User Manual

EasySampler Connectivity Kit

For EasyMax, OptiMax, RX-10, and RC1mx





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1 Introduction

The EasySampler Connectivity Kit integrates EasySampler function with EasyMax[™] Advanced, OptiMax[™], RX-10[™], and RC1mx[™] touchscreen or iControl software experiment. Sampling information is automatically combined and reported with the reactor experiment conditions via the touchscreen and iControl experiment report file.

This User Manual provides step-by-step instructions to connect EasySampler to EasyMax Advanced 102/102 LT/402, OptiMax 1001, RX-10 or RC1mx using the EasySampler Connectivity Kit and how to operate EasySampler 1210 from the touchscreen or iControl experiment.

The EasySampler Connectivity Kit contains the following items:



1	User Manual EasySampler Connectivity Kit
2	USB dongle, mini-format
3	CAN cable (1 m)

2 Safety Information

All safety information from the documentation of the main device are also valid when using the EasySampler with other devices. So here only the additional ones are mentioned.



NOTICE

Exceeding temperature range

In combination with the reactors it is possible to exceed the temperature range of the EasySampler probe. This causes damage to the PTFE sleeve potentially leading to a leak of Quench solution into the reaction.

Make sure that the firmware of the EasyMax Advanced, OptiMax, RX-10 and RC1mx are compatible with the Connectivity kit, check the Release Notes for more information.

3 Installation

- Insert the USB dongle into one of the rear USB ports of the EasySampler system.



4 Connect EasySampler to EasyMax, OptiMax, RX-10 or RC1mx

- 1 Connect the EasySampler to EasyMax Advanced, OptiMax, RX-10 or RC1mx via a CAN cable.
- 2 Use the CAN IN connection at the back of the EasySampler for the connection from EasyMax Advanced, OptiMax, RX-10 or RC1mx. The connection can be direct or via 1 or more CAN devices.
- 3 Use the CAN OUT connection for further CAN devices.
- A possible installation setup is shown below:



Note Two EasySamplers can be connected to EasyMax Advanced (1 for each reactor) and one EasySampler to OptiMax, RX-10, RC1mx.

Note To operate EasySampler from iControl and report sampling information in the iControl or iC Data Center experiment file, EasySampler must be connected via EasyMax Advanced, OptiMax, RX-10 or RC1mx to iControl or iC Data Center. Direct connection of EasySampler to iControl is not supported.



NOTICE

CAN power limits

Power in peripherals through the CAN connection requires some minimal power. Therefore, we recommend as of three CAN devices to add an additional power supply.

The CAN connection is used for power and communication transmission between the main device and other CAN devices like the ECB, DU SP-50 or EasySampler.

The power transmission through a CAN connection is limited to a certain amount. This means certain configurations need an additional AC power adapter.

5 EasyMax reactor assignment

When using EasySampler with EasyMax Advanced, the EasySampler has to be assigned to one of the reactors. For OptiMax, RX-10, and RC1mx reactor assignment is not required; continue with [Take 1 sample from EasyMax Advanced, OptiMax, RX-10 or RC1mx ▶ Page 7].

The following sequence describes how to assign an EasyMax reactor to the referring EasySampler.

- isvMa 5/10/2019 2:47 PI 1 Select 🐞 button. ĩo Reactor 1 C2H4O2 25.3 °C Tr Dose / Charge Ĥ React Tr - Tj 0.4 K Sample 4 Distill / Reflu EasySampler ready 24.9 °C 7.00 Тj pH Ŧ Jacket R 0 rpm Overhead stirring Reactor 100 mL Experime & Export Graph 2 8/16/2019 10:<u>34 A</u> Device Management ĩo Ħ * Dosing units > ² da * EasySampler devices > 1 7 ECB > System Settings ŵ 7/8/2015 2:40 PM vMax 102 Advance ĩo Connected EasySampler devices Ē EasySampler 1 ŧ Not assigned 88 × ź 🙉 宙宙 EasyMax 102 Advanced 8/16/2019 10:48 AM 4 Select Reactor 1 to assign EasySampler to reactor ĩo Assign EasySampler to Ħ Reactor 1 do x ² da Reactor 2 1 Ţ
- 2 Select EasySampler devices.

3 Select EasySampler 1.

1.

5 The EasySampler is assigned to reactor 1. Select the **Back** button to get to the home screen of reactor 1.



The EasyMax touchscreen shows that EasySampler is ready.

The EasySampler touchscreen shows the reactor assignment.

6 Use EasySampler from Touchscreen

6.1 Take 1 sample from EasyMax Advanced, OptiMax, RX-10 or RC1mx

Note Refer to the EasySampler User Manual (30091776) to prepare EasySampler.

- The EasySampler must be ready (Preparation finished on EasySampler screen) before Take 1 Sample can be started on the EasyMax Advanced, OptiMax ,RX-10 or RC1mx.
- 1 Select Sample.

