



Raytech

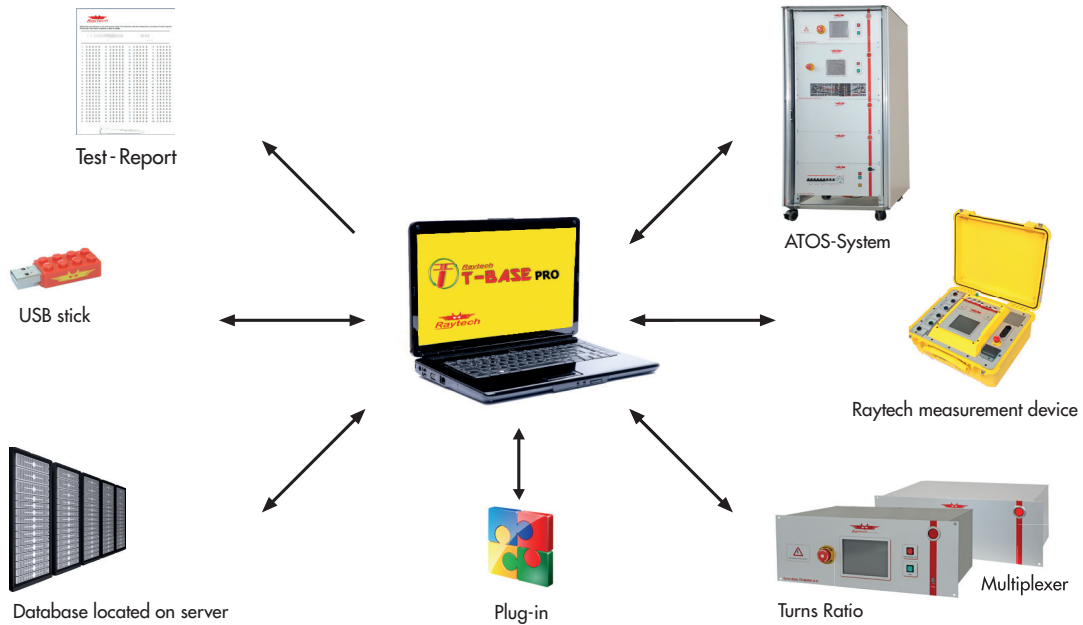
T-BASE PRO



Raytech



T-Base Pro from Raytech is a powerful software for remote control, data exchange and analysis of Transformer Measuring Instruments. It runs on Windows based PC and a modern graphical user interface makes it easy and a pleasure to operate. Any custom request or special feature can easily be added with a custom Add-on.



T-Base for remote control, data exchange and analysis



Raytech

Raytech T-Base Professional - Version: 1.43.1561

Hide TR measurements
 Hide WR measurements
 Data filter inactive
 In Select
 In Select
 From Select a date 15
 To Select a date 15

Transformer profile Data Import Data Export View Data filter Measurement filter parameter

DB Explorer

- nt 32.440
 - 23.11.2012
 - Winding Resistance
 - abb
 - Turn Ratio
 - 26.11.2012
 - Winding Resistance
 - 26.11.2012
 - Winding Resistance
 - unit tr
 - Turn Ratio
 - 01.01.2000
 - Winding Resistance
 - Revie
 - Turn Ratio
 - Winding Resistance
 - 18.10.2012

Messung 11/26/2012 12:15:08 | TR MARK III
 Description
 Detail
 Date: 26.11.2012
 Time: 12:15:08
 Operator: thomas schweizer
 Humidity:
 Temperature:
 Edit
 Detail view
2: Dyn-5 40V
 Measurements Actual
 View
 Type: Phase Zoom
 Deviation [%]
 1.0
 0.5
 0.0
 -0.5
 -1.0
 A B C
 Remarks

Data Import

Connection, Status: Connection OK

Enter service code 2001 in the settings of the device in order to activate native Raytech USB driver.

