

WEGER

quality air, quality life

Operating Manual
Micro

Version 0.10

Table of contents

1 Introduction..... 3
1.1 Main features..... 3
2 Main display screen..... 3
2.1 Display, Led, Keys..... 3
2.1.1 Display..... 3
2.1.2 Led..... 3
2.1.3 Keys..... 4
2.2 Symbols..... 4
2.3 Extension modules..... 4
2.4 Operation, Input of values..... 5
2.4.1 Ventilation Switch-on/off..... 5
2.4.2 Alarm - indicate, acknowledge..... 5
2.4.3 Enter number..... 5
2.4.4 Activate menu..... 5
3 Menu..... 6
3.1 Timer..... 6
3.1.1 Timer setting example..... 7
3.1.2 Remote control switch..... 7
3.2 Date/Time..... 8
3.3 Actual Values/Set Points..... 8
3.4 Configuration/Service..... 9
3.4.1 Configuration of Unit..... 9
3.4.2 Parameters - Control..... 10
3.4.3 Indicator - Inputs/outputs Controller..... 11
4 Alarm list..... 13
5 Maintenance..... 13

1 Introduction

The document is an operating and service instruction for the Eliwell controller - EVD7500 and AVD8400/12600 types. There may be variations between the ongoing description and
actual design of the unit. However, they do not represent any faults and thus rule out any claim to an instruction adapted to the actual design.

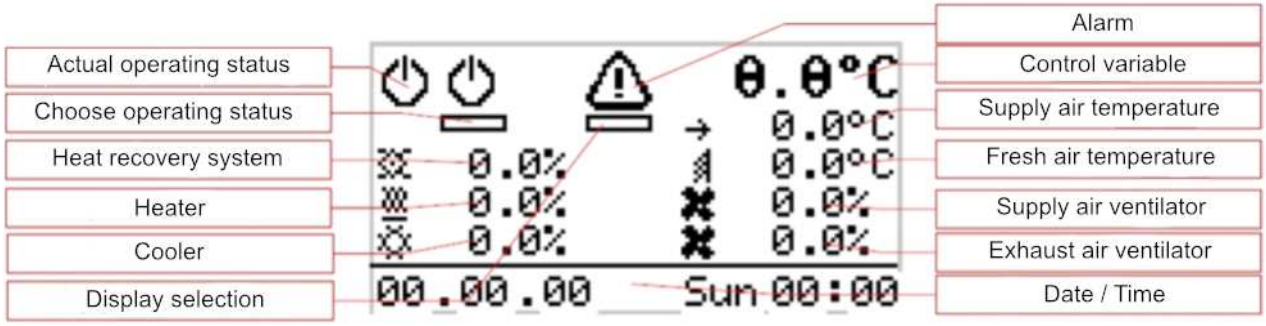
1.1 Main features

- Inputs/outputs and display integrated
- Configuration via the display
- Software updates from USB stick

2 Main display screen

2.1 Display, Led, Keys

2.1.1 Display



2.1.2 Led

Green (bottom)	Flash	Start phase
	On	Operation
Red	OFF	No fault
	On	Fault present
	Flashing	Fault is acknowledgeable
Orange	Not used	
Green (top)	Only with AVD6400/12600	
	OFF	No power supply
	On	Power supply available

2.1.3 Keys

OK	Press briefly	Confirm, Input
Left arrow	Press briefly	Select next field/number Regarding number input, choose digits in ones, tens and hundreds
	Long pressing	Activate menu
Arrow right/back	Press briefly	Previous field/number Regarding number input, choose digits in ones, tens and hundreds
	Long pressing	Quit input without any change, previous menu
Arrow top/bottom	Press briefly	Choose number, setting

2.2 Symbols


Off


Eco


Comfort


Remote control switch


Timer / constantly Off


Timer / constantly Comfort



Timer / Programme P1



Timer / Programme P2



Timer / Programme P3


Alarm


Time/Date


Timer



Set points


Configuration (Password protection)

