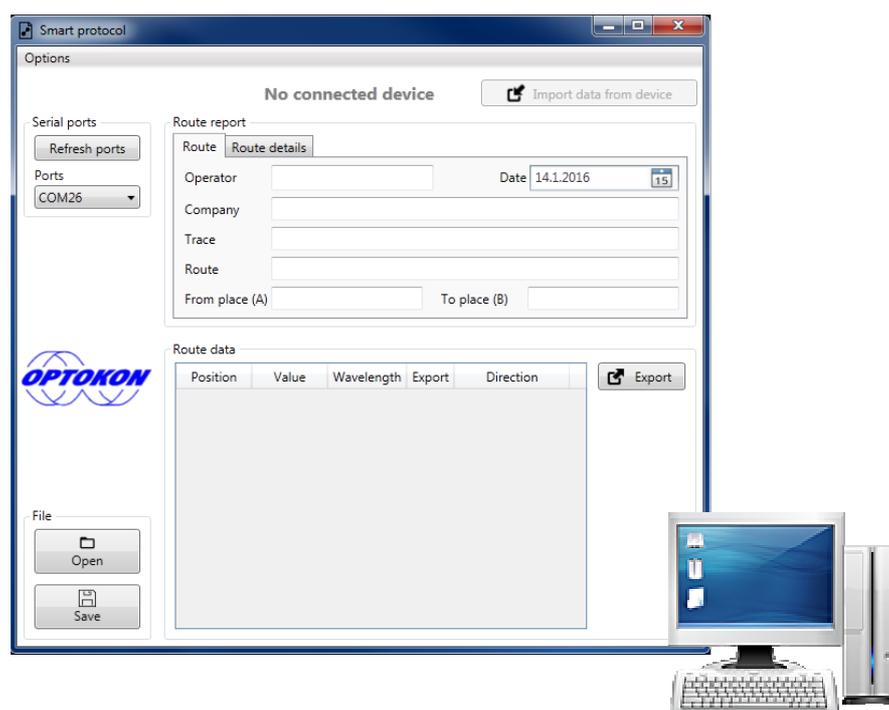


# SmartProtocol 3.0 PC Software

## *INSTRUCTION MANUAL*



Revision 1.0



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## **OPTOKON, a.s.**

Cerveny Kriz 250  
586 01 Jihlava  
Czech Republic

tel. +420 564 040 111  
fax +420 564 040 134

[WWW.OPTOKON.COM](http://WWW.OPTOKON.COM)  
FTTH.OPTOKON.COM

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# 1 Introduction

SmartProtocol software is a flexible solution for data capture, analysis and reporting of fiber optic loss.

It is optimized for the following OPTOKON test instruments: PM-212, PM-800, OFT-820, PM-830, PM-215.

## Features

- One-sided or two-sided measurement.
- Data recording from internal instrument or TXT file memory.
- Creation of test protocols from recorded data.
- Recording instrument serial numbers.
- Reports can be imported or saved in TXT format for compatibility with other applications (Word, Excel).
- Pass / Fail assessment.
- High productivity.
- Easy language or report customisation.
- Detailed heading.
- Simple operating and editing of protocols.

## Application

- Optical network measurements
- Creation of test protocols
- Downloading data from the power meter

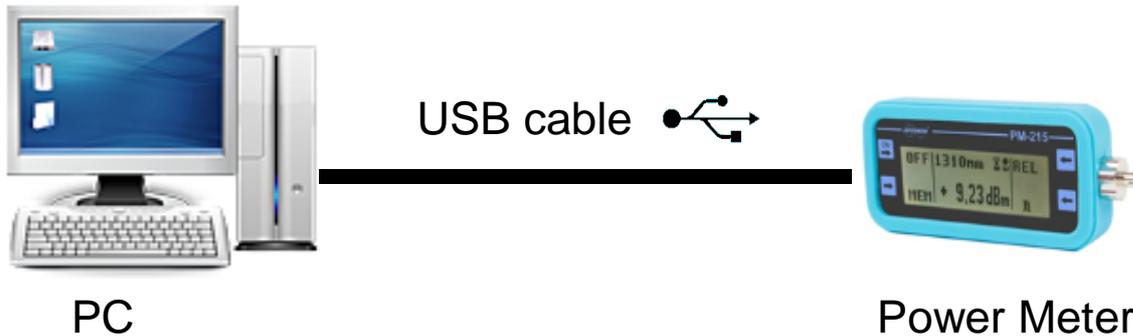
## Accessories

- CD with SmartProtocol PC Software

## 2 Preparing the connection

Smart protocol is compatible with this operating system: Window 7, Window 8, Windows 8.1 and Window 10.

