CADAMP LTD

ELECTRONIC & ELECTRICAL CONTROLS FOR THE HEATING & VENTILATION INDUSTRY

ISSUE 9

Contents

EFSC RANGE

A range of electronic fan speed controllers designed for speed controllable single phase motors up to 10 amps. The EFSC3,6 & 10 all have an illuminated on/off rocker switch and a stepless rotary knob for speed adjustment.

The FSC1.5 is a single gang surface or flush mount version of the EFSC1.5
The EFSC3N and EFSC6N are for fan motors where the neutral is controlled instead of the live.

EFSC Range Features

- All models supplied with surface mount backing box
- Minimum & Maximum speed internal pre-set adjusters on all models
- Suitable for 2 or 3 wire control
- Electronic stepless speed control
- Easy to install

FSC1.5

EFSC1.5

EFSC3P
EFSC6

EFSC3N
EFSC6N

EFSC10

Model no.	Electrical supply	Max rating	Dimensions (H x W x D*)	Mounting	£
FSC1.5	230v 1Ph 50Hz	1.5 Amps	87mm x 87mm x 55mm	Surface/Flush	34.99
EFSC1.5	230v 1Ph 50Hz	1.5 Amps	87mm x 147mm x 55mm	Surface/Flush	36.66
EFSC3P	230v 1Ph 50Hz	3 Amps	147mm x 87mm x 70mm	Surface/Flush	52.42
EFSC6	230v 1Ph 50Hz	6 Amps	147mm x 87mm x 70mm	Surface/Flush	63.79
EFSC10	230v 1Ph 50Hz	10 Amps	188mm x 119mm x 70mm	Surface	112.02
EFSC3N	230v 1Ph 50Hz	3 Amps	87mm x 147mm x 70mm	Surface/Flush	53.53
EFSC6N	230v 1Ph 50Hz	6 Amps	87mm x 147mm x 70mm	Surface/Flush	64.84

EFSCTK RANGE

A range of electronic fan speed controllers designed for speed controllable single phase motors up to 10 amps that have thermal contacts brought out separately to the motor windings.

Model no.	Electrical supply	Max rating	Dimensions (H x W x D*)	Mounting	£
EFSC3TK	230v 1Ph 50Hz	3 Amps	147mm x 87mm x 70mm	Surface/Flush	60.96
EFSC6TK	230v 1Ph 50Hz	6 Amps	147mm x 87mm x 70mm	Surface/Flush	72.36
EFSC10TK	230v 1Ph 50Hz	10 Amps	188mm x 119mm x 70mm	Surface	131.90

EFSC3TK
EFSC6TK

*Depth includes knob

FAN SPEED CONTROLLERS

ECPOT RANGE

A range of potentiometers for the speed control of EC fan motors. The speed adjustment potentiometers are connected directly to the EC motor to provide stepless speed control by means of varying the 0-10v input to the fan motor. The potentiometer value on all our EC potentiometers is 10KΩ.

Features/options
- With or without on/off switch
- All models feature minimum speed preset
- Choice of plastic or stainless steel plate
- All models supplied with backing box
- Maximum level preset option on single gang versions
- Dual gang versions for simultaneous control of 2 fans

				
Single gang	ECP1: £29.38 For 1 fan motor Min speed preset White plastic plate No on/off switch	ECP1-S: £31.26 For 1 fan motor Min speed preset White plastic plate With on/off switch	ECP2: £34.81 For 1 fan motor Min speed preset Stainless steel plate No on/off switch	ECP2-S: £38.75 For 1 fan motor Min speed preset Stainless steel plate With on/off switch
Single gang with max speed pre-set	ECP1-M: £31.48 As ECP1 + max speed preset	ECP1-S-M: £33.42 As ECP1-S + max speed preset	ECP2-M: £36.96 As ECP2 + max speed preset	ECP2-S-M: £40.90 As ECP2-S + max speed preset
Dual gang	ECP1-D: £51.53 For 2 fan motors Min speed presets White plastic plate No on/off switch	ECP1-S-D: £55.08 For 2 fan motors Min speed presets White plastic plate With on/off switch	ECP2-D: £57.09 For 2 fan motors Min speed presets Stainless steel plate no on/off switch	ECP2-S-D: £62.75 For 2 fan motors Min speed presets Stainless steel plate With on/off switch

IP65 rated speed adjustment potentiometers

ECP1-IP65: Potentiometer only ECP1-S-IP65: Potentiometer and switch.
Please note that the IP65 potentiometers do not have minimum or maximum speed pre-sets.

Model no.	Potentiometer value	Dimensions (H x W x D)	Mounting	£
ECP1-IP65	10KΩ	70mm x 70mm x 80mm	Surface	68.32
ECP1-S-IP65	10KΩ	70mm x 115mm x 70mm	Surface	89.89

ECP1-S-IP65

Trickle & Boost EC controller

Surface mount enclosure featuring 2 internal potentiometers to set trickle and boost fan speeds. The controller has connections for a set of changeover volt free contacts* (E.G. PIR detector) that depending on the status of the contacts will run the fan at either the pre-set trickle speed or the pre-set boost speed.

Model no.	Dimensions (H x W x D)	£
ECTBC	86mm x 86mm x 40mm	35.00

*Please note that volt free contacts must be changeover I.E common, normally open and normally closed.

INV RANGE

A range of Inverter fan speed controllers designed for speed controllable 3 phase motors.

We offer 2 ranges of inverters:
Fully enclosed in IP54 mild steel enclosure. Bespoke options abailable on this range
General purpose IP66 which requires some basic setting up.

We also offer as an optional extra stand alone speed adjustment potentiometers that can be used with either range.

When choosing the inverter please ensure that the F.L.C. of the fan motor +10% does not exceed the max rating (in amps) of the inverter. This allows (if required) the carrier frequency to be changed.

