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## Diagnostyka na poziomie protokołu - przykład

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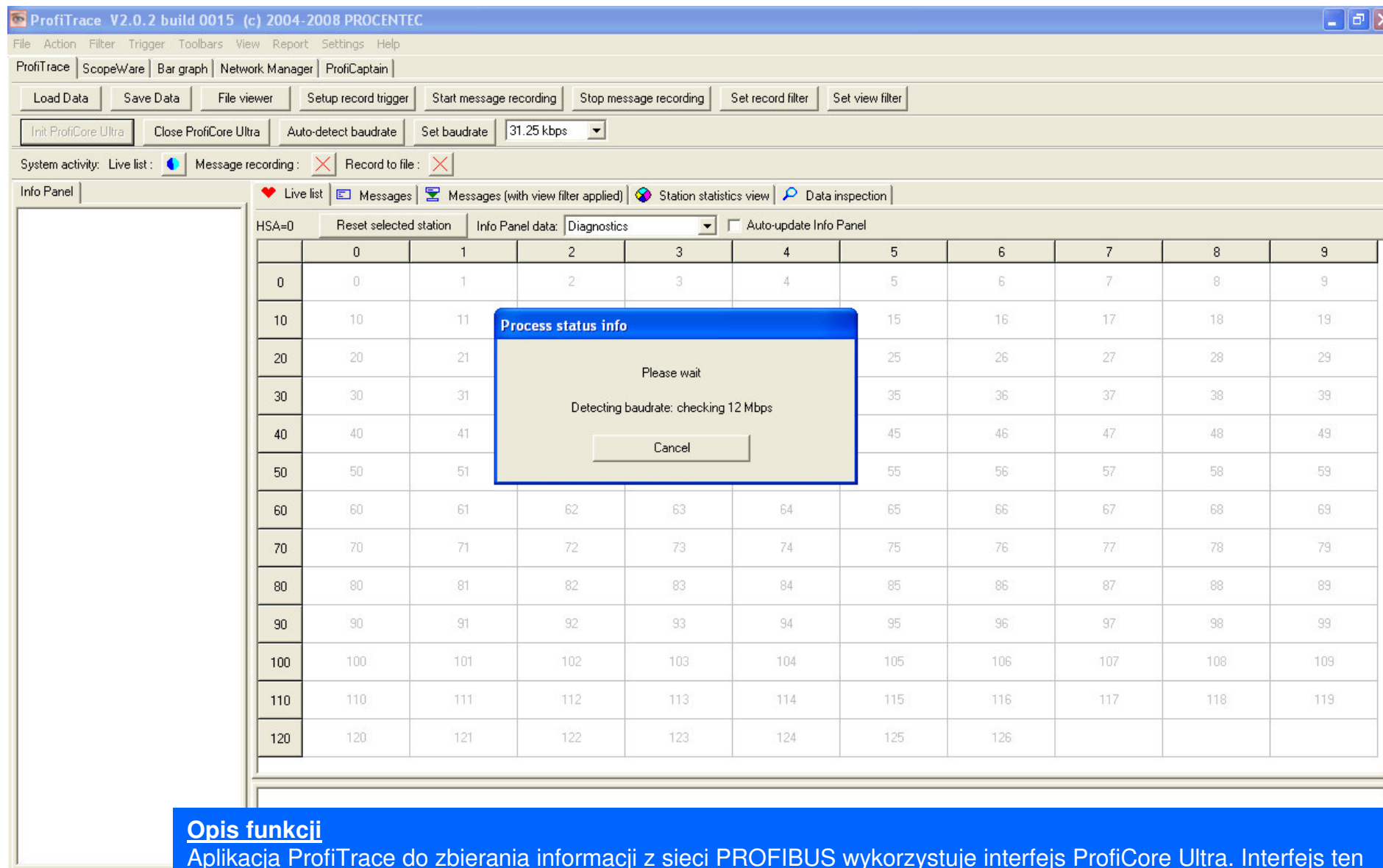


# Diagnostyka na poziomie protokołu – aktualizacja biblioteki plików GSD

The screenshot shows the ProfiTrace V2.0.2 software interface. The main window has a menu bar (File, Action, Filter, Trigger, Toolbars, View, Report, Settings, Help) and a toolbar with buttons like 'Load Data', 'Save Data', 'File viewer', 'Init ProfiCore Ultra', 'Close ProfiCore Ultra', 'Auto-detect baudrate', and 'Set baudrate'. The 'Settings' menu is open, showing 'Preferences', 'Plugins', and 'Scan GSD library'. The 'Scan GSD library' dialog box is displayed, listing various GSD files and their status. A 'Process status info' window is also open, showing 'Please wait, scanning GSD's' and 'GSD Scanned: 22'. The background shows a table with data columns and rows.

**Opis funkcji**  
Aplikacja ProfiTrace zbiera i analizuje dane przesyłane pomiędzy stacjami w sieci PROFIBUS, dane te mogą być udostępniane użytkownikowi w formie nieprzetworzonej (zawartość ramki) oraz przetworzonej – zawartość ramki jest interpretowana i informacje są prezentowane w postaci tekstowej. Do procesu interpretacji potrzebne są pewne informacje specyficzne dla urządzenia. Dane te są zawarte w pliku GSD. Dlatego też dysponowanie plikiem GSD w trakcie analizy sieci jest bardzo przydatne. Aktualizacja bazy plików GSD odbywa się poprzez wybranie opcji **Scan GSD Library** z menu **Settings**

# Diagnostyka na poziomie protokołu – inicjalizacja interfejsu ProfiCore



ProfiTrace V2.0.2 build 0015 (c) 2004-2008 PROCENTEC

File Action Filter Trigger Toolbars View Report Settings Help

ProfiTrace ScopeWare Bar graph Network Manager ProfiCaptain

Load Data Save Data File viewer Setup record trigger Start message recording Stop message recording Set record filter Set view filter

Init ProfiCore Ultra Close ProfiCore Ultra Auto-detect baudrate Set baudrate 31.25 kbps

System activity: Live list: Message recording: Record to file:

Info Panel Live list Messages Messages (with view filter applied) Station statistics view Data inspection

HSA=0 Reset selected station Info Panel data: Diagnostics Auto-update Info Panel

	0	1	2	3	4	5	6	7	8	9
0	0	1	2	3	4	5	6	7	8	9
10	10	11				15	16	17	18	19
20	20	21				25	26	27	28	29
30	30	31				35	36	37	38	39
40	40	41				45	46	47	48	49
50	50	51				55	56	57	58	59
60	60	61	62	63	64	65	66	67	68	69
70	70	71	72	73	74	75	76	77	78	79
80	80	81	82	83	84	85	86	87	88	89
90	90	91	92	93	94	95	96	97	98	99
100	100	101	102	103	104	105	106	107	108	109
110	110	111	112	113	114	115	116	117	118	119
120	120	121	122	123	124	125	126			

**Process status info**

Please wait

Detecting baudrate: checking 12 Mbps

Cancel

## Opis funkcji

Aplikacja ProfiTrace do zbierania informacji z sieci PROFIBUS wykorzystuje interfejs ProfiCore Ultra. Interfejs ten jest połączony z komputerem PC poprzez łącze USB. Aby mieć możliwość analizy sieci interfejs ten należy inicjalizować przy pomocy przycisku **Init ProfiCore Ultra**.



# Diagnostyka na poziomie protokołu – lista stacji

**ProfiTrace V2.0.1 beta (c) 2004-2007 PROCENTEC**

File Action Filter Trigger Toolbars View Report Settings Help

ProfiTrace ScopeWare Bar graph Network Manager ProfiCaptain

Load Data Save Data File viewer Setup record trigger Start message recording Stop message recording Set record filter Set view filter

Init ProfiCore Ultra Close ProfiCore Ultra Auto-detect baudrate Set baudrate 1.5 Mbps

System activity: Live list: Message recording: Record to file:

Info Panel: Live list Messages Messages (with view filter applied) Station statistics view Data inspection

Station Address: 5

Framestructure: SD2 message  
Source address: 5  
Model Name: 2131(8200/9300)  
Destination address: 1  
Frame type: Response message

PROFIBUS DPV0 Message:  
Get Diagnostics (Con/Res)  
Status bits:  
Station\_Not\_Ready  
Watchdog=Off  
Parameter\_Req  
Master\_Add: 255  
Ident\_Number: 00AA (hex)

	0	1	2	3	4	5	6	7	8	9
0	0	1	2	3	4	5	6	7	8	9
10	10	11	12	13	14	15	16	17	18	19
20	ET 200M (IM153-2)	Rotary Encoder	22	EX250-SPR1(...	2131(8200/93...	25	BK3100	AUMATIC with FO interface	VTS LP04	CPU 215-2 DP
30	BX3100	WAGO 750-303 (FW: 07 ...)	KSD2-GW-PRO Par	WAGO 750-343 (FW06 ...)	IL PB BK DIB 004	ET 200S HighFeature (Cu)	36	XPS-E	38	LioN-M
40	LioN-M	LioN-S	LioN-S	DP/DP Coupler, Release 2	DP/DP Coupler, Release 2	DIRIS A40	LB/FB Bx06 DP/DPV1 Remote IO	TR CE58, GSM DP V1	TR LE100 DP	EncoTRive VC001 300W
50	50	51	52	53	54	55	56	57	58	59
60	60	61	62	63	64	65	66	67	68	69
70	70	71	72	73	74	75	76	77	78	79
80	80	81	82	83	84	85	86	87	88	89
90	90	91	92	93	94	95	96	97	98	99
100	100	101	102	103	104	105	106	107	108	109
110	110	111	112	113	114	115	116	117	118	119
120	120	121	122	123	124	125	126			

## Opis funkcji

Po wykryciu prędkości transmisji, wszystkie dostępne w sieci urządzenia (adresy) zaznaczane są na zakładce **Live List**. Jednostki Master to kolor czerwony, zaś Slave niebieski. Zielone tło oznacza, że jednostka Slave znajduje się w trybie wymiany danych procesowych.

Na podstawie biblioteki plików GSD aplikacja wyświetla nazwy stacji (zdefiniowane w GSD).

# Diagnostyka na poziomie protokołu – parametry stacji

**ProfiTrace V2.0.1 beta (c) 2004-2007 PROCENTEC**

File Action Filter Trigger Toolbars View Report Settings Help

ProfiTrace ScopeWare Bar graph Network Manager ProfiCaptain

Load Data Save Data File viewer Setup record trigger Start message recording Stop message recording Set record filter Set view filter

Init ProfiCore Ultra Close ProfiCore Ultra Auto-detect baudrate Set baudrate 1.5 Mbps

System activity: Live list: ☒ Message recording: ☒ Record to file: ☒

Info Panel ☒ Live list ☒ Messages ☒ Messages (with view filter applied) ☒ Station statistics view ☒ Data inspection

Station Address: **40**

Framestructure: **SD2 message**  
 Source address: **111**  
 Destination address: **40**  
 Model Name: **LioN-M**  
 Frametype: **Request message**

PROFIBUS DPV0 Message:  
 Set Parameters (Req)  
**Parameter bits/settings:**  
 Lock\_Req  
 Sync\_Req  
 Freeze\_Req  
 Watchdog On  
 WD\_Fact1=2, WD\_Fact2=4  
 WD\_Factor=80 msec  
 MinTsd=11 bittimes  
 Ident\_Number=09CA (hex)  
 Assigned to groups: 4 6

**Additional info:**  
 Meaning of Lock/Unlock bits:  
**The DP slave is locked for other masters.**

HSA=120 Reset selected station Info Panel data: Parameters Auto-update Info Panel

	0	1	2	3	4	5	6	7	8	9
0	0	1	2	3	4	5	6	7	8	9
10	10	11	12	13	14	15	16	17	18	19
20	ET 200M (IM153-2)	Rotary Encoder	22	EX250-SPR1(...	2131(8200/93...	25	BK3100	AUMATIC with FO interface	VTS LP04	CPU 215-2 DP
30	BX3100	WAGO 750-303 (FW: 07 ...)	KSD2-GW-PRO Par	WAGO 750-343 (FW06 ...)	IL PB BK DIB 004	ET 200S HighFeature (Cu)	36	XPS-E	38	LioN-M
40	LioN-M	LioN-S	LioN-S	DP/DP Coupler, Release 2	DP/DP Coupler, Release 2	DIRIS A40	LR/FB Bx06 DP/DPV1 Remote IO	TR CE50, GSM DP V1	TR LE100 DP	EncoTRive VC001 300W
50	50	51	52	53	54	55	56	57	58	59
60	60	61	62	63	64	65	66	67	68	69
70	70	71	72	73	74	75	76	77	78	79
80	80	81	82	83	84	85	86	87	88	89
90	90	91	92	93	94	95	96	97	98	99
100	100	101	102	103	104	105	106	107	108	109
110	110	111	112	113	114	115	116	117	118	119
120	120	121	122	123	124	125	126			

00: B8 02 04 0B 09 CA 28 00 00 00 01 01

## Opis funkcji

Po zaznaczeniu urządzenia oraz wybraniu z menu *Info Panel data* opcji **Parameters** – w panelu informacyjnym (*InfoPanel*) wyświetlana jest informacja o ostatnim zestawie parametrów przesłanych przez DP Master.

# Diagnostyka na poziomie protokołu – konfiguracja stacji

**ProfiTrace V2.0.1 beta (c) 2004-2007 PROCENTEC**

File Action Filter Trigger Toolbars View Report Settings Help

ProfiTrace ScopeWare Bar graph Network Manager ProfiCaptain

Load Data Save Data File viewer Setup record trigger Start message recording Stop message recording Set record filter Set view filter

Init ProfiCore Ultra Close ProfiCore Ultra Auto-detect baudrate Set baudrate 1.5 Mbps

System activity: Live list: ☒ Message recording: ☒ Record to file: ☒

Info Panel ☒ Live list ☒ Messages ☒ Messages (with view filter applied) ☒ Station statistics view ☒ Data inspection

Station Address: 40

Framestructure: SD2 message  
Source address: 111  
Destination address: 40  
Model Name: **LioN-M**  
Frame type: Request message

PROFIBUS DPV0 Message:  
Check Config (Req)  
Inputs = 0  
Outputs = 2  
Identifiers = 1  
Id 0: Inp=0, Outp=2: 21  
Module name="D970PSL700 16DO-1.6A"

HSA=120 Reset selected station Info Panel data: Configuration Auto-update Info Panel

	0	1	2	3	4	5	6	7	8	9
0	0	1	2	3	4	5	6	7	8	9
10	10	11	12	13	14	15	16	17	18	19
20	ET 200M (IM153-2)	Rotary Encoder	22	EX250-SPR1(...	2131(8200/93...	25	BK3100	AUMATIC with FO interface	VTS LP04	CPU 215-2 DP
30	BX3100	WAGO 750-303 (FW: 07 ...)	KSD2-GW-PRO Par	WAGO 750-343 (FW06 ...)	IL PB BK DIB 004	ET 200S HighFeature (Cu)	36	XPS-E	38	LioN-M
40	LioN-M	LioN-S	LioN-S	DP/DP Coupler, Release 2	DP/DP Coupler, Release 2	DIRIS A40	LR/FB Bx06 DP/DPV1 Remote IO	TR CE50L 65M DP V1	TR LE100 DP	EncoTRive VC001 300W
50	50	51	52	53	54	55	56	57	58	59
60	60	61	62	63	64	65	66	67	68	69
70	70	71	72	73	74	75	76	77	78	79
80	80	81	82	83	84	85	86	87	88	89
90	90	91	92	93	94	95	96	97	98	99
100	100	101	102	103	104	105	106	107	108	109
110	110	111	112	113	114	115	116	117	118	119
120	120	121	122	123	124	125	126			

00: 21

## Opis funkcji

Po zaznaczeniu urządzenia oraz wybraniu z menu *Info Panel data* opcji **Configuration** – w panelu informacyjnym (*InfoPanel*) wyświetlana jest informacja o ostatnim zestawie danych konfiguracyjnych przesłanych przez DP Master. Tekstowe opisy modułów pochodzą z pliku GSD

# Diagnostyka na poziomie protokołu – standardowe info. diagnostyczne

**ProfiTrace V2.0.1 beta (c) 2004-2007 PROCENTEC**

File Action Filter Trigger Toolbars View Report Settings Help

ProfiTrace ScopeWare Bar graph Network Manager ProfiCaptain

Load Data Save Data File viewer Setup record trigger Start message recording Stop message recording Set record filter Set view filter

Init ProfiCore Ultra Close ProfiCore Ultra Auto-detect baudrate Set baudrate 1.5 Mbps

System activity: Live list: ☒ Message recording: ☒ Record to file: ☒

Info Panel ☒ Live list ☒ Messages ☒ Messages (with view filter applied) ☒ Station statistics view ☒ Data inspection

Station Address: 32

Framestructure: SD2 message  
Source address: 32  
Model Name: KSD2-GW-PRO Par  
Destination address: 2  
Frame type: Response message

PROFIBUS DPV0 Message:  
Get Diagnostics (Con/Res)  
Status bits:  
Ext\_diag\_Bit  
Watchdog=on  
Master\_Add: 2  
Ident\_Number: 0818 (hex)  
Extended diagnostics: (18 bytes)  
Contains 3 diagnostic blocks.  
Block 0: Device related (6 bytes)  
06 00 10 00 05 00  
Block 1: Identifier related (9 bytes)  
49 01 00 00 00 00 00 00  
Module 0 has diagnostics.  
Block 2: Channel related (3 bytes)  
80 01 06  
Module 0, channel 1  
Type:  
Error/Wire break

HSA=126 Reset selected station Info Panel data: Diagnostics Auto-update Info Panel

	0	1	2	3	4	5	6	7	8	9
0	0	1	2	3	4	5	6	7	8	9
10	10	11	12	13	14	15	16	17	18	19
20	20	21	22	23	2131(8200/93...	25	BK3100	AUMATIC with FD interface	VTS LP04	CPU 215-2 DP
30	BK3100	WAGO 750-303 (FW: 07 ...)	KSD2-GW-PRO Par	WAGO 750-343 (FW06 ...)	IL PB BK DIB 004	ET 2005 HighFeature (Cu)	36	XPS-E	38	LioN-M
40	LioN-M	LioN-S	LioN-S	DP/DP Coupler, Release 2	DP/DP Coupler, Release 2	45	46	TR CE58, GSM DP V1	TR LE100 DP	49
50	50	51	52	53	54	55	56	57	58	59
60	60	61	62	63	64	65	66	67	68	69
70	70	71	72	73	74	75	76	77	78	79
80	80	81	82	83	84	85	86	87	88	89
90	90	91	92	93	94	95	96	97	98	99
100	100	101	102	103	104	105	106	107	108	109
110	110	111	112	113	114	115	116	117	118	119
120	120	121	122	123	124	125	126			

00: 08 0C 00 02 08 18 06 00 10 00 05 00 49 01 00 00 00 00 00 00 80 01 06

## Opis funkcji

Po zaznaczeniu urządzenia, ostatnia zarejestrowana informacja diagnostyczna dostępna jest w panelu informacyjnym (InfoPanel). Tekstowe opisy błędów pochodzą z pliku GSD.



