Wireless CAN Bridge for Construction Vehicles
CDS-2150

Enables wireless communication and logging of CAN Data

▸ Product Summary

CDS-2150 transfers CAN data to a PC or tablet in real-time via wireless LAN. This product allows users to remotely monitor and configure vehicle operation. It significantly improves the efficiency of your on-site maintenance work. CDS-2150's internal storage offers data redundancy and recovery in the case of loss of connectivity. This product enables you to remotely monitor vehicles in operation and to configure the settings, and significantly enhances the efficiency of your on-site maintenance work.

▸ Features

● IP conversion of CAN communication (Converter Server Mode)

CDS-2150 translates the CAN data from the vehicle and can transfer it to your tablet or PC over 802.11b/g/n wireless LAN. It allows the user to monitor and analyze the information easily without connecting cables to the vehicle. The data can also be uploaded to the cloud where it can be made available to remote users to monitor and analyze data in real time.
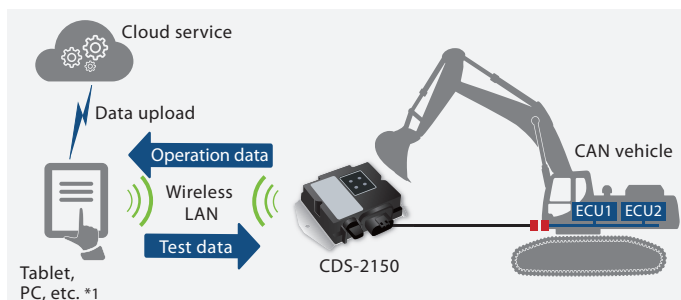

*1: Requires users to install the silex CAN Monitor application.

* The distance and real-time communication speed between CDS-2150 and your tablet/PC depends on the environment (e.g. where to install this product, models of your tablet/PC, presence of other wireless devices).

● CAN data logging

CDS-2150 saves CAN data logs in its built-in eMMC storage or external USB memory in binary/text format. Its older logs are automatically gets overwritten when the storage is full. The log data helps users to troubleshoot problems and analyze machine operator's work.
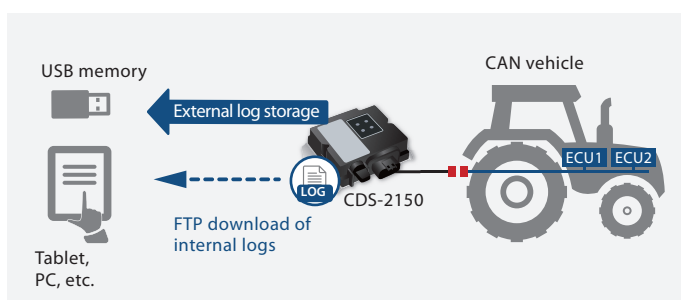
To connect a USB memory, use a USB cable by connecting it to CDS-2150's USB interface. Please note that this will reduce dust/waterproof features of this product. The USB memory has to be formatted as FAT32.

● WLAN bridge for wired CAN (e-Cable Mode)

Two units of CDS-2150 can convert wired CAN into wireless communication. It allows flexibility in the workplace by allowing users to connect, monitor and analyze factory machines in their facility wirelessly.
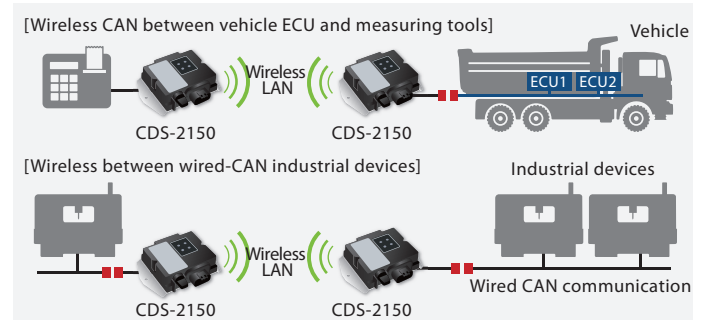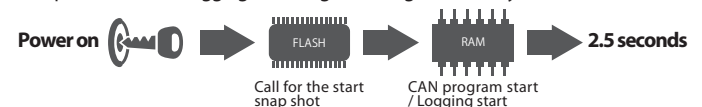

● In-vehicle support

CDS-2150 is designed for in-vehicle use based on specifications required for construction/farming machinery such as high operational temperature, water/dust proof, shock resistance, and vehicle power support.

| High temperature | Low temperature | Waterproof | Dustproof | Shock resistant | Vibration resistant | DC10-32V ACC power support |

▸ Key points

CAN quick startup

CDS-2150 quickly starts the operation and logging (2.5 seconds) after the power is on as required for vehicle logging. You can get CAN logs soon after you turn the device on.

Power on → FLASH (Call for the start snap shot) → RAM (CAN program start / Logging start) → **2.5 seconds**

Optimization of bridge communication

silex's proprietary CAN-to-WLAN conversion protocol is optimized for low bandwidth and reliable communication. This optimization enables real time wireless monitoring and control of the CAN bus.


