

Kurzanleitung für Firmware-Update / quick reference for firmware update page 1 of 5

This document supports the service technician with the firmware update of RP-Technik components. It should be kept up-to-date regularly by downloading from <u>http://www.rptechnik.de/index.php/de/component/docman/cat_view/6-module-modules/430-io-modul.html?Itemid</u>

Here you can also find the firmware files for the individual components. The free software MPLAB IPE has to be used as programming software. It can be downloaded for free from the microchip website:

http://ww1.microchip.com/downloads/en/DeviceDoc/MPLABX-v3.50-windowsinstaller.exe

Note: Choose "IPE" only during the installation; the "IDE" part is not needed.

1. Presetting of the programming software MPLAB IPE

1. Activate Advanced Mode:

Sele				Results	
Selt		Advanced Mode		Results	
Fa		Verify Device ID before Program	-		
	1	Erase All before Program		Checksum:	35A
De	\checkmark	Auto Download Firmware	- Apply	Pass Count:	3
		Manual Download Firmware		Fail Count:	4
То	~		Connect	Total Count:	7
	0	Hold in Reset Release from Reset		Total Count.	
		Receive norm reset			
		Communication	Read	Verify	Blank Check
	-	m logiciti		anima (
Sour	ce:	Please dick on browse button to import a hex fil	e		Browse
SQ	rp: [Please click on browse button to import SQTP fil	e		Browse
					± Less
_	-				

2. - enter password *microchip* and tick *Remember Password* (spares re-entering later)- click on *Log on* for confirmation:

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d Mode	
••••••	
Default Password	d 'microchip'
assword	Log on
	d Mode •••••• Default Password

- 3. select Power on the left
 - tick *Power Target Circuit from Tool*, this supplies the processor to be programmed with power from the programming adapter (PICkit3)
 - VDD: select 4.5V
 - these settings are assumed without confirmation
 - go back to the page Operate

Integrated Programming B le View Settings Help	nvironment v3.15	
Operate	Voltage Settings	
😝 Power	VDD: 4.5 Reccommended Voltage Level : 5.0	
Memory	VPP: 12.0 N/A VDD Nom: 5.0 N/A VDD App: 5.0 N/A	
Environment		
SQTP		Reset Voltages
Production Mode	ICSP Options	
Settings	Power Target Circuit from Tool	High Voltage on MCLR

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2. Selection of processor type and firmware

The module IOMODUL is based on the controller

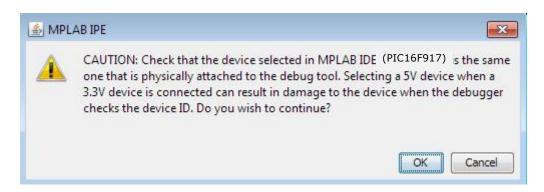
PIC16F917

Select PIC16F917 in the *Device* drop down list.

Now load a firmware file (*.hex) via *Source:* \rightarrow *Browse*. At the end of the file name you can see a 4-digit check sum. After loading the file, this number must be readable the file in the field *Checksum*:

	Select Device and Tool			Results	2011
Operate	Family: All Families		•	CP=OFF Check	
	Device PIC16F917		Apply	Check Pass Co	
Power	Tool: PICkit3 S.No	: BUR 102115755	Disconnec	Fail Co	ount: 4
Memory	Program	Erase	Read	Verify	Blank Check
	Source: C:\Users\sascha	hoewner \Desktop \DCM32_S	W30_HW1_0xAFAF.hex		Brow
Environment	SQTP: Please click on b	rowse button to import SQTP	file		Brow

If the PICkit3 is already connected to the PC, it is shown in the field *Tool*. Otherwise connect it now. Then select the PICkit3 by clicking on *Connect*. If the following error message appears, click on *OK*:



If this error message also appears during other process steps, it does not indicate a faulty operation. Just click on *OK* then.

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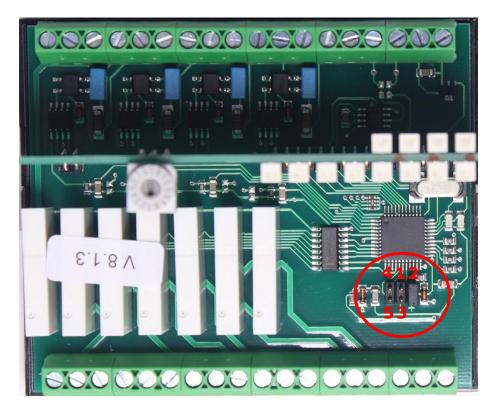


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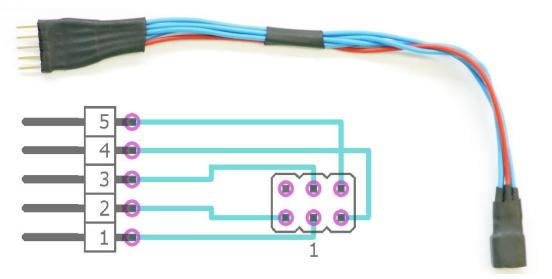
3. Localisation of the programming interface on the module

Now connect the PICkit3 to the circled header on the module by means of the adapter cable 5-3x2. Remove the jumper before and plug it in again after the programming – the module does not work without the jumper.

IMPORTANT: Pin 1 of the module must match with Pin 1 on the PICkit3 (indicated by the white arrow)!



Adapter cable 5-3x2:



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4. Start programming and verify

The programming of the module is started by clicking on *Program*:

Integrated Programming E	nvironment v3.15			- • ×
ile View Settings Help				
	Select Device and Tool		Results	
😂 Operate	Family: All Families	•	CP=OFF Checksum:	AFAF
	Device: PIC16F917	▼ Apply	Checksum: Pass Count:	AFAF 5
Power	Tool: PICkit3 S.No : BUR 102115755	5 🔹 Disconnect	Fail Count:	5 10
Memory	Program	Erase	Verify	Blank Check
Environment	Source: <u>\\100.0.38\Entwicklung\Produktu</u> SQTP: Please click on browse button to in	unterlagen \Zentralbatterieanlagen \Module \DC! mport SQTP file	M\V5.11.XX (ab hier EMV-geprüfi)\Kompon Browse Browse
SQTP	Output Programming/Verify complete			
Production Mode	2016-07-21T11:12:25+0200- Programming cor Pass Count: 4 2016-07-21T11:16:36+0200- Programming The following memory area(s) will be programm program memory: start address = 0x0, end ad	ned:		
• Settings	program memory: start address = uxu, end ad configuration memory Device Erased Programming			
• Log out	Programming/Verify complete 2016-07-21T1:16:51+0200- Programming cor Pass Count: 5	mplete		E

The written data are automatically checked after the programming. The successful completion of the programming is indicated by the line *Programming/Verify complete* or *Programming complete*.

When the programming failed:

- Has the correct processor type been selected?
- Check the settings on the page Power (\rightarrow 1.3)
- The settings shown in chapter 1.3 have to be made again after changing the processor type

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