# Diagnostyka na poziomie protokołu – problemy w komunikacji

**ProfiTrace V2.0.1 beta (c) 2004-2007 PROCENTEC**

File Action Filter Trigger Toolbars View Report Settings Help

ProfiTrace ScopeWare Bar graph Network Manager ProfiCaptain

Load Data Save Data File viewer Setup record trigger Start message recording Stop message recording Set record filter Set view filter

Init ProfiCore Ultra Close ProfiCore Ultra Auto-detect baudrate Set baudrate 1.5 Mbps

System activity: Live list: Message recording: Record to file:

Info Panel Live list Messages Messages (with view filter applied) Station statistics view Data inspection

Station Address: 90  
No data available

HSA=120 Reset selected station Info Panel data: Diagnostics Auto-update Info Panel

	0	1	2	3	4	5	6	7	8	9
0	0	1	2	3	4	5	6	7	8	9
10	10	11	12	13	14	15	16	17	18	19
20	ET 200M (IM153-2)	Rotary Encoder	22	EX250-SPR1(...	2131(8200/93...	25	BK3100	AUMATIC with FO interface	VTS LP04	CPU 215-2 DP
30	BK3100	WAGO 750-303 (FW: 07 ...)	KSD2-GW-PRO Par	WAGO 750-343 (FW06 ...)	IL PB BK DIB 004	ET 200S HighFeature (Cu)	36	XPS-E	38	LioN-M
40	LioN-M	LioN-S	LioN-S	DP/DP Coupler, Release 2	DP/DP Coupler, Release 2	DIRIS A40	LB/FB Bx06 DP/DPV1 Remote IO	TR CE58, GSM DP V1	TR LE100 DP	EncoTRive VC001 300W
50	50	51	52	53	54	55	56	57	58	59
60	60	61	62	63	64	65	66	67	68	69
70	70	71	72	73	74	75	76	77	78	79
80	80	81	82	83	84	85	86	87	88	89
90	90	91	92	93	94	95	96	97	98	99
100	100	101	102	103	104	105	106	107	108	109
110	110	111	112	113	114	115	116	117	118	119
120	120	121	122	123	124	125	126			

## Opis funkcji

W przypadku zerwania komunikacji pomiędzy DP Master, a stacją DP Slave tło tej ostatniej zmienia kolor na żółty (kiedyś była dostępna, zaś aktualnie nie).



# Diagnostyka na poziomie protokołu – statystyki

ProfiTrace V2.0.2 build 0015 (c) 2004-2008 PROCENTEC

File Action Filter Trigger Toolbars View Report Settings Help

ProfiTrace ScopeWare Bar graph Network Manager ProfiCaptain

Load Data Save Data File viewer Setup record trigger Start message recording Stop message recording Set record filter Set view filter

Init ProfiCore Ultra Close ProfiCore Ultra Auto-detect baudrate Set baudrate

System activity: Live list: ☒ Message recording: ☒ Record to file: ☒

Info Panel ☒ Live list ☒ Messages ☒ Messages (with view filter applied) ☒ **Station statistics view** ☐ Data inspection

Selected statistic: Syncs

Reset station Reset this statistic Reset all

	3	4	5	6	7	8	9
0							
10							
20							
30							
40							
50							
60							
70							
80							
90							
100							
110							
120							

## Opis funkcji

Zakładka **Station statistics view** wyświetla informacje statystyczne zebrane przez ProfiTrace dla wybranego zdarzenia. Rodzaj zdarzenia jest wybierany z listy **Selected statistic**.

Dzięki tej funkcjonalności możliwe jest sprawdzenie stabilności sieci i jednocześnie podjęcie działań prewencyjnych.

# Diagnostyka na poziomie protokołu – próby nawiązania komunikacji

**ProfiTrace V2.0.1 beta (c) 2004-2007 PROCENTEC**

File Action Filter Trigger Toolbars View Report Settings Help

ProfiTrace ScopeWare Bar graph Network Manager ProfiCaptain

Load Data Save Data File viewer Setup record trigger Start message recording Stop message recording Set record filter Set view filter

Init ProfiCore Ultra Close ProfiCore Ultra Auto-detect baudrate Set baudrate 1.5 Mbps

System activity: Live list: Message recording: Record to file:

Info Panel

Station Address: 32

Framestructure: SD2 message

Source address: 32

Model Name: KSD2-GW-PRO Par

Destination address: 2

Frametype: Response message

PROFIBUS DPV0 Message:

Get Diagnostics (Con/Res)

Status bits:

Ext\_diag\_Bit

Watchdog=on

Master\_Add: 2

Ident\_Number: 0818 (hex)

Extended diagnostics: (18 bytes)

Contains 3 diagnostic blocks.

Block 0: Device related (6 bytes)

06 00 10 00 05 00

Block 1: Identifier related (9 bytes)

49 01 00 00 00 00 00 00 00

Module 0 has diagnostics.

Block 2: Channel related (3 bytes)

80 01 06

Module 0, channel 1

Type:

Error:Wire break

Selected statistic: Syncs

Reset station Reset this statistic Reset all

	0	1	2	3	4	5	6	7	8	9
0										
10										
20	552	552		552						
30										
40						552				
50										
60										
70										
80										
90										
100										
110										
120										

00: 08 0C 00 02 08 18 06 00 10 00 05 00 49 01 00 00 00 00 00 00 80 01 06

## Opis funkcji

W statystyce 'Syncs', wyświetlana jest ilość prób nawiązania komunikacji ze stacją (ilość zapytań ze strony DP Master, na które nie odpowiedziała stacja DP Slave). W pracującej instalacji statystyka ta powinna być „czysta”, każdy problem komunikacji (lub jego przyczyna) powinien być niezwłocznie usunięty.

# Diagnostyka na poziomie protokołu – utrata komunikacji

**ProfiTrace V2.0.1 beta (c) 2004-2007 PROCENTEC**

File Action Filter Trigger Toolbars View Report Settings Help

ProfiTrace ScopeWare Bar graph Network Manager ProfiCaptain

Load Data Save Data File viewer Setup record trigger Start message recording Stop message recording Set record filter Set view filter

Init ProfiCore Ultra Close ProfiCore Ultra Auto-detect baudrate Set baudrate 1.5 Mbps

System activity: Live list: Message recording: Record to file:

Info Panel

Station Address: 32

Framestructure: SD2 message  
Source address: 32  
Model Name: KSD2-GW-PRO Par  
Destination address: 2  
Frame type: Response message

PROFIBUS DPV0 Message:  
Get Diagnostics (Con/Res)  
**Status bits:**  
Ext\_diag\_Bit  
Watchdog=on  
Master\_Add: 2  
Ident\_Number: 0818 (hex)  
**Extended diagnostics: (18 bytes)**  
Contains 3 diagnostic blocks.  
**Block 0: Device related (6 bytes)**  
06 00 10 00 05 00  
**Block 1: Identifier related (9 bytes)**  
49 01 00 00 00 00 00 00 00  
  
Module 0 has diagnostics.  
**Block 2: Channel related (3 bytes)**  
80 01 06  
Module 0, channel 1  
Type:  
Error/Wire break

Selected statistic: Station Lost

Reset station Reset this statistic Reset all

	0	1	2	3	4	5	6	7	8	9
0										
10										
20										
30			1	1		2				
40					1			3		
50										
60										
70										
80										
90										
100										
110										
120										

00: 08 0C 00 02 08 18 06 00 10 00 05 00 49 01 00 00 00 00 00 80 01 06

## Opis funkcji

W statystyce 'Station Lost', wyświetlana jest informacja ile razy zerwana została komunikacja ze stacją (DP Master stwierdził, że DP Slave jest niedostępny). W pracującej instalacji statystyka ta powinna być „czysta”, każdy problem komunikacji (lub jego przyczyna) powinien być niezwłocznie usunięty.

# Diagnostyka na poziomie protokołu – odrzucone ramki

**ProfiTrace V2.0.1 beta (c) 2004-2007 PROCENTEC**

File Action Filter Trigger Toolbars View Report Settings Help

ProfiTrace ScopeWare Bar graph Network Manager ProfiCaptain

Load Data Save Data File viewer Setup record trigger Start message recording Stop message recording Set record filter Set view filter

Init ProfiCore Ultra Close ProfiCore Ultra Auto-detect baudrate Set baudrate 1.5 Mbps

System activity: Live list: Message recording: Record to file:

Info Panel

Station Address: 32

Framestructure: SD2 message  
Source address: 32  
Model Name: KSD2-GW-PRO Par  
Destination address: 2  
Frame type: Response message

PROFIBUS DPV0 Message:  
Get Diagnostics (Con/Res)  
**Status bits:**  
Ext\_diag\_Bit  
Watchdog=on  
Master\_Add: 2  
Ident\_Number: 0818 (hex)  
**Extended diagnostics: (18 bytes)**  
Contains 3 diagnostic blocks.  
**Block 0: Device related (6 bytes)**  
06 00 10 00 05 00  
**Block 1: Identifier related (9 bytes)**  
49 01 00 00 00 00 00 00 00  
Module 0 has diagnostics.  
**Block 2: Channel related (3 bytes)**  
80 01 06  
Module 0, channel 1  
Type:  
Error/Wire break

Selected statistic: Illegal responses to requests

Reset station Reset this statistic Reset all

	0	1	2	3	4	5	6	7	8	9
0										
10										
20	10	9		9	3		3	3		2
30								3		3
40	3	3	3		1	10		3	9	
50										
60										
70										
80										
90										
100										
110										
120										

00: 08 0C 00 02 08 18 06 00 10 00 05 00 49 01 00 00 00 00 00 00 80 01 06

## Opis funkcji

W statystyce 'Illegal responses to requests', wyświetlana jest informacja o ilości odrzuconych pakietów ze względu na niewłaściwy format (np. w wyniku błędnej sumy kontrolnej). W pracującej instalacji statystyka ta powinna być „czysta”, jeżeli liczniki są różne od zero najczęściej oznacza to występowanie zakłóceń elektromagnetycznych.

# Diagnostyka na poziomie protokołu – powtórzenia transmisji

ProfiTrace V2.0.1 beta (c) 2004-2007 PROCENTEC

File Action Filter Trigger Toolbars View Report Settings Help

ProfiTrace ScopeWare Bar graph Network Manager ProfiCaptain

Load Data Save Data File viewer Setup record trigger Start message recording Stop message recording Set record filter Set view filter

Init ProfiCore Ultra Close ProfiCore Ultra Auto-detect baudrate Set baudrate 1.5 Mbps

System activity: Live list: Message recording: Record to file:

Info Panel

Station Address: 32

Framestructure: SD2 message  
Source address: 32  
Model Name: KSD2-GW-PRO Par  
Destination address: 2  
Frame type: Response message

PROFIBUS DPV0 Message:  
Get Diagnostics (Con/Res)  
Status bits:  
Ext\_diag\_Bit  
Watchdog=on  
Master\_Add: 2  
Ident\_Number: 0818 (hex)  
Extended diagnostics: (18 bytes)  
Contains 3 diagnostic blocks.  
Block 0: Device related (6 bytes)  
06 00 10 00 05 00  
Block 1: Identifier related (9 bytes)  
49 01 00 00 00 00 00 00 00  
Module 0 has diagnostics.  
Block 2: Channel related (3 bytes)  
80 01 06  
Module 0, channel 1  
Type:  
Error:Wire break

Selected statistic: Retries (total for this station) Reset station Reset this statistic Reset all

	0	1	2	3	4	5	6	7	8	9
0		2	3							
10										
20										
30			1	1		2				
40					1			3	1	
50										
60										
70										
80										
90										
100										
110										

## Opis funkcji

W statystyce 'Retries (total for this station)', wyświetlana jest informacja o ilości powtórzonych zapytań jakie wystąpiły w stosunku do konkretnej stacji. W pracującej instalacji statystyka ta powinna być „czysta”, jeżeli liczniki są różne od zero oznacza to problemy ze stabilnością komunikacji, problemy te niekoniecznie będą skutkowały zerwaniem komunikacji ponieważ w profilu sieci określona jest maksymalna ilość jednorazowo (w serii) dozwolonych powtórzeń. Statystyka ta pozwala na ocenę stabilności komunikacji oraz podjęcie ewentualnych działań naprawczych.



# Diagnostyka na poziomie protokołu – czas cyklu sieci

**ProfiTrace V2.0.1 beta (c) 2004-2007 PROCENTEC**

File Action Filter Trigger Toolbars View Report Settings Help

ProfiTrace ScopeWare Bar graph Network Manager ProfiCaptain

Load Data Save Data File viewer Setup record trigger Start message recording Stop message recording Set record filter Set view filter

Init ProfiCore Ultra Close ProfiCore Ultra Auto-detect baudrate Set baudrate 1.5 Mbps

System activity: Live list: Message recording: Record to file:

Info Panel

Station Address: 32

Framestructure: SD2 message  
Source address: 32  
Model Name: KSD2-GW-PRO Par  
Destination address: 2  
Frametype: Response message

PROFIBUS DPV0 Message:  
Get Diagnostics (Con/Res)  
Status bits:  
Ext\_diag\_Bit  
Watchdog=on  
Master\_Add: 2  
Ident\_Number: 0818 (hex)  
Extended diagnostics: (18 bytes)  
Contains 3 diagnostic blocks.  
Block 0: Device related (6 bytes)  
06 00 10 00 05 00  
Block 1: Identifier related (9 bytes)  
49 01 00 00 00 00 00 00 00  
Module 0 has diagnostics.  
Block 2: Channel related (3 bytes)  
80 01 06  
Module 0, channel 1  
Type:  
Error/Wire break

Selected statistic: Data Exchange interval (msec) Reset station Reset this statistic Reset all

	0	1	2	3	4	5	6	7	8	9
0										
10										
20					6.931		6.931	6.931	6.932	6.932
30	7.051	7.058	7.057	7.058	7.058	7.059		7.058		7.057
40	7.058	7.059	7.059	7.058	7.059			7.059	7.059	
50										
60										
70										
80										
90										
100										
110										
120										

00: 08 0C 00 02 08 18 06 00 10 00 05 00 49 01 00 00 00 00 00 00 80 01 06

## Opis funkcji

W statystyce 'Data Exchange interval (msec)' wyświetlana jest informacja o bieżącym czasie cyklu odpytywania danej stacji DP Slave.

# Diagnostyka na poziomie protokołu – diagnostyka zwracana przez Slave

ProfiTrace V2.0.1 beta (c) 2004-2007 PROCENTEC

File Action Filter Trigger Toolbars View Report Settings Help

ProfiTrace ScopeWare Bar graph Network Manager ProfiCaptain

Load Data Save Data File viewer Setup record trigger Start message recording Stop message recording Set record filter Set view filter

Init ProfiCore Ultra Close ProfiCore Ultra Auto-detect baudrate Set baudrate 1.5 Mbps

System activity: Live list: Message recording: Record to file:

Info Panel

Station Address: 32

Framestructure: SD2 message

Source address: 32

Model Name: KSD2-GW-PRO Par

Destination address: 2

Frametype: Response message

PROFIBUS DPV0 Message:

Get Diagnostics (Con/Res)

Status bits:

Ext\_diag\_Bit

Watchdog=on

Master\_Add: 2

Ident\_Number: 0818 (hex)

Extended diagnostics: (18 bytes)

Contains 3 diagnostic blocks.

Block 0: Device related (6 bytes)

06 00 10 00 05 00

Block 1: Identifier related (9 bytes)

49 01 00 00 00 00 00 00 00

Module 0 has diagnostics.

Block 2: Channel related (3 bytes)

80 01 06

Module 0, channel 1

Type:

Error:Wire break

Selected statistic: Diagnostic msg. res. from slave when in DX

Reset station Reset this statistic Reset all

	0	1	2	3	4	5	6	7	8	9
0										
10										
20										
30						6				
40										
50										
60										
70										
80										
90										
100										
110										
120										

## Opis funkcji

W statystyce 'Diagnostic msg. res. from slave when in DX' wyświetlana jest informacja o tym ile razy stacja DP Slave będąc w trybie wymiany danych procesowych (DX) zasygnalizowała błąd zwracając informację diagnostyczną.

Sytuacja taka oznacza występowanie błędu w urządzeniu (niekoniecznie krytycznego) i powinna zostać przeanalizowana.

