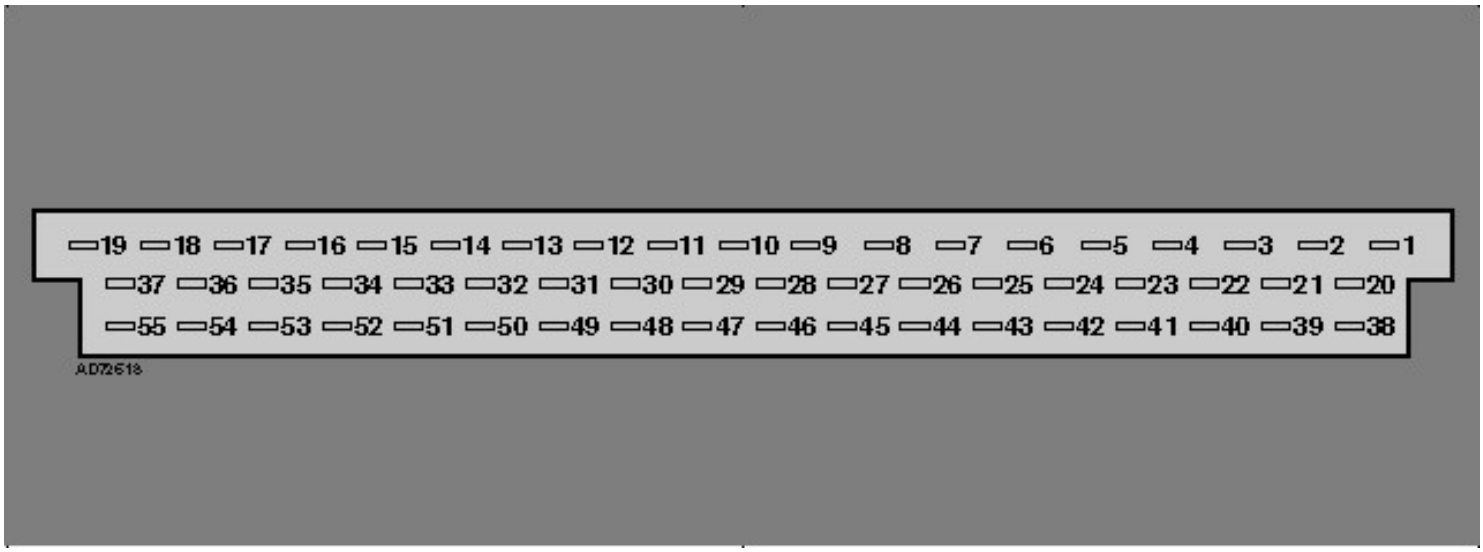
Telephone:
Fax:
VAT Registration No.:

Name:	BMW E30 25 6E 1/2	**Manufacturer:**	BMW
Address:		**Model:**	
		Year:	
		Registration:	
Tel - Private:		**Mileage:**	
Tel - Business:		**Job number:**	

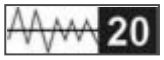
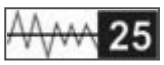
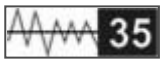
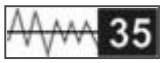
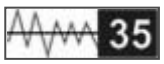
Terminal side



Wire side

Component/circuit description	ECM pin	Signal	Condition	Typical value	Oscilloscope setting (Suggested settings - Voltage/time per division)	Wave form
AC refrigerant pressure switch - if fitted	40	←	Engine idling - AC OFF	0 V		
AC refrigerant pressure switch	40	←	Engine idling - AC compressor ON	11-14 V		
AC relay - if fitted	41	←	Engine idling - AC OFF	0 V		
AC relay	41	←	Engine idling - AC compressor ON	11-14 V		

