Belief Airo 2 Air Heater

Installation, service and spare-parts manual

Document ID	BEL-AIRO2-IM-0.1
Status	Live
Revision	0.1
Build date	2026-07-03
Part-number source	Belief Airo 2 Air Heater

Scope And Safety

This manual covers the Belief Airo 2 air heater only. Content from combined source manuals has been separated so unrelated model references do not appear in this draft.

The heater operates independently from the vehicle engine. It normally uses the vehicle battery and fuel supply, although auxiliary batteries or independent tanks may be used where the installation requires them.

Installation, service and repair work should be carried out by trained personnel. Follow the vehicle, marine or welfare-unit safety requirements that apply to the installation.

Safety Notes

- Do not mount the heater near flammable sources, standing water or areas that can block air flow.
- Combustion air and exhaust must discharge outside the occupied space, away from fresh-air inlets.
- Switch the heater off and allow it to cool before working around the exhaust or heater body.
- Fuel lines must be secured, kept away from heat and protected against vibration, chafing and road debris.
- Electrical connections must be clean, dry, correctly oriented and protected where they pass through panels.

Technical Data

Item	Airo 2 value
Heat output	2000 W
Fuel	Petrol or diesel
Rated voltage	12 V / 24 V
Fuel consumption	Petrol: 0.14-0.27 l/h; diesel: 0.12-0.24 l/h
Power consumption	14-29 W
Working temperature	-40 deg C to 20 deg C
Weight	2.6 kg
Dimensions	323 x 120 x 121 mm

Output position	P01	P02	P03	P04	P05	P06	P07
12 V current draw (A)	0.9	1.0	1.2	1.4	1.6	1.9	2.2

Working Principle

Fuel is metered to the burner by the pump and ignited by the glow pin. Combustion gases pass through the heat exchanger and leave through the exhaust. Cabin air is drawn across the outside of the heat exchanger by the air motor and discharged as warm air; it must remain separate from combustion air and exhaust gas.

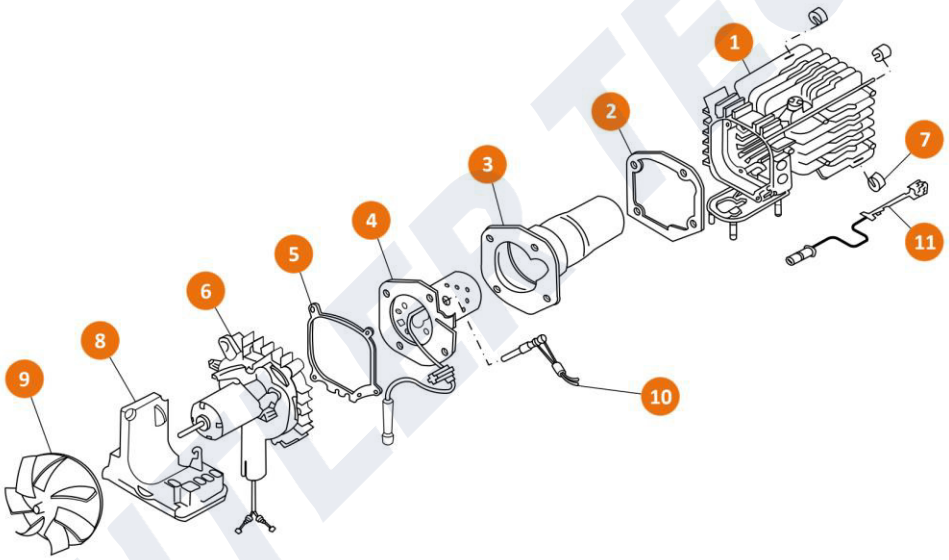


Figure 3

1. Heat exchanger
2. Gasket 1 (4 hole)
3. Combustion chamber
4. Burner Assembly
5. Gasket 2 (5 hole)
6. Air Motor Assembly
7. Insulating bush
8. ECU
9. Fresh Air Fan
10. Glow Pin
11. Overheat Sensor

Airo 2 internal structure

Installation Layout

The installation kit layout shows the major heater, air, exhaust, fuel and electrical components. Actual fixing points may vary between vehicle, marine and welfare-unit installations, but clearance, ventilation and service access must be retained.