# Diagnostyka na poziomie protokołu – podgląd danych

The screenshot shows the ProfiTrace V2.0.1 beta software interface. The main window has a menu bar (File, Action, Filter, Trigger, Toolbars, View, Report, Settings, Help) and a toolbar with buttons like Load Data, Save Data, File viewer, Setup record trigger, Start message recording, Stop message recording, Set record filter, and Set view filter. Below the toolbar is a status bar showing System activity: Live list, Message recording, and Record to file. The main panel is divided into two sections. The left section, labeled 'Info Panel', displays details for a selected message (Address: 32, Source address: 32, Model Name: KSD2-GW-PRO Par, Destination address: 2, Frametype: Response message). The right section, labeled 'Data inspection', shows a table of data entries. A red box highlights the 'Data inspection' tab. A 'View entry dialog' box is open, showing fields for Address (3), Offset (0), DataType (Int16), Count (1), Visualisation (Decimal), Service (DX\_Response (inputs)), Unit, and Description. The dialog also has a 'Formula' section with a checkbox 'Use formula (Value = offset + data \* factor)' and fields for Offset (0.000) and Factor (0.000). The bottom of the main panel shows a hex dump of the data: 00: 08 0C 00 02 08 18 06 00 10 00 05 00 49 01 00 00 00 00 00 00 80 01 06.

ProfiTrace V2.0.1 beta (c) 2004-2007 PROCENTEC

File Action Filter Trigger Toolbars View Report Settings Help

ProfiTrace ScopeWare Bar graph Network Manager ProfiCaptain

Load Data Save Data File viewer Setup record trigger Start message recording Stop message recording Set record filter Set view filter

Init ProfiCore Ultra Close ProfiCore Ultra Auto-detect baudrate Set baudrate 1.5 Mbps

System activity: Live list: Message recording: Record to file:

Info Panel

Live list Messages Messages (with view filter applied) Station statistics view Data inspection

Add entry Edit entry Delete entry Use live-list color-coding Load inspect settings Save inspect settings

Address	Service	Offset	DataType	Data	Visualisation	Unit	Description
30	DX_Response (inputs)	0	Int16	25082	Decimal		

Station Address: 32

Framestructure: SD2 message

Source address: 32

Model Name: KSD2-GW-PRO Par

Destination address: 2

Frametype: Response message

PROFIBUS DPV0 Message:

Get Diagnostics (Con/Res)

Status bits:

Ext\_diag\_Bit

Watchdog=on

Master\_Add: 2

Ident\_Number: 0818 (hex)

Extended diagnostics: (18 bytes)

Contains 3 diagnostic blocks.

Block 0: Device related (6 bytes)

06 00 10 00 05 00

Block 1: Identifier related (9 bytes)

49 01 00 00 00 00 00 00 00

Module 0 has diagnostics.

Block 2: Channel related (3 bytes)

80 01 06

Module 0, channel 1

Type:

Error:Wire break

View entry dialog

Address 3

Offset 0

DataType Int16 Count 1

Visualisation Decimal

Service DX\_Response (inputs)

Unit

Description

Formula

Use formula (Value = offset + data \* factor)

Offset 0.000

Factor 0.000

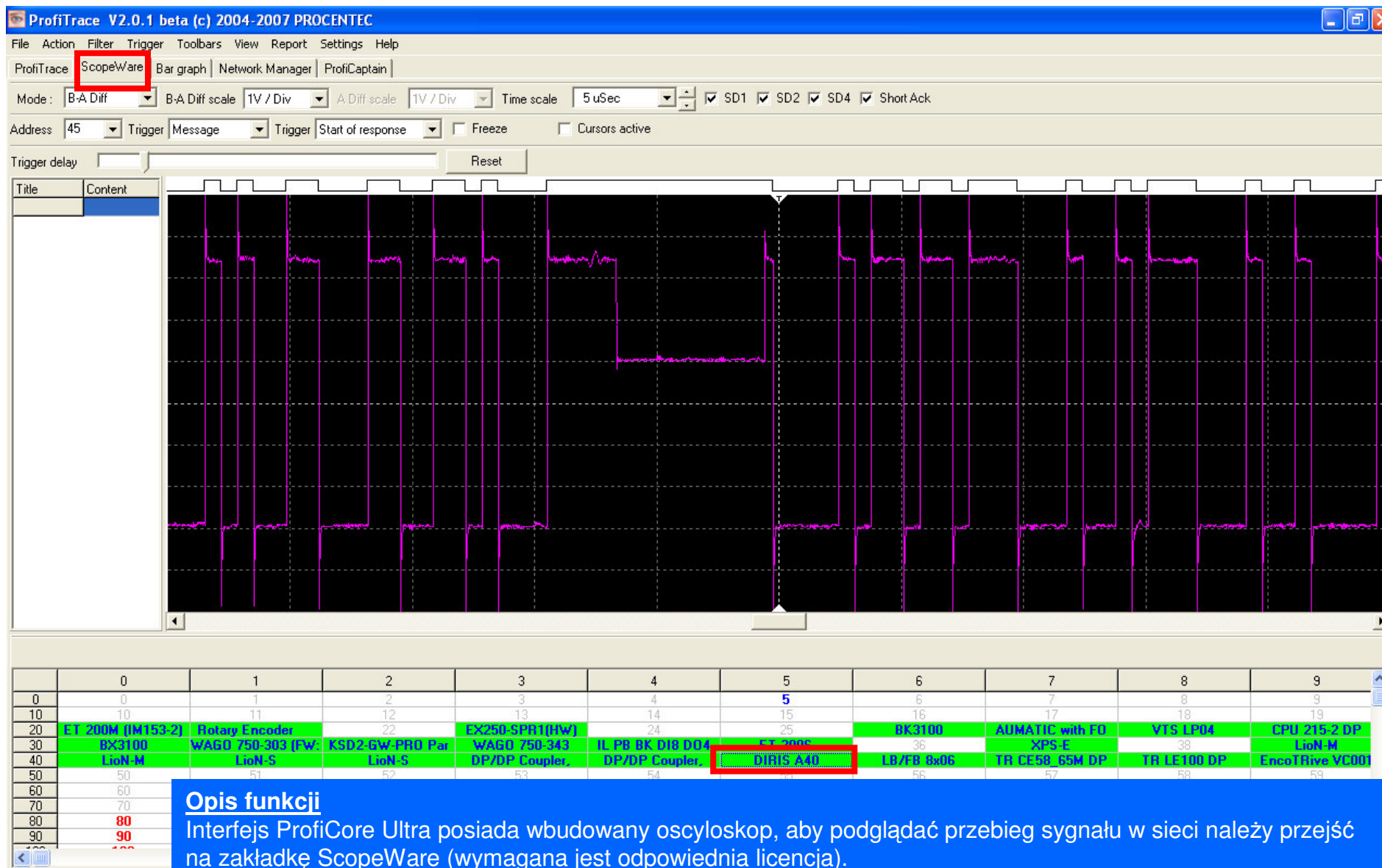
Ok Cancel

00: 08 0C 00 02 08 18 06 00 10 00 05 00 49 01 00 00 00 00 00 00 80 01 06

## Opis funkcji

Zakładka **Data inspection** pozwala na wprowadzenie zmiennych, których wartości powinny być monitorowane. Zmienne te pochodzą z pola danych ramki PROFIBUS.

# Diagnostyka na poziomie warstwy fizycznej – jakość sygnału 1/2

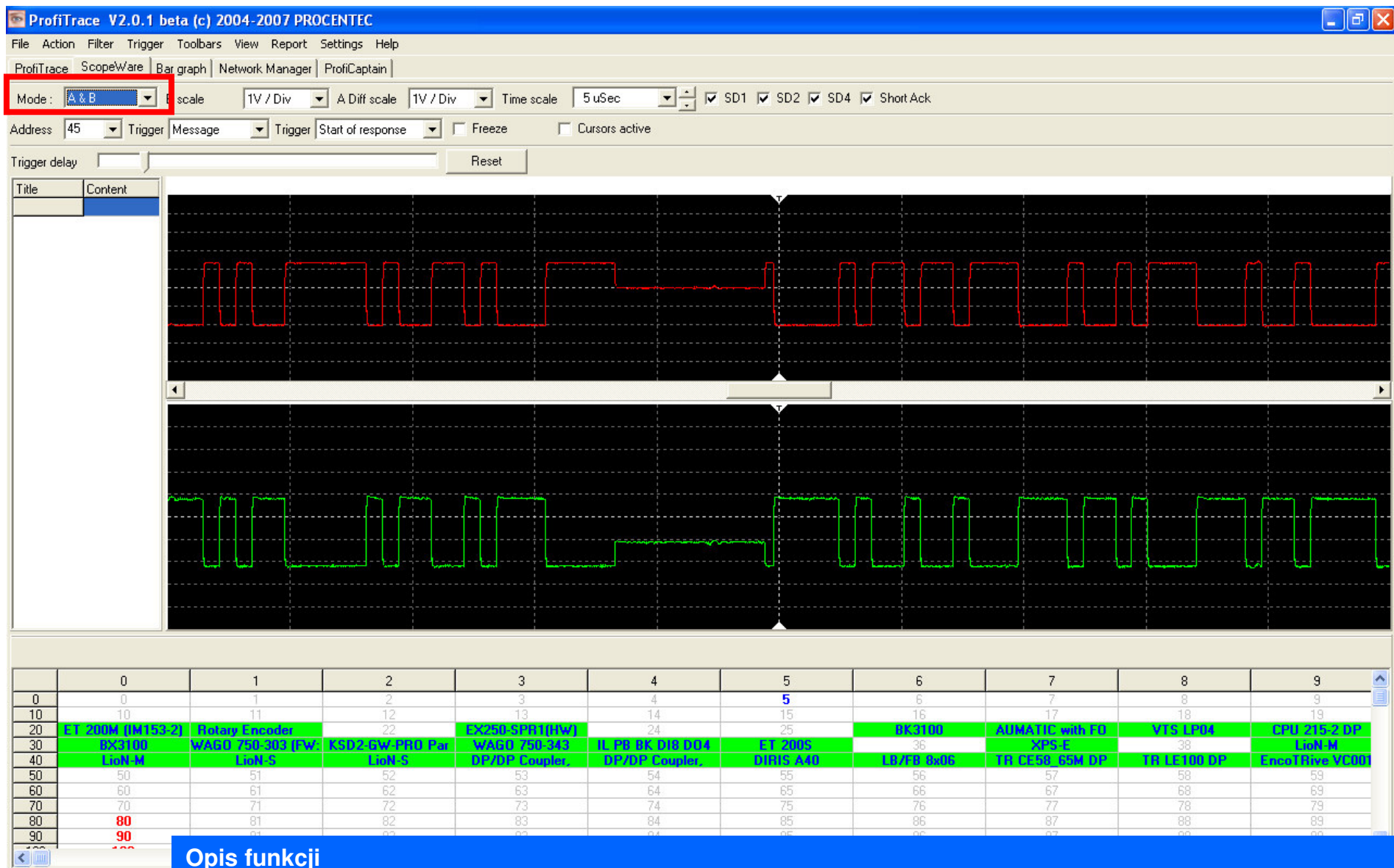


## Opis funkcji

Interfejs ProfiCore Ultra posiada wbudowany oscyloskop, aby podglądać przebieg sygnału w sieci należy przejść na zakładkę ScopeWare (wymagana jest odpowiednia licencja).

Na zakładce tej można podglądać sygnał generowany przez urządzenie wskazane na liście stacji dostępnych w sieci (oscyloskop jest wyzwalany w momencie kiedy stacja nadaje).

# Diagnostyka na poziomie warstwy fizycznej – jakość sygnału 2/2

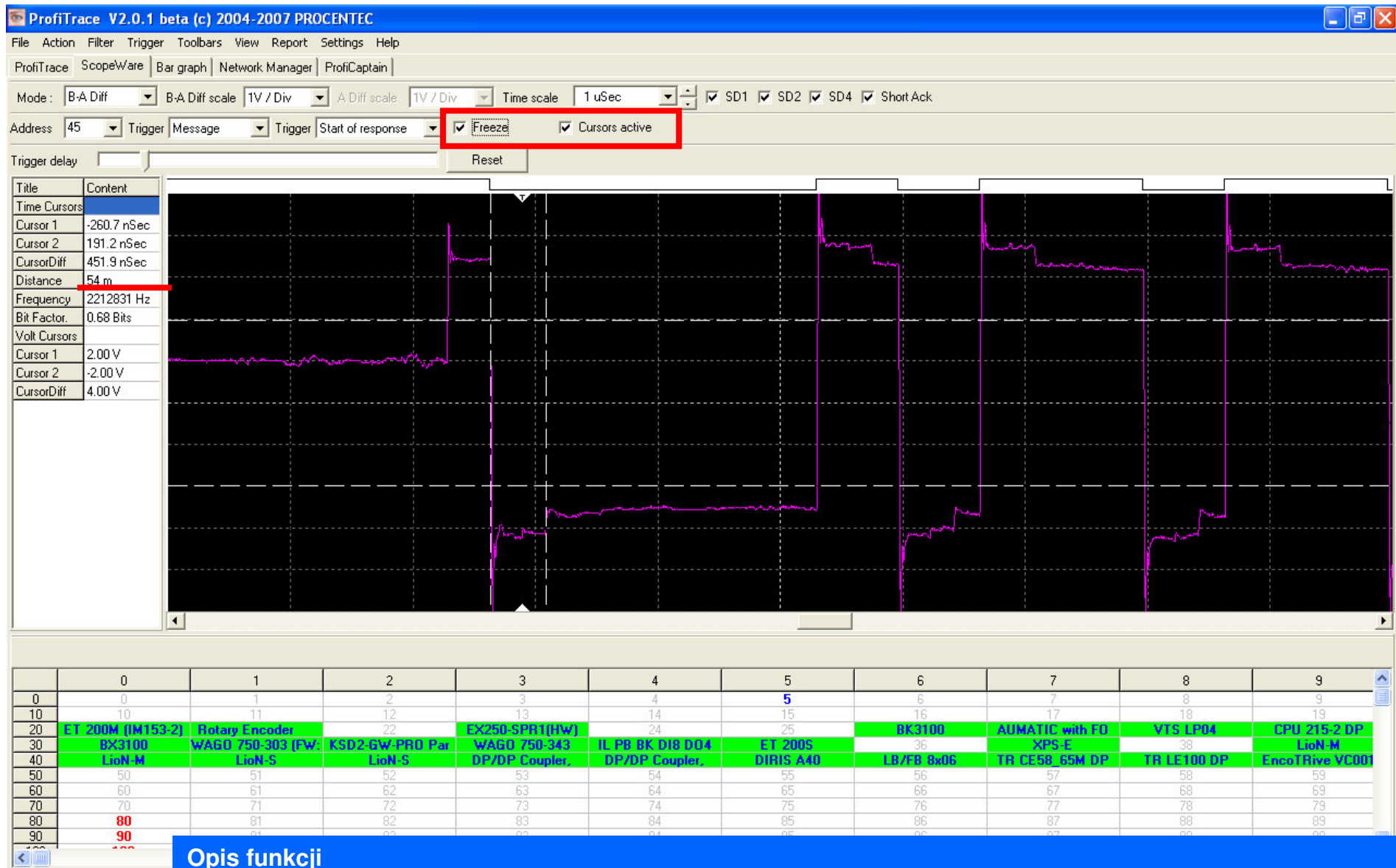


## Opis funkcji

Korzystając z opcji **Mode** istnieje możliwość wyboru trybu pracy oscyloskopu: prezentacja napięcia różnicowego (tryb **B-A Diff**) lub prezentacja sygnału w poszczególnych liniach (tryb **A&B**)



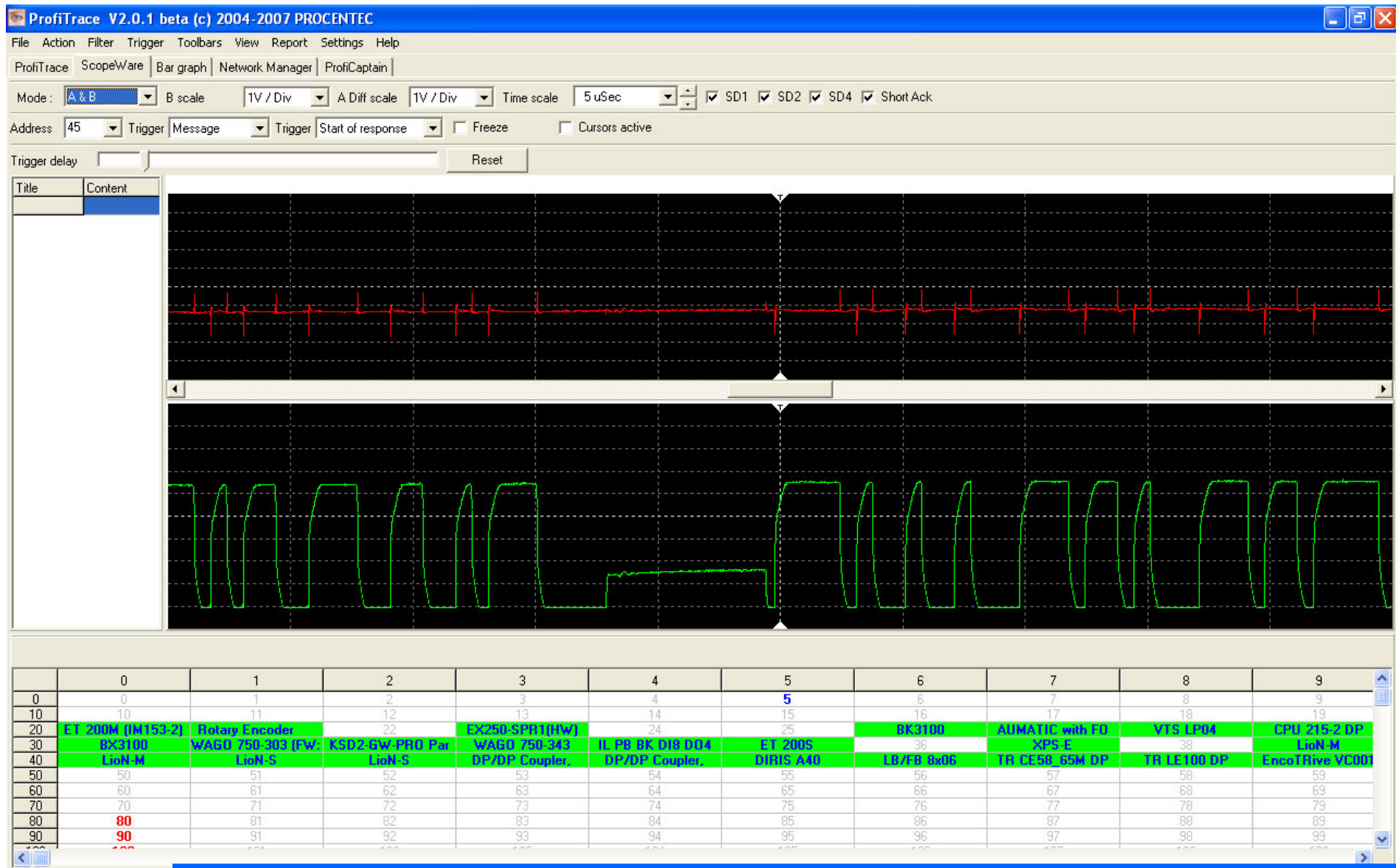
# Diagnostyka na poziomie warstwy fizycznej – lokalizacja problemów 1/2



## Opis funkcji

Dzięki funkcji zatrzymywania sygnału istnieje możliwość określenia przyczyny problemu oraz jej lokalizacji (np. dodatkowy terminator w odległości 54m od miejsca pomiaru).

