NOTE: It is our policy to continually improve products and as such we reserve the right to alter data, specifications and component parts without prior notice.

IMPORTANT: No liability is accepted for incorrect use of this equipment.

WARRANTY: Guarantee is 12 months from purchase date, proof of which will be required for any claim.

INFORMATION: For a copy of our latest catalogue and promotions call us on 01284 757525 and leave your full name and address, including postcode.

Sole UK Distributor,
Sealey Group,
Bury St. Edmunds, Suffolk.

01284 757500 **01284 703534**

e-mail *sales@sealey.co.uk*

Web *www.sealey.co.uk*

VS/CC

APPLICATION CARD FOR CLIMATE CONTROL DIAGNOSTICS

1. INTRODUCTION

The VS/CC Application Card, when used in conjunction with the Control Unit from a VS333 Kit, provides the facility to locate faults in climate control systems and, having rectified the fault, to clear the fault code.

2. SAFETY

Important! All work on vehicle climate control systems should be carried out by trained personnel.

- Ensure that work area is well ventilated and is away from open flame or other heat sources.
- Observe component manufacturer's instructions for safety, handling and installation.
- Use only diagnostic testers to diagnose faults. DO NOT use multimeters or test lamps etc.
- Read, understand and apply the safety instructions supplied with VS333 or VS333.CC.

Sole UK Distributor,
Sealey Group,
Bury St. Edmunds, Suffolk.

3. APPLICATIONS

VEHICLE	YEAR	ADAPTOR	SWITCH
AUDI			
A3	96-03	Multifit	A1
A4	95-03	Multifit	A1
A6	97-03	Multifit	A1
80/Cabrio/Coupe/Quattro	94-96	VS333/13 or Multifit*	A1
100/A6	94-97	VS333/13 or Multifit*	A1
* Depending upon vehicle connector.			
BMW			
3 Series E36	96-00	VS333/11 or Multifit*	A6
3 Series E46	98-01	VS333/11 or Multifit*	A6
5 Series E39	97-01	VS333/11 or Multifit*	A6
7 Series E38	95-01	VS333/11 or Multifit*	A6
* Depending upon vehicle connector.			
MERCEDES			
A-CLASS (W168)	98-00	Multifit & VS333/122	C2
C-CLASS (W202)	95-00	Multifit & VS333/122	C2
CLK (W208)	98-00	Multifit & VS333/122	C2
E-CLASS (W210)	95-00	Multifit & VS333/122	C2
S-CLASS (W140)	95-99	Multifit & VS333/122	C2
S-CLASS (W220)	99-00	Multifit & VS333/122	C2
SL-CLASS (R129)	95-00	Multifit & VS333/122	C2
SLK (R170)	98-00	Multifit & VS333/122	C2

VEHICLE	YEAR	ADAPTOR	SWITCH
SEAT			
Alhambra	95-97	Multifit	A1
Cordoba/Ibiza	99-03	Multifit	A1
Leon/Toledo	99-03	Multifit	A1
SKODA			
Octavia	96-03	Multifit	A1
VAUXHALL/OPEL			
Omega	94-02	Multifit	J2
Vectra	95-99	Multifit	J2
VOLKSWAGEN			
Bora	98-03	Multifit	A1
Golf/Vento/Cabrio (Petrol)	92-03	Multifit	A1
Golf/Vento (Diesel)	95-03	Multifit	A1
Passat	94-03	Multifit	A1
Sharan	95-03	Multifit	A1

4. CONNECTOR LOCATIONS

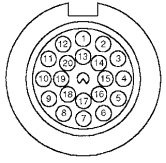
4.1. BMW

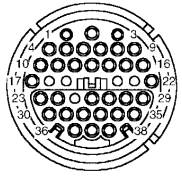
The BMW 20 pin, diagnostic connector socket (see A below) is located in the engine bay, normally along the bulkhead, but exact locations can vary.

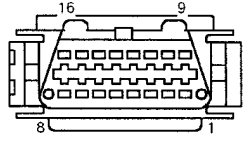
4.2. Mercedes

Mercedes vehicles usually use a circular, 38 pin diagnostic connector socket (see B below). These connectors can be located in the engine bay, usually near the bulkhead.

