

Scientific and Production Enterprise «VIBROBIT» LIMITED LIABILITY COMPANY

Vibrobit Module Configurator

Operator Manual

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ABSTRACT

"Vibrobit Module Configurator". Operator Manual /

Author-developer G.A. Volkov etc. — RnD.: Vibrobit — 24 p.

The "Vibrobit Module Configurator" Operator Manual (OM) is intended to familiarize users (operation personnel) with program purpose and operation and also with control modules setup procedure.

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AGREED NOTATION

To ease text comprehension the Manual uses the following special symbols:

- names of program elements are highlighted with **semi-bold face**;
- operation sequence is emphasized with *italic font*, arrows and square brackets: [Calibration \rightarrow Test signal calibration].

Some important issues are separated into special boxes. Please, read them carefully:

Important information

Arranged here are information, advices, recommendations to pay special attention to.

1 "VIBROBIT MODULE CONFIGURATOR" PROGRAM DESCRIPTION

"Vibrobit Module Configurator" program (hereinafter program) is intended to view measurement results, correction and calibration of operation parameters of "Vibrobit 300" and "Vibrobit 400" instrumentation modules. Module communication is arranged via diagnostic interface module (MC01USB) or via Bluetooth radio channel via MC03Bluetooth module which is connected to diagnostic port of the module to be configured.

The program main functions:

- viewing and editing module parameters, measurement channels, communication interfaces, identification information;
- modules calibration;
- real-time observing the current readings of modules measured parameters;
- automatic detection of connected module;
- saving settings to file and loading settings from file;
- parameters search by name or address;
- report producing according to settings.

2 SYSTEM REQUIREMENTS

2.1 Hardware requirements

Specified minimum requirements of "Vibrobit Module Configurator" program to hardware are given in Table 1.

Table 1 - System requirements

Туре	Minimum	Recommended
Processor	Pentium with clock frequency of 1.8 GHz or similar processor	Pentium with clock frequency of 2.4 GHz and higher or similar processor
RAM	512 MB	1 Gb and more
ROM (read-only memory)	30 Mb of free space	100 Mb of free space on disc and more

2.2 Software requirements

Installed for program operation should be operation system Windows not less than XP SP3 and .Net Framework installed of version not less than 4.0.

3 PROGRAM OPERATION

3.1 Program start

To start program operation, start ModuleConfigurator.exe file (start icon is shown on Figure 1).



Figure 1 - Program start icon

The program main window (Ref. Figure 2) consists of the following menu elements:

1) **Create new module setting** (Figure 2, item 1) – to create setting of specific control module;

2) **Open module settings from file** (Figure 2, item 2) – to open module settings from file;

3) **Search available modules** (Figure 2, item 3) – search of available modules and opening their configurations;



Figure 2 – Program start window

4) **About program** (Figure 2, item 4) – contains program reference information.

3.2 Work with modules configurations

To open new configuration (without parameters adjustment values), press button *Create new module setting* in program menu, a window will appear with a list of all modules with filtering by equipment type (Ref. Figure 3).

Each configuration has SPE "Vibrobit" LLC digital signature providing for information fidelity in module description file. If the signature is invalid, the configuration icon will have the appearance of yellow triangle with exclamation mark; SPE "Vibrobit" LLC shall not be liable for operation with such configuration.

Modules	
All Vibrobit 300	
Ф МК22	
▲ MK32 V1.70	
Ф MK71	
	Close

Figure 3 - Module configurations selection window

Mouse left click to open necessary configuration. A tab with configuration opens (Ref. Figure 4), then proceed to parameters editing (detailed information on parameters editing in p. 3.7 Parameter editing).

Configuration includes module parameter groups structure (Figure 4, area 1), area of current selected group parameters setup (Figure 4, area 2); buttons for module interaction, and also contains several other tools to work with configuration (Figure 4, area 3).

The program can have several open tabs with configurations.