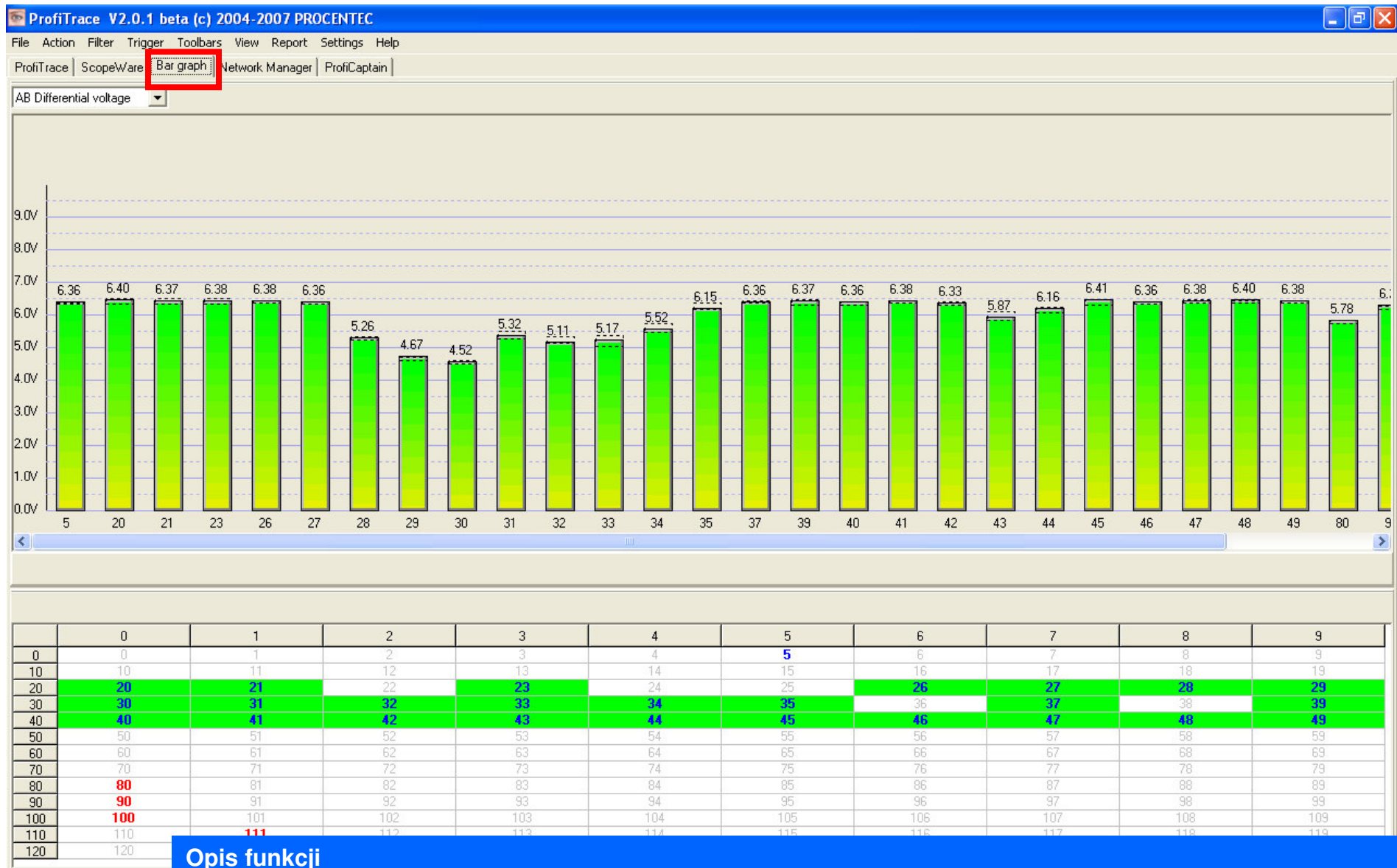
# Diagnostyka na poziomie warstwy fizycznej – lokalizacja problemów 2/2



## Opis funkcji

W trybie wyświetlania kanałów A oraz B możliwa jest detekcja błędów typu doziemienie jednej z linii

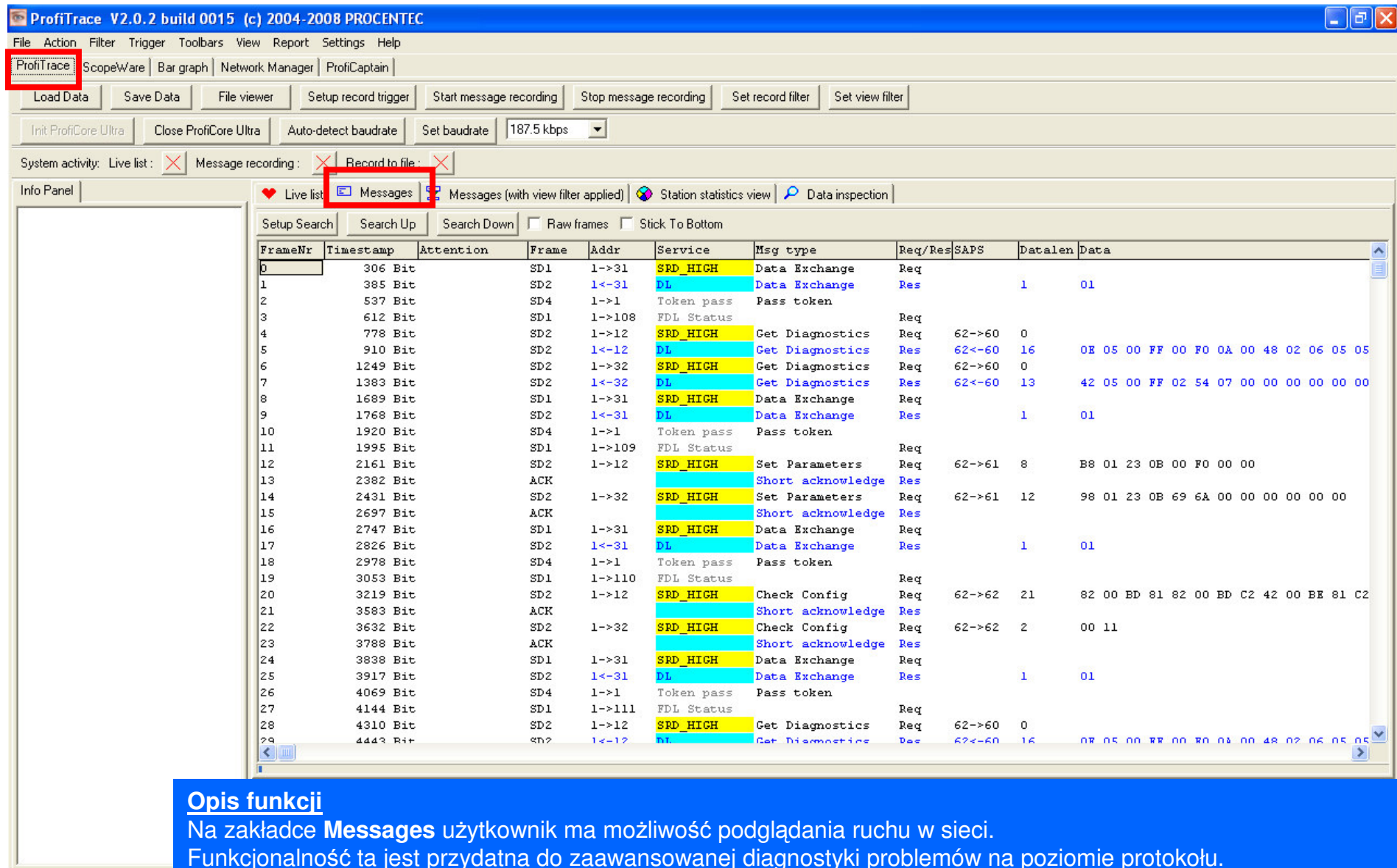
# Diagnostyka na poziomie warstwy fizycznej – poziomy napięcie



## Opis funkcji

Korzystając z zakładki **Bar graph** (wymagana jest licencja na funkcjonalność ScopeWare) możliwy jest podgląd poziomego sygnału, w miejscu dokonywania pomiaru, generowanego przez poszczególne stacje.

# Diagnostyka na poziomie warstwy fizycznej – analiza ramek



ProfiTrace V2.0.2 build 0015 (c) 2004-2008 PROCENTEC

File Action Filter Trigger Toolbars View Report Settings Help

ProfiTrace ScopeWare Bar graph Network Manager ProfiCaptain

Load Data Save Data File viewer Setup record trigger Start message recording Stop message recording Set record filter Set view filter

Init ProfiCore Ultra Close ProfiCore Ultra Auto-detect baudrate Set baudrate 187.5 kbps

System activity: Live list: ☒ Message recording: ☒ Record to file: ☒

Info Panel

Live list **Messages** Messages (with view filter applied) Station statistics view Data inspection

Setup Search Search Up Search Down Raw frames Stick To Bottom

FrameNr	Timestamp	Attention	Frame	Addr	Service	Msg type	Req/Res	SAPS	Datalen	Data
0	306 Bit		SD1	1->31	SRD_HIGH	Data Exchange	Req			
1	385 Bit		SD2	1<-31	DL	Data Exchange	Res		1	01
2	537 Bit		SD4	1->1	Token pass	Pass token				
3	612 Bit		SD1	1->108	FDL Status		Req			
4	778 Bit		SD2	1->12	SRD_HIGH	Get Diagnostics	Req	62->60	0	
5	910 Bit		SD2	1<-12	DL	Get Diagnostics	Res	62<-60	16	0E 05 00 FF 00 F0 0A 00 48 02 06 05 05
6	1249 Bit		SD2	1->32	SRD_HIGH	Get Diagnostics	Req	62->60	0	
7	1383 Bit		SD2	1<-32	DL	Get Diagnostics	Res	62<-60	13	42 05 00 FF 02 54 07 00 00 00 00 00 00
8	1689 Bit		SD1	1->31	SRD_HIGH	Data Exchange	Req			
9	1768 Bit		SD2	1<-31	DL	Data Exchange	Res		1	01
10	1920 Bit		SD4	1->1	Token pass	Pass token				
11	1995 Bit		SD1	1->109	FDL Status		Req			
12	2161 Bit		SD2	1->12	SRD_HIGH	Set Parameters	Req	62->61	8	B8 01 23 0B 00 F0 00 00
13	2382 Bit		ACK			Short acknowledge	Res			
14	2431 Bit		SD2	1->32	SRD_HIGH	Set Parameters	Req	62->61	12	98 01 23 0B 69 6A 00 00 00 00 00 00
15	2697 Bit		ACK			Short acknowledge	Res			
16	2747 Bit		SD1	1->31	SRD_HIGH	Data Exchange	Req			
17	2826 Bit		SD2	1<-31	DL	Data Exchange	Res		1	01
18	2978 Bit		SD4	1->1	Token pass	Pass token				
19	3053 Bit		SD1	1->110	FDL Status		Req			
20	3219 Bit		SD2	1->12	SRD_HIGH	Check Config	Req	62->62	21	82 00 BD 81 82 00 BD C2 42 00 BE 81 C2
21	3583 Bit		ACK			Short acknowledge	Res			
22	3632 Bit		SD2	1->32	SRD_HIGH	Check Config	Req	62->62	2	00 11
23	3788 Bit		ACK			Short acknowledge	Res			
24	3838 Bit		SD1	1->31	SRD_HIGH	Data Exchange	Req			
25	3917 Bit		SD2	1<-31	DL	Data Exchange	Res		1	01
26	4069 Bit		SD4	1->1	Token pass	Pass token				
27	4144 Bit		SD1	1->111	FDL Status		Req			
28	4310 Bit		SD2	1->12	SRD_HIGH	Get Diagnostics	Req	62->60	0	
29	4443 Bit		SD2	1<-12	DL	Get Diagnostics	Res	62<-60	16	0E 05 00 FF 00 F0 0A 00 48 02 06 05 05

## Opis funkcji

Na zakładce **Messages** użytkownik ma możliwość podglądania ruchu w sieci.

Funkcjonalność ta jest przydatna do zaawansowanej diagnostyki problemów na poziomie protokołu.

Dane te można przeszukiwać (opcja **Setup Search**) oraz filtrować (opcja **Set view filter** i zakładka Messages (with view filter applied) według bieżących potrzeb.



# Raportowanie efektów pracy



## ProfiTrace detailed network report

### 6. Summary / deviations / tips & tricks

1. The device at address 24 has caused 3 ILLEGAL messages.
2. The device at address 26 has caused 3 ILLEGAL messages.
3. The device at address 27 has caused 3 ILLEGAL messages.
4. The device at address 29 has caused 2 ILLEGAL messages.
5. The device at address 32 has been LOST 1 time.
6. The device at address 33 has been LOST 2 times.
7. The device at address 35 has been LOST 2 times.
8. The device at address 35 has had diagnosis 96 while in data exchange.
9. The device at address 37 has caused 3 ILLEGAL messages.
10. The device at address 39 has caused 3 ILLEGAL messages.
11. The device at address 40 has caused 3 ILLEGAL messages.
12. The device at address 41 has caused 3 ILLEGAL messages.
13. The device at address 42 has caused 3 ILLEGAL messages.
14. The device at address 44 has been LOST 1 time.
15. The device at address 44 has caused 1 ILLEGAL message.
16. The device at address 47 has been LOST 3 times.
17. The device at address 47 has caused 3 ILLEGAL messages.

### Disclaimer

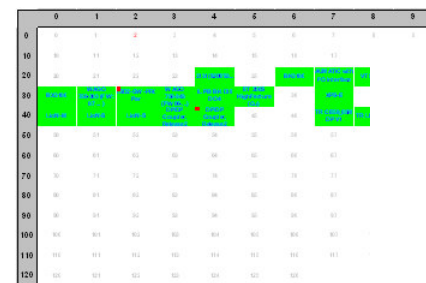
PROFIBUS makes no warranty in relation to the completeness, accuracy, generality, timeliness, or any other aspect of the information contained in this document. By using this document, you assume the risk that the information is incomplete, inaccurate, or may not meet your needs and requirements. Because the information is provided as is, without warranty, the user assumes all liability for any damage or loss resulting from the use of this information.