The A Class uses the standard J1962/OBDII connector (see C below), located under the steering column.





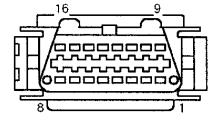


4.3. VAG

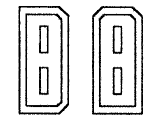
Volkswagen, Audi, Seat and Skoda vehicles use two types of diagnostic connector - the J1962 16-pin connector (1) and the 2x2-pin ISO 9141 (2). Most vehicles use the former, located either in the centre console, under a removable plastic cover, or in the driver's footwell, underneath the steering column. Audi A6 and 100 models use the ISO 9141 connectors, which are located in the engine compartment relay box.

4.4. Vauxhall/Opel

The J1962 16-pin diagnostic connector (1) is located in the passenger compartment fuse box or under a removable panel adjacent to the handbrake.



1



2

5. OPERATION

Warning! Ensure that you read, understand and apply the safety instructions in Section 2, those supplied with VS333 and any supplied by the vehicle manufacturer.

5.1. Insert the application card into the slot in the bottom of the control unit.
IMPORTANT! The card is fragile and must be handled with care. Hold the card at the raised end and insert, gold contact end first, with the contacts uppermost. Take care not to scratch the gold contacts.
When correctly inserted, the end of the card will be flush with the unit casing with only the removal tape protruding.

DO NOT remove the application card whilst the unit is in use. The card should remain in the unit until another application card is to be used, in which case the cards may be changed only when the unit is **not** connected to a vehicle. Remove the card by gently pulling the tape.

Note: When first using a card the unit will take approximately 30 seconds to initialise, during which time the message *UPDATING WAIT* will be displayed. **Once the initialisation is completed that card cannot be used in any other unit.**

5.2. Connect the required adaptor lead (see Section 3) to the unit and then, **with the vehicle ignition turned off**, connect to the vehicle's diagnostic connector (see Section 4 for location). If using the Multifit lead ensure that the switches are set as specified in Section 3.

5.3. Turn on the ignition and the control unit will automatically power up and display a menu.

5.4. Choose from the options displayed ('Read DTCs' or 'Clear DTCs' for each manufacturer). DTC = Data Trouble Code.

Notes: Navigate using the unit buttons as follows:

- ↖ to go up
- ↘ to go down
- ✓ to continue
- ✖ to go back

5.5. To view the next code move down (press ↘).

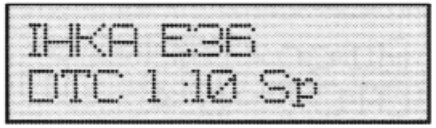
5.6. To view the previous code move up (press ↖).

5.7. To exit press ✖.

6. DATA TROUBLE CODES

6.1. Display

Data trouble codes (DTCs) are displayed in two lines, as shown in the BMW example on the right.



The first line shows the system type, which is used to reference the correct fault table, see 6.2.).

The second line shows the DTC number, followed by the fault code In this BMW example, 'DTC 1' indicates that it is the first fault, '10' is the fault code (Fresh air flap motor - see BMW E36 Fault Codes table 6.2.?) and 'Sp' indicates that the fault is sporadic.

If there are a number of DTCs they can be viewed in turn by pressing the up/down arrow keys. to return to the vehicle menu press * and pressing it again will take you to the main menu.

6.2. Clearing DTCs

DTCs are cleared by actioning the 'Clear DTCs' option in the appropriate vehicle menu. You will be prompted to turn the ignition off and to wait until prompted before turning it back on.

To check that the DTCs have been successfully deleted **run the climate control system and then** select 'Read DTCs' from the menu.