2.3 Extension modules

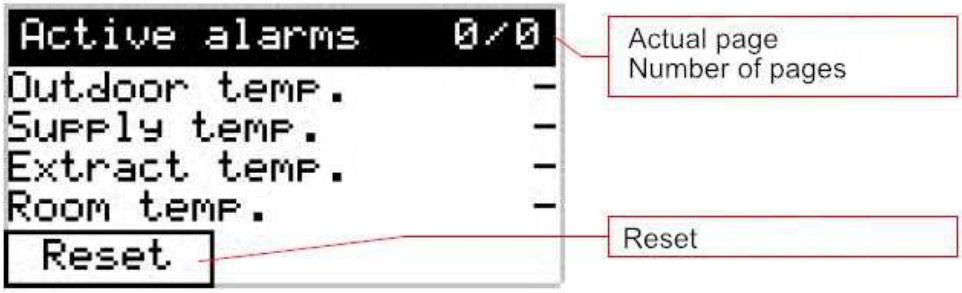
The green Led flashes as soon as communication between controller and extension module is started. The red and orange leds are always off.

2.4 Operation, input of values

2.4.1 Ventilation Switch-on/off

Press the left/right arrow keys until the marking under the Select operating mode symbol is black; now you can change-over the operating mode with the OK button. The ongoing operating mode is shown
to the left of this.
The automatic mode is shown either through the symbol *Remote control switch* or T*imer;* as regards the
Timer symbol, an extra symbol indicates the ongoing programme (Off, Comfort, P1, P2, P3).

2.4.2 Alarm - indicate, acknowledge

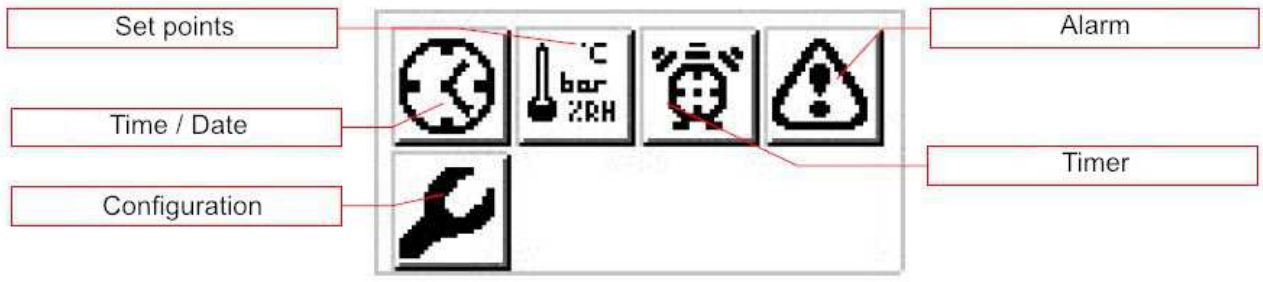


Given an alarm the red led illuminates; use the left/right arrow to select the alarm symbol and confirm with OK to display the alarm list. The arrow keys allow you to scroll up/down in the alarm list (when more than 4 alarms are active).
As soon as you have corrected the alarm, the alarm led flashes. This signals the fact that the alarm can be acknowledged and the text changes from Active to Reset in the alarm list. Call up the alarm list and acknowledge the alarm with the OK key.

2.4.3 Enter number

The digits are entered separately as units, tens and hundreds (e.g temperature set point).
For this, choose the set point to be changed with the arrow keys and press the OK key.
The unit position now starts to flash. You can change this digit with the up/down arrow keys. To change the units, tens and hundreds, select the required digit using the left/right arrow keys and change it with the up/down arrow keys. Minus
Choose by placing a minus in front of the digit.
Confirm the required set point that you have entered with the OK key
or stop the input by pressing the back key (long pressing of the left arrow).

