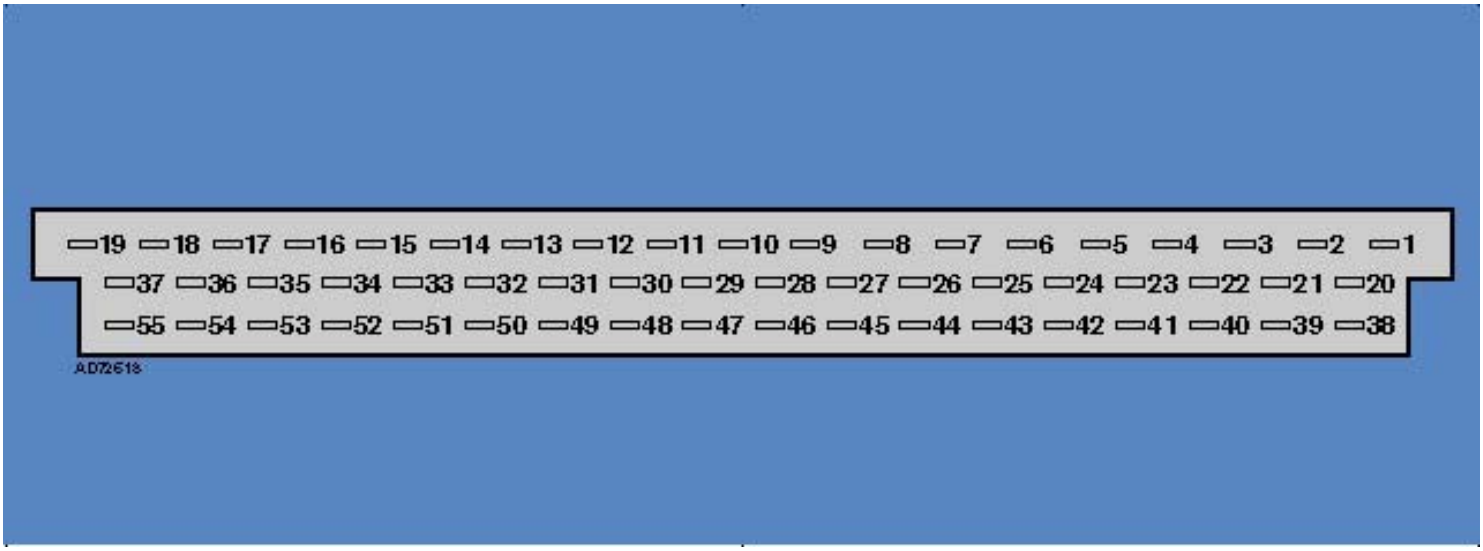
Telephone: www.306oc.co.uk
Fax: www.306oc.co.uk

