[标题]VTEP 通过 FoE 固件升级



冯增建 Festo 技术支持 2024 年 8 月 27 日

关键词:

CODESYS, VTEP 固件升级

摘要:

本文介绍了通过 FoE 来给 VTEP 阀岛进行固件升级分具体方法。

目标群体:

本文仅针对有一定自动化设备调试基础的工程师,需要对 CODESYS 系统以及 VTEP 有一定了解。

声明:

本文档为技术工程师根据官方资料和测试结果编写,旨在指导用户快速上手使用 Festo 产品,如果发现描述与官方 正式出版物冲突,请以正式出版物为准。

我们尽量罗列了实验室测试的软、硬件环境,但现场设备型号可能不同,软件/固件版本可能有差异,请务必在理 解文档内容和确保安全的前提下执行测试。

我们会持续更正和更新文档内容, 恕不另行通知。

请使用最新版本的 VTEP-5C-...-EC 操作手册

文档下载链接如下:

https://www.festo.com.cn/cn/zh/support-portal-

specific/?query=8176050&groupId=3&productName=%E9%98%80%E5%B2%9B&documentId=663798

VTEP-5C-...-EC-CS





Translation of the original instructions

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EtherCAT is a registered trademark of its respective trademark holder in certain countries.

About this document 1

Product version 1.1

This document refers to the following product versions

Product	Version		
VTEP	Proportional valve terminal VTEP from revision 04		
Firmware	from version 1.3.0.1		

VEVP		Valve for proportional valve terminal VTEP from revision 01				
	Tab. 1: Product versi	on				

The product version can be determined from the product labelling.

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Software suitable for determining the product version is available from Festo in the Support Portal → www.festo.com/sp. Information on using the software can be found in the integrated Help function.

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There may be an updated version of this document for this or later product versions → www.festo.com/sp.

1.2 Product labelling

Proportional valve terminal VTEP 1.2.1

- (1997) - (16 15 14 D#83 13 Fig.1 1 Order reference 10 Serial number

11 Product Key 12 Data Matrix Code 13 Pressure range 14 Operating pressure

16 Part number

15 Current specification/voltage specification

- Revision number
 Address specification
 Country of origin
 Registration number KC approval

- 6 CE marking,
- 7 KC mark
- 8 ESD symbol 9 Warning symbol

Warning symbols on the product the housing is damaged (for ex Itage is no longer guaranteed. 尒 Do not start the device. Immediately shut down the dev buch any c the handl Tab. 2: Meani ng of the wa Valve slice VEVP 1.2.2 VEVP-T32C-CS 6 8163859 C9 2021 : 02 1 Rev 00 5 4 3 2 Fig. 2: Product labelling for valve slice VEVP 1 Closed default position 5 Revision number 2 Data Matrix Code 3 Product Key 6 Part number 7 Order reference 4 Serial number

Safety 2.1 Safety Instructions

- Only use the product in its original condition without unauthorised modifications.
- Only use the product if it is in perfect technical condition.
- Observe the identifications on the product.
 Take into account the ambient conditions at the location of use.
 Store the product in a cool, dry environment protected from UV and corrosion.

- Store the product in a cool, dry environment protected from UV and corrosion.
 Keep storage times short.
 Before working on the product, switch off the power supply and secure it
 against being switched on again.
 The product may generate high frequency interference, which may require
 interference suppression measures in residential areas.
 Have the product repaired by the Festo repair service only.
 The product is classified as "Open Type Equipment" in accordance with UL
 601010. The resulting requirements when operating the product must be taken
 into account by the user.
 Manipulating the tuning parameters can lead to unpredictable system behaviour and is the sole responsibility of the user.

 I letted use
- 2.2 Intended use

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The product is intended to control pressure in pneumatic systems and is intended for use in an industrial environment. Use the product exclusively in combination with modules and components that are certified for the specific product variant and have been tested and approved by Festo. 2.3

Training of qualified personnel

Work on the product may only be carried out by qualified personnel who can evaluate the work and detect dangers. The qualified personnel have skills and experience in dealing with electropneumatic (open-loop) control technology. The qualified personnel have knowledge and experience of using the EtherCAT net-work rendroci.

work protocol. Experience with closed-loop systems is a prerequisite for configuring the tuning parameters.

Additional information 3

- Contact the regional Festo contact if you have technical prob-lems www.festo.com.
 Accessories www.festo.com/catalogue.