2.4.4 Activate menu

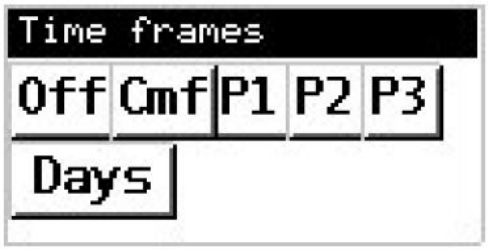


Long-press the right arrow key to get into the menu. In the menu you can
set date/time, timer and set points and also look at the alarm list.
The controller is also configurable; only on entering the appropriate password can the configuration menu be activated.

3 Menu

3.1 Timer

Activate the menu (long pressing of the right arrow key); then select the symbol
Timer Off and press the OK key.

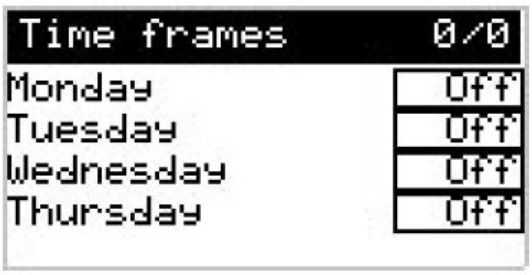


The timer has 5 programmes which can be individually selected for each day.

Programme/Key	Function	Note
Off	Constantly Off	No further settings
Cmf	Continuous comfort	No further settings
P1	Programme 1	4 operating points with selection Off, Eco, Comfort
P2	Programme 2	4 operating points with selection Off, Eco, Comfort
P3	Programme 3	4 operating points with selection Off, Eco, Comfort
Days	Programme selection for every day	



The programme setting page is activated by selecting P1, P2 or P3;
4 operating points, which are to be entered in an ascending time order, can be defined.
Select the operating mode wanted
by selecting the field next to the time and pressing the OK key. The changes undertaken are saved by selecting the SAVE field and pressing the OK key; pressing the back key
(Long pressing of the left arrow key) rejects the changes.



Select DAYS to select the required programme for any day;
Choose the day required with the arrow keys, press the OK key, again choose the required programme
with the arrow keys and confirm the choice with the OK key.
In addition, the last operating mode of the day before is continued until the ongoing day prescribes a different operating mode; e.g.:

Mo, 18:00 Eco (last entry)	Mo, 18:00 – 24:00	Eco
Tues, 8:00 Comfort (first entry)	Tues, 0:00 – 8:00 Tues, 8:00 - …	Eco (from the day before) Comfort

3.1.1 Timer setting example

Default	**Mo - Thurs**	08:00 - 18:00 Comfort		
	Fri	08:00 - 12:00 Comfort		
	Sa, Su	Off		
	Choose P1	Operating point 1	08:00	Comfort
		Operating point 2	18:00	Off
		Operating point 3	00:00	Off
		Operating point 4	00:00	Off
	Choose P2	Operating point 1	08:00	Comfort
		Operating point 2	12:00	Off
		Operating point 3	00:00	Off
		Operating point 4	00:00	Off
	Choose DAYS	Mo, Tues, Wed, Thurs	P1	
		Fri	P2	
		Sat	Off	
		Son	Off	

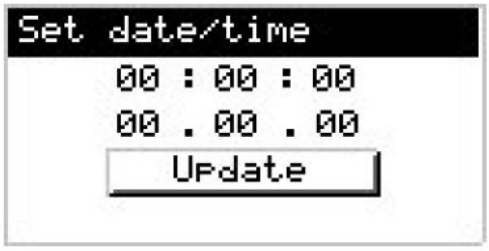
3.1.2 Remote control switch

A configured remote control switch can have 3 operating modes;

Configuration of remote control switch	Unit operating mode	Note
Off/Cmf	Remote off = Off Remote on = Comfort	Timer operation no longer possible
Auto/Cmf	Remote off = Timer Remote on = Comfort	With remote control switch off, the unit is timer-operated
Off/Eco/Cmf/Auto	Remote off = Off Remote Eco = Eco Remote Cmf = Comfort Remote Auto = Timer	With remote control switch = Auto the unit is timer-operated

An active remote control switch is indicated on the main page in the Choose operating mode field by the *Remote control switch* symbol.
A potentiometer at the remote control switch enables an offset for the temperature (+/- 3K) or the fan (0..100%) to be configured.

