840

DEMO_ZVEH_OldInst_single.padfx* - Metrel ES Manager Debug

Reports | Tools | Setting
Create | Manage | Template Editor | Auto test Editor | Work scope

ShowAll

Properties

Object1

Function Path		
Root/Object1/Distribution Board1/Circuit1/Connection1/R low		Pass
Results		
R	1,58 Ω	Pass
SubResults		
R+	1,68 Ω	
R-	1,39 Ω	
Rcal (LN)		
Rcal (LPE)		
Rcal (NPE)		
Limits		
Limit (R)	2 Ohm	
Parameters		
DateTime	25.7.2014 13:57	
Output	NPE	
Bonding	Rpe	

Data		
Client	Client_1,Nam...	
Location	Organiz_Loc1...	
Responsible pe	Metrel,Janez	
Dates		
Erection date	24.12.2014	
Modification da	19.12.2014	
Modification da	20.12.2014	
General		
Name (designa	Object1	
Description (of		
Location (of ob		

Root/Object1/Distribution Board1/Circuit1/Connection1/R low	Pass
Root/Object1/Distribution Board1/Circuit1/Connection1/Rpe	Pass
Root/Object1/Distribution Board1/Circuit1/Connection1/R iso	Pass
Root/Object1/Distribution Board1/Circuit1/Connection1/Z loop	Nothing
Root/Object1/Distribution Board1/Circuit1/Connection1/R low	Pass
Root/Object1/Distribution Board1/Circuit1/Connection2/AUTO TN	Fail
Root/Object1/Distribution Board1/Circuit1/Connection2/AUTO TT	Nothing
Root/Object1/Distribution Board1/Circuit1/Connection2/AUTO IT	Fail
Root/Object1/Distribution Board1/Circuit1/Connection2/AUTO IT	Fail
Root/Object1/Distribution Board1/Circuit1/R low	Pass
Root/Object1/Distribution Board1/Circuit1/Rpe	Nothing

PC Software Metrel Ion SDK and Black-Box protocol

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METREL®

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Metrel Ion SDK and Black-Box protocol

SDK AND BLACK-BOX PROTOCOL

The advanced communication protocol SDK is an interface for data communication with Metrel new generation test instruments and can be used to conveniently download and upload projects and Auto Sequence®s.

The SDK itself is a set of subroutine definitions, protocols, and tools for building application software. It is intended for those who want to develop software using .NET platform and need to interface with Metrel instruments.

The Metrel Instrument Communication SDK bundles client libraries for accessing Metrel instruments and provides a unified programming interface using C# programming language.

The SDK includes a set of API calls which makes communication with Metrel instruments simple for the user. It provides a way to manipulate data from instruments using a generic data model and makes available a set of rules for extracting and viewing data.

SDK CAPABILITIES

- SDK enables access to all measurements on all new generations of Metrel instruments in case the whole database is coupled with the Ion SDK.
- It is possible to get access to only a subset of Metrel instruments. In this case the SDK is compiled with a database subset. The SDK compiled in such a way will be able to recognize only the measurements of supported instruments.
- If required, Metrel may decide to add new instruments. In this case the customer would obtain a new version of the SDK with added instruments and measurements in the SDK database.

The Metrel SDK communication capabilities.
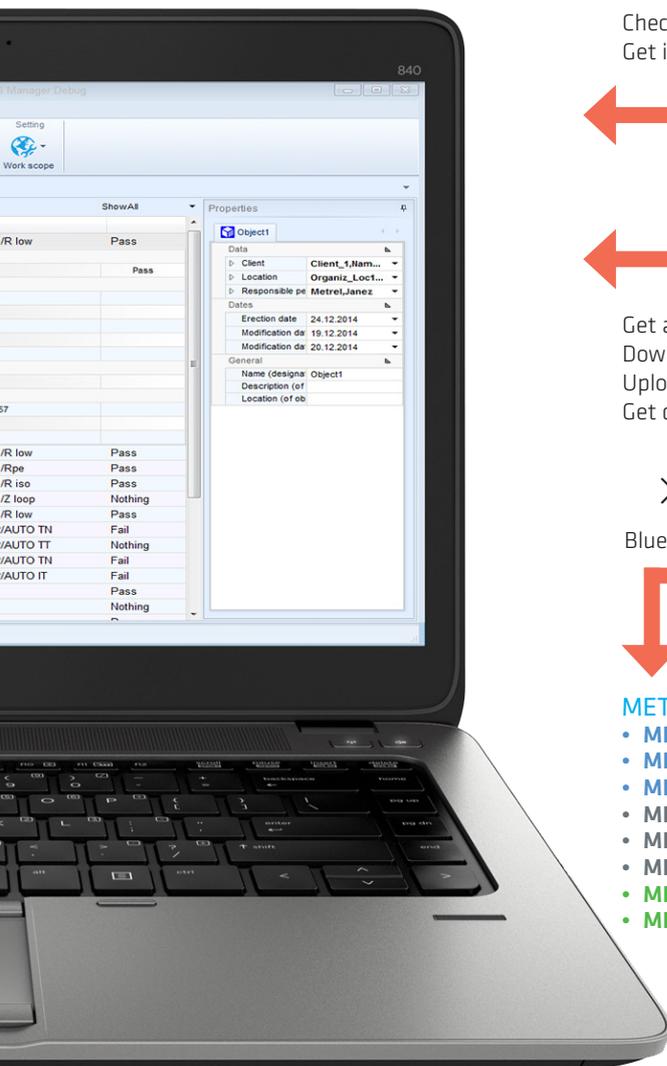
Check if instrument is present
Get instrument info

