



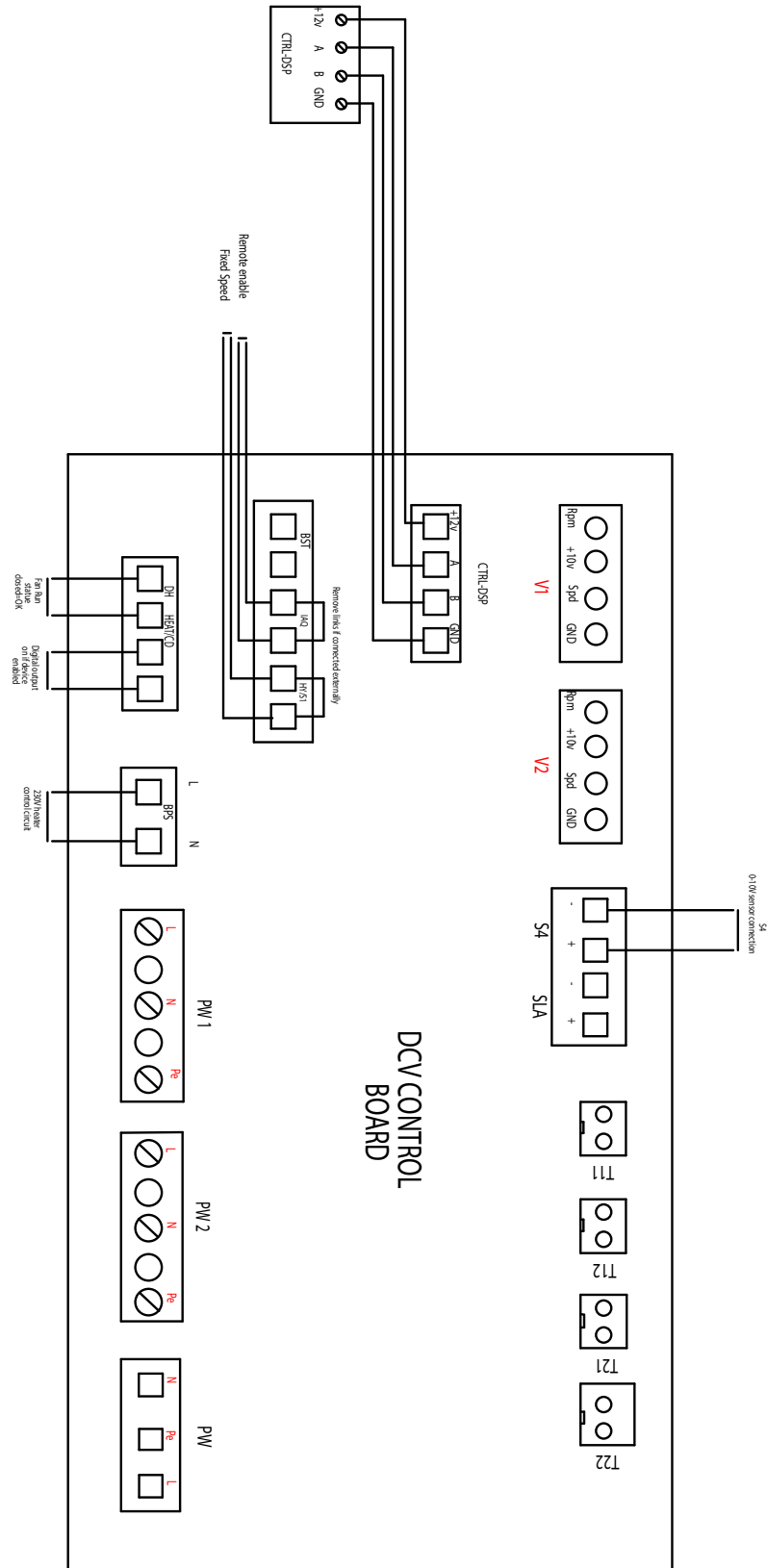
# **149-DCV-MK3**

## Operating Instructions

# 149-DCV-MK3

## Wiring Diagram

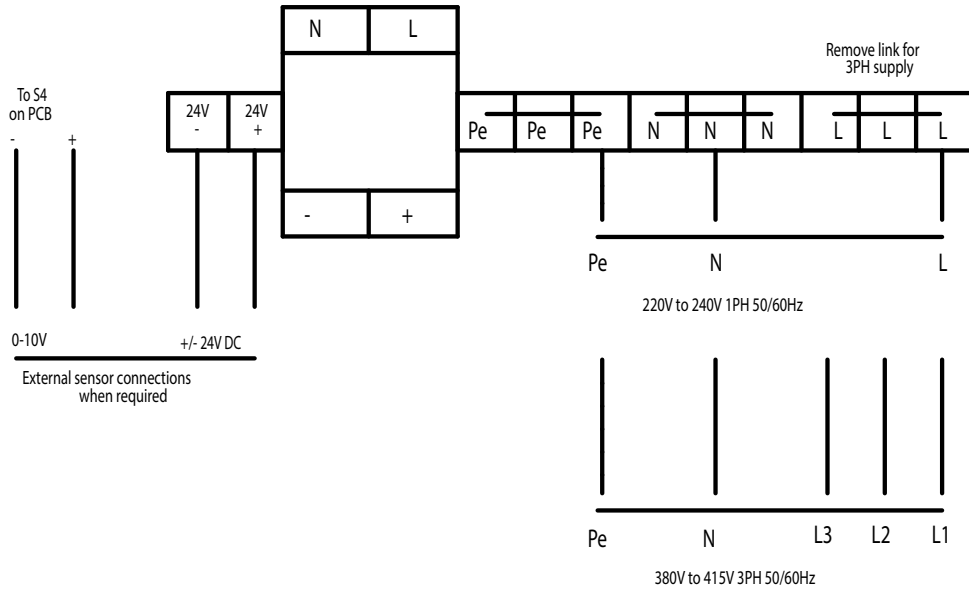
### PCB Connections



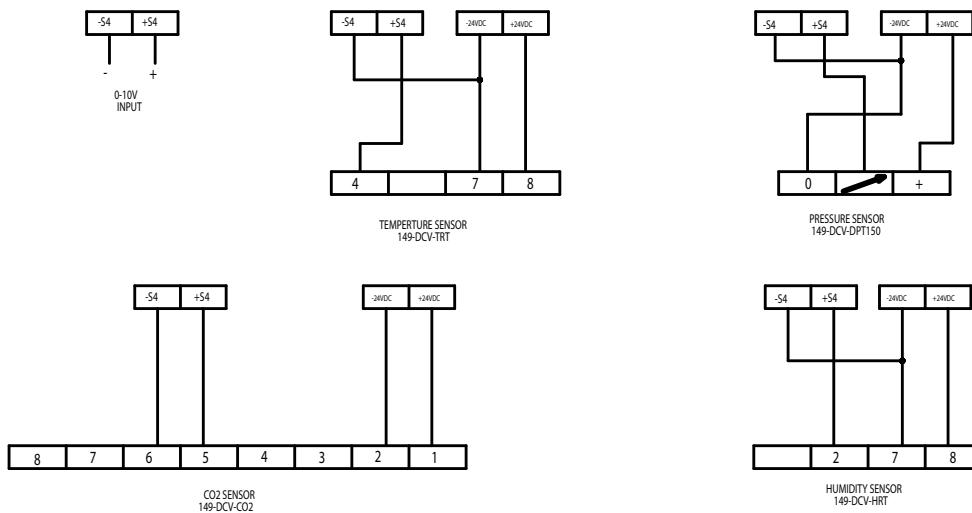
# 149-DCV-MK3

## Wiring Diagram

### Power Supply Connections



### Sensor Connection

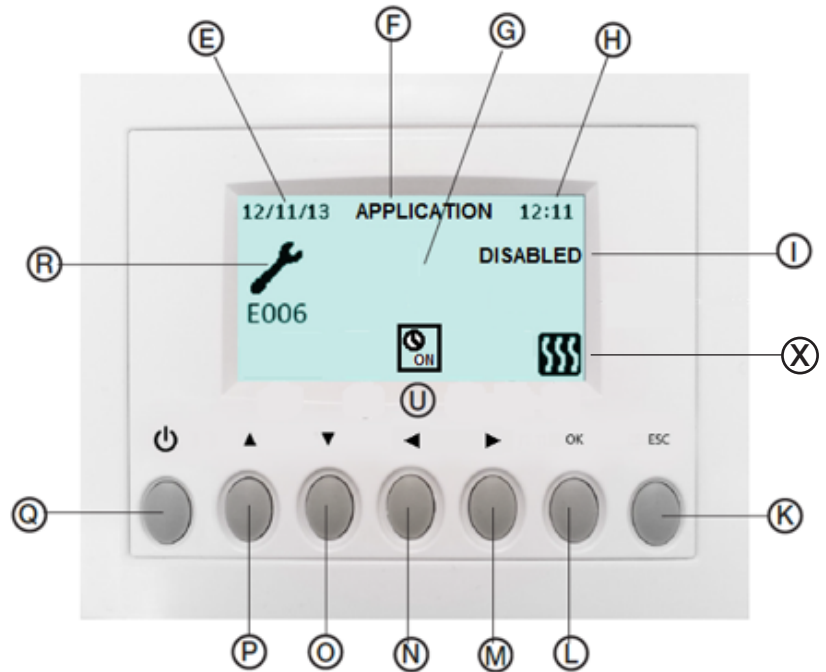


# 149-DCV-MK3

## Display Functions

### CTRL-DSP Display

<b>E</b>	DATE: shows the current date
<b>F</b>	APPLICATION: shows the current application
<b>G</b>	MODE: Shows auto fan [all modes except manual] or manual position
<b>H</b>	TIME: shows the time
<b>I</b>	Remote Enable: shows remote enable is disabled
<b>K</b>	ESC key: to exit and go back to the previous menu
<b>L</b>	OK key: to enter the selected menu
<b>M</b>	To go to the RIGHT in menus
<b>N</b>	To go to the LEFT in menus
<b>O</b>	To go DOWN in menus
<b>P</b>	To go UP in menus
<b>Q</b>	On/Off: power the unit
<b>U</b>	TIMECLOCK: shows timeclock on/off
<b>R</b>	FAULT: shows error alarm, refer to error codes
<b>X</b>	HEATER: Shows heater output is active



When powered in auto mode, the CTRL-DSP displays as follows in figure 1 (Auto mode refers to applications 0-10V, Pressure, CO<sub>2</sub>, RH and Temperature)

When powered in manual mode, the CTRL-DSP displays as follows in figure 2 (Manual mode refers to application Manual)