	1Ph-3Ph Fully Enclosed Inverters		3Ph-3Ph Fully Enclosed Inverters	
	Single Phase input 230v 1Ph 50Hz input / 230v 3Ph output		Three Phase input 400v 3Ph 50Hz input / 400v 3Ph output	
Max Motor Kw rating	Max current (amps) 230v 3Ph	£	Max current (amps) 400v 3Ph	£
0.75	5	704.99	2.5	738.99
1.5	8	738.99	4.2	764.99
2.2	11	808.99	5.8	824.99
4	17.6	1010.89	9.5	886.99
5.5			13	1054.15
7.5			17	1252.82

Fully Enclosed Inverter

	1Ph-3Ph General Purpose Inverters		3Ph-3Ph General Purpose Inverters	
	Single Phase input 230v 1Ph 50Hz input / 230v 3Ph output		Three Phase input 400v 3Ph 50Hz input / 400v 3Ph output	
Max Motor Kw rating	Max current (amps) 230v 3Ph	£	Max current (amps) 400v 3Ph	£
0.75	4.3	290.33	2.2	416.00
1.5	7	357.50	4.1	459.33
2.2	10.5	465.83	5.8	541.66
4	15.3	769.16	9.5	589.33
5.5			14	853.66
7.5			18	970.66
11			24	1105.00
15			30	1365.00

General Purpose Inverter

Higher rated models available. Please enquire for pricing.

Model no.	Optional extra	£
RSAS-M	Remote speed adjustment station with on/off switch (metal front plate)	38.75
RSAS-PC	Remote speed adjustment station with on/off switch (polycarbonate front plate)	31.26
RSAS-IP65	IP65 Remote speed adjustment station with on/off switch	89.89

Remote speed adjustment station RSAS-PC

IP65 Remote speed adjustment station RSAS-IP65

Remote speed adjustment station RSAS-M

FAN SPEED CONTROLLERS

ATC RANGE & ATCTK RANGE

A range of auto transformer fan speed controllers for use with single and three phase voltage controllable fans. Auto transformer speed controllers regulate the voltage output whilst maintaining a true sine wave. The great advantage of this type of control is the low motor noise (humming) and almost no EMC emission problems.

The ATCTK range is for use with single phase fans that have thermal contacts (TK). If the fan motor overheats and the TK contacts open the controller will trip. The ATC-TK range can also be used with fans without TK contacts by linking the TK connections within the controller.

ATC Range Features

- Single phase models (Except ATC1-16) housed in grey plastic enclosures
- Three phase models & ATC1-16 housed in ventilated grey metal enclosures
- Speed settings via rotary switch
- Single phase models suitable for 2 or 3 wire control (except ATC1-1.5 - 2 wire control only)

ATCTK Range Features

- Single phase models housed in ventilated grey plastic enclosures
- 5 speed settings via rotary switch
- Reset button
- Thermal overload fitted
- Suitable for 2 or 3 wire control

ATC1

ATC3

ATC1TK

Single Phase Auto Transformer Controllers (ATC Range)				
Model no.	Electrical supply	Max rating	Dimensions (H x W x D)	£
ATC1-1.5	230v 1Ph 50Hz	1.5 Amps	190mm x 125mm x 90mm	90.37
ATC1-4	230v 1Ph 50Hz	4 Amps	315mm x 235mm x 130mm	252.73
ATC1-8	230v 1Ph 50Hz	8 Amps	315mm x 235mm x 130mm	271.04
ATC1-10	230v 1Ph 50Hz	10 Amps	315mm x 235mm x 130mm	291.00
ATC1-16	230v 1Ph 50Hz	16 Amps	400mm x 300mm x 200mm	634.14

Single Phase Auto Transformer Controllers (ATCTK Range)				
Model no.	Electrical supply	Max rating	Dimensions (H x W x D)	£
ATC1-2TK	230v 1Ph 50Hz	2 Amps	200mm x 160mm x 95mm	185.47
ATC1-4TK	230v 1Ph 50Hz	4 Amps	238mm x 190mm x 110mm	209.83
ATC1-8TK	230v 1Ph 50Hz	8 Amps	310mm x 230mm x 128mm	232.18
ATC1-10TK	230v 1Ph 50Hz	10 Amps	310mm x 230mm x 128mm	252.13
ATC1-12TK	230v 1Ph 50Hz	12 Amps	310mm x 230mm x 128mm	264.10

Three Phase Auto Transformer Controllers (ATC Range)				
Model no.	Electrical supply	Max rating	Dimensions (H x W x D)	£
ATC3-3	400v 3Ph 50Hz	3 Amps	300mm x 300mm x 150mm	559.15
ATC3-5	400v 3Ph 50Hz	5 Amps	300mm x 300mm x 150mm	581.55
ATC3-7	400v 3Ph 50Hz	7 Amps	400mm x 300mm x 150mm	626.37

RATC RANGE

A range of auto transformer controllers with 3 different control options.

Trickle/Boost control option
ATC1-1.5TB ONLY
The trickle speed is set manually using the speed adjustment switch on the controller. There are 4 speed settings (3 x trickle & full (boost) speed). The controller will run at the set trickle speed until the switching device e.g thermostat operates, the fan will then run at full speed.

All other trickle and boost controllers
The trickle speed on all other models is set within the fan speed controller at the time of installation. There are 5 speed settings (4 x trickle & full (boost) speed).

Remote control option
A range of remote (not wireless) auto transformer controllers that use a low voltage remote speed adjustment station to change fan speed. The speed adjustment station supplied has a combined on/off and 5 speed switch and is included in the controller price.

0-10v control option
A range of controllers whereby the speed of the fan is dicated by an incoming 0-10v signal e.g. from B.M.S.
As the 0-10v signal increase the controller automatically steps up through the 5 speed settings.

Refer to table below for pricing options.
When ordering use model number as below and replace x with control option
TB= trickle/boost control
REM= remote control
010= 0-10v control

Single Phase Auto Transformer Controllers				Control options		
				TB	REM	010
Model no.	Electrical supply	Max rating	Dimensions (H x W x D)	£	£	£
ATC1-1.5-TB	230v 1Ph 50Hz	1.5 Amps	190mm x 125mm x 90mm	94.83	n/a	n/a
RATC1-4-x	230v 1Ph 50Hz	4 Amps	315mm x 235mm x 130mm	344.62	369.41	338.42
RATC1-8-x	230v 1Ph 50Hz	8 Amps	315mm x 235mm x 130mm	366.74	391.53	360.54
RATC1-10-x	230v 1Ph 50Hz	10 Amps	315mm x 235mm x 130mm	369.98	394.77	363.77
RATC1-12-x	230v 1Ph 50Hz	12 Amps	315mm x 235mm x 130mm	405.27	430.08	399.08

