

The **A4818** is a CAEN USB 3.0 to CONET adapter, USB-powered. CONET is the CAEN proprietary protocol for optical link, which is able to communicate with Digitizers and VME Controllers by direct connection or in daisy chain of up to 8 boards simultaneously. The A4818 is compliant with CONET2 and with the USB 3.1 Gen1 speed protocol, and can be connected to the USB port<sup>(\*)</sup> of the PC running Windows or Linux OS. The optical link maximum transfer rate is 80 MB/s, which is shared within the boards connected in daisy chain. The A4818 is compliant with optical fibers 50/125  $\mu\text{m}$  OM2 and OM3, as well as with older 62.5/125  $\mu\text{m}$  OM1.

## Technical Specifications

### Mechanical

Compact aluminum box  
94 L x 41 W x 20 H mm<sup>3</sup> (including connector)

### USB Interface

USB-C connector to the PC

### Optical Interface

Small Form Factor Pluggable (SFP+) transceiver component for optical connection

### Supported Readout

Polling mode (VME Interrupts not supported)

### Transfer rate

80 MB/s by the optical link

### Number of Optical Links

1 optical link

### Number of Boards/Link

Up to 8 boards in Daisy-chain

### Supported optical fibers

50/125  $\mu\text{m}$  OM2 and OM3  
(back-compliant with 62.5/125  $\mu\text{m}$  OM1)

### Supported OS

Windows 10 (or higher) and Linux (all kernels)

### Driver

CAEN USB driver required for Windows OS only.  
Linux Driver required only for not sudoers Users.

### Operating Environment

Temperature from 0 to 40°C,  
Relative Humidity (non-condensing) 5-95%

### Power Requirements

5 V from the USB connector

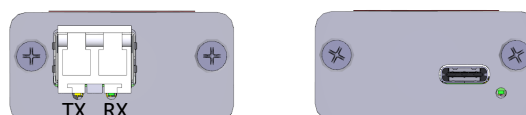
### Power Consumptions

370 mA @ 5 V (self-powered)

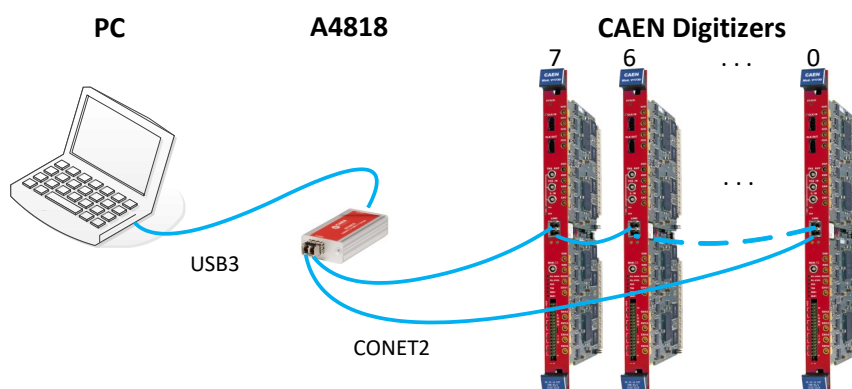
A4818 front view



A4818 left and right view with the optical link and USB connector



Example of daisy chain connection with VME boards



### Accessories



AI2700 Optical Fiber Series (not included)



USB-C to USB-A cable adapter (included)

(\*) we recommend not to use USB 3.0 ports with Sleep-and-Charge option.