#### Main Menu on CTRL-DSP

To enter the main menu press OK or ESC To exit the main menu press ESC or wait approx. 60 seconds

The recommended cable to wire between the DCV controller and the CTRL-DSP display is 4 pole, twisted paired, communication cable.

The maximum cable distance for the CTRL-DSP display is 30 meters.

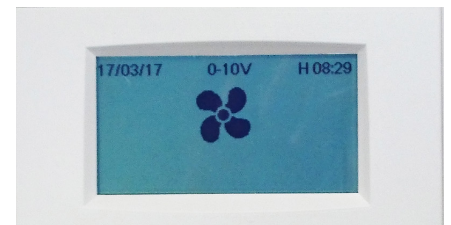


figure 1

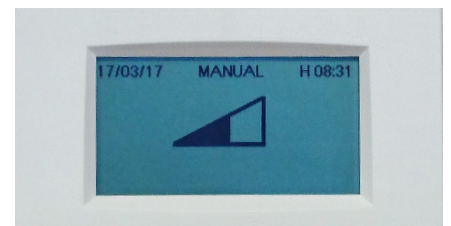


figure 2

# 149-DCV-MK3

## Display Functions

### Display Functions / Main Menu Functions

<b>Main Menu</b>	Use ▲ or ▼ to select required menu
	Press OK to enter any parameter
	*P02 to P04 only visible in selected applications 0-10V, Pressure, CO <sub>2</sub> , RH and Temperature
<b>Language</b>	Allows selection of language between English and Italian
	Press OK to enter
	Language is flashing: Use ▲ or ▼ to choose
	Press OK to select
	*The factory setting (DEFAULT) is English
<b>Date/Time</b>	Allows selection of date and time
	Press OK to enter
	Use ▲ or ▼ to choose
	Press OK for setting and again to confirm
	Press ESC to go back to the previous menu
<b>P00: Fan Mode</b>	Allows selection of Fan Mode
	Press OK to enter
	Fan mode is flashing: Use ▲ or ▼ to choose
	Press OK to select
	*The factory setting (DEFAULT) is SINGLE for single fans and TWIN for twin fans
	**Refer to Fan Mode Control Functions
