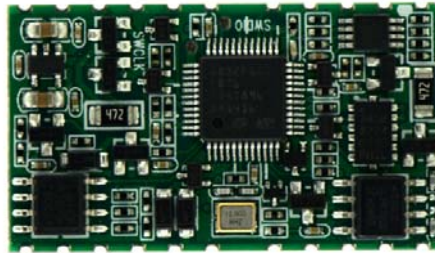


## NT-160DH

### Module Specification

#### V1.3



#### Module Description

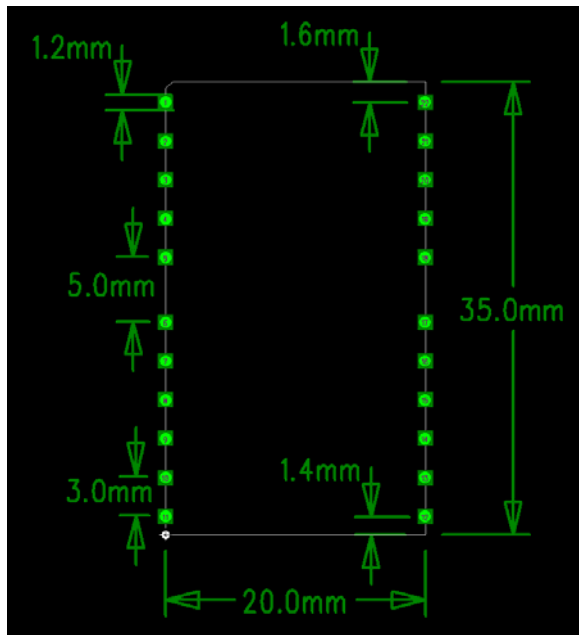
NT-160DH is a professional vehicle data acquisition module, which can acquire normal car status, car fault information and 3 axis speed. With TTL serial port, the module can be easily integrate with any vehicle-mounted terminal.

#### Production Features

- ◆ Support 8-32V Passenger and Commercial vehicle
- ◆ Support standard protocol ISO15031 and J1939/J1708, dedicated protocol of Japanese vehicle and some dedicated protocol for Commercial vehicle
- ◆ 300Hz G-sensor data
- ◆ Simple communication protocol, automatch, initiative output, convenience for secondary development
- ◆ Small size 35\*20\*2.8mm, Easy for integration
- ◆ HW EMC Standard(CISPR-25,ISO-7637,ISO-10605), Zero Interference to Third party's Antenna

#### Production Function

- ◆ Output car dynamic data every second, like water temperature, intake air pressure, RPM, intake air temperature, air flow etc. And these are optional.
- ◆ Real time vehicle alarm output: speeding, hard acceleration/deceleration, harsh turn, quick lane change, collision, over speed, low voltage, park w/o flameout, towed, car fault indication, ignition/flameout, High water temperature etc.
- ◆ Trip time , mileage, fuel consumption output per second
- ◆ Real time Car DTCs output
- ◆ Car Debugging function
- ◆ ACC signal PIN output

**PACKING SIZE & PIN**

**PIN DEFINITION**

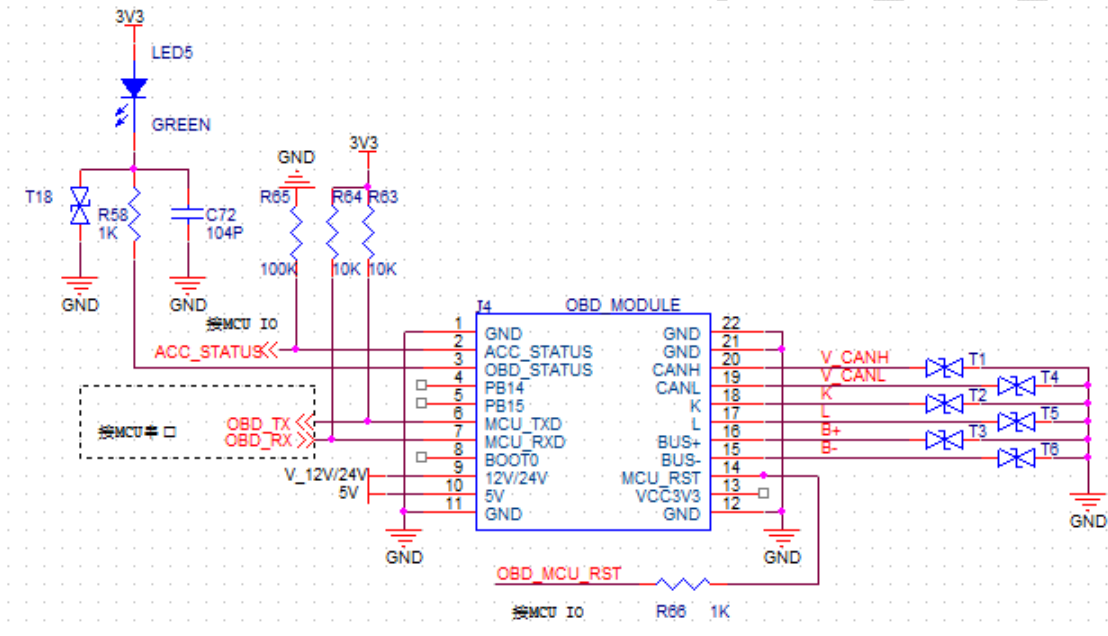
Item	Name	Description	Remark
1	GND	Module Ground	
2	ACC_STATUS	ACC Status detection,3.3V CMOS Level	Connect MCU IO
3	OBD_STATUS	Module working status	Connect OBD Light
4	PIO1	Common IO,3.3V CMOS level	Reserved
5	PIO2	Common IO,3.3V CMOS level	Reserved
6	MCU_TXD	Module serial data transmission,3.3V CMOS level	
7	MCU_RXD	Module serial data reception,3.3V CMOS level	
8	BOOT0	Program module	No connection, suspend
9	VIN	Vehicle battery input, 8-32V	Connect ESD EMC, overvoltage protection
10	5V	Module power supply	
11	GND	Module ground	
12	GND	Module ground	
13	3V3	3.3V power output, current<30mA, For data interface level conversion power supply	
14	NRST	Reset Module	
15	BUS-	PWM(J1850-)/485-A(J1708+)	Connect ESD
16	BUS+	PWM(J1850+)/485-B(J1708-)/VPW	Connect ESD
17	L_LINE	L Line	Connect ESD
18	K_LINE	K Line	Connect ESD

19	CANL	CAN high	Connect ESD
20	CANH	CAN low	Connect ESD
21	GND	Module Ground	
22	GND	Module Ground	

**Electronic Characteristics**

Working Voltage:5V +/-0.2V DC  
 Vehicle Voltage:8V~32V DC  
 Working current:13.8V/<20mA, 27.6V/<15mA  
 Sleeping current:12V/<5mA, 24V/<3mA  
 Working Temperature:-40°C~85°C  
 Storage Humidity:10%~90%

**Module Reference Circuit**



**Tips:**

1. PIN9 Connecting vehicle power, after the protective circuit
2. PIN10 Connecting 5V, Main power of main board, current<50mA
3. PIN13 is power output pin,3.3V
4. When the car battery voltage on the 24V vehicle use, ESD electrostatic suppressor T2,T5 32V voltage required.