Drive System Application

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MICROMASTER 4 Application Description

Application Description

Uploading and downloading drive parameters of a MICROMASTER 4xx using STARTER



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Description

Uploading and downloading drive parameters of a MICROMASTER 4xx using STARTER

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2 Description

It is often necessary to restore the drive parameters or quickly load specific drive settings.

This example shows you how you can load parameters of a MICROMASTER 4xx drive into a PC using the STARTER commissioning tool. There, the parameters are saved in a STARTER project and can be reloaded back into the drive (MICROMASTER 4).



Prerequisites

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3 Prerequisites

Please refer to the following readme file for the requirements placed on the operating system, the hardware and software

C:\Program Files\Notes\Deutsch\STARTER – Liesmich.wri.

In this particular example it is assumed that the required hardware components are correctly connected-up as shown in Fig. 1.1 and the necessary software is installed.

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4 Upload

4.1 Starting STARTER

Fig. 4.1.1:

- 1. Click on 'Start' in the Windows bar.
- 2. In the start menu select 'Programs => STARTER => STARTER'.



Result: The "empty" main STARTER window opens (Fig. 4.1.1).

M STARTER	- <u> </u>
Project Target system View Options Window Help	
Press F1 to open Help display.	11.
Fig	. 4.1.1

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4.2 Generating a new project

Fig. 4.2.1:

- 1. In STARTER, select '**Project => New...**'.
- 2. Under type, select 'Project'.
- 3. Enter '**Upload_Download**' as the project name (any name can be used).
- 4. If required, change where the project is saved if you require another setting besides the default setting (e.g. 'D:\...' instead of 'C:\...').
- 5. Acknowledge with 'OK'.







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4.2.1 Inserting a drive

Fig. 4.2.2:

1. Select 'Insert single drive' and then double click on this.

THE STARTER - Upload_Download	
Project Edit Target system View (Options Window Help
	∽~ ? <mark>≞⊴* ≋ ≋</mark>
	1
Press F1 to open Help display.	Offline mode
	Fig. 4.2.2

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4.2.2 Selecting and configuring a drive

Fig. 4.2.3:

- 1. Select the drive (MICROMASTER 420).
- 2. Select the device version of the drive (firmware Version r0018).
- 3. Select the bus address (DP-slave address) of the drive (in this particular case, 3).
- 4. Close this window with 'OK'.

Paste - SIMOTION dri General Drive Unit /	ve Bus Address	
Device type:	MICROMASTER 420	
Device version	1.0x	(2)
Bus addr.:	3	
		3
ок 🖂	(4)	Cancel Help

Result: MICROMASTER 420 is inserted in the project.

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4.3 Setting the communications link

4.3.1 Selecting the PG/PC interface

Fig. 4.3.1:

1. In the '**Options**' menu of STARTER, select the sub-point '**Set PG/PC** interface...'.

₩ STARTER - Upload_Download
Project Edit Target system View Options Window Help
DE A B C Settings Ctrl+Alt+E
X _I X _E B
Upload_Download Insert single drive MICROMASTER_420
Displays the properties of the PG/PC interface to be m Offline mode
Fig. 4.3.1

Result: A new window opens - '**Set PG/PC interface**' (Fig. 4.3.1, lefthand part of the screen).

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4.3.2 Setting the PG/PC interface

Fig. 4.3.2:

- 1. Select the interface (in our particular case 'CP5512(PROFIBUS)').
- 2. Select the access point 'S7ONLINE (STEP 7) → CP5512(PROFIBUS)'.
- 3. Using the 'Properties...' button, open an additional window
- 4. There, enter the checkmark against '**PG/PC is the only master on the bus**' and
- 5. Set the 'Address' to 1;
- 6. The '**Timeout**' = **1 s**;
- 7. The 'Transmission Rate' = 1.5 Mbit/s;
- 8. The 'Highest Station Address' = 126, and
- 9. The 'DP' profile.
- 10. Close the 'Properties' window with 'OK'.
- 11. Close the 'Set PG/PC interface' with 'OK'.

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Result: A new window opens –'**Warning**' (Fig. 3.3.3) - if you have to make changes.