Three Phase Auto Transformer Controllers				Control options		
				TB	REM	010
Model no.	Electrical supply	Max rating	Dimensions (H x W x D)	£	£	£
RATC3-3-x	400v 3Ph 50H & neutral	3 Amps	400mm x 300mm x 150mm	648.00	656.04	638.15
RATC3-5-x	400v 3Ph 50H & neutral	5 Amps	400mm x 300mm x 150mm	675.94	683.68	665.78
RATC3-7-x	400v 3Ph 50H & neutral	7 Amps	400mm x 300mm x 150mm	693.81	701.56	683.67

ATC1-1.5TB


RATC1-4,8,10,12


RATC3-3,5,7


REMOTE SPEED ADJUSTMENT STATION

FAN SPEED CONTROLLERS

EFSC010 RANGE

The EFSC010 range are electronic fan speed controllers for single phase AC fans. The controllers accept a 0-10v dc input signal and control the speed of the fan accordingly. As the 0-10v dc signal increases or decreases the speed of the fan increases or decreases respectively by varying the ac voltage out to the fan. The EFSC010 range can also be used with a remote speed adjustment station (optional extra) where a discrete controller is required.

EFSC010 Range Features

- Minimum & Maximum speed internal pre-set adjusters on all models
- Suitable for 2 or 3 wire control
- Electronic stepless speed control via 0-10v dc input or 10KΩ potentiometer (optional extra)
- BMS Enable facility

EFSC6-010

Remote speed adjustment station RSAS-10K-PC (Optional extra)

Remote speed adjustment station RSAS-10K-M (Optional extra)

Remote speed adjustment station RSAS-10K-IP65 (Optional extra)

Model no.	Electrical supply	Max rating	Dimensions (H x W x D)	Mounting	£
EFSC6-010	230v 1Ph 50Hz	6 Amps	197mm x 147mm x 79mm	Surface	133.60
EFSC10-010	230v 1Ph 50Hz	10 Amps	255mm x 200mm x 100mm	Surface	173.39

*Suitable for use with fan motors where the requirement is to control the neutral

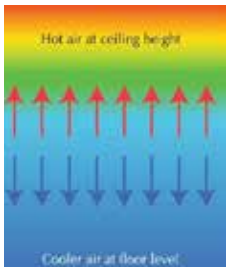
Model no.	Optional extras	£
RSAS-10K-M	Remote speed adjustment station with on/off switch (metal front plate)	38.75
RSAS-10K-PC	Remote speed adjustment station with on/off switch (polycarbonate front plate)	31.26
RSAS-10K-IP65	Remote speed adjustment station with on/off switch (IP65 rated)	89.89

DE-STRATIFICATION CONTROLLER FOR CEILING FANS

The ADC4 is designed to overcome the problem of losing heat from ground level to ceiling space. The ADC4 has connections for high and low level sensors (supplied with controller). When used in automatic mode the user can set the difference in temperature between the high and low level sensor at which point the fan(s) would increase in speed to redistribute the warm air to the ground level thus reducing the energy requirements.

ADC4 Features

- Automatic mode re-distributes rising warm air
- Manual mode for general operation
- Forward and reverse mode
- For single phase fans up to 4 Amps



The problem


The solution....ADC4

The ADC4 also has a manual mode whereby the user can automatically adjust the speed and by switching the direction mode to reverse this can be used to provide general air movement in an office without blowing paper etc. off desks.

Note: To be able to use the ADC4 in manual mode to control the fan in both directions the fan motor must have separate forward and reverse run connections I.E. the fan must have neutral, live (forward) and live (reverse) connections.

Model no.	Electrical supply	Max rating	Dimensions (H x W x D)	Mounting	£
ADC4	230v 1Ph 50Hz	4 Amps	147mm x 197mm x 79mm	Surface	248.38

AUTOMATIC TEMPERATURE FAN SPEED CONTROLLER

The ATCP4 is a low cost temperature controller that automatically adjusts the speed of the fan in relation to the difference between the temperature setpoint and the actual temperature.

The required temperature setpoint is selected using the dial on the controller and the fan will increase in speed (from the pre-set minimum speed) when the temperature rises above this setpoint.

The ATCP4 can be supplied with a bead temperature sensor on a flying lead or a wall mount sensor (see table below)

Model no.	Sensor type	Electrical supply	Max rating	Dimensions (H x W x D)	Mounting	£
ATCP4-FLS	Flying lead	230v 1Ph 50Hz	4 Amps	197mm x 147mm x 79mm	Surface	148.74
ATCP4-WMS	Wall mount	230v 1Ph 50Hz	4 Amps	197mm x 147mm x 79mm	Surface	158.61

ACOTO RANGE

The ACOTO range of changeover panels are designed to suit either single phase or three phase (Direct On Line starting) twin fan units fitted with or without airflow switches. The changeover panels incorporate industrial contactors fitted with thermal overloads pre-set to your requirements. The control panel fascia has a power lamp, fan fail lamp and a rocker switch. The ACOTO range of auto changeover panels are compatible with our EFSC and ATC range of speed controllers. Where inverter control is required please enquire.

Please note when used with airflow switches that each fan must have its own airflow switch and that airflow switch must only monitor the airflow of the fan it is associated with.

ACOTO Range Features

- Fan A/B selector switch on manual duty share version
- 12 hour Internal timer on auto duty
- Auto changeover on tripping of thermal overload or loss of airflow (if airflow switches fitted)
- BMS enable connections fitted as standard allowing duty fan to be enabled from a set of volt free contacts (230v ac rated)
- Fan fail volt free contact output fitted as standard
- Compatible with EFSC & ATC speed controllers
- Enclosure size 315mm (H) x 235mm (W) x 130mm (D)

So we can process your order as quickly as possible please use the format shown below.

Order code format: ACO1TO - ADS - 4.8A

- ACO1TO: Electrical Supply
  - ACO1TO: 230v 1Ph 50Hz fans
  - ACO3TO: 400v 3Ph 50Hz fans
- ADS: Duty Share Method
  - MDS: Manual Duty Share
  - ADS: Automatic Duty Share
- 4.8A: Motor Full Load Current
  - The full load current of each fan

Ordering code example shown
ACO1TO-ADS-4.8A
Single phase.
Auto duty share.
For motors with a full load current of 4.8A.