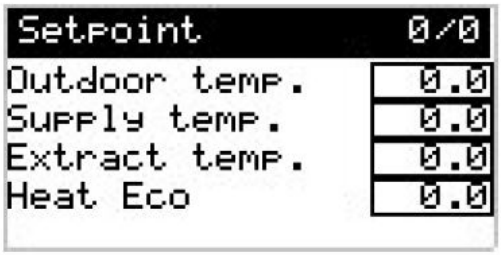
3.2 Datum/Time



Selecting the Date/Time symbol activates the page for setting date/time. Enter the new values and confirm with the Update field; with the Back key you quit the input without any change.

3.3 Actual Values/Set points

Selecting the Set points symbol activates the menu for the actual values and set points.



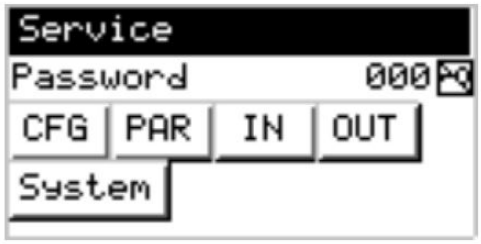
Select the required line with the up/down arrow keys, press the OK key to edit the set point and then confirm the input with the OK key or abort the input with the Back key.

Actual value/Set point	Note	Indication only
Outdoor temp.	Outdoor temperature	X
Supply temp.	Supply air temperature	X
Extract temp.	Extract air temperature	X
Heat Eco	Heating set point Eco	
Heat Cmf	Heating set point Comfort	
Cool Eco	Cooling set point Eco	
Cool Cmf	Cooling set point Comfort	
Heat Set	Ongoing set point Heating	X
Cool Set	Ongoing set point Cooling	X
Temp.min	Minimum supply air temperature	
Temp.max	Maximum supply air temperature	
Temp.offset	Potentiometer remote control switch offset (+/- 3K)	X
Supply flow	Supply air flow (1)	X
Extract flow	Extract air flow (1)	X
Supply pressure	Supply air duct pressure (2)	X
Extract pressure	Extract air duct pressure (2)	X
Sup fan speed	Speed of supply air fan	X
Eta fan speed	Extract air fan speed	X
Sup.Fan Eco	Supply air flow set point (1) or supply air speed (3) Eco	
Sup.Fan Cmf	Supply air flow set point (1) or supply air speed (3) Comfort	
Eta.Fan Eco	Extract air flow set point (1) or extract air speed (3) Eco	
Eta.Fan Cmf	Extract air flow set point (1) or extract air speed (3) Comfort	
Sup fan set	Ongoing supply air flow set point (1)	X
Eta fan set	Ongoing extract air flow set point (1)	X
Fan offset	Potentiometer remote control switch offset (0..100%)	

(1) only with flow control
(2) only with duct pressure control; duct pressure set in the configuration
(3) only with default speed

3.4 Configuration/Service

Selecting this symbol activates the configuration page. More symbols for configuration purposes are shown once the password is entered.



Symbol	Function
CFG	Unit configuration, HR yes/no, heating/cooling battery yes/no, control strategy, …
PAR	Control parameter; PID controller, heating /cooling release, outlets manual operation
IN, OUT	Inputs/outputs indicator
System	IP address, Subnet, Gateway, Modbus RTU Slave interface (RS485/1)

