

GUARDIAN DIRECT VISION PSS CALIBRATION SETUP GUIDE

1. Install the driver

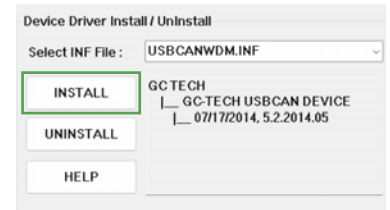
Using your laptop or Windows powered tablet (must have a USB port)
Insert USB stick supplied with calibration kit.

Open USB file and click on BSIS & MOIS Software

Open the driver 

Double click the driver setup  → Approve installation message and install


Once installed go back to the BSIS & MOIS Software folder



2. Choose the software version

Choose 3.5 or 4.8 .Net framework according to laptop version as below:

 RADAS .Net Framework 3.5 2022.12.20

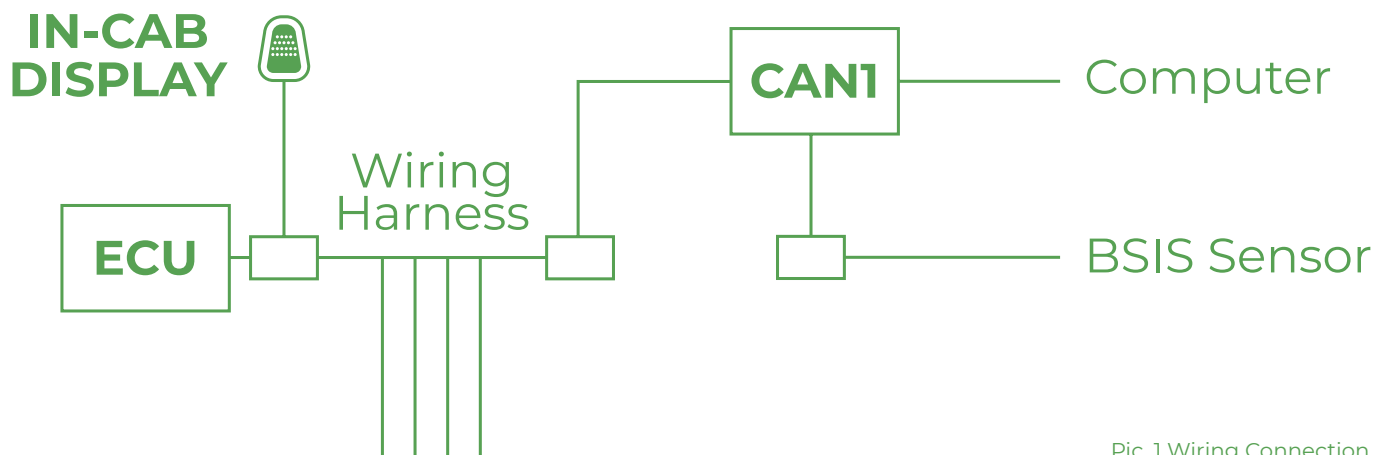
 RADAS .Net Framework 4.8 2022.12.20

Open the application in chosen folder.

 RDADS  08/09/2023 01:42 Application

3. Calibrating the BSIS via RDADS

3.1. Wiring connection of CAN to USB tool



Pic.1 Wiring Connection

3.2 BSIS Parameter setup explanation

3.2.1 Parameter:

- L1:** Dynamic BSD test area width
- L2:** Dynamic BSD test area length
- L3:** Static rear side detection area width
- L4:** Static front side detection area length
- L5:** Distance of sensor position to front of vehicle
- TTC1:** Dynamic rear side time to collision
- TTC2:** Dynamic front side time to collision
- TTC3:** Static rear side time to collision
- TTC4:** Static front side time to collision

Pic.2 Calibration tool interface

The screenshot displays the 'Radar Detection Area Definition Software' interface. At the top, there is a 'ConnectToolSetting' section with a dropdown menu for 'tool' set to 'CAN', 'BaudRate' set to '500 kBit/sec', a 'Disconnect' button, and a 'Type' dropdown set to 'No.1 (SDS PZ151-BSIS)'. Below this is the 'Function-Setting' section, which is divided into two main parts: 'Dynamic' and 'Static'.