<b>P01: Application</b>	Allows selection of desired Application
	Press OK to enter
	Application is flashing: Use ▲ or ▼ to choose
	<b>Applications available:</b> 0-10V: input signal 0-10 VDC determines the fans speed 0-100% of the configured max. Speed. High input signal gives high fan speed <b>MANUAL:</b> The fan speed is set manually using the CTRL-DSP's UP and DOWN buttons <b>PRESSURE:</b> Duct air pressure (Control input signal 0-10VDC mapped to pressure sensor range) is controlled by a PID controller (Proportional, Integrating and Derivating). High pressure value gives low fan speed <b>RH:</b> The room relative humidity (control input signal 0-10 VDC mapped to RH sensor range) is controlled by a P controller (P band). High relative humidity gives high fan speed. <b>CO<sub>2</sub>:</b> The room's CO <sub>2</sub> content (Control input signal 0-10 VDC mapped to CO <sub>2</sub> sensor range) is controlled by a P controller (P band). High CO <sub>2</sub> rate gives high fan speed. <b>TEMPERATURE:</b> The room temperature (control input signal 0-10 VDC mapped to Temperature sensor range, or T11 input, depending on the value of P12 parameter) is controlled by a P controller (P band). High temperature gives high fan speed.
	Press OK to select
	*The factory setting (DEFAULT) is 0-10V
	**Refer to Application Control Functions for further information