G Module configurator				X
Greate new module settings Den module settings from file Q	Search available modules (j) About progra	m 3	Language: Pyc	Eng
MK22 MK22 - Control module X				
💾 🕂 🛃 🦘 🥕 🗔 Report				X
Saurch in cettings	Ontions MC01/MC02 Acti		irmuaro	
	Compart COM1		150	
			1.30	
+ 01. Identification information	Parameter	Value	Ad	dress
	01. Channel enable		0 x6	0A00
– 02. Module settings	02. Measuring parameter name	<no value=""></no>	0x (0A0C
01. System settings	03. Measuring parameter lover range	<no value=""></no>	0x (0A04
 02. Measurement settings 	04. Measuring parameter upper range	<no value=""></no>	X 0x0	0A08
+ 01. Channel 1	05. Measuring units	<no value=""></no>	🗵 0xt	0A14
+ 02. Channel 2	06. Measuring results displaying format		V 🖸 0x0	0A1C
+ 03. Channel 3	07. Measuring results averaging depth		🔻 🔀 0x0	0A1E
+ 04. Channel 4	08. Current output. Lower value range	<no value=""></no>	0x0	0A48
+ 05. Addition settings	09. Current output. Upper value range	<no value=""></no>	0x0	0A4C
+ 03. Measurement channels calibration data				
+ 04. Communication interfaces				
+ 05. Alarm logic		2		
06. Jumpers position				
+ 03. Calibration tools				
+ 04 Modulo stato				
+ 05. Measuring results				
	(1)			
06. Module state browser				
Xml version: 1.5.0.0		Set default values		

Figure 4 - Tab with module configuration (using MK22 module as an example)

3.3 Parameters filtering by module software version

Some module configurations (for example MK22 module configuration) have parameters filtering by module software (hereinafter SW) version. To exercise filtering, select necessary SW version in the filed, highlighted in Figure 5. After selecting necessary SW version, the parameter list is filtered according to the selected version.

G Module configurator							
Create new module settings 🙆 Open module	settings from file	Q Search a	available modules (i) About p	program	Language:	Pyc Eng
MK22 MK22 - Control module X							
💾 民 🎜 🦘 🥕 🖾 Report							×
Search in settings	Protocol		Options MC01/MC03		Actions	Firmware	_
Q.	MC01/MC03	▼	Com-port COM1	▼ i	💉 ∓ ± 🖡 † A 🤤 ±	1.50 💌	~
- 01. Identification information		Parameter		Value		1.20	Address
01. Firmware		01. Firmwar	e version	<no td="" value<=""><td>></td><td>1.20</td><td>0x1300</td></no>	>	1.20	0x1300
02. About module		02. Firmwar	e compilation date	<no td="" value<=""><td>></td><td>1.30</td><td>0x1306</td></no>	>	1.30	0x1306
		03. Firmwar	e compilation time	<no td="" value<=""><td>></td><td>1.40</td><td>0x1312</td></no>	>	1.40	0x1312
+ 02. Module settings						1.50	
+ 03. Calibration tools							
+ 04. Module state							
+ 05. Measuring results							
06. Module state browser							
Xml version: 1.5.0.0					Set default values		

Figure 5 - Module firmware version selection

The program can compare modules SW versions, to this end press version comparison button, shown on Figure 6, at the top of appeared window select two versions for comparison, then displayed will be added parameters, deleted parameters, and also changed parameters of the version selected to the right, in comparison with the version selected to the left (Ref. Figure 7).

	Firmware	
Ŀ	1.50	$\mathbf{\nabla}$

Figure 6 - SW versions comparison window button

Compare versions	1.20 🔻	1.50	▼
Added parameters	Deleted parar	neters	Changed parameters
08. Minimum time o 08. Minimum time o 01. Lock write to EEP 02. Bus terminator fo 03. Bus terminator fo 01. Channel 1, X5 02. Channel 2, X6 03. Channel 3, X7 04. Channel 4, X8 01. For channel 1, X1 02. For channel 2, X1 01. For channel 1, X1 02. For channel 2, X1	f synchronizatii f synchronizatii ROM, X1 yr RS485, X9 yr CAN2.0B, X1 CAN2.0B, X1 2 2 3 4 5	on puls on puls 0 Viev	es period, ms es period, ms w in configuration
			Close

Figure 7 - SW versions comparison window

3.4 Settings operation

3.4.1 Open settings from file

To open settings from file, press *Open module settings from file* button in program main menu (Ref. Figure 8).