The 'Dynamic' section shows a top-down view of a vehicle with a sensor. A cyan-colored detection area is shown extending from the sensor. Below this, a diagram illustrates the parameters: $L2$ is the length of the dynamic BSD test area, $L5$ is the distance from the sensor to the front of the vehicle, $TTC1 \cdot V$ is the dynamic rear side time to collision, and $TTC2 \cdot V$ is the dynamic front side time to collision.

The 'Static' section shows a similar top-down view. A diagram below it illustrates the parameters: $L3$ is the static rear side detection area width, $L4$ is the static front side detection area length, $TTC3 \cdot V$ is the static rear side time to collision, and $TTC4 \cdot V$ is the static front side time to collision. A legend at the bottom left of the static diagram defines 'TTC: Time To Collision' and 'V: Relative Velocity'.

On the right side of the interface, there is an 'Information' panel showing a log of events: 'Connect success', 'Reading... ..', and 'Received reply from sensor'. Below this is a 'Metric' section with a table of parameter values and ranges:

Parameter	Value	Range
L1	2.2	(0-7.5)m
L2	9.0	(0-25.5)m
L3	2.2	(0-7.5)m
L4	2	(0-25.5)m
TTC1	12	(0-20)s
TTC2	4	(0-7.5)s
TTC3	4	(0-7.5)s
TTC4	4	(0-7.5)s
L5		(0-5)m

At the bottom of the metric section, there are 'Clear', 'Read', and 'Set' buttons.

3.3 Calibration tool demonstration

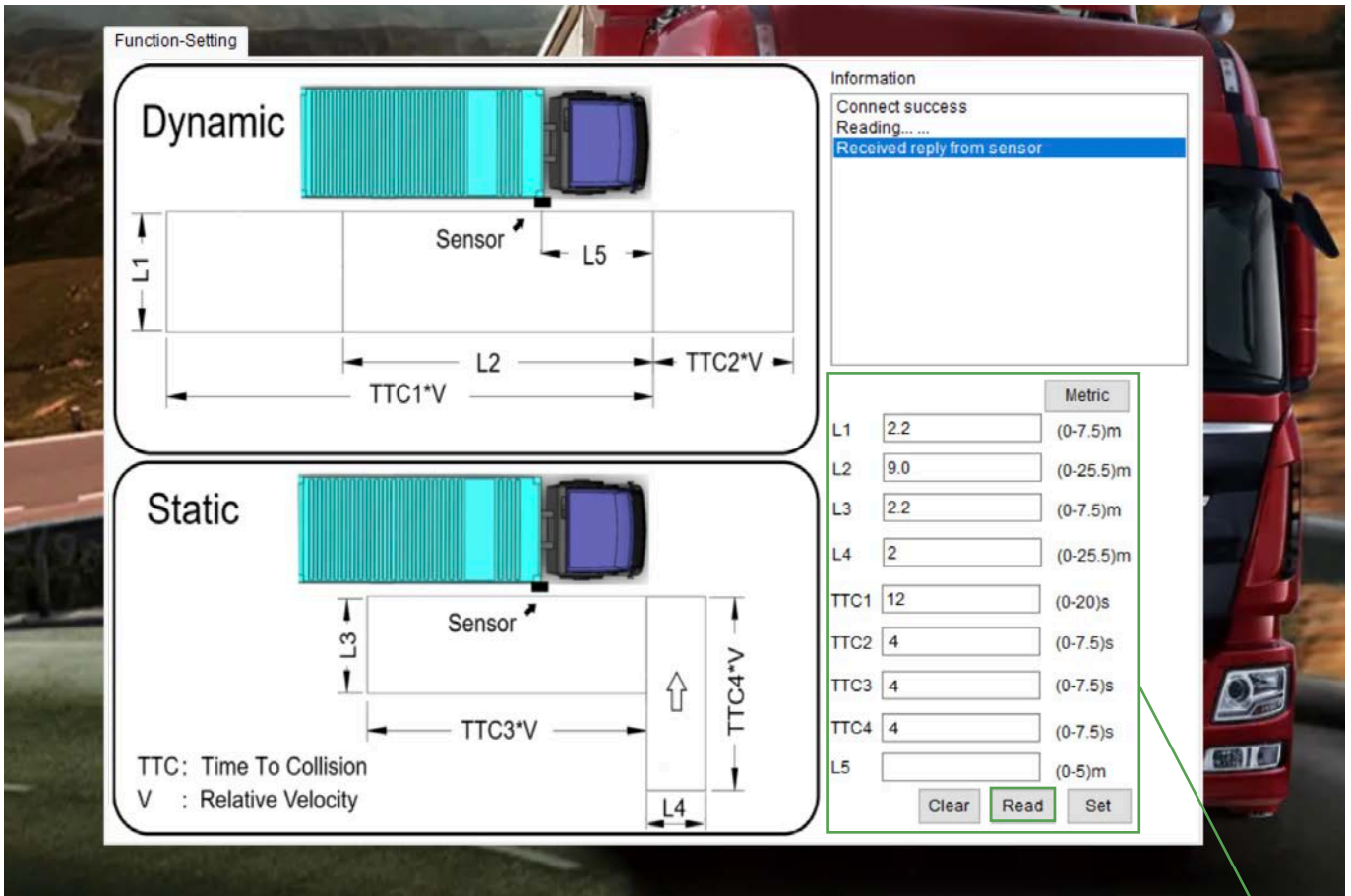
Click **“Connect”** to login to device.