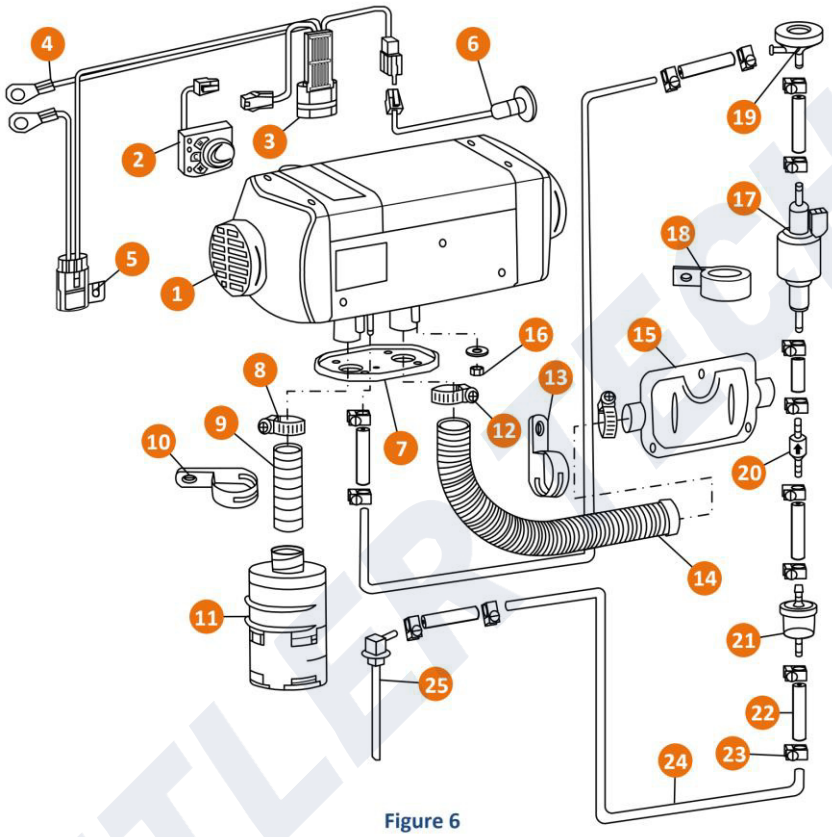


Figure 6

Standard Airo 2 installation parts

Installation Parts

Ref	Item	Ref	Item
1	Main heater body	14	Exhaust pipe
2	Control unit	15	Exhaust silencer
3	Main wiring harness	16	M6 nut and washer set
4	Power supply connection	17	Fuel pump
5	Fuse holder	18	Fuel pump mount
6	External temperature probe	19	Fuel pump damper

Ref	Item	Ref	Item
7	Mounting gasket	20	Non-return valve
8	Combustion-air pipe clamp	21	Fuel filter
9	Combustion-air pipe	22	Fuel pipe connector
10	Combustion-air pipe strap	23	Fuel pipe connector clamp
11	Combustion pipe silencer	24	Fuel pipe
12	Exhaust pipe clamp	25	Fuel standpipe
13	Exhaust pipe P-clip		

