

SERIES P40

Additional Description: Quick Guide for FDT Basic Tool and Backup Tool





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2 How to install the FDT Software

The Flash Programmer software tool as well as the corresponding documentation is available on <u>https://www.renesas.com</u>. After your registration the software is available for download.

Download the [Evaluation Software] Flash Development Toolkit V.4.09 Release 03 on <u>https://www.renesas.com/us/en/software/D3017335.html</u>.

Open the corresponding download folder and you will find the .exe file:

Name	Тур	Komprimierte Größe	Kennwortg	Größe	Verhältnis	Änderungsdatum
fdtv408r00.exe	Anwendung	41.526 KB	Nein	44.280 KB	7%	20.03.2012 17:05

Make a double click on the .exe file.

Select Run	
Compressed (zipped) Folders	1
This application may depend on other compressed files in this folder.	
For the application to run properly, it is recommended that you first extract all files.	
Extract all Run Cancel	
Select OK	
Renesas Flash Development Toolkit (v4.08) - InstallShield Wiza	X
This package installs an unsupported freeware ver	sion.
	ок



Select Next >	
Renesas Flash Development Too	olkit (v4.08) - InstallShield Wizard
	Welcome to the InstallShield Wizard for Renesas Flash Development Toolkit (v4.08) The InstallShield Wizard will install Renesas Flash Development Toolkit (v4.08) on your computer. To continue, click Next.
	< Back Next > Cancel

Choose the language for the installation and click

Renesas Flash Development Toolkit (v4.0	8) - InstallShield Wizard
Select Language	RENESAS
Language selection will determine the lar	nguage of the installed help and user documentation.
 International (English) 	
💿 Asia (Japanese)	
🔘 Asia (English)	
	Release Notes
InstallShield	< Back Next > Cancel

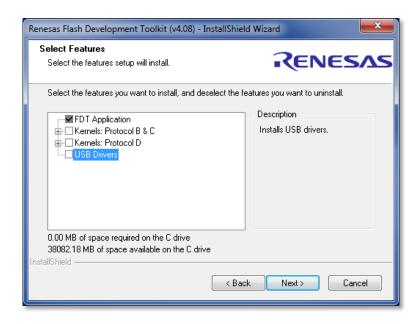
Next >



_	esas Flash Development Toolkit (v4.08) - InstallShield Wizard
L	Please read the following license agreement carefully.
	Software User License Agreement The customer (hereafter referred to as "Licensee") and Renesas Electronics Corporation(hereafter referred to as "Licensor") do hereby agree to the terms and conditions as specified in this Software User License Agreement(hereafter referred to as "Agreement") concerning the enclosed software and its explanatory manuals. ARTICLE 1. Definition 1.1 "Licensed Software" shall mean the main unit of the software tools and related executable programs, the "Library" as defined in Section 1.4 below and documentation such as explanatory manuals and all other related materials.
	I do not accept the terms of the license agreement Print

Select only the FDT Application USB Drivers as in the picture below.

Then click	Next >
------------	--------





Click Next >

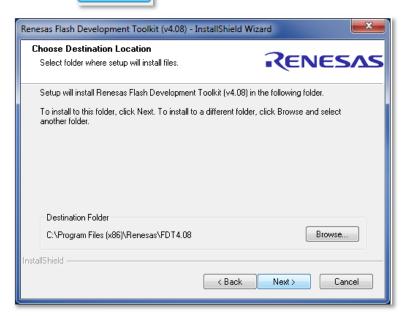
again

Renesas Flash Develo	opment Toolkit (v4.08) - InstallShield Wizard	×
Select Options	Ĩ	ENESAS
Setup requires you	u to make the following choices:	
🔲 Clean up old s	ettings. This option removes any existing settings b	efore installing.
Associate data file	s. Data files will open in FDT.	
.a20	.fpr	
.a37	🔽 .mot	
🔲 .bin	.rec	
.cde	.\$2	
🔲 .ddi		
	< Back	Next > Cancel

Choose the part of destination with the Browser Button.