Name: \_\_\_\_\_  
Signature: \_\_\_\_\_



## ProfiTrace detailed network report

### 9. Live list



#### Legend

<span style="background-color: white; border: 1px solid black; padding: 2px;"> </span>	No activity	<span style="background-color: white; border: 1px solid black; padding: 2px;"> </span>	No activity
<span style="background-color: green; border: 1px solid black; padding: 2px;"> </span>	Device is in data exchange	<span style="background-color: red; border: 1px solid black; padding: 2px;"> </span>	Master station
<span style="background-color: yellow; border: 1px solid black; padding: 2px;"> </span>	Device is lost	<span style="background-color: blue; border: 1px solid black; padding: 2px;"> </span>	Slave station
<span style="background-color: orange; border: 1px solid black; padding: 2px;"> </span>	Device has a parameter error		
<span style="background-color: pink; border: 1px solid black; padding: 2px;"> </span>	Device has a configuration error		

Name: \_\_\_\_\_  
Signature: \_\_\_\_\_



## ProfiTrace detailed network report

### 10. Address list

Address	Device ID	Manufacturer	Model Name	GSD
24	0000	SIEMENS	6ES7 311-1CG02-0AB0	1
26	0000	SIEMENS	6ES7 311-1CG02-0AB0	1
27	0000	SIEMENS	6ES7 311-1CG02-0AB0	1
29	0000	SIEMENS	6ES7 311-1CG02-0AB0	1
32	0000	SIEMENS	6ES7 311-1CG02-0AB0	1
33	0000	SIEMENS	6ES7 311-1CG02-0AB0	1
35	0000	SIEMENS	6ES7 311-1CG02-0AB0	1
37	0000	SIEMENS	6ES7 311-1CG02-0AB0	1
39	0000	SIEMENS	6ES7 311-1CG02-0AB0	1
40	0000	SIEMENS	6ES7 311-1CG02-0AB0	1
41	0000	SIEMENS	6ES7 311-1CG02-0AB0	1
42	0000	SIEMENS	6ES7 311-1CG02-0AB0	1
44	0000	SIEMENS	6ES7 311-1CG02-0AB0	1
47	0000	SIEMENS	6ES7 311-1CG02-0AB0	1

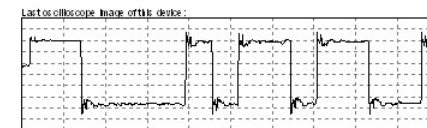
Name: \_\_\_\_\_  
Signature: \_\_\_\_\_



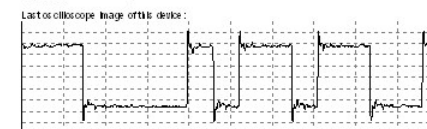
## ProfiTrace detailed network report

### 11. Device details (continued)

Address: 31  
Manufacturer: 0000  
Model Name: WAGO 750-803 (FW: 07...)  
Signal voltage: Min: 5.20 V, Max: 5.56 V, Last: 5.44 V  
Digital output: 0  
Total byte count: 0  
Time left: 0



Address: 32  
Manufacturer: 0000  
Model Name: WAGO 750-803 (FW: 07...)  
Signal voltage: Min: 5.01 V, Max: 6.00 V, Last: 5.23 V  
Digital output: 0  
Total byte count: 1  
Time left: 1



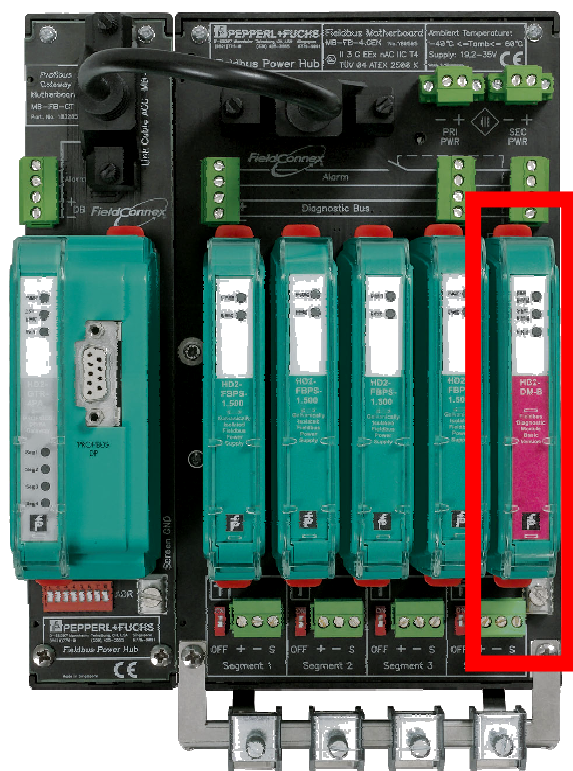
Name: \_\_\_\_\_  
Signature: \_\_\_\_\_

## Opis funkcji

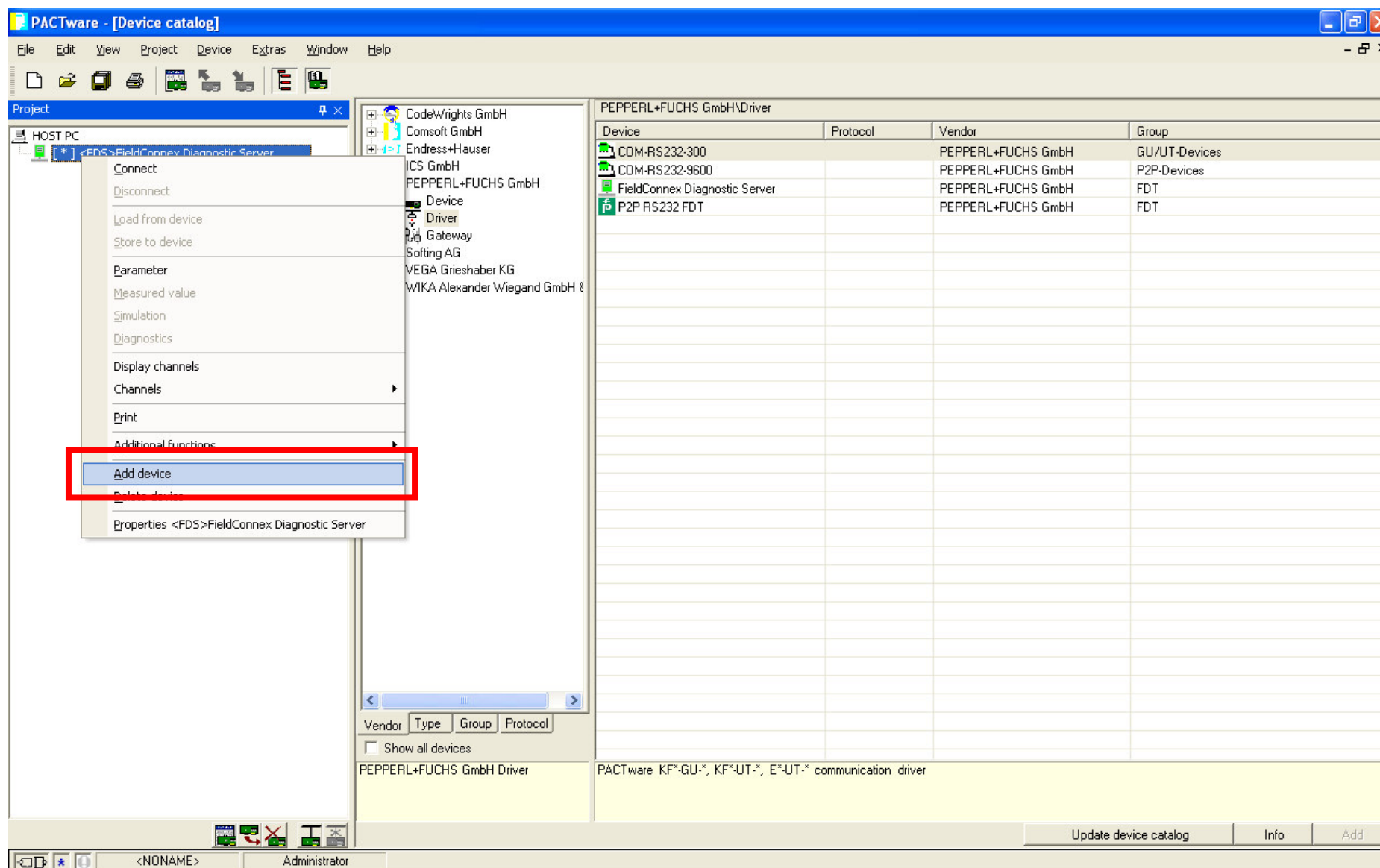
Pomiary dokonane w sieci umieszczane są w raporcie automatycznie generowanym przez aplikację.



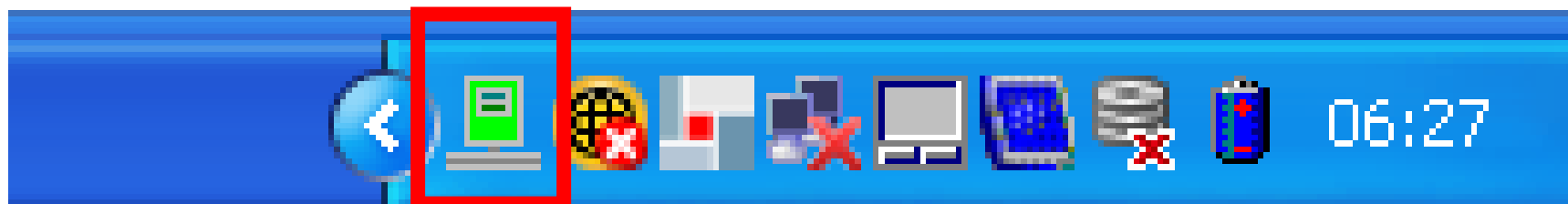
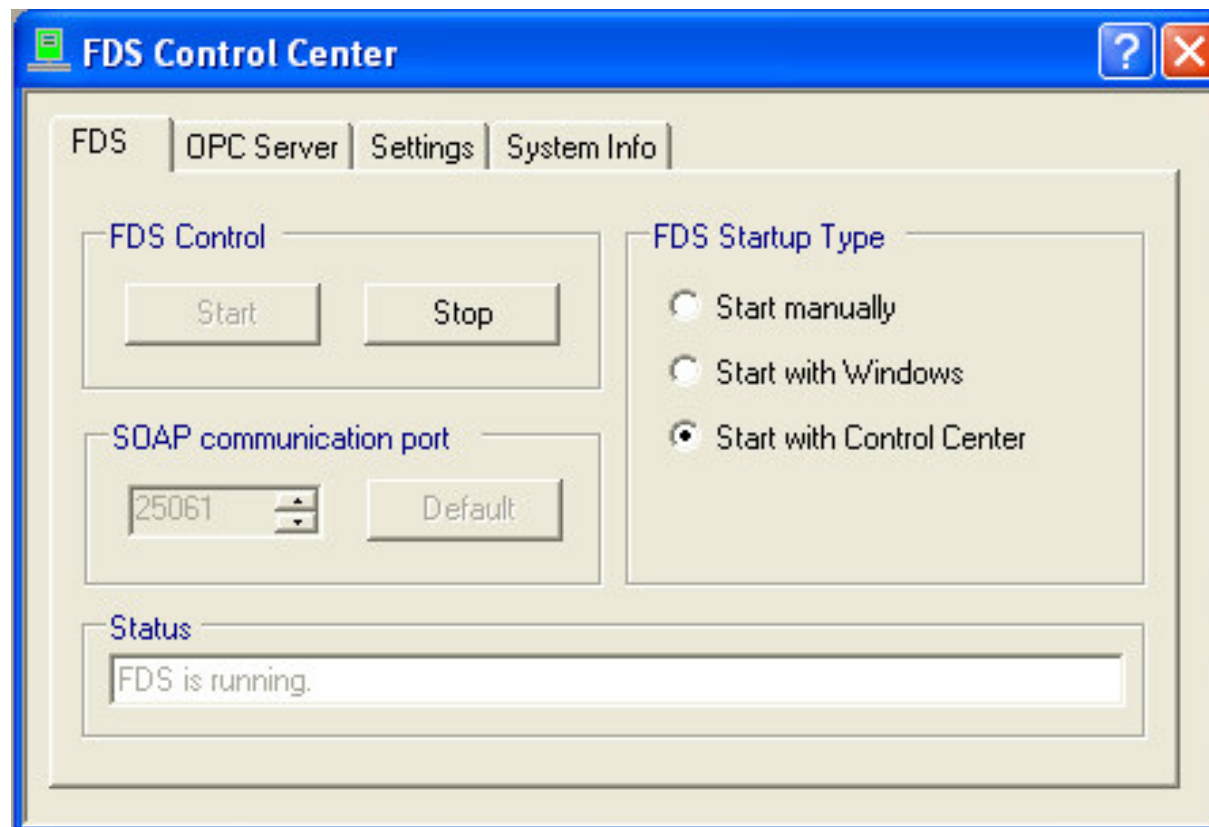
# Diagnostyka systemu zawierającego PROFIBUS PA



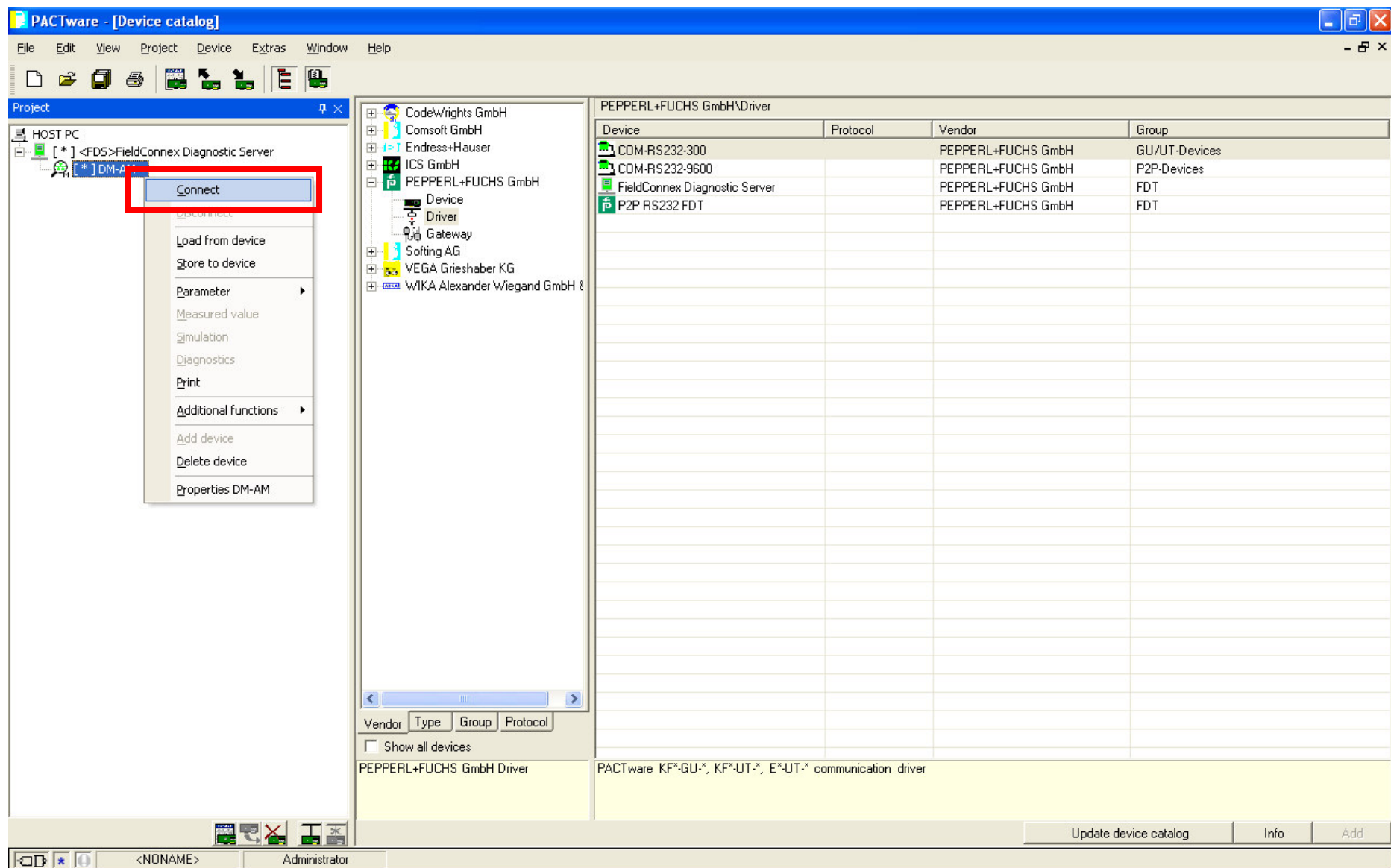
# Konfiguracja PACTware



# FieldConnex Diagnostic Server



# Połączenie z modułem diagnostycznym



# Obsługa aplikacji

PACTware - [DM-AM # Online parameterization]

File Edit View Project Device Extras Window Help

Project

HOST PC

[\*] <FDS>FieldConnex Diagnostic Server #

Connect  
Disconnect  
Load from device  
Store to device  
Parameter  
Measured value  
Simulation  
Diagnostics  
Print  
Additional functions  
Add device  
Delete device  
Properties DM-AM

FieldConnex

Device Name: DM-AM Segment Status: ☒  
Device Tag:  
Fieldbus Type: PROFIBUS PA

Label

- ☒ DM-AM
  - ☒ Segment
    - ☒ Statistics
    - ☒ Field Devices
      - ☒ Master (1)
      - ☒ BARCON PA (50)
      - ☒ VEGAPULS (51)
      - ☒ APC-2000 (52)
      - ☒ ABB-2010T (53)

Measure configured Field Devices only: ☐

Add new Field Device to Expected Configuration: >>

Configured Field Devices

Bus Address	Field Device Tag	Active	Alarm	Remove
1	Master	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Remove
50	BARCON PA	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Remove
51	VEGAPULS	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Remove
52	APC-2000	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Remove
53	ABB-2010T	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Remove

Remove all inactive, unconfigured Field Devices: >>

Add all unconfigured Field Devices to the Expected Configuration: >>

Unconfigured Field Devices

Bus Address	Active	Add Configuration	Remove
-------------	--------	-------------------	--------

Compare offline  
Compare online  
Set value  
Analyze PROFIBUS PA  
Analyze FOUNDATION Fieldbus  
Firmware Update  
About  
Commissioning Wizard  
Snapshot Explorer  
History Data Export  
Fieldbus Oscilloscope  
Segment Monitoring

Connected Device

<NONAME> Administrator



# Parametryzacja segmentu - OFFLINE

The screenshot shows the PACTware - [DM-AM # Offline parameterization] window. The interface includes a menu bar (File, Edit, View, Project, Device, Extras, Window, Help), a toolbar, and a project tree on the left. The project tree shows a HOST PC with a FieldConnex Diagnostic Server # and a DM-AM #. The main area displays the FieldConnex logo and device information: Device Name: DM-AM, Device Tag: , and Fieldbus Type: PROFIBUS PA. A section titled 'Measure configured Field Devices only:' has a checkbox. Below it, a button 'Add new Field Device to Expected Configuration:' is followed by a text box with '>>'. A table titled 'Configured Field Devices' lists the following data:

Bus Address	Field Device Tag	Remove
1	Master	Remove
50	BARCON PA	Remove
51	VEGAPULS	Remove
52	APC-2000	Remove
53	ABB-2010T	Remove

At the bottom of the window, a status bar shows a green icon, a blue star, and the text '<NON'.

## Opis funkcji

Oprogramowanie *Advanced Diagnostics* umożliwia definicję nazw dla poszczególnych stacji (adresów) w segmencie PROFIBUS PA, dzięki temu uzyskuje się zwiększoną czytelność zwracanych informacji diagnostycznych.