通过 CoE Online 窗口,可以查看当前 VTEP 的固件版本。进行固件升级期间禁止切断设备电源!!

Read Objects	Auto update 💿 Offlin	ne from ESI fi	le 🔿 Online fro	om device
Index:Subindex	Name	Flags	Туре	Value
16#1000:16#00	Device Type	RO	UDINT	0
16#1001:16#00	Error Register	RO	USINT	0
16#1008:16#00	Device Name	RO	STRING(7)	'VTEP-CS'
- 16#1009:16#00	Hardware Version	RO	STRING(6)	'V1.0.0'
16#100A:16#00	Software Version	RO	STRING(20)	'V1.1.0.5'
* 16#1018:16#00	Identity Object			
€ 16#10F1:16#00	Error Settings			
± 16#10F3:16#00	Diagnosis History			
16#10F8:16#00	Timestamp Object	RW	ULINT	589347762885
€ 16#1600:16#00	Outputs			
16#1601:16#00	Outputs			
	Outputs			
± 16#1A00:16#00	Inputs			
± 16#1A01:16#00	Inputs			
	Inputs			
I6#1C00:16#00	Sync Manager Communication Type			
# 16#1C12:16#00	RxPDO assign			
	TxPDO assign			
	SM output parameter			
	SM input parameter			
16#2400:16#00	Setpoint Pressure Valve 0 at (2)	RW	DINT	0
16#2401:16#00	Control Word Valve 0 at (2)	RW	DINT	0
15 #2402.15 #00	Setpoint Pressure Valve 0 at (4)	RW	DINT	0
	Index:Subindex 16#1000:16#00 16#1001:16#00 16#1008:16#00 16#1009:16#00 16#1009:16#00 16#10F3:16#00 16#10F3:16#00 16#1600:16#00 16#1600:16#00 16#1600:16#00 16#1A00:16#00 16#1A00:16#00 16#1A00:16#00 16#1C12:16#00 16#1C12:16#00 16#1C12:16#00 16#1C12:16#00 16#2400:16#00 16#2400:16#00	Index:Subindex Name 16#1000:16#00 Device Type 16#1001:16#00 Error Register 16#1008:16#00 Device Name 16#1009:16#00 Hardware Version 16#1008:16#00 Software Version 16#1018:16#00 Identity Object 16#1073:16#00 Error Settings 16#10F3:16#00 Diagnosis History 16#1601:16#00 Outputs 16#1601:16#00 Outputs 16#1601:16#00 Inputs 16#1A01:16#00 Inputs 16#1102:16#00 Inputs 16#1102:16#00 Sync Manager Communication Type 16#1102:16#00 TxPDO assign 16#1111:16#00 TxPDO assign 16#112:16#00 SM output parameter 16#1111:16#00 SM output parameter 16#1111:16#00 SM output parameter	Index:Subindex Name Flags 16#1000:16#00 Device Type RO 16#1001:16#00 Error Register RO 16#1008:16#00 Device Name RO 16#1009:16#00 Hardware Version RO 16#1009:16#00 Hardware Version RO 16#1009:16#00 Hardware Version RO 16#1078:16#00 Identity Object * * 16#10F3:16#00 Error Settings * * 16#10F3:16#00 Diagnosis History * * 16#1601:16#00 Outputs * * 16#1601:16#00 Outputs * * 16#1601:16#00 Inputs * * 16#1A00:16#00 Inputs * * 16#1A01:16#00 Inputs * * 16#1C02:16#00 Sync Manager Communication Type * * 16#1C12:16#00 SM output parameter * * 16#1C12:16#00 SM output parameter * * 16#1C12:16#00 SM input parameter * * 16#1C13:16#00 SM input parameter * <td>Index:Subindex Name Flags Type 16#1000:16#00 Device Type RO UDINT 16#1001:16#00 Error Register RO USINT 16#1008:16#00 Device Name RO USINT 16#1009:16#00 Hardware Version RO STRING(7) 16#1008:16#00 Hardware Version RO STRING(6) 16#1008:16#00 Identity Object Identity Object Identity Object * 16#10F1:16#00 Error Settings Identity Object Identity Object * 16#10F3:16#00 Diagnosis History Identity Object Identity Object Identity Object * 16#160F3:16#00 Diagnosis History Identity Object Identity</td>	Index:Subindex Name Flags Type 16#1000:16#00 Device Type RO UDINT 16#1001:16#00 Error Register RO USINT 16#1008:16#00 Device Name RO USINT 16#1009:16#00 Hardware Version RO STRING(7) 16#1008:16#00 Hardware Version RO STRING(6) 16#1008:16#00 Identity Object Identity Object Identity Object * 16#10F1:16#00 Error Settings Identity Object Identity Object * 16#10F3:16#00 Diagnosis History Identity Object Identity Object Identity Object * 16#160F3:16#00 Diagnosis History Identity Object Identity