4.3.3 Changing the access route

Fig. 4.3.3:

1. Acknowledge this warning with 'OK'.

	Warning	×
	2	The following access path(s) was (were) changed:
	~	S7ONLINE (STEP 7) => CP5512(PROFIBUS)
1		OK Cancel Help
		Fig. 4.3.3

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4.4 Parameter upload from the drive

4.4.1 Generating a parameter list

Fig. 4.4.1:



Result: The parameter list of the drive opens (Fig. 4.4.2).

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4.4.2 Going online

Fig. 4.4.2:

1. Click on the '**Connect to target system**' 🔚 button to go online.

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X . X		4									
×			1	t i 🗌		•	- 4	♠	DB		
Insert single drive	Expert list	1	I)			-					
	Parameter	Ŧ	+	Parameter te	Value MICRO	Un	Chan	Ac	Mini	Maxi	
	r2	_	_	Drive state	Commissioning	-		2			Ξ
I	p3			User access le	Standard: Al 🔻	-	Opera	1			
I	p4			Parameter filter	All paramete 💌	-	Opera	1			
I	p5			Display selectio	21	-	Opera	2	0	4000	
I	p6			Display mode	In Ready sta 💌	-	Opera	3			
I	p7			Backlight delay	0	-	Opera	3	0	2000	
I	p10			Commissioning	Ready (0) 💌	-	Ready	1			
I	p11			Lock for user d	0	-	Opera	3	0	65535	
I	p12			Key for user d	0	-	Opera	3	0	65535	
I	p13[0]	+		User defined p	0	-	Opera	3	0	65535	
I	r18			Firmware versi	0.00	-		1			
I	r19		+	CO/BO: BOP co	OH	-		3			
I	r20			CO: Act. frequ	0.00	Hz		3			
	r21			CO: Act. frequ	0.00	Hz		2			-
Project	MICROM/	\STE	:R_4	420		_		_			
ess Et he eners Hele diselar:				Offline mo	do						_

4.4.3 An online connection is established

Fig. 4.4.3:

A new window is displayed - 'Connect to target system'.

Connect to target system.	25%
	Fig. 4.4.3

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Result: The online connection that is established is shown at the bottom right (with a yellow background - '**Online mode**') and the parameter list is updated (Fig. 4.4.4).

4.4.4 Parameter upload

Fig. 4.4.4:

1. Click on the '**Load project to PG**' button to upload the parameters from the drive.

Project Edit Target system View	CROMASTER Options Win	_ 420 · dow	· Expert list] Help						_		
) 🖓 💦	8	<u>⇔</u> ▲			<u>]</u> - }	m.	A F	t (n	n 1/4	
Upload_Download	Expert list	7	1		ŀ	- 14	♣	DB			
	Parameter	+ +	Parameter te	Online value	Un	Chan	Ac	Mini	Maxi		
	r2		Drive state	Drive ready (1)	-		2				
	p3		User access le	Expert: For 💌	-	Opera	1				
	p4		Parameter filter	All paramete 💌	-	Opera	1				
	p5		Display selectio	21	-	Opera	2	0	4000		
	p6		Display mode	In Ready sta 💌	-	Opera	3				
	p7		Backlight delay	0	-	Opera	3	0	2000		
	p10		Commissioning	Ready (0) 🗾	-	Ready	1			-	
Project	MICROMA	STER	_420								
Device		Opera	ating mode							ר ר	
MICROMASTER_420.MICROMASTEF	Device Operating mode MICROMASTER_420.MICROMASTER_420 Drive ready										
Alarms 🔢 Target system output	🍕 Diagnost	ics ove	erview								
Press F1 to open Help display.			Online mo	ode							
									Fig.	4.4.4	

Result: A new window opens - 'Load to PG' (Fig. 4.4.5).

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4.4.5 Starting a parameter upload

Fig. 4.4.5:

1. Acknowledge this message with 'Yes'.



4.4.6 Parameter upload

Fig. 4.4.6:

A new window opens - 'Load'.