Terminal side



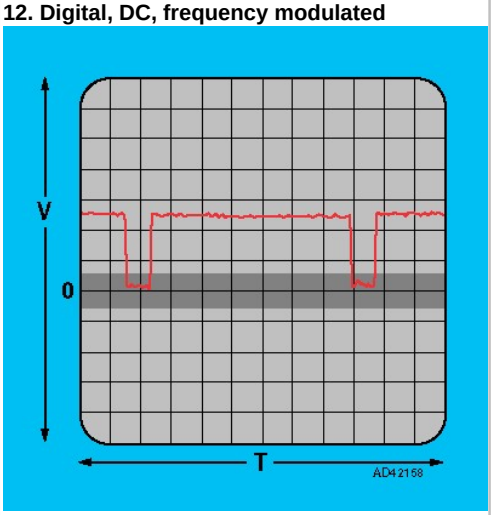
Wire side

Component/circuit description	ECM pin	Signal	Condition	Typical value	Oscilloscope setting (Suggested settings - Voltage/time per division)	Wave form
Air conditioning	26	⬅	AC compressor ON	11-14 V		
Air conditioning	50	⬅	AC ON	11-14 V		
Camshaft position (CMP) sensor	11	⬅	Ignition ON - engine turned	4,4-0 V fluctuating		
Camshaft position (CMP) sensor	11	⬅	Engine idling		2 V/20 ms	
Camshaft position (CMP) sensor	32	⊣	Ignition ON	0 V		
Camshaft position (CMP) sensor	34	⇨	Ignition ON	5 V		
Coded keypad	13	⬅	Ignition ON	11-14 V		
Coded keypad	27		Ignition ON	11-14 V		
Coded keypad	48		Ignition ON	11-14 V		
Crankshaft position (CKP) sensor	30 (49)	⬅	Engine idling		2 V/1 ms	
Crankshaft position (CKP) sensor	49 (30)	⬅	Engine idling		2 V/1 ms	Reversed 
Crankshaft position (CKP) sensor - shield wire	32	⊣	Ignition ON	0 V		
Data link connector (DLC)	12		Ignition ON	11-14 V		

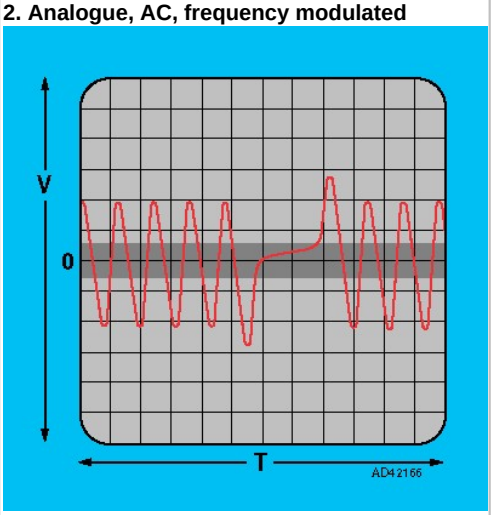
Data link connector (DLC)	31		Ignition ON	11-14 V		
Earth	17		Ignition ON	0 V		
Earth	36		Ignition ON	0 V		
Earth - some models	54		Ignition ON	0 V		
Engine coolant temperature (ECT) sensor	47	←	Ignition ON - coolant temp. 15°C	3 V		
Engine coolant temperature (ECT) sensor	47	←	Ignition ON - coolant temp. 80°C	0,5 V		
Engine coolant temperature (ECT) sensor	53	⊣	Ignition ON	0 V		
Evaporative emission (EVAP) canister purge valve	24	⊣→	Ignition ON	11-14 V		
Evaporative emission (EVAP) canister purge valve	24	⊣→	Engine running		10 V/50 ms	
Heated oxygen sensor (HO2S)	4	⊣	Ignition ON	0 V		
Heated oxygen sensor (HO2S)	22	←	Engine idling - accelerate briefly	0-1 V fluctuating	0,2 V/1 sec.	
Idle air control (IAC) valve	3	⇨	Ignition ON	11-14 V		
Idle air control (IAC) valve	3 (20)	⇨	Engine idling		5 V/0,5 sec.	Intermittent 
Idle air control (IAC) valve	20	⇨	Ignition ON	11-14 V		
Idle air control (IAC) valve	20 (3)	⇨	Engine idling		5 V/0,5 sec.	Intermittent 
Idle air control (IAC) valve	21	⇨	Ignition ON	0,1 V		
Idle air control (IAC) valve	21 (40)	⇨	Engine idling		5 V/0,5 sec.	Intermittent 
Idle air control (IAC) valve	40	⇨	Ignition ON	0,1 V		
Idle air control (IAC) valve	40 (21)	⇨	Engine idling		5 V/0,5 sec.	Intermittent 
Ignition coil - cylinder 1	55	⊣→	Engine idling		5 V/2 ms	
Ignition coil - cylinder 2	18	⊣→	Engine idling		5 V/2 ms	
Ignition coil - cylinder 3	19	⊣→	Engine idling		5 V/2 ms	
Ignition coil - cylinder 4	37	⊣→	Engine idling		5 V/2 ms	
Injector 1	2	⊣→	Engine idling	3,4 ms	10 V/2 ms	
Injector 2	39	⊣→	Engine idling	3,4 ms	10 V/2 ms	
Injector 3	1	⊣→	Engine idling	3,4 ms	10 V/2 ms	
Injector 4	38	⊣→	Engine idling	3,4 ms	10 V/2 ms	
Intake air temperature (IAT) sensor	17	⊣	Ignition ON	0 V		
Intake air temperature (IAT) sensor	29	←	Ignition ON - air temp. 15°C	3 V		
Knock sensor (KS)	15	←	Engine running - accelerate briefly		50 mV/1 ms	
Knock sensor (KS)	51	⊣	Ignition ON	0 V		
Malfunction indicator lamp (MIL)	9	⊣→	Ignition ON - MIL ON	0 V		