Click **“Read”** to get the current setup parameter.

Update the parameters using the details in the green box below.

L2 is the minimum, however for longer vehicles it is advised to measure the vehicle from front corner to rear axle.

L5 must be added using your own measurements based on vehicle and fitting location.



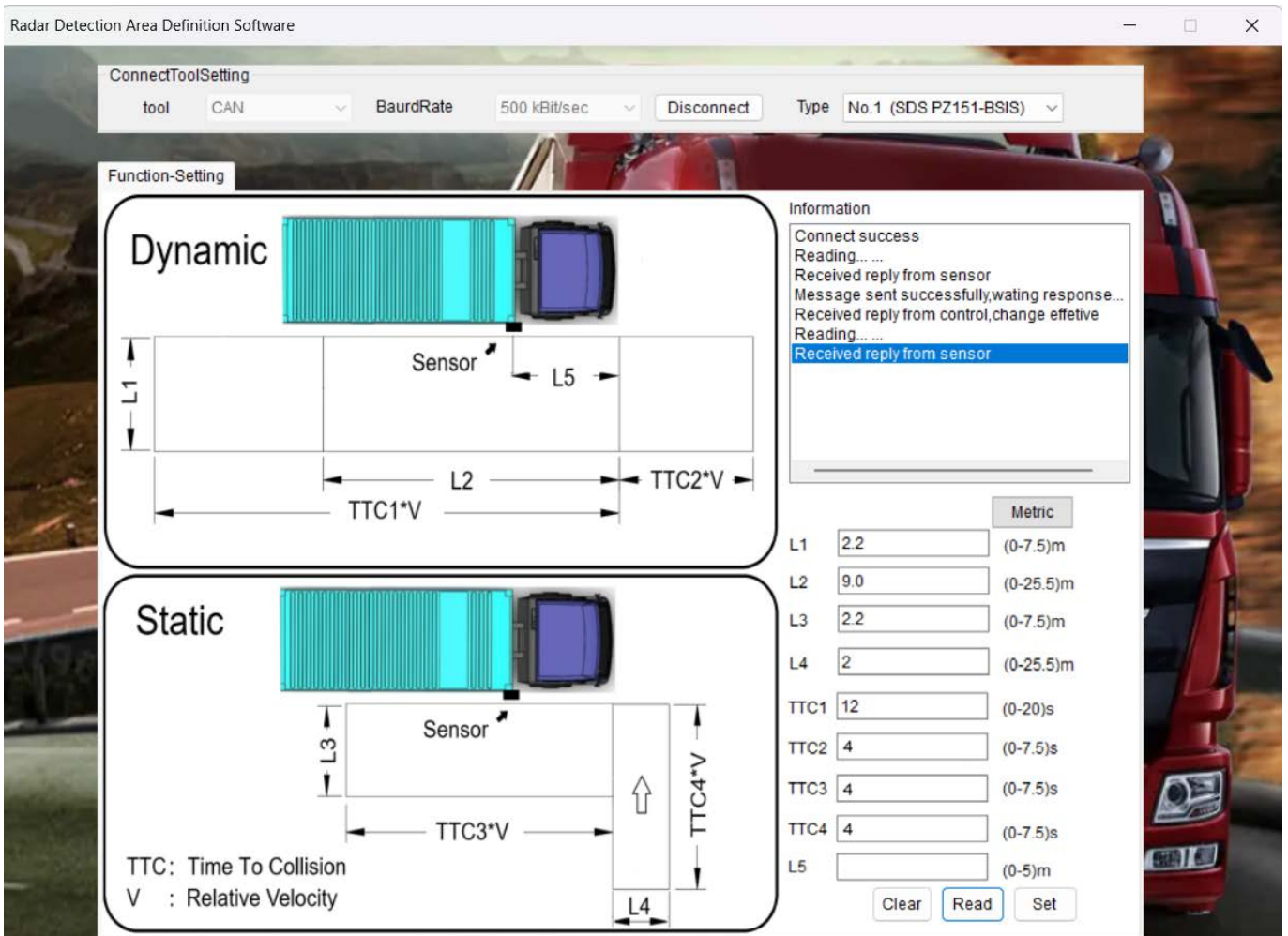
Pic.4 Software Screenshot

Parameters required for DVS PSS compliance

After changing the parameter, click the **“Set”** button to save the parameter, and check the result in the information bar: **Received reply from control change effective**

Click **“Disconnect”**

L1		2.2