7. FAULT CODES

7.1. BMW

7.1.1. E36 Climate Control Fault Codes

0A	Water valve, left
0B	Water valve, right
0C	DME-KO
0D	Rear window defogger relay
0E	Sensor blower
0F	DME-AC
1	Evaporator sensor
2	AUC sensor
3	Brightness
4	Inner temperature sensor
5	Clamp 30
6	Outside temperature sensor
7	Heat exchanger sensor, left
8	Heat exchanger sensor, right
10	Fresh air flap motor
11	Footwell flap motor
12	Air circulation flap motor
13	Ventilation flap motor
14	Defrost flap motor
15	Vehicle speed signal
16	Engine speed signal
17	Clamp 58g
18	Push button array
19	Blower control voltage

7.1.1. Continued

1A	Controlling LED
1B	Controlling LCD
1C	Setting value Y, left
1D	Setting value Y, right
1E	Heat exchanger rated temperature, left
1F	Heat exchanger rated temperature, right

7.1.2. E38 Climate Control Fault Codes

0	Ventilation flap motor, left
0D	Evaporator sensor
0E	Heat exchanger sensor, left
0F	Heat exchanger sensor, right
1	Ventilation flap motor, right
2	Air circulation flap motor
3	Defroster flap motor
4	Footwell flap motor, left
5	Footwell flap motor, right
6	Stratification flap motor, left
7	Stratification flap motor, right
8	Rear compartment flap motor
10	Fresh air flap motor
12	Inner temperature sensor
14	Rear stratification potentiometer

7.4.3. Continued

43	AC facia vent temperature sensor, right - high input
44	Heated rear window relay/door mirror heater relay - low input
45	Heated rear window relay/door mirror heater relay - high input
46	Heated rear window relay/door mirror heater relay - feedback, low input
47	AC/heater function control panel - defective switch
48	AC/heater function control panel - defective temperature control knob
49	AC control module - multi-plug disconnected
51	AC control module - EEPROM defective
52	AC control module - variant coding not programmed
55	AC control module/AC/heater function control panel - defective
56	Heater intake air purity sensor - open circuit
57	Heater intake air purity sensor - defective
58	Engine RPM signal - open circuit
59	Engine RPM signal - high input
169	Outside air temperature - voltage low
171	Outside air temperature - voltage high

7.4.4. GM Climate Control Fault Status Codes

INV	Invalid
NOT	Not present
INT	Intermittent
PRE	Present

7.1.2. Continued

15	Front stratification potentiometer
16	Ventilation temperature sensor, right
17	Ventilation temperature sensor, left
29	Relay, auxiliary fan
2A	Relay, windshield defogger
2B	Relay, rear window defogger
2C	AC compressor magnetic clutch
2D	Auxiliary water pump
2E	Water valve, left
2F	Water valve, right
30	Park heating locking valve
40	AUC sensor
42	Blower control voltage

7.1.3. E39 Climate Control Fault Codes

0	Ventilation flap motor
0A	AUC sensor
0B	Clamp 30
0D	Inner temperature sensor
0E	AUC heating
0F	Relay, auxiliary fan
1	Air circulation flap motor
2	Footwell flap motor
3	Defroster flap motor
4	Rear compartment flap motor
5	Fresh air flap motor
6	Temperature sensor, latent heat storage system
7	Heat exchanger sensor, left
8	Heat exchanger sensor, right
9	Evaporator sensor
10	Relay, washer jet heating
11	Relay, rear window defogger
12	AC compressor magnetic clutch
13	DME-KO
14	DME-AC
15	Auxiliary water pump
16	Water valve, left
17	Water valve, right
18	Park heating locking valve, latent heat storage system cut-off valve
19	Park heating wake-up line
1A	Blower control voltage
1B	Setting value Y, left
1C	Setting value Y, right
1D	Heat exchanger rated temperature, left
1E	Heat exchanger rated temperature, right

7.1.3. Continued

1F	Outside temperature
20	Vehicle speed
21	Coolant temperature
22	Engine speed
23	Clamp 58g
24	LCD back light
25	Latent heat storage system, shut-off valve
26	Engine runs
27	Park ventilation on/off
29	AUC sensor
2A	Sensor blower

7.1.4. E46 Climate Control Fault Codes

0	Ventilator flap motor
0B	Evaporator sensor
0D	Heat exchanger sensor
1	Defroster flap motor
2	Footwell flap motor
3	Fresh air/air circulation flap motor, left
4	Fresh air/air circulation flap motor, right
6	Pressure sensor, AUC supply
12	Inner temperature sensor
15	Relay, rear window defogger
16	Additional heater, windshield defogger relay
17	Auxiliary water pump
18	Water pump
19	Blower control voltage
20	Sensor blower
21	Communication with the additional heater
22	AUC sensor
23	Pressure sensor
24	AUC heating
25	Latent heat storage system, cut-off valve
26	Latent heat storage system, shut-off valve
27	Latent heat storage system, temperature sensor