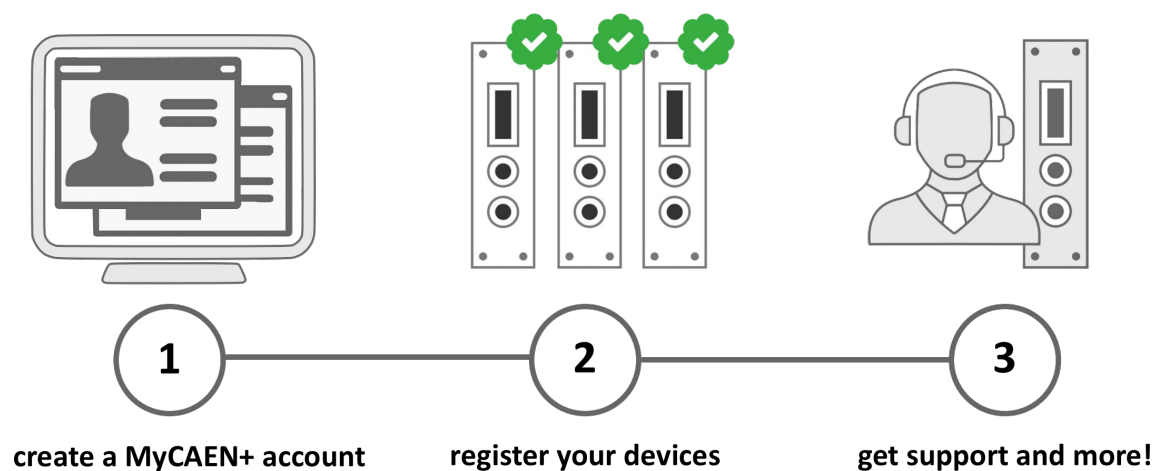
### Ordering Option

Ordering code	Version	Description
WA4818XAAAAA	A4818	USB 3.0 to CONET Adapter

## Register your device

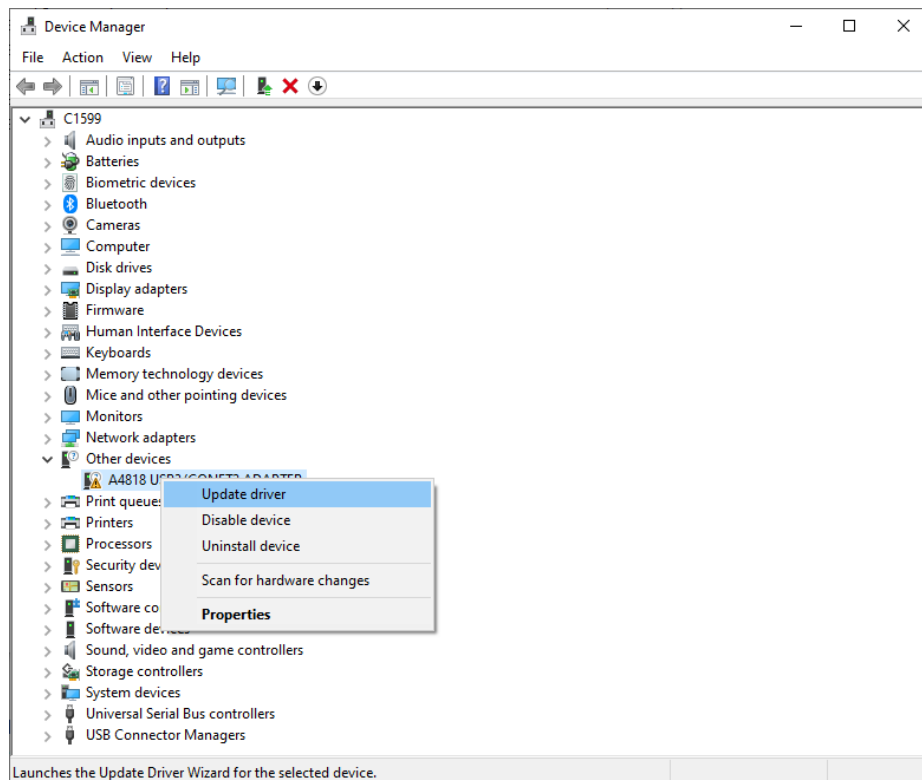
Register your device to your **MyCAEN+** account and get access to our customer services, such as notification for new firmware or software upgrade, tracking service procedures or open a ticket for assistance. **MyCAEN+** accounts have a dedicated support service for their registered products. A set of basic information can be shared with the operator, speeding up the troubleshooting process and improving the efficiency of the support interactions.

**MyCAEN+** dashboard is designed to offer you a direct access to all our after sales services. Registration is totally free, to create an account go to <https://www.caen.it/become-mycaenplus-user> and fill the registration form with your data.