1. Connect the instrument to a PC using USB cable and switch the instrument ON.



2. After connection your operating system start identify your device and assign him COM port (more info in Figure 1). It is recommended to verify recognition of devices after completing connections.
3. Click on Control panel -> System -> Device manager.

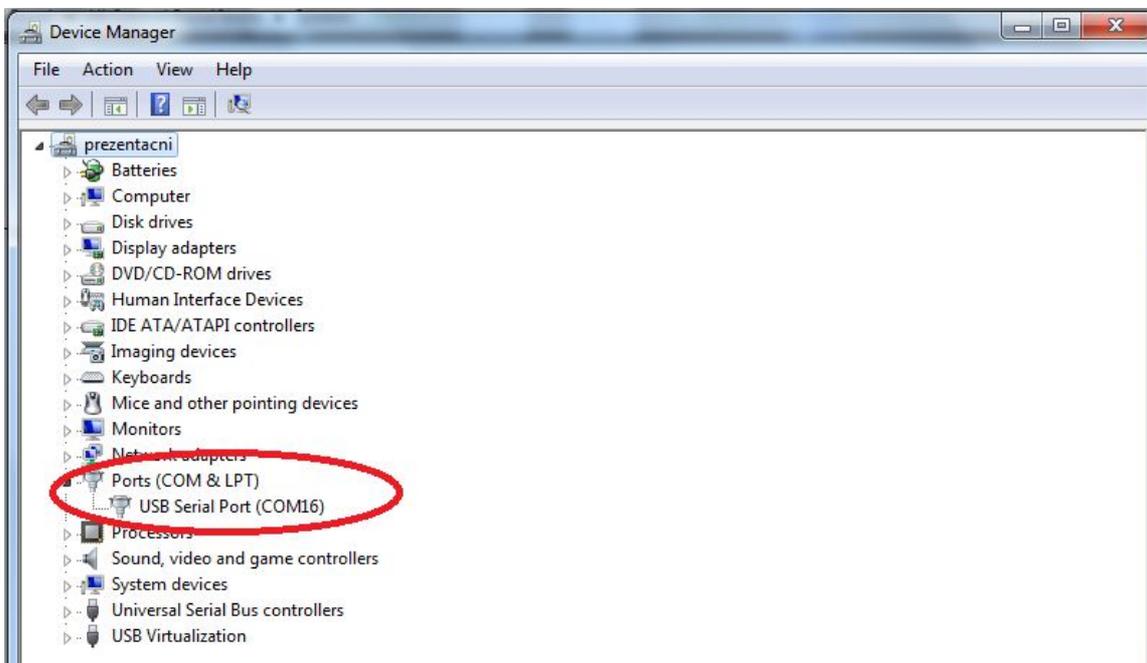


Figure 1: Device manager

- Smart protocol 3.0 doesn't need installation, only copy Zip file from your CD or from downloaded files to your directory, where you want to have saved your Smart protocol.