Mounting And Air Connections

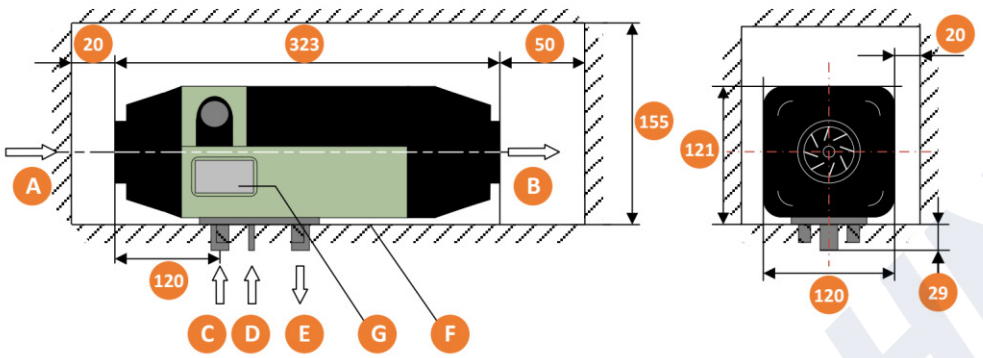


Figure 7

A. Fresh air inlet (60mm)
B. Hot air outlet (60mm)
C. Combustion air inlet (22mm)
D. Fuel inlet (5mm)
E. Exhaust outlet (22mm)
F. Non-interference area
G. Information label
H. Installation surface
I. Gasket

Airo 2 installation clearances and dimensions

- Fresh-air inlet: 60 mm; hot-air outlet: 60 mm.
- Combustion-air inlet: 22 mm; exhaust outlet: 22 mm; fuel inlet: 5 mm.
- Use a flat mounting surface. Fit a new mounting gasket and secure the heater with four M6 nuts and washers tightened to 6 + 1 Nm.
- The heater may be installed between 0 and 90 degrees from horizontal, provided the fan can spin freely and the label remains accessible.

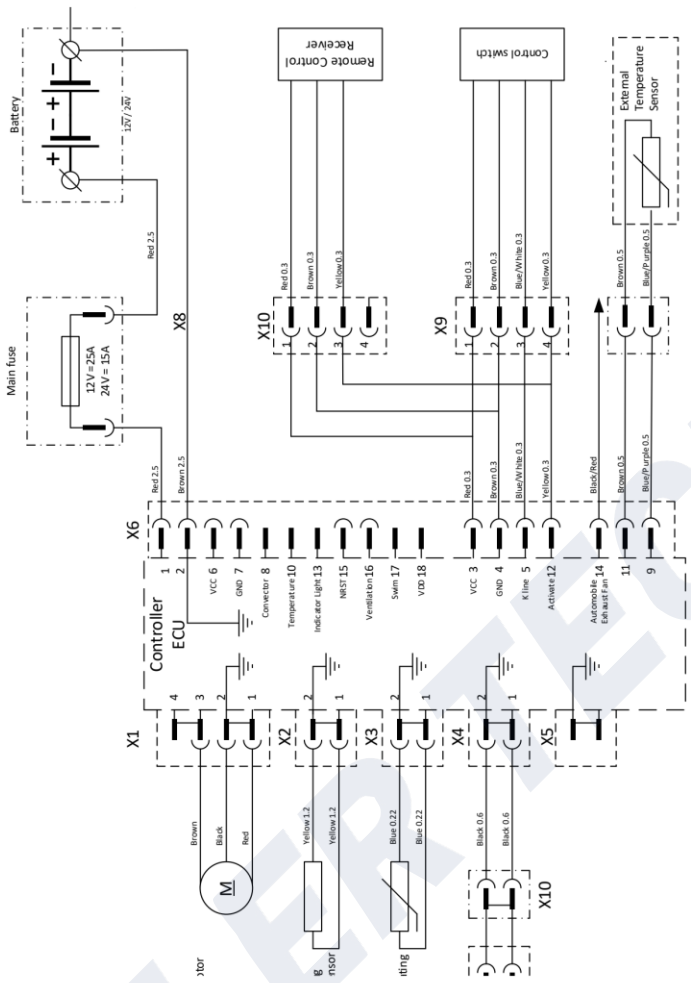
Fuel And Exhaust

- Route combustion air and exhaust outlets so fumes cannot be drawn back into the heated air stream or occupied area.
- Keep exhaust parts away from fuel lines, wiring and heat-sensitive components.
- Fuel lines should rise gently toward the heater at the pump end; avoid sagging, kinks and crushed cuts.
- For inland waterways installations, use copper fuel line where required by the installation standard.
- Fuel filters, fuel pipes and clamps are service items and should be replaced after two years where the installation guidance requires it.