G Module configurator			
Create new module settings 🛅 Open	module settings from file Q Search available module	es (j) About program	Language: Pyc Eng
Recent module settings file Empty list	es		

Figure 8 - Open setting from file button

Then in the opened dialog window select the necessary setting file. Setting files have extensions .modcfg or .modbcf (Ref. Figure 9).

Open files settings				l	X	
🔾 🗸 🖓 🖉 Пользова	🔾 🖉 📲 « Пользователи » Volkov_ga » Рабочий стол » ModuleSettings 🔹 4-у Поиск: ModuleSettings					
Упорядочить 🔻 Нова	Упорядочить 🔻 Новая папка 🔠 🔻 🗍 🧕					
🚖 Избранное	Имя	Дата изменения	Тип	Размер		
\rm Загрузки	MK22 module settings.modbcf	21.07.2016 15:51	Файл "MODBCF"	37 КБ		
📃 Недавние места	MK32 module settings.modbcf	21.07.2016 15:51	Файл "MODBCF"	37 КБ		
🌉 Рабочий стол	MK71 module settings.modbcf	21.07.2016 15:51	Файл "MODBCF"	37 КБ		
詞 Библиотеки 🏴 Компьютер						
🙀 Сеть						
Visia d	haŭna: MK23 modula settings modus		- Module co	ofigurator files (* m		
UNA Q	vervies wirsz module settings.modber		Открыть	Отмена	a .	

Figure 9 - Settings file selection

A window will open, in which select necessary groups of adjustment parameters (Ref. Figure 10) and press **OK** button.

Download settings configuration MK22
Comment
Group settings
✓ Identification information
System settings
✓ Measurement settings
Calibration settings
Communication interfaces
✓ Alarm logic
Jumpers position
Select all OK Cancel

Figure 10 - Parameter groups selection window

Then a configuration will open with parameters set values (Ref. Figure 11). Parameters can be edited (parameters editing is described in p. 3.7 Parameter editing)

G Module configurator				
Create new module settings	rom file 🔍 Search	available modules (i)	\bout program	Language: Pyc Eng
MK22 MK22 - Control module X				
💾 🛃 🔩 🔶 👼 Report				×
Search in settings Protocol		Options MC01/MC03	Actions	Firmware
	/MC03 🔻	Com-port COM1	■i 🕺 ∓ ± 🖡 † A 🤤 ±	Команды 1.50 🛡 <>
- 01. Identification information	Parameter		Value	Address
01. Firmware	01. Channel en	able	\checkmark	Ox0A00
02. About module	02. Measuring	parameter name	1.3	Ox0A0C
	03. Measuring	parameter lover range	1.3	🔀 0x0A04
- 02. Module settings	04. Measuring	parameter upper range	4.3	🔀 0x0A08
01. System settings	05. Measuring	units	ms	🔀 0x0A14
 02. Measurement settings 	06. Measuring	results displaying forma	###,#	VALC
+ 01. Channel 1	07. Measuring	results averaging depth	3	V 🖸 0x0A1E
+ 02. Channel 2	08. Current out	tput. Lower value range	2	0x0A48
+ 03. Channel 3	09. Current out	tput. Upper value range	5	Ox0A4C
+ 04. Channel 4				
+ 05. Addition settings			T	
+ 03. Measurement channels calibration data				
+ 04. Communication interfaces				
+ 05. Alarm logic				
06. Jumpers position				
Xml version: 1.5.0.0			Set default values	

Figure 11 - Configuration with parameter values

3.4.2 Import settings from file

To import settings from file into open configuration, press button **Import**, shown on Figure 12.



Important information

Configuration type should correspond to imported setting type.

Then in the opened dialog window select the imported setting file (Ref. Figure 10). A window will open, in which select necessary groups of adjustment parameters and press **OK** button (Ref. Figure 11). Opened configuration window will show imported parameter values of selected groups (Ref. Figure 12).

3.4.3 Save settings into file

To save settings of current open configuration into file, proceed as follows:

1) to save changes made into open settings file, press **Save** button (Figure 13, item 1) and go to step 3. To save settings file with another name, press **Save as** button (Figure 13, item 2) and go to step 2.