3.4.1 Configuration of Unit

Parameters	Function	Note
Plug fan/EC	Switch over of motor with FI or Plug fan/EC None supply/extract air FI Supply air EC, extract air FI Extract air FI, extract air EC Both supply/extract air EC	Plug fan/EC with 0V=off, 2-10V=on
Fan Control	Controlling strategy Default speed Flow control Duct pressure control	
Sup Flow rate	Supply air fan flow rate	Flow set point <= flow rate
Eta Flow rate	Extract air fan flow rate	Flow set point <= flow rate
Sup Fan factor	Supply air fan nozzle factor	Flow=factor*√pressure
Eta Fan factor	Extract air fan nozzle factor	Flow=factor*√pressure
Supply pressure	Supply air duct pressure	Only needed with duct pressure control
Extract pressure	Extract air duct pressure	Only needed with duct pressure control
Temp.Ctrl mode	Temperature control operating mode Supplying a constant supply air temperature Extract supply/extract air cascade control	
Heat recovery	Heat recovery No heat recovery Yes, heat recovery on hand	1. Heating sequence
Heat batt.	Heating battery No heating battery Yes, heating battery on hand	2. Heating sequence
Cool batt.	Cooling battery No cooling battery Yes, cooling battery on hand	1. Cooling sequence
E-Batt.	El. battery No el. battery Yes el. battery on hand	3. Heating sequence
E-Batt stages	El. battery stages	1..3 stages
Remote switch	Remote switch (control) 0/1 Off/Comfort A/1 Auto/Comfort 012A Off/Eco/Comfort/Auto	
Remote poti	Remote control switch (potentiometer) - no potentiometer Temperature offset Fan offset	

Rem Poti value	Potentiometer input voltage	For balancing Min/Max
Rem PotiIn min	Input voltage of potentiometer at minimum	0..10V
Rem PotiIn max	Input voltage of potentiometer at maximum	0..10V
Rem PotiOut min	Temperature/fan offset of potentiometer at minimum	-3K, 0%
Rem PotiOut max	Temperature/fan offset of potentiometer at maximum	+3K, 100%

3.4.2 Parameters - Control

Parameters	**Function**	**Note**
SupFan Xp	Bandwidth - PID controller supply air fan [Pa, m³/h]	Xp = 100/reinforcing factor
SupFan Tn	Integral time of supply air fan PID controller [s]	
SupFan Man	Manual/Auto analogue output of supply air fan speed [%]	0..100% manual operation < 0% Automatic
EtaFan Xp	Bandwidth - PID controller extract air fan [Pa, m³/h]	Xp = 100/reinforcing factor
EtaFan Tn	Integral time - PID controller extract air fan [s]	
EtaFan Man	Manual/Auto analogue output of extract air fan speed [%]	0..100% manual operation < 0% Automatic
Damper delay	Speed release delay [s]	so that dampers open sufficiently
Off delay	Off-switch delay following active el. battery	
Cascade Xp	Bandwidth - PID cascade controller temperature control [K]	Controller for calculating the supply air set point from the actual value/set point difference under extract air cascade controlling
Cascade Tn	Integral time - PID cascade controller temperature control [s]	
Cas.Dead zone	PID cascade controller: Dead zone between heating and cooling set point [K]	Relevant only for unit with heating and cooling battery
PID-Heat Xp	Bandwidth - PID controller heating [K]	
PID-Heat Tn	Integral time - PID controller heating [s]	
PID-Cool Xp	Bandwidth - PID controller cooling [K]	
PID-Cool Tn	Integral time - PID controller cooling [s]	
HRec Oda limit	Heat recovery release at outdoor temp. > … [°C]	At outdoor temperature < Limit the heat recovery is accelerated to 100%
HRec Man	Manual/Auto analogue output heat recovery [%]	0..100% manual operation < 0% Automatic
Heat Oda limit	Heating battery release at outdoor temp. < … [°C]	At an outdoor temperature > Limit the heating battery is accelerated to 0%
Heat Man	Manual/Auto analogue output heating battery [%]	0..100% manual operation

		< 0% Automatic
Cool Oda limit	Cooling battery release at outdoor temp. > … [°C]	At an outdoor temperature < Limit the cooling battery is accelerated to 0%
Cool Man	Manual/Auto analogue output cooling battery [%]	0..100% manual operation < 0% Automatic