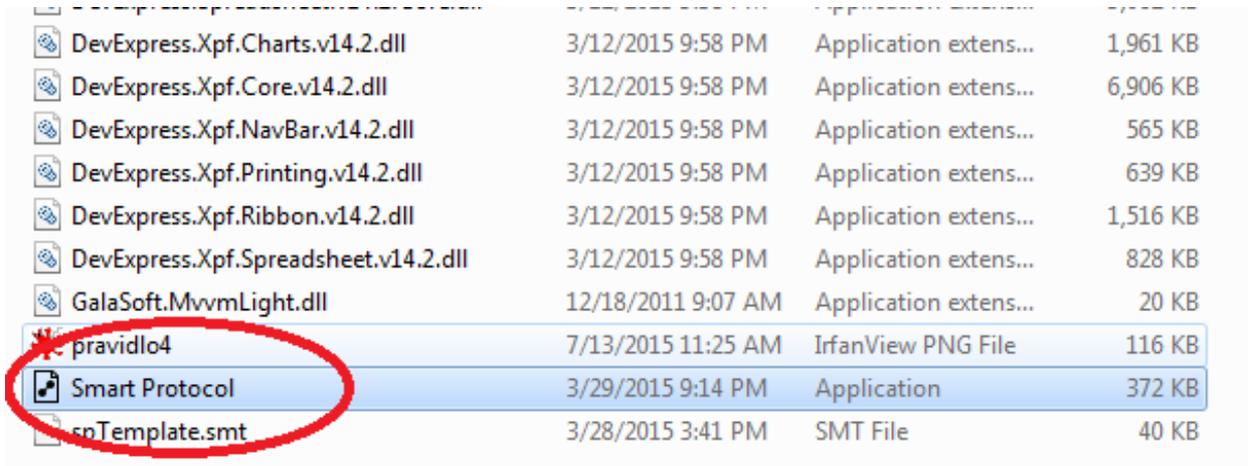


Figure 2: Folder of Smart protocol

### 3 Starting SmartProtocol

Smart protocol is available on the enclosed CD or on our website: <http://optokon.com/testers-manuals>

#### 3.1 Starting SmartProtocol – Main screen

- Copy Zip file to your PC and extract Zip file.
- Smart protocol 3.0 doesn't need installation, open exe file "Smart Protocol 3.0" like administrator. The screen Figure 3 will appear after the software starts up.

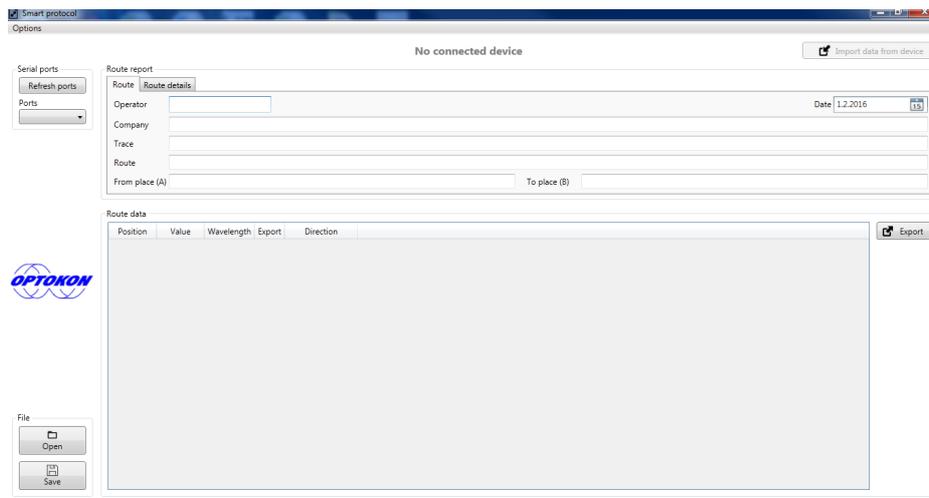


Figure 3: Smart protocol Interface

### 3.2 Setting the serial port

Press "Refresh ports " if device is not loaded automatically choose right com port in section Serial ports. (Devices must be power on!!).

