

vbk.cmd – Appendix

SW ebm-papst MODBUS V5.0 - EN V2.03 2017-02


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Menustructure - Basisvariation

<i>Mainlevel</i>	<i>Sublevel 1</i>	<i>description</i>
Speed Clone		quick writing of under "SpeedClone Data" chosen parameter set to a matching fan with ebm-Modbus to address 1 or by broadcast separate Document
EBM Bus		Separate Document "SW ebm-papst ebmBUS V3.05.05 - EN ...".
EBM Modbus		... present document
Properties		Back to main level
	Change Language	English / Deutsch
	Set Clock	date – time
	Timeout Light	Time to switch off display lighting
	Update Firmware	Servicefeature (encoded)
Power Off	-	Switch off device

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<i>Sublevel 1</i>	<i>Sublevel 2</i>	<i>Sublevel 3</i>	<i>description</i>
			Back to Main level
Scan Net			Scan whole network with monitor feature subsequently
Monitor	Speed State Warning U-DC link I-DC link Temp.IGBT Temp. Mot Temp. MCU Direction Duty cyc. Setpoint Val. Sens Inp. Enable Param.Set Operation Power Sensor 1 Sensor 2 Operation hrs Operation min		Actual speed in rpm State / fault 0 → ok >0 → fault → (D011) ebm Man. Warning 0 → ok >0 → Warning → (D012) ebm Man. DC-link Voltage in V DC-link Current in mA Temperature Power module in °C Temperature Motor in °C Temperature μ-Controller in °C 0 = left hand side 1= right hand side (default direction) Duty cycle speed control in % speed/duty cycle/... ...closed loop control → (D01A) ebm Man. Sensor value in V 0 = Enable ON (Motor Stop) 1 = Enable OFF (Motor start permitted) 0 = Parameter set 1 1 = Parameter set 2 0 = Positive (set point – act. value) 1 = Negative (act. Value - set point) Electr. Power consumption in W Actual Value Sensor 1 → (D023) ebm Man. Actual Value Sensor 2 → (D024) ebm Man. Counter Operation hours Counter Operation minutes


Sublevel 1	Sublevel 2	Sublevel 3	description
Parameter (limited Basic-Parameter set)			Back to Sublevel
	Request address Old: last used address for change New: required address for new request	Reset AWS	User-RESET → (D000) ebm Man.
		Setpoint	Set point acc. mode (speed/duty cycle/closed loop control)→ (D001) ebm Man.
		Stop Fan	Fan Stop → (D001) ebm Man.
		new Address	New Fan address 1... 247 → (D100) ebm Man. Change after request if new address already used in network, subsequently "Reset"
		Control Source	Setpoint source Analogue ↔ RS485 → (D101) ebm Man. subsequently "Reset Param"
	Setpoint save	Last setpoint saved (Volt. OFF) Yes ↔ No → (D103) ebm Man. subsequently "Reset Param"	
		Back to Sublevel	
Ext. Parameter (complete Parameter set)			Back to Sublevel
	1) Request address Old: last used address for change New: required address for new request 2) request ebm-Password „writing customer“ → use last saved password	Reset AWS	User-RESET → (D000) ebm Man.
		Setpoint	Set point acc. mode (speed/duty cycle/closed loop control)→ (D001) ebm Man.
		Stop Fan	Fan Stop → (D001) ebm Man.
		Password	Password → (D002 ... D004) ebm Man. last used password saved in vbk.cmd device
		CtrlDefau.Set.DW	Data Range (D100..D17F) set to Factory Default (D280..D2FF) password "ebmpapst" required → (D005) ebm Man.
		CtrlDefau.Set.WD	Factory Setting (D280..D2FF) set to Data Range (D100..D17F) password "customer" required → (D005) ebm Man.
CtrlDefau.Set.DK	Data range (D100..D17F) set to customer data (D200..D27F) password „customer“ required → (D006) ebm BA		