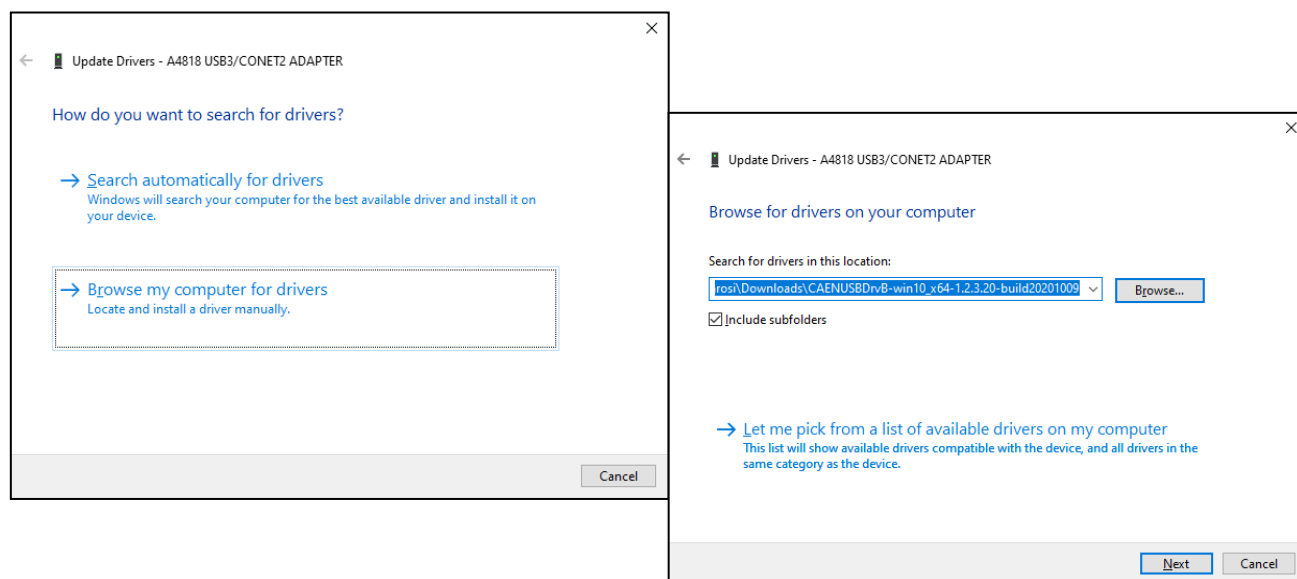


## Driver Installation—Windows

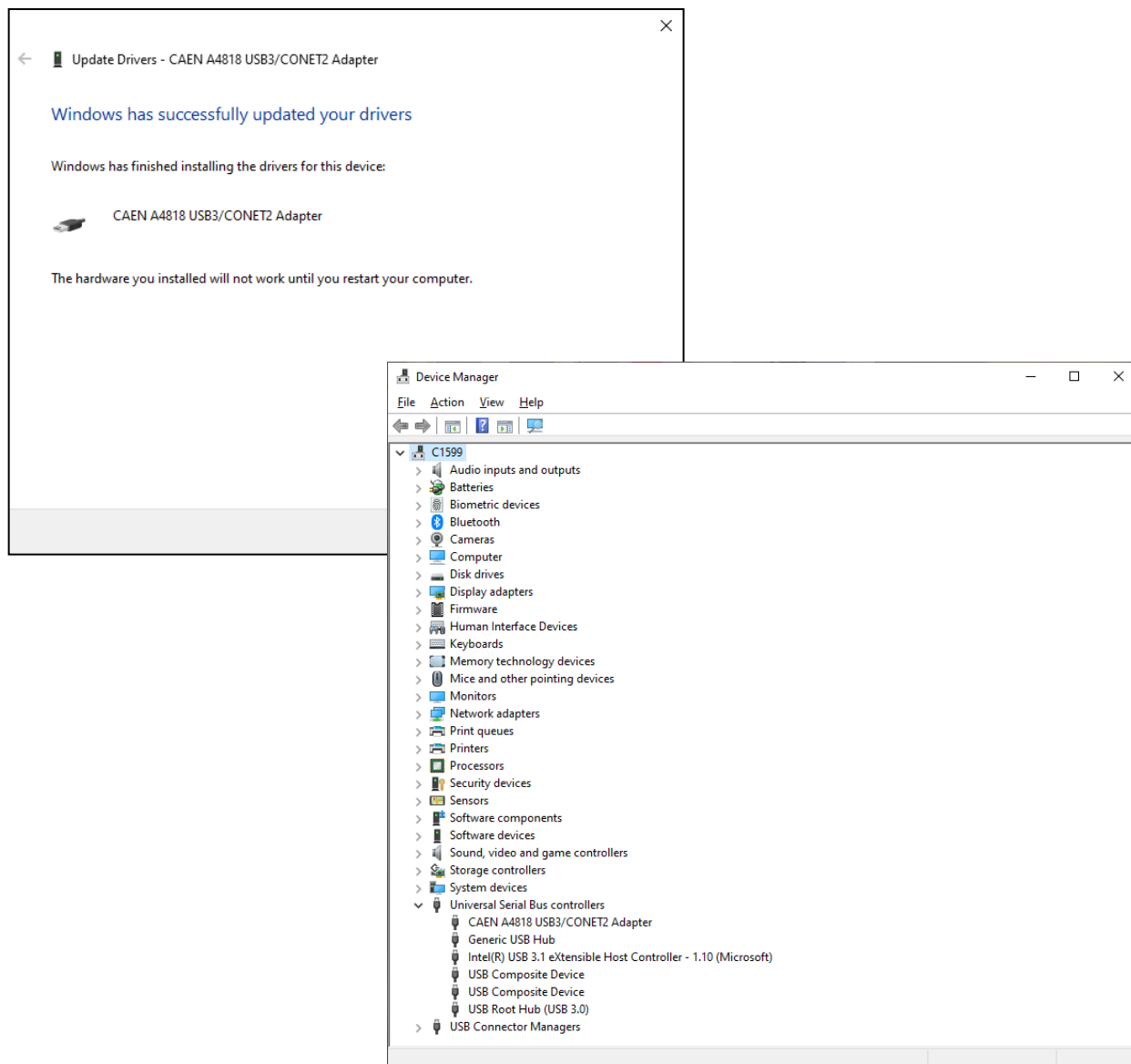
1. Download and unzip the driver under the CAEN A4818 web page.
2. Connect the USB cable from the PC to the A4818
3. Open the computer Device Manager, right click on “Other Devices” -> “A4818 USB/CONET ADAPTER”, and select “Update driver”