Model no.	Electrical supply	Max rating	£
ACO1TO-MDS	230v 1Ph 50Hz	9 Amps	357.53
ACO3TO-MDS	400v 3Ph 50Hz & Neutral	9 Amps	358.63
ACO1TO-ADS	230v 1Ph 50Hz	9 Amps	375.03
ACO3TO-ADS	400v 3Ph 50Hz & Neutral	9 Amps	376.13

ACO-TK

The ACO-TK changeover panel is designed to suit single or three phase twin fan units with motors that have TK (thermal protection) contacts brought out separately to the motor windings. The front panel has run and fail lamps for each fan and pushbuttons for overriding the automatic duty share function.

For applications where the current of the fan exceeds the rating of the ACO-TK we can offer contactors packs.

ACO-TK Features

- Automatic duty share (12hrs or 24hrs)
- Automatic changeover when duty fan TK contacts open
- Pushbuttons to manually duty share fans and in event of fault to reset
- Individual run and fail lamps for each fan
- Relay outputs to indicate which fan is running
- Relay outputs to indicate that the fan has failed
- Compatible with EFSC & ATC speed controllers

ACO-TK

Model no.	Electrical supply	Max rating	Dimensions (H x W x D)	£
ACO-TK	230v 1Ph 50Hz	6 Amps	147mm x 197mm x 79mm	200.00
	400v 3Ph 50Hz & neutral	2 Amps		

AUTO CHANGEOVER PANELS

ACOFR & ACOAS RANGE

The ACOFR changeover panels are designed to suit single phase twin fan units without airflow switches.

The ACOAS changeover panels are designed to suit single phase twin fan units with airflow switches.

The control panel fascia has a power lamp, fan fail lamp and a rocker switch. The VFC models have run (ACOFR range only) and fail (ACOFR & ACOAS range) contacts that can be used in conjunction with remote indicators or to interface with a building management system.

Manual duty share models are fitted with a 2 position rocker switch to allow the user to manually select which fan is to be the duty fan.

Automatic duty share models are fitted with a timer which gives a 12 hour duty cycle for each fan

ACOFR Range Features

- Fan A/B selector switch on manual duty share version
- Internal timer to give 12 hour duty cycle for each fan
- Auto changeover on duty fan fuse rupture
- Fan run & fail contacts on VFC models

ACOAS Range Features

- Fan A/B selector switch on manual duty share version
- Internal timer to give 12 hour duty cycle for each fan
- Auto changeover on loss of airflow as detected by duty fan airflow switch
- Fan fail contacts on VFC models

ACOFR9A
ACO-AS

ACOFR9A-ADS
ACOAS-ADS

Manual Duty Share Models (ACOFR Range)				
Model no.	Electrical supply	Max rating	Dimensions (H x W x D)	£
ACOFR	230v 1Ph 50Hz	3 Amps	147mm x 197mm x 79mm	68.36
ACOFR9A	230v 1Ph 50Hz	9 Amps	147mm x 197mm x 79mm	87.09
ACOFR9A-VFC	230v 1Ph 50Hz	9 Amps	147mm x 197mm x 79mm	97.43

Automatic Duty Share Models (ACOFR Range)				
Model no.	Electrical supply	Max rating	Dimensions (H x W x D)	£
ACOFR9A-ADS	230v 1Ph 50Hz	9 Amps	197mm x 247mm x 97mm	143.63
ACOFR9A-ADS-VFC	230v 1Ph 50Hz	9 Amps	197mm x 247mm x 97mm	154.35

Manual Duty Share Models (ACOAS range)				
Model no.	Electrical supply	Max rating	Dimensions (H x W x D)	£
ACOAS	230v 1Ph 50Hz	9 Amps	147mm x 197mm x 79mm	79.93
ACOAS-VFC	230v 1Ph 50Hz	9 Amps	147mm x 197mm x 79mm	89.55

Automatic Duty Share Models (ACOAS range)				
Model no.	Electrical supply	Max rating	Dimensions (H x W x D)	£
ACOAS-ADS	230v 1Ph 50Hz	9 Amps	197mm x 247mm x 97mm	133.59
ACOAS-ADS-VFC	230v 1Ph 50Hz	9 Amps	197mm x 247mm x 97mm	143.42

Please note that neither the ACOFR range nor ACOAS range of changeover panels are compatible with speed controllers. Where a speed controller is required please refer to the ACOTO range.

FMS RANGE

A range of starters for single and three phase fan motors. The starters come supplied with a thermal overload fitted and set to your requirements.

Direct On Line (DOL) starters

FMS range features Direct On Line starters
- Start & stop pushbuttons
- Thermal overloads fitted pre-set to your requirement
- IP65 rated

When ordering starters for 230v 1Ph 50Hz fan motors please order part code FMS1-x where x is the full load current of the motor.

When ordering starters for 415v 3Ph 50Hz fan motors please order part code FMS3-x where x is the full load current of the motor.

Single Phase Direct On Line starters (FMS1)		
Electrical supply	For fan motors with F.LC. up to	£
230v 1Ph 50Hz	12 amps	114.05
230v 1Ph 50Hz	16 amps	176.21

Three Phase Direct On Line starters (FMS3)		
Electrical supply	For fan motors with F.LC. up to	£
400v 3Ph 50Hz	12 amps	114.05
400v 3Ph 50Hz	16 amps	176.21

We can also offer multi fan starter control panels, please enquire for pricing.

Star Delta (SD) starters

FMS range features Star Delta starters
- Start & stop pushbuttons
- Thermal overloads fitted pre-set to your requirement
- IP65 rated

When ordering for 415v 3Ph 50Hz star delta fan motors please order part code FMSSD-x where x is the full load current of the motor.

Electrical supply	Max rating (kW)	Max rating (Amps)	£
400v 3Ph 50Hz	11	22	Enquire
400v 3Ph 50Hz	22	43	Enquire
400v 3Ph 50Hz	30	60	Enquire

We can also offer a range of soft starters, please enquire for pricing.

Fan reversing switch

The RS1 is a 3 position fan reversing switch suitable for single or three phase fan motors.
Note: To reverse single phase motors you are required to wire to each end of the 2 windings I.E 4 connections to motor.

Model no.	Rating	Size (H x W x D)	Mounting	IP	£
RS1	15A	100mm x 80mm x 120mm	Surface	IP66	48.16

GAS VALVE INTERLOCK CONTROLS

GVI RANGE

A range of products for kitchen extract systems where airflow is required prior to the electrical supply to the gas valve solenoid being enabled.