Figure 13 - Save menu

2) in dialog window select place where setting file will be saved (Figure 14);

Storing					X
🔾 🗸 🖉 🖉 Кользова	атели 🕨 Volkov_ga 🕨 Рабочий стол 🕨 Мо	duleSettings 🗸	🐓 Поиск: Module	Settings	Q
Упорядочить 🔻 Нова	вя папка			== -	?
🛯 🔆 Избранное	Имя	Дата изменения	Тип	Размер	
〕 Загрузки	MK22 module settings.modbcf	21.07.2016 15:51	Файл "MODBCF"	37 KB	
📃 Недавние места	MK32 module settings.modbcf	21.07.2016 15:51	Файл "MODBCF"	37 KE	
📃 Рабочий стол	MK71 module settings.modbcf	21.07.2016 15:51	Файл "MODBCF"	37 КБ	
🛛 詞 Библиотеки					
🛛 🌉 Компьютер					
🛛 🖣 Сеть					
Имя файла: МК22	module settings ver2				•
Тип файла: All file	25 (*.*)				•
🔿 Скрыть папки			Сохранить	Отмена	

Figure 14 - Selecting setting save place

3) select parameter groups to be saved and press **OK** button (Figure 15). Upon that settings will be saved into file.

Save configuration settings MK22
Comment
Group settings
✓ Identification information
✓ System settings
✓ Measurement settings
Calibration settings
Communication interfaces
🖌 Alarm logic
Jumpers position
Select all OK Cancel

Figure 15 - Selecting parameter groups

Before closing configuration file, if the setting was not saved, the program will prompt to save current settings into file (Figure 16).



Figure 16 - Suggestion to save changes

3.5 Module connection

Connection to module is carried out as follows:

1) Connect computer and module using one of communication interfaces: MC01, MC03Bluetooth or RS485;

2) in program select menu item **Create new module settings** ans select module to be connected to;

3) in communication types list (Figure 17, item 1) select necessary module communication protocol, corresponding to the selected communication interface, for example if a module is connected using MC01, it is necessary to select communication type MC01/MC03;

4) in settings of the selected communication type, in this case MC01/MC03, select a comport to which a module is connected to from a list of available com-ports (Figure 17, item 2).

5) press button "Connect" (Figure 17, item 3).

G Module configurator					
Create new module settings 🗁 Op	en module settings from file	e 🔍 Search a	available modules (i) A	bout program	Language: Pyc Eng
MK32 V1.70 Control module X					
💾 🕄 🎜 🦘 一 🔄	Report				×
Search in settings	Protocol		Options MC01/MC03	Actions	
	Q MC01/MC03	•	Com-port COM3	1 🕺 🗐 🕹 🖡 🕯	🕇 🔒 🏝 🖻 Команды
01. Identification information		Parameter		Value	Address
= 02. Module settings		Enabled cha	nnel	\checkmark	🔀 0x0800
+ 01. System settings		Channel wor	k mode	Signal RMS	▼ 🔀 0x0802
- 02. Measurement channel se	ettings	Depthavera	ging primary measured p	arameter 8 - No averaging	▼ 🖸 0x08A4
– 01. Channel 1		Value range	for AC paramete	315	🔀 0x0820
01. Operating check m	neasurement channel	Units		мм/с	🖸 0x0898
02. Overload control n	neasurement channel	Description	channel	Верт.	🔀 0x0888
03. Constant compone	int	Use sensor t	ransfer coefficient	\checkmark	🔀 0x08A6
+ 04. Frequency zone A	C signal	Actual senso	r transfer coefficient	0	🗵 0x08AC
05. Rotational compon	ient				

Figure 17 - Module connection procedure

After connection the program will determine module SW version and will automatically filter parameter set for the current SW of connected module.

3.6 Reading settings from module

Before reading setting the program should be connected to module (Ref. Section 3.5 Module connection)

To read all settings from module press **Read all settings from module** button (Figure 18, item 1). To read settings from module only for current selected branch press **Read settings** from module button (Figure 18, item 2).

When moving from branch to branch or when changing parameter values, the program compares the displayed values with values in module. Parameters which current displayed value is inconsistent with value in module will be highlighted with color (Figure 18, item 3).