Then click

Next >





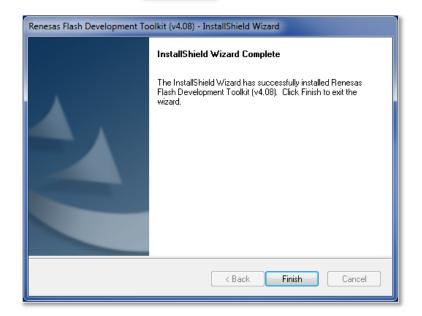
Install

Select

Renesas Flash Development Toolkit (v4.08) - InstallShi	eld Wizard
Ready to Install the Program The wizard is ready to begin installation.	RENESAS
Click Install to begin the installation.	
If you want to review or change any of your installation s the wizard.	settings, click Back. Click Cancel to exit
InstallShield	ack Install Cancel

After installing click

Finish





3 How to install the Backup-Tool

Chose "Open" \rightarrow the file will be saved automatically:

Windows Internet Explorer					
Wie möchten Sie mit "setup-ELGO-BackupTool.zip" verfahren?					
Größe: 22,2 MB Von: www.elgo.de					
 Öffnen Die Datei wird nicht automatisch gespeichert. 					
→ Speichern					
Speichern unter					
Abbrechen					

The folder will be saved on your hardware:

en							
	Name	Тур	Komprimierte Größe	Kennwortg	Größe	Verhältnis	Änderungsdatum
	퉬 setup.ELGO-BackupTool-V0.94	Dateiordner					06.09.2012 18:14

Open the folder and you will find the .exe file:

lame	Тур	Komprimierte Größe	Kennwortg	Größe	Verhältnis	Änderungsdatum
bin 🛛	Dateiordner					06.09.2012 18:14
license	Dateiordner					06.09.2012 18:14
supportfiles	Dateiordner					06.09.2012 18:14
] dp.pmf	PMF-Datei	1 KB	Nein	1 KB	30%	06.09.2012 18:14
nidist.id	ID-Datei	1 KB	Nein	1 KB	25%	06.09.2012 18:14
setup.exe	Anwendung	1.342 KB	Nein	1.382 KB	3%	06.09.2011 17:24
🗎 setup.ini	Konfigurationseinstellung	1 KB	Nein	2 KB	53%	06.09.2012 18:14

Make a double click on the .exe file.

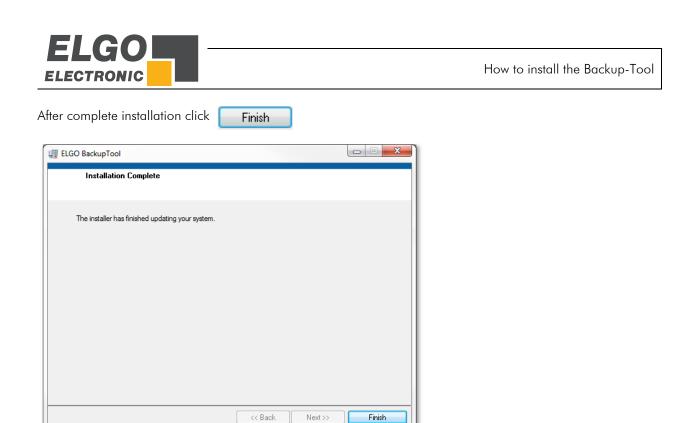


How to install the Backup-Tool

O BackupTool	
Destination Directory Select the primary installation directory.	
All software will be installed in the following locations. To install softw. different locations, click the Browse button and select another directo	
Target directory for application C:\Program Files (x86)\ELGO BackupTool\	Browse
Target directory for National Instruments software	
	Browse

Click Next > to start the installation.