7.1.5. BMW Climate Control Fault Status Codes

Sp	Sporadic
Pr	Currently present
Im	Implausible value/invalid operating range
Op	Open circuit
Neg	Short circuit to negative
Pos	Short circuit to positive
Np	Currently not present

7.2. MERCEDES

7.2.1. Climate Control Fault Reference Body Codes

B1000 HRA Headlamp Range Adjustment - supply voltage of the control unit is too low (under voltage)
B1004 LCP Lower Control Panel - control unit does not match vehicle type
B1026 CAN communication
B1056 Automatic AC - problem in CAN communication with control unit DCM-RL
B1201 Electric seat adjustment, front left - hall sensor, front height, M27m3
B1213 If seat memory installed - external left rear-view mirror voltage faulty
B1214 If seat memory installed - external right rear-view mirror voltage faulty
B1226 In-car temperature sensor (B10/4)
B1227 Outside temperature sensor (014)
B1228 Heater core temperature (B10/1)
B1229 Heater core temperature (B10/1)
B1230 Evaporator temperature sensor (B10/6)
B1231 ECT sensor (B11/4)
B1232 Refrigerant pressure sensor (B12)
B1233 Refrigerant temperature sensor (B12/1)
B1234 Sun sensor (B32)
B1235 Emissions sensor (B31)
B1241 Refrigerant fill
B1246 PTS Parktronic - A42b1 (left outer sensor, front bumper) plug connection has poor contact or is loose or the sensor or cable is faulty
B1310 Left window airbag sensor defective
B1315 Problem in front passenger seat child recognition
B1416 Coolant circulation pump (M13)
B1417 Left side water valve (Y21y1)
B1418 Right side water valve (Y21y2)
B1419 Electromagnetic clutch (A9k1)
B1420 Idle speed increase
B1421 Pulse mode (N05)
B1422 Series interface (K1) connection to instrument cluster (A1)
B1423 Switchover valve block (Y11)
B1424 Activated charcoal filler actuator (A32m2) open
B1425 Activated charcoal filler actuator (A32m2) closed
B1432 Maximum heat
B1451 Diverter flap (Y11/3)
B1452 Blend air flap (Y11/3)
B1453 Fresh/recirculated air flap (Y11/3) long stroke
B1454 Fresh/recirculated air flap (Y11/3) short stroke
B1455 Defroster outlet flap (Y11/3) long stroke
B1456 Defroster outlet flap (Y11/3) short stroke
B1457 Footwell flap (Y11/3) long stroke
B1458 Footwell flap (Y11/3) short stroke
B1459 Serial interface (K2) connection to instrument cluster (A1)
B1462 Wide open throttle (WOT) position signal, diesel engines
B1476 Airbag malfunction indicator and warning lamp is defective
B1481 HRA: Part E2m1 (right headlamp range adjustment motor) has short to ground
B1489 HRA: Part E2m1 (right headlamp range adjustment motor) has open or short to positive
B1492 HRA: Part E1m1 (left headlamp range adjustment motor) has short to positive

7.4. Vauxhall/Opel Climate Control Fault Codes

7.4.1. Vectra B '95 - '99

10 AC control module in-car temperature sensor - voltage low
11 AC control module in-car temperature sensor - voltage high
12 AC footwell vent temperature sensor, left - voltage low
13 AC footwell vent temperature sensor, left - voltage high
14 AC sunlight sensor, right - voltage low
15 AC sunlight sensor, right - voltage high
16 AC/heater air direction motor II - voltage high
17 AC/heater air direction motor II - voltage low
18 AC/heater air mix flap motor - voltage high
19 AC/heater air mix flap motor - voltage low
20 AC/heater air direction motor I - voltage high
21 AC/heater air direction motor I - voltage low
22 AC/heater defrost flap motor - voltage high
23 AC/heater defrost flap motor - voltage low
24 AC/heater blower motor - voltage high
25 AC/heater blower motor - voltage low
26 AC control module - in-car temperature sensor blower
27 AC control module - control panel fault
28 Engine coolant heater regulator valve - voltage low
29 Engine coolant heater regulator valve - voltage high
30 AC/heater regulator recirculation flap solenoid - voltage high
31 AC/heater regulator recirculation flap solenoid - voltage low
32 AC/heater blower motor