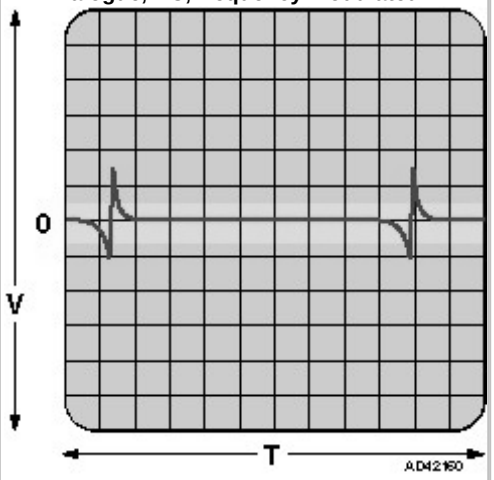
Alarm system control module - some models	38	←		Connected pin - no test data available or random digital signal		
Battery	18	←	Ignition OFF	11-14 V		
Camshaft position (CMP) sensor	8	←	Engine cranking	0 V		
Camshaft position (CMP) sensor	8	←	Engine idling		5 V/50 ms	
Camshaft position (CMP) sensor	31	⊣	Engine cranking	0 V		
Closed throttle position (CTP) switch	52	←	Ignition ON - throttle closed	0 V		
Closed throttle position (CTP) switch - some models	52	←	Ignition ON - throttle slightly open	11-14 V		
Crankshaft position (CKP) sensor	48	⊣	Engine cranking	0 V		
Crankshaft position (CKP) sensor - 4-cylinder	47	←	Engine cranking	3 V ac		
Crankshaft position (CKP) sensor	47	←	Engine idling	8,5 V ac	5 V/2 ms	
Crankshaft position (CKP) sensor	47	←	3000 rpm	27 V ac		
Crankshaft position (CKP) sensor - 6-cylinder	47	←	Engine cranking	3 V ac		
Crankshaft position (CKP) sensor	47	←	Engine idling	11 V ac	5 V/2 ms	
Crankshaft position (CKP) sensor	47	←	3000 rpm	42 V ac		
Data link connector (DLC)	13		Ignition ON	11-14 V		
Data link connector (DLC)	39		Ignition ON	0 V		
Data link connector (DLC)	55		Ignition ON	0 V		
Earth	2		Ignition ON	0 V		
Earth	14		Ignition ON	0 V		
Earth	19		Ignition ON	0 V		
Earth	24		Ignition ON	0 V		
Engine control relay	36	⊣▷	Ignition OFF	11-14 V		
Engine control relay	36	⊣▷	Ignition ON	0,7 V		
Engine control relay	36	⊣▷	Engine cranking	0,7 V		
Engine control relay	37	←	Ignition ON	11-14 V		
Engine coolant temperature (ECT) sensor	45	←	Ignition ON - 20°C	3,5 V		
Engine coolant temperature (ECT) sensor	45	←	Ignition ON - 80°C	0,9 V		
Evaporative emission (EVAP) canister purge valve	5	⊣▷	Ignition ON	0 V		

Evaporative emission (EVAP) canister purge valve	5	⇉	Engine hot - valve operating		10 V/20 ms	
Fuel pump relay	3	⇉	Ignition ON	11-14 V		
Fuel pump relay	3	⇉	Engine idling	0,2 V		
Heated oxygen sensor (HO2S)	10	⊣	Ignition ON	0 V		
Heated oxygen sensor (HO2S)	28	⇐	Engine idling - engine hot	0,1-0,9 V fluctuating	0,2 V/1 sec.	
Idle air control (IAC) valve - some models	4	⇉	Ignition ON	9-11 V fluctuating		
Idle air control (IAC) valve	4	⇉	Engine idling - engine hot		5 V/5 ms	
Idle air control (IAC) valve	22	⇉	Ignition ON	9-11 V fluctuating		
Idle air control (IAC) valve	22	⇉	Engine idling - engine hot		5 V/5 ms	
Ignition coil	1	⇉	Ignition ON	11-14 V		
Ignition coil	1	⇉	Engine cranking	9 V		
Ignition coil	1	⇉	Engine idling		5 V/2 ms	
Ignition switch	27	⇐	Ignition ON	11-14 V		
Injectors 1 & 3 - 4-cylinder	17	⇉	Ignition ON	11-14 V		
Injectors 1 & 3	17	⇉	Engine idling - engine hot	5,2 ms	10 V/2 ms	
Injectors 1, 3 & 5 - 6-cylinder	16	⇉	Ignition ON	11-14 V		
Injectors 1, 3 & 5	16	⇉	Engine idling - engine hot	4,5 ms	10 V/2 ms	
Injectors 2 & 4 - 4-cylinder	16	⇉	Ignition ON	11-14 V		
Injectors 2 & 4	16	⇉	Engine idling - engine hot	5,2 ms	10 V/2 ms	
Injectors 2, 4 & 6 - 6-cylinder	17	⇉	Ignition ON	11-14 V		
Injectors 2, 4 & 6	17	⇉	Engine idling - engine hot	4,5 ms	10 V/2 ms	
Instrument panel	29	⇐	Ignition ON	5 V		
Instrument panel	32	⇨	Engine idling	11-14 V		
Intake air temperature (IAT) sensor	44	⇐	Ignition ON - 20°C	3,8 V		
Knock sensor (KS) - if fitted	11	⇐	Ignition ON	2,2 V		
Knock sensor (KS)	11	⇐	Engine idling - accelerate briefly	50 mV/1 ms		
Oxygen sensor heater relay - some models	23	⇉	Ignition ON	11-14 V		
Oxygen sensor heater relay	23	⇉	Engine idling	0 V		