Connection Type: USB Device: TR-MARK III_304-121

Transformer profiles

Profiles

- 16.02.2012 12:10
- iran visitors
- nt 32.440
- New Profile 06.09.2012
- New Profile 05.09.2012
- nt 32.440
- raytech test transformer trex 1

Transformer profile detail

Description:

Type: **nt 32.440**
 Manufacturer: **secheron**
 Serial: **21649/t2/2**
 Location: **Bremgarten**
 WR Temp Ref.: **25**
 Max. Resistance Dev.: **0.5**
 Max. Ratio Dev.: **0.5**

Data

Measurements	Results
23.11.2012 15:15	TR MARK III 304-121 -

Import Close

Vectors

Transformer profile

Dyn5

Name	abb
Type	5 schenkel
SN	1
Location	bad honoff
Rating	
Manufacturer	abb
Ref. Temp	25
Max. Res. Dev.	0.5%
Max. Ratio Dev.	0.5%
Standard	ANSI
GPS Location	
GUID	729839881

USB Devices: 3 | Ready



Easily import all the test results from your Raytech Test-System



Raytech

Print XPS HTML Excel PDF

Report Export report

DB Explorer

- nt 32.440
 - Turn Ratio
 - 23.11.2012
 - Winding Resistance
 - abb
 - Turn Ratio
 - 26.11.2012
 - 26.11.2012
 - Winding Resistance
 - unit tr
 - Turn Ratio
 - 01.01.2000
 - Winding Resistance
 - Rexie
 - Turn Ratio
 - 18.10.2012
 - Winding Resistance

Measurement: ---

Description

Detail

Date: 23.11.2012 Device: TR MARK III
 Time: 15:15:00 Serial: 304-121

Operator: Rolf Bachmann
 Humidity:
 Temperature:

WindingSystem

WS	WindingSystem	Material	WRRange
1	D	(Unbekannt) 180	
2	yn	(Unbekannt) 180	

Detail view

2: Dyn-5 10V

Setup | A 1U-1V:2N-2U | B 1V-1W:2N-2V | C 1W-1U:2N-2W |

Measurements Actual Turn Ratio % ITest Angle

Tap Changer			URated [kV]		Voltage Ratio			ITest [mA]	Angle [°]	Pass
Tap Prim	Tap Sec	Phase	U Prim	U Sec	Rated	Actual	Dev [%]			
+1	0	A	17	0.412	41.262	41.294	0.08	0.0	+0.01	✓
+1	0	B	17	0.412	41.262	41.304	0.10	0.0	+0.02	✓
+1	0	C	17	0.412	41.262	41.306	0.11	0.0	+0.02	✓
+2	0	A	16.5	0.412	40.048	40.074	0.06	0.0	+0.02	✓
+2	0	B	16.5	0.412	40.048	40.084	0.09	0.0	+0.02	✓
+2	0	C	16.5	0.412	40.048	40.086	0.09	0.0	+0.02	✓
+3	0	A	16	0.412	38.834	38.858	0.06	0.0	+0.02	✓
+3	0	B	16	0.412	38.834	38.864	0.07	0.0	+0.01	✓
+3	0	C	16	0.412	38.834	38.868	0.09	0.1	+0.02	✓

