INTRODUCTION

This document contains information about configuring CDT2000 carbon dioxide transmitter with a touchscreen user interface. Before reading this guide, check that the transmitter has been installed according to the installation instructions.

This document describes the menu structures of the transmitter and all the settings that can be adjusted in the menus. Plenty of screen shots and descriptions make the use of the transmitter simple and easy just by following this guide.

NAVIGATING THE MENU

Press and hold the screen for three seconds to enter the setup menu.

Note that if the locking jumper has been installed, nothing will happen on the display. See more instructions about the locking jumper in the installation instructions.

 3 Seconds

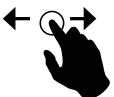There are four ways to navigate the menu structures:

 Go back to previous menu without changes

 Accept changes and return to the previous menu

 Slide your finger up/down to navigate between the modes

 Slide your finger left/right to navigate between the parameters
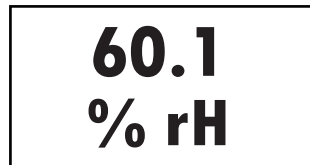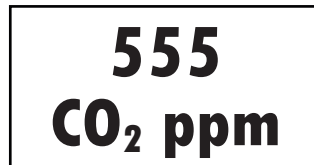
STEP 1: MEASURING MODES

There are 13 different presentations that can be set for the screen display (see Figure 1). All values can be displayed individually or with different combinations or with trend diagrams. The CO_2 level can also be displayed with a smiley for easy indication of the air quality. One can choose all or just a few measuring modes and display them sequentially on the screen.
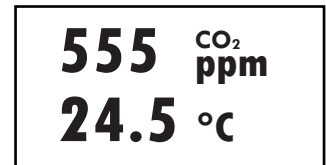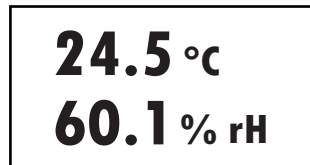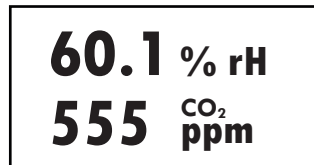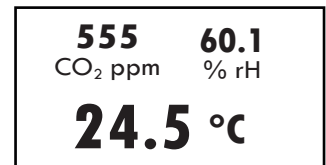
Figure 1 - Measuring modes

Example

One reading

555 CO_2 **ppm**	**60.1** **% rH**	**24.5** **°C**

Two readings at the same time

60.1 % rH **555** CO_2 ppm	**24.5** °C **60.1** % rH	**555** CO_2 ppm **24.5** °C

All readings at the same time

60.1 % rH 24.5 °C **555** CO_2 **ppm**	24.5 °C 555 CO_2 ppm **60.1** % rH	555 CO_2 ppm 60.1 % rH **24.5** °C

Trend diagram

1200 CO_2 ppm 400 **555** ppm -24 h 0	100 % rH 0 **60.1** % -24 h 0	50 °C 0 **24.5** °C -24 h 0

Smileys

555 CO_2 ppm ☺
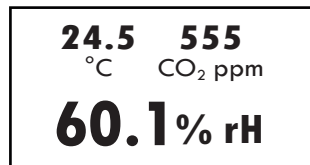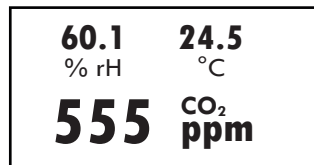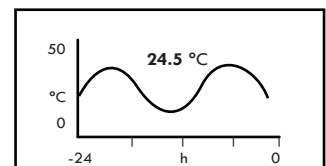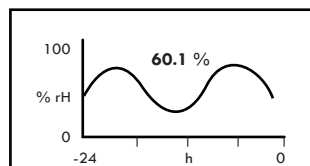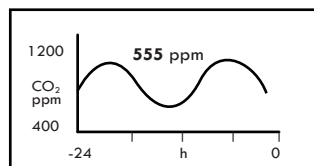
STEP 2: DISPLAY MODE

Press and hold the screen for three seconds to enter the setup menu.

