

REVISION 5.0 220201

This documents implements the following settings:

	Fan Number	PKV1400 / PKV2000	
	1	2591-xxx-101*	
Indoor Fans	2	2591-xxx-201*	
	3	2591-xxx-301*	
	4	2591-xxx-401*	
	Fan Number	PKV1400 / PKV2000	
	1	2506-138-101	
Outdoor Fans	2	2506-138-201	
	3	2506-138-301	
	4	2506-138-401	

*For Indoor Fans, 2590-011 / 2590-014 / 2590-019 may be used, check actual motor installed.

- 2590-011 fans uses 2591-011-XXX.
- both 2590-014 and 2590-019 fans uses 2591-014-XXX .

Copyright © 2016

All rights reserve. This manual is a controlled document which contains confidential and proprietary information. No part or contents of this book maybe reproduced or transmitted in any form or by any means without the written permission of Actron Engineering Pty. Ltd.

TABLE OF CONTENTS

1.0	Safety Precautions	4
2.0	Background	4
3.0	Tools and Accessories	4
4.0	EBM EC-Control Software	4
5.0	Indoor Fans Addresses 2	22
6.0	Outdoor Fans Addresses 2	22

1.0 SAFETY PRECAUTIONS

- Only licensed HVAC technicians* should install and service this air conditioning equipment. Improper service or alteration by an unqualified technician could result in significant and major damage to the product or property which may render your warranty null and void. Such unqualified service could also lead to severe physical injury or death. Follow all safety instructions in this literature and all warning labels that are attached to the equipment.
- Prevailing WH&S regulations must be observed and will take precedence to the safety instructions contained on this manual. Safe work practices and environment must be the paramount importance in the performance of all the service procedures.
- Ensure that unit installation complies with relevant council regulations and building code standards.
- All electrical wiring must be in accordance with current electrical authority regulations and all wiring connections to be as per electrical diagram provided.
- Secure the fans against accidental contact. Beware of pinch point and sharp edges which can cause cutting injury.
- Always wear appropriate PPE, remove any dangling jewelery and protect long hair by wearing a cap. Make sure that safety guards and panel covers are always firmly secured and not damaged before and during
- operation of unit.
- This appliance is not intended for use by young children or infirm persons unless they have been adequately supervised by a responsible person to ensure that they can use the appliance safely. Young children should be supervised to ensure that they do not play with the appliance.
- Installer must incorporate a means of electrical disconnection (isolator) in the sub mains fixed wiring in accordance with the latest edition of the AS/NZS 3000 (also known as Australian Wiring Rules).
- Secure the power cords and control cables that goes in/out the unit. Use the cable ties provided in the control box. This unit is designed for use with R-410A refrigerant only.
- *Qualifications required will be appropriate Electrical, Refrigeration and Refrigerant Handling License and Training dependent on local State/Territory regulations.

4 DANGER

Hazardous Voltage - Risk of Electrocution.

TURN-OFF the power from main isolator before proceeding with any service work of the unit. Observe proper LOCK-OUT/TAG-OUT (LOTO) procedures for electrical appliances in order to prevent accidental switching-on of the power supply. Extreme care and caution must be observed should there be a need to work on live circuit.

14) WARNING

EC Motors and compressor variable drives are fitted with high power capacitors and can have dangerous residual voltages at motor terminals after power has been isolated.

Wait at least 5 minutes after power isolation and test for any voltage before beginning service work.

CAUTION

Beware of Rotating Fans!

Ensure that indoor and outdoor fans are isolated and have come to a complete stand still before servicing the equipment. Beware of pinch point and sharp edges which can cause cutting injury. Secure the fans against accidental contact.

Always wear appropriate PPE and remove any dangling jewellery and protect long hair by wearing a cap. Ensure that no loose clothing can be caught / entangled in moving parts.

Potential Confined Space !

Be aware of potential confined space condition in the internal sections of the unit. WH&S Confined Space regulations and safety procedures should always take precedence when working in these environment.