Remarks

Vectors

Transformer profile

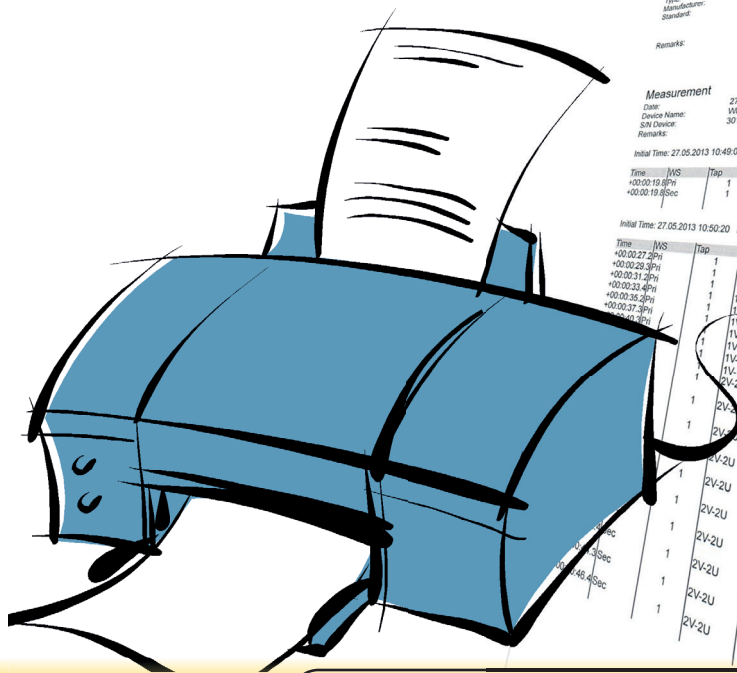
Dyn5

Name	nt 32.440
Type	nt 32.440
SN	21649/t2/2
Location	Bremgarten
Rating	
Manufacturer	secheron
Ref. Temp	25
Max. Res. Dev.	0.5%
Max. Ratio Dev.	0.5%
Standard	IEC
GPS Location	
GUID	796454577

Freitag, 23. November 2012
15:15:0

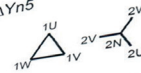


Display all the results in a clear and easy-to-read



Test Report

Configuration: ΔYn5



Transformer Nameplate
Size: 10.05.2013

Name: IEC
Type:
Manufacturer:
Standard:

Remarks:

Measurement

Date: 27.05.2013 10:49
Device Name: WRT14
SN Device: 301134
Remarks:

Initial Time: 27.05.2013 10:49:07 Mode: S

Time	[MS]	Tip	Capcion	Rrmas	Rcorr	T.1 [°C]	T.2 [°C]	T.3 [°C]	T Ext [°C]	ITest
+00:00:18.84s		1	1V-1U	0.0000 mC						25.0
+00:00:19.92s		1	2V-2U	-0.0560 mC						25.0

Initial Time: 27.05.2013 10:50:20 Mode: I

Time	[MS]	Tip	Capcion	Rrmas	Rcorr	T.1 [°C]	T.2 [°C]	T.3 [°C]	T Ext [°C]	ITes
+00:00:27.29s		1	1V-1U	0.0000 mC						25.0
+00:00:28.39s		1	1V-1U	0.0000 mC						25.0
+00:00:31.29s		1	1V-1U	0.0000 mC						25.0
+00:00:33.49s		1	1V-1U	0.0000 mC						25.0
+00:00:35.29s		1	1V-1U	0.0000 mC						25.0
+00:00:37.29s		1	1V-1U	0.0000 mC						25.0
+00:00:39.29s		1	1V-1U	0.0000 mC						25.0
+00:00:41.29s		1	1V-1U	0.0000 mC						25.0
+00:00:43.29s		1	1V-1U	0.0000 mC						25.0
+00:00:45.29s		1	2V-2U	-0.0515 mC						25.0
+00:00:47.29s		1	2V-2U	-0.0515 mC						25.0
+00:00:49.29s		1	2V-2U	-0.0515 mC						25.0
+00:00:51.29s		1	2V-2U	-0.0515 mC						25.0
+00:00:53.29s		1	2V-2U	-0.0515 mC						25.0
+00:00:55.29s		1	2V-2U	-0.0515 mC						25.0
+00:00:57.29s		1	2V-2U	-0.0515 mC						25.0
+00:00:59.29s		1	2V-2U	-0.0515 mC						25.0
+00:01:01.29s		1	2V-2U	-0.0515 mC						25.0
+00:01:03.29s		1	2V-2U	-0.0520 mC						25.0
+00:01:05.29s		1	2V-2U	-0.0515 mC						25.0
+00:01:07.29s		1	2V-2U	-0.0515 mC						25.0
+00:01:09.29s		1	2V-2U	-0.0515 mC						25.0
+00:01:11.29s		1	2V-2U	-0.0515 mC						25.0
+00:01:13.29s		1	2V-2U	-0.0515 mC						25.0



**Display the results and / or create a test report
with a single click**



raytech T-Base Professional - Version: 1.4.3.1561

DB Explorer: nt 32.440, Turn Ratio, Winding Resistance, abb, Turn Ratio, Winding Resistance, unit tr, Turn Ratio, Winding Resistance, Rexie, Turn Ratio, Winding Resistance, Templates