The setup menu will appear on the screen (see Figure 2). Note that if the locking jumper has been installed, nothing will happen on the display. See more instructions about the locking jumper in the installation instructions.
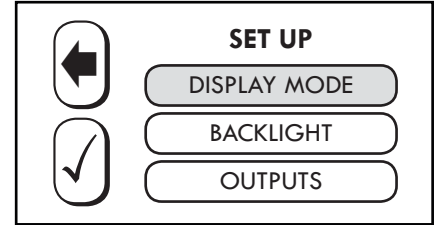
Press DISPLAY MODE. INFO view opens instructing how to navigate between the modes. Press the screen to close the INFO view right away. READING view will appear on the screen. Slide your finger left/right or up/down to navigate between the views (see Figure 3). Select the desired view and press ✓ accept button to accept the view.

3 Seconds

Figure 2

SET UP
DISPLAY MODE
BACKLIGHT
OUTPUTS

Figure 3 - Display mode

One reading

1 READING ✓ — 555 CO₂ ppm — 60.1 % rH — 24.5 °C

Two readings at the same time

2 READINGS ✓ — 60.1 % rH / 555 CO₂ ppm — 24.5°C / 60.1 % rH — 555 CO₂ ppm / 24.5°C

All readings at the same time

3 READINGS ✓ — 60.1 %rH, 24.5 °C, 555 CO₂ ppm — 24.5 °C, 555 CO₂ ppm, 60.1 %rH — 555 CO₂ ppm, 60.1 %rH, 24.5°C

Trend diagram

CO₂ GRAPH / **% RH GRAPH** / **TEMP. GRAPH** -24 h 0

⬅ ➡ = Scale time range

Smileys

CO₂ SMILEY ✓ 555 CO₂ ppm ☺

Auto-change mode

Select interval to automatically change display

CYCLE DISPLAY MODE (✓) EVERY ⬅ 4 s ➡

⬅ ➡ = Set interval

STEP 2: DISPLAY MODE CONTINUED

If you want different views to be displayed sequentially, check the box on the top-right corner
of the view to add it (see Figure 4).

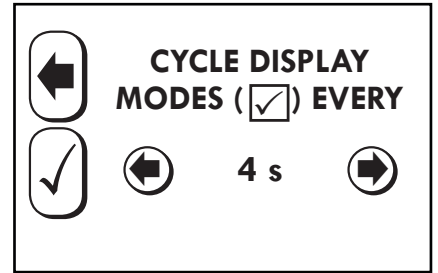**Figure 4**

> 1 READING ☑
>
> # 24.5
> ## °C

Check/uncheck upper-right box to include or exclude.

☑ = Included in the Auto-change Mode.

☐ = Excluded from the Auto-change Mode.

Note: Functions ONLY when Auto-change Mode is the selected Display Mode.

Figure 5

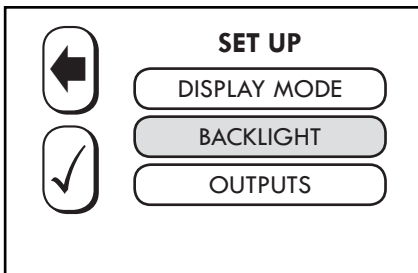> CYCLE DISPLAY
> MODES (☑) EVERY
>
> ⬅ 4 s ➡

The auto-change mode (Figure 5) has to be selected in Display Mode menu to activate the sequential view. To activate auto-change mode, adjust the time between views, then press ✓, accept button, to make changes or go back to the previous menu without changes by pressing ⬅.

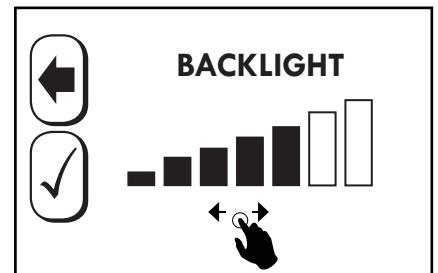## STEP 3: BACKLIGHT LEVEL

Figure 6
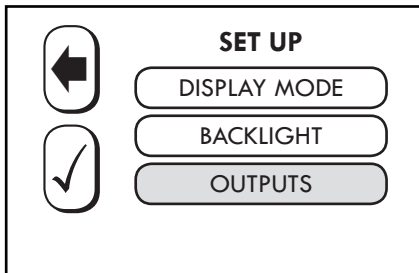
> SET UP
> DISPLAY MODE
> BACKLIGHT
> OUTPUTS

In the SET UP menu choose BACKLIGHT.
Slide your finger left/right and select the suitable backlight brightness. Press ✓ to accept the changes or go back to the previous menu without changes by pressing ⬅.