Malfunction indicator lamp (MIL)	9		Engine running - MIL OFF	11-14 V		
Manifold absolute pressure (MAP) sensor	17		Ignition ON	0 V		
Manifold absolute pressure (MAP) sensor	34		Ignition ON	5 V		
Manifold absolute pressure (MAP) sensor	41		Ignition ON	4,6 V		
Manifold absolute pressure (MAP) sensor	41		Engine idling	1,75 V		
Manifold absolute pressure (MAP) sensor	41		Engine idling - accelerate briefly	4,6 V briefly		
Power steering pressure (PSP) switch	14		Ignition ON - steering wheel not turned	0 V		
Power steering pressure (PSP) switch	14		Ignition ON - steering wheel turned	11-14 V		
Relay module	7		Ignition ON	0-1 V briefly then 11-14 V		
Relay module	7		Engine cranking	0-1 V		
Relay module	7		Engine running	0-1 V		
Relay module	13		Ignition ON	11-14 V		
Relay module	35		Ignition ON	11-14 V		
Relay module	52		Ignition ON	0-1 V		
Relay module	52		Engine running	0-1 V		
Speedometer	28		Engine running - vehicle pushed	0-12 V fluctuating		
Tachometer	42		Engine idling	30 Hz		
Tachometer	42		3000 rpm	100 Hz		
Throttle position (TP) sensor	16		Ignition ON	5 V		
Throttle position (TP) sensor	23		Ignition ON - throttle closed	0 V		
Throttle position (TP) sensor	23		Ignition ON - throttle fully open	4,6 V		
Throttle position (TP) sensor	53		Ignition ON	0 V		
Vehicle speed sensor (VSS)	28		Engine running - vehicle pushed	0-12 V fluctuating		