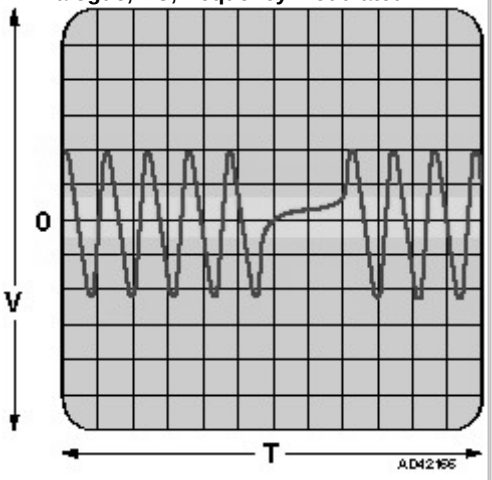
Tachometer - if fitted	6	⇨	Ignition ON	8-14 V		
Throttle position control module	52	⬅	Ignition ON - throttle closed	0-1 V		
Throttle position control module - some models	6	⇨	Ignition ON	8-14 V		
Throttle position control module	32	⇨	Engine idling	11-14 V		
Throttle position control module	41	⬅		Connected pin - no test data available or random digital signal		
Throttle position control module	52	⬅	Ignition ON - throttle slightly open	11-14 V		
Throttle position control module	53	⬅	Ignition ON - throttle closed	11-14 V		
Throttle position control module	53	⬅	Ignition ON - throttle fully open	0-1 V		
Traction control module - if fitted	50			Connected pin - no test data available or random digital signal		
Transmission control module (TCM) - AT	6	⇨	Ignition ON	8-14 V		
Transmission control module (TCM)	51	⇨	Ignition ON	11-14 V		
Transmission control module (TCM)	54	⇨	Ignition OFF	0,8 V		
Transmission control module (TCM)	54	⇨	Ignition ON	11-14 V		
Transmission kick-down relay - if fitted	33	⇨	Ignition ON	0 V		
Transmission shift position switch - AT	42	⬅	Ignition ON - AT not in P or N	0 V		
Transmission shift position switch	42	⬅	Ignition ON - AT in P or N	11-14 V		
Trip computer - some models	38	⬅		Connected pin - no test data available or random digital signal		
Volume air flow (VAF) sensor	7	⬅	Ignition ON	0,2 V		
Volume air flow (VAF) sensor	7	⬅	Engine idling - engine hot	1 V		
Volume air flow (VAF) sensor	7	⬅	3000 rpm - engine hot	2 V		
Volume air flow (VAF) sensor	12	⇨	Ignition ON	5 V		
Volume air flow (VAF) sensor	26	⇶	Ignition ON	0 V		
Volume air flow (VAF) sensor - some models	43	⬅	Ignition OFF	0 V		
Volume air flow (VAF) sensor	43	⬅	Ignition ON	0,7 V		
Wide open throttle (WOT) switch - some models	53	⬅	Ignition ON - throttle closed	11-14 V		