Figure 6b

> BACKLIGHT

STEP 4: OUTPUTS

Figure 7

> SET UP
> DISPLAY MODE
> BACKLIGHT
> OUTPUTS

In the SET UP menu choose OUTPUTS.
Select P-BANDS to adjust the measurement ranges. Select OUTPUT MODES to choose between different output options.
Select RELAY to configure a relay output. Selection is only available if a relay is installed.

Figure 7b

> OUTPUTS
> P-BANDS
> OUTPUT MODES
> RELAY
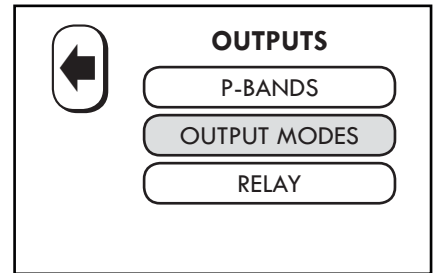
STEP 5: P-BANDS

Press the desired parameter to adjust the output range. Pressing the screen will close the INFO view right away. If the screen is not pressed the INFO view will close after a few seconds.

Press HIGH LIMIT or LOW LIMIT to set the limits for the output (See Picture 8). Press ☑ to accept changes or press ◄ to return to the previous menu without making changes. To change selection between current and voltage outputs see the installation instructions.
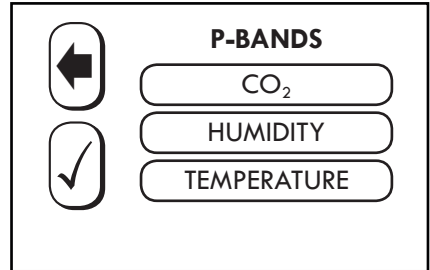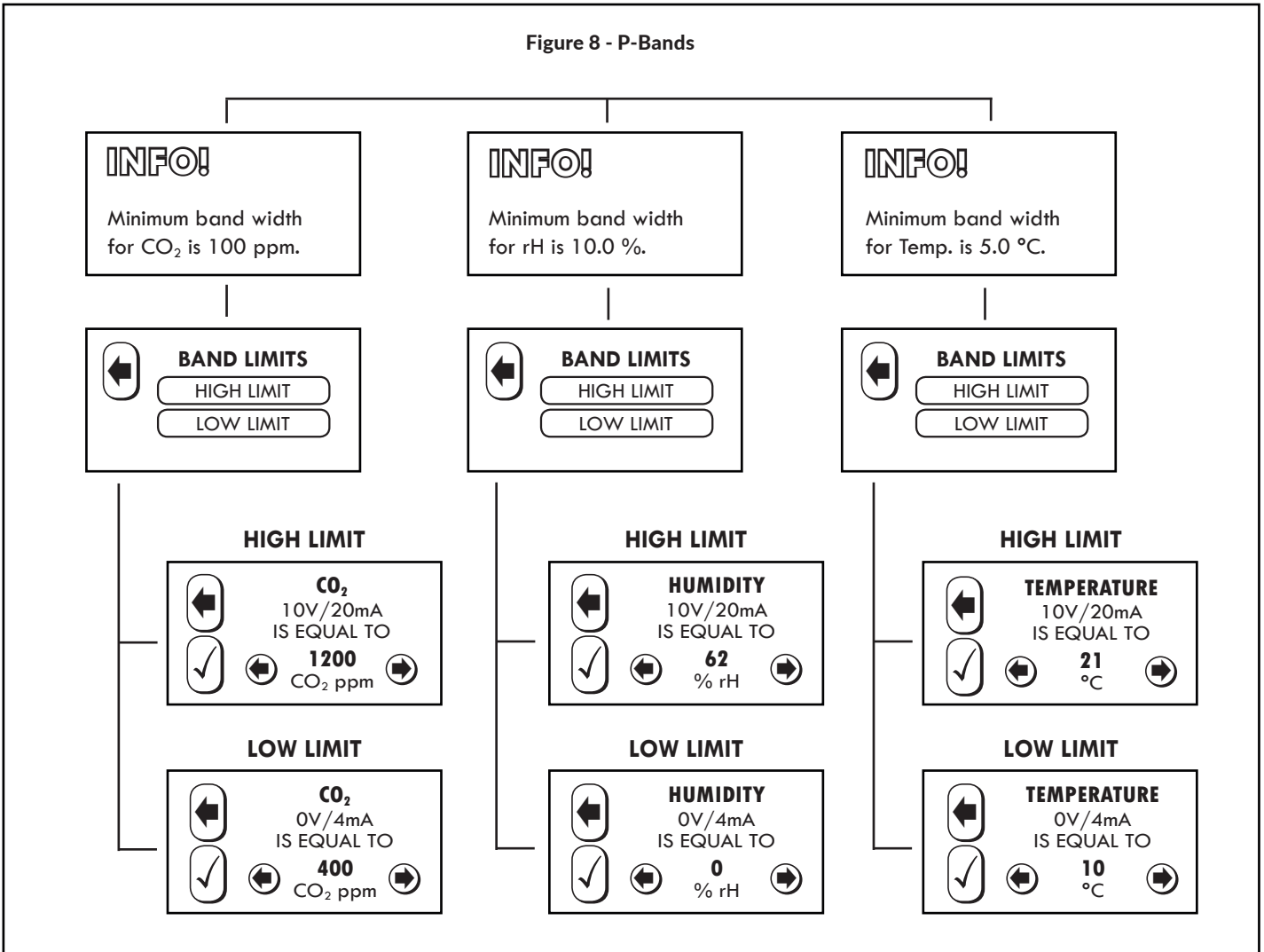
Figure 8b