S Module configurator					
Create new module settings Den module setti	ings from file 🔍 Search	available modules (i) About p	program	Language:	Pyc Eng
MK32 V1.70 🖉 Control module 🗙					
💾 民 🎜 🦘 🥕 🗔 Report			2		×
Search in settings Pro	otocol	Options MC01/MC03	Actions	Firmware	
Q.	MC01/MC03	Com-port COM3 🔍 🕯	🗶 🛨 🏦 🛊 🕇 🖨 🥹	📩 🖪 Команды 1.7	2
01. Identification information	Parameter		Value		Address
- 02. Module settings	Enabled ch	annel	✓	E	3 0x0800
+ 01. System settings	Channel wo	ork mode	Signal RMS	▼ 6	3 0x0802
 02. Measurement channel settings 	Depth aver	aging primary measured paran	neter 0 - No averaging	▼ 8	3 0x08A4
– 01. Channel 1	Value range	e for AC parameter	15	ε	3 0x0820
01. Operating check measurement	channel Units		мм/с	ε	3 0x0898
02. Overload control measurement	channel Description	channel	Верт.	ε	3 0x0888
03. Constant component	Use sensor	transfer coefficient	✓	E	3 0x08A6
+ 04. Frequency zone AC signal	Actual sens	or transfer coefficient	0	E	3 0x08AC
05. Rotational component					
06. Additional settings					
+ 02. Channel 2		3			
+ 03. Channel 3					
+ 04. Channel 4					
+ 03. Calibration settings					
+ 04. Virtual measuring channels					
Xml version: 1.7.0.2			Set default values		

Figure 18 - Reading settings from module

3.7 Parameter editing

3.7.1 Main editor

To edit parameters select necessary parameter in column "Value" and enter value (Figure 19).

Options MC01/MC03 Actions	Firm	iware	
Com-port COM3 🔍 🕯 💉 🏹	🟦 🖡 👚 🔁 🎨 🏝 🖻 Команды	1.72	
Parameter	Value		Address
Enabled channel	\checkmark	B	0x0800
Channel work mode	Signal RMS	•	0x0802
Depth averaging primary measured parameter	0 - No averaging		0x08A4
Value range for AC parameter	15.1	×	
Units	мм/с	8	0x0898
Description channel	Верт.	8	0x0888
Use sensor transfer coefficient		×	0x08A6
Actual sensor transfer coefficient	0	B	0x08AC

Figure 19 - Value entry field

Configurations of some modules have additional value editors intended for convenient adjustment of parameters. For example such editor is MK22 module logic signaling editor (Figure 20).

G Module configurator								
Create new module settings 🕒 Open module setting	from file Q Search avail	able modules (i) About ;	program				Langu	age: Pyc Eng
MK22 C:\Users\Volkov_ga\Desktop\ModuleSettin X								
💾 民 🎜 🦘 🥕 🗟 Report								×
Search in settings Protoc	ol Op	ptions MC01/MC03	Actions		Firmware			
Q. MC	1/MC03 🔻 Ca	om-port COM1 🛡 🕯	💉 ∓ 🗶 🖡 🕇 🗛 🤅	👌 🏥 💽 Команды	1.50	▼ ↔		
+ 01. Identification information	Parameter			Value			_	Address
	- 00. 1ChO - Channel is d	lisabled		O War O Alarm	V	~	▼ ~	0x0E28
- 02. Module settings	01. 1SeL - Sensor curre	nt is below acceptable leve	3I	\varTheta War 🥥 Alarm	V	~ 6	▼ ~	0x0E2A
01. System settings	02. 1SeH - Sensor curre	ent is above acceptable lev	el	🥥 War 🥥 Alarm	▼ ✓	1~	▼ ✓ ~	0x0E2C
+ 02. Measurement settings	03. 1ChE - Parameter is	s not compared to setpoint	'S	\varTheta War 🔘 Alarm	2 🔻 🗸	/~ 3	▼ √~	0x0E2E
+ 03. Measurement channels calibration data	04. 10p1 - Parameter o	overrunning setpoint 1		🔘 War 🥥 Alarm	▼	~	▼ ~	🖸 0x0E30
+ 04. Communication interfaces	05. 10p2 - Parameter o	overrunning setpoint 2		🔵 War 🥥 Alarm	•	~	▼ ~	🔀 0x0E32
- 05. Alarm logic	06. 10p3 - Parameter o	overrunning setpoint 3		🔾 War 🔘 Alarm	▼	~	▼ ~	🖸 0x0E34
= 01. Logic outputs matrix	07. 10p4 - Parameter o	overrunning setpoint 4		🥥 War 🥥 Alarm	▼		▼ ~	🖸 0x0E36
01. Flags status of channel 1	08. 1Dst - Parameter is	stabilized		🔵 War 🥥 Alarm	V	~	▼ ~	0x0E38
02. Flags status of channel 2	09. 1Dust - Parameter i	is not stabilized		🥥 War 🔘 Alarm	4 🔻 🗸	4	▼ ✓ ~	0x0E3A
03. Flags status of channel 3	10. 1Mf - Frequency m	easuring mode		🥥 War 🥥 Alarm	2 🔻 🗸	'~ 1	▼ √~	0x0E3C
04. Flags status of channel 4	11. 1Ms - "STOP" mode	e		🔵 War 🔵 Alarm	3 🔻	~	▼ ~	Ox0E3E
05. Module state flags (StatusSys)	12. 1Mst - "STOP" mod	le test		🔾 War 🔾 Alarm	▼	~	▼ ~	C3 0x0E40
06. Signal inversion on logic output	13. 1Mr - Frequency m	easuring algorithm in rese	t status	🔾 War 🔾 Alarm	▼	~	▼ ~	0x0E42
02. Logic settings by formula	14. 1Mw - Frequency m	neasuring algorithm while	waiting for the "STOP" mode exit	🔾 War 🔾 Alarm	▼	~ 9	▼ ~	0x0E44
03. Logic outputs names	15. 1Mnp - No synchro	nization pulses		🔿 War 🔿 Alarm	▼	~	▼ _ ~	C 0x0E46
06. Jumpers position								
Xml version: 1.5.0.0			Set default vi	alues				