VISUAL INSPECTION AND WORK ASSESSMENT

Work areas and conditions must first be assessed and evaluated for any potential hazardous conditions. It is also important to be familiar with the unit parts and components before proceeding with any service task.

2.0 BACKGROUND:

As situation dictates, you will be required to assign correct address to EBM EC Indoor and Outdoor Fans. The procedures described in this manual will assist you in this situation. Please read this manual thoroughly and follow the procedures to correctly address the fans using the EBM EC Control software.

The procedure described in this manual will guide you on how to assign address to your fans.

3.0 TOOLS AND ACCESSORIES:

EBM Bus Cable



PC (Laptop) with EBM EC-Control software and instructions



4.0 EBM EC-CONTROL SOFTWARE

The EBM EC-Control software will need to be downloaded first into your PC (Laptop) prior to proceeding with fan configuration. Ensure that you have the latest version, which can be downloaded from "R and D" drive:

R:\Software\EBM\EC_Control_2.10.zip

The software can also be downloaded from EBM website:

http://info.ebmpapst.us/ec-control-version-2-1-download

Screens on this section may vary pending on EBM software version used.

4.01 Connect the EBM Bus Cable to your PC (Laptop) with EBM EC-Control software and instructions and check the COM port.



4.02 Turn-Off the power supply to the unit through the main isolator. Alternatively, turn-off all the circuit breakers (MSCB 1,2,3,4,5,6,7,8,9 and 10).



4.03 Disconnect the unit's J9 FBus 1 Terminal from CM100 Controller.

4.04 Connect the other ends of the EBM Bus Cable between the disconnected J9 FBus 1 Terminal and the CM100 J9 FBus 1 Receptacle.



4.05 Open the EC Control Application on the desktop. (If not on desktop, the application can be found at the location you specified during the software installation process).



The following screen will be displayed:



4.06 Make sure the Fab Name is "Customer", User name is "Administrator" and Language is "English":

4.07 Enter the password as "topsecret" and click on "Login". NOTE: The password is case sensitive.

Sec-Control					I I I I I I I I I I I I I I I I I I I
File View Options Help					
	Zoom	_			
	System Login EC-Control				
	edm	Dapst			
	ebm-papst GmbH 8	Co. KG D-74673 Mulfing	en		
	Version 2.10 Build 237 Art. No. 25714-2-0199				
	-Liser Ionio				
	Fab name	Customer			
		Administrator			
	-0				
	Password	*******			
	Language	English			
	<u>A Login</u> <u>X C</u> ancel				
					Ne se
				1	5/20/2013
🛃 start 🖬 🗣 pCOManager 2.4.3 💱 Modbus Pol	- Mbpoll3 🔁 EMERSON E2 026-16	Addressing the fans	EC-Control	2 ¢ 🕅 🕵 🖲	🛜 🧐 🐙 🧟 🔂 🙀 10:49 AM

The following screen will be displayed:

SC-Control				_ 2 🛛
File View Options Help	-			
	* 🔎 🥩 🥩	Zoom 100%		
C C C C C C C C C C C C C C C C C C C	Please wa	Loading configuration data The data of your configuration is being read. Please useding configuration Tablelang control computer Tablelang control computer ■ 127.0.0.1 • COM9 • COM9	ipst C	
	Replac	e this image with a floo	r plan as needed	
MODBUS1_3 =	-	x: 241 (328) y: 497 (51)	7) Administrator / Customer	5/20/2013
Start pCOManager 2.4.3	Addressing the fans	EC-Control	/ 💀 😰 🔇 💠	🕵 🛜 🧟 💁 🛛 1: 19 PM 👘

4.08 Note:- Make sure the COM port is detected correctly without any error, when in error the colour of the port setting goes red with an error message. In case of failure of communication with the interface following screen will be displayed. Try closing and starting the Application in this case.



If the Communication is correct following screen will be displayed:



- 4.09 Turn ON the circuit breaker for the fan you wish to program, keeping all the others OFF.
- 4.10 Click on "File".



