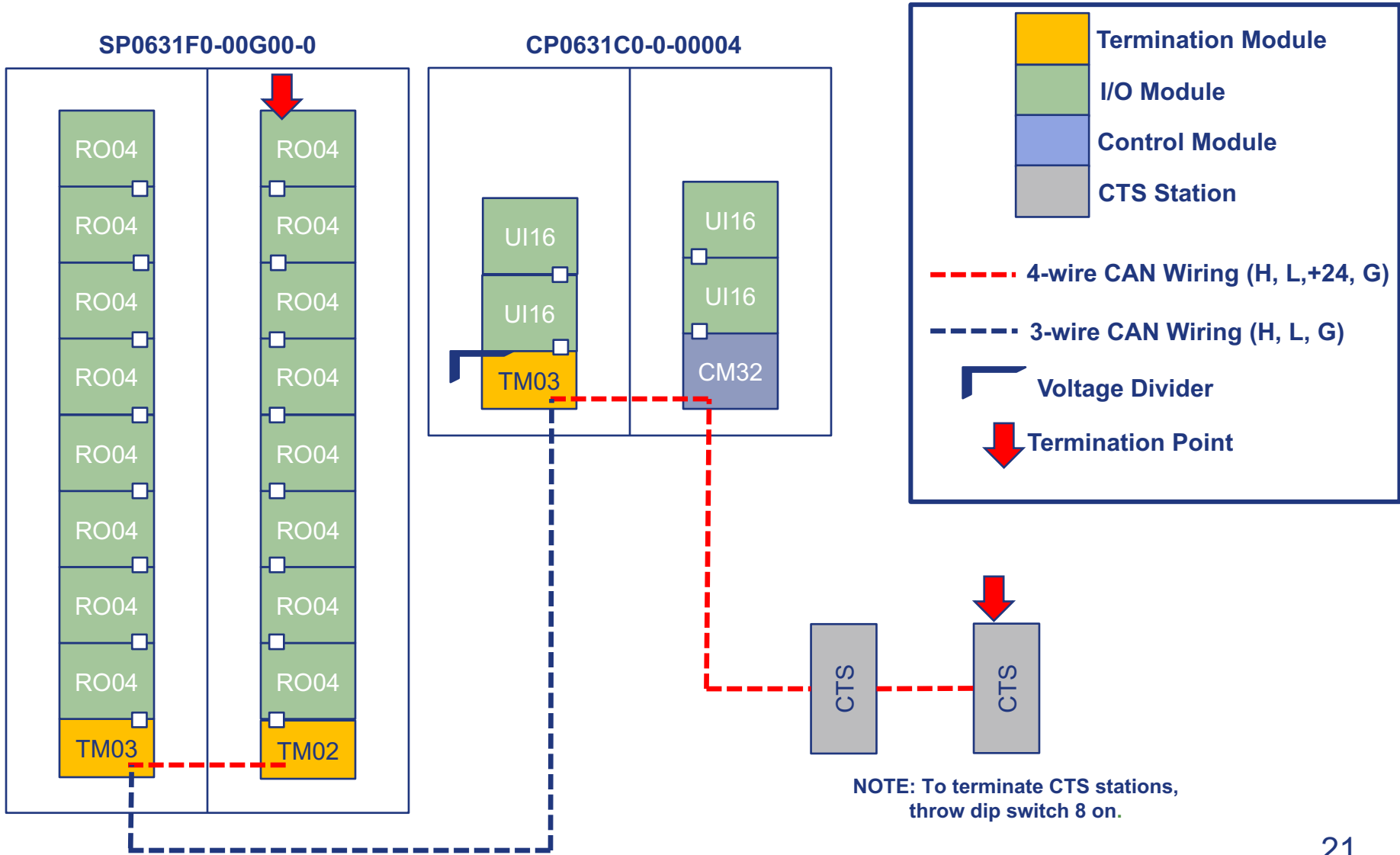
# CANbus Termination

## CP/SP



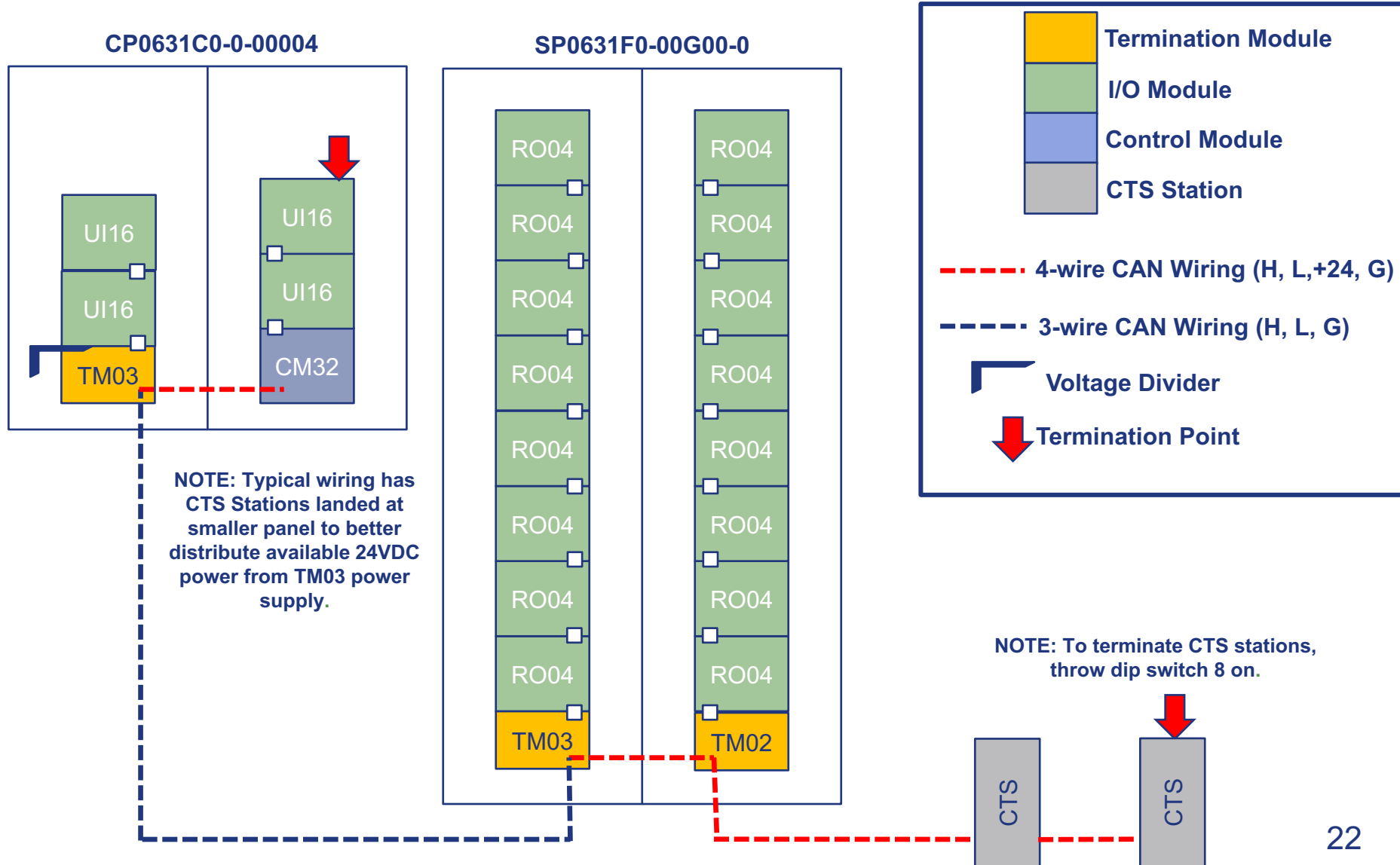