Figure 20 - Logic signaling editor

3.7.2 Parameter reset

Parameter values reset is available in configuration of group with parameters. To reset parameter values of the current selected group, press **Set default values** button (Figure 21, item 1) and confirm reset by pressing **Yes** button (Figure 21, item 2). Upon that the parameter values will be reset to 0.

C Module configurator					• ×
Create new module settings 📄 Open module settings from	file Q Search available modules (i) A	bout prograr	m	Language:	Pyc Eng
MK22 C\Users\Volkov_ga\Desktop\ModuleSettin X					
💾 民 🎜 🦘 🥕 🖾 Report					×
Search in settings Protocol	Options MC01/MC03	Action	ns	Firmware	
Q. MC01/MC	C03 Com-port COM1	li 🕺	Т⊥∔↑А २⊥ ПКоманды	1.50	▼ ↔
+ 01. Identification information	Parameter	···			Address
	01. Channe			×	0x0A00
- 02. Module settings	02. Measur 📿 Set all default valu	ies?		X	0x0A0C
01. System settings	03. Measur			X	0x0A04
= 02. Measurement settings	04. Measur	1		8	0x0A08
– 01. Channel 1	05. Measur	0		X	0x0A14
01. Setpoint	06. Measuring results displaying format	###,#		▼ 🛛	0x0A1C
02. Control measuring stability	07. Measuring results averaging depth	6		▼ 🖸	0x0A1E
+ 02. Channel 2	08. Current output. Lower value range	2		X	0x0A48
+ 03. Channel 3	09. Current output. Upper value range	5		X	0x0A4C
+ 04. Channel 4			1		
+ 05. Addition settings			T		
+ 03. Measurement channels calibration data			•		
Xml version: 1.5.0.0			Set default values		

Figure 21 - Parameter reset

3.8 Parameters search by name or address

To find necessary parameter or parameter group by name or address, enter parameter or parameter group name or address in search field (Figure 22, item 1) and press Enter button, or press search button (Figure 22, item 2).

If found parameter is in parameter group, then yellow triangle will appear near group name (Figure 22, item 3). If a match is found in parameter group name, it will be highlighted with yellow color (Figure 22, item 4). Names of found parameters are highlighted with yellow color (Figure 22, item 5).

To reset search use keyboard to press Escape button or press **Reset** button (Figure 22, item 6).