The GVI-001 and GVI-002 require the addition of either pressure switch(es) or current switch(es). If both the supply fan and extract fan are being monitored you will need 2 pressure switches or 2 current switches.

When used with pressure switch(es) the electrical supply to the gas valve solenoid will be enabled when airflow is proved. When used with current switches(es) the electrical supply to the gas valve solenoid will be enabled when current flow is proved.

Both the GVI-001 and GVI-002 have the facility to connect an emergency stop button.
Please note that both the GVI-001 and GVI-002 only monitor the fan airflow/current and do not start/stop the fan. For fan starters/controllers please refer to index.

Pressure switch(es) or current sensor(s) are not included in price and are to be ordered separately.

GVI-001

GVI-002

GVI-001 features

- Airflow off and on indication
- Surface or flush mountable
- Stainless steel frontplate
- Gas off/normal keyswitch
- Overrun timer to overcome false loss of airflow condition e.g backdraft

GVI-002 features

- Airflow off and on indication
- Gas on indication
- Overrun timer to overcome false loss of airflow condition e.g backdraft
- Surface mounting

Model no.	Electrical supply	Solenoid rating (max)	Dimensions (H x W x D)	£
GVI-001	230v 1Ph 50Hz	1A	87mm x 147mm x 54mm	168.85
GVI-002	230v 1Ph 50Hz	1A	170mm x 120mm x 65mm	164.40

Please see next page for associated products

Pressure switches

Emergency stop button

current sensor

CO2 sensor

Bespoke gas interlock control panels
We can also offer gas interlock control panels incorporating fan starters or speed controllers.
Please enquire for details.

GVI RANGE ANCILLARIES

Current switches

The CS2 current switch is used where fan current flow needs to be proved in order for the gas valve solenoid to be enabled. When current flow is present the switch will operate. The fan current carrying cable is passed through the aperture of the current switch and the current switch is connected to the gas interlock controller.

Model no.	Fan current range	Switching level	Dimensions (H x W x D)	£
CS2	0-10A	Adjustable	30mm x 41mm x 41mm	33.17

CS2

CO2 sensor for commerical kitchen applications

The CO2-K Carbon Dioxide sensor can be used in conjunction with either the GVI-001 or GVI-002. The contacts on the CO2 sensor can be wired in series with the gas valve solenoid and when the CO2-K is activated (CO2 level setpoint reached) the electrical supply to the gas valve solenoid will be disabled. The CO2-K is programmed with 4 non adjustable user selectable setpoints as below. If different setpoints are required please advise at time of ordering.

Model no.	Electrical Supply/ Max load	User selectable setpoints (ppm)	Dimensions (H x W x D)	Mounting	£
CO2-K	230v 1Ph 50Hz / 3 Amps	800,1000, 1200, 5000	130mm x 85mm x 39mm	Wall	297.99

C02-K

Emergency stop button

The ES1 emergency stop button can be used in conjunction with either the GVI-001 or GVI-002. When the ES1 is activated the electrical supply to the gas valve solenoid will be disabled.

Model no.	Rating 230v ac	Dimensions (H x W x D)	Mounting	£
ES1	3A	84mm x 77mm x 95mm	Wall	22.89

ES1

Airflow pressure switches

A pressure switch is used where fan airflow needs to be proved in order for the gas valve solenoid to be enabled. When airflow is present the switch will operate. The pressure switch comes complete with 2 mtrs of tubing and 2 duct adaptors.

Model no.	Range (Pa)	Max Press. (Pa)	Switch rating 230v ac	IP	£
FPS1	20-300	5000	1.5 (0.4) A	IP54	19.88
FPS50	50-500	5000	1.5 (0.4) A	IP54	27.42
FPS200	200-1000	5000	1.5 (0.4) A	IP54	27.42
FPS1-IP65	20-300	5000	1.5 (0.4) A	IP65	86.36
FPS50-IP65	50-500	5000	1.5 (0.4) A	IP65	86.36
FPS100-IP65	100-1000	5000	1.5 (0.4) A	IP65	86.36

FPS

PDA

PVC-2M

LOW PRESSURE HOT WATER CONTROLLERS

LPHW RANGE

Our LPHW (Low Pressure Hot Water) controllers are available for use with either modulating valve actuators or on/off valve actuators.

Controllers for use with modulating valve actuators
Suitable for use with an actuator that requires a 24vdc electrical supply and are modulated via a 0-10vdc signal.

Controllers for use with on/off valve actuators
Suitable for use with a 230v 1Ph 50Hz on/off valve actuator

The control panels have a Hand/Auto switch for manual or timeswitch/BMS control and Fan/Heat switch to allow either the fan or the fan and heater to run. Temperature control is achieved using the digital temperature controller on the front of the control panel.

Control Panel Features

- Door interlocking isolator
- Visual indication for Power, Fan Run, Heat on, Fan trip
- MCB fitted for fan protection
- Thermal overload protection for fan
- Built in run on timer
- Controller supplied with temperature sensor
- Digital temperature set point adjuster/display on front of control panel

Control Panel Connections

- Electrical supply
- Valve actuator
- Supply fan
- External timeswitch
- Temperature sensor
- Frost thermostat
- Water pipe strap on thermostat
- Boiler (isolated contact)
- Pump (isolated contact)

LPHW Controllers		
Actuator Type	Model no.	£
Modulating	LPHW-MOD	Enquire
On/Off	LPHW-OO	Enquire

Please note that when using a modulating controller, if the isolated contacts for the pump & boiler are not being used then the heating valve actuator used must be a modulating type that also has a spring return action when power is disconnected.

The LPHW controllers are built to clients specification and in addition to standard features can incorporate extras such as:

- Extract fan connections
- Fire alarm relay interface
- Filter dirty lamps
- Inverter controls
- Gas valve interlock
- Internal timeswitch

THY RANGE - THYRISTOR CONTROL

These controllers are designed to accurately control a single or three phase heater and supply fan. The control panels have a Hand/Auto switch for manual or timeswitch/BMS control and Fan/Heat switch to allow either the fan or the fan and heater to run. Temperature control is achieved using the digital temperature controller on the front of the control panel.

The controllers have connections for an airflow proving switch to ensure the heating and fan are interlocked in such a way the heater will not run without supply fan airflow been proved.