Get a list of projects
Download project
Upload project
Get data display rules

Bluetooth   USB   Ethernet

METREL INSTRUMENTS:
- **MI 3155** EurotestXD
- **MI 3152** EurotestXC
- **MI 3152H** EurotestXC 2,5kV
- **MI 3394** CE MultiTesterXA
- **MI 3325** MultiServicerXD
- **MI 3360** OmegaPAT XA
- **MI 3290** Earth Analyser
- **MI 3280** Digital Transformer Analyser

BLACK-BOX PROTOCOL

ION SDK

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SDK SUPPORTED FUNCTIONALITIES

The SDK supports the following functionalities:
- Get basic instrument information.
- Upload of a newly created workspace on an instrument.
- Measurement upload/download based on the SDK included database.
- Auto Sequence® upload/download based on the SDK included database.
- Black-Box protocol for online communication with portable appliance testers. [2]
- Structure object creation.
- Empty measurement creation.
- Export to XML.
- Licence upgrade.
- The SDK recognises: the licence, the profile and the workspace.
- SDK comes together with a mini demo GUI and DataDisplay Framework Visualizer which also supports exporting data to XML.
- The export to XML function also exports the XML scheme, which the programmer may use for creating POCO (Plain Old Common language runtime Object) objects in various programming languages.
- The Metrel Electrical Safety Manager (MESM) uses the SDK for communication with Metrel instruments.
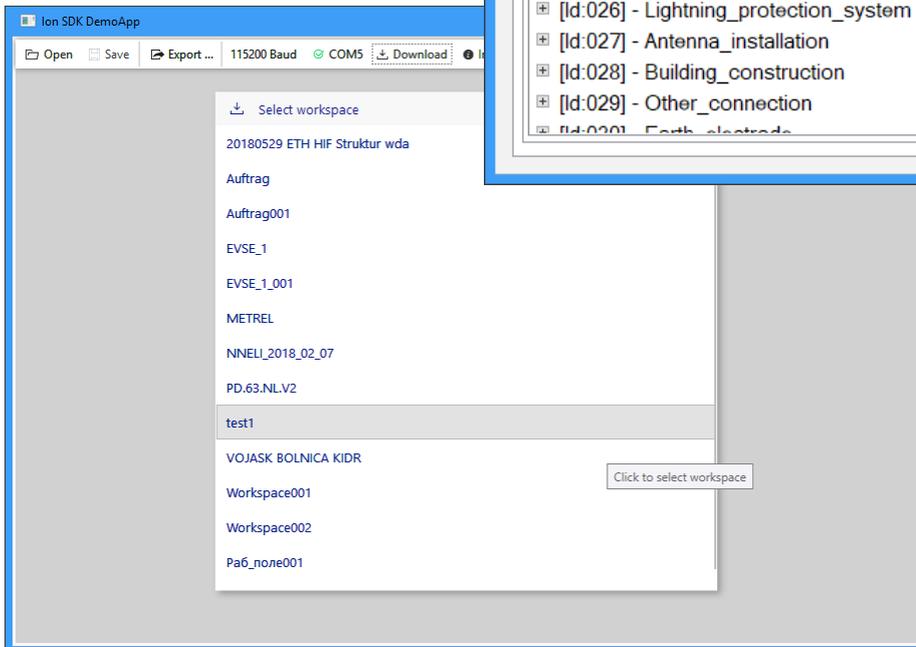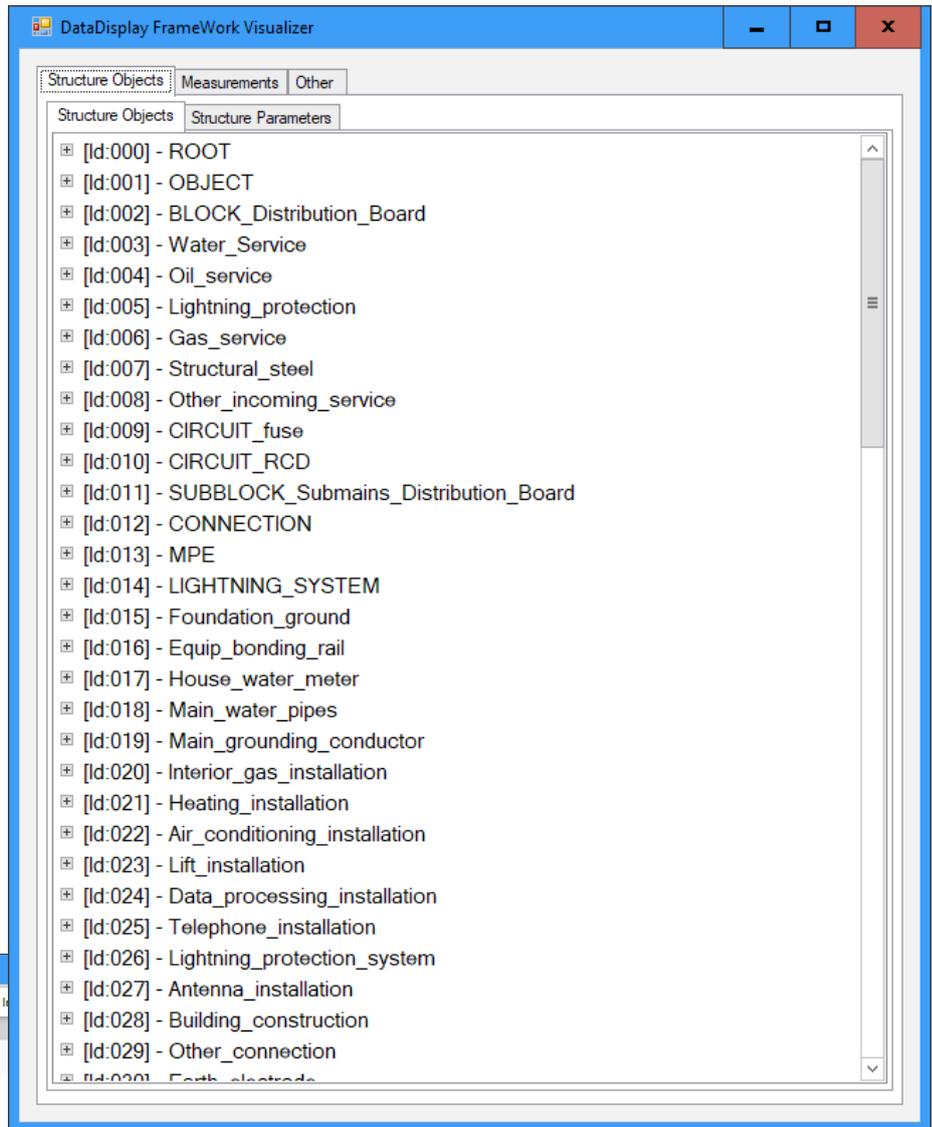
The Metrel SDK mini demo GUI and Data Visualizer. [1]

[1] *Please note that this is only a Demo Application used strictly for demo purposes. The DemoApp is not a SDK application. Pictures may differ from the actual Metrel SDK DemoApp and are subject to change without prior notice.*
[2] *Later all Metrel instruments will also have the Black-Box Protocol support.*

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THE BLACK-BOX PROTOCOL

SDK enables easier handling of Metrel's communication protocol called the Black-Box protocol (BB protocol). The BB protocol may be enabled or disabled via the Metrel SDK library. With it a two-way communication intended for controlling an instrument as a Black-Box is enabled. The BB protocol is a system of rules that allows a PC as a master to start communication by sending the request command to the instrument, which answers according to the protocol. This enables hands free operation as the control over the tester is delegated to an automatized system. The BB protocol solution is primarily suitable for automatized production line testing, but has found its use in other applications such as portable appliance testing and in some rare cases also in electrical installation safety testing.

For presentation purposes Metrel has developed a PC SW application called Black-Box Demo, which allows remote control over the tester via different communication ports (Ethernet, RS232, USB or Bluetooth).