# CANbus Termination

## CP/SP w/CTS



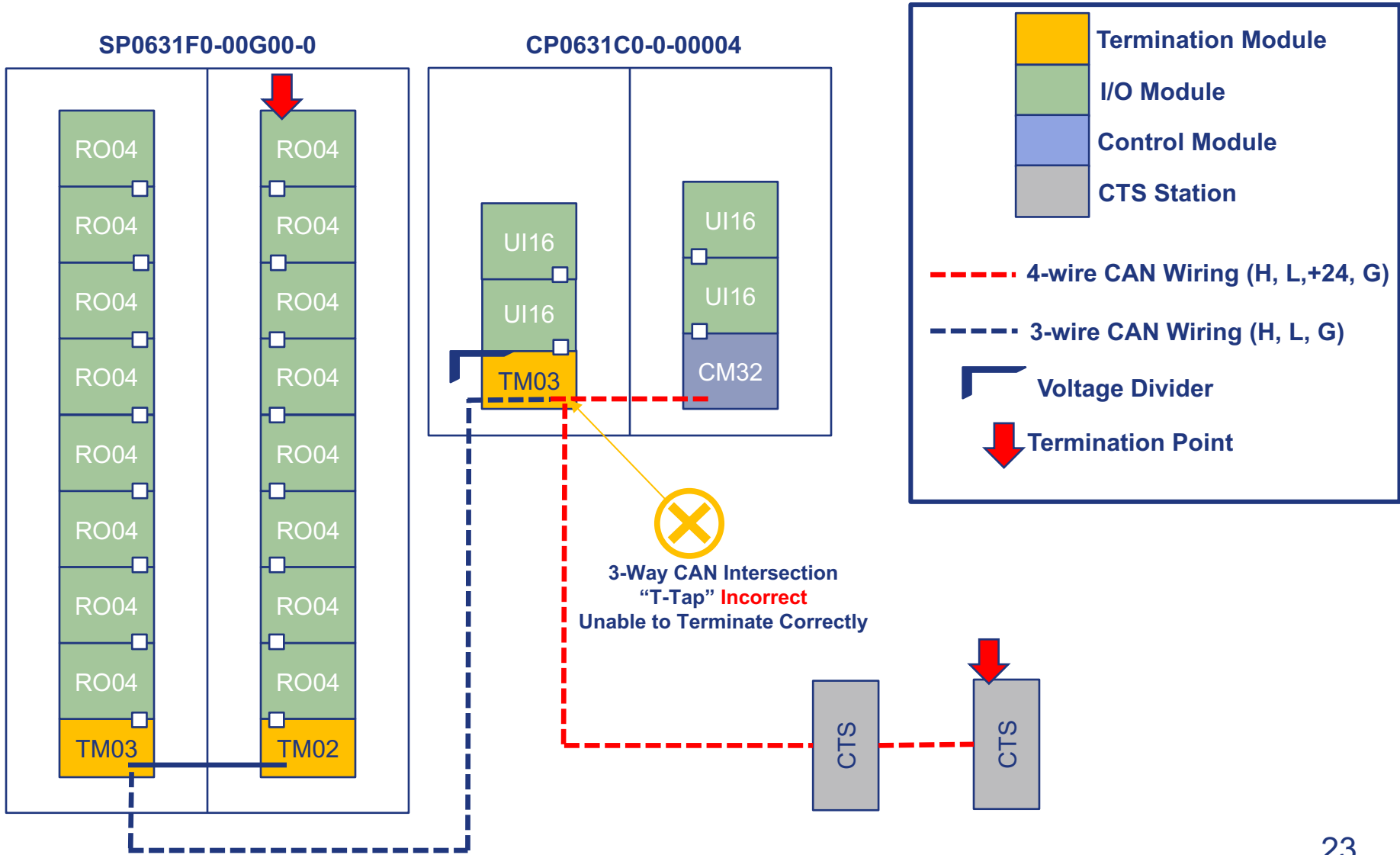
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