首先点击 Online 选项,将窗口切换至固件升级画面,之后点击 Init 按钮,将设备状态切换至 Init 状态

General	State Machine			
	2 Init	Bootstrap		
Expert Process Data	Pre-Op	Safe-Op	Current state	Init
Process Data	Op		Requested State	Init
Startup Parameters	File access over Et	herCAT		1
Online	Download	Upload		
CoE Online	E ² PROM Access			
Diagnosis History	Write E ² PROM	Read E ² PROM	Write E ² PROM X	ML
Log				
EtherCAT I/O Mapping				
EtherCAT IEC Objects				
Status				

点击 Bootstrap 按钮,将设备状态切换至-启动载入模式。

General	State Machine				
	Init	Bootstrap	C	Desister Made	
Expert Process Data	Pre-Op	Safe-Op	Current state	Bootstrap Mode	
Process Data	Ор		Requested State	Bootstrap Mode	
Startup Parameters	File access over	EtherCAT			
Online	Download	Upload			
CoE Online	E ² PROM Access	2 <u></u>	10 12		
	Write E ² PROM	Read E ² PROM	Write E²PROM	XML	
Diagnosis History					
Diagnosis History Log					
Diagnosis History Log EtherCAT I/O Mapping					
Diagnosis History Log EtherCAT I/O Mapping EtherCAT IEC Objects					
Diagnosis History Log EtherCAT I/O Mapping EtherCAT IEC Objects Status					

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点击 Download 按钮,在弹出的新窗口中选择需要升级的固件文件,之后点击打开。点击打开后会弹出"Edit FoE Name"窗口,在此窗口中点击 OK 按钮,开始进行固件更新。

General	State Machine	Baatetrap		
Expert Process Data	Pre-Op	Current stat	e Bootstrap Mode	
Process Data	Op	● 打开		×
Startup Parameters	File access ove	← → ヾ ↑ 📙 > 手册 >	VTEP固件及手册资料 V 0 C 在 VTEP固件及	手册资料中
Online	1 Download	组织 ▼ 新建文件夹		• 🔳 👔
CoE Online	E ² PROM Access	ELGT Solution finder	^ 名称	修改日期
Diagnosis History	Write E4PROM	TSDB Unity Pro XL	VTEP参数 VTEP TI 级	2023/11
Log		VTEM-CClink-#A33	vternxsfw_with_k_and_d_values_lp_V1.1.0.5.efw vternxsfw_with_k_and_d_values_lp_V1.3.0.2.efw	2023/1
EtherCAT I/O Mapping		▶ 服务单	V <	>
EtherCAT IEC Objects		文件名(N):	vtemxsfw_with_k_and_d_values_lp_V1.3.0.2.efw V EtherCAT Firmware	Files (*.et ∨
Status			3 打开(0)	取消
Information				
			Edit FoE Name	
			String Vternxsfw_with_k_and_d_values_lp_V1.3.0.2	

等待绿色进度条全部走完,直至消失在当前画面中。然后观察消息窗口无故障信息即可。

	E_System Ist VIEF_LS X EnerCAI_Waster	
General	State Machine	
5	Init Bootstrap Current state Bootstrap Mode	
Expert Process Data	Pre-Op Safe-Op Requested State Rootstran Mode	
Process Data	Op	
Startup Parameters	File access over EtherCAT	
Online	Download Upload	
CoE Online	E2PROM Access	
Diagnosis History	Write E ² PROM Read E ² PROM Write E ² PROM XML	
Log		
EtherCAT I/O Mapping	等待绿色进度条全部走完,之后观察	
EtherCAT IEC Objects	Messages EtherCAT窗口中无故障消息	
Status		
Messages - Total 2 error(s), 0 warni	ing(s), 5 message(s)	▼ ₽
therCAT	▼ 0 error(s) 0 warning(s) 0 message(s) × ×	
Description	Project Object	Position

首先通过 Online—Reset Cold,通过冷复位后,再重新启动此时设备将切换至 Operational 状态。之后可通过 CoE Online 窗口来查看此时设备的固件版本。

