Intelligent electric installation for buildings – INELS[®] Inels Designer & Manager guide

Written by: Jiří Stýskalík Released: 1st issue - February 2008, 2nd revision – October 2008

Technical support of the INELS system: ELKO EP, s.r.o. Palackého 493, 769 01 Holešov – Všetuly Czech Republic tel.: +420 573 514220, 573 514250 fax: +420 573 514227 e-mail: info@inels.com http://www.inels.com

All information stated bellow can be changed without a prior notice. Up-to-date version is available on the manufacturer's web sites <u>http://www.inels.com</u>

History of changes

Date	Issue	Description of changes
February 2008	1	First issue
May 2008 Completed Voice orders setting for Sophy unit, page 44, Chap		Completed Voice orders setting for Sophy unit, page 44, Chapter 13 – Export of
	1	variables for visualization - SCADA/HMI system Reliance, page 109
		Completed maintenance of units iart2-1, idrt2-1 and adc2-40m, page 38.
		Completed maintenance of wmr2-11, page 42.
October 2008	2	Completed maintetance of gsm2-01, page 61.
		Completed maintenance of key2-01, page 66.
		Compleded maintenance of variables export, page 119.

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1. General description

- 1. The software Inels Designer & Manager (hereinafter IDM) is supplied with the INELS system. The software serves for creating background of graphical environment of the application, which is used in IDM as well as web server. The software serves also as complete INELS application manager, the central unit manager (hereinafter just CPU), and all connected units manager. We can adjust all system actions in IDM software. GSM communicator is also programmed here. The software is also able to run without connecting the central unit, or by the means SoftPLC¹ product to simulate and to test actions setting.
- Inels Designer & Manager software is freeware supplied with each CPU and it is available for download on the manufacturer's web sites <u>www.inels.com</u>. After the registration of the IDM software you will get an access to CPU firmware updates, internal and external masters of the CIB bus, peripheral units of the CIB bus and IDM program on its own.
- 3. The software must be installed in a PC. The software contains basic language versions.
- 4. The software is intended for PCs with the operation system Windows XP and newer ones. Minimum resolution of a monitor is required 1024x768 pixels.

¹ SofPLC – software version PLC. When installed, manual SoftPLC for Windows is obtained. The product requires registration.

2. Installation

1. The installation is done by setting up IDM_setup.exe.



2. Select a language for installation.

Picture 2



3. Installation guide appears.





4. License agreement appears.

Picture 4



5. In the next step select a file for IDM to be installed.

Picture 5						
🕬 Setup - Inels Designer & Manager						
Select Destination Location Where should Inels Designer & Manager be installed?						
Setup will install Inels Designer & Manager into the following folder. To continue, click Next. If you would like to select a different folder, click Browse.						
EXProgram Files Vol						
At least 16,7 MB of free disk space is required.						
< <u>₿</u> ack <u>N</u> ext > Cancel						

6. Further step is an option whether SoftPLC, product of Teco a.s., shall be installed to Windows. If you wish to install, thick the box.



m Setup - Inels Designer & Manager
Select Additional Tasks Which additional tasks should be performed?
Select the additional tasks you would like Setup to perform while installing Inels Designer & Manager, then click Next. Additional icons: If Create a desktop icon
< <u>₿</u> ack <u>N</u> ext> Cancel

7. If you do not wish to make the icon on the screen, cancel the thick in the box.



8. When you manage to install, you can start the program. In some cases a history.txt appears which describes new features of IDM or clears up errors.



3. Running the program