Sublevel 1	Sublevel 2	Sublevel 3	description
Ext. Parameter <i>(complete Parameter set)</i>	1) Request address Old: last used address for change New: required address for new request 2) request ebm-Password „writing customer“ → use last saved password 3) If register D101 to D15D have been changed “Reset Param” will be launched automatically (Exceptions highlighted)	CtrlDefau.Set.KD	Costumer Data (D200..D2FF) set to Data Range (D100..D17F) password “endcustomer” required → (D006) ebm Man.
		new Address	New Fan address 1... 247 → (D100) ebm Man. Change after request if new address already used in network, subsequently “Reset”
		Control Source	Set point source Analogue ↔ RS485 → (D101) ebm Man.
		Direction Src	Source running direction Dig. Inputs / Parameter → (D148) ebm Man.
		Prefer Direction	Preferred Direction left ↔ right → (D102) ebm Man.
		Setpoint save	Last set point saved (Volt. OFF) Yes ↔ No → (D103) ebm Man.
		Source Parameter	Dig. Inputs / Parameter → (D104) ebm Man.
		ParamSet intern	Parameter set 1/2 → (D105) ebm Man.
		Oper.Mode Para1	Parameter set 1 Control / closed loop control → (D106) ebm Man.
		Oper.Mode Para2	Parameter set 2 Control / closed loop control → (D107) ebm Man.
		Source Operation	Source of controller function Dig. Inputs / Parameter → (D12E) ebm Man.
		Contr.Func.Para1	Parameter set 1 0=positive (set value – act. value) 1=negative (act. value – set value) → (D108) ebm Man.
		Contr.Func.Para 2	Parameter set 2 0=positive (set value – act. value) 1=negative (act. value – set value) → (D109) ebm Man.
		P-Factor Para1	Factor kp-gain Parameter set 1 → (D10A) ebm Man.
P-Factor Para2	Factor kp-gain Parameter set 2 → (D10B) ebm Man.		




Sublevel 1	Sublevel 2	Sublevel 3	description
Ext. Parameter <i>(complete Parameter set)</i>	1) Request address Old: last used address for change New: required address for new request 2) request ebm-Password „writing customer“ → use last saved password 3) If register D101 to D15D have been changed “Reset Param” will be launched automatically (Exceptions highlighted)	I-Factor Para1	Factor ki Parameter set 1 → (D10C) ebm Man.
		I-Factor Para2	Factor ki Parameter set 2 → (D10D) ebm Man.
		MaxDutyPara1	Maximum duty cycle Parameter set 1 → (D10E) ebm Man.
		MaxDuty Para2	Maximum duty cycle Parameter set 2 → (D10F) ebm Man.
		MinDuty Para1	Minimum duty cycle Parameter set 1 → (D110) ebm Man.
		MinDuty Para2	Minimum duty cycle Parameter set 2 → (D111) ebm Man.
		Motorstop Para1	Motor stop Parameter set 1 → (D112) ebm Man.
		Motorstop Para2	Motor stop Parameter set 2 → (D113) ebm Man.
		Setpoint Para1	Set point EEPROM Parameter set 1 → (D114) ebm Man.
		Setpoint Para2	Set point EEPROM Parameter set 2 → (D115) ebm Man.
		max Speed	Maximum speed → (D119) ebm Man.
		Ramp Up Time	Acceleration ramp → (D11F) ebm Man.
		Ramp Down Time	Deceleration ramp → (D120) ebm Man.
		CL Poti X1 Para1	X1-Coordinate Parameter set 1 → (D12A) ebm Man.
		CL Poti Y1 Para1	Y1-Coordinate Parameter set 1 → (D12B) ebm Man.
		CL Poti X2 Para1	X2-Coordinate Parameter set 1 → (D12C) ebm Man.
		CL Poti Y2 Para1	Y2- Coordinate Parameter set 1 → (D12D) ebm Man.
CL Poti X1 Para2	X1- Coordinate Parameter set 2 → (D13C) ebm Man.		
CL Poti Y1 Para2	Y1- Coordinate Parameter set 2 → (D13D) ebm Man.		





<i>Sublevel 1</i>	<i>Sublevel 2</i>	<i>Sublevel 3</i>	<i>description</i>
Ext. Parameter <i>(complete Parameter set)</i>	1) Request address Old: last used address for change New: required address for new request 2) request ebm-Password „writing customer“ → use last saved password 3) If register D101 to D15D have been changed “Reset Param” will be launched automatically (Exceptions highlighted)	CL Poti X2 Para2	X2- Coordinate Parameter set 2 → (D13E) ebm Man.
		CL Poti Y2 Para2	Y2- Coordinate Parameter set 2 → (D13F) ebm Man.
		P max_DE	Max. Power Derating → (D136) ebm Man.
		TModul_DS	Module-temp. Derating Start → (D137) ebm Man.
		TModul_DE	Module-temp. Derating End → (D138) ebm Man.
		TMotor_DS	Motortemp. Derating Start → (D14D) ebm Man.
		TMotor_DE	Motortemp. Derating Ende → (D14E) ebm Man.
		Funct. Output	Output function (0..10V/Speed monitoring) 0..3 → (D130) ebm Man.
		CL Output X1	X1-Coordinate Output 0..10V → (D140) ebm Man.
		CL Output Y1	Y1-Coordinate Output 0..10V → (D141) ebm Man.
		CL Output X2	X2-Coordinate Output 0..10V → (D142) ebm Man.
		CL Output Y2	Y2-Coordinate Output 0..10V → (D143) ebm Man.
		max. Power	Maximum Power → (D155) ebm Man.
		Ceiling Speed	Speed Limit for Monitoring → (D145) ebm Man.
Source SensValue	Sensor value Source Inputs/Min/Avarage/Max → (D147) ebm Man.		
Baudrate	Baudrate 1200 ... 115200 Bd (8 steps) → (D149) ebm Man. NO automatic „Reset Param“		