Electrical Installation

The main connector plugs into the ECU after the ECU cover is removed. Check orientation before pushing the plug home; forcing or reversing the connector can damage the ECU during initial start-up.

ECU socket	Connection
X1	Air motor: red, yellow, brown, blue
X2	Glow pin / flame sensor: yellow, brown
X3	Overheat sensor: blue x 2
X4	Fuel-pump leads: black x 2
X5	Unused
X6	Main wiring harness



Airo 2 wiring diagram

Airo 2 Service Diagrams

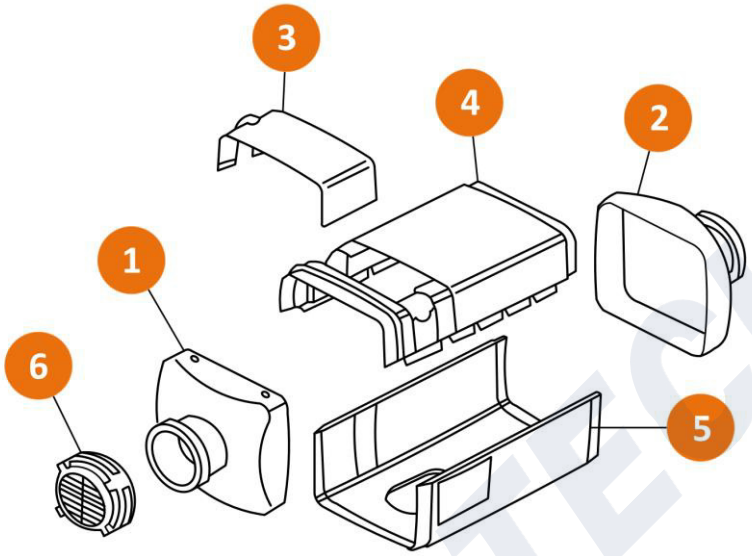


Figure 1

1. Inlet Cap **2.** Outlet Cap **3.** E.C.U. Cover

4. Top Cover **5.** Bottom Cover **6.** Grill

Heater case assembly

Casing Parts

Item	Component	MV number	Manufacturer number
1	Inlet Cap	A2Z-027	12020001700
2	Outlet Cap	A2Z-028	12020001800
3	E.C.U. Cover	A2Z-024	12020001900 / 12020300700
4	Top Cover	A2Z-025	12020002000
5	Bottom Cover	A2Z-026	12020002100 / 12020300600
6	Grill	A2Z-029	12020001600