	48%
Cancel	

4.4.7 Parameter upload completed

Fig. 4.4.7:

1. Acknowledge this message with 'OK'.



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4.4.8 Parameter upload

Fig. 4.4.8:

1. Select 'Project => Save' in order to save the project.

TAR	STARTER - Upload_Download - [MICROMA	STER_420 - Expert list]	
	Project Edit Target system View Options	Window Help	_8×
][New New with wizard	Ctrl+N	
	Open	Ctrl+C	
	Close		
	Save As		
	Save in old project format		Un Chan Ac Mini Maxi
	Convert		
	Download to target system		· · · ·
			Fig. 4.4.8

Result: The parameter values from the drive inverter are now saved in the '**Upload_Download**' project. The project can be used at any time to download parameters; for instance when parameters are lost.

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4.4.9 Disconnecting from the target system

Fig. 4.4.9:

1. Click on the - '**Disconnect from target system**' button in order to disconnect from the target system.



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4.4.10 Closing the project

Fig. 4.4.10:

1. Select - '**Project => Close**' to close the project.

Project	t Edit T	arget system	View Optio	ns Window	Help		_ 8 >
[New New	v v with wiza	rd				Ctrl+N	N FFRace
) Oper	:n					Ctrl+O	
Clos	e						
= Save	e		4			Ctrl+S	🔽 🚰 🛧 🖻
Save	e As						
Save	e in old pro	oject format					
Conv	vert		(1)				
Dow	inload to t	arget system	\sim				U- 2

4.4.11 Exiting the application

Fig. 4.4.11:

1. You can now close the '**STARTER**' application using: '**Project => Exit**'.



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5 Download

In order to be able to download the parameters into the drive, the following operator actions are required:

- Start the '**STARTER**' application (4.1)
- Open the 'Upload_Download' project using
 Project => Open... => Upload_Download => OK'
- Establish the communications link (4.3)
- Go online (4.4)

5.1.1 Downloading parameters

Fig. 5.1.1:

1. Click on the - '**Load project to target system**' button in order to download parameters into the drive.

STARTER - Upload_Download - [MI	CROMASTER_	_420) - E	xpert list]						_	
Project Edit Target system View	Options Wind	wot	– He	elp							БХ
) 🖙 💦	뮉	<u>.</u>	à 鈊 % 📗] -}	n l	ə ج	3 (n	n 1/4
			1								1
	🔳 🛍	Y	1					4	DB		
	Expert list		Ú	<u>リ</u>							
⊡ MICROMASTER_420	Parameter	+	+	Parameter te	Online value	Un	Chan	Ac	Mini	Maxi	⊒∥
	r2			Drive state	Drive ready (1)	-		2			
	p3			User access le	Expert: For 💌	-	Opera	1			
	p4			Parameter filter	All paramete 💌	-	Opera	1			
	p5			Display selectio	21	-	Opera	2	0	4000	
	p6	_		Display mode	In Ready sta	-	Opera	3	-		
	p7			Backlight delay	0 December (0)	-	Opera	3	0	2000	
				Commissioning	Ready (U)	-	Ready	1			
Project MICROMASTER_420											
×						_		_			_ 1
Device		Оре	erati	ng mode							
MICROMASTER_420.MICROMASTER_420 Drive ready											
Alarms 🖽 Target system output 🗠 Diagnostics overview											
Press F1 to open Help display.				Online mo	ode						//
										Fig.	5.1.1

Result: A new window opens - 'Download to target system'.

Download

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5.1.2 Starting a parameter upload

Fig. 5.1.2:

- 1. Set the checkmark for 'After loading, copy RAM to ROM'.
- 2. Acknowledge with 'Yes'.



5.1.3 Parameter download

Fig. 5.1.3:

A new window appears - 'Load'.

	Cancel	48%
S	Nr. (1)	

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5.1.4 Parameter download

Fig. 5.1.4:

A new window opens - 'Copy RAM to ROM'.

ору кал со		
	Cancel	

5.1.5 Parameter download completed

Fig. 5.1.5:

1. Acknowledge this message with 'OK'.

Load (WWB	5:379)
i	The data has been successfully downloaded to the target system.
	Fig. 5.1.5

Result: The last message signifies that data was successfully downloaded into the target system (MICROMASTER). You can now disconnect from the target system, close the '**Upload_Download**' project and exit the '**STARTER**' application.