<i>Sublevel 1</i>	<i>Sublevel 2</i>	<i>Sublevel 3</i>	<i>description</i>
Ext. Parameter <i>(complete Parameter set)</i>	1) Request address Old: last used address for change New: required address for new request 2) request ebm-Password „writing customer“ → use last saved password 3) If register D101 to D15D have been changed “Reset Param” will be launched automatically (Exceptions highlighted)	Parity	Parity configuration Databit/Parity/Stopbit → (D14A) ebm Man. NO automatic „Reset Param“
		Shedding Func.	Shedding impeller Inactive ↔ Active → (D150) ebm Man.
		StartAttempts	Numbers of Start attempts in shedding mode 0..255 → (D152) ebm Man.
		DelayOutRelay	Drop-out delay for Relay 0..255s → (D153) ebm Man.
		Bypass Function	Emergency Operation Inactive ↔ Active → (D15C) ebm Man.
		Setpoint Bypass	Set point emergency oper. acc. mode (speed/duty cycle/control) → (D15D) ebm Man.
		Timeout Bypass	Timeout Emergency operation 0..255x0.1s → (D15E) ebm Man.
		Direction Bypass	Direction emergency operation left / right / none → (D15B) ebm Man.
		Limit Cablebr.	Limit Cable break – potentiometer curve 0..10V → (D15F) ebm Man.
		Min.Sensorvalue	Minimum Sensorvalue → (D160/D161) ebm Man.
	Max.Sensorvalue	Maximum Sensorvalue → (D162/D163) ebm Man	
	Sensor Unit	Sensor Unit → (D164/D169) ebm Man.	
			Back to Sublevel
Broadcast <i>(Broadcast Parameter set)</i>			Back to Sublevel
	Reset AWS		User-RESET → (D000) ebm Man.
	Setpoint		Set point 0 ... 65535 (max. speed) → (D001) ebm Man.

Sublevel 1	Sublevel 2	Sublevel 3	description
Broadcast			Back to Sublevel
(Broadcast Parameter set)	Reset AWS		User-RESET → (D000) ebm Man.
request ebm-Password „writing customer“ → use last saved password If register D101 to D15D have been changed “Reset Param” will be launched automatically (Exceptions highlighted)	Setpoint		Set point 0 ... 65535 (max. speed) → (D001) ebm Man.
	Stop Fan		Fan Stop → (D001) ebm Man.
	Password		Password → (D002 ... D004) ebm Man. last used password saved in vbk.cmd device
	Control Source		Set point source Analogue ↔ RS485 → (D101) ebm Man.
	Direction Src		Source running direction Dig. Inputs / Parameter → (D148) ebm Man.
	Prefer Direction		Preferred Direction left ↔ right → (D102) ebm Man.
	Setpoint save		Last set point saved (Volt. OFF) Yes ↔ No → (D103) ebm Man.
	Source Parameter		Dig. Inputs / Parameter → (D104) ebm Man.
	ParamSet intern		Parameter set 1/2 → (D105) ebm Man.
	Oper.Mode Para1		Parameter set 1 Control / closed loop control → (D106) ebm Man.
	Oper.Mode Para2		Parameter set 2 Control / closed loop control → (D107) ebm Man.
	MaxDutyPara1		Maximum duty cycle Parameter set 1 → (D10E) ebm Man.
	MaxDuty Para2		Maximum duty cycle Parameter set 2 → (D10F) ebm Man.
MinDuty Para1		Minimum duty cycle Parameter set 1 → (D110) ebm Man.	