# 149-DCV-MK3

## Display Functions

<b>P02: Sensor Range MIN</b>	Parameter is not visible when application is MANUAL					
	Allows selection of desired minimum sensor value					
	Press OK to enter					
	Value is flashing: Use ▲ or ▼ to choose					
	Press OK to select					
	<b>Available settings are</b>					
	<b>Application</b>	<b>Default</b>	<b>Min</b>	<b>Max</b>	<b>Min value change</b>	<b>Unit/Value</b>
	Temperature	5	0	10	1	°C
CO <sub>2</sub>	0	0	1000	100	ppm	
RH	30	20	50	1	%	
Pressure	0	0	0	0	Pa	
<b>P03: Sensor Range MAX</b>	Parameter is not visible when application is MANUAL					
	Allows selection of desired maximum sensor value					
	Press OK to enter					
	Value is flashing: Use ▲ or ▼ to choose					
	Press OK to select					
	<b>Available settings are</b>					
	<b>Application</b>	<b>Default</b>	<b>Min</b>	<b>Max</b>	<b>Min value change</b>	<b>Unit/Value</b>
	Temperature	30	25	50	1	°C
CO <sub>2</sub>	2000	1000	2500	100	ppm	
RH	95	80	100	1	%	
Pressure	300	50	1000	10	Pa	
<b>P04: Setpoint</b>	Parameter is not visible when application is MANUAL					
	Allows selection of desired setpoint value					
	Press OK to enter					
	Value is flashing: Use ▲ or ▼ to choose					
	Press OK to select					
	<b>Available settings are</b>					
	<b>Application</b>	<b>Default</b>	<b>Min</b>	<b>Max</b>	<b>Min value change</b>	<b>Unit/Value</b>
	Temperature	22	15	30	1	°C
CO <sub>2</sub>	1000	0	2000	100	ppm	
RH	70	30	95	1	%	
Pressure	150	0	300	10	Pa	
<b>P05: PID Control</b>	Allows selection of PID response					
	Press OK to enter					
	PID mode is flashing: Use ▲ or ▼ to choose					
	<b>PID Modes available:</b>					
	<b>SLOW:</b> Global gain set to 0.2, other PID values default					
	<b>NORMAL:</b> Global gain set to 0.5, other PID values default					
	<b>FAST:</b> Global gain set to 0.9, other PID values default					
	<b>CUSTOM:</b> Custom is automatically selected if advanced settings in service menu changed					
Press OK to select						
*The factory setting (DEFAULT) is NORMAL						
**Refer to Control Functions and SERVICE Menu for advanced PID settings						

# 149-DCV-MK3

## Display Functions

<b>P06: Fixed speed value</b>	Allows selection of the fixed speed value				
	When the device is enabled and the fixed speed input is open, the unit runs at a fixed speed				
	Press OK to enter				
	Value is flashing: Use ▲ or ▼ to choose				
	Press OK to select				
	<b>Available settings are</b>				
	<b>Default</b>	<b>Min</b>	<b>Max</b>	<b>Min value change</b>	<b>Unit/Value</b>
10	10	100	1	%	
<b>P07: Run On Time (minutes)</b>	Allows selection of the run on time (minutes)				
	When the device is enabled and the remote enable input is opened, the unit will continue running for the set value (in minutes)				
	Press OK to enter				
	Value is flashing: Use ▲ or ▼ to choose				
	Press OK to select				
	<b>Available settings are</b>				
	<b>Default</b>	<b>Min</b>	<b>Max</b>	<b>Min value change</b>	<b>Unit/Value</b>
3	3	20	1	minutes	
<b>P08: Min Fan Speed</b>	Allows adjustment of the minimum fan speed value				
	Press OK to enter				
	Value is flashing: Use ▲ or ▼ to choose				
	Press OK to select				
	<b>Available settings are</b>				
	<b>Default</b>	<b>Min</b>	<b>Max</b>	<b>Min value change</b>	<b>Unit/Value</b>
	10	10	50	1	%
<b>P09: Max Fan Speed</b>	Allows adjustment of the maximum fan speed value				
	Press OK to enter				
	Value is flashing: Use ▲ or ▼ to choose				
	Press OK to select				
	<b>Available settings are</b>				
	<b>Default</b>	<b>Min</b>	<b>Max</b>	<b>Min value change</b>	<b>Unit/Value</b>
	100	50	100	1	%
<b>P10: Slave Min Fan Speed</b>	Allows adjustment of the minimum fan speed value for a connected Slave fan (P00 set to MASTER/SLAVE)				
	Press OK to enter				
	Value is flashing: Use ▲ or ▼ to choose				
	Press OK to select				
	<b>Available settings are</b>				
	<b>Default</b>	<b>Min</b>	<b>Max</b>	<b>Min value change</b>	<b>Unit/Value</b>
	10	10	50	1	%
<b>P11: Slave Max Fan Speed</b>	Allows adjustment of the maximum fan speed value for a connected Slave fan (P00 set to MASTER/SLAVE)				
	Press OK to enter				
	Value is flashing: Use ▲ or ▼ to choose				
	Press OK to select				
	<b>Available settings are</b>				
	<b>Default</b>	<b>Min</b>	<b>Max</b>	<b>Min value change</b>	<b>Unit/Value</b>
	100	50	100	1	%