L2	Length of vehicle Front corner to rear axle	9 Minimum
L3		2.2
L4		2.0
TTC1		12
TTC2		4
TTC3		4
TTC4		4
L5	Distance from sensor to front of vehicle	

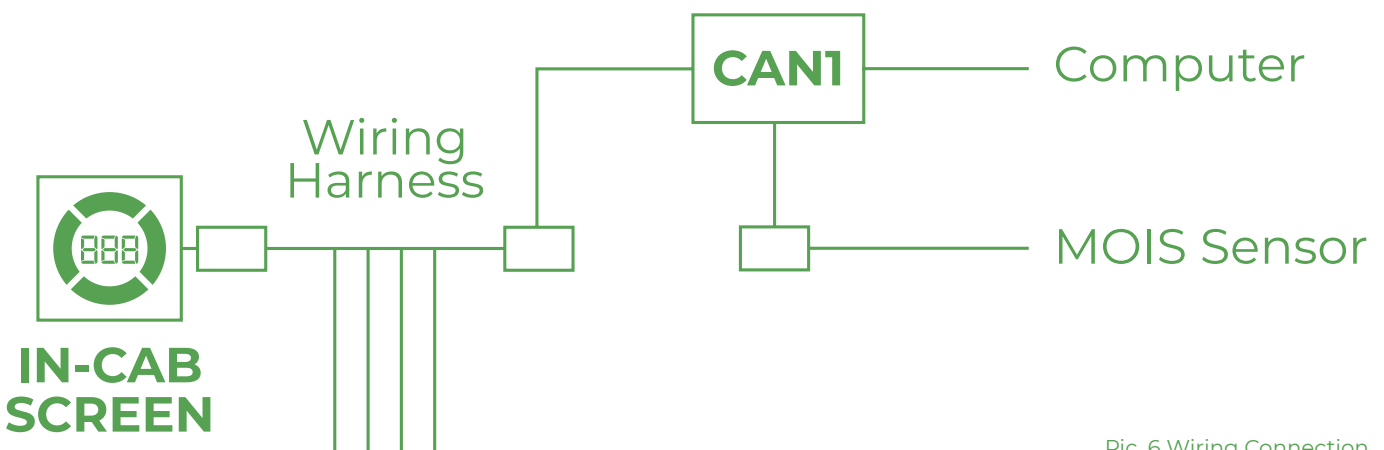


Pic.5. Software screenshot

Once the BSIS side detection is fitted to the vehicle it is now time to calibrate the sensor, move the vehicle to an open area with no obstructions in the test area, turn on the unit, and wait for the red light to go out, once the light has gone out switch the white toggle number one to the down position light will turn amber once the light has gone out turn the toggle back up, now turn the unit off and wait 10 seconds then turn back on system is now calibrated.