Control Panel Features

- Door interlocking isolator
- Visual indication for Power, Fan Run, Heat on, Fan trip
- MCB fitted for fan
- Thermal overload protection for fan
- Built in run on timer
- Controller supplied with temperature sensor
- Digital temperature set point adjuster/display on front of control panel

Control Panel Connections

- Electrical supply
- Heater battery
- Supply fan
- External timeswitch
- Temperature sensor
- Airflow proving device
- Filter differential pressure switch
- High temperature cut-out

The THY controllers are built to clients specification and in addition to standard features can incorporate extras such as:

- Extract fan connections
- Fire alarm relay interface
- Filter dirty lamps
- Inverter controls
- Gas valve interlock
- Internal timeswitch

PLEASE ENQUIRE FOR PRICING

ELECTRIC HEATER BATTERY CONTROLLERS

DTC RANGE - STEP CONTROL

These controllers are designed to control a single or three phase single or multi step heater and supply fan. The control panels have a Hand/Auto switch for manual or timeswitch/BMS control and Fan/Heat switch to allow either the fan or the fan and heater to run. Temperature control is achieved using the digital temperature controller on the front of the control panel to switch the steps of the heater battery so as to maintain temperature setpoint

The controllers have connections for an airflow proving switch to ensure the heating and fan are interlocked in such a way the heater will not run without supply fan airflow been proved.

Control Panel Features

- Door interlocking isolator
- Visual indication for Power, Fan Run, Heat on, Fan trip
- MCB fitted for fan
- Thermal overload protection for fan
- Built in run on timer
- Controller supplied with temperature sensor
- Digital temperature set point adjuster/display on front of control panel

Control Panel Connections

- Electrical supply
- Heater battery
- Supply fan
- External timeswitch
- Temperature sensor
- Airflow proving device
- Filter differential pressure switch
- High temperature cut-out

The DTC controllers are built to clients specification and in addition to standard features can incorporate extras such as:

- Extract fan connections
- Fire alarm relay interface
- Filter dirty lamps
- Inverter controls
- Gas valve interlock
- Internal timeswitch

PLEASE ENQUIRE FOR PRICING

ESC RANGE - STEP CONTROL

These controllers are designed to control a single or three phase single or multi step heater and supply fan. The control panels have a Hand/Auto switch for manual or timeswitch/BMS control and Fan/Heat switch to allow either the fan or the fan and heater to run. Temperature control is achieved using the setpoint controller inside the control panel to switch the steps of the heater battery so as to maintain temperature setpoint

The controllers have connections for an airflow proving switch to ensure the heating and fan are interlocked in such a way the heater will not run without supply fan airflow been proved.

Control Panel Features

- Door interlocking isolator
- Visual indication for Power, Fan Run, Heat on, Fan trip
- MCB fitted for fan
- Thermal overload protection for fan
- Built in run on timer
- Controller supplied with temperature sensor
- Temperature adjustment inside control panel

Control Panel Connections

- Electrical supply
- Heater battery
- Supply fan
- External timeswitch
- Temperature sensor
- Airflow proving device
- Filter differential pressure switch
- High temperature cut-out

The ESC controllers are built to clients specification and in addition to standard features can incorporate extras such as:

- Extract fan connections
- Fire alarm relay interface
- Filter dirty lamps
- Inverter controls
- Gas valve interlock
- Internal timeswitch

PLEASE ENQUIRE FOR PRICING

0-10V SENSORS

A range of sensors for demand control ventilation applications where they can be used to automatically control EC motors, dampers or inverter drives.

The sensors on this page which work from a 24v supply (not included in price) and produce a 0-10v linear signal across the range of the sensor. These sensors require the additon of a setpoint controller and a 24v supply in order to be able to control an EC motor/damper/inverter drive.

Temperature sensors					
Model no.	Type	Range	Electrical supply	Output	£
TRS010	Room	0°C...+40°C	24vdc	0...10vdc	139.72
TDS010	Duct	-10°C...+40°C	24vdc	0...10vdc	131.62

TRS010
CDRS010
HRS010
CORS010

Carbon dioxide sensors					
Model no.	Type	Range	Electrical supply	Output	£
CDRS010	Room	0...2000ppm	24vdc	0...10vdc	337.73
CDDS010	Duct	0...2000ppm	24vdc	0...10vdc	506.59

TDS010
CDDS010
HDS010
CODS010

Humidity sensors					
Model no.	Type	Range	Electrical supply	Output	£
HRS010	Room	0...100%	24vdc	0-10vdc	212.87
HDS010	Duct	0...100%	24vdc	0-10vdc	267.12

Carbon monoxide sensors					
Model no.	Type	Range	Electrical supply	Output	£
CORS010	Room	0...500ppm	24v dc	0-10vdc	390.51
CODS010	Duct	0...500ppm	24v dc	0-10vdc	577.99

Pressure sensors					
Model no.	Range (Pa)	Electrical supply	IP	Output	£
DPT010-500Pa	0...500	24vdc	IP54	0-10vdc	197.52
DPT010-2500Pa	0-2500	24vdc	IP54	0-10vdc	197.52

DPT010

THERMOSTATS

Thermostat current ratings: Figure not in brackets is resistive load (e.g. heater) rating, figure in brackets is inductive load (e.g. fan motor) rating. If the load is greater than the rating of the thermostat please refer to fan contactor interface stations.

RT1

DRT

RT2

Room thermostats

Model no.	Range (ºC)	Diff (ºC)	Rating 230v ac	Function	£
RT1	10-30	1	10 (3) A	Htg or Clg	22.94
RT2	5-30*	0.5	10(3)	Htg or Clg	39.01
DRT	5-35	1	5 (3) A	Htg or Clg	56.98

* Concealed adjustment

Space thermostat

Space thermostats monitor temperatures inside factories, greenhouses and areas subject to high humidity or regular washdown processes.The liquid filled sensing elements are fixed to the side of the weatherproof enclosures.

ST1

Model no.	Range (ºC)	Diff (ºC)	Rating 230v ac	Function	IP	£
ST1	-30-+30	3	16 (4) A	Htg or Clg	IP65	116.99

Duct thermostat

Duct thermostats are used to monitor the temperature of air or liquids. Applications include heating and air conditioning systems. The liquid filled sensing element enables a rapid response to temperature changes.

DT1

Model no.	Range (ºC)	Diff (ºC)	Rating 230v ac	Function	£
DT1	0-90	2	16 (4) A	Htg or Clg	93.26

Freeze protection thermostats

These products are used to prevent the freezing of liquids inside pipes or heating/cooling coils. Choose either of these when ordering a freeze protection thermostat from the optional extras in the LPHW range.

