



### Features

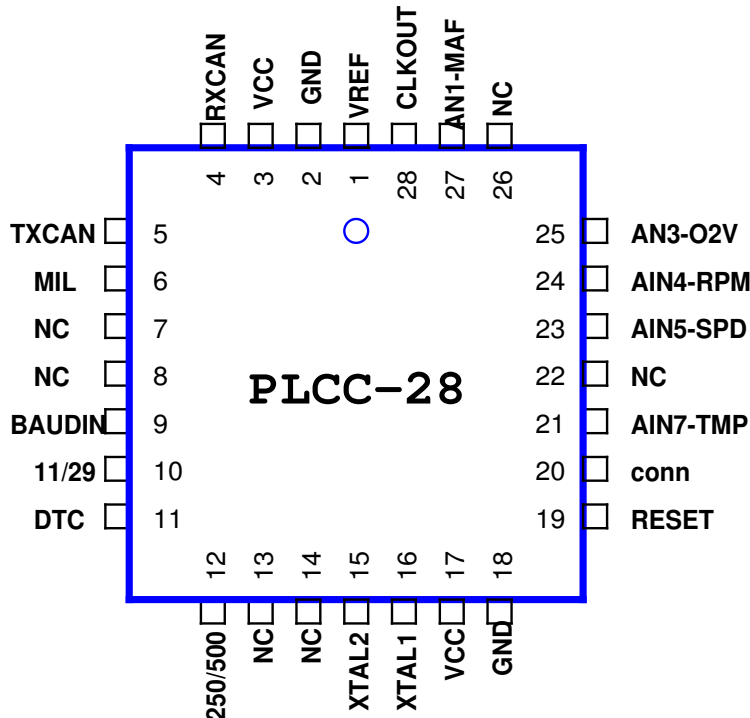
- Compatible with ISO 15765-4
- 2.7 to 6V operating range
- MIL LED output
- 11/29 bit ident selectable
- variable PIDs
- ECM,TCM and ABS ECU Address range
- 250/500 Kbaud selectable

### Description

OE91C1610 can simulate ECM ( engine ECU address 0x7E0 ) , TCM ( transmission control ECU address 0x7E1 ) and ABS ECU address 0x7E2 simultaneously.

It is compatible with OE90C1600. EOBD modes (1,2,3,4,7,9 ) are implemented. Each ECU has own PID table and variable PID can be changed via potentiometers. The ECM can generate more than 3 DTCs.

The OE91C1610 communicate at 250/500 Kbaud with 11/29 bit ident



**CAN BUS  
MULTIPLE ECU  
simulator according  
to ISO15765-4**

### OE91C1610



## Pin description

Pin	Pin Name	Type	Description
1	VREF	I	2.5 V extern ref input for ADC
2	GND		Ground
3	VCC		Supply voltage
4	RXCAN	I	Receiver input of CAN Bus
5	TXCAN	O	Transmitter output of CAN Bus
6	MIL	O	MIL LED max 5 mA for low current LED
7	NC		
8	NC		
9	BAUDIN		16 x RS232 Baudrate input clock
10	11 / 29	I	0 : 11 bit 1 : 29 bit ident select input
11	DTC	I	DTC input
12	250/500	I	Baud rate select 0:250 KB 1 : 500 KB
13	NC		
14	NC		
15	XTAL2	I	16 Mhz crystal input
16	XTAL1	I	16 MHz crystal input
17	VCC		Supply voltage
18	GND	I	Ground
19	RESET	I/O	A high level on this pin during 2 machine cycles while the oscillator is running resets the device.
20	LED2	O	LED output to indicate ECU connected to tester
21	AN7	I	Analog canal 7 input
22	NC		
23	AN5	I	Analog canal 5 input
24	AN4	I	Analog canal 4 input
25	AN3	I	Analog canal 3 input
26	NC		
27	AN1	I	Analog canal 1 input
28	CLKOUT	O	Clock output for RS232 baud rate in