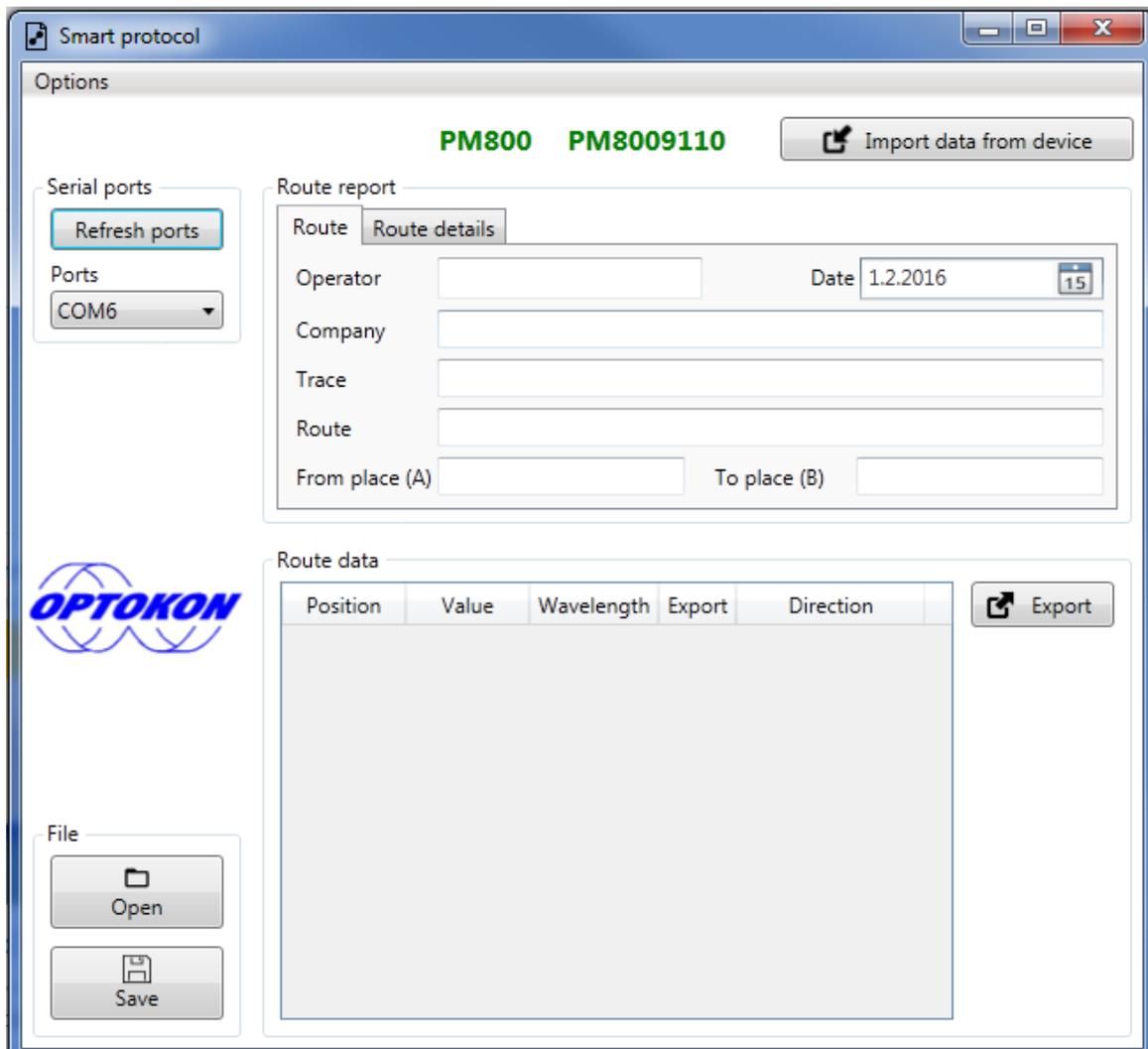


Figure 4: Smart protocol and connected PM800

### 3.3 Setting the Language

Options→ Language → and set the required language (Figure 5).For other languages please contact the OPTOKON service center.

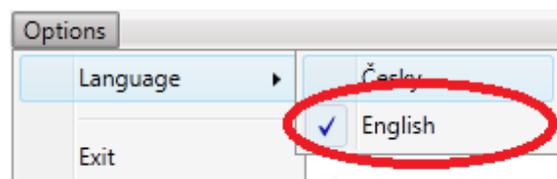


Figure 5: Set Language

### 3.4 Recording data

#### a) Recording data from Power Meter

Click on button "Import data from device" on the top menu. Power meter will show progress of upload on display.

If Data was successfully transferred from the instrument, section "Route data" show measurement from PM (Figure 6).