U ELGO BackupTool	
Start Installation Review the following summary before continuing.	
Adding or Changing • ELGO BackupTool Files	
Click the Next button to begin installation. Click the Back button to change the installation setting	gs.
Save File) <	Cancel





4 Backup of Controller Data (P40-series)

- 1. Open the installed ELGO Backup Tool
- Connect serial interface of the PC with the S12 (PC-Interface) of your controller by using the programming cable (programming cable / adapter cable see chapter # 8). Do not switch the little slide switch next to S12 (PC-Interface) this is only necessary if you want to download software.
- 3. Activate the serial PC interface in the service menu of your controller (password requested). For this use the ESC key to change into the parameter menu and enter the password 250565. Select "Version" in the submenu "Diagnosis". In the "Version" menu the installed firmware is displayed and the interface of the P40 is automatically activated for the backup function.
- 4. Click on <u>Connect</u>. After successful connection the backup Info's are displayed in the gap of the controller.

GO BackupTool [V0.94] Contmiler System: P40T-SN002 Backup-ID: 220313-3 Identifier: -16	Backup-File System: P. UT-SN002 Ba kup-ID: 22 0313-3 Identifier: -1 I	COM Port: COM4	Çonnect <u>Wite</u> <u>Read</u> <u>Qear</u>	from you The Syste Identifier	rite to write Backup data PC into your controller. em-Info, Backup-ID and of Controller and Back- eed to comply with each
c:\ Descripted AP\De Process: Write 20%	http://Backup_1.elgo			Controlle	er -> PC
				Select Re	ad to read and save troller data on you PC.

5. Select **Read** or **Write** to save or load controller data.



Flash controller software of P40-series 5

Preconditions:

- Backup of controller data (Parameters and software) must be done first because depending on used Update controller data and software may become overwritten!
- Flash Tool Software must be downloaded.

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NOTE!

Do never switch the little slide switch (flash switch) next to S12 (PC-Interface) during operation (under tension).

- 1. Disconnect P40-series from supply voltage.
- 2. Switch little slide switch next to S12 (PC-Interface).
- 3. Connect serial interface of the PC with the \$12 (PC-Interface) of the P40-series controller by using the programming cable (programming cable / adapter cable see chapter 8).

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NOTE!

Depending on P40-series-variation do not confuse \$12 with MCC1/MCC2!

- 4. Connect P40-series with supply voltage.
- 5. Start FDT (Flash Tool).
- 6. If you use the FDT for the first time make the configuration according to chapter 6 "First use of FTP" of this documentation.
- 7. Flash controller software.
- 8. After flashing: Disconnect P40-series from FTP by using the Button "Disconnection" and choose in the popup window "do nothing" and "OK".
- 9. Disconnect P40-series from supply voltage.
- 10. Remove the programming cable.
- 11. Switch back little slide switch next to S12 (PC-Interface).



6 First use of the FDT tool (configuration)

There are two versions of FDT in the "Renesas-Folder".

Use the FDT Basic version!

In the first dialog choose Generic BOOT Device

Then click <u>N</u>ext >

	opment Toolkit supports a number you wish to use with this project f		devices.	
Filter:			[Other
Туре	Full Name	Kernel Version	Info	
H8S/Tiny	H8S/202x5F (Generic)	N/A	Generic	BOOT De
H8S/Tiny	H8S/202x5R (Gener		Generic	BOOT De
H8S/Tiny	H8S/203x5R (Gener		Generic	BOOT De
RX	RX210FineD(Generic)		Generic	BOOT De
SH		N/A	Generic	BOOT De
SH	SH/7084F (Generic)	N/A	Generic	BOOT De
SH	SH/7085F (Generic)	N/A	Generic	BOOT De =
SH	SH/7086F (Generic)	N/A	Generic	BOOT De
SH	SH/7124F (Generic)	N/A	Generic	BOOT De
SH	SH/7125F (Generic)		Generic	BOOT De
Generic BOOT De	evice Generic BOOT Device	N/A		+
•				F
,				



Choose the COM-PORT of your serial interface and click

NOTE: The COM port must be set to a maximum COM9. Otherwise, the connection is not established to the controller, and it appears no error message.