4. Select “Browse my computer for drivers” and point to the correct A4818 driver folder. Then press “Next”



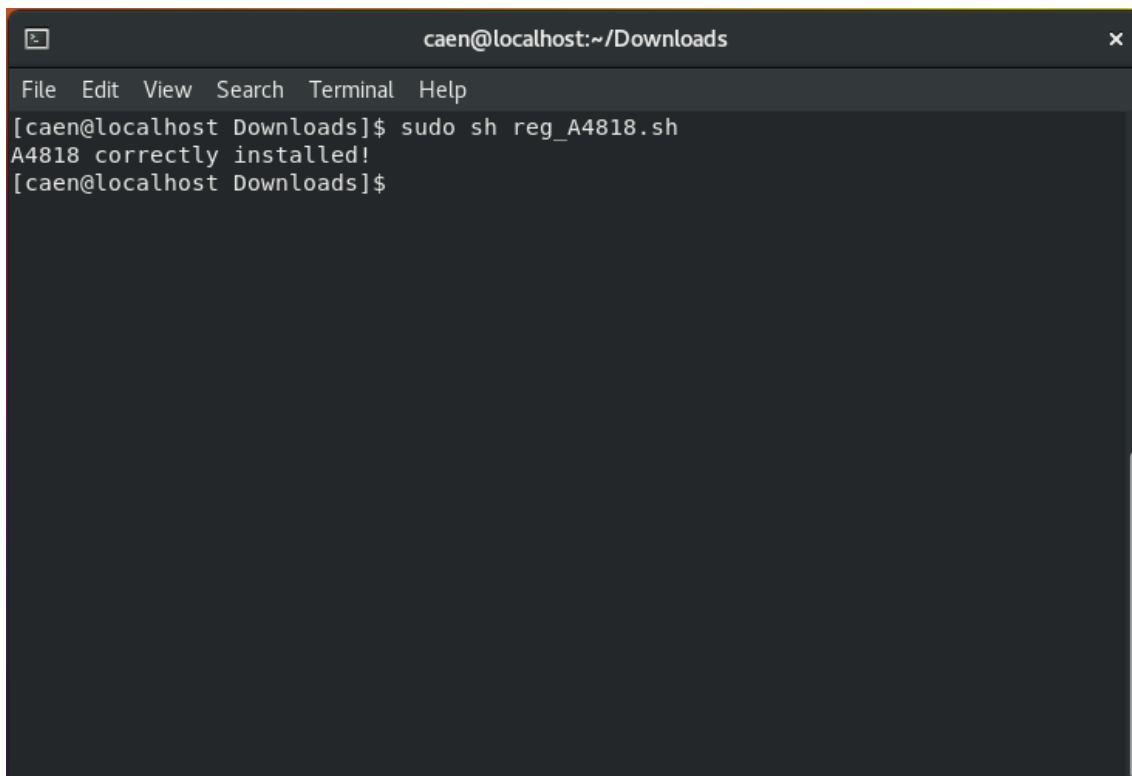
5. The A4818 driver is installed and the adapter is recognized under the “Universal Serial Bus Controllers”



## Driver Installation—Linux

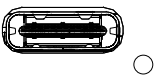
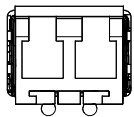
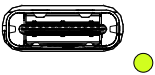
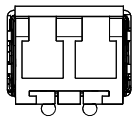
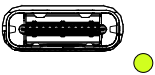
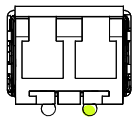
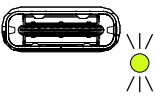
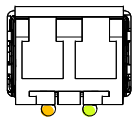
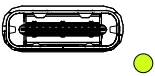
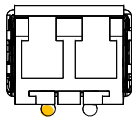
The driver is required only for not sudoers Users.

1. Connect the USB cable from the PC to the A4818.
2. Download and untar the driver under the CAEN A4818 web page.
3. Launch the script with the `sudo sh reg_A4818.sh` terminal command.

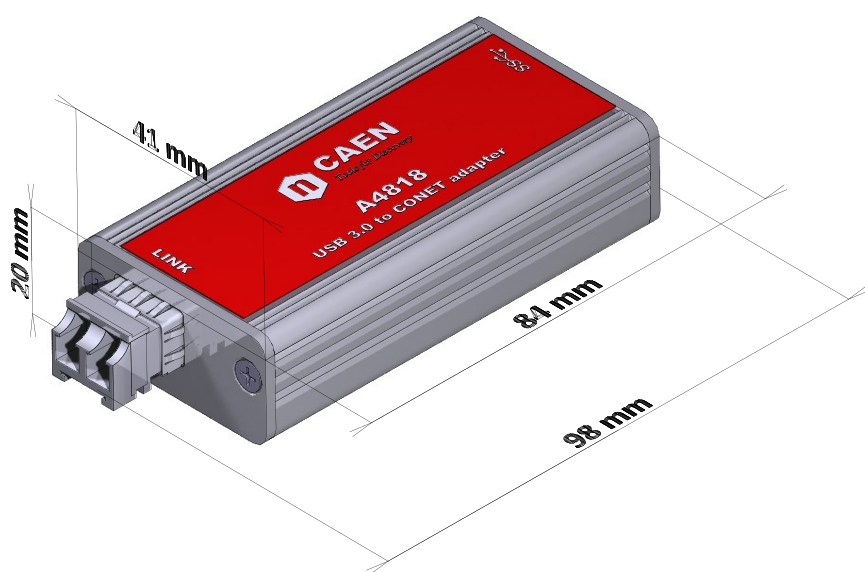
A terminal window titled 'caen@localhost:~/Downloads' with a standard Linux menu bar (File, Edit, View, Search, Terminal, Help). The terminal shows the command '[caen@localhost Downloads]\$ sudo sh reg\_A4818.sh' being executed, followed by the output 'A4818 correctly installed!' and the prompt '[caen@localhost Downloads]\$'.