Wide open throttle (WOT) switch	53	⬅	Ignition ON - throttle fully open	0 V		

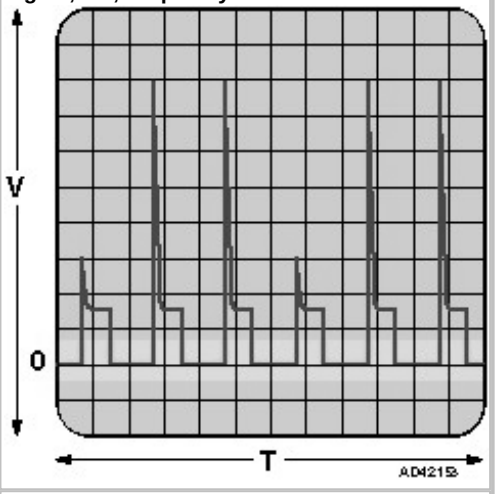
11. Analogue, AC, frequency modulated



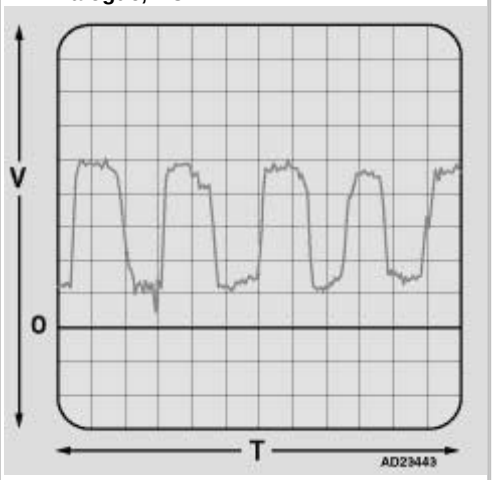
2. Analogue, AC, frequency modulated



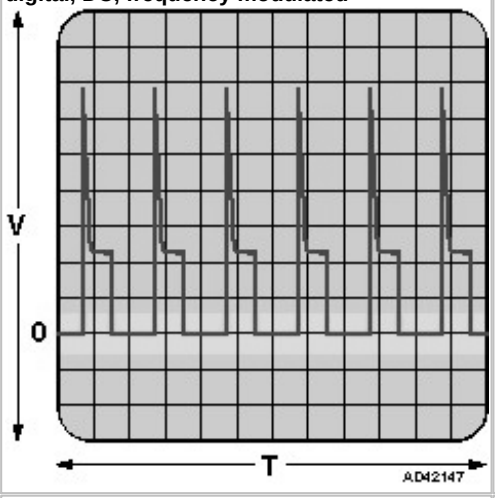
20. Digital, DC, pulse width modulated or digital, DC, frequency modulated



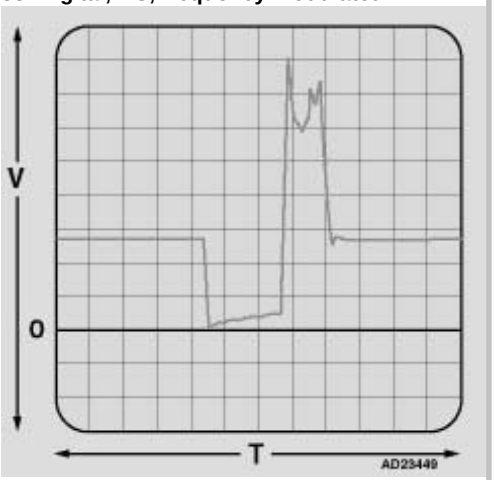
21. Analogue, DC



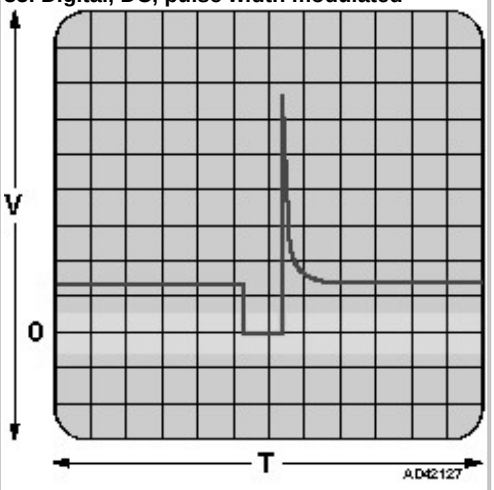
25. Digital, DC, pulse width modulated or digital, DC, frequency modulated



33. Digital, DC, frequency modulated



35. Digital, DC, pulse width modulated



38. Analogue, AC