# Parametryzacja segmentu - ONLINE

**PACTware - [DM-AM # Online parameterization]**

File Edit View Project Device Extras Window Help

Project: HOST PC

- [\*] <FDS>FieldConnex Diagnostic Server #
  - [\*] DM-AM #

FieldConnex

Device Name: DM-AM Segment Status: ☒

Device Tag:

Fieldbus Type: PROFIBUS PA

Label

- ☒ DM-AM
  - ☒ Segment
    - Statistics
    - ☒ Field Devices
      - ☒ Master (1)
        - ☒ BARCON PA (50)
        - ☒ VEGAPULS (51)
        - ☒ APC-2000 (52)
        - ☒ ABB-2010T (53)
      - ☐ Unconfigured Field D

Field Device Tag: BARCON PA

Field Device Address: 50

Field Device Status:

- ☒ Active
- ☐ Alarm active
- ☒ Data valid

Signal Polarity: Standard

Noise: 15 mV

Jitter: 1,2 us

Number Live List Appearances: 1

Number of Pass Token misses: 0

Field Device Signal Level

Label	Low Out ...	Low Main...	Actual ...	High Mai...	High Out...	Hyster...	Reset
Signal Level [mV]	200	<input checked="" type="checkbox"/> 641	<input checked="" type="checkbox"/> 741	843	<input checked="" type="checkbox"/> 1200	<input checked="" type="checkbox"/> 50	Reset

Opis funkcji

Dla każdej ze stacji możliwy jest podgląd amplitudy generowanego sygnału, poziomu szumów, błędów nierównomierności czasu trwania bitu oraz statusu danych.

# Diagnostyka segmentu - przykład

The screenshot shows the PACTware - [DM-AM # Diagnostics] window. The top menu bar includes File, Edit, View, Project, Device, Extras, Window, and Help. The left sidebar shows the Project tree with HOST PC, <FDS>FieldConnex, and DM-AM #. The main area displays the FieldConnex logo and device information: Device Name: DM-AM, Device Tag: PROFIBUS PA, and Fieldbus Type: PROFIBUS PA. The Segment Status is indicated by a yellow warning icon. The Current Alarms section shows a table with one entry: Segment DC Unbalance (Negative Pole) with a value of -100 %. The Alarm History section shows a list of alarms within the last 24 hours, including Segment: DC Unbalance (Negative Pole) and Segment: Jitter Level too high. The Connection Fault section provides detailed instructions for troubleshooting. The Water Ingress Fault and Configuration Fault sections also provide troubleshooting instructions.

**informacja o błędzie**

**możliwe przyczyny błędu**

**historia zdarzeń**

**Opis funkcji**

W przypadku wystąpienia problemu tester wyświetla odpowiedni komunikat wraz z informacją o możliwej przyczynie błędu. Wszystkie sytuacje awaryjne są archiwizowane aby umożliwić późniejszą analizę problemów.

# Diagnostyka segmentu - przykład

The screenshot displays the PACTware - [DM-AM # Diagnostics] software interface. The top menu bar includes File, Edit, View, Project, Device, Extras, Window, and Help. The Project pane on the left shows a tree structure with HOST PC, <FDS>FieldCon, and <FDS>DM-AM #. The main area is divided into two sections: Current Alarms and Alarm History.

**Current Alarms**

Description	Value
Segment	
DC Unbalance (Positive Pole)	100 %

**Alarm History**

Filter On/Off Filter Settings Export...

Date	Description
within last 24 hours	
2007-08-27 11:14:32	Segment: DC Unbalance (Positive Pole)
2007-08-27 11:14:20	Segment: DC Unbalance (Positive Pole)
2007-08-27 11:14:19	Segment: DC Unbalance (Positive Pole)
2007-08-27 11:13:05	Segment: DC Unbalance (Negative Pole)
2007-08-27 11:13:02	Segment: DC Unbalance (Negative Pole)
2007-08-27 11:12:56	Segment: DC Unbalance (Negative Pole)
2007-08-27 11:12:49	Segment: DC Unbalance (Negative Pole)
2007-08-27 11:12:31	Segment: DC Unbalance (Positive Pole)
2007-08-27 11:12:26	Segment: DC Unbalance (Positive Pole)
2007-08-27 11:12:19	Segment: DC Unbalance (Positive Pole)
2007-08-27 11:12:16	Segment: DC Unbalance (Positive Pole)
2007-08-27 10:42:45	Segment: Jitter Level too high
2007-08-27 10:42:45	Segment: Segment Signal Level too high
2007-08-27 10:42:44	Segment: Jitter Level too high
2007-08-27 10:42:44	Segment: Jitter Level too high
2007-08-27 10:42:38	Segment: Jitter Level too high
2007-08-27 10:42:37	Segment: Jitter Level too high
2007-08-27 10:42:36	Segment: Jitter Level too high
2007-08-27 10:42:30	Segment: Jitter Level too high
2007-08-27 10:42:26	Segment: Jitter Level too high
2007-08-27 10:42:25	Segment: Jitter Level too high
2007-08-27 10:42:24	Segment: Jitter Level too high
2007-08-27 10:42:21	Segment: Jitter Level too high
2007-08-27 10:42:17	Segment: Jitter Level too high
2007-08-27 10:42:16	Segment: Jitter Level too high
2007-08-27 10:42:15	Segment: Jitter Level too high
2007-08-27 10:42:13	Segment: Jitter Level too high
2007-08-27 10:42:09	Segment: Jitter Level too high

**Connection Fault**  
Please verify the segment wiring and cable shielding against a pole-to-shield connection of the positive pole(+) line to the shield. Focus your search especially on the terminal clamps of the Field Devices where such contacts are most likely. In galvanically non-isolated installations a pole-to-shield connection is transferred along the whole system. To find out where the short has occurred, disconnect single segments, exchange Power Conditioner in redundant systems one after the other and watch the diagnostic status meanwhile.

**Device Error Fault**  
At least one of the Field Devices has a malfunction and produces a non-visible contact between the positive signal pole and the shield. In order to localize the source of error in such a case replace each Field Device one after each other until the fault disappears.

**Configuration Fault**  
The limit value to be supervised is wrongly configured and does not match to the current installation. Please verify the value and adjust it in accordance to the typical and rated voltage unbalance value of the segment.

**Water Ingress Fault**  
Please check the segment for any kind of possible dirt water ingress. Water ingress into a Field Device and contact to the Field Device's cable terminals may have led to direct/indirect connections between...



# Diagnostyka segmentu - przykład

The screenshot displays the PACTware - [DM-AM # Diagnostics] application window. The interface includes a menu bar (File, Edit, View, Project, Device, Extras, Window, Help), a toolbar, and a project tree on the left showing the hierarchy: HOST PC > [\*] <FDS>FieldConnex Diagnostic Server # > [\*] DM-AM #.

Key information displayed includes:

- FieldConnex** logo and device details: Device Name: DM-AM, Device Tag: (blank), Fieldbus Type: PROFIBUS PA.
- Segment Status:** Indicated by a yellow warning triangle.
- Current Alarms:** A table listing active alarms.
- Alarm History:** A table listing historical alarms with filters for 'Filter On/Off', 'Filter Settings', and 'Export...'. The filter is set to 'within last 24 hours'.
- Diagnostic Text:** Detailed descriptions for Termination Fault, Device Error Fault, Configuration Fault, and Measurement executed at Spur.
- Status Bar:** Shows 'Connected' and 'Device' status, along with user information '<NONAME>' and 'Administrator'.

Description	Value
Segment	
Jitter Level too high	8,0 µs
Segment Signal Level too high	1263 mV
Nodes (Segment 1)	
Address 51: Device's Signal Level too high	1228 mV
Address 53: Device's Signal Level too high	1238 mV
Address 50: Device's Signal Level too high	1262 mV

Date	Description
within last 24 hours	
2007-08-27 11:25:49	Address 51: Device's Signal Level too high
2007-08-27 11:25:49	Segment: Jitter Level too high
2007-08-27 11:25:49	Address 53: Device's Signal Level too high
2007-08-27 11:25:48	Segment: Segment Signal Level too high
2007-08-27 11:25:48	Address 50: Device's Signal Level too high
2007-08-27 11:15:10	Segment: DC Unbalance (Positive Pole)
2007-08-27 11:15:07	Segment: DC Unbalance (Positive Pole)
2007-08-27 11:14:36	Segment: DC Unbalance (Positive Pole)
2007-08-27 11:14:32	Segment: DC Unbalance (Positive Pole)
2007-08-27 11:14:20	Segment: DC Unbalance (Positive Pole)
2007-08-27 11:14:19	Segment: DC Unbalance (Positive Pole)
2007-08-27 11:13:05	Segment: DC Unbalance (Negative Pole)
2007-08-27 11:13:02	Segment: DC Unbalance (Negative Pole)
2007-08-27 11:12:56	Segment: DC Unbalance (Negative Pole)
2007-08-27 11:12:49	Segment: DC Unbalance (Negative Pole)
2007-08-27 11:12:31	Segment: DC Unbalance (Positive Pole)
2007-08-27 11:12:26	Segment: DC Unbalance (Positive Pole)
2007-08-27 11:12:19	Segment: DC Unbalance (Positive Pole)
2007-08-27 11:12:16	Segment: DC Unbalance (Positive Pole)
2007-08-27 10:42:45	Segment: Jitter Level too high
2007-08-27 10:42:45	Segment: Segment Signal Level too high
2007-08-27 10:42:44	Segment: Jitter Level too high
2007-08-27 10:42:44	Segment: Jitter Level too high
2007-08-27 10:42:38	Segment: Jitter Level too high
2007-08-27 10:42:37	Segment: Jitter Level too high
2007-08-27 10:42:36	Segment: Jitter Level too high
2007-08-27 10:42:30	Segment: Jitter Level too high

**Termination Fault**  
Please verify if your segment installation is properly terminated. A proper termination includes a two sided termination within the trunk each located at the end of the line.

**Device Error Fault**  
The Field Device has a malfunction in its fieldbus specific electronics and sends out an increased Signal Voltage Level to the Fieldbus network. The Field Device may need a replacement. Please use the enhanced function of the Oscilloscope to verify the signal level of the Device.

**Configuration Fault**  
The limit value to be supervised is wrongly configured and does not match to the Field Device's typical signal level value. Please verify the value and adjust it in accordance to the typical and rated signal level of that specific Field Device.

**Measurement executed at Spur**  
If the DM-AM is connected to a spur of a Field Barrier or Segment Protector the Signal Level of the Device located at this spur may be too high. Connect DM-AM to the trunk and check the values again.



# Diagnostyka segmentu - przykład

The screenshot displays the PACTware - [DM-AM # Diagnostics] application window. The interface includes a menu bar (File, Edit, View, Project, Device, Extras, Window, Help), a toolbar, and a project tree on the left showing the hierarchy: HOST PC > [ \* ] <FDS>FieldConnex Diagnostic Server # > [ \* ] DM-AM #.

Key information displayed includes:

- FieldConnex** logo and device details: Device Name: DM-AM, Device Tag: (blank), Fieldbus Type: PROFIBUS PA.
- Segment Status:** Indicated by a yellow warning triangle icon.
- Current Alarms:** A table showing active alarms.
- Alarm History:** A table showing a log of past alarms with timestamps and descriptions.
- Diagnostic Text:** Detailed descriptions for Cable Fault, Bus topology Fault, Device Error Fault, Configuration Fault, and Multiple Segment Fault.

Description	Value
Segment	
⚠ Jitter Level too high	8,0 µs
Nodes (Segment 1)	
⚠ Address 51: Device's Signal Level too high	1188 mV
⚠ Address 53: Device's Signal Level too high	1246 mV
⚠ Address 50: Device's Signal Level too high	1262 mV

Date	Description
within last 24 hours	
2007-08-27 11:27:17	⚠ Segment: Jitter Level too high
2007-08-27 11:27:16	⚠ Segment: Jitter Level too high
2007-08-27 11:26:45	⚠ Segment: Jitter Level too high
2007-08-27 11:26:45	⚠ Segment: Jitter Level too high
2007-08-27 11:26:43	⚠ Segment: Jitter Level too high
2007-08-27 11:26:43	⚠ Segment: Jitter Level too high
2007-08-27 11:26:27	⚠ Segment: Jitter Level too high
2007-08-27 11:26:27	⚠ Segment: Jitter Level too high
2007-08-27 11:26:08	⚠ Segment: Jitter Level too high
2007-08-27 11:26:07	⚠ Segment: Jitter Level too high
2007-08-27 11:25:49	⚠ Address 51: Device's Signal Level too high
2007-08-27 11:25:49	⚠ Segment: Jitter Level too high
2007-08-27 11:25:49	⚠ Address 53: Device's Signal Level too high
2007-08-27 11:25:48	⚠ Segment: Segment Signal Level too high
2007-08-27 11:25:48	⚠ Address 50: Device's Signal Level too high
2007-08-27 11:15:10	⚠ Segment: DC Unbalance (Positive Pole)
2007-08-27 11:15:07	⚠ Segment: DC Unbalance (Positive Pole)
2007-08-27 11:14:36	⚠ Segment: DC Unbalance (Positive Pole)
2007-08-27 11:14:32	⚠ Segment: DC Unbalance (Positive Pole)
2007-08-27 11:14:20	⚠ Segment: DC Unbalance (Positive Pole)
2007-08-27 11:14:19	⚠ Segment: DC Unbalance (Positive Pole)
2007-08-27 11:13:05	⚠ Segment: DC Unbalance (Negative Pole)
2007-08-27 11:13:02	⚠ Segment: DC Unbalance (Negative Pole)
2007-08-27 11:12:56	⚠ Segment: DC Unbalance (Negative Pole)
2007-08-27 11:12:49	⚠ Segment: DC Unbalance (Negative Pole)
2007-08-27 11:12:31	⚠ Segment: DC Unbalance (Positive Pole)
2007-08-27 11:12:26	⚠ Segment: DC Unbalance (Positive Pole)

Diagnostic Text:

- Cable Fault**  
Please verify that the correct and designated type of cable has been used in the segment installation. Especially the impedance value and the resistor value should be in focus here.
- Bus topology Fault**  
Please verify that the total length of installed bus cable including the main line(trunk) and the drop lines(spurs) does not exceed the maximum and recommended allowed value in relation to the number of installed Field Devices.
- Device Error Fault**  
The Jitter is determined by the maximum value that has been measured over all connected and communicating Devices. A single Device may have caused this problem. Check the Jitter Level for all devices.
- Configuration Fault**  
The limit value to be supervised is wrongly configured and does not match to the current installation. Please verify the value and adjust it in accordance to the typical and rated Jitter.
- Multiple Segment Fault**

Bottom status bar: Connected, Device, <NONAME>, Administrator

# Diagnostyka segmentu - przykład

PACTware - [DM-AM # Diagnostics]

File Edit View Project Device Extras Window Help

Project

HOST PC

- [\*] <FDS>FieldConnex Diagnostic Server #
- [\*] DM-AM #

FieldConnex

Device Name: DM-AM

Device Tag:

Fieldbus Type: PROFIBUS PA

Segment Status: ⚠

**Current Alarms**

Description	Value
Segment	
⚠ Segment DC-Voltage too low	0,5 V

**Installation Fault**  
The wrong Power Supply is currently in use. Please verify if the intended Power Supply Module is mounted to the Motherboard and check its maximum Output Voltage Level (e.g. 17V, 23V, 30V) imprinted on its Front Panel. Replace the Power Supply Module if the desired and correct one is not installed.

**Configuration Fault**  
There is a misconfiguration of the limit value to be supervised. Please re-configured the limit value in the "Fieldbus Physical Layer Data" within the Segment Monitor.

**Malfunction Fault**  
The Power Supply Module that is driving the Output Voltage Level is defective and needs a replacement.

**Alarm History**

Filter On/Off Filter Settings Export...

Date	Description
within last 24 hours	
2007-08-27 11:59:03	✖ Segment: Noise Level too high
2007-08-27 11:59:03	⚠ Segment: Noise Level too high
2007-08-27 11:59:03	⚠ Segment: Noise Level too high
2007-08-27 11:59:03	⚠ Segment: Noise Level too high
2007-08-27 11:59:02	✖ Segment: Noise Level too high
2007-08-27 11:59:02	⚠ Segment: Noise Level too high
2007-08-27 11:59:02	⚠ Segment: Noise Level too high
2007-08-27 11:59:02	⚠ Segment: Noise Level too high
2007-08-27 11:59:01	✖ Segment: Noise Level too high
2007-08-27 11:59:01	⚠ Segment: Noise Level too high
2007-08-27 11:59:01	⚠ Segment: Noise Level too high
2007-08-27 11:59:01	⚠ Segment: Noise Level too high
2007-08-27 11:59:00	✖ Segment: Noise Level too high
2007-08-27 11:59:00	⚠ Segment: Noise Level too high
2007-08-27 11:59:00	⚠ Segment: Noise Level too high
2007-08-27 11:59:00	⚠ Segment: Noise Level too high
2007-08-27 11:59:00	⚠ Segment: Noise Level too high
2007-08-27 11:58:58	✖ Segment: Noise Level too high
2007-08-27 11:58:58	⚠ Segment: Noise Level too high
2007-08-27 11:58:58	⚠ Segment: Noise Level too high
2007-08-27 11:58:58	⚠ Segment: Noise Level too high
2007-08-27 11:58:57	✖ Segment: Noise Level too high
2007-08-27 11:58:57	⚠ Segment: Noise Level too high
2007-08-27 11:58:57	⚠ Segment: Noise Level too high
2007-08-27 11:58:57	⚠ Segment: Noise Level too high
2007-08-27 11:58:56	✖ Segment: Noise Level too high
2007-08-27 11:58:56	⚠ Segment: Noise Level too high
2007-08-27 11:58:56	⚠ Segment: Noise Level too high

Connected Device

<NONAME> Administrator

# Diagnostyka segmentu - przykład

PACTware - [DM-AM # Diagnostics]

File Edit View Project Device Extras Window Help

Project

HOST PC

- [\*] <FDS>FieldConnex Diagnostic Server #
- [\*] DM-AM #

FieldConnex

Device Name: DM-AM

Device Tag:

Fieldbus Type: PROFIBUS PA

Segment Status: ⚠

**Current Alarms**

Description	Value
Segment	
⚠ Segment DC-Voltage too low	0 V

**Installation Fault**  
The wrong Power Supply is currently in use. Please verify if the intended Power Supply Module is mounted to the Motherboard and check its maximum Output Voltage Level (e.g. 17V, 23V, 30V) imprinted on its Front Panel. Replace the Power Supply Module if the desired and correct one is not installed.