EasyMax 102	Advanced					5/10/2	D19 2	:47 PM
Info	Reactor 1 C2H4C)2				•	١	ò
	Tr Reactor	25 temperature	5.3 °C	Dose	/ Char	ge	2	Ü
	Tr - T Distill / I	∏j Reflux	0.4 K	Samp EasySam) e pler ready		×	\$
₩ ~	Tj Jacket te	24 emperature	1.9 °C	pН		7.00		Ţ
() 00:00:00	R Overhea	d stirring	0 rpm					
÷	Notes	Graph	Experime & Export	Task Sequence		Reactor 100 mL	1	î

2 Select Take 1 Sample.

3 Select OK to confirm and start sampling.



i	
	Sample method: Quench solvent: WATER Dilution solvent: ACETONITRILE Reaction solvent: ISOPROPANOL Dilution factor: 80 'OK' takes the sample.
	OK

EasyMax 102 Ad

Reactor 1 C2H4O2 8/15/2019 2:39 PM

METTLER >

- Yo

The EasyMax Advanced, OptiMax, RX-10 or RC1mx touchscreen shows that EasySampler is in the process of taking a sample.

The EasySampler touchscreen shows the active sampling process.



Experiment Next sat and export Vial

Sample sequence

6.2 Start a Sampling Sequence from EasyMax, OptiMax, RX-10 or RC1mx

Note Refer to the EasySampler User Manual (30091776) to prepare EasySampler.

EasyMax

Ü

Reactor 1 C2H4O2

Tr - Tj

Reactor temperature

Tr

25.3 °C

0.4 K

- Sequences must be set up on the EasySampler before they can be started from the EasyMax, OptiMax, RX-10 or RC1mx.
- The EasySampler must be ready (Preparation finished on EasySampler screen) before the Sample sequence can be started on the EasyMax, OptiMax, RX-10 or RC1mx.
- 1 Select Sample.
- 2 Select Start sequence.

3 Select **OK** to confirm and start sampling sequence.

The EasyMax, OptiMax, RX-10 or RC1mx touchscreen shows that the EasySampler is running the sample sequence.



5/10/2019 2:47 PM

៰

Dose / Charge

Sample

The EasySampler touchscreen shows the sampling sequence that is active.



6.3 Abort Sampling from EasyMax Advanced, OptiMax, RX-10 or RC1mx

Note Refer to the EasySampler User Manual (30091776) to prepare EasySampler.

1 Select Sampling.



2 Select Abort sampling.

- 3 Select **OK** to confirm to abort the sampling process (EasySampler needs to be prepared when aborting a running sample.)
- The EasyMax Advanced, OptiMax, RX-10 or RC1mx touchscreen shows that EasySampler needs to be prepared before taking another sample.
- The EasySampler touchscreen shows that the sampling process has been aborted.

7 Use EasySampler together with iControl

7.1 Take 1 sample using iControl

The EasySampler can be used without any further configuration of the equipment by simply dragging and dropping the **Take Sample** operation in the recipe panel.

- EasySampler must be ready (Preparation finished on screen) and connected to EasyMax Advanced, OptiMax, RX-10 or RC1mx. In order to Take 1
 Sample in a running experiment in iControl, follow the steps below:
- 1 Drag and drop Mar to the recipe.

- 2 On the opening dialog, choose Use EasySampler auto sampling
- 3 Enter a Dilution factor between 80 and 450 and confirm with **OK**.

Procedure	
Recipe Library 7	Einst Fill and Cofees
٩	Limits
🚮 Distill	Estimated start: 00:00:00
Heat/Cool	
🔠 Reflux	
olo Stir	Phase 1: - Estimated start: 00:00
Add at Once	
Control pH	
Dose at Rate	
Take Sample	→
End Experiment	
📮 Operator Message	
II Pause	
Cat Time Marker	
Wait	
▲ Change Safety Limits ♥♥ Set Tr control parameters	
Operation: EasyMax 402 - Take	e Sample
Caption: Take Manual Sample	
Description: Take a sample from a re	eactor.
Comment:	
Parameters	
Manually take sample	
 Use EasySampler auto sam 	pling (connected)
Dilution factor: 100	
Start Sequence METTLER	
	Capcel
UK	

4 The operation will run in iControl as long as the sampling process is active.

5 In the equipment setup, the state of the EasySampler will be displayed and updated continuously.





7.2 Start Sampling Sequence from iControl

Note Refer to the EasySampler User Manual (30091776) to prepare EasySampler.

- EasySampler must be ready (Preparation finished on screen) and connected to EasyMax Advanced, OptiMax, RX-10 or RC1mx in order to start the Sampling Sequence in iControl.
- Sequences must be set up on the EasySampler before they can be started from iControl.
- 1 Drag and drop a **Take sample** operation to the recipe.