# 149-DCV-MK3

## Display Functions

<b>P12: Temperature Input</b>	Parameter is only visible when application is TEMPRETURE	
	Allows selection of the temperature sensor input	
	Press OK to enter	
	Value is flashing: Use ▲ or ▼ to choose	
	Press OK to select	
	<b>Available settings are</b>	
	<b>S4</b>	<b>0-10V input from remote temperature sensor</b>
T11	Pre-fitted duct sensor	
<b>Weekly Timer</b>	Allows selection of weekly timer and configuration of daily timer On/Off settings	
	Press OK to enter	
	Value is flashing: Use ▲ or ▼ to choose ON	
	Use ▲ or ▼ to select day of the week	
	Press OK to select ON time	
	Use ▲ or ▼ to select time	
	Use ▲ or ▼ to scroll through values	
	"Copy on [next day]": OK to choose YES, ESC to choose NO	
	"Save program?": OK to choose YES, ESC to choose NO	
	NOTE: If remote enable input (IAQ) is closed, it will over ride the weekly timer function	
	<b>Available settings are four ON/OFF times per day</b>	
<b>Day</b>		
ON	OFF	
00:00	00:00	
00:00	00:00	
00:00	00:00	
00:00	00:00	
<b>Working Hours Counter</b>	Provides a count of number of unit working hours. This value cannot be changed. The Data is saved both on the CTRL-DSP and the PCB	
	Press OK to enter	
	Press OK / ESC to return to main menu	
<b>Save Settings</b>	Allows to save the setting of parameters in the internal memory of the CTRL-DSP to be loaded afterwards in other units.	
	Press OK to enter.	
	Use ▲ or ▼ to choose the position where to save the setting. Up to 8 different settings can be saved.	
	Press OK to select.	
	Press OK to confirm.	
	Press ESC to go back to the previous menu	
<b>Load Settings</b>	Allows to load the saved setting on the next unit	
	Press OK to enter.	
	Use ▲ or ▼ to choose the desired saved setting	
	Press OK to select.	
	Press OK to confirm.	
Press ESC to go back to the previous menu		



# 149-DCV-MK3

## Display Functions

<b>Restore Default Settings</b>	Allows restoring all the factory settings (DEFAULT).
	Press OK to enter.
	Press OK to confirm.
<b>Contrast</b>	Allows you to set the LCD contrast.
	Use ▲ or ▼ to increase or decrease the contrast.
	Press OK to confirm.
<b>Debug Page</b>	Shows the internal functional parameters of the unit.
	Press OK to enter.
	Press ESC to go back to the previous menu.

### Service Menu Functions

<b>Service Menu</b>	Service Menu on CTRL-DSP				
	To enter the service menu, change P01 to anything other than MANUAL, then from the main screen press and hold OK for 3 seconds				
	To exit to the main screen, press ESC				
<b>S00: Parameter summary</b>	Shows values for each parameter				
	Use ▲ or ▼ to view parameters				
	Press ESC to go back to the previous menu.				
<b>S01: Fan status signal</b>	Allows selection of the motor protection method (FACTORY SET)				
	Press OK to enter				
	Value is flashing: Use ▲ or ▼ to choose				
	Press OK to select				
	<b>Available settings are</b>				
	<b>TACHO</b>	The fan(s) has a tacho output (open collector hall effect sensor) connected to RPM-GND. The running status is indicated by the presence of the RPM signal			
<b>RELAY</b>	The fan(s) has a relay output (closed when fan is running) connected to RPM-GND. The running status is indicated by a closed link between RPM and GND				
<b>S02: Global Gain</b>	Allows adjustment of the global gain for applications to be fine-tuned/ adjusted beyond P05				
	Press OK to enter				
	Value is flashing: Use ▲ or ▼ to choose				
	Press OK to select				
	*Any change from default setting will drive P05 to CUSTOM				
	<b>Available settings are</b>				
	<b>P05 Original Setting</b>	<b>Default</b>	<b>Min</b>	<b>Max</b>	<b>Min Value Change</b>
	<b>Slow</b>	0.2	0.1	1	0.1
<b>Normal</b>	0.5	0.1	1	0.1	
<b>Fast</b>	0.9	0.1	1	0.1	