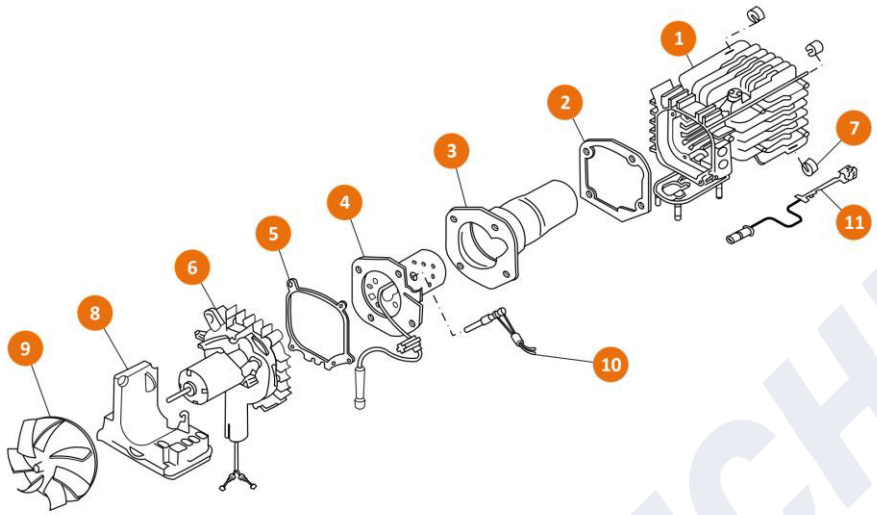


Figure 2

1. Heat Exchanger **2.** 4-Hole Gasket **3.** Combustion Tube

4. Burner Assembly **5.** 5-Hole Gasket **6.** Air Motor

7. Insulation Bushes **8.** E.C.U. **9.** Air Fan

10. Glow Pin **11.** Overheat Sensor

Service internal structure

Internal Service Parts

Item	Component	MV number	Manufacturer number
1	Heat Exchanger	A2Z-001	341W0200100
2	4-Hole Gasket	A2Z-002	12040003800
3	Combustion Tube	A2Z-003	33000000900
4	Burner Assembly	A2Z-004	31010306000 diesel / 31010306100 petrol
5	5-Hole Gasket	A2Z-005	12040003700
6	Air Motor, 12 V / 24 V	A2C-006 / A2A-006	32000000000 / 32000000300
7	Insulation Bushes / heat insulation gasket	A25Z-007	12040002101
8	E.C.U., 12 V / 24 V	A2C-009 / A2A-009	31010305700 / 31010305900
9	Air Fan	A2Z-010	341W0200200
10	Glow Pin, 12 V / 24 V	A2C-014 / A2C-014	12500002000 / 12500002100
11	Overheat Sensor	A25Z-016	31000000400

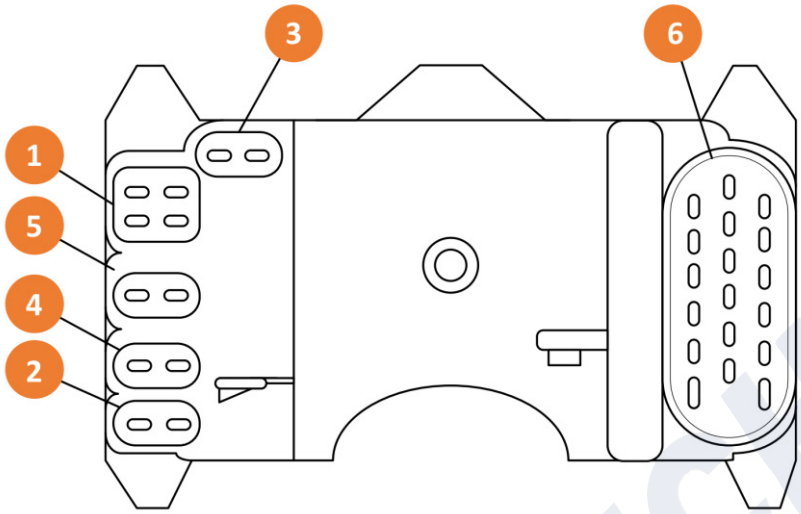


Figure 3

1. Fan Motor **2.** Glow Pin **3.** Overheat Sensor

4. Fuel Pump **5.** Unused **6.** Main Wiring Harness

ECU connection diagram

Belief / JP Heating Source Parts List

Source sheet: 2kW Webasto Type. Descriptions are copied from the workbook with non-English characters removed for Word compatibility; part numbers and English item names are retained.