The Black-Box demo enables the user to start an Auto Sequence® from the tester remotely and it enables an automatic print out of the test report after the Auto Sequence® is completed. The Black-Box protocol is also designed to be used with other PC SW engineering tools such as Visual Basic, C++ and LabView, which, with some effort, can be used to perform remote communications between your computer and test instrument, as well as gather and store data for later analysis. However, if you simply wish to manually enter one command at a time through a communication port (Ethernet, RS232, USB or Bluetooth), a communications package, such as HyperTerminal, can be very useful.

Although the Black-box protocol may be used independently of the Metrel SDK we strongly advise to use it through the Metrel SDK. Using the Metrel SDK will shorten the development time and decrease the development effort.

POSSIBLE BUSINESS MODELS

Metrel proposes three types of business models. For each business model the way support is handled differs. The models are:
• Enterprise SDK business model.
• Professional SDK business model.
• Basic SDK business model.

Before deciding which business model to use/offer we have to know the following:
• What is the intended number of instruments that will be supported with the SDK?
• Is there any intention of reselling Metrel instruments or is the client already part of the Metrel distribution network?
• Is it expected the integration of the SDK into third party SW would help increase the number of sold units?
• Are there any other ways our business partners see that the SDK solution could help Metrel penetrate their market?
• What are the expected impacts on market penetration in the short run vs. the long run?

ENTERPRISE SDK BUSINESS MODEL

Expected company profile:
SDK is used by a company which produces its own SW as a product/solution for others to buy. Optionally such a company may also sell the Metrel products. Such companies are typically larger companies and may also operate on the international market.

SDK solution:
The SW solution communicates directly with Metrel measuring equipment and need full SDK functionality.

Requirements:
• A signed non-disclosure agreement (NDA) between Metrel and the company which would like to have the Metrel Ion SDK as part of its solution. After the signing of a NDA the company is eligible to get all needed data and documentation. The NDA should specify which Metrel instruments are to be supported.
• It is expected that every such company would also require some development investment from Metrel. Metrel and the company would both invest their time into developing a common solution. Metrel does not in any way cover the costs of integration of Metrel's SDK into the SW of the company.
• For a company to be eligible for such a business model, it is expected that the minimum order quantity (MOQ) per year is 50 pieces and the total number of SDK supported devices sold are at least 200 pieces.
• A signed service contract between Metrel and the company.
• The SDK licence is bound to an instrument profile and serial number in the same way as any other Metrel's licences are.
• The SDK licence is inserted into the instruments in Metrel factory or may be bought later at the Metrel local distributer for a fee as an additional profile and/or licence to be added to the instrument by the end user or the company. The SDK is licensed in the same way as the Metrel MESM PC SW and Metrel aMESM Android App.

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PROFESSIONAL SDK BUSINESS MODEL

Expected company profile:
SDK is used by a company which uses Metrel equipment as its primary testing equipment. Such companies are often larger companies with their own IT support which enables them to integrate the Metrel SDK solution into their systems/platforms. Such companies may also operate on the international market.

SDK solution:
Companies that fall into this category usually use their own or specially purchased SW to perform their post processing. In such cases full featured functionality of the SDK is not anticipated. Typical functionalities used would normally be download of measured data and/or export to XML format. To automate the post-processing phase it will be possible in future to use a console application supported by the SDK with command line interface (CLI).

Requirements:
- A signed non-disclosure agreement (NDA) between Metrel and the company which would like to have the Metrel Ion SDK as part of its solution. After the signing of a NDA the company is eligible to get all needed data and documentation based on which the company can then adjust their SW. The NDA should specify which Metrel instruments are to be supported.
- Development costs reside 100% on the side of the company. Metrel does not in any way provide any additional SDK integration support.
- For a company to be eligible for such a business model, it is expected that the total minimum order quantity (MOQ) is 50. No yearly consumption is required.
- Metrel is obliged to inform the company of any changes in the SDK that would require additional development on the side of the company. Such information will arrive in advance as much as possible.
- The SDK is licensed in the same way as Metrel MESM PC SW and Metrel aMESM Android App.
- The SDK licence is bound to a standard Metrel profile and serial number in the same way as any other Metrel licences are.
- The SDK licence is normally bought separately. Exceptionally it may be inserted into a standard Metrel instrument with a standard Metrel profile at the time of production. This applies only in case of larger orders.
- If only export to XML is needed, the user then needs to obtain only the MESM PRO license.