7.4.2. Omega B Petrol/Diesel '94 - '99

10 AC control module in-car temperature sensor - voltage low
11 AC control module in-car temperature sensor - voltage high
12 Heater output temperature sensor, left - voltage low
13 Heater output temperature sensor, left - voltage high
14 Heater output temperature sensor, right - voltage low
15 Heater output temperature sensor, right - voltage high
16 AC/heater air intake flap motor - voltage low
17 AC/heater air intake flap motor - voltage high
18 AC/heater air mix flap motor I - voltage low
19 AC/heater air mix flap motor I - voltage high
20 AC/heater air mix flap motor II - voltage low
21 AC/heater air mix flap motor II - voltage high
22 AC/heater air direction motor - voltage low
23 AC/heater air direction motor - voltage high
24 AC/heater defrost flap motor - voltage low
25 AC/heater defrost flap motor - voltage high
26 AC/heater blower motor - voltage low

7.4.2. Continued

27 AC/heater blower motor - voltage high
28 AC/heater recirculation flap solenoid - voltage low
29 AC/heater recirculation flap solenoid - voltage high
30 Engine coolant heater regulator valve - voltage low
31 Engine coolant heater regulator valve - voltage high
32 AC/heater blower motor
51 AC control module
52 Variant coding not programmed
169 Outside air temperature sensor - voltage low
171 Outside air temperature sensor - voltage high

7.4.3. Omega B '00 - '03 2.2, 2.6, 3.2, 2.2td, 2.5td

10 In-car temperature sensor - voltage low
11 In-car temperature sensor - voltage high
12 Blower motor - voltage high
16 AC/heater air facia flap motor - voltage low
17 AC/heater air facia flap motor - voltage high
18 AC/heater air mix flap motor, left - voltage low
19 AC/heater air mix flap motor, left - voltage high
20 AC/heater air mix flap motor, right - voltage low
21 AC/heater air mix flap motor, right - voltage high
22 AC/heater footwell flap motor - voltage low
23 AC/heater footwell flap motor - voltage high
24 AC/heater defrost flap motor - voltage low
25 AC/heater defrost flap motor - voltage high
26 AC/heater blower motor - voltage low
27 AC/heater blower motor - voltage high
28 AC/heater recirculation flap solenoid - voltage low
29 AC/heater recirculation flap solenoid - voltage high
30 Engine coolant heater regulator valve - voltage low
31 Engine coolant heater regulator valve - voltage high
32 AC sunlight sensor, left solar cell - low input
33 AC sunlight sensor, left solar cell - high input
34 AC sunlight sensor, right solar cell - low input
35 AC sunlight sensor, right solar cell - high input
36 AC footwell vent temperature sensor, left - low input
37 AC footwell vent temperature sensor, left - high input
38 AC footwell vent temperature sensor, right - low input
39 AC footwell vent temperature sensor, right - high input
40 AC facia vent temperature sensor, left - low input
41 AC facia vent temperature sensor, left - high input
42 AC facia vent temperature sensor, right - low input

7.3.2. Continued

48 Power supply
176 Power supply - sporadic fault
49 No communication
177 No communication - sporadic fault
50 Position early not reached
178 Position early not reached - sporadic fault
51 Position late not reached
179 Position late not reached - sporadic fault
52 Power supply too large
180 Power supply too large - sporadic fault
53 Power supply too small
181 Power supply too small - sporadic fault
54 Wrong equipment
182 Wrong equipment - sporadic fault
55 Adaption not in emergency mode
183 Adaption not in emergency mode - sporadic fault
56 Electrical fault in current circuit
184 Electrical fault in current circuit - sporadic fault
57 Does not lock
185 Does not lock - sporadic fault
58 Does not unlock
186 Does not unlock - sporadic fault
59 Deadlock does not engage
187 Deadlock does not engage - sporadic fault
60 Deadlock does not disengage
188 Deadlock does not disengage - sporadic fault
61 No or incorrect setting
189 No or incorrect setting - short to positive/sporadic fault
62 Temp. switch off
190 Temp. switch off - sporadic fault
63 Spec value not reached
191 Spec value not reached - sporadic fault
64 Cy1
192 Cy1 - sporadic fault
65 Cy1
193 Cy1 - sporadic fault
66 Cy1
1944 Cy1 - sporadic fault
67 Cy1
195 Cy1 - sporadic fault
68 Cy1
196 Cy1 - sporadic fault
69 Cy1
197 Cy1 - sporadic fault
70 Cy1
198 Cy1 - sporadic fault
71 Cy1