# 149-DCV-MK3

## Display Functions

<b>S03: Proportional Band</b>	Allows adjustment of the proportional band for applications to be fine-tuned/ adjusted beyond P05					
	Press OK to enter					
	Value is flashing: Use ▲ or ▼ to choose					
	Press OK to select					
	*Any change from default setting will drive P05 to CUSTOM					
	<b>Available settings are</b>					
	<b>Application</b>	<b>Default</b>	<b>Min</b>	<b>Max</b>	<b>Min Value Change</b>	<b>Unit/Value</b>
<b>0-10V</b>	0.1	1	1	0.1	1	
<b>Temperature</b>	0.1	1	1	0.1	1	
<b>CO<sub>2</sub></b>	0.1	1	1	0.1	1	
<b>RH</b>	0.1	1	1	0.1	1	
<b>Pressure</b>	0.1	1	1	0.1	1	
<b>S04: Integration Time</b>	Parameter is only visible when application is PRESSURE					
	Allows adjustment of the integration time for applications to be fine-tuned/ adjusted beyond P05					
	Press OK to enter					
	Value is flashing: Use ▲ or ▼ to choose					
	Press OK to select					
	*Any change from default setting will drive P05 to CUSTOM					
	<b>Available settings are</b>					
<b>Application</b>	<b>Default</b>	<b>Min</b>	<b>Max</b>	<b>Min Value Change</b>	<b>Unit/Value</b>	
<b>Pressure</b>	10	5	500	5	seconds	
<b>S05: Derivation Time</b>	Parameter is only visible when application is PRESSURE					
	Allows adjustment of the derivation time for applications to be fine-tuned/ adjusted beyond P05					
	Press OK to enter					
	Value is flashing: Use ▲ or ▼ to choose					
	Press OK to select					
	*Any change from default setting will drive P05 to CUSTOM					
	<b>Available settings are</b>					
<b>Application</b>	<b>Default</b>	<b>Min</b>	<b>Max</b>	<b>Min Value Change</b>	<b>Unit/Value</b>	
<b>Pressure</b>	0	0	500	10	seconds	
<b>Debug Page</b>	Shows the internal functional parameters of the unit.					
	Press OK to enter.					
	Press ESC to go back to the previous menu.					
<b>Control Debug Page</b>	Shows the internal control parameters of the unit.					
	Press OK to enter.					
	Press ESC to go back to the previous menu.					
	<b>Selected application</b>	(e.g. temperature)				
	<b>Setpoint</b>	(e.g. 20°C)				
	<b>Measured Parameter</b>	(e.g. 17.9°C)				
	<b>Proportional gain Kp</b>	A parameter of the PID controller, calculated from Global Gain and Proportional Band parameters (service menu)				
<b>Integral gain Ki</b>	A parameter of the PID controller (used only in Pressure application), calculated from Kp and Integration Time (service menu)					
<b>Derivative gain Kd</b>	A parameter of the PID controller (used only in Pressure application), calculated from Kp and Derivation Time (service menu)					

# 149-DCV-MK3

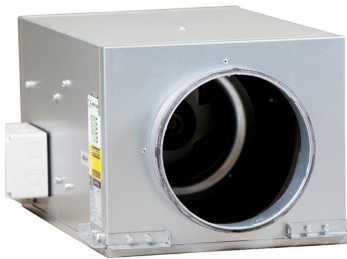
## Control Functions

### Control Functions

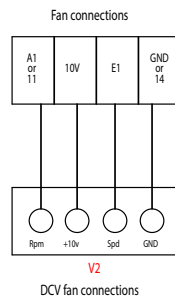
Fans will run alternatively, changing duty every 6th hour. If there's a fan failure, only the "surviving" fan is run and an error message is displayed. The duty switch can be manually forced by pressing the LEFT or RIGHT button for 5s

Two independent fans used for twin fan applications (one fan must be DCV)

### Single Fan



### Pre-wired DCV single fan



### Second EC



Fans will run alternatively, changing duty every 6th hour. If there's a fan failure, only the "surviving" fan is run and an error message is displayed. The duty switch can be manually forced by pressing the LEFT or RIGHT button for 5s.

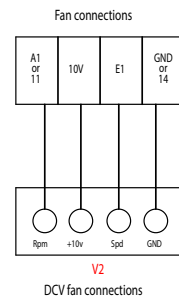
### Master/Slave Fans

Fan 2 (SLAVE) speed control is equivalent to Fan 1 (MASTER) speed control (each one relative to their limits, set by parameters) (one fan must be DCV)

### Pre-wired DCV single fan



### Pre-wired DCV single fan

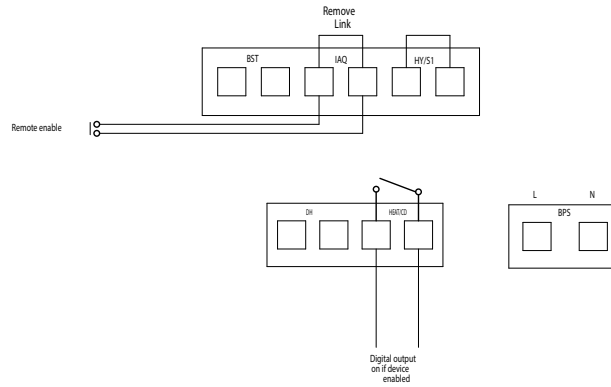


# 149-DCV-MK3

## Control Functions

### Remote ON/OFF (Device Enabled)

The fan controller will be enabled if the digital input REMOTE ENABLE (IAQ) is active (contact closed). This is indicated by digital output DEVICE ENABLED (HEAT/CD) = ON.