Communications Port	×
	Use this page to select your desired communications port/interface. All settings may be changed after the project is created.
	Select port:
	Select an Interface type to connect to the target device with. Normally this will be "Direct Connection" or simply left blank.
	Select Interface: Direct Connection
	C Set Reset pin as low when disconnecting
	< Back Next > Cancel

Be sure that the control is switched ON and connected to your serial port as described in **chapter * 5 step 1** ... **4** of this manual.

Click OK

Comm	unications Po	rt				X
			Use this page to s port/interface. All created.			
		n)	Select port:	COM1	•	×
	FLASH	H Developme	nt Toolkit			
			ill now attempt to ensure the board i	-	-	
					ОК	Abbrechen
				< <u>B</u> ack	<u>N</u> ext >	Cancel



If you have done everthing correct ist should look like this. Press

Que	ery Gen	eric Device	
	\checkmark	Booting Device	
	\checkmark	Sending Supported Devices Inquiry	
	\checkmark	Selecting Device RX600 Series	
	\checkmark	Sending Clock Mode Inquiry	
	\checkmark	Selecting Clock Mode 0	
	\checkmark	Sending Other Inquiries	
		OK Cancel	

In this dialog please enter the values for P40-series as shown below:

	P40
Processor frequency [MHz]	14.7456
Multiplier for the main clock	1
Multiplier for the Peripheral clock	1

Select the external clock or the Internal Clock or Resonator nternal clock or the Internal Clock or Resonator nternal clock: Select the external clock or the Internal Clock or Resonator nternal clock: Device Insert Commercial Select the external clock or the Internal Clock or Resonator nternal clock: Select the external clock or the Internal Clock or Resonator nternal clock: Select the external clock or the Internal Clock or Resonator nternal clock: Select the external clock or the Internal Clock or Resonator nternal clock: Select the external clock or the Internal Clock or Resonator nternal clock o	Workspace	Please enter the specific device of	
Connector	Workspace Industrial Co	Select the external clock or the internal clock:	Esternal Clock or Resonato
Target files	Comoting Commission Co	for the selected device: Enter the clock mode for the	
ti on Left Data mot ti on Left Data mot ti dagerkheim	Target, Files Orise, mol Data,mol Algorithm.mi	Select the multiplier for the Main clock frequency (CKM):	1 .
Select the multiplier for the Peripheral clock frequency (CKP):	04 04 (0 11 14 40 40 TE 3		



Change the Baud rate to 115200 and click (Next)

Connection Type	
Workspace at the second	The FLASH Development Toolkit can connect to your device in a number of different ways. All the options on this page may be changed after the Project has been created. Select Connection:
B DE EG FEL DEVICE Image 00 FEL Target files 00 00 ED FEL Target files 00 00 ED FEL TARGET IN TARGET IN 1 SE B1 11 Si Keyboard.im 1 SE 8A 33 - 43 Comme.mot	Kernel already running In BOOT Program mode the device erases its FLASH prior to connection. The Toolkit downloads programming kernels to the
1 1 Motor Control 2 2 2 1 2 2 2 1 2 2 2 1 2 2 2 1 2 2 1 1 3 2 1 2 4 1 1 1 5 2 1 2 1 1 1 1 2 1 2 1 2 1 2 1 3 1 1 1 4 1 2 1 5 4 1 1 6 1 2 4 7 2 4 4 1 7 2 4 4 1 1 7 2 4 4 1 1 7 2 4 4 1 1 7 2 4 4 1 1 8 1 1	device as required. The Recommended Speed setting is based on the current device and clock. The user may also input their own, if this is supported by the kernel (and the interface board).
	Recommended Speeds: 115200 Default User Specified:
	< Zurück Weiter > Abbrechen

Do not change anything in this dialog and click (Finish)

Programming Options	
Workspace and a provide the second se	What level of device protection would you like? Protection
	Would you like to perform readback verification after programming? Readback Verification C Yes
	< Zurück Fertig stellen Abbrechen



Now you should see the FDT Dialog like in the picture below. The installation is complete.