7.3.2. Continued

199 Cy1 - sporadic fault
72 Terminal 30 is missing
200 Terminal 30 is missing - sporadic fault
73 Internal voltage supply
201 Internal voltage supply - sporadic fault
74 Missing message
202 Missing message - sporadic fault
75 Interrogate fault memory
203 Interrogate fault memory - sporadic fault
76 In one-wire operating mode
204 In one-wire operating mode - sporadic fault
77 Cannot be checked at present
205 Cannot be checked at present - sporadic fault
78 Not authorized
206 Not authorized - sporadic fault
79 Compensation not carried out
207 Compensation not carried out - sporadic fault

7.2.1. Continued

B1617 Part E19/1 (left license plate lamp) is defective
B1618 Part E19/2 (right license plate lamp) is defective
B1628 Part E2e5 (turn signal lamp) in module E2 (right front headlamp unit) is defective
B1703 Intermittent No Start in AAM Immobilizer Module
B1729 PSE pneumatic system door lock Control Module A37
B1736 Navigation system CD Player - check general CD, check CD data block, Flimsy CD data
B1768 Faulty open data flap limit switch (0025), front flap
B1773 HRA: Zero position programming has not yet been carried out or is not possible
B1850 Electric seat adjustment, front right - CAN communication interrupted with DCM

7.3. VAG (Volkswagen, Audi, Seat & Skoda)

7.3.1. Climate Control Fault Codes

00000 No faults present on system
00281 Road speed sender - G68
00522 Coolant temperature sender - G62
00529 Speed information missing
00532 Supply voltage
00538 Reference voltage
00600 Potentiometer in V68-G92
00601 Potentiometer in V70-G112
00602 Potentiometer in V85-G114
00603 Defroster flap motor in footwell - V85
00604 Potentiometer in V71-G113
00605 Two-way valve fresh/recirculated air flap - N63
00624 Air conditioner compressor cut-in
00625 Speed signal
00630 Air conditioning switched on
00657 Positioning motor for centre outlets - V102
00658 Operating unit
00710 Defrost flap control motor - V107
00727 Potentiometer in V107-G135
00734 Potentiometer in centre vent - G142
00756 Left vent temperature sender - G150
00757 Right vent temperature sender - G151
00766 Front vent temperature sender - G152
00779 Ambient temperature sender - G17
00785 Dash panel temperature sender - G56
00786 Roof temperature sender - G86
00787 Fresh air intake temperature sender - G89
00788 Footwell 2-way valve defrost flap - N118
00789 Air conditioning compressor load signal
00790 Fresh/recirculating air flap
00791 Evaporator temperature switch - E33
00792 Air conditioner pressure switch - F129
00796 Blower for temperature sender - V42
00797 Sunlight penetration photo sender - G107
00799 Coolant temperature sender - G110
00800 Temperature sensor blower - G109
00801 High pressure switch magnetic coupling - F118
00802 Air conditioner low pressure switch - F73
01013 Air conditioning compressor load signal
01029 Air conditioner relay - J32
01044 Control unit incorrectly coded
01086 Speedometer sender - G22
01087 Basic setting not carried out
01184 Rear air outlet temperature sender - G174
01185 Rear fresh air blower - V80