P-BANDS
- CO$_2$
- HUMIDITY
- TEMPERATURE

Figure 8 - P-Bands

INFO!

Minimum band width for CO$_2$ is 100 ppm.

BAND LIMITS
- HIGH LIMIT
- LOW LIMIT

HIGH LIMIT

CO$_2$
10V/20mA
IS EQUAL TO
1200
CO$_2$ ppm

LOW LIMIT

CO$_2$
0V/4mA
IS EQUAL TO
400
CO$_2$ ppm

INFO!

Minimum band width for rH is 10.0 %.

BAND LIMITS
- HIGH LIMIT
- LOW LIMIT

HIGH LIMIT

HUMIDITY
10V/20mA
IS EQUAL TO
62
% rH

LOW LIMIT

HUMIDITY
0V/4mA
IS EQUAL TO
0
% rH

INFO!

Minimum band width for Temp. is 5.0 °C.

BAND LIMITS
- HIGH LIMIT
- LOW LIMIT

HIGH LIMIT

TEMPERATURE
10V/20mA
IS EQUAL TO
21
°C

**LOW LIMIT**

TEMPERATURE
0V/4mA
IS EQUAL TO
10
°C

STEP 6: OUTPUT MODES

Select MAX VALUE OUT to enable comparison between CO$_2$ and temperature values. The one that is higher will be output from the humidity terminal. This setting will thus disable the normal humidity output!

Select 0/2–10 V to choose between 0–10 V voltage output and 2–10 V voltage output.

STEP 7: OPTIONAL RELAY

Figure 9

RELAY
PARAMETER
SW. POINTS
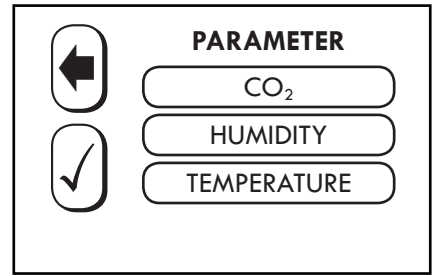TREND
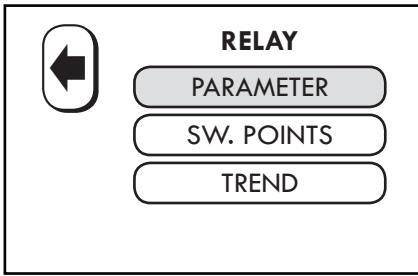
Menu is only available if a relay is installed.
Press PARAMETER to select the desired parameter.