FDT Simple Interface (Unsupported Freeware Version)				
Options				
BASIC FILE PROGRAMMING	Exit			
Device : RX600 Series Port : COM1				
File Selection				
O Download File ✓ User / Data Area				
User Boot Area	Browse			
Program Flash	Disconnect			
Clock Frequency (External) = 12.0000MHz, CKM = 8, and CKP = 4 Changing baud rate to 115200 bps Set baud rate value = 115200 FCF Settings Applied: RX600 Series, (C:\Users\SCRIPT~1\AppData\Local Attempting to finalise connection to Generic RX600 Series device Connection complete				
< III				



7 Download a ".mot- File"

Click on Browser for choosing a file.

FDT Simple Interface (Unsupported Freeware Version)	
Options	
BASIC FILE PROGRAMMING	
Device : RX500 Series Port : COM1	
File Selection	
🔽 User / Data Area	
User Boot Area	f
Program Flash Disconnect	
Clock Frequency (External) = 12.0000MHz, CKM = 8, and CKP = 4 Changing baud rate to 115200 bps Set baud rate value = 115200 FCF Settings Applied: RX600 Series, (C:\Users\SCRIPT-1\AppData\Local	
Attempting to finalise connection to Generic RX600 Series device	
Connection complete	
۰	

Choose the latest version. Probably you will get the" .mot-file" from our service department by Email. In this case you have to choose the directory in which you have saved the file.

After that click (open)

FDT Simple Interface (Unsupported Freeware Version)	
Options	
BASIC FILE PROGRAMMING	Exit
Device : RX600 Series (LittleEndia Port : COM1	
File 🔗 Öffnen	×
🕫 Suchen in: 🌗 Programm_P40T 💽 🗢 🖻 📸 📰	-
Name	
P40T-SN002-8IO_V210.mot	
P40T-SN002_V210.mot	
< <u> </u>	+ ct
Cloc Dateiname: P40T-SN002_V210.mot Ot	ffnen
	rechen
FCF Seconds apprece. Anote Series (Directennian), (c., os Attempting to finalise connection to Generic RX600 Series	LittleEnd
	,
Connection complete	
۲ III	



Download a ".mot- File"

fter choosing the file click on Program Flash				
FDT Simple Interface (Unsupported Freeware Version)				
Options				
BASIC FILE PROGRAMMING Exit				
Device : RX600 Series (LittleEndix Port : COM1				
File Selection				
Download File User / Data Area Documents\Kunde_Elgo\Programm_P40T\P40T-SN002_V210.mot User Boot Area				
Program Flash Disconnect				
Flash Development Toolkit and flash programming components are provided without support OS: Windows Vista/Server 2008 [Non-Admin] FCF Settings Applied: RX600 Series (LittleEndian), (C:\Users\SCRIPT-1\.				
4 III				

The program will be flashed.

FDT Simple Interface (Unsupported Freeware Version)				
Options				
BASIC FILE PROGRAMMING	Exit			
Device : RX500 Series (LittleEndix Port : COM1				
File Selection				
Download File Joser / Data Area Documents\Kunde_Elgo\Programm_P40T\P40T-SN002_	V210.mot			
🗖 User Boot Area	▶			
Cancel	Disconnect			
40%				
<pre>4000 Connection complete Processing file :"C:\Users\SCRIPTEC-AR\Documents\Kunde_Elgo\Programm [Data Flash] - No Data Loaded Operation on User Flash Loaded the Write operation module Writing image to device [OxFFF00000 - 0xFFF001FF] Writing image to device [OxFFF00100 - 0xFFF001FF] Writing image to device [OxFFF00100 - 0xFFF07FF] Writing image to device [OxFFF00100 - 0xFFF9FFF] Writing image to device [OxFFF0000 - 0xFFF9FF] Writing image to device [OxFFF0000 - 0xFF9FFF] Writing image to device [OxFFF0000 - 0xFF9FF] Writing image to device [OxFF0000 - 0xFF0000 - 0xFF9FF] Writing image to device [OxFF0000 - 0xF9000 - 0xF900 - 0xF9000 - 0xF9000 - 0xF900 - 0xF9</pre>				
J • [4			