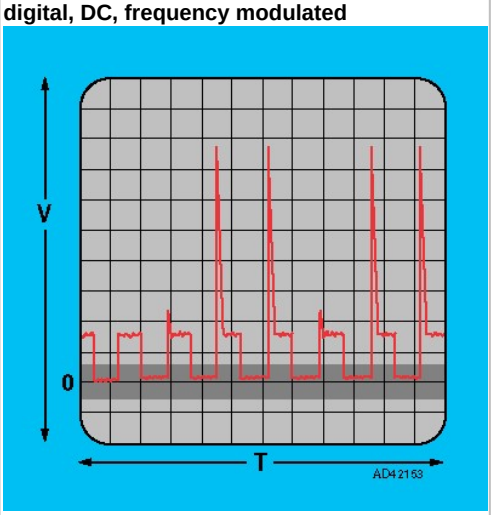
12. Digital, DC, frequency modulated



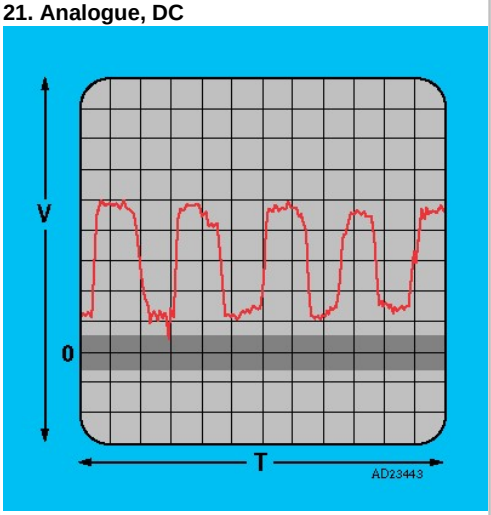
2. Analogue, AC, frequency modulated



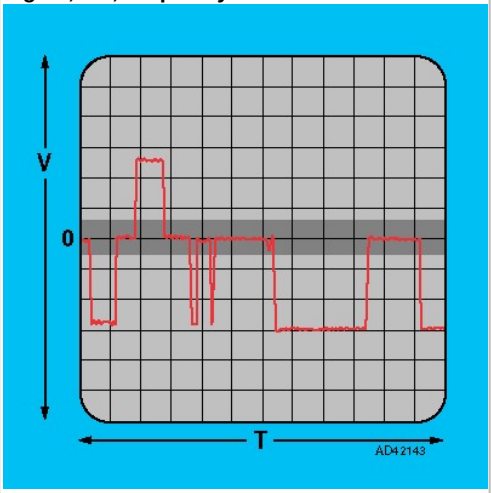
20. Digital, DC, pulse width modulated or digital, DC, frequency modulated



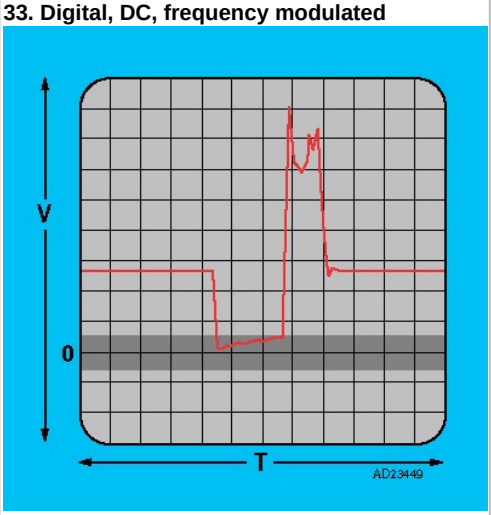
21. Analogue, DC



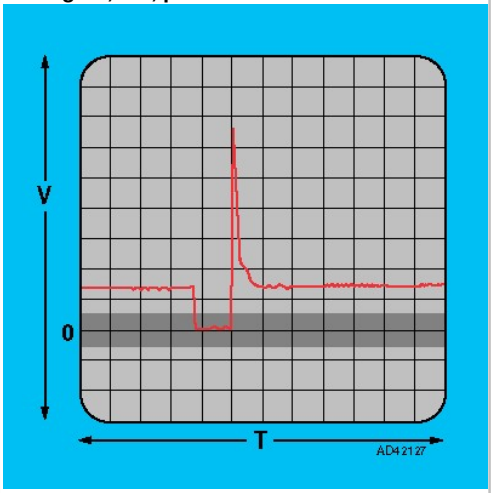
26. Digital, DC, pulse width modulated or digital, DC, frequency modulated



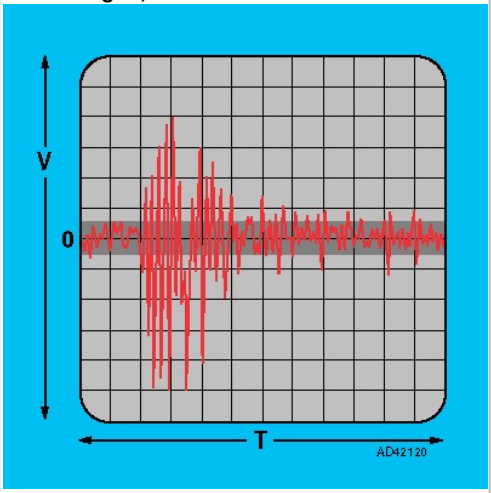
33. Digital, DC, frequency modulated



35. Digital, DC, pulse width modulated



38. Analogue, AC



⇦	input/output signal
⇦	input signal
⇨	output signal
	ECM switched earth
	ECM earth circuit