No.	Belief / JP Heating No.	Item	Description	Qty
1	341W0200100	Heat Exchanger	F2	1
2	12020001700	Heating Air Intake	HK.CR03.1.1-2 114*111*62 PA66-GF30	1
3	12020001800	Heating Air Outlet	HK.CR03.1.1-6 118*111*63 PA66-GF30	1
4	12020002000	Upper Housing/Casing	HK.CR03.1.1-4 210*118*35 PA66-GF30	1
5	12020002100	Lower Housing/Casing	HK.CR03.1.1-5 210*118*80 PA66-GF30	1
6	12020300600	Lower Housing/Casing	HK.CR03.1.1-5H PA66 GF30	1
7	12020001600	Air Inlet/Outlet Cover	F2 dia65.2	1
8	12020001900	Terminal Box Cover	F2	1
9	12020300700	Terminal Box Cover	HK.CR03.1.1-3H PA66 GF30	1
10	341W0200200	Heating Fan Wheel Assembly	F2	1
11	12040002101	Heat Insulation Gasket	CRO3.1-3 7.5*12.5*8	1
12	12040003700	Metal Sealing Gasket/Blower	5 -	1
13	12040003800	Metal Sealing Gasket/Burner	4 -	1
14	12500002000	Glow Plug	F2 12V C	1
15	12500002100	Glow Plug	F2 24V C	1
16	12500002001	Kyocera Glow Plug	HK.CR03.1.2.8JC Kyocera 12V	1
17	12500002101	Kyocera Glow Plug	HK.CR03.1.2.8JC Kyocera 24V	1
18	31010306000	Burner	F2 Diesel CR03	1
19	31010306100	Burner	F2 Petrol CR03	1
20	31000000400	Overheat Sensor	HK.CR03.1.2.7 PT1000 L=280	1
21	33000000900	Combustion Tube	F2 B	1
22	31010305700	Controller/ECU	CR03_12V_C	1
23	31010305800	Controller/ECU	CR03_12V_Q	1
24	31010305900	Controller/ECU	CR03_24V_C	1
25	32000000000	Fan Motor Assembly	F2 12V	1
26	32000000300	Fan Motor Assembly	F2 24V	1

No.	Belief / JP Heating No.	Item	Description	Qty
27	12020002500	Combustion Air Fan Wheel	F2 JX	1
28	12010004200	Mini Clamp	dia9-dia11	1
29	12010004500	Air Intake Pipe Clamp	dia16-dia25 ()	1
30	12010004600	Fuel Pipe Clamp	dia12-dia14 ()	1
31	12010004500	Air Intake Pipe Clamp	dia16-dia25 ()	1
32	12010007100	Fuel Pump Clamp	dia32 ()	1
33	12990007300	Fuel Pump Fixing Clamp Sleeve	PET dia32*29 CR01.8-1 EPDM/	1
34	12020015700	Reducing Tee	HK.CR01-18 10-6-10 PA66-GF33	1
35	12030300201	Main Wiring Harness	HK.CR03.3C F2 2016 L=4M	1
36	11990002003	Blade Fuse	QY169-20A HW	1
37	11990001901	Blade Fuse	QY169-15A	1
38	12040001800	Sealing Gasket	110*81*6 -2KW()	1
39	12050002600	Self-tapping Screw	3x30	1
40	12050002700	Self-tapping Screw	ST4x16	1
41	12050003100	Self-drilling Screw (Tek Screw)	ST5.5x25	1
42	12050003000	Self-drilling Screw (Tek Screw)	ST5.5x30ST5.5x32	1
43	12060008400	Exhaust Pipe	CR03.5A dia22 L=700 with end cap	1
44	29010002300	Exhaust Pipe Fixing Clamp	F2 F5 Y5	1
45	29010003700	Air Intake Pipe Fixing Clamp	F2 Y5 dia24 T=0.5	1
46	12030005701	Fuel Pump Connection Wire	6.8	1
47	12060004600	Nylon Fuel Pipe	dia5mm*1.5mm 1.2/	1
48	12060004700	Nylon Fuel Pipe	dia5x1.5 L=4m	1
49	12060004200	Nylon Fuel Pipe	dia4mm*dia2mm L=6.8m	1
50	12060011000	Nylon Fuel Pipe	dia5mm*1.5mm PA12 white L=9m	1
51	12060003800	Fuel Pipe Connector	dia4.1/dia10.5 L=40mm Diesel	1
52	12060003900	Fuel Pipe Connector	dia3.5xdia9.5 L=40mm Petrol	1
53	31000000500	Suction Pipe Assembly	F2 F5 Y9 dia5*600	1
54	33000000400	Fuel Filter		1
55	31000004400	Air Filter	F2 F5	1
56	31010002300	Rotary Switch	LX F2-5 HK.CR06.4L	1