<i>Sublevel 1</i>	<i>Sublevel 2</i>	<i>Sublevel 3</i>	<i>description</i>
Broadcast <i>(Broadcast Parameter set)</i> request ebm-Password „writing customer“ → use last saved password If register D101 to D15D have been changed “Reset Param” will be launched automatically (Exceptions highlighted)	MinDuty Para2		Minimum duty cycle Parameter set 2 → (D111) ebm Man.
	Motorstop Para1		Motor stop Parameter set 1 → (D112) ebm Man.
	Motorstop Para2		Motor stop Parameter set 2 → (D113) ebm Man.
	Setpoint Para1		Set point EEPROM Parameter set 1 → (D114) ebm Man.
	Setpoint Para2		Set point EEPROM Parameter set 2 → (D115) ebm Man.
	max Speed		Maximum speed → (D119) ebm Man.
	Ramp Up Time		Acceleration ramp → (D11F) ebm Man.
	Ramp Down Time		Deceleration ramp → (D120) ebm Man.
	Ceiling Speed		Speed Limit for Monitoring → (D145) ebm Man.
	Baudrate		Baudrate 1200 ... 115200 Bd (8 steps) → (D149) ebm Man. NO automatic „Reset Param“
	Parity		Parity configuration Databit/Parity/Stopbit → (D14A) ebm Man. NO automatic „Reset Param“
	Shedding Func.		Shedding impeller Inactive ↔ Active → (D150) ebm Man.
	StartAttempts		Numbers of Start attempts in shedding mode 0..255 → (D152) ebm Man.
	DelayOutRelay		Drop-out delay for Relay 0..255s → (D153) ebm Man.
Bypass Function		Emergency Operation Inactive ↔ Active → (D15C) ebm Man.	
Setpoint Bypass		Set point emergency oper. acc. mode (speed/duty cycle/control) → (D15D) ebm Man.	

Sublevel 1	Sublevel 2	Sublevel 3	description
Broadcast (Broadcast Parameter set) request ebm- Password „writing customer“ → use last saved password If register D101 to D15D have been changed “Reset Param” will be launched automatically (Exceptions highlighted)	Timeout Bypass		Timeout Emergency operation 0..255x0.1s → (D15E) ebm Man.
	Direction Bypass		Direction emergency operation left / right / none → (D15B) ebm Man.
	Limit Cablebr.		Limit Cable break – potentiometer curve 0..10V → (D15F) ebm Man.
	Min. Sensorvalue		Minimum Sensorvalue → (D160/D161) ebm Man.
	Max. Sensorvalue		Maximum Sensorvalue → (D162/D163) ebm Man
	Sensor Unit		Sensor Unit → (D164/D169) ebm Man.
			Back to Sublevel
Info/ Faultmemory			Back to Sublevel
	Request address Old: last used address for change New: required address for new request	1. Error	Last occurred error → (D184) ebm Man.
		Errorlist	List of occurred errors → (D182 D19F) ebm Man.
		Serialno./Type	Manufacturing data → (D1A2 ... D1AA) ebm Man.
		Identification	Protocol identification → (D000) ebm Man.
		NameBusctrl	Name Bus controller → (D002) ebm Man.
		Vers. Busctrl	Version Bus controller → (D003) ebm Man.
		Name Kommctrl	Name Commutation controller → (D004) ebm Man.
Vers. Kommctrl	Version Commutation controller → (D005) ebm Man.		
			Back to Sublevel

Sublevel 1	Sublevel 2	Sublevel 3	description
Clone Dataset			Back to Sublevel
	read Data	Request address Old: last used address for change New: required address for new request	insert freely selectable 6-digit name of dataset → all parameters of range D000 to D17F with level <i>customer</i> and <i>end customer</i> will be transmitted from EC-drive to vbk.cmd incl. subsequent transmission check
	write data	Request address Old: last used address for change New: required address for new request	Request for confirmation of data set according chosen name incl. basic check of saved data set Internal request of clone drive for correct type checking Insert ebm password „writing costumer“ with consequent confirmation to transmit the dataset saved in vbk.cmd to clone fan incl. final AWS-Reset
SpeedClone Data	Data Set 0 ... 4		Select Data Set for Speedclone Operation
Password			Password → (D002 ... D004) ebm Man. last used password saved in vbk.cmd device
Settings Master vbk.cmd			Back to Sublevel
	Baudrate		Baudrate 1200 ... 115200 Bd (8 steps) → (D149) ebm Man. Default → 19200 Bd
	Parity		Parity configuration Databit/Parity/Stopbit according description of (D14A) ebm Man. Default → Parity 8E1
			Back to Sublevel
			Back to Mainlevel