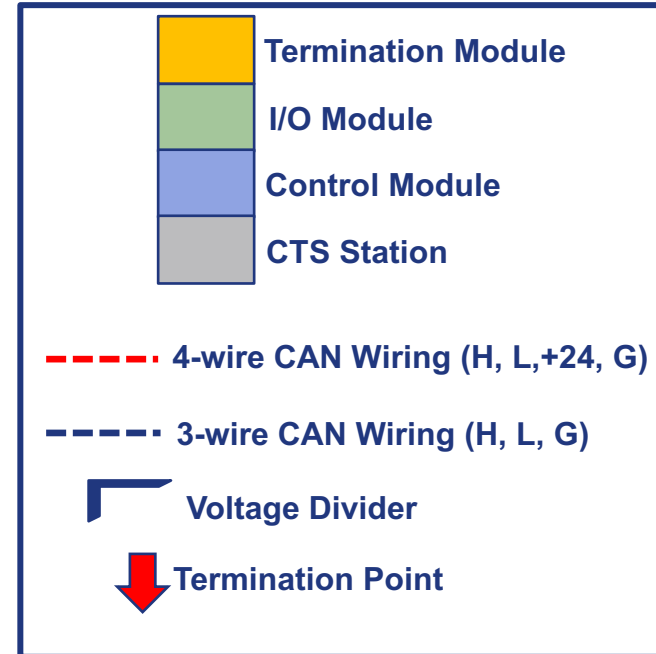
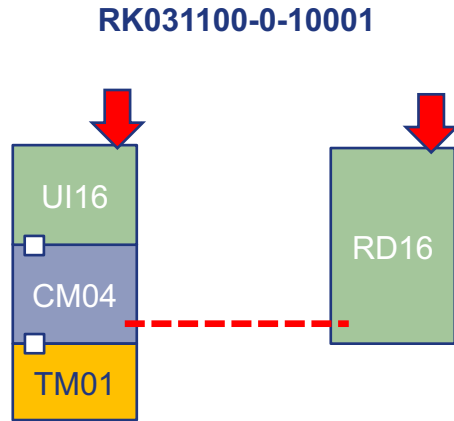
## CP/SP w/CTS