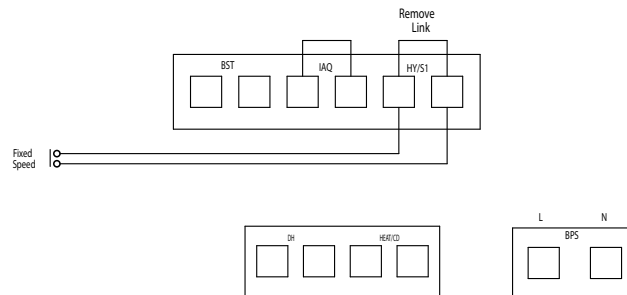
### Internal Timeclock enable

It is possible to operate the on / off function by the weekly timer (parameter setting "weekly timer"). This allows up to four on and four off settings per day. Fan operation in conjunction with remote enable (terminal IAQ) is shown below.

IAQ Terminals	Weekly Timer (on/off times set)	Fan On / Off	Device Enabled Output
OPEN	ON	ON	ON
OPEN	OFF	OFF	OFF
CLOSED	ON	ON	ON
CLOSED	OFF	ON	ON

### Fixed Speed

When the device is enabled and the HY/S1 input is open, the unit runs at a fixed speed set by the P06 parameter (relative to speed limits)



### Trickle / Boost (using Fixed Speed function)

By setting parameter P06 (fixed speed) to 100% and P09 (max fan speed) set to 100% it is possible to have a trickle speed (defined by sensor output in Non-manual application or the manual set speed in Manual application) and a boost speed by opening connections HY/S1 (fixed speed)

HY/S1 Terminals	Application (P01)	TRICKLE/BOOST	VALUE
OPEN	0-10V/ PRESSURE/RH/TEMPERATURE	BOOST	P06/P09
CLOSED	0-10V/PRESSURE/RH/TEMPERATURE	TRICKLE	SENSOR OUTPUT
OPEN	MANUAL	BOOST	P06/P09
CLOSED	MANUAL	ON	MANUAL SETTING

# 149-DCV-MK3

## Control Functions

### 0-10V/PRESSURE/RH/TEMPERATURE

Application With trickle speed defined by sensor output rather than a fixed value, the ventilation is guaranteed by the requirements of the sensor, e.g. if CO<sub>2</sub> sensor detects levels above the desired set point then the sensor will call for a higher trickle speed as CO<sub>2</sub> levels have been detected that require ventilation at a higher speed

### MANUAL Application

The trickle speed is defined by the value manually set using the CTRL-DSP ▲ or ▼ buttons

### Night Set Back (using Fixed Speed function)

By setting parameter P06 (fixed speed) to 20% and P08 (min fan speed) set to 20% it is possible to have a night set back by opening connections HY/S1 (fixed speed).

HY/S1 Terminals	Application (P01)	Night Set Back (NSB)/Normal	VALUE
OPEN	0-10V/PRESSURE/RH/TEMPERATURE	NSB	P06/P08
CLOSED	0-10V/PRESSURE/RH/TEMPERATURE	NORMAL	SENSOR OUTPUT
OPEN	MANUAL	NSB	P06/P08
CLOSED	MANUAL	NORMAL	MANUAL SETTING

### 0-10V/PRESSURE/RH/TEMPERATURE Application

Night Set Back is defined by the status of connections HY/S1, when open the fan speed is defined by parameters P06 and P08 When connections HY/S1 are closed, the speed defined by sensor output rather than a fixed value, the ventilation is guaranteed by the requirements of the sensor, e.g. if CO<sub>2</sub> sensor detects levels below the desired set point then the sensor will call for a lower speed as CO<sub>2</sub> levels have been detected that require ventilation to be less, this ensure that over ventilation is not experienced.

### MANUAL Application

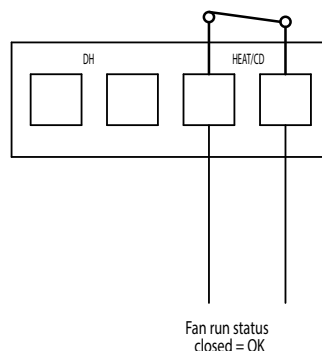
The NORMAL operating speed is defined by the value manually set using the CTRL-DSP ▲ or ▼ buttons

### Fan Status

If fans are OK (no failure), this is indicated by digital output FAN RUN STATUS (DH) = ON.

### Heater Fan Over run

Run on time is required to allow heat dissipation if the heater output is ON in Temperature application (or OFF if less than 3 minutes) with internal time clock in an OFF mode and the remote enable input is off; run on time is adjustable via a dedicated parameter (min. 3 minutes).