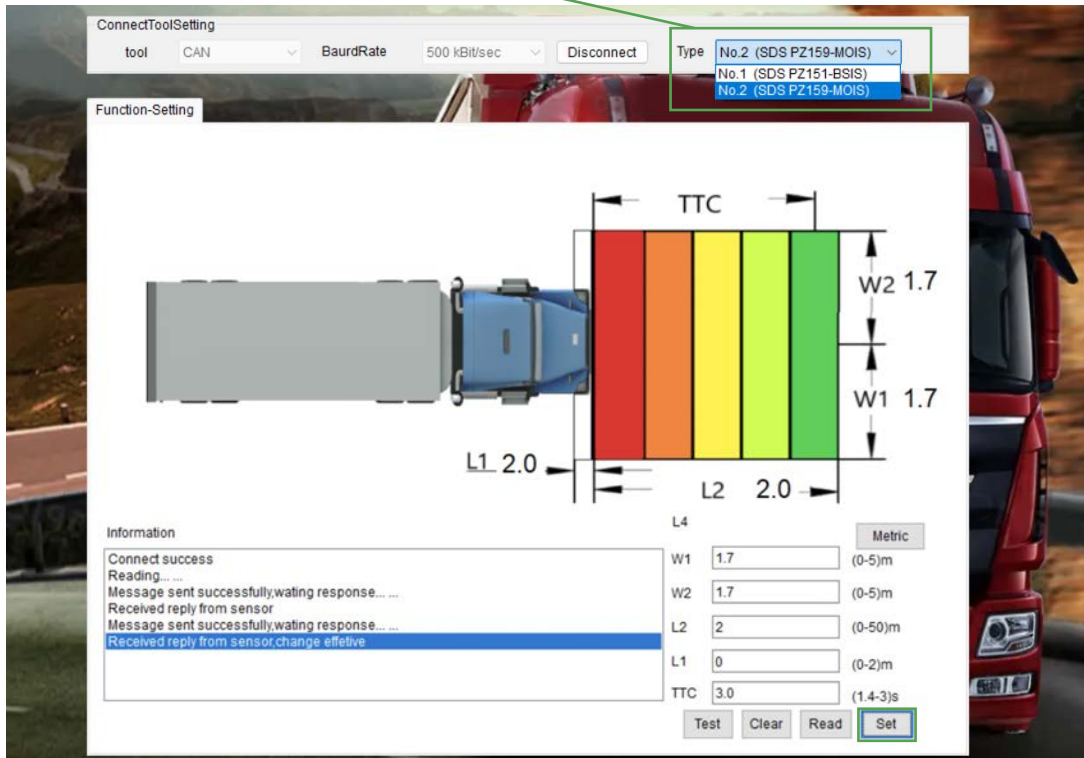
4. Calibrating the MOIS via RDADS

4.1. Wiring connection of CAN to USB tool



Pic. 6 Wiring Connection

Change to “No.2 MOIS”



Connect to unit and update parameters as with BSIS.

4.2 MOIS Parameter setup and button explanation

4.2.1 Parameter:

- W1:** Right side width setting (width of truck from centre +0.5mtr min up to 2m)
- W2:** Left side width setting (width of truck from centre +0.5m min up to 2m)
- L1:** Front detection distance 0m
- L2:** Ignored distance before detecting object 2m
- TTC:** Time to collision warning 3 seconds

Set check information says received a reply from control, change effective, now click “**disconnect**” Connect the sensor to the front of the vehicle at a height of between 0.7m and 1.3m, once fitted move the vehicle outside to an open area with no obstructions, using the setup button on the back of the display hold the button, ensuring ONI is on, CO is on, DFF is on. When L0 appears release button then click setup button again moving screen to L1 this is learning mode now wait for the display to go green learning mode now complete.