4.11 Click on "Configuration Assistant".



4.12 Click on "Small Size Fab".

Sec-Control						_ 2 🛛
File View Options Help						
0	C 👷 🔮 Zoom		_			
	System login I	C-Control				
		ebm	nanst			
		ebm-papst GmbH &	Co. KG D-74673 Mulfing	en		
		Version 2.10 Build 237				
		Art. No. 25714-2-0199				
		User login				
		Fab name	Customer			
		User name	Administrator			
		Password	1			
	v					
		Language	English			
	Login	Cancel	٦			
			And a second second			
					1	5/20/2013
🛃 start 🖬 🔮 pCOManager 2.4.3	💑 Modbus Poll - Mbpoll3 🛛 🔁 E	MERSON E2 026-16	Addressing the fans	EC-Control	2 < 🕅 🕵 🕽	🛜 🔍 🖉 👼 🕵 10:44 AM

4.13 Click on "I have connected single Fan" and then click "Continue".

🏶 EC-Control				🔳 🗗 🔀
File View Options Help				
	Zoom			
	System login EC-Control Bebm-papst GmbH Version 2.10 Build 237 Art. No. 25714-2-0199	1papst & Co. KG D-74673 Mulfinger		
	User logn Fab name User name Password Language	Customer Administrator		N
	Login X Cano	a I		
		Addressing the form	// /	5/20/2013

4.14 Click on "Start Search".



4.15 When the search is complete, the fan you wish to program will be displayed. Check whether the type is displayed as "MODBUS-ebm papst". Then click on "Continue".



4.16 The following screen will be displayed. Click on "Save".

Sec-Control						- - X
File View Options Help						
	° 🖉 🦻 🖉	Zoom				
	Syster	n login EC-Control Ebm-papet GmbH & Version 2.10 Build 237 Art. No. 25714-20199 Version 2.10 Build 237 Art. No. 25714-20199 User Iogn User Iogn Language Login	Co. KG D-74673 Mulfing	en E	EN H	
	< j)					F (20 (20 12
A start A D scottages 2.4.2	Brit Modeus Doll - Mercella		Addressing the form	All FO Control	1 A C 20-3	5/20/2013
Start w PCOManager 2.4.3	Me Modbus Poll - Mbpoll3	EMERSON E2 026-16	Addressing the fans	EC-Control		U 7 9 2 0 10 10 10:44 AM

4.17 The following screen will be displayed. Click on "Finish".

🏶 EC-Control			🔳 🖻 🗙
File View Options Help			
	Zoom		
	System login EC-Control ebm-papst GmbH & Co. KG D-74 Version 2.10 Subid 237	St 4673 Mulfingen	
	Art. No. 2571+2-0199 User login Pab name User name Admins Password	rer 💌	N
	Language English		
Contraction of the second seco	Monali B EMEDSON E2 026-16	n the fare	5/20/2013



The following screen will be displayed and the configuration data will start loading:

4.18 After the config data is loaded the following screen is displayed with "My Fab" in green. Click on the dropdown "⊞" sign beside the "My Fab" menu.



4.19 The following screen will be displayed. Right click on the fan showing "MODBUS1_1".

🏶 EC-Control					💶 🗗 🔀
File View Options Help					
	Zoom				
	System login EC-Control Ebm-papet GmbH Version 2.10 Buid 237 Art. No. 3714-20199 Pab name User name Passiord Language Page Login	Customer Administrator		EN H	
				1.2	5/00/0040
Start Medhana	- Mbooli3 The EMEDSON E2,026,16	Addressing the fase	EC Control		5/20/2013
Start war ty pcomanager 2.4.3 12 Modbus Po	A EMERSON EZ 026-16	Audressing the rans	EC-Control		N 975 C 10 3 10:44 AM

The following screen will be displayed:

🏶 EC-Control				🔳 🗗 🔀
File View Options Help				
	Zoom			
	System login EC-Control ebm-papet GmbH 8 Version 2.10 Buld 37	papst co. KG D-74673 Mulfingen		
	Art. No. 25714-2-0199	Customer Administrator English		
	P Login X Cancel			
				>
			1	5/20/2013
🛃 start 🧉 🔮 pCOManager 2.4.3 🖓 M	odbus Poll - Mbpoll3 🚺 EMERSON E2 026-16	Addressing the fans EC-Control	201	🕽 📢 🐨 🔍 📿 🚟 🕵 10:44 AM

4.20 Click on "Set up fan parameters".



4.21 Following screen will be displayed. Make sure the status shows "Fan OK". Change "Source of set value" from "Ain1" to "RS485/Bus".

EC-Control					- 8 🛛
File View Options Help					
	2 🔗 🖇	Zoom 100%			
	4				
MODBLIST 1	age Fan settings			×	
	Actions Help				
		Device chown			
	MODBUS1_1	Logical device address	MODBUS1 1		
		Physical address	1 @ COM9	GREEN	-
		Device type	MODBUS ebm-papst Standard		
		Settings	Set value [%]		
		Parameter set 1	Sectore (14)	0	
		Parameter set 2	Source of set value	RS485/Bus 💌	
		Sensor settings	Save set value to EEPROM		
		Input curve 1		_	
		Output curve	Current speed [rpm]	0	
		Set value ramp	Current PWM	0	
		 Direction of rotation 	Ourrent parameter set		
		Fail-safe function	current parameter set	1	
		 Limits Communication parameters 	Active operating mode	PWM control	
		Load/Save	Source of parameter set switch	Clamp Din?	
		Information			
		- Actual values	Current controller function	Heating/Positive	
		Device data	Source for controller function	Clamp Din 3	1.
		Motor	Status		
		Input values	Status	Fan OK	
		Limits	<u>×</u>		
		🖌 Set	🖌 Set all	🕅 Reset	
			• -	·-	
	Press F1 to get help on the currently s	elected fan parameter			1
		5 5 5 1			
	Repl	ace this imag	e with a flooi	r plan as need	ded
MODBUS1_1 =			x: 400 (544) y: 644 (670)	Administrator / Custome	r 5/20/2013
🦺 start 🦳 🖌 👽 pCOMai	nager 2.4.3 M Addressing the	e fans 🔅 EC-Control		e	👳 😰 🄇 🔆 🅵 🕈 🖉 🕵 12:43 PM -

4.22 Click on "Parameter set 1".

🐝 EC-Control				_ 2 🛛
File View Options Help				
	Zoom			
	System login EC-Control Ebbr-papet Gmbi Version 2:10 Build 337 Art. No. 25714-2019 Version 2:10 Build 337 Version 2:10 Build 347 Version 3:10 Build 347 Ver	Aco. KG D-74673 Mulfingen	EEN CH	
				>
			1	5/20/2013
🛃 start 🖬 🐠 pCOManager 2.4.3 🖓	Modbus Poll - Mbpoll3 EMERSON E2 026-16	Addressing the fans EC-Control	2 < 🖉 🛛	k 🖲 🛜 🤤 🤐 🧟 💺 10:44 AM

4.23 Select "Source of Parameter set switch" as "RS485/Bus"

🛠 EC-Control						💶 🗗 🗙
File View Options Help						
9		Zoom	_			
	Syst	em login EC-Control Bom-papst GmbH Version 2.108/uid 237 Art. No. 25714-2-0199	npapst 8. co. KG D-74673 Mulfing	Jen		
	(User login Fab name User name Password Language	Customer Administrator I English		EN H	
		Logn X Sauce	8			
	Lex.				1	5/20/2013
Start w PcOManager 2.4.3	Modbus Poll - Mbpoll3.	EMERSON E2 026-16	Addressing the fans	EC-Control	Z 🔍 🛃 💃 🕻	10:44 AM

The following screen will be displayed:

Sec-Control					🔳 🗗 🔀
File View Options Help					
\sim	2 🖗 🕺	Zoom 100%			
P Moceuss 1	Press F1 to get help on the currently s	Zoom 100% Device shown Logical device address Physical address Device status Device st	MODBUS1_1 10 COM9 MODBUS ebm-papet Standard Current parameter set Source of parameter set Control mode (P1) Min PVIM (P1) Max PVIM (P1) Max PVIM (P1) Motor stope enable (P1) Controller function (P1) P-Factor (P1) [%] I-Factor (P1) [%] Set all	L L L L L L L L L L L L L L	ded
MODBUS1 1 =			x: 574 (780) y: 306 (318)	Administrator / Customer	r 5/20/2013
👭 start 🖬 🕼 pcoma	nager 2.4.3 🕅 Addressing the	ans		بر	😡 🔋 🔇 📩 🕕 🕏 📿 😼 12:46 PM
	Addressing the	Construction and the construction			

4.24 Select "Control Mode" as "Closed Loop Speed Control".

🏶 EC-Control					💶 🗗 🗾
File View Options Help					
0	2 🖉 🖉	Zoom 100%			
File: Verr Optons Heb	Press Filto get help on the currently:	Zoom 100% Device shown Logical device address Physical address Device status Physical address Device status Parameter set 1 Parameter set 1 Parameter set 2 Settings Physical address Device status Parameter set 2 Computations Device status Device status Communication parameters Load/Save Device data Device	MODBUS1_1 1 © COM9 MODBUS elom-paper Standard Current parameter set Source of parameter set Control node (P1) Min PUM (P1) Motor stop enable (P1) Controler function (P1) P=Factor (P1) [%] I-Factor (P1) [%]	Examples of the second	
			лач		
	Repl	lace this imag	ge with a floo	r plan as need	ded
MODBUS1_1 =	T.e.		x: 240 (326) y: 598 (622) Administrator / Custome	r 5/20/2013
🛃 start 🔰 🖬 🐶 🕫	OManager 2.4.3 🕅 Addressing th	e fans EC-Control		e e e e e e e e e e e e e e e e e e e	😨 😰 🔇 🗧 🌉 💏 🧟 💺 12:47 PM

4.25 Then click on "Set"

The very Options. Help The very Options. Help System login EC-Control Expression 2:10 Bullic 237 Art. No. 25714-20199 Pariname Liser name Liser
System login EC-Control
Art. No. 257142-0199
Start ダ pCOManage 2.4.3 St Modus Pol - Mappila PRESON E2 206-16 PAddressing the fans EC-Control 文 の マ の の

The following screen will be displayed:

🟶 EC-Control						💶 🗗 🗾
File View Options Help						
	· · · · · · · · · · · · · · · · · · ·	Zoom				
	Syster	Toom In login EC-Control Ebm-papst GmbH Verson 2:10 Buid 237 Art. No. 25714-2-0199 User login Pab name User name Password Language Login Login Cogin C	Customer Administrator English	Jen E	EN H	
						×
					1	5/20/2013
start 🖌 🖌 🖓 pCOManager 2.4.3	Modbus Poll - Mbpoll3	T EMERSON E2 026-16	Addressing the fans	EC-Control	2 < 🛛 🕏 🤊 🖓 🕹	🗶 🧟 🙀 10:44 AM

4.26 Click on "Communication Parameters".

🏶 EC-Control					🔳 🗗 🔀
File View Options Help					
~ ~ •	² <i>≥ ≩ ≇</i>	Zoom 100%			
File Ver Options Help	Press F1 to get help on the currently	Zoom 100% Device shown Logical device address Physical address Device struct Personation and the structure Parameter set 1 Parameter set 2 Settings Parameter set 1 Parameter set 1 Parameter set 2 Settings Inductive 1 Unductive 2 Output curve 2 Output curve 2 Output curve 1 Information Unitis Information Prive data Device data Device data Device data Device data Device data Unitis Set	MODBUS1_1 1 © COM9 MODBUS ebm paget Standard Perice address Communication speed Communication perity	2 1 19200 8E1 V Best	
	Ben	lace this imag	ie with a floor	nlan as nee	ded
MODRUGIII	Кер	ave uns illiay			5/20/2012
start 4 been	tananer 2.4.3	e fans	x: 120 (171) y: 595 (619)	Administrator / Custome	5/20/2015
Start 🔤 🐶 pcur	Addressing th	e tails		e.	6 10 C 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1