4. The driver is correctly installed and all the Users are able to utilize the A4818.

## LED Status Description

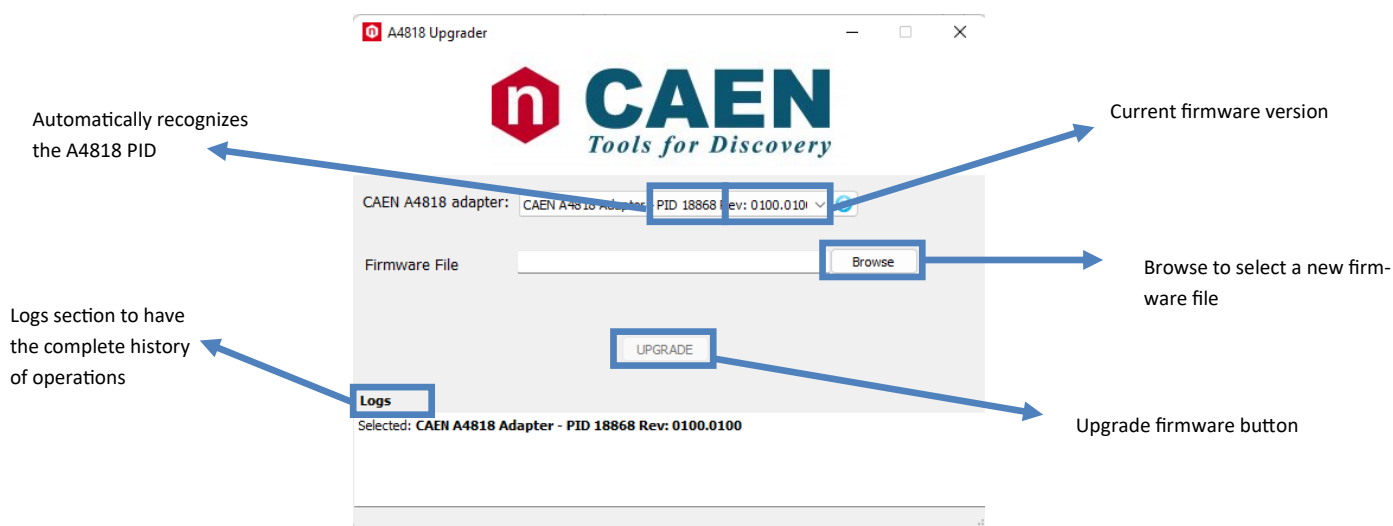
LEDs Status	USB LED	Optical link LEDs	Description
All LEDs OFF			Cables are not connected
USB LED ON			The USB cable is properly connected and the A4818 is powered ON
Optical Green LED ON			The optical fiber is properly connected from A4818 to digitizer or slave
Optical Orange active and USB LED blinking			The digitizer/slave is properly communicating through A4818 (the orange LED is ON or blinking according to the current transfer rate)
Orange LED blinking			An issue occurred during the firmware upgrade of A4818. Please, connect again the USB cable and try again the firmware upgrade

## Mechanical



## Firmware upgrade

To upgrade the firmware and check the firmware version which is installed in the board, the user can download and install the A4818 Upgrade tool. The tool automatically recognizes the A4818 which is connected to the board, retrieves the firmware release and allows the user to load the new firmware file.



NOTE: in case of firmware upgrade error, the orange optical led will start to blink. The user can power again the USB cable and start again the firmware upgrade. In case of problems, please contact CAEN Support at: [www.caen.it/support-services/support-form/](http://www.caen.it/support-services/support-form/)



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