FS1

Model no.	Range (ºC)	Diff (°C)	Capillary Length	IP	£
FS1	-30/+10	2-16	6m	IP44	82.93
FS1-W	-30/+10	2-16	6m	IP65	162.35

Strap on thermostat

Strap on thermostats are used to monitor the temperature of liquids in pipes and cylinders. Choose this product when ordering a strap on thermostat from the optional extras in the LPHW range.

SAT1

Model no.	Range (ºC)	Diff (ºC)	Rating 230v ac	IP	£
SAT1	0/90	5	13(4) A	IP30	42.16

ANCILLARY PRODUCTS

CARBON DIOXIDE SENSOR

CO2 sensor for room/office applications
The CO2-R is aimed at ventilation applications. The sensor comes programmed with 4 user selectable setpoints. When the setpoint is reached the sensor can then be used to switch a fan on.

Features

- 230v supply voltage
- Three colour (green/yellow/red) LCD backlight indicating ventilation requirement based on CO2 measurement
- Non dispersive infrared sensing technology
- Relay output
- Digital display of carbon dioxide levels (ppm)
- Max load 3A 230v 1Ph. Larger fans or 3Ph fans can be switched with the addition of one of our contactor interface stations

Model no.	User selectable setpoints (ppm)	Dimensions (H x W x D)	£
CO2-R	800,1000, 1200, 1400	130mm x 85mm x 39mm	297.99

CO2-R

CARBON MONOXIDE SENSOR

A wall mountable sensor for applications such as car parks where carbon monoxide may be present. The sensor setpoint is programmed in at time of installation.

Please note that in order to use the sensor to switch a fan motor on and off a fan starter interface will be required (see FSRL-1PH / FSRL-3PH below). The fans starter interface incorporates the 24vdc power supply required by the sensor as well as a contactor and thermal overload relay for fan protection. When used in conjunction with the fan starter interface the fan will run when the selected setpoint is reached.

Carbon monoxide sensor				
Model no.	Type	Electrical supply	Output	£
CORSRL	Room	24vdc	Relay	224.00

CORSRL

Fan starter interfaces for carbon monoxide sensor CORSRL				
Model no.	Electrical supply	Size (H x W x D)	Output when sensor setpoint is reached	£
FSRL-1PH	230v 1Ph 50Hz	315mm x 235mm x 130mm	230v 1Ph 50Hz	364.10
FSRL-3PH	400v 3Ph 50Hz & neutral	315mm x 235mm x 130mm	400v 3Ph 50Hz	368.23

FSRL-1PH
FSRL-3PH

HUMIDISTATS


HS1


HS2


HS3


HS4

Humidistat current ratings: Figure not in brackets is resistive load (e.g. heater) rating, figure in brackets is inductive load (e.g. fan motor) rating. If the load is greater than the rating of the humidistat please refer to fan contactor interface stations.

Model no.	Type	Range (%RH)	Adjustment	Rating 230v ac	Size (H x W x D)	£
HS1	Room	30...100	Knob	5(1)A	70mm x 115mm x 35mm	140.42
HS2	Room	30...100	Concealed	5(1)A	70mm x 115mm x 35mm	131.62
HS3	Duct	30...100	Knob	5(2)A	108mm x 72mm x 72mm probe = 225mm	386.87
HS4	Duct	30...100	Concealed	5(2)A	108mm x 72mm x 72mm probe =225mm	368.55

PIR DETECTORS


PIR1


PIR2


PIR4


PIR5


PIR6

Model no.	Time adj. period	Electrical sup-ply	Rating	Output	Size (H x W x D)	£
PIR1	5s-18min	230v 1Ph 50Hz	6(3)A	230v 1Ph 50Hz	108mm (dia) x 55mm (d)	41.25
PIR2	10s-60min	230v 1Ph 50Hz	10(6)A	volt free contacts	87mm x 87mm x 55mm	Enquire
PIR4	1-15min	230v 1Ph 50Hz	3A	230v 1Ph 50Hz	87mm x 87mm x 55mm	26.39
PIR5	5s-18min	230v 1Ph 50Hz	3A	230v 1Ph 50Hz	90mm dia x 90mm (d) (75mm ceiling cutout)	41.25
PIR6	10s-30min	12-24v ac/dc	6 (2)A	volt free contacts	100mm x 75mm x 43mm	87.03

TIMESWITCHES


TCK7

TCK7D-6A

TCK7D-W

Model no.	Type	Electrical supply	Rating 230v ac	Size (H x W x D)	Mounting	£
TCK7	7 Day	230v 1Ph 50Hz	16 (3) A	72mm x 94.5mm x 53mm	Wall/Din	122.36
TCK7D-6A	7 Day	230v 1Ph 50Hz	13(6) A	85mm x 85mm x 45mm	Wall	82.41
TCK7D-W	7 Day	230v 1Ph 50Hz	16 (4) A	121mm x 74mm x 41mm	Wall	77.79

ANCILLARY PRODUCTS

DIFFERENTIAL PRESSURE SWITCHES

These are highly sensitive air differential pressure switches, suitable for providing an indication of fan status and 'dirty filter' conditions. The switching setpoint is adjusted by means of a knob mounted under the main cover.

The pressure switches are supplied complete with a duct fixing kit (2 x PDA + 1 x PVC-2M).

FPS

FPS-IP65

PVC-2M

PDA

Model no.	Range (Pa)	Max Press. (Pa)	Switch rating 230v ac	IP	£
FPS1	20-300	5000	1.5 (0.4) A	IP54	19.88
FPS50	50-500	5000	1.5 (0.4) A	IP54	27.42
FPS200	200-1000	5000	1.5 (0.4) A	IP54	27.42
FPS1-IP65	20-300	5000	1.5 (0.4) A	IP65	86.36
FPS50-IP65	50-500	5000	1.5 (0.4) A	IP65	86.36
FPS100-IP65	100-1000	5000	1.5 (0.4) A	IP65	86.36

Additional extras for pressure switches		
Model no.	Description	£
PVC-2M	2 metres of additional PVC hose	2.58
PVC-30M	30 metres of additional PVC hose	50.84
PDA	Additional plastic duct adaptors (Price per adaptor)	1.40
DFK	Duct fixing kit for pressure switches (comprises of 1 x PVC-2M + 2 X PDA	5.00

AIRFLOW PADDLE SWITCH

The AS1 paddle switch is used to monitor airflow within a duct and provides a switched output on detection or loss of airflow.