BASIC SDK BUSINESS MODEL

Expected company profile:
SDK is used by a smaller company. Such companies typically do not their IT support or is limited to one employee. They still wish to have the capability of developing their own SW which integrates with Metrel devices.

This business model is the same as the professional SDK business model with the exception that the company get an off-the-shelf SDK and does not have to buy minimum order quantity of instruments.

SDK solution:
Companies which fall into this business model simply obtain a Metrel SDK and integrate it into their own system without any support from Metrel. The user then has to buy an appropriate SDK license.

Requirements:
- A signed non-disclosure agreement (NDA) between Metrel and the company which would like to have the Metrel Ion SDK as a part of its solution. After the signing of a NDA the company is eligible to get all needed data and documentation with which the company can then prepare their own SW solution.
- The company gets an off-the-shelf SDK.
- Development costs reside 100% on the side of the company. Metrel does not in any way provide any SDK integration support.
- Metrel is obliged to inform the company of any changes in the SDK that would require additional development on the side of the company. Such information will arrive in advance as much as possible.
- The SDK is licensed in the same way as Metrel MESM PC SW and Metrel aMESM Android App.
- The SDK licence is bound to a standard Metrel profile and serial number in the same way as any other Metrel licences are.
- The SDK licence is normally bought separately. Exceptionally it may be inserted into a standard Metrel instrument with a standard Metrel profile at the time of production. This only applies in case of larger orders.
- If only export to XML is needed, the user then needs to obtain only the MESM PRO license.

SDK DISTRIBUTION

Please contact your local distributor or contact person at Metrel for detailed distribution information.
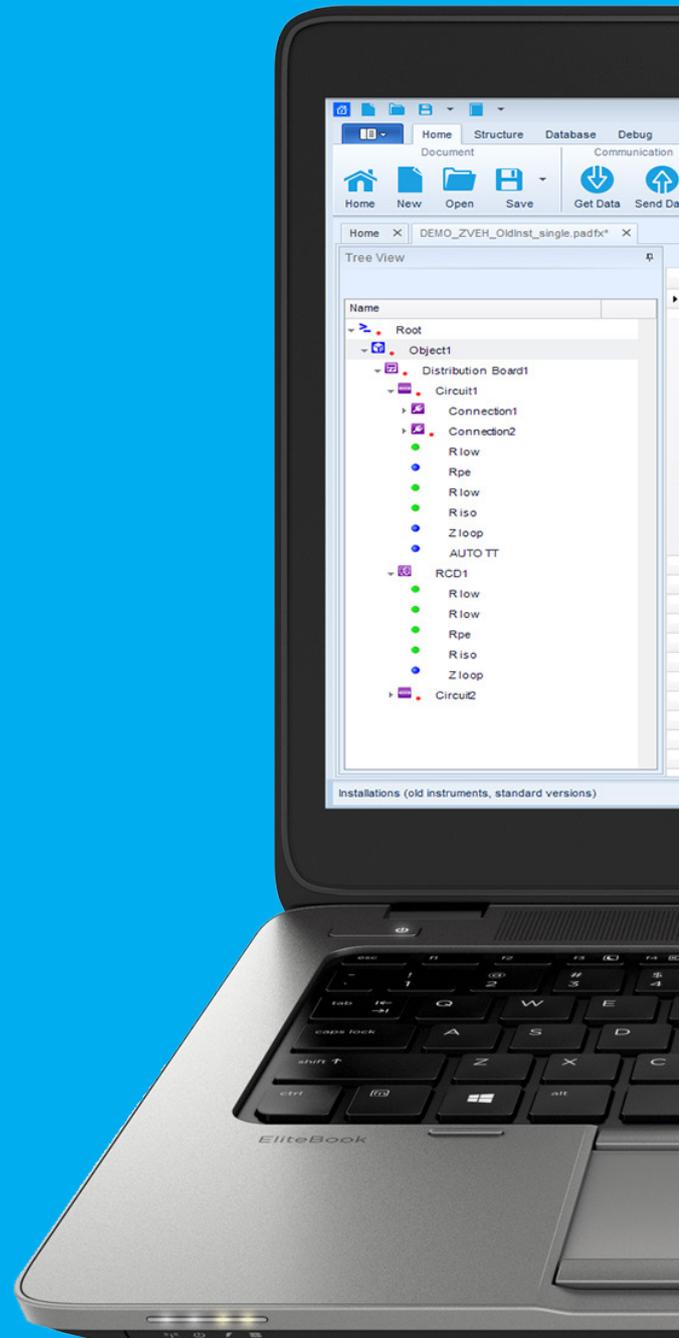
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