

etzue
12rer
23245 detzr

Date
11.Nov.2016

Pin assignment

Component/circuit description	ECM pin	Signal	Condition	Typical value	Oscilloscope setting	Wave form
Battery	B1	Input signal	Ignition OFF	11-14 V		
Battery	C16	Input signal	Ignition OFF	11-14 V		
CO adjustment resistor - without cat	C14	Output signal	Ignition ON	5 V		
CO adjustment resistor - without cat	D8	Input signal	Engine idling - engine hot	2,4 V		
Crankshaft position (CKP) sensor - C12NZ/C14NZ	B3	ECM earth circuit	Ignition ON	0 V		
Crankshaft position (CKP) sensor - C12NZ/C14NZ	B5	Input signal	Engine cranking	LED flashing	2 V/20 ms	
Crankshaft position (CKP) sensor - C12NZ/C14NZ	D5	Output signal	Ignition ON	11-14 V		
Crankshaft position (CKP) sensor - C12NZ/C14NZ	D5	Output signal	Engine running	11-14 V		
Data link connector (DLC)	A8	Input/output signal				
Data link connector (DLC)	A9	Input signal				
Earth	A12		Ignition ON	0 V		
Earth	D1		Ignition ON	0 V		
Earth	D6		Ignition ON	0 V		

Vehicle data:

Registration/licens

Model: **Opel/Vauxhall Astra F [91-00]**

Engine code: **C14NZ**

Model year:

Component/circuit description	ECM pin	Signal	Condition	Typical value	Oscilloscope setting	Wave form
Engine control module (ECM) - pin D10 - C16NZ/E16NZ	D9					
Engine control module (ECM) - pin D9 - C16NZ/E16NZ	D10					
Engine coolant temperature (ECT) sensor	A11	ECM earth circuit	Ignition ON	0 V		
Engine coolant temperature (ECT) sensor	C10	Input signal	Engine idling - 20°C	2,0-2,5 V		
Engine coolant temperature (ECT) sensor	C10	Input signal	Engine idling - 45°C	1,0 V		
Fuel pump relay	A1	Output signal	Ignition ON	11-14 V briefly then 0 V		
Fuel pump relay	A1	Output signal	Engine idling	11-14 V		
Idle air control (IAC) valve	C3	Output signal	Ignition ON	11,5 V		
Idle air control (IAC) valve	C3 (C4)	Output signal	Engine idling		5 V/0,5 sec.	<i>Intermittent</i>
Idle air control (IAC) valve	C4	Output signal	Ignition ON	0,8 V		
Idle air control (IAC) valve	C4 (C3)	Output signal	Engine idling		5 V/0,5 sec.	<i>Intermittent</i>
Idle air control (IAC) valve	C5	Output signal	Ignition ON	11,5 V		
Idle air control (IAC) valve	C5 (C6)	Output signal	Engine idling		5 V/0,5 sec.	<i>Intermittent</i>
Idle air control (IAC) valve	C6	Output signal	Ignition ON	0,8 V		
Idle air control (IAC) valve	C6 (C5)	Output signal	Engine idling		5 V/0,5 sec.	<i>Intermittent</i>
Ignition amplifier	D4	Output signal	Engine idling	2,6-3,4 V	1 V/10 ms	
Ignition amplifier - C16NZ/E16NZ	B3	ECM earth circuit	Ignition ON	0 V		
Ignition amplifier - C16NZ/E16NZ	B5	Input signal	Engine cranking	LED flashing		
Ignition amplifier - C16NZ/E16NZ	B5	Input signal	Engine idling		2 V/10 ms	