Model no.	Min adj cut in/cut out	Max adj cut in/cut out	Rating 230v ac	IP	£
AS1	2.5m/s / 1m/s	9.2m/s / 8m/s	15m/s	IP65	105.33

AS1

Other air pressure products
We can also supply a wide range of other air pressure products such as manometers and magnahelic gauges.

Please enquire for pricing.

RUN ON TIMERS

RT5A
The RT5A is a multi-range run on timer with time delay adjustment from 5s-4hrs. The run on time period starts when the trigger e.g. lightswitch is switched off.

RT5A

CFCU1
The CFCU1 is a multi input run on timer that accepts up to 3 inputs to start a fan and gives a run on period after the inputs have been switched off.

The CFCU1 has 2 outputs which can be utilized with motors that have high and low speed windings where a trickle & boost application is required.

CFCU1

Model no.	Time adj. Period	Electrical supply	Rating	Size (H x W x D)	£
RT5A	5s-4hrs	230v 1Ph 50Hz	5A	86mm x 86mm x 32mm	25.00
CFCU1	0-20 min	230v 1Ph 50Hz	2A	86mm x 147mm x 52mm	56.23

FAN FAIL CURRENT SENSING INTERFACES

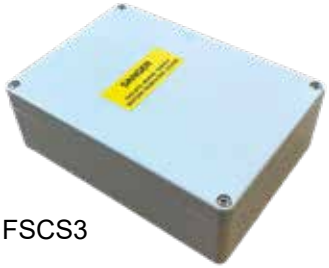
The FSCS allows a single phase fan to be monitored and if whilst the fan should be running there is a loss of current flow then the FSCS will provide a volt free contact output.

All 3 models start the fan either by applying power to the module OR by having the power permanently applied to the module and then closing a set of contacts, if the fan should be running but current flow is not sensed then the module will provide a fan fail output (normally open contacts that close on fail). This output can be taken to a B.M.S. or used with one of our fan fail indicators to provide a visual and/or audible alert that the fan has failed.

Note: For EC motors use FSCS3.

Model no.	Electrical supply	Range	Size (H x W x D)	£
FSCS1	230v 1Ph 50Hz	0-0.5A	125mm x 90mm x 60mm	66.66
FSCS2	230v 1Ph 50Hz	0.51-1.2A	125mm x 90mm x 60mm	66.66
FSCS3	230v 1Ph 50Hz	10A max	170mm x 122mm x 55mm	140.00

FSCS1, FSCS2



FSCS3

REMOTE INDICATORS

A range of visual and/or audible indicators for applications such as filter monitoring, airflow monitoring etc.

Filter monitoring indicators
Indicators that when used in conjunction with a filter differential pressure switch give an indication of the filter condition I.E. clean/dirty.

Airflow monitoring indicators
Indicators that when used in conjunction with a filter differential pressure or arflow paddle switch give an indication of the airflow presence and/or loss.

Damper motor position indicators
Indicators that when used in conjunction with a damper motor that has an auxillary switch can be used to display the staus of the damper I.E. open or closed

FMI1, AMI1

AMI2, FMI2, DMI2

AMI3

DMI1

Filter monitoring indicators				
Model no.	Indicator Voltage	Size (H x W x D)	Lamp marking & (colour)	£
FMI1	230v ac	72mm x 72mm x 71mm	Filter dirty (Red)	41.25
FMI2	230v ac	72mm x 117mm x 71mm	Filter clean (green) & filter dirty (red)	50.08

Airflow monitoring indicators				
Model no.	Indicator Voltage	Size (H x W x D)	Lamp marking & (colour)	£
AMI1	230v ac	72mm x 72mm x 71mm	No airflow (Red)	41.25
AMI2	230v ac	72mm x 117mm x 71mm	Airflow(green) & No Airflow (red)	50.08
AMI3	230v ac	72mm x 72mm x 71mm	No Airflow (combined red lamp & buzzer)	49.31

Damper motor position indicators				
Model no.	Indicator Voltage	Size (H x W x D)	Lamp marking & (colour)	£
DMI1	230v ac	72mm x 72mm x 71mm	Damper open (Green)	41.25
DMI2	230v ac	72mm x 117mm x 71mm	Damper open (green) & Damper closed (red)	50.08

If you require a visual and/or audible indicator for something not listed above please enquire.
Low voltage (24v) versions also available.

ELECTRICAL ACCESSORIES

Three pole isolation switch

Provides local isolation of fans with or without timers whilst the rest of the circuit remains live. Enables repair or routine maintenance of fans.

Model no.	Electrical supply	Rating	Size (H x W)	£
FIS	230v 1Ph 50Hz	6A	87mm x 87mm	15.98

Single gang surface mounting box

Model no.	Size (H x W x D)	£
SGB	87mm x 87mm x 25mm	1.49

Enclosed isolators

Model no.	No. of poles	Rating	Size (H x W x D)	£
EI16A-3P	3	16A	167mm x 100mm x 120mm	50.26
EI32A-3P	3	32A	167mm x 100mm x 120mm	55.81
EI40A-3P	3	40A	167mm x 100mm x 120mm	82.62

Prices for larges sizes other than those listed available on request.

Relay interface

Multi use relay interface that accepts 230v to operate a set of changeover contacts. Uses include:

Where the switching device e.g. PIR and the load e.g. fan motor are on separate circuits
Where changeover contacts are required e.g. for 2 speed motors

Model no.	Rating	Size (H x W)	£
RLI5A	5A	87mm x 87mm x 32mm	33.33
RLI10A	10A	87mm x 87mm x 32mm	38.41

Contactor interface stations

A range of contactor interface stations for use with switching devices such as thermostats, PIR detectors, timeswitches and other ancillaries where the loading exceeds the rating of the switching device. The contactor interface stations can also be used where the switching of a 3 phase load is required.

Larger current rated models available on request.

Model no.	Rating	Size (H x W x D)	Mounting	£
CI9	9A	185mm x 88mm x 120mm	Surface	55.64
CI12	12A	185mm x 88mm x 120mm	Surface	80.52
CI18	18A	202mm x 88mm x 135mm	Surface	110.52

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