G Module configurator						X
Greate new module settings 🗁 Open module settings from	file Q Search available modules (i) About p	program	Langua	ge: Pj	yc Eng
						×
Search in settings Protocol	Options MC01/MC03		Actions	Firmware		
channel MC01/MC	Com-port COM1	V i		ы 1.50	-	
+ 01. Identification information	Parameter	Valu	ie			Address
	01. Channel enable				•	0x0A00
- 02. Module settings	02. Measuring parameter name				B	0x0A0C
01. System settings > <(3)	03. Measuring parameter lover range	e <no< td=""><td>value></td><td></td><td>8</td><td>0x0A04</td></no<>	value>		8	0x0A04
 02. Measurement settings 	04. Measuring parameter upper ran	ge <no< td=""><td>value></td><td></td><td>٢</td><td>0x0A08</td></no<>	value>		٢	0x0A08
– 01. Channel 1 🔁	05. Measuring units				٢	0x0A14
01. Setpoint	06. Measuring results displaying fo	mat		•	۲	0x0A1C
02. Control measuring stability	07. Measuring results averaging de	oth		•	۲	0x0A1E
– 02. Channel 2 >	08. Current output. Lower value rar	ge <no< td=""><td>value></td><td></td><td>٢</td><td>0x0A48</td></no<>	value>		٢	0x0A48
01. etpoint	09. Current output. Upper value rar	ge <no< td=""><td>value></td><td></td><td>B</td><td>0x0A4C</td></no<>	value>		B	0x0A4C
02. control measuring stability						
– 03. Ch4net 3 >	5					
01. Setpoint						
Xml version: 1.5.0.0			Set default values			

Figure 22 - Parameters search procedures

3.9 Recording settings into module

Before recording settings into module the program should be connected to module (Ref. Section 3.5 Module connection), and also in those modules with logic signaling block, it should be blocked. To block logic signaling of a module, press **Block logic signaling** button, thus setting it to position shown in Figure 33, item 1, therewith recording buttons (Figure 23, item 2 and 3) will become available.

Settings are recorded first into a module random access memory (RAM), and then into module non-volatile memory.

To record all settings into module RAM press **Record all settings into module** button (Figure 23, item 2). To record settings into module RAM only for current selected parameter group press **Record settings into module** button (Figure 23, item 3). For values recorded into module RAM to be saved into module non-volatile memory and available after module reset, press **Save all parameters into module non-volatile memory** button (Figure 23, item 4). Module will reset.

			×
Options MC01/MC03 Actions		Firmware	
Com-port COM3 🔍 🕯 💉 🏹	1 + А С 1 Команды	1.72	
Parameter	Value		Address
Enabled channel	✓	×	0x0800
Channel work mode	Signal RMS	▼ 🛛	0x0802
Depth averaging primary measured parameter	0 -No averaging	▼ 🛛	0x08A4
Value range for AC parameter		×	0x0820
Units	MM/c	×	0x0898
Description channel	Верт.	×	0x0888
Use sensor transfer coefficient		×	0x08A6
Actual sensor transfer coefficient	0	×	0x08AC

Figure 23 - Setting saving into module procedures

3.10 Module connection drop

To drop module connection press **Disconnect** button shown in Figure 24.

Options MC01/MC03 Act	tions	📩 🖡 🕇 🔒 🎨 🌲 🖾 Команды	Firmw
Parameter		Value	
Enabled channel Channel work mode		Signal RMS	
Depth averaging primary measured p	ameter	0 - No averaging	
Value range for AC parameter Units		15 мм/с	
Description channel		Верт.	

Figure 24 - Module connection drop button

3.11 Report producing

To produce adjustment values report of the selected configuration, proceed as follows:

- 1) press **Report** button (Figure 25, item 1);
- 2) in opened dialog window select report saving place (Figure 25, item 2);

