GADN-M CAN Bus and GNSS Combo M.2 Card

Features

- Built-in u-blox M8 GNSS modules
- M.2 Type-2280 B-Key (USB Interface)
- Optional Untethered/Automotive Dead Reckoning Technology
- 2-Channel Individual CAN and 1-Channel J1708 Interfaces
- Sensor Integrated: 3D Gyroscope, 3D Accelerometer, 3D Magnetometer
- Vehicle Communication: CAN bus 2.0 a/b, OBD-II, J1939 and J1708

Introduction

ANTZER TECH's GADN-M series is designed base on M.2 Type-2280 B-Key form factor, integrating CAN (CAN bus 2.0 a/b, OBDII, J1939), J1708, 9 axis sensors, and GNSS features into one M.2 card.

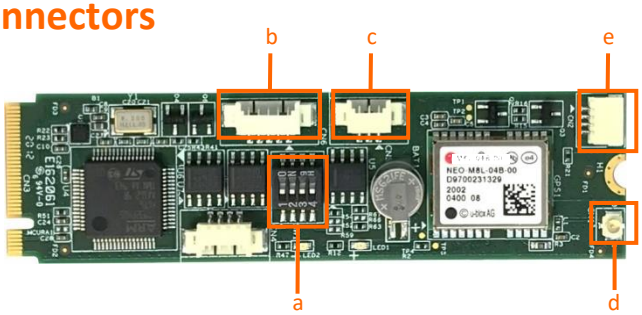
GADN-M series has optional configuration for UDR (Untethered Dead Reckoning), ADR (Automotive Dead Reckoning) or Antzer Tech patented CAN-to-ADR function that supports powerful positioning using inertial sensing data and GNSS signals (a.k.a. sensor fusion). With Dead Reckoning Function, the module could give accurate information on position even when the GNSS signals are poor or obstructed such as signal loss in tunnels, driving in indoor parking facilities, or urban canyons.

ANTZER TECH's GADN-M Series is the ideal solution for the Fleet Management, Public Transit, Law Enforcement, Digital Signage, Vehicle Data Collection, Vehicle Tracking and Telematics System.