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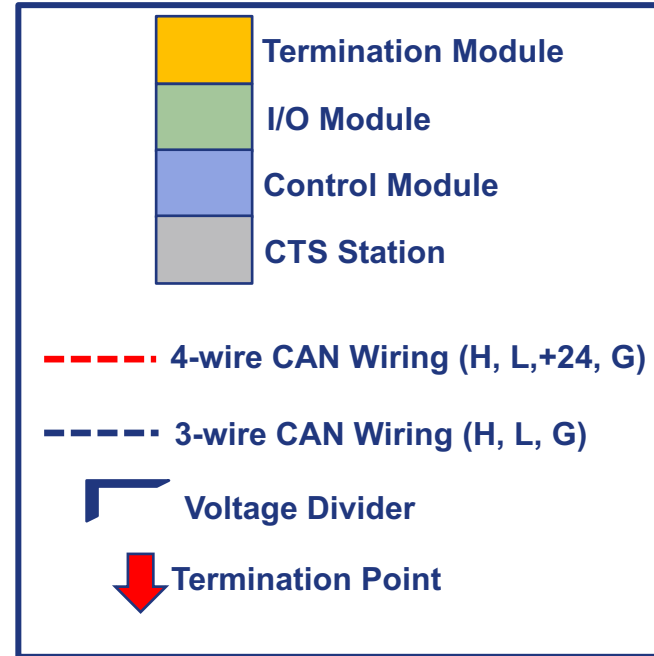
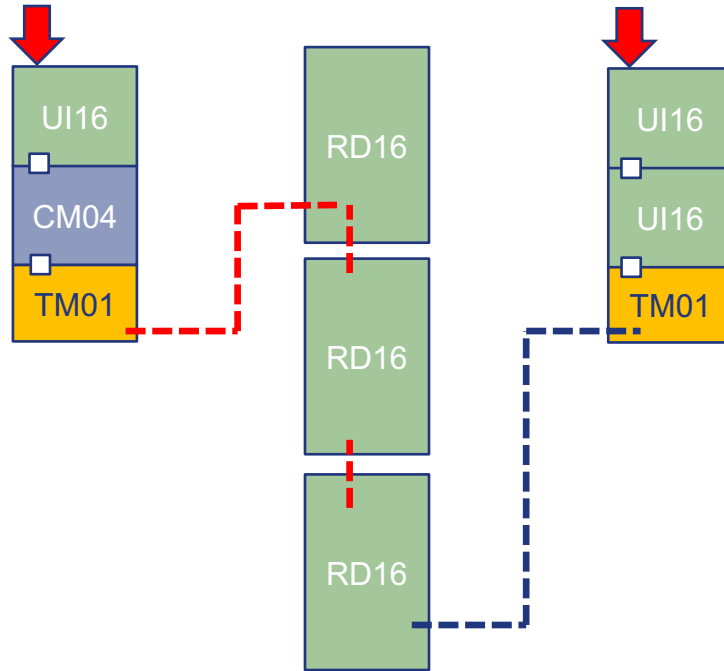
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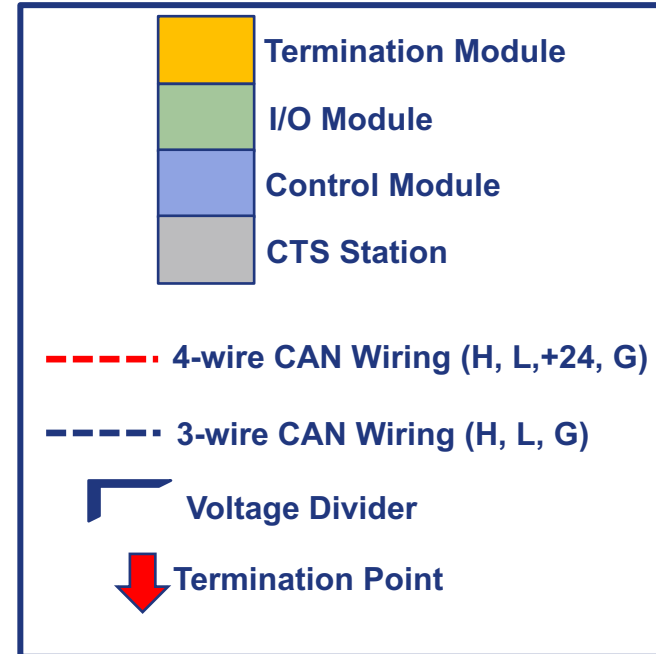
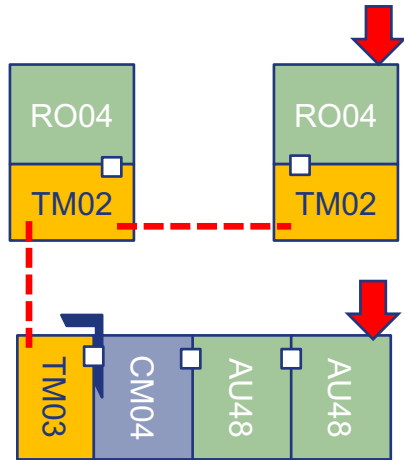