No.	Belief / JP Heating No.	Item	Description	Qty
57	31010107400	LCD Switch	HK.CRO1.37 1.54 Without LOGO	1
58	12030103800	LCD Switch Cable	HK.CR01.37.2C L=0.8m	1
59	33000003100	Fuel Pump	YB--12V	1
60	33000003300	Fuel Pump	YB-I-24V	1
61	12030000901	Fuel Pump Lead Wire	F2 CR03.1.2.3	1
62	31010303300	Combustion Net/Mesh	F2	1
63	31010302600	Air Intake Pipe	F2 L=500	1
64	12050003200	Bolt (Double-ended Stud)	M6x30	1
65	33000008900	USB-K Line Communication Cable		0
66	31010103400	Dual Suction Pipe Assembly	CR01.3E 680*120*43	1
67	31010205300	External Temperature Sensor	HK.CR02.5.1A L=4000	1

Maintenance And Fault Codes

After installation, run the heater several times to remove trapped air from the fuel line and check for leaks or loose electrical terminals. Run the heater at high output for at least 10 minutes every month to reduce the risk of mechanical sticking during periods of low use.

- Check the heater air inlet and outlet for blockage or contamination.
- Inspect the combustion-air inlet and exhaust pipe for damage, leaks or clogging.
- Check fuel lines, pump fittings and filters for leaks or deterioration.
- Inspect wiring, plugs and terminals for corrosion or loose connections.
- After 10 years, have the heat exchanger, overheat sensor and exhaust system replaced by a professional.

Fault-code rows are taken from the supplied MV Airo fault-code sheet and the matching fault-code pages in the Airo source manuals. Rotary-control flash wording is cross-checked against the OLED Display V2 fault-code table.

Digital/OLED code	Error description	Rotary-control indication
00	No Fault	No Flashes
10	Second start failure	F01 / 1 Flash
20	Heater does not light in time	F02 / 2 Flashes
21	Combustion termination	F02 / 2 Flashes
30	Voltage too high	F03 / 3 Flashes

Digital/OLED code	Error description	Rotary-control indication
31	Voltage too low	F03 / 3 Flashes
A9	Voltage too low	F03 / 3 Flashes
41	Overheated	F10 / 10 Flashes
50	Flame sensor open circuit	F05 / 5 Flashes
51	Flame sensor short circuit	F05 / 5 Flashes
52	Hot air sensor open circuit	F05 / 5 Flashes
53	Hot air sensor short circuit	F05 / 5 Flashes
54	Hot air sensor overheated	F05 / 5 Flashes
65	Inside temperature sensor broken circuit	F06 / 6 Flashes
66	Inside temperature sensor short circuit	F06 / 6 Flashes
68	Outside temperature circuit broken circuit	F06 / 6 Flashes
69	Outside temperature circuit short circuit	F06 / 6 Flashes
70	Fuel pump short circuit	F07 / 7 Flashes
71	Fuel pump broken circuit	F07 / 7 Flashes
80	Fan broken circuit	F08 / 8 Flashes
81	Fan short circuit	F08 / 8 Flashes
82	fan speed too low	F08 / 8 Flashes
83	Fan speed too high	F08 / 8 Flashes
84	Fan speed measurement fault	F08 / 8 Flashes
85	Fan motor failure to start	F08 / 8 Flashes
90	Glow pin open circuit	F09 / 9 Flashes
91	Glow pin short circuit	F09 / 9 Flashes
92	Glow pin high resistance	F09 / 9 Flashes
93	Glow plug drive open circuit	F09 / 9 Flashes
a2	Overheating	F10 / 10 Flashes
b4	Overheating or sensor fault	F11 / 11 Flashes
b5	Overheat sensor fault	F11 / 11 Flashes
c0	Hydro only - blower relay open circuit	F12 / 12 Flashes
c1	Hydro only - blower relay short circuit	F12 / 12 Flashes
c4	Preheating temperature broken circuit	F12 / 12 Flashes

Digital/OLED code	Error description	Rotary-control indication
c5	Preheating temperature short circuit	F12 / 12 Flashes
d0	Crystal oscillator in ECU broken	F13 / 13 Flashes
d1	Fault information storage failure	F13 / 13 Flashes
d3	Maintenance reminder	F13 / 13 Flashes
-	Earth Fault	Constant Flash
-	Connection/Communication Error	Traffic Light