Typical Devices
Transfer small data individually using a slow line (inefficient)

CDS-2150
Merge and send some pieces of data in a lump using a fast line (efficient)

Specifications

|		
Main system	CPU	NXP i.MX287 (454 MHz)
	ROM	512KB
	RAM	64MB
	Built-in storage	Onboard eMMC: 2 GB (pseudo SLC: 1.5 GB available for the user)
Interface	Assembled connector	JAE MX23A18NF2
	Wireless LAN	x 1 port: IEEE 802.11b/g/n (2.4 GHz)
	CAN	x 2 ports: CAN2.0B Active, ISO11898 High Speed (max.1Mbit/s)
	Serial	x 1 port: RS-485/RS-422A
	USB	x 1 port: USB OTG2.0 (Micro-B connector)
	Digital — In	x 2 ports: Open or GND connection
	Digital — Out	x 1 port: Open-collector output
	Power supply /current	DC10~32V / 0.7A (max.) Support ACC power on/off.
Enclosure	Feature	Plastic case and SUS plate
	Operating temperature	-30 to +65 deg. C
	Operating humidity	20 to 95% RH (no condensation)
	Dust/Waterproof	Waterproof: JIS D 0203 D2, Dustproof: JIS D 0207 F2
	Dimensions	100 x 90 x 31.2mm (excluding projection and mounting parts)
	Weight	About 318 g
	Status display	LED lamp x 4

Product Setup

Name	Note
CDS-2150	Main unit, setup manuals
Interface cable	Sold separately: one cable needed per CDS-2150

Outer Design

Dimensions: mm
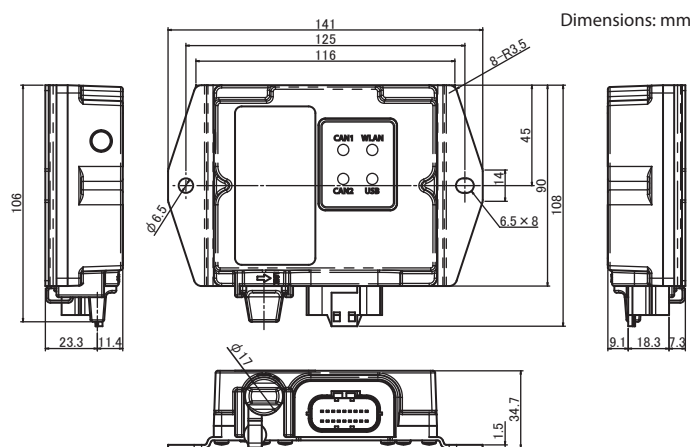
Interface Cable Outer Design (sold separately)

Power, DI/DO, CAN, Serial cables(cut-end wire)

Dimensions: mm

490
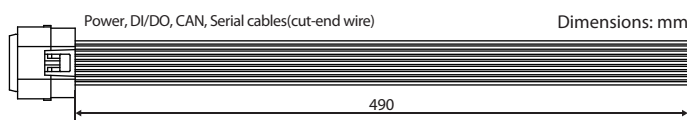
Cable Pin Assignment
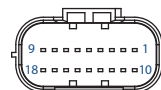
Interface cable – Pin assignment information
For pin numbers, refer to the left figure, assembled connector of CDS-2150 side (JAE MX23A18NF2).

Pin	Name	Function	Pin	Name	Function
1	CAN1_H	CAN 1 port	10	CAN2_H	CAN 2 port
2	CAN1_L		11	CAN2_L	
3	SIO_GND	Serial standard level	12	TRXD_R[*1]	Terminated port
4	BATT	Power input	13	TRXD_L[*1]	Serial in/output
5	KEY	Power control input	14	TRXD_H	
6	DIN1	Input port	15	TXD_L	Serial output
7	DIN2		16	TXD_H	
8	RESERVED[*2]	Reserved port	17	GND	Power input
9	DOUT	Output port	18	GND	

*1: The termination process is performed by connecting TRXD_R to TRXD_L.
*2: Use this as Open.

Accessory Software

CAN Monitor Application

This is a Windows sample application to monitor CAN data in a wireless LAN using CDS-2150 or GDM-3250.
This application also transmits CAN data to CDS-2150 on a vehicle. You can start evaluating the CAN-to-wireless communication function soon after you get CDS-2150 and this application.

Related Product (sold separately)

GDM-3250
Camera Recorder, Serial/CAN & Wireless LAN Bridge

CAN and video data from up to 4 cameras can be transferred over the wireless LAN network. Using a PC or tablet, users can remotely monitor the vehicle operation in real-time. CAN and video data are captured in GDM-3250 internal storage and simultaneously communicated over the wireless network in real time. The GDM-3250 reduces time and effort for troubleshooting, monitoring and maintenance.
This CAN/WLAN bridge is the best choice when you need access to operational information with real time video and logs.

- CPU: NXP i.MX6 Solo automotive
- ROM: 2 Mbytes/ RAM: 1 GB/ eMMC built-in storage: 16 GB (pseudo SLC)
- RJ-45 x1: 10BASE-T, 100BASE-TX
- IEEE 802.11a/b/g/n (2.4GHz/5GHz Dual-band support)
- CAN x 1, RS-232C x 1, RS-485 x 1, Digital input x 2, Digital output x 1
- NTSC camera input x 4 (supported video format: H264 and Motion JPEG)

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