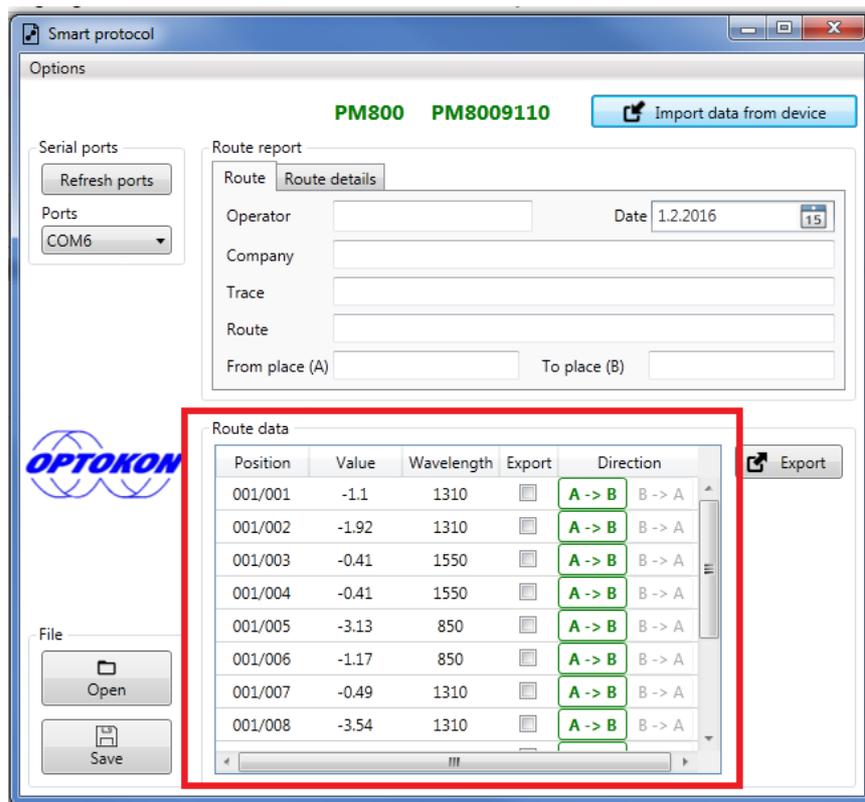


Figure 6: Importing data from Power meter

#### b) Recording data from Backup

Click on button "Open". After pressing "Open", the following screen will appear.

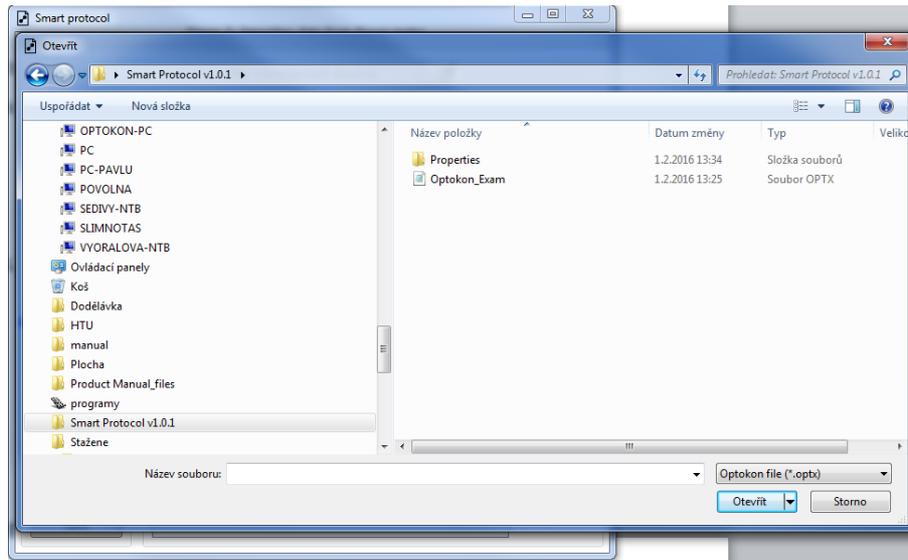


Figure 7: Select and open the appropriate OPTX file.

### 3.5 Selecting and exporting data.

There are two formats for Export data: XLS (Excel document- measurement values without information about traces) or complete measurement protocol with additional information (name of traces, operator etc.) with format PDF.

#### a) XLS file

In section "Route data" select data for export and direction of measuring. (Click on check box "Export" for select measurement Figure 8) Click on "Export", "Export route data (XLS)" and save file.