2 On the opening dialog, choose **Start Sequence xxx** (example METTLER) and confirm with **OK**.

Procedure			
Recipe Libra	ary	դ	Eine Fill and Cafety
0	Q		Limits
ය <mark>්</mark> Distill			Estimated start: 00:00:00
🐮 Heat/Cool			
📓 Reflux			
olo Stir			Phase 1: - Estimated start: 00:00
Add at On	ce		
E Control pH	4		
Pose at R	ate		
🕼 Take Sam	ple		•
End Exper Coperator M Pause Phase	iment Message		
Set Time I	/larker	_	
Wait		_	
A Change Si ₩Set Tr con	afety Limits trol parameters		
🙋 Operatio	n: EasyMax 402 -	Take S	Sample 📃 🖾
Caption:	Take Manual Sam	ple	
Description:	Take a sample from	m a rea	ctor.
Comment:			
Parameters			
© Man	ually take sample		
⊚ Use	EasySampler auto	sampl	ing (connected)
Dilutio	on factor: 100		
Start	Sequence METTL	ER	
	ОК		Cancel Help

3 In contrast to a Take 1 Sample operation that runs as long as the sampling process is active, the Start Sampling Sequence operation will start the sampling sequence and then be finished. The sampling sequence will run entirely on the EasySampler and iControl will log all samples.



4 In the equipment screen, the state of the EasySampler will be displayed. If no sampling process is active, the state of the EasySampler is Sequence Active.



7.3 Abort Sampling from iControl

Abort an active Sampling Process

 Abort a Take 1 Sample by either aborting the Take 1 Sample operation in the procedure screen.

or



 Selecting the stop button next to the EasySampler in the equipment screen.

Note When aborting an active sampling process, the sample is lost and EasySampler has to be prepared before a new sampling process can be started again.



Abort an active Sampling Sequence

 An active sampling sequence can be aborted by selecting the stop button next the EasySampler in the equipment screen.

Note When aborting an active sampling process, the active sample is finished and EasySampler is ready to take new samples.



8 Export Data

Using the EasySampler with Connectivity Kit and EasyMax Advanced, OptiMax , RX-10 or RC1mx all sampling data is reported in the:

- EasySampler experiment report
- EasyMax Advanced, OptiMax, RX-10 or RC1mx experiment report

A USB stick is needed to export the experiment report. In case EasyMax Advanced, OptiMax,RX-10 or RC1mx are connected to iControl or iC Data Center, sampling data is additionally reported in the:

- iControl experiment report
- iC DataCenter experiment report

Please refer to the corresponding User Manual and Operating Instructions for details.



9 Technical Data

Certifications regarding this product can be found at www.mt.com/DoC The product name of your device is the model number.

Ambient conditions

Humidity	Max. relative humidity 80 % for temperatures up to 31 °C decreasing linearly to 50 % relative humidity at 40 °C, non-condensing
Altitude	Up to 2000 m
Overvoltage category	Ш
Pollution degree	2
Ambient temperature	5 °C40 °C
Usage	For indoor use only
Supported Eirmware and Software for Connectivity	Touchscreen to Touchscreen Control:
Supported Firmware and Software for Connectivity	Touchscreen to Touchscreen Control:
Supported Firmware and Software for Connectivity kit	Touchscreen to Touchscreen Control: EasySampler: Firmware Version 1.1.0.0 or higher
Supported Firmware and Software for Connectivity kit	Touchscreen to Touchscreen Control: EasySampler: Firmware Version 1.1.0.0 or higher EasyMax Advanced, OptiMax, RX-10 and RC1mx: Firmware Version 5.4.0.0 or higher
Supported Firmware and Software for Connectivity kit	Touchscreen to Touchscreen Control: EasySampler: Firmware Version 1.1.0.0 or higher EasyMax Advanced, OptiMax, RX-10 and RC1mx: Firmware Version 5.4.0.0 or higher Compatibility with iControl Software:
Supported Firmware and Software for Connectivity kit	Touchscreen to Touchscreen Control: EasySampler: Firmware Version 1.1.0.0 or higher EasyMax Advanced, OptiMax, RX-10 and RC1mx: Firmware Version 5.4.0.0 or higher Compatibility with iControl Software: EasySampler: Firmware Version 5.5.0.0 or higher
Supported Firmware and Software for Connectivity kit	Touchscreen to Touchscreen Control: EasySampler: Firmware Version 1.1.0.0 or higher EasyMax Advanced, OptiMax, RX-10 and RC1mx: Firmware Version 5.4.0.0 or higher Compatibility with iControl Software: EasySampler: Firmware Version 5.5.0.0 or higher EasyMax Advanced, OptiMax, RX-10 and RC1mx: Firmware Version 5.5.0.0 or higher

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