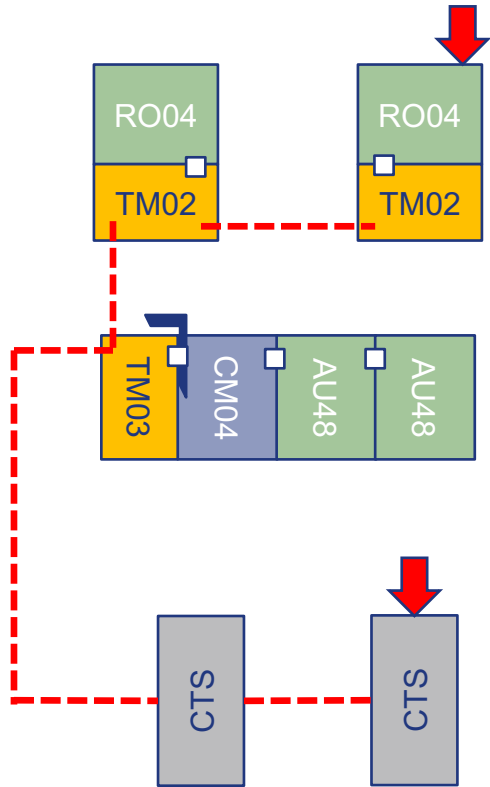
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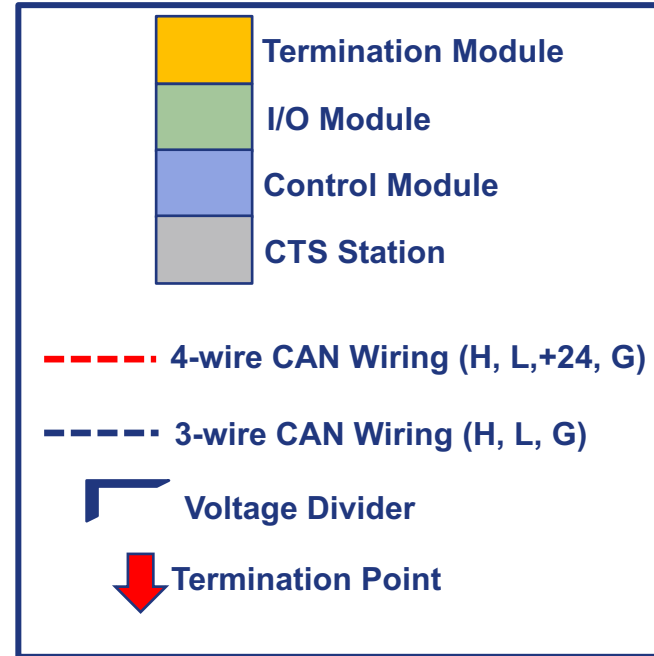


# CANbus Termination

## RI w/CTS



**NOTE: To terminate CTS stations, throw dip switch 8 on.**



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