

UA1363A analog interface module & UA1364A analog interface/relay module.

Introduction: The UA1363A/UA1364A are factory installed multipurpose interface modules to be used with the 1314 Photoacoustic Multi-gas Monitor. The UA1363A provides 2 relay outputs for Warnings/Errors detected, and 8 analog outputs of 0-20mA, 4-20mA or 0-10V for measured values of gas concentrations, temperature and pressure. The UA1364A provides 2 relay outputs for Warnings/Errors detected, and 12 relay outputs for alarms for the 6 Optical Filters A to W, and 8 analog outputs of either 0-20mA, 4-20mA, or 0-10V for measured values of gas concentrations, temperature and pressure. The analog output values for the 6 Optical Filters A -W are scaled according to the values entered in analog minimum and maximum concentration set up. The analog outputs for temperature and pressure are always in °C and kPa.

Specifications: Accuracy: Zero Drift: $\pm 0.25\%$,
Voltage output: $\pm 1.5\%$ of full scale
Current output: $\pm 0.5\%$ of full scale
Resolution: 16 bit
Measurement Range:
Gas concentrations: Range and zero-point are scalable in the software.
Temperature: 0°C to 100 °C. Pressure: 50 kPa to 200 kPa
Maximum load resistance on current output: 800 Ω .
Minimum load resistance for the voltage output: 1000 Ω .
External Connectors: 2 x D-sub 37 pins female
Relay outputs: Max load 100mA/25V. Selectable as Normal Open (NO) or Normal Closed (NC)
The analog outputs are active and galvanic separated from the rest of the instruments but NOT from each other.

- Accessories:** Cable 1m, 37 pin sub D male/male, P/N AO1431A
 Cable 3m, 37 pin sub D male/male, P/N AO1432A
 Screw terminal box, 37 pin sub D female to 37 pin screw terminal, P/N JZO102A

Setting up the UA1363A analog interface module and UA1364A analog interface/relay module

Before the UA1363A/UA1364A can be used, the analog output units, analog concentration limits and the relay output limits parameters must be entered. Please note that these set-up menus only are available, when the UA1363A or UA1364A is installed in the instrument.

Unit's set-up: To set the analog units for the UA1363A/UA1364A follow the left branch of Figure 1. Set up tree

The following Analog units are available:

Units	Output	Min. output	Max. output	Concentration
0-20mA/(mg/m³)	Current	0mA	20mA	mg/m ³
4-20mA/(mg/m³)	Current	4mA	20mA	mg/m ³
V/(mg/m³)	Voltage	0V	10V	mg/m ³
0-20mA/ppm	Current	0mA	20mA	ppm
4-20mA/ppm	Current	4mA	20mA	ppm
V/ppm	Voltage	0V	10V	ppm

The Chamber temperature is always in °C, and barometric pressure is in kPa.

Limits set-up: To set the analog concentration limits and the relay output limits for filter A to W follow the right branch of Figure 1. Set-up tree

Chamber temperature limits are always from 0 °C to 100 °C.

Barometric pressure limits are always from 50kPa to 200kPa.

Example: In this example the following parameters will be used:

Filter	A	B	W
Analog unit	4- 20mA/ppm	4- 20mA/ppm	4- 20mA/ppm
Analog min. concentration	5	0	0
Analog max. concentration	20	150	25000
Relay high alarm limit 1	10	75	10000
Relay high alarm limit 2	15	125	20000

I.e. when the set up for Filter A is completed a value of 5ppm will give an analog output of 4mA, and a value of 20ppm will give an analog output of 20mA.

1. First set the "Select Concentration Unit" and "Select Humidity Unit" to **ppm**, and the analog output units to **4-20mA/ppm**, by following the left branch of Figure 1. Set-up tree.
2. Secondly enter the **limits** for the analog output and relays by following the right branch of Figure 1. Set up tree
 - Select Filter A
 - Enter 10 ppm for the *Gas A High Alarm Limit 1*
 - Enter 15 ppm for the *Gas A High Alarm Limit 2*
 - Enter 5.00E00 for the *Gas A Analog Minimum Concentration*

Enter 20.00E00 for the *Gas A Analog Maximum Concentration*
Filter A is now set.

➤ Select filter B

Enter 75 ppm for the *Gas B High Alarm Limit 1*

Enter 125 ppm for the *Gas B High Alarm Limit 2*

Enter 0E00 for the *Gas B Analog Minimum Concentration*

Enter 150E00 for the *Gas B Analog Maximum Concentration*

Filter B is now set.