Specifications

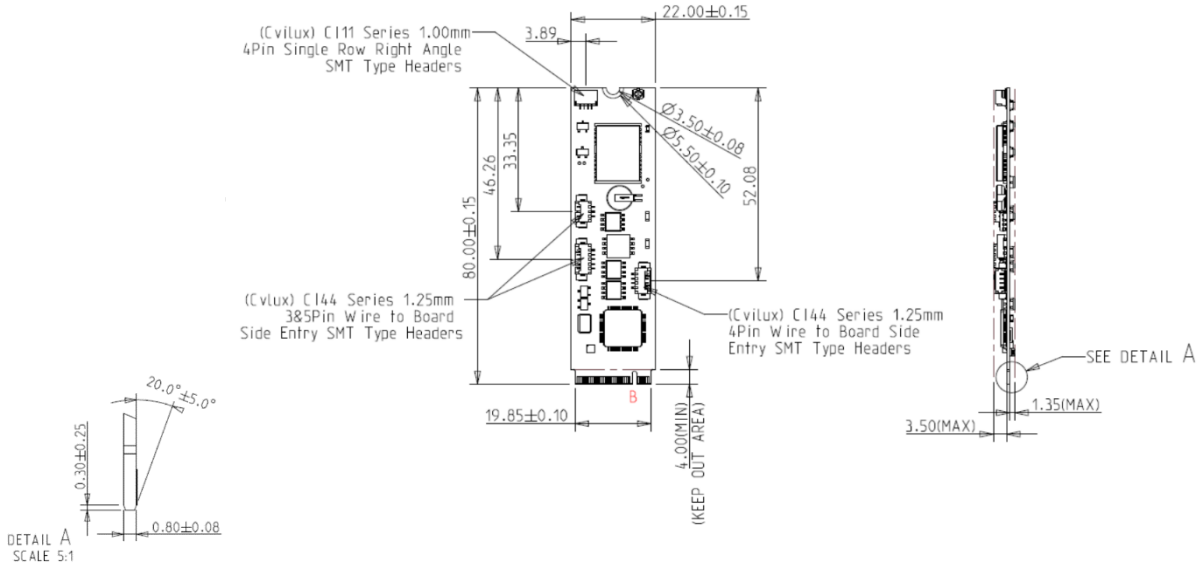
Interface	Form Factor	M.2 Type-2280 B-Key
	Host Interface	USB 2.0 via M.2 Socket
CAN/Sensor	Interface Number	CAN (ISO 11898) x 2 Individual Channels J1708 x 1
	Sensor	3D Gyroscope, 3D Accelerometer, 3D Magnetometer
	CAN	CAN bus 2.0 a/b, OBD-II (ISO 15765-4), J1939
	RS-485	J1708 protocol
	Identifier Filtering	Mask and Identifier List Mode
GNSS	GNSS Module	u-blox NEO-M8N/M8U/M8L
	Receive Type	72-channel u-blox M8 engine Concurrent reception of up to 3 GNSS (GPS, Galileo, GLONASS, BeiDou)
	Dead Reckoning	GADN-MxxUx for UDR, GADN-MxxLx for ADR/CAN-to-ADR
	Quick Hot Start	Support (Li-Coin Battery is Required)
	GNSS Antenna	External, IPEX connector onboard (Default Support Active Antenna) * Optional SKU Support Passive Antenna
Software	Driver Support	Microsoft Windows 7 / 8 / 8.1 / 10 Linux Ubuntu 16.04 LTS, Kernel 4.4 and Later SocketCAN (Source Code)
	SDK Support	Microsoft Windows 7 / 8 / 8.1 / 10 Linux Ubuntu 16.04 LTS, Kernel 4.4 and Later
Environment	Operating Temp	-40°C ~ 85°C (without Li-Coin Battery) -20°C ~ 60°C (with Li-Coin Battery)
	Vibration Test	Pass 7.69G@ 20~2000Hz, compliant with MIL-STD-810G category 24
	ESD Protection	8kV Contact, 15kV air
	Certification	CE, FCC Class B
Dimension	L x W x H	80 x 22 x 5.65mm

I/O Connectors



a. CAN/Battery Function Switch
b. 2-Channel CAN Connector
c. J1708 Connector
d. GNSS Antenna Connector
e. ADR Connector

Dimensions



Pin Assignment

Pin	Function	Pin	Function
1	NC	2	+V3.3
3	GND	4	+V3.3
5	GND	6	NC
7	USB_DP	8	NC
9	USB_DM	10	NC
11	GND	**12**	**Mechanical Key**
13	**Mechanical Key**	**14**	
15		**16**	
17		**18**	
19		20	NC
21	GND	22	NC
23	NC	24	NC
25	NC	26	NC
27	GND	28	NC
29	NC	30	NC
31	NC	32	NC
33	GND	34	NC
35	NC	36	NC
37	NC	38	NC
39	GND	40	SCL
41	NC	42	SDA
43	NC	44	NC
45	GND	46	NC
47	NC	48	NC
49	NC	50	NC
51	GND	52	NC
53	NC	54	NC
55	NC	56	NC
57	GND	58	NC
59	NC	60	NC
61	NC	62	NC
63	NC	64	NC
65	NC	66	NC
67	NC	68	NC
69	GND	70	+V3.3
71	GND	72	+V3.3
73	GND	74	+V3.3
75	GND		

Ordering Information

Part Number	Description
GADN-MG9LA	M.2 2280 B-Key (USB I/F), 2 channels CAN 2.0 A/B, OBDII, J1939, J1708, Gyroscope, Accelerometer, u-blox NEO-M8L GPS (UDR/ADR)
GADN-MG9L0	M.2 2280 B-Key (USB I/F), 2 channels CAN 2.0 A/B, OBDII, J1939, J1708, Gyroscope, Accelerometer, u-blox NEO-M8L GPS (CAN-to-ADR)

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