

SmartProtocol 3.0 **PC Software**

INSTRUCTION MANUAL

Smart protocol	
Options	
	No connected device
Serial ports	Route report
Refresh ports	Route details
Ports	Operator Date 1412016
COM26 -	
	Company
	Trace
	Route
	From place (A) To place (B)
OPTOKON	Route data Position Value Wavelength Export Direction Export Export
File Open	



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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

4. 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.

	_,,		-,
DevExpress.Xpf.Charts.v14.2.dll	3/12/2015 9:58 PM	Application extens	1,961 KB
DevExpress.Xpf.Core.v14.2.dll	3/12/2015 9:58 PM	Application extens	6,906 KB
DevExpress.Xpf.NavBar.v14.2.dll	3/12/2015 9:58 PM	Application extens	565 KB
DevExpress.Xpf.Printing.v14.2.dll	3/12/2015 9:58 PM	Application extens	639 KB
DevExpress.Xpf.Ribbon.v14.2.dll	3/12/2015 9:58 PM	Application extens	1,516 KB
DevExpress.Xpf.Spreadsheet.v14.2.dll	3/12/2015 9:58 PM	Application extens	828 KB
GalaSoft.MvvmLight.dll	12/18/2011 9:07 AM	Application extens	20 KB
Pravidlo4	7/13/2015 11:25 AM	IrfanView PNG File	116 KB
Smart Protocol	3/29/2015 9:14 PM	Application	372 KB
spTemplate.smt	3/28/2015 3:41 PM	SMT File	40 KB

Figure 2: Folder of Smart protocol

3 Starting SmartProtocol

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

3.1 Starting SmartProtocol – Main screen

- 1. Copy Zip file to your PC and extract Zip file.
- 2. 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.

Smart protocol		
Options		
	No connected device	Import data from device
Serial ports	Route report	
Refresh ports	Route Route details	
Ports	Operator	Date 1.2.2016
	Company	
	Irace	
	Route	
	From place (A) To place (B)	
	Route data	
	Position Value Wavelength Export Direction	Export
\frown		
OPTOKON		
File		
Open		
Save		
JUVE		

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!!).

Smart protocol						_ D _ X
Options						
		PM800	PM800	9110	📕 🖬 Impor	t data from device
Serial ports Refresh ports	Route report Route Route	details				
Ports	Operator				Date 1.2.20	16 15
	Company					
	Trace					
	From place (A)			To pl	ace (B)	
	Route data					
ÓPTOKON	Position	Value	Wavelength	Export	Direction	Export
- File						
Open						
Save						

Figure 4: Smart protocol and conected PM800

3.3 Setting the Language

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

Options		
Language	•	Česloj
Evit		🗸 English
LAIL		

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).

Smart protocol							_ O X
Options							
		PM80	D PM800	9110	٢	Import of	data from device
Serial ports	Route report						
Refresh ports	Route Rout	te details					
Ports	Operator				Date	1.2.2016	5 15
COM6 -	Company						
	Trace						
	Route						
	From place (A)		То	place (B)		
	Route data						
OPTOKON	Route data Position	Value	Wavelength	Export	Directi	on	Export
ортоком	Route data Position 001/001	Value -1.1	Wavelength 1310	Export	Directi A -> B B	on 3 -> A	C Export
OPTOKON	Route data Position 001/001 001/002	Value -1.1 -1.92	Wavelength 1310 1310	Export	Direction A -> B B A -> B B	on } -> A	Export
ОРТОКОМ	Route data Position 001/001 001/002 001/003	Value -1.1 -1.92 -0.41	Wavelength 1310 1310 1550	Export	Directi A -> B B A -> B B A -> B B	on 3 -> A 3 -> A 3 -> A	Export
ОРТОКОМ	Route data Position 001/001 001/002 001/003 001/004	Value -1.1 -1.92 -0.41 -0.41	Wavelength 1310 1310 1550 1550	Export	Direction A -> B B A -> B B A -> B B A -> B B	on 3 -> A 3 -> A 3 -> A 3 -> A	Export
File	Route data Position 001/001 001/002 001/003 001/004 001/005	Value -1.1 -1.92 -0.41 -0.41 -3.13	Wavelength 1310 1310 1550 1550 850	Export	Directii A -> B 8 A -> B 8 A -> B 8 A -> B 8 A -> B 8	on 3 -> A 3 -> A 3 -> A 3 -> A 3 -> A	Export
File	Route data Position 001/001 001/002 001/003 001/004 001/005 001/006	Value -1.1 -1.92 -0.41 -0.41 -3.13 -1.17	Wavelength 1310 1310 1550 1550 850 850	Export	Directii A -> B 8 A -> B 8	on 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	Export
File	Route data Position 001/001 001/002 001/003 001/004 001/005 001/006 001/007	Value -1.1 -1.92 -0.41 -0.41 -3.13 -1.17 -0.49	Wavelength 1310 1310 1550 1550 850 850 850 1310	Export	Directi A -> B 8 A -> B 8	on 3 -> A 3 -> A 3 -> A 3 -> A 3 -> A 3 -> A 3 -> A	Export
File Open	Route data Position 001/001 001/002 001/003 001/004 001/005 001/006 001/007 001/008	Value -1.1 -1.92 -0.41 -0.41 -3.13 -1.17 -0.49 -3.54	Wavelength 1310 1310 1550 1550 850 850 1310 1310	Export	Directii A -> B 8 A -> B 8	on 3 -> A 3 -> A	Export
File Open Save	Route data Position 001/001 001/002 001/003 001/004 001/005 001/006 001/007 001/008 «	Value -1.1 -1.92 -0.41 -0.41 -3.13 -1.17 -0.49 -3.54	Wavelength 1310 1310 1550 1550 850 850 1310 1310 1310	Export	Directi A -> B B A -> B B	on 3 -> A	Export

Figure 6: Importing data from Power meter

b) Recording data from Backup

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

Smart protocol 3.0

Smart protocol	_				
Otevřít				l	×
Smart Protocol v1.0.1 ▶		1	▼ 4 9 1	Prohledat: Smart Protocol v1.0	1 🔎
Uspořádat 🔻 Nová složka				:≡ ▼ 🔲	0
PC C-PAVLU C-PAVLE C-PAVLU C-PAVLE C-	•	Nšzev položky Properties Optokon_Exam	Datum změny 1.2.2016 13:34 1.2.2016 13:25	Typ Složka souborů Soubor OPTX	Velikc
				Otevřít 🚽 Storno	

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.

loute data —					
Position	Value	Wavelength	Export	Dire	ection
001/001	-1.1	1310		A -> B	B -> A
001/002	-1.92	1310		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:

Smart protocol 3.0

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 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" \rightarrow "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: <u>OPTOKON@OPTOKON.CZ</u> 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

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