**Configuration Fault**  
There is a misconfiguration of the limit value to be supervised. Please re-configured the limit value in the "Fieldbus Physical Layer Data" within the Segment Monitor.

**Malfunction Fault**  
The Power Supply Module that is driving the Output Voltage Level is defective and needs a replacement.

**Alarm History**

Filter On/Off Filter Settings Export...

Date	Description
within last 24 hours	
2007-08-28 06:23:57	✖ Segment: Jitter Level too high
2007-08-28 06:23:57	✖ Segment: Jitter Level too high
2007-08-28 06:23:57	✖ Segment: Segment Signal Level too high
2007-08-28 06:23:57	✖ Segment: Segment Signal Level too high
2007-08-28 06:23:57	✖ Address 53: Device's Signal Level too high
2007-08-28 06:23:57	✖ Address 53: Device's Signal Level too high
2007-08-28 06:23:57	✖ Address 52: Device's Signal Level too high
2007-08-28 06:23:57	✖ Address 51: Device's Signal Level too high
2007-08-28 06:23:57	✖ Address 51: Device's Signal Level too high
2007-08-28 06:23:57	✖ Address 50: Device's Signal Level too high
2007-08-28 06:23:57	✖ Address 50: Device's Signal Level too high
2007-08-28 06:23:57	✖ Address 1: Device's Signal Level too high
2007-08-28 06:23:57	✖ Address 1: Device's Signal Level too high
2007-08-28 06:23:53	⚠ Segment: Segment DC-Voltage too low
2007-08-28 06:23:53	⬢ Segment: Segment DC-Voltage too low
2007-08-28 06:23:53	⚠ Segment: Jitter Level too high
2007-08-28 06:23:52	✖ Segment: Jitter Level too high
2007-08-28 06:23:51	⚠ Segment: Jitter Level too high
2007-08-28 06:23:51	⬢ Segment: Jitter Level too high
2007-08-28 06:23:51	✖ Segment: Jitter Level too high
2007-08-28 06:23:50	⬢ Segment: Jitter Level too high
2007-08-28 06:23:49	✖ Segment: Jitter Level too high
2007-08-28 06:23:49	✖ Segment: Jitter Level too high
2007-08-28 06:23:49	⚠ Segment: Jitter Level too high
2007-08-28 06:23:47	⬢ Segment: Jitter Level too high
2007-08-28 06:23:46	✖ Segment: Jitter Level too high
2007-08-28 06:23:45	⚠ Address 1: Device's Signal Level too high

Connected Device

<NONAME> Administrator

# Wartości mierzone - urządzenie

**PACTware - [DM-AM # Measured value]**

File Edit View Project Device Extras Window Help

Project: HOST PC

- [\*] <FDS>FieldConnex Diagnostic Server #
  - [\*] DM-AM #

FieldConnex

Device Name: DM-AM Segment Status:

Device Tag:

Fieldbus Type: PROFIBUS PA

Field Device Tag: VEGAPULS

Field Device Address: 51

Field Device Status:  
☒ Active  
☒ Alarm active  
☒ Data valid

Signal Polarity: Standard

Noise: 29 mV

Jitter: 2,9 us

Number Live List Appearances: 1

Number of Pass Token misses: 0

Field Device Signal Level

Label	Low Out ...	Low Main...	Actual ...	High Mai...	High Out...	Hyster...	Reset
Signal Level [mV]	200	<input checked="" type="checkbox"/> 200	1209	1200	<input checked="" type="checkbox"/> 1200	100	Reset

**Opis funkcji**

Dla każdej ze stacji możliwy jest podgląd amplitudy generowanego sygnału, poziomu szumów, błędów nierównomierności czasu trwania bitu oraz statusu danych. Odstępstwo od zdefiniowanych wartości progowych sygnalizowane jest jako błąd.



# Wartości mierzone - segment

PACTware - [DM-AM # Measured value]

File Edit View Project Device Extras Window Help

Project

HOST PC

- [\*] <FDS>FieldConnex Diagnostic Server #
  - [\*] DM-AM #

FieldConnex

Device Name: DM-AM Segment Status: ☒

Device Tag:

Fieldbus Type: PROFIBUS PA

Label

- ☒ DM-AM
  - ☒ Segment
    - Statistics
    - ☒ Field Devices
      - ☒ Master (1)
      - ☒ BARCON PA (50)
      - ☒ VEGAPULS (51)
      - ☒ APC-2000 (52)
      - ☒ ABB-2010T (53)
    - ☐ Unconfigured Field Devices

Segment Tag:

Bus Communication Status: ☐

Number of Field Devices detected: 5

Fieldbus Physical Layer Data

Label	Low Out ...	Low Main...	Actual ...	High Mai...	High Out...	Hyster...	Reset
Voltage [V]	9,0 <input type="checkbox"/>	9,0 <input type="checkbox"/>	12,7	32,0 <input type="checkbox"/>	32,0 <input type="checkbox"/>	1,0	Reset
Unbalance [%]	-84 <input checked="" type="checkbox"/>	-84 <input type="checkbox"/>	0	84 <input type="checkbox"/>	84 <input checked="" type="checkbox"/>	20	Reset
Min. Signal Level [mV]	200 <input checked="" type="checkbox"/>	200 <input type="checkbox"/>	612			100	Reset
Max. Signal Level [mV]			815	1200 <input type="checkbox"/>	1200 <input checked="" type="checkbox"/>	100	Reset
Noise [mV]			15	100 <input type="checkbox"/>	100 <input checked="" type="checkbox"/>	25	Reset
Jitter [us]			1,4	3,2 <input type="checkbox"/>	3,2 <input checked="" type="checkbox"/>	0,8	Reset

Opis funkcji

Dla całego segmentu możliwy jest podgląd amplitudy generowanego sygnału wraz z wartościami minimalną oraz maksymalną, poziomu szumów, błędów nierównomierności czasu trwania bitu oraz statusu danych. Dostępna jest także informacja o niesymetryczności sygnału względem masy.



# Monitorowanie całego segmentu

**PACTware - [DM-AM # Segment Monitoring]**

File Edit View Project Device Extras Window Help

Project: HOST PC

FieldConnex

Device Name: DM-AM Segment Status: ☒

Device Tag:

Fieldbus Type: PROFIBUS PA

Show Wizard Reset Create Snapshot

This window shows the actual segment data as well as the minimum and maximum values measured while this window is open. You can reset the min. and max. values using the Reset button. The min. and max. values are classified in the following way:

☒ Value is Excellent ☒ Value is Good ☐ Value is Out of Specification

Segment Tag:

Segment Bus-Communication Status:

Segment Data

Label	Actual Value	Min. Value	Max. Value	Status	Information
Voltage [V]	12,7	12,7	12,7	<input checked="" type="checkbox"/>	Excellent
Unbalance [%]	0,0	0,0	0,0	<input checked="" type="checkbox"/>	Excellent
Noise [mV]	15,0	10,0	24,0	<input checked="" type="checkbox"/>	Excellent
Jitter [us]	1,4	0,5	1,4	<input checked="" type="checkbox"/>	Excellent
Min. Signal Level [mV]	610,0	610,0		<input checked="" type="checkbox"/>	Excellent
Max. Signal Level [mV]	814,0		817,0	<input checked="" type="checkbox"/>	Excellent

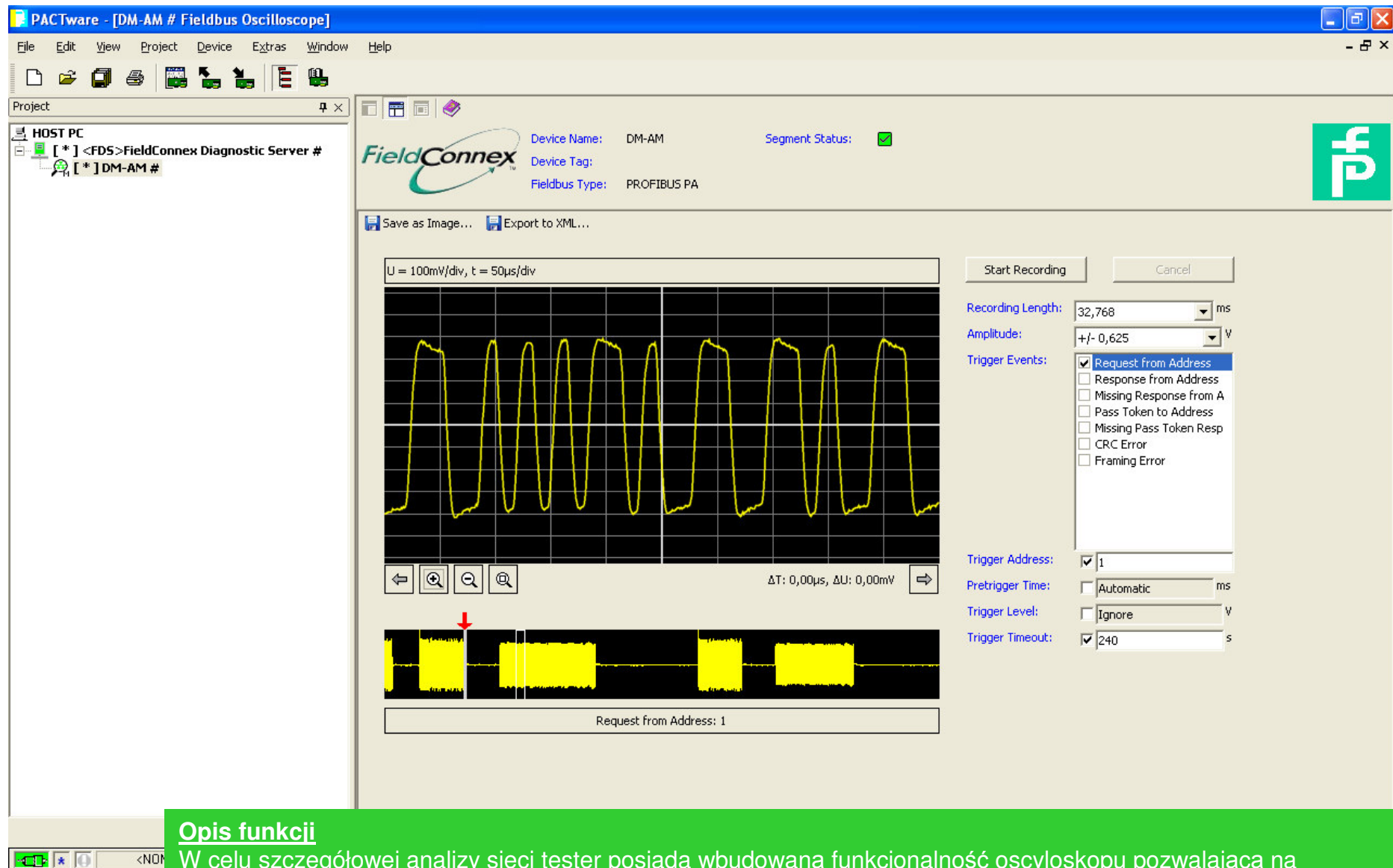
Field Device Data

Add...	Field Device Tag	Signal [mV]	Noise [mV]	Jitter [us]	Polarity
1	Master	814,0	15,0	1,3	Standard
50	BARCON PA	741,0	15,0	1,2	Standard
51	VEGAPULS	711,0	15,0	1,4	Standard
52	APC-2000	610,0	15,0	0,9	Standard
53	ABB-2010T	711,0	15,0	0,6	Standard

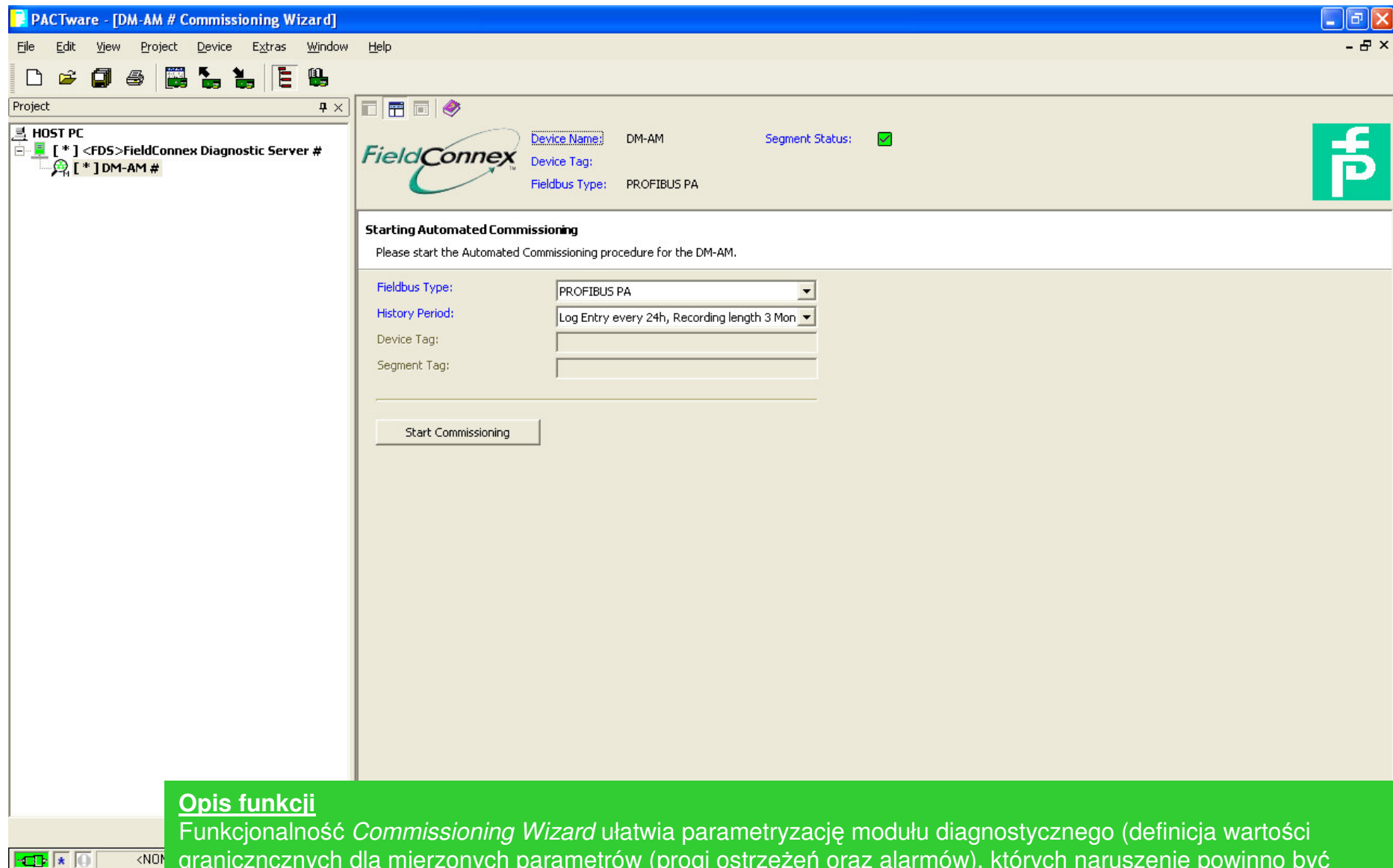
## Opis funkcji

Poza podglądem mierzonych wartości dla poszczególnych urządzeń oraz segmentu możliwy jest także podgląd wszystkich parametrów wraz z oceną wartości na podstawie optymalnych wartości zdefiniowanych w standardzie.

# Wbudowany oscyloskop



# Commisioning Wizard



## Opis funkcji

Funkcjonalność *Commissioning Wizard* ułatwia parametryzację modułu diagnostycznego (definicja wartości granicznych dla mierzonych parametrów (progi ostrzeżeń oraz alarmów), których naruszenie powinno być sygnalizowane. Definiowany jest także interwał z jakim rejestrowane są parametry segmentu w celu późniejszej analizy tendencji (działania prewencyjne).

# Commisioning Wizard

PACTware - [DM-AM # Commissioning Wizard]

File Edit View Project Device Extras Window Help

Project

HOST PC

- [\*] <FDS>FieldConnex Diagnostic Server #
  - [\*] DM-AM #

FieldConnex

Device Name: DM-AM Segment Status: ☒

Device Tag:

Fieldbus Type: PROFIBUS PA

**Setting Field Devices Tags- Step 1 of 6**

Please enter the Tag Names of the listed Field Devices or let them read automatically via a supported Host Interface.

Segment Tag:

Host Interface:

Field Device Tags

Field Device...	Field Device Tag
1	Master
50	BARCON PA
51	VEGAPULS
52	APC-2000
53	ABB-2010T

Connected Device

<NONAME> Administrator

# Commisioning Wizard

PACTware - [DM-AM # Commissioning Wizard]

File Edit View Project Device Extras Window Help

Project

HOST PC

- [\*] <FDS>FieldConnex Diagnostic Server #
- [\*] DM-AM #

FieldConnex

Device Name: DM-AM Segment Status: ☒

Device Tag:

Fieldbus Type: PROFIBUS PA

**Reviewing and controlling the Diagnostic Data - Step 2 of 6**

Please verify the Diagnostic Data against abnormalities. Eliminate all problems first before you continue.