Messung: 11/23/2012 15:15:00 | TR Messungen: 9 | WR Messungen: 0

Description: Detail

Date: 23.11.2012, Device: TR MARK III, Serial: 304-121

Time: 15:15:00, Operator: Rolf Bachmann, Humidity: , Temperature:

Windings

WS	WindingSystem	Material	WRRRange
1	D	(Unbekannt) 180	
2	yn	(Unbekannt) 180	

Setup: | A 1U-1V:2N-2U | B 1V-1W:2N-2V | C 1W-1U:2N-2W |

Measurements: Actual, Turn Ratio %, ITest, Angle

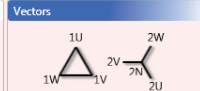
View: Type: Phase, Zoom [%]: 100, Filter: Filter disabled, Phase: All, Tap Prim: All, Tap Sec: All

Actual

Legend: Tap P: +1, Tap P: +2, Tap P: +3

Remarks

Freitag, 23. November 2012 15:15:00



Transformer profile

Dyn5

Name	nt 32.440
Type	nt 32.440
SN	21649/2/2
Location	Bremgarten
Rating	
Manufacturer	secheron
Ref. Temp	25
Max. Res. Dev.	0.5%
Max. Ratio Dev.	0.5%
Standard	IEC
GPS Location	
GUID	796454577



Show your results graphically for an easy interpretation of the condition of the test object



Raytech

Raytech T-Base Professional - Version: 1.48.1561

Hide TR measurements
 Hide WR measurements
 Data filter inactive
 In Select
 In Select
 From Select a date 15
 To Select a date 15

Transformer profile Data Import Device Data Export View Data filter Measurement filter parameter

DB Explorer

- nt 32.440
 - Turn Ratio
 - 23.11.2012
 - Winding Resistance
- abb
 - Turn Ratio
 - 26.11.2012
 - 26.11.2012
 - Winding Resistance
- unit tr
 - Turn Ratio
 - 01.01.2000
 - Winding Resistance
- Resie
 - Turn Ratio
 - Winding Resistance
 - 18.10.2012
 - Templates

Messung 11/23/2012 15:15:00 | TR Messungen: 9 | WR Messungen: 0

Description

Detail

Date: 23.11.2012 Device: TR MARK III
 Time: 15:15:00 Serial: 304-121
 Operator: Rolf Bachmann
 Humidity:
 Temperature:

Windings

WS	WindingSystem	Material	WRRange
1	D	(Unbekannt) 180	
2	yn	(Unbekannt) 180	

Detail view

2: Dyn-5 10V

Setup | A 1U-1V:2N-2U | B 1V-1W:2N-2V | C 1W-1U:2N-2W |

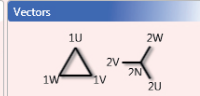
Measurements
 Actual
 Turn Ratio %
 ITest
 Angle

Tap Changer			URated [kV]		Turn Ratio						
Tap Prim	Tap Sec	Phase	U Prim	U Sec	Rated	Actual	Dev [%]	ITest [mA]	Angle [°]	Pass	
+1	0	A	17	0.412	71.470	71.525	0.08	0.0	+0.01	✓	
+1	0	B	17	0.412	71.470	71.540	0.10	0.0	+0.02	✓	
+1	0	C	17	0.412	71.470	71.545	0.11	0.0	+0.02	✓	
+2	0	A	16.5	0.412	69.365	69.410	0.06	0.0	+0.02	✓	
+2	0	B	16.5	0.412	69.365	69.425	0.09	0.0	+0.02	✓	
+2	0	C	16.5	0.412	69.365	69.430	0.09	0.0	+0.02	✓	
+3	0	A	16	0.412	67.265	67.305	0.06	0.0	+0.02	✓	
+3	0	B	16	0.412	67.265	67.315	0.07	0.0	+0.01	✓	
+3	0	C	16	0.412	67.265	67.320	0.09	0.1	+0.02	✓	