4.27 Click on the number of the "Device Address".

EC-Control					
	■ ② ③ ④	Zoom 100%			
	1 9 9				
🖃 👝 My fab	Fan settings			×	
MODBUS1_1	Actions Help				
	<u>0 <= 👩 🛯 🖓 🗸 🗸</u>				
	40DBUS1_1	Device shown Logical device address	MODBUS1 1		
		Physical address	1 @ COM9	GREEN	
		Device type	MODBUS ebm-papst Standard		
		- Device status	1		
		Settings	Device address	1	
		Parameter set 1	Communication speed		
		- Sensor settings			
		Input curve 1	Communication parity	8E1 👻	
		Input curve 2			
		- Set value ramp			
		Direction of rotation			
		Fail-safe function			
		Limits			
		Load/Save			
		Information			
		Actual values			
		Device data			1. 1.5
		- Motor			
		··· Input values			
		Limits Y			
		✓ <u>S</u> et	🖌 Set <u>a</u> ll	🖓 <u>R</u> eset	
P	ress F1 to get help on the currently s	elected fan parameter			
	Repl	ace this imag	e with a floor	r nlan as need	ded
MODBUS1_1 =	100,20		x: 210 (285) y: 596 (620)	Administrator / Oustome	5/20/2013
start 🖌 🖓 pCOManag	er 2.4.3 🕅 Addressing the	e fans	X, 210 (200) 9, 090 (020)	et all and the second	💹 🛐 🔦 📥 💏 🖉 🍯 12:51 PM

4.28 Change the address to "2". Refer to Fans addressing chart (see page 22) and then click on "Set" to lock the fan address.



The following screen will be displayed:

🏶 EC-Control				🗖 🗗 🚺
File View Options Help				
	System login EC-Control	1papst		
	ebm-papst GmbH Version 2.10 Build 237 Art. No. 25714-2-0199 User logn Fab name User name Password	& Co. KG D-74673 Mulfingen	EE	N
	Language	English		
				5/20/2013

- 4.29 Close the window.
- 4.30 Switch ON the next Fan.
- 4.31 Follow procedures 4.10 to 4.29.
- **4.32** When searched for the next fan is completed, the next screen will be displayed: Note that every new fan will have an initial address as 1.

EC-Control					🗠 🔼
File View Options Help	-				
	- 🚨 🎤 🥩 🔮 Zoom	100%			
	Fan search assistant			7	
		Identifying a single fan Please make sure only one single fan on one interfa converter is connected! Afterwards click 'Start sear	ace rch".		
		Start search Stop search Bemo Address Protocol Interface 2 MODBUS COM9 1 MODBUS COM9	ve Type MODBUS ebm-pape MODBUS ebm-pape	ipst	
	GREE	<	<u>е Пер</u>		
	EC-	Contro	D floor plan	as needed	
MODBUS1_10 =		x: 6 (8)	y: 95 (99)	Administrator / Customer	5/20/2013
🛃 start 🛛 🖬 😍 pCOManager 2.4.3	Addressing the fans	C-Control		1 😥 🖉 🧷	📲 🛜 🙆 😼 1:08 PM

4.33 When the first two fans are configured the following screen will be displayed.



4.34 Follow the same procedures above to address the rest of the fans.

5.0 INDOOR FANS ADDRESSES



Fan Number	1	2	3	4
Address	2	3	4	5

Bottom of the Unit

Outdoor Fans Number and Address (Top View)

6.0 OUTDOOR FANS ADDRESSES



Fan Number	1	2	3	4
Address	10	11	12	13

Compressor Section End

THIS PAGE IS INTENTIONALLY LEFT BLANK



1800 119 229 www.actronair.com.au