Route data

Position	Value	Wavelength	Export	Direction
001/001	-1.1	1310	<input checked="" type="checkbox"/>	A -> B B -> A
001/002	-1.92	1310	<input type="checkbox"/>	A -> B B -> A

Figure 8: Selecting data

For opening use SW that supports XLS format (for example: Microsoft Office or Open Office). Data are stored in this sequence:

Position (Cable / Fiber)	Wavelength	Result	Direction
001/001	1310	-1,1	A->B
001/002	1310	-1,92	A->B
001/007	1310	-0,49	A->B
001/008	1310	-3,54	A->B
001/009	1310	-3,54	A->B
001/010	1310	-3,54	A->B
001/011	1310	-3,54	A->B
001/012	1310	-0,68	A->B
001/013	1310	-0,82	A->B

The recorded data is displayed in the table with the positions corresponding to the positions in the power meter's internal memory.

The power meter's memory has a structured, two-level organization. The results are stored in the CABLE/FIBER memory positions.

The first digit of the position means CABLE folder and the second digit means FIBER (see the power meter manual). It is automatically recognized at which wavelength the measurement was taken.

It is important for the operator to consider the memory positions in particular where measured data will be stored before measurement.

#### b) PDF protocol

Operator must fill up basic information for generation of pdf protocol in section "route" , "route details" (Figure 9 ) and select data for protocol (click on check box "export" for select measurement Figure 8).

Route report

Route **Route details**

Operator: Martin Krupička      Date: 1.2.2016

Company: Optokon

Trace: Company Network

Route: Section 1

From place (A): Technical room      To place (B): Calibration laboratory

Figure 9: Basic information

Use Button "Export" → "Create Smart Protocol (pdf)" for creating Smart protocol and save the file. The following screen will appear Created Smart Protocol (Figured 10).

**Example of protocol:**

Date: 1.2.2016  
 Operator: Martin Krupička  
 Company: Optokon

OPTOKON a.s.  
 E-mail: [OPTOKON@OPTOKON.CZ](mailto:OPTOKON@OPTOKON.CZ)  
 WWW: <http://WWW.OPTOKON.CZ>

**Loss Testing Report**

Trace:	Company Network		
Route:	Section 1		
End A:	Technical room	End B:	Calibration laboratory
Power Meter:	PM800 PM8009110	Fiber Length:	200 m
No. of Splices:	0	Splice Loss:	0 dB
No. of Connectors:	2	Connector Loss:	0,2 dB
No. of Passive Devices:	0	Passive Device:	0 dB

**Table of Measured Values**

Fiber	Loss [dB] 1310 nm		
	A -> B [dB]	B -> A [dB]	Avg.
1	-1,1		-1,1
2	-1,92		-1,92
3	-0,49		-0,49
4	-3,54		-3,54
5	-3,54		-3,54
6	-3,54		-3,54
7	-3,54		-3,54
8	-0,68		-0,68
9	-0,82		-0,82
Avg.	-2,13		-2,13
Max.	-0,49		-0,49
Min.	-3,54		-3,54

Figure 10: created Protocol

## 4 List of supported devices for Smart protocol 3.0

### **PM-212-MPO:**

FW version:  
PM212 MPO S/W:4.1 and higher

### **PM-212-Si3:**

FW version:  
PM212 Si3 S/W:3.3 and higher

### **PM-212-Si:**

FW version:  
PM212 Si S/W:3.3 and higher

### **PM-212:**

FW version:  
PM212 S/W:3.3 and higher

### **PM-215:**

FW version:  
PM215 S/W:1.1 and higher

### **PM-800:**

FW version:  
PM-800 S/W:3.1 and higher

### **OFT-820:**

FW version:  
OFT-820 S/W:3.1 and higher

In case older version, you can use Smart protocol 2.1 or upgrade your FW PM. For upgrade, please contact the OPTOKON service center.

## 5 Calibration, service center

OPTOKON, a.s.  
Červený Kříž 250  
586 01 Jihlava  
Czech Republic  
tel.: +420 564 040 111  
fax: +420 564 040 134  
OPTOKON@OPTOKON.COM  
[WWW.OPTOKON.COM](http://WWW.OPTOKON.COM)  
FTTH.OPTOKON.COM