Remarks

Freitag, 23. November 2012 15:15:00

US8 Devices 3 | Ready



Transformer profile

Dyn5

Name	nt 32.440
Type	nt 32.440
SN	21649/t2/2
Location	Bremgarten
Rating	
Manufacturer	secheron
Ref. Temp	25
Max. Res. Dev.	0.5%
Max. Ratio Dev.	0.5%
Standard	IEC
GPS Location	
GUID	796454577



Compare it with results of the past, easily managed with filters



Raytech

Raytech T-Base Professional - Version: 1.43.1.561

Close Enable edit Export to USB-key Export Connection Sequence

View Data Device

Settings

Transformer profile

Name

Type

S/N

Location

Rating

Manufacturer

Ref Temp 25

Max. Res. Dev. 0.5

Max. Ratio Dev. 0.5

Standard IEC

GPS Location

Remarks

Save

Windings

Primary Secondary

Terminal Names

1

2

3

0/N

Default

Material

Cu (234,5 °C)

Al (225 °C)

User

Testing

WR ITest [A]

TR UTest

New Transformer Profile Wizard

Winding types

Drag the values to the black fields of the Transformer settings area

Δ Yn Y ya Z zn S Sa CT 3P

Transformer

Primary Secondary Tertiary

Yn Yn Vector ? Test Voltage 10V

Taps 14 Taps 10 Taps 1

WARNING: Taps count cannot be changed after the wizard was closed!

Additional informations

Name Test

Serial 123456

Location Bremgarter

Standard Australian

Cancel Reset Save as template Save

Launch Reference Wizard

Rnom [Q]

USB Devices: 3 | Ready



Create Transformer profiles which you can download to all Raytech instruments



Raytech

Raytech T-Base Professional - Version: 1.48.1561

Close Enable edit Export to USB-key Export Connection Sequence

View Data Device

Settings

Transformer profile

Name: nt 32.440
 Type: nt 32.440
 S/N: 21649/t2/2
 Location: Bremgarten
 Rating:
 Manufacturer: secheron
 Ref Temp: 25
 Max. Res. Dev.: 0.5
 Max. Ratio Dev.: 0.5
 Standard: IEC
 GPS Location:
 Remarks:

Windings

Primary Secondary

D

Terminal Names

1 1U
 2 1V
 3 1W
 0/N 1N
 Default: U V W N

Material

Cu (234,5 °C)
 Al (225 °C)
 User 180 °C

Testing

WR ITest [A]

Matrix

[-]
 1U 1V 1W 1N
 1U
 1V
 1W
 1N

[+]
 1U
 1V
 1W
 1N

Setup Taps

Pos.	Label
1	+1
2	+2
3	+3

a:1U-1V
 b:1V-1W
 b:1W-1V

Tap Reference Wizard

Labels

Label Generator Pattern: Unchanged
 Neutral Taps (Count): 0
 Reference Tap Pos.: 2

Nominal Values

Unom
 U Rated: 16500 V
 Step Value / Unit: 500 V / Tap
 Step Direction: Down (Pos. "1" highest)

Preview

Pos.	Label	Unom [V]	Inom [A]	Rnom [Ω]
1	+1	17000	0	0
2	+2	16500	0	0
3	+3	16000	0	0

Apply Cancel OK



Even Transformers with multiple Tap-Changers are simple to create with the "Tap Reference Wizard"



Raytech

Raytech T-Base Professional - Version: 1.43.11561

Remote IO

Hide TR measurements
Hide WR measurements

Data filter inactive

Data filter

Measurement filter parameter

DB Explorer

- nt 32.440
 - Turn Ratio
 - 23.11.2012
 - Winding Resistance
- abb
 - Turn Ratio
 - 26.11.2012
 - 26.11.2012
 - Winding Resistance
- unit tr
 - Turn Ratio
 - 01.01.2000
 - Winding Resistance
- Revie
 - Turn Ratio
 - Winding Resistance
 - 18.10.2012

Templates

Messung 11/26/2012 12:15:08 | TR MARK III Measurement 0

Description

Detail

Date: 26.11.2012
Time: 12:15:08
Operator: thomas schweizer
Humidity:
Temperature:

Edit

Detail view

2: Dyn-5 40V

Measurements Actual

View

Type Phase Zoom

Deviation (%)

1.0
0.5
0.0
-0.5
-1.0

A B C

Remarks

Data Export

Connection, Status: Connection OK

Enter service code 2001 in the settings of the device in order to activate native Raytech USB driver.