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Ignition amplifier - C16NZ/E16NZ	D5	Output signal	Ignition ON	0 V		
Ignition amplifier - C16NZ/E16NZ	D5	Output signal	Engine cranking	0 V		
Ignition amplifier - C16NZ/E16NZ	D5	Output signal	Engine idling	5 V		
Ignition switch	A6	Input signal	Ignition ON	11-14 V		
Injector	D15	ECM switched earth	Ignition ON	11-14 V		
Injector	D15	ECM switched earth	Engine idling - engine hot	0,8-1,6 ms	10 V/2 ms	
Malfunction indicator lamp (MIL)	A5	ECM switched earth	Ignition ON - MIL ON	0-1 V		
Malfunction indicator lamp (MIL)	A5	ECM switched earth	Engine idling - MIL OFF	11-14 V		
Manifold absolute pressure (MAP) sensor	A11	ECM earth circuit	Ignition ON	0 V		
Manifold absolute pressure (MAP) sensor	C11	Input signal	Ignition ON	5 V		
Manifold absolute pressure (MAP) sensor	C11	Input signal	Engine idling - engine hot	0,8-1,7 V		
Manifold absolute pressure (MAP) sensor	C14	Output signal	Ignition ON	5 V		
Octane coding plug	D2	ECM earth circuit	Ignition ON	0 V		
Octane coding plug - 95 RON	C12	Input signal	Ignition ON	3,5 V		
Oxygen sensor (O2S)	D7	Input signal	Ignition ON - engine cold	0,4-0,6 V		
Oxygen sensor (O2S)	D7	Input signal	Engine idling - engine hot	0,1-0,9 V fluctuating	0,2 V/1 sec.	
Park/neutral position (PNP) switch - AT	B10	Input signal	Ignition ON - AT in P or N	0 V		

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Park/neutral position (PNP) switch - AT	B10	Input signal	Ignition ON - AT not in P or N	11-14 V		
Throttle position (TP) sensor	C13	Input signal	Ignition ON - throttle closed	0,3-1,1 V		
Throttle position (TP) sensor	C13	Input signal	Ignition ON - throttle fully open	4,2-4,8 V		
Throttle position (TP) sensor	C14	Output signal	Ignition ON	5 V		
Throttle position (TP) sensor	D2	ECM earth circuit	Ignition ON	0 V		
Vehicle speed sensor (VSS)	A10	Input signal	Ignition ON - vehicle moving	0-12 V fluctuating	5 V/1 sec.	

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Wiring harness side

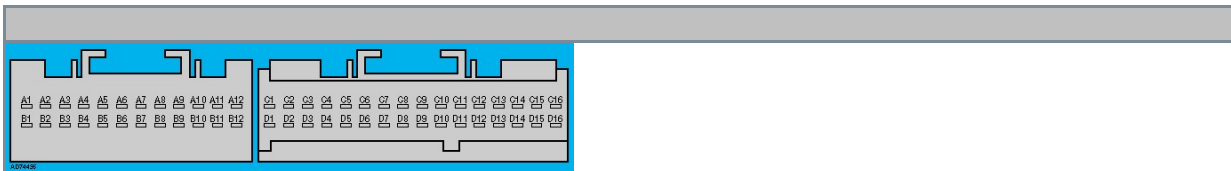


Fig. 1	Fig. 2
Fig. 3	Fig. 4
Fig. 5	Fig. 6

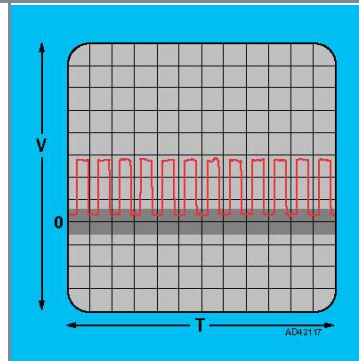
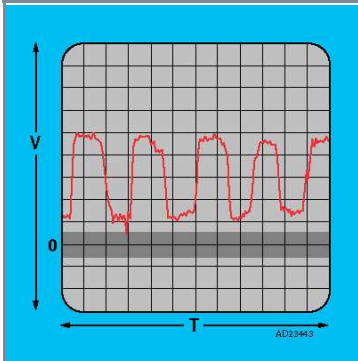
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