**ECM ( engine control modul 0X7E0 OR 0x10 )****Mode 1**

<b>PID</b>	<b>Description</b>	<b>fixed Raw Value</b>	<b>Var. Raw Value</b>
03	Fuel system status	00	-
04	Engine Load	50	
05	ECT		0..255
06	STFT 1	60	
07	LTFT 1	70	
0C	RPM		0..65535
0D	VSS		0..255
0F	IAT	45	
10	Air flow rate of MAF sensor		0...65535
13	Location of O2 sensors	Bank 1 sensor 1	-
14	O2 volt		0..255
1C	OBD Type	EOBD	-
1F	Time since motor start		increments after simulator power on.
21	Distance traveled		increments while MIL LED is active
2F	FLI	100	
33	BARO	102	
42	Control voltage	12000	
46	AAT	75	

**Mode 2**

when the DTC input is low , P0100 cause a freeze frame storage as follow :

<b>PID</b>	<b>Description</b>	<b>Stored Value</b>
05	Engine coolant temp.	40
0C	Engine RPM	1234
0D	Vehicle speed sensor	67

**Mode 3**

If DTC button input is low , the MIL LED will be active and the DTCs for , mode 2 , mode 3 and 7 are generated.

when requesting this MODE the 6 DTCs come from ECM P0100 , P0200 , P0300 , U0100 , B0200 , C0300 . Multiple frame message is used.



#### **Mode 4**

delete the DTCs and freeze frame storage datas. MIL LED turns off.

#### **Mode 7**

While MIL LED is active , when requesting this MODE the 2 DTCs come from ECM . P0107 , P0207 .

#### **Mode 9**

Infotypes 1 and 2 are implemented . when requesting VIN Number the response is

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Multiple frame message is used.



## **TCM ( transmission control modul 0X7E1 or 0x18 )**

### **Mode 1**

<b>PID</b>	<b>Description</b>	<b>fixed Raw Value</b>	<b>Var. Raw Value</b>
05	Engine coolant temp.		0..255
0C	Engine RPM		0..65535
0D	Speed		0..255
1C	OBD Type	EOBD	-

### **Mode 2**

**Not implemented**

### **Mode 3**

While MIL LED is active , when requesting this MODE the 1 DTCs come from TCM P0101

### **Mode 4**

delete the DTC . MIL LED turns off.

### **Mode 7**

While MIL LED is active , when requesting this MODE the 2 DTCs come from TCM . P0102 , U1600

### **Mode 9**

Not implemented



## **ABS ( ABS modul 0x7E2 or 0x28 )**

### **Mode 1**

<b>PID</b>	<b>Description</b>	<b>fixed Raw Value</b>	<b>Var. Raw Value</b>
0D	Speed		0..255
1C	OBD Type	EOBD	-

### **Mode 2**

Not implemented

### **Mode 3**

No DTC

### **Mode 4**

No DTC

### **Mode 7**

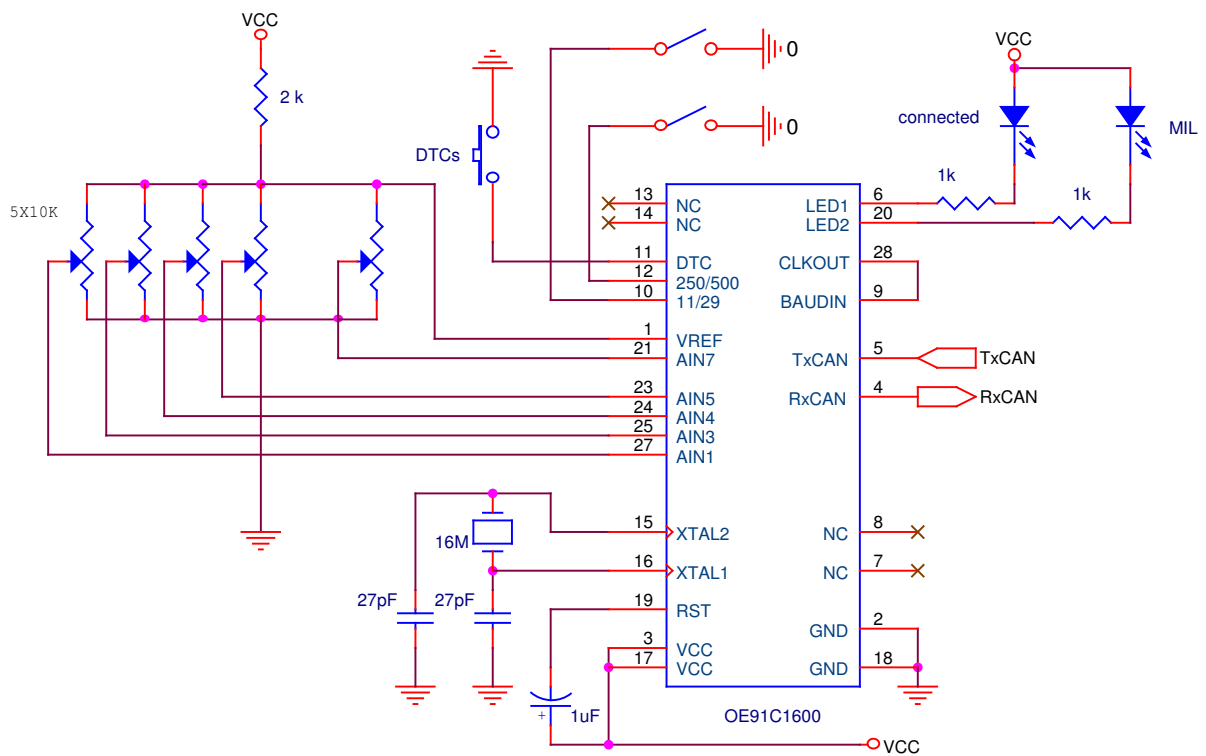
While MIL LED is active , 1 DTCs come from ABS ( B2245 )