Connection Type USB Device TR-MARK III, 304-121

Transformer profiles

Search

- nt 32.440
- abb
- unit tr

Revie

Export Close

Vectors

Transformer profile

Dyn5

Name	abb
Type	5 schenkel
SN	1
Location	bad honoff
Rating	
Manufacturer	abb
Ref. Temp	25
Max. Res. Dev.	0.5%
Max. Ratio Dev.	0.5%
Standard	ANSI
GPS Location	
GUID	729839881

Montag, 26. November 2012 12:15:8

USB Devices: 3 | Ready



Just select and download the created Profiles to any Raytech instrument

Raytech T-Base Professional - Version: 14.3.1561

Data Reporting Remote IO nt 32,440 Diagnostic

Close Connection Driver: TR-MARK II, Type: Serial, Port: COM2, Device Manager, IO Data, System

Informationen

Software Info

Name: TR-MARK II
 Date: 08.05.2013
 Version: 1.1.0
 Manufacturer: Raytech GmbH
 Usb: Yes
 Serial: No
 Remarks: Raytech TR-Mark 2 T-Base controll application

USB Driver Info

Firmware Info

Function Test

Get Configuration
 Get Help

Commands

Description	Command	
SET_LOCAL	SL	Send
SET_LOCAL_TRAFO_SETUP	SLR	Send
SET_LOCAL_WARMBOOT	SLX	Send
SET_REMOTE	RM	Send
SET_TRAFO	STT	Send
SET_STANDARD	SETSTD	Send
SET_TRAFO_YnYn	STT Yn.Yn.?A	Send

Terminal

Befehl [] Senden

```

15:55:57> Diagnostic Plug ver. 1.0.1.1148 (Alpha Preview) Loaded
15:56:03> - Opening USB device PID1447 VID5840
15:56:03> - Connecting with USB
15:56:03> - USB connection ok
15:56:03> - SEND USB COMMAND: STOP
15:56:03> - USB DATA RECEIVED: *0 ok
15:56:03> - SEND USB COMMAND: STOP
15:56:03> - USB DATA RECEIVED: *0 ok
15:56:03> - SEND USB COMMAND: RM
15:56:03> - USB DATA RECEIVED: *0 ok
15:56:03> - SEND USB COMMAND: GV 2
15:56:03> - USB DATA RECEIVED: TRMK3R.3.0112.304121.True
15:56:03> TRMK3R 304121: SEND USB COMMAND: GETLICENSE
15:56:03> TRMK3R 304121: USB DATA RECEIVED: 0:Firmware:Full,1:Remote Toolbox:Full
15:56:03> TRMK3R 304121: SEND USB COMMAND: xparaget Opt250V
15:56:03> TRMK3R 304121: USB DATA RECEIVED: False
15:56:05> TRMK3R 304121: SEND USB COMMAND: ?SETSTD
15:56:05> TRMK3R 304121: USB DATA RECEIVED: IEC
15:56:05> TRMK3R 304121: SEND USB COMMAND: ?TT
15:56:05> TRMK3R 304121: USB DATA RECEIVED: ?TT.Yn.Yn.0,10,1,0,1,0
15:56:05> TRMK3R 304121: SEND USB COMMAND: SETSTD IEC
15:56:05> TRMK3R 304121: USB DATA RECEIVED: *0 ok
15:56:05> TRMK3R 304121: SEND USB COMMAND: STT Dsyn-5,10,1,0,1,0
15:56:07> TRMK3R 304121: USB DATA RECEIVED: *0 ok
15:56:07> TRMK3R 304121: SEND USB COMMAND: ?SETSTD
15:56:07> TRMK3R 304121: USB DATA RECEIVED: IEC
15:56:07> TRMK3R 304121: SEND USB COMMAND: ?TT
15:56:07> TRMK3R 304121: USB DATA RECEIVED: ?TT,0,Yn,5,10,1,0,1,0
15:56:07> TRMK3R 304121: SEND USB COMMAND: RM
15:56:07> TRMK3R 304121: USB DATA RECEIVED: *0 ok
15:56:07> TRMK3R 304121: SEND USB COMMAND: MF 1
15:56:07> TRMK3R 304121: USB DATA RECEIVED: *6 Wait
  