Select the desired PARAMETER and press √ to accept the changes or return to the previous menu without changes by pressing ◀.

Figure 10

PARAMETER
CO₂
HUMIDITY
TEMPERATURE

Press SW. POINTS to set the relay's switching points. Set RELAY ON and RELAY OFF points and press √ to accept changes or return to the previous menu without changes by pressing ◀.
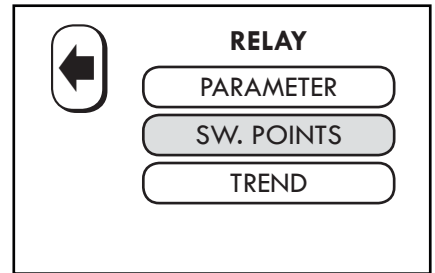
Figure 11

RELAY
PARAMETER
SW. POINTS
TREND

Figure 12 - SW. points

BAND LIMITS
HIGH LIMIT
LOW LIMIT

HIGH LIMIT

CO_2
RELAY ON
SWITCHING POINT
1000
CO_2 ppm

HIGH LIMIT

HUMIDITY
RELAY ON
SWITCHING POINT
40
% rH

HIGH LIMIT

TEMPERATURE
RELAY ON
SWITCHING POINT
19
°C

LOW LIMIT

CO_2
RELAY OFF
SWITCHING POINT
900
CO_2 ppm

LOW LIMIT

HUMIDITY
RELAY OFF
SWITCHING POINT
39
% rH

LOW LIMIT

TEMPERATURE
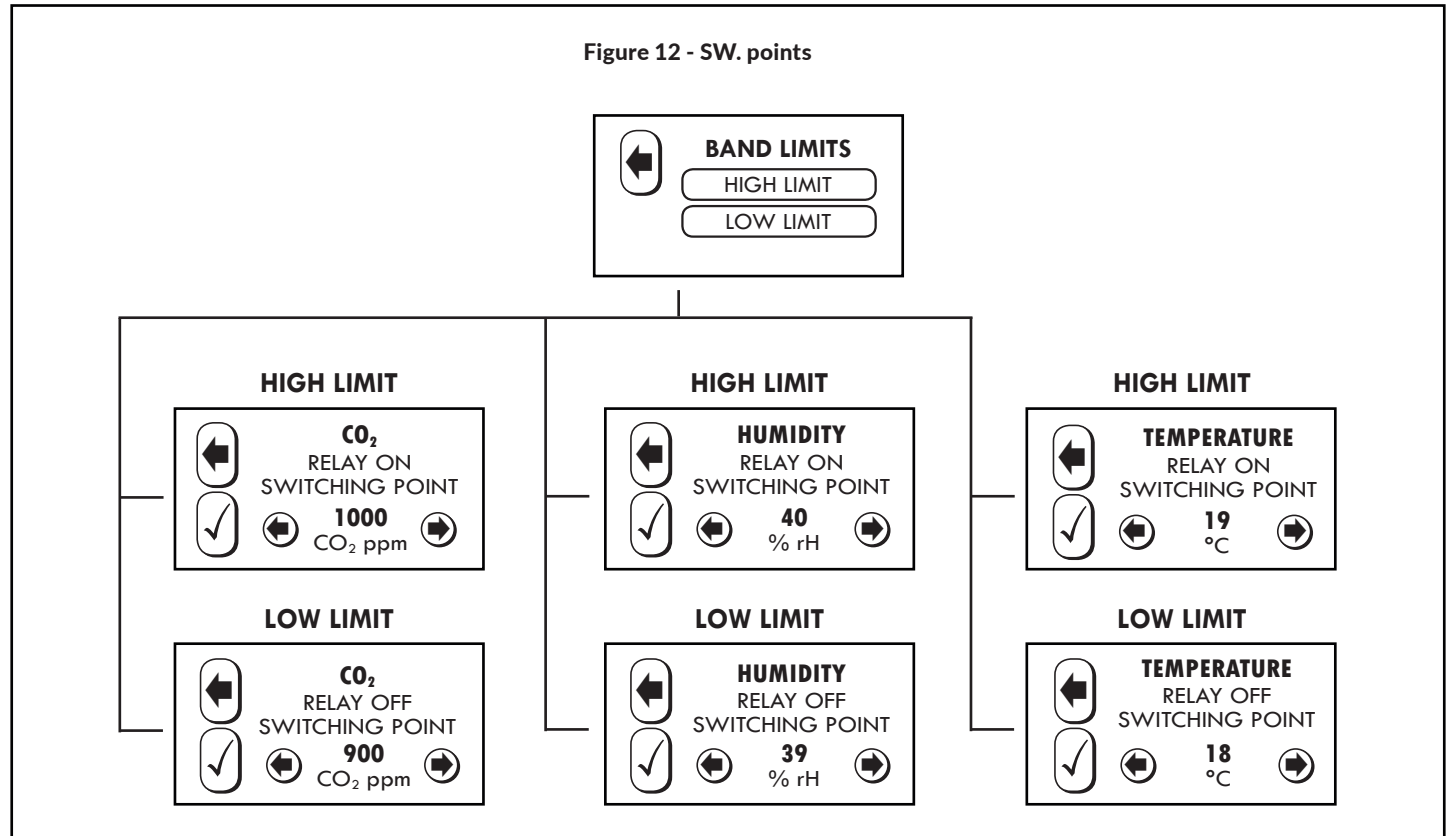RELAY OFF
SWITCHING POINT
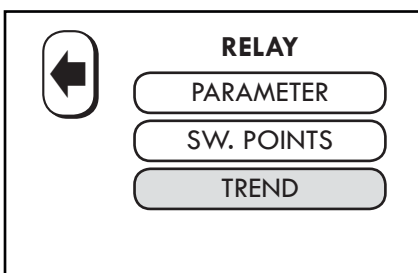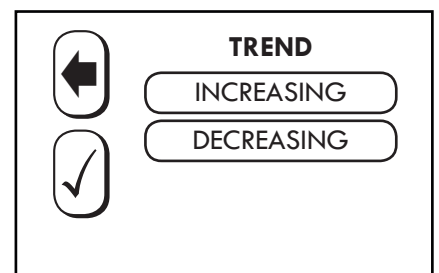**18**
°C