Module configurat	or						I X
Create new mo	dule settings	dule settings from file ${f Q}$ Search	n available mod	ules (j) About prog	jram La	nguage: F	lyc Eng
MK32 V1.70 co	ontrol module						
	neport	←					×
Search in settings	Save report as	Desterat	0-1 1800	1.81502 4.	×		AS
	🔾 🗸 📕 ModuleS	ettings	 ✓ ✓	оиск: ModuleSettings	٩	V I	
01. Identific	Упорядочить 🔻 Нова	ая папка			• 🔞		Address
= 02. Module	🔆 Избранное	Имя		Дата изменения	Тип	8	0x0800
+ 01. Syst	〕 Загрузки	🏧 MK22 module settings		21.07.2016 16:04	STDUView		0x0802
- 02. Meas	🔛 Недавние места						0x08A4
– 01. C	💻 Рабочий стол						0x0820
01	🧮 Библиотеки					8	0x0898
02	un provincian						0x0888
03	🌉 Компьютер						0x08A6
+ 04	0						0x08AC
05	🗣 Сеть	< [•	6	
+ 02 C	Имя файла:				-		
+ 02.0	Тип файла: PDF fi	iles (*.pdf)			•		
+ 04.0							
+ 02 C-11	🔺 Скрыть папки		Co	хранить Отм	иена		
+ 03. Calle				C	1		
Ami version: 1.7.0.2				Set default values			

Figure 25 - Selecting report saving place

3) in parameter groups window select necessary groups and press **Generate** button (Ref. Figure 26);

Report settings	×
Groups of settings within report	
✓ 01. Identification information	
✓ 01. System settings	
02. Measurement settings	
03. Measurement channels calibration data	
✓ 01. Interface RS485 №1	
✓ 02. Interface RS485 №2	
✓ 03. Interface CAN2.0B	
01. Logic outputs matrix	
✓ 02. Logic settings by formula	
✓ 06. Jumpers position	
Select all Unselect all Generate Cance	1

Figure 26 - Selecting parameter groups for report window

4) generation process will be displayed (Ref. Figure 27). The process itself can be stopped any time by pressing **Cancel** button.

5) After generation end the report will be automatically opened by a program for opening PDF documents. If such program is not installed – install it.

Report settings	×
Groups of settings within report	
01. Identification information	٦
📝 01. System settings	
02. Measurement settings	
03. Measurement channels calibration data	
✓ 01. Interface RS485 №1	
✓ 02. Interface RS485 №2	
✓ 03. Interface CAN2.0B	
✔ 01. Logic outputs matrix	
02. Logic settings by formula	
🕑 06. Jumpers position	
Select all Unselect all Generate Cancel	
Report generation in progress	_

Figure 27 - Report generation process

4 APPENDIX A

(recommended)

Control module preparation from SPTA set

To prepare control module taken from SPTA set for operation, specify its operation parameters. Control module in SPTA set is supplied calibrated by inputs and unified outputs, therefore it should be setup carefully, to avoid module calibration parameters change. To prepare a pre-calibrated module for operation, proceed as follows:

1) prepare configuration file for the corresponding control module. Configuration file can be received by reading settings from existing control module and saving them as a file on disc , or using a ready-made file, recorded on disc, included into "Vibrobit 300" instrumentation delivery set;

- 2) connect to module; 💉
- 3) read all settings from module;
- import prepared configuration file: File->Import;

5) in appeared window select parameter categories that will be loaded into the program. Pay attention, marks against items "Calibration data..." should be removed to keep module calibration data unchanged;

Download settings configuration MK22
Comment
Group settings
✓ Identification information
System settings
✓ Measurement settings
Calibration settings
Communication interfaces
✓ Alarm logic
✓ Jumpers position
Select all Unselect all OK Cancel

Figure 28 - Parameter groups

- 6) press "OK" button;
- 7) change module settings at your own discretion;
- 8) block module logic signaling; \mathbf{a}
- record all settings into module; 1

10) save module settings into non-volatile memory. After saving module settings into non-volatile memory, module will reset;

To change module specific settings, leaving others untouched, proceed as follows:

1) connect module to personal computer via diagnostic interface (MC01USB) module;

2) start modules setup program *ModuleConfigurator.exe*;

3) create new operating window;

4) in appeared dialog window select module type, for example MK22;

5) specify port to which a module is connected;

6) connect to module;

7) in operating window left part activate (select/single mouse click) the targeted module configuration section (node/branch of parameters tree), for example "Communication interfaces";

8) read parameters branch from module;

9) change parameter value, for example "Device address on RS485 bus" in the operating window right part;

10) block logic signaling;

11) record parameters branch into module;

12) save module settings into non-volatile memory. After saving module settings into non-volatile memory, module will reset.