7.3.1. Continued

01186 Rear air distribution servo motor - V136
01187 Rear temperature flap servo motor - V137
01188 Magnetic coupling CU - electrical operation
01189 Position motor for air distribution, front - V145
01205 Climatronic relay - J254
01206 Ignition time period signal off
01229 Humidity sender for AC system - G260
01230 Air vent temperature sender, left footwell - G26
01231 Air vent temperature sender, right footwell - G262
01232 AC compressor regulator valve - N280
01270 AC magnetic coupling - N25
01271 Motor for temperature flap - V68
01272 Motor for central flap - V70
01273 Fresh air lower - V2
01274 Motor for air flow flap - V71
01296 Centre vent temperature sender - G191
01297 Footwell vent temperature sender - G192
01320 Control unit for Climatronic
01582 Signal for coolant temperature
01809 Positioning motor for temperature flap, left - V158
01810 Positioning motor for temperature flap, right - V159
01841 Potentiometer in V158-G220
01842 Potentiometer in V159-G221
16915 AC compressor load signal implausible
16916 AC pressure sensor signal too low
16917 AC pressure sensor signal too high
17029 AC input/output
17975 No load signal from AC compressor
18043 Data bus drive, no message from AC CU
18049 Interrogate AC CU fault memory
18064 AC input/output short to earth
18065 AC input/output short to positive

7.3.2. Climate Control Fault Status Codes

01 Signal at positive
129 Signal at positive - sporadic fault
02 Signal at earth
130 Signal at earth - sporadic fault
03 No signal
131 No signal/sporadic fault
04 Mechanical fault
132 Mechanical fault - sporadic fault
05 Input open
133 Input open - sporadic fault
06 Signal too great
134 Signal too great - sporadic fault
07 Signal too small
135 Signal too small - sporadic fault
08 Regulating limit exceeded
136 Regulating limit exceeded - sporadic fault
09 Adaption limit exceeded
137 Adaption limit exceeded - sporadic fault
10 Adaption limit not reached
138 Adaption limit not reached - sporadic fault
11 Regulation limit not reached
139 Regulation limit not reached - sporadic fault
12 Adaption limit (mul) exceeded
140 Adaption limit (mul) exceeded - sporadic fault
13 Adaption limit (mul) not reached
141 Adaption limit (mul) not reached - sporadic fault
14 Adaption limit (add) exceeded
142 Adaption limit (add) exceeded - sporadic fault
15 Adaption limit (add) not reached
143 Adaption limit (add) not reached - sporadic fault
16 Signal outside tolerance
144 Signal outside tolerance - sporadic fault
17 Regulating difference
145 Regulating difference - sporadic fault
18 Upper stop valve
146 Upper stop valve - sporadic fault
19 Lower stop valve
147 Lower stop valve - sporadic fault
20 Fault in basic setting
148 Fault in basic setting - sporadic fault
21 Front pressure build-up time too long
149 Front pressure build-up time too long - sporadic fault
22 Front pressure reducing time too long
150 Front pressure reducing time too long - sporadic fault
23 Rear pressure build-up time too long
151 Rear pressure build-up time too long - sporadic fault
24 Rear pressure reducing time too long

7.3.2. Continued

152 Rear pressure reducing time too long - sporadic fault
25 Undefined switch position
153 Undefined switch position - sporadic fault
26 Output open
154 Output open - sporadic fault
27 Implausible signal
155 Implausible signal - sporadic fault
28 Short circuit to positive
156 Short circuit to positive - sporadic fault
29 Short circuit to earth
157 Short circuit to earth - sporadic fault
30 Open/short circuit to positive
158 Open/short circuit to positive - sporadic fault
31 Open/short circuit to earth
159 Open/short circuit to earth - sporadic fault
32 Value of resistance too great
160 Value of resistance too great - sporadic fault
33 Value of resistance too small
161 Value of resistance too small - sporadic fault
34 No fault type identified
162 No fault type identified - sporadic fault
35
163
36 Open circuit
164 Open circuit - sporadic fault
37 Defective
165 Defective - sporadic fault
38 Output does not switch/short to positive
166 Output does not switch/short to positive - sporadic fault
39 Output does not switch/short to earth
167 Output does not switch/short to earth - sporadic fault
40 Short circuit to another valve
168 Short circuit to another valve - sporadic fault
41 Blocked or without voltage
169 Blocked or without voltage - sporadic fault
42 Speed difference too great
170 Speed difference too great - sporadic fault
43 Closed
171 Closed - sporadic fault
44 Short circuit
172 Short circuit - sporadic fault
45 Connector
173 Connector - sporadic fault
46 Leaking
174 Leaking - sporadic fault
47 Wrong connection
175 Wrong connection - sporadic fault