Figure 13

RELAY
PARAMETER
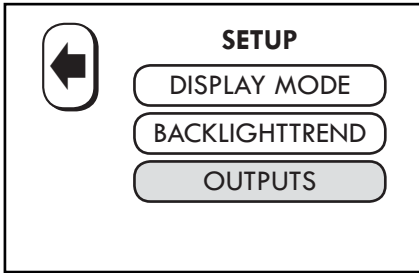SW. POINTS
TREND

Press TREND to set the switching trend of the relay.

Select INCREASING or DECREASING and press √ to accept changes or return to the previous menu without changes by pressing ◀.

Figure 14

TREND
INCREASING
DECREASING
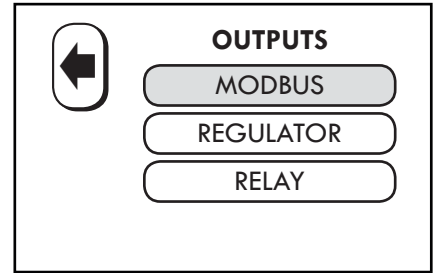
STEP 8: OPTIONAL MODBUS

Figure 15

SETUP
DISPLAY MODE
BACKLIGHTTREND
OUTPUTS

Menu is only available if MODBUS is supported.

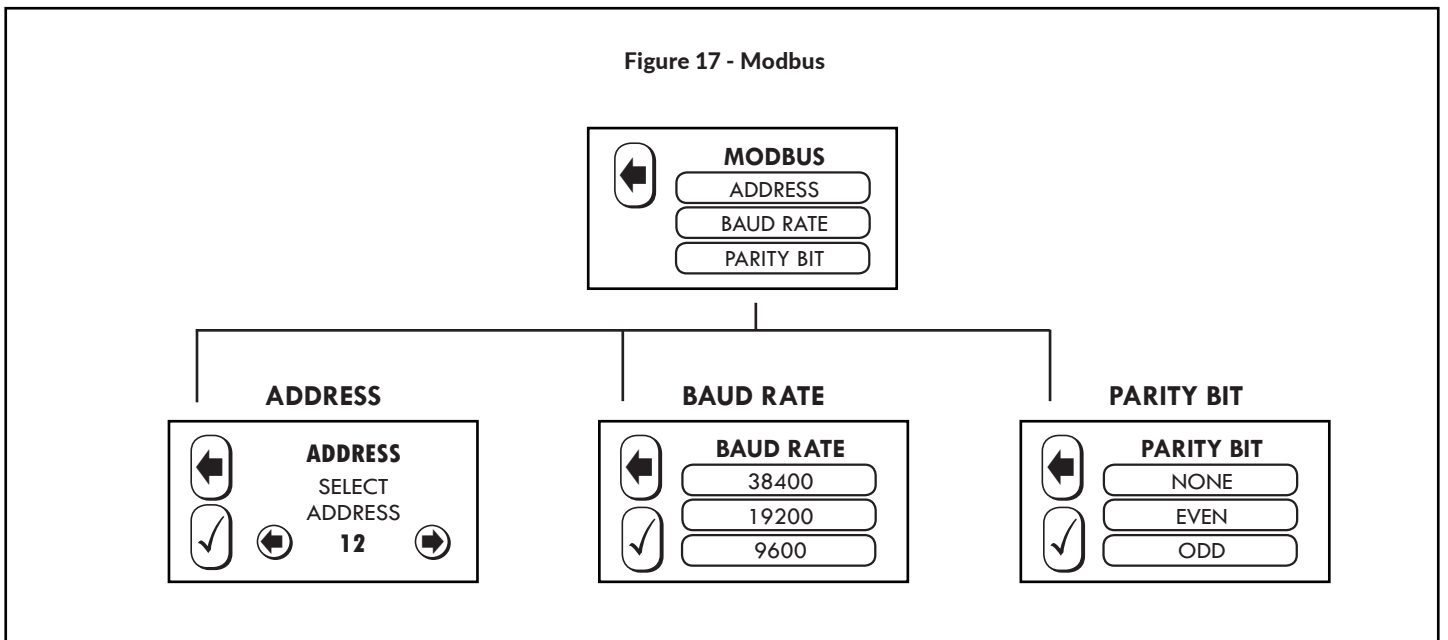Press OUTPUTS.

Press MODBUS.

Figure 16

OUTPUTS
MODBUS
REGULATOR
RELAY

Set ADDRESS, BAUD RATE and PARITY BIT and press ☑ to accept changes or return to the previous menu without changes by pressing ⬅.

Figure 17 - Modbus

MODBUS
ADDRESS
BAUD RATE
PARITY BIT

ADDRESS
SELECT ADDRESS
12

BAUD RATE
38400
19200
9600

PARITY BIT
NONE
EVEN
ODD

Press REGULATOR to set the PARAMETER and P-BAND values.

Select the desired PARAMETER and press ☑ to accept changes or return to the previous menu without changes by pressing ⬅. Press P-BAND to set LOW and HIGH limits.
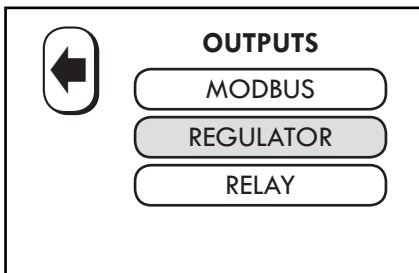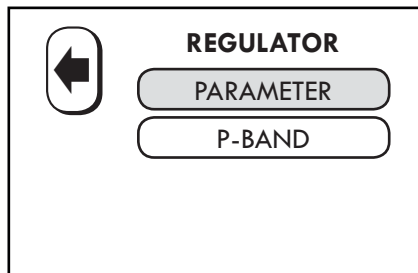
Figure 18

OUTPUTS
MODBUS
REGULATOR
RELAY

Figure 19

REGULATOR
PARAMETER
P-BAND

Figure 20

PARAMETER
CO$_2$
HUMIDITY
TEMPERATURE

See Figure 8 for setting the P-Band.