```



An integrated powerful Diagnostic tool helps to monitor communication and can assist a software developer



Raytech

Raytech T-Base Professional - Version: 14.3.1561

nt 32.440

Application logs

Id	Date	Message
410	10/23/2013 3:42:32 P	Data import report: 1 Trafo-Profiles imported, 0 skipped. 1 Trafo-Checks imported, 0 skipped. 0 TR Measurements imported, 0 error. 0 WR Measurements imported, 0 error. Import time 00:00:00.2071787
409	10/23/2013 3:41:57 P	Data import report: 1 Trafo-Profiles imported, 0 skipped. 1 Trafo-Checks imported, 0 skipped. 6 TR Measurements imported, 0 error. 0 WR Measurements imported, 0 error. Import time 00:00:00.2656025
408	10/23/2013 3:41:44 P	Data import report: 1 Trafo-Profiles imported, 0 skipped. 2 Trafo-Checks imported, 0 skipped. 6 TR Measurements imported, 0 error. 0 WR Measurements imported, 0 error. Import time 00:00:00.2360810
407	10/23/2013 3:41:31 P	Data import report: 1 Trafo-Profiles imported, 0 skipped. 1 Trafo-Checks imported, 0 skipped. 9 TR Measurements imported, 0 error. 0 WR Measurements imported, 0 error. Import time 00:00:00.3936185
406	10/23/2013 3:23:22 P	Die nicht-statische Methode erfordert ein Ziel.

Selection detail

Date:
Mittwoch, 23. Oktober 2013

Message
Data import report:
1 Trafo-Profiles imported, 0 skipped.
1 Trafo-Checks imported, 0 skipped.
0 TR Measurements imported, 0 error.
0 WR Measurements imported, 0 error.
Import time 00:00:00.2071787

USB Devices: 3 | Ready



See the Log of all actions showing green if successful or red in case of error.
You can send your Log directly to Raytech for further investigation and support.



Raytech



Get this powerful T-Base Pro free of charge
at

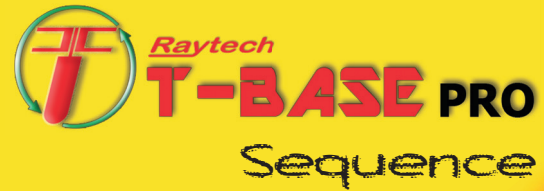
www.raytech.ch



Raytech

The logo features a stylized red 'T' with a green circular arrow around it, followed by the word 'Raytech' in red and 'T-BASE PRO' in large red letters, with 'Remote' in black below.

Raytech
T-BASE PRO
Remote

The logo features a stylized red 'T' with a green circular arrow around it, followed by the word 'Raytech' in red and 'T-BASE PRO' in large red letters, with 'Sequence' in black below.

Raytech
T-BASE PRO
Sequence

Extend T-Base Pro with this powerful tool to remote control Raytech instruments. Do all the work while sitting at your desk.

+

T-Base Pro Sequence – the powerful tool for a completely automated test sequence. Do all the work while sitting at dinner!



Raytech



Switzerland

Raytech GmbH
Oberebenenstrasse 11
CH-5620 Bremgarten

Phone +41 56 648 60 10
Fax +41 56 648 60 11

welcome@raytech.ch
www.raytech.ch

USA

Raytech USA
118 . 2nd Street
USA-Perkasie, PA 18944

Phone +1 267 404 26 76
+1 888-484-3779
Fax +1 267 404 2685

service@raytechusa.com
sales@raytechusa.com

www.raytechusa.com