Segment Tag:  Reset

Segment Bus-Communication Status: ☐

Segment Data

Label	Actual Value	Min. Value	Max. Value	Status	Information
Voltage [V]	12,7	12,7	12,7	<input checked="" type="checkbox"/>	Excellent
Unbalance [%]	0,0	0,0	0,0	<input checked="" type="checkbox"/>	Excellent
Noise [mV]	15,0	10,0	24,0	<input checked="" type="checkbox"/>	Excellent
Jitter [us]	1,3	0,6	1,3	<input checked="" type="checkbox"/>	Excellent
Min. Signal Level [mV]	613,0	610,0		<input checked="" type="checkbox"/>	Excellent
Max. Signal Level [mV]	814,0		817,0	<input checked="" type="checkbox"/>	Excellent

Field Device Data

Add... /	Field Device Tag	Signal [mV]	Noise [mV]	Jitter [us]	Polarity
1	Master	814,0	15,0	1,3	Standard
50	BARCON PA	742,0	15,0	1,0	Standard
51	VEGAPULS	694,0	15,0	1,2	Standard
52	APC-2000	613,0	15,0	0,8	Standard
53	ABB-2010T	708,0	15,0	0,7	Standard

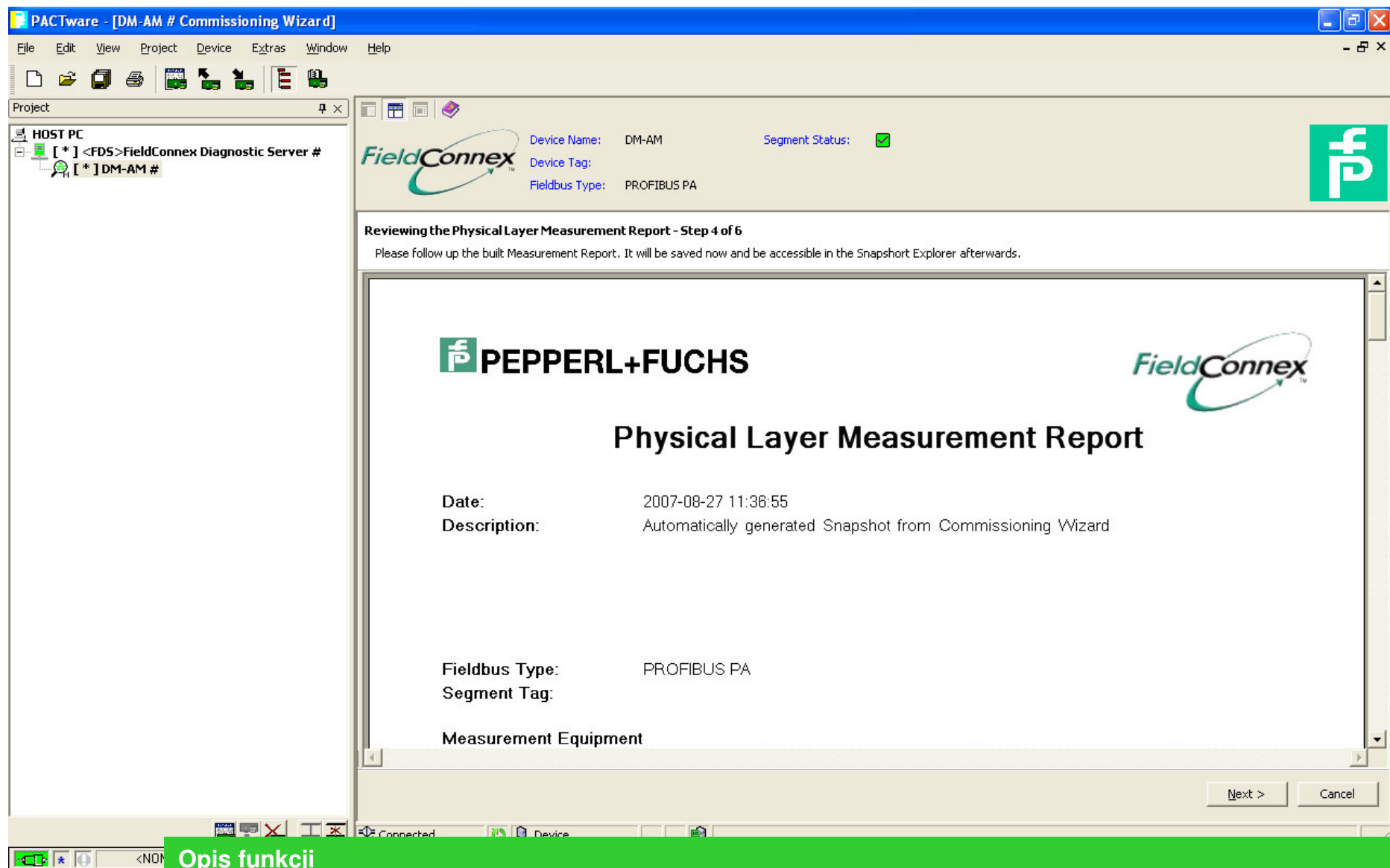
Next > Cancel

Connected Device

<NONAME> Administrator



# Commisioning Wizard



## Opis funkcji

Jednym z efektów działania *Commissioning Wizard* jest raport zawierający informację o zmierzonych parametrach sieci.

# Commisioning Wizard

PACTware - [DM-AM # Commissioning Wizard]

File Edit View Project Device Extras Window Help

Project

HOST PC

[\*] <FDS>FieldConnex Diagnostic Server #

[\*] DM-AM #

FieldConnex

Device Name: DM-AM Segment Status: ☒

Device Tag:

Fieldbus Type: PROFIBUS PA

**Setting the Advanced Diagnostic Module's configuration - Step 5 of 6**

Please verify the calculated min. and max. limit values and modify them if necessary. Confirm to initiate the Diagnostic Module's configuration.

Segment Limit Values

Label	Low Out of...	Low...	Min.pea...	Max.pe...	High...	High Out of...	Hystere...
Voltage [V]	9,0	<input checked="" type="checkbox"/> 11,2	<input checked="" type="checkbox"/> 12,7	12,7	14,2	<input checked="" type="checkbox"/> 32,0	<input checked="" type="checkbox"/> 0,8
Unbalance [%]	-84	<input checked="" type="checkbox"/> -40	<input checked="" type="checkbox"/> 0	0	40	<input checked="" type="checkbox"/> 84	<input checked="" type="checkbox"/> 20
Min.Signal Level [mV]	200	<input checked="" type="checkbox"/> 509	<input checked="" type="checkbox"/> 609				50
Max.Signal Level [mV]				817	917	<input checked="" type="checkbox"/> 1200	<input checked="" type="checkbox"/> 50
Noise [mV]				24	64	<input checked="" type="checkbox"/> 100	<input checked="" type="checkbox"/> 25
Jitter [us]				1,4	2,4	<input checked="" type="checkbox"/> 3,2	<input checked="" type="checkbox"/> 0,5

Field Devices Signal Level Limit Values

Field...	Field Device Tag	Low Out of...	Low...	Min.pe...	Max.pe...	High...	High Out of...	Hyster...
1	Master	200	<input checked="" type="checkbox"/> 709	<input checked="" type="checkbox"/> 809	817	917	<input checked="" type="checkbox"/> 1200	<input checked="" type="checkbox"/> 50
50	BARCON PA	200	<input checked="" type="checkbox"/> 641	<input checked="" type="checkbox"/> 741	743	843	<input checked="" type="checkbox"/> 1200	<input checked="" type="checkbox"/> 50
51	VEGAPULS	200	<input checked="" type="checkbox"/> 592	<input checked="" type="checkbox"/> 692	711	811	<input checked="" type="checkbox"/> 1200	<input checked="" type="checkbox"/> 50
52	APC-2000	200	<input checked="" type="checkbox"/> 509	<input checked="" type="checkbox"/> 609	613	713	<input checked="" type="checkbox"/> 1200	<input checked="" type="checkbox"/> 50
53	ABB-2010T	200	<input checked="" type="checkbox"/> 608	<input checked="" type="checkbox"/> 708	713	813	<input checked="" type="checkbox"/> 1200	<input checked="" type="checkbox"/> 50

Next > Cancel

Connected Device

<NONAME> Administrator

**Snapshot Data**

Fieldbus Type: PROFIBUS PA  
 Type: DM-AM  
 Segment Tag: 1.1.0.1  
 Software Rev: 1.22.5.2  
 DTM Software Rev: 1.22.5.2  
 Serial Number: 01366144011016  
 Date: 8/31/2007 3:45:25 PM

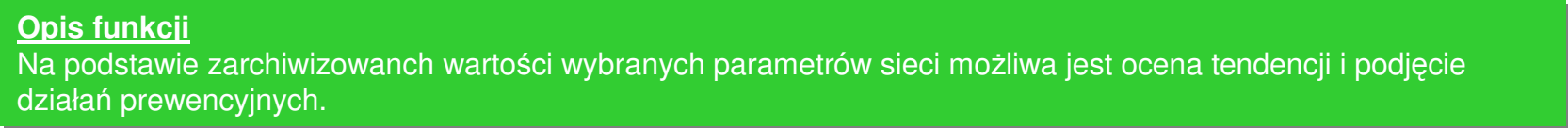
**Signal Level /mV**

Device ID	Signal Level /mV
1	820
50	750
51	710
52	620
53	710

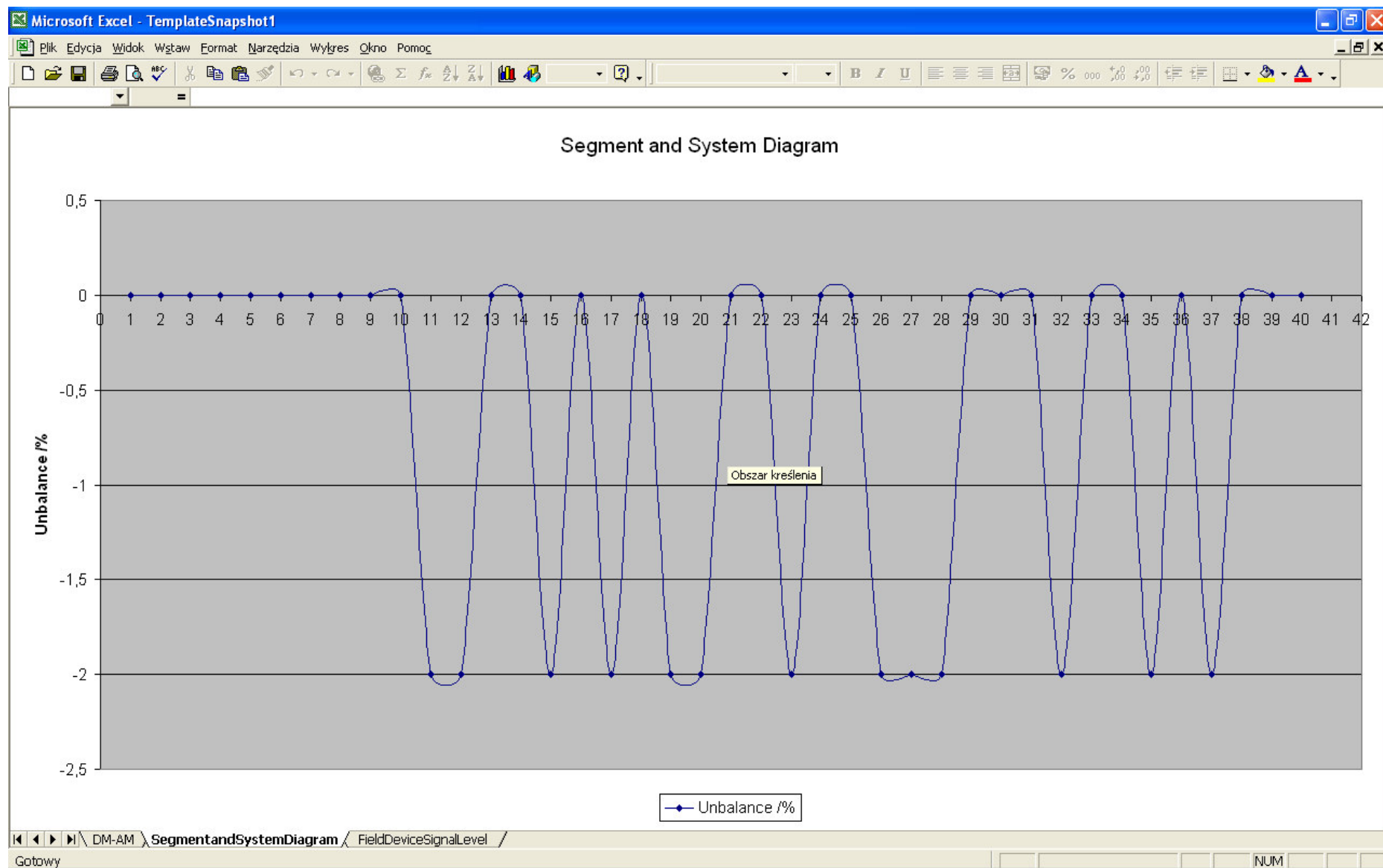
**Field Device Parameters**

Field Device	Voltage /V	Unbalance /%	Noise /mV	Jitter /μs	Signal Level /mV
Average	12,70	-0,65	23,90	1,27	820
Standard Deviation	0,00	0,95	0,63	0,05	820
Maximum	12,70	0,00	24,00	1,30	820
Minimum	12,70	-2,00	20,00	1,10	820

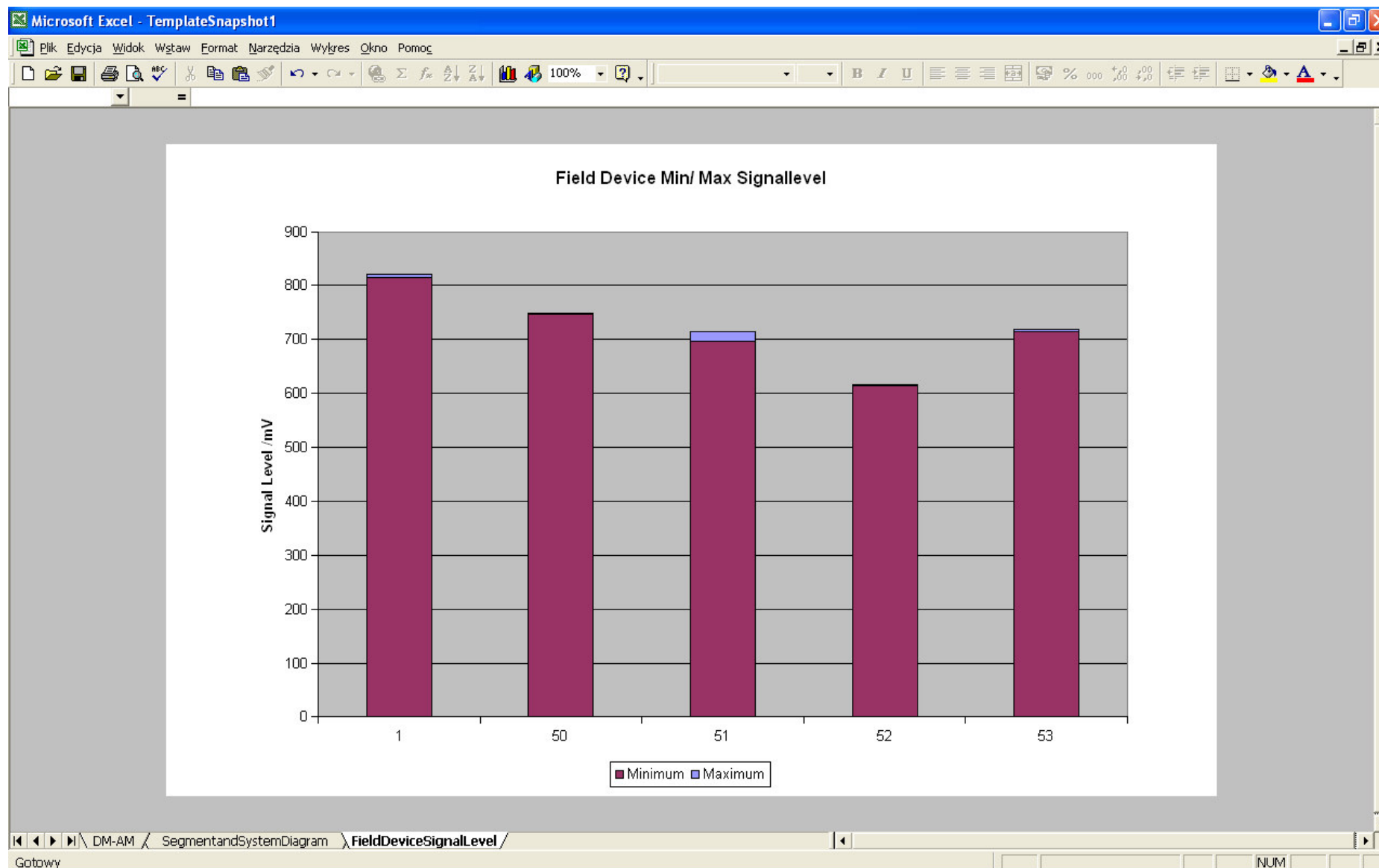
**Opis funkcji**  
 Na podstawie zarchiwizowanych wartości wybranych parametrów sieci możliwa jest ocena tendencji i podjęcie działań prewencyjnych.



# Analiza informacji diagnostycznych w MS Excel



# Analiza informacji diagnostycznych w MS Excel





# Wsparcie

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## Służymy pomocą na etapie:

- ★ koncepcji
- ★ projektowania
- ★ instalacji
- ★ uruchamiania
- ★ lokalizacji problemów
- ★ użytkowania
- ★ implementacji interfejsu

## Nasza pomoc to:

- ★ konsultacje
- ★ szkolenia
- ★ wizyty diagnostyczne
- ★ audyty instalacji

**... sieci PROFIBUS DP oraz PROFIBUS PA**

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