### **Mode 9**

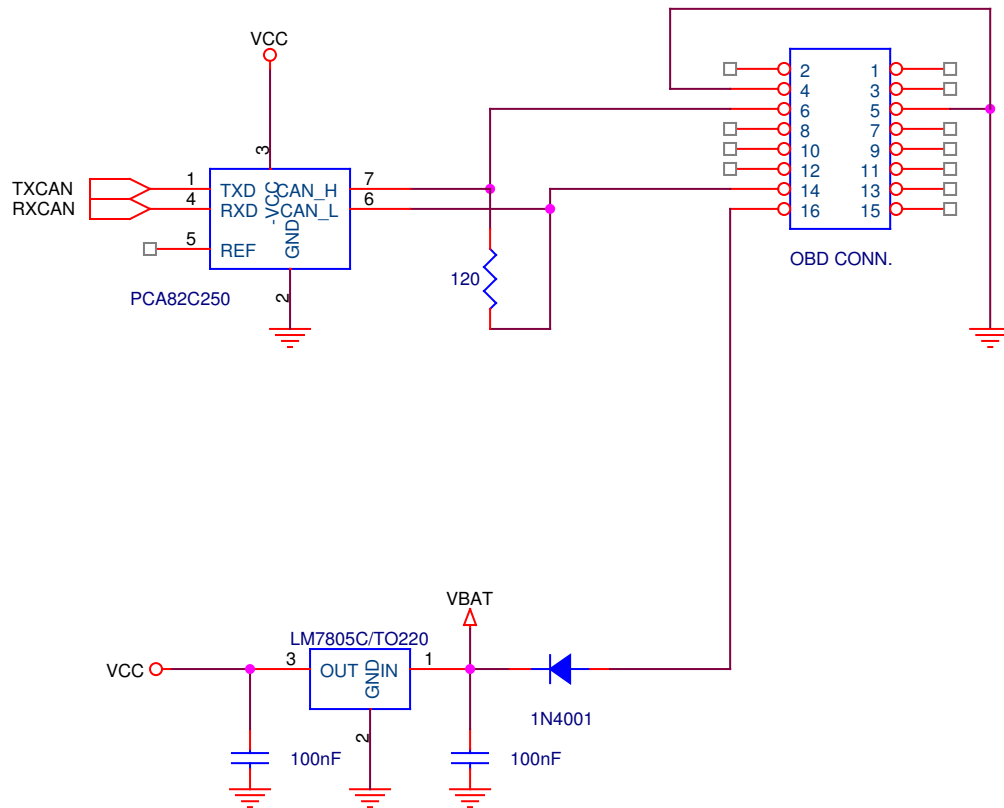
Not implemented



## Application notes



- the both LEDs are low current  $I_f < 5 \text{ mA}$ .
- close jumper to download a new release.
- Don't change the value of crystal.



- use a 12 VDC / 500 mA Adapter to power the simulator and the tester.
- A femal OBD connector must be used.