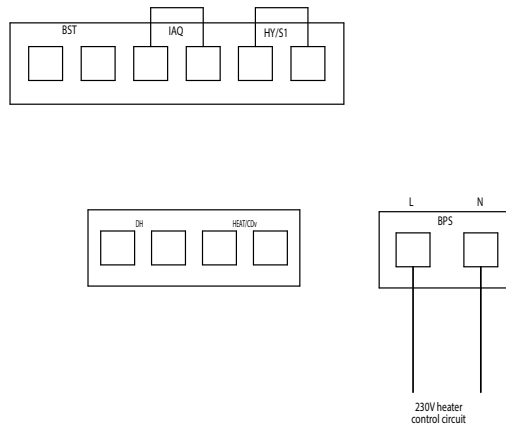


# 149-DCV-MK3

## Control Functions

### Heater Output

In temperature mode, if the measured sensor temperature falls below the set point, the output BPS provides a 240V output to switch a heater control circuit



### Fault Diagnostics

In the event of a fault, Exx error code shows on user display. Error description

<b>E000</b>	no connection between CTRL-DSP and PCB
<b>E001</b>	FAN 1 fault
<b>E002</b>	FAN 2 fault
<b>E003</b>	T11 fault (only possible if P12 = T11)
<b>E004</b>	(spare)
<b>E005</b>	(spare)
<b>E006</b>	(spare)
<b>E007</b>	(spare)
<b>E008</b>	CTRL-DSP internal clock error

### Applications

The controller software is designed to handle 6 different Applications. Each application has its own set of parameters (input value range, setpoints, p band, etc.) and control function. The application is preselected at factory but can be changed in field as other parameters using the CTRL-DSP.

When the device is enabled, the fan speeds are controlled by the value of the CONTROL INPUT SIGNAL, depending on the application.

### 0-10V Control

Control input signal 0-10 VDC determines the fans speed 0-100% of configured max. Speed. High input signal gives high fan speed.

Where:

$$\Delta \text{ speed [\%]} = \frac{40 * \text{Global Gain}}{\text{Prop.Band (0+10V)}} * \text{error}$$

$$\text{error} = V_{\text{measured}} - V_{\text{setpoint}}$$

# 149-DCV-MK3

## Control Functions

### Temperature

The room temperature (control input signal 0-10 VDC via Temperature, or pre-fitted T11 input, depending on the value of P12 parameter) is controlled by P band. High temperature gives high fan speed.

Where:

$$\Delta \text{ speed [\%]} = \frac{40 * \text{Global Gain}}{\text{Prop.Band (Temperature)}} * \text{error}$$

$$\text{error} = T_{\text{measured}} - T_{\text{setpoint}}$$

### CO2

The room's CO2 content (Control input signal 0-10 VDC via CO2 sensor) is controlled by P band. High CO2 rate gives high fan speed.

Where:

$$\Delta \text{ speed [\%]} = \frac{40 * \text{Global Gain}}{\text{Prop.Band (CO}_2\text{)}} * \text{error}$$

$$\text{error} = \text{CO}_2_{\text{measured}} - \text{CO}_2_{\text{set point}}$$

### Relative Humidity

The room relative humidity (control input signal 0-10 VDC via RH sensor) is controlled by P band. High relative humidity gives high fan speed.

Where:

$$\Delta \text{ speed [\%]} = \frac{40 * \text{Global Gain}}{\text{Prop.Band (RH)}} * \text{error}$$

$$\text{error} = \text{RH}_{\text{measured}} - \text{RH}_{\text{set point}}$$

### Pressure

Duct air pressure (Control input signal 0-10VDC via pressure sensor) is controlled by a PID controller (Proportional, Integrating and Derivating). High pressure value gives low fan speed

$$\Delta \text{ speed [\%]} = - \frac{2 * \text{Global Gain}}{\text{Prop.Band (pressure)}} * \left[ \text{error} + \frac{\int \text{error} * dt}{\text{Integration Time}} + \text{Derivation} * \frac{d(P_{\text{measured}})}{dt} \right]$$

In the main menu, the user can choose between different PID CONTROL settings:

Normal: the S02 (Global Gain) parameter is set to 0.5, other PID values to default

Slow: the S02 (Global Gain) parameter is set to 0.2, other PID values to default

Fast: the S02 (Global Gain) parameter is set to 0.9, other PID values to default

For the advanced users and/or feedback fine tuning, it is possible to adjust the parameters S02 to S05 manually in the SERVICE MENU. After a modification of one of the above parameters in the SERVICE MENU, the P05 PID CONTROL parameter is automatically set to CUSTOM.

### Manual

The fan speed is set manually using the CTRL-DSP's UP and DOWN buttons (adjustment increments of 1%).

Tel **+44 (0) 1384 275800**  
Email **info@eltauk.com**  
**eltauk.com**

535-IOM0045-01-2024 Issue F



BS EN ISO 9001:2015 FM 556465