3.4.3 Indicator - Inputs/outputs Controller

Parameters	**Function**	**Note**
AI1	Fresh air temperature	Pt1000
AI2	Supply air temperature	Pt1000
AI3	Extract air temperature	Pt1000
AI4		
AI5	Supply air flow Supply air duct pressure	0-10V
AI6	Extract air flow Extract air duct pressure	0-10V
AI7		0-10V
AI8	Potentiometer remote control switch	0-10V
AI9		0-10V
AI10		0-10V
AI11		0-10V
AI12		0-10V
DI1	Supply air fan alarm	
DI2	Extract air fan alarm	
DI3	Heat recovery alarm	Anti-freezing
DI4	Frost protection El. battery alarm	Contact open = Alarm
DI5	Fire switch-off mechanism	Contact open = Alarm
DI6	Fresh air filter	Delay 30s
DI7	Extract air filter	Delay 30s
DI8	Remote control switch	Off/Cmf or Auto/Cmf Eco under configuration 0/1/2/A
DI9	Remote control switch Comfort	Under configuration 0/1/2/A
DI10	Remote control switch Auto	Under configuration 0/1/2/A
DI11		
DI12		
DO1	Supply air fan/Fresh air damper	

DO2	Extract air fan/Discharge air damper	
DO3		
DO4	Pump - heating battery El. battery Stage 1	Pump cooling battery when no configuration of heating battery
DO5	Pump - cooling battery El. battery Stage 2	
DO6	El. battery Stage 3	
DO7	Operating message	
DO8	Alarm message	
DO9		
DO10		
DO11		
DO12		
AO1	Speed of supply air fan	0-10V
AO2	Extract air fan speed	0-10V
AO3	Recovery	0-10V = 0..100%
AO4	Valve - heating battery	0-10V Cooling battery valve when no configuration of heating battery
AO5	Valve - cooling battery	0-10V
AO6		0-10V

Note:
AVD8400 DI1..8, AI1..8, DO1..8, AO1..4
AVD12600 DI1..12, AI1..12, DO1..12, AO1..6
EVD7500 DI1..8, AI1..6, DO1..7, AO1..5
The IO allocation can vary in an individual project (see circuit diagram)

4 Alarm List

All active and re-settable alarms are indicated in the alarm list; “active” entry indicates an active alarm; “Reset” entry indicates a re-settable alarm.
Only when the reason for the alarm has been corrected can the alarm then be reset.

Message	**Description**	**Note**
Outdoor temp.	Fresh air temperature sensor defective	
Supply temp.	Supply air temperature sensor defective	
Extract temp.	Extract air temperature sensor defective	
Supply flow	Supply air fan flow sensor defective	
Extract flow	Extract air fan flow sensor defective	
Supply pressure	Supply air duct pressure sensor defective	
Extract pressure	Extract air duct pressure sensor defective	
Freeze	Heating battery frost alarm	Ventilation switches itself off
Supply filter	Fresh or supply air filter dirt-contaminated	

Extract filter	Extract air filter dirt-contaminated	
Supply fan	Supply air fan alarm	Ventilation switches itself off
Extract fan	Extract air fan alarm	Ventilation switches itself off
Heat recovery	Alarm/Freezing heat recovery	
Humidifier	Humidifier alarm	
Fire	Fire alarm	Ventilation switches itself off
El. battery	El. battery alarm	

5 Maintenance

The ventilation unit and the control system require regular maintenance.

• Clean the surface of the display/controller with a damp cloth only (do not use any cleaning agents or scouring cloths)

• Regular checks are needed on both the ventilation grids in the control cabinet and on the ventilator filters. This prevents an insufficient supply of cooling air to the inverters and their shutdown due to over-heating

• The controller has a battery needed for operating/maintaining date/time; the set points and settings are not backed up by the battery but are stored in a failure-proof manner in an EEPROM (approx. 10-year data retention).