Now you have flashed the program! Press Disconnect

FDT Simple Interface (Unsupported Freeware Version)	
Options	
BASIC FILE PROGRAMMING	Exit
Device : RX600 Series (LittleEndic Port : COM1	
File Selection	
Download File User / Data Area Documents\Kunde_Elgo\Programm_P40T\P40T-SN002_\ User Boot Area	/210.mot
Program Flash	Disconnect
Data programmed at the following positions:	*
0xFFF00000 - 0xFFF000FF Length : 0x00000100 0xFFF00100 - 0xFFF001FF Length : 0x00000100	
0xFFF00100 - 0xFFF001FF Length : 0x00000100 0xFFF00400 - 0xFFF0F4FF Length : 0x0000F100	
0xFFF0F500 - 0xFFF19FFF Length : 0x0000AB00	
0xFFF1A000 - 0xFFF854FF Length : 0x0006B500	
0xFFFFFF00 - 0xFFFFFFF Length : 0x00000100	
533 K programmed in 50 seconds Image written to device	-
٠	•

Choose "Do nothing" and "OK" in the popup window

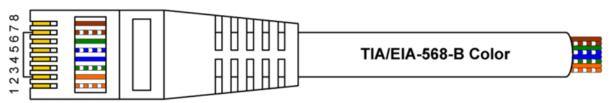
FDT Simple Interface (Unsupported Fr	eeware Version)			
Options				
BASIC FILE PROGRAMMING Exit				
1				
Device - RX600 Series (LittleEndia Pr	ut · CO	M1		
Block Locking				
On Disconnect				
Lock State At Connection	State At Disconnect		What should FDT do with the	
🖃 📺 RX600 Series (LittleEndia		*	block locking settings now?	
🖹 - 🛄 User Flash		Ξ		
Sud	Unlocked Unlocked			
Seat	Unlocked		C Set Locks/Unlocks	
Seat	Unlocked		C Query User To Set Locks/Unlocks	
C., COD	Unlocked		Cocks/Unlocks	
	Unlocked		O Nothing	
📺 EB6	Unlocked			
📺 EB7	Unlocked		_	
Seat	Unlocked		Enable Editing	
Seat	Unlocked	-		
J · · · · · · · · · · · · · · · · · · ·	(late dead			
			OK Cancel	
0xFFFFFF00 - 0xFFFFFFFF Length : 0x00000100 533 K programmed in 50 seconds				
Image written to device				
			-	
<			•	

- Disconnect P40-series from supply voltage.
- Remove the programming cable.
- Switch back the little slide switch next to \$12 (PC-Interface).



8 Programming Cable / Adapter Cable

P40-series



	12345678	Pin	TIA/EIA-568-B Color	
		1	white/orange stripe	GND - 0V
		2	orange solid	RxD
	6 (++++++++++++++++++++++++++++++++++++	3	white/green stripe	TxD
22		4	blue solid	n.c.
		5	white/blue stripe	n.c.
		6	green/solid	n.c.
		7	white/brown stripe	n.c.
		8	brown solid	n.c.

PC (extern)

D-SUB 9 polig (female)

	Pin	
	1	n.c.
white/green stripe	2	RxD
orange solid	 3	TxD
	4	n.c.
white/orange stripe	5	GND - 0V
	6	n.c.
	7	n.c.
	8	n.c.
	9	n.c.



Notes:



Notes:

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