➤ Select filter W

Enter 10000 ppm for the *Gas W High Alarm Limit 1*

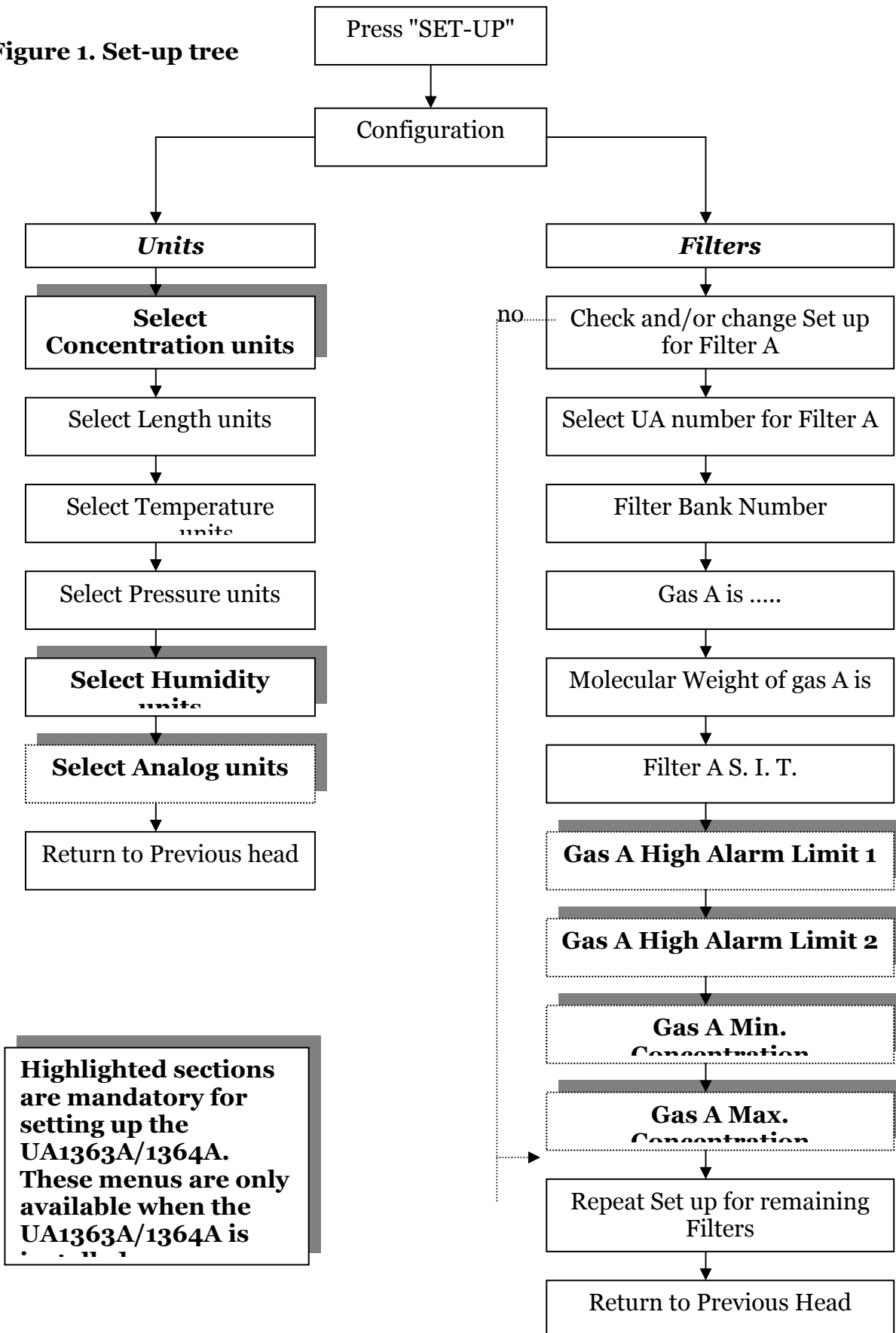
Enter 20000 ppm for the *Gas W High Alarm Limit 2*

Enter 0E00 for the *Gas W Analog Minimum Concentration*

Enter 25E03 for the *Gas W Analog Maximum Concentration*

Filter W is now set and the UA1363A/UA1364A is ready for use.

Figure 1. Set-up tree



Cable connection:

Analog output connector.		
D-sub pin No.	Description	
32	R13 COMMON	Warning Detected # Background information in display
33	R13 NO	
34	R13 NC	
35	R14 COMMON	Error detected # Background information in display
36	R14 NO	
37	R14 NC	
20	Analog GND	Filter A
21	CO1	
22	Analog GND	Filter B
23	CO2	
24	Analog GND	Filter C
25	CO3	
26	Analog GND	Filter D
27	CO4	
28	Analog GND	Filter E
29	CO5	
30	Analog GND	Filter W
31	CO6	
1	Analog GND	Filter A
2	VO1	
3	Analog GND	Filter B
4	VO2	
5	Analog GND	Filter C
6	VO3	
7	Analog GND	Filter D
8	VO4	
9	Analog GND	Filter E
10	VO5	
11	Analog GND	Filter W
12	VO6	
13	CO7	Chamber temperature
14	Analog GND	
15	VO7	
16	CO8	Barometric Pressure
17	Analog GND	
18	VO8	

Relay output connector.	
D-sub pin	Description

No.		
1	R1 COMMON	Filter A limit 1
2	R1 NO	
3	R1 NC	
4	R2 COMMON	Filter A limit 2
5	R2 NO	
6	R2 NC	
7	R3 COMMON	Filter B limit 1
8	R3 NO	
9	R3 NC	
10	R4 COMMON	Filter B limit 2
11	R4 NO	
12	R4 NC	
13	R5 COMMON	Filter C limit 1
14	R5 NO	
15	R5 NC	
16	R6 COMMON	Filter C limit 2
17	R6 NO	
18	R6 NC	
19	Not used	Not used
20	R7 COMMON	Filter D limit 1
21	R7 NO	
22	R7 NC	
23	R8 COMMON	Filter D limit 2
24	R8 NO	
25	R8 NC	
26	R9 COMMON	Filter E limit 1
27	R9 NO	
28	R9 NC	
29	R10 COMMON	Filter E limit 2
30	R10 NO	
31	R10 NC	
32	R11 COMMON	Filter W limit 1
33	R11 NO	
34	R11 NC	
35	R12 COMMON	Filter W limit 2
36	R12 NO	
37	R12 NC	

VO: Voltage output.
 CO: Current output.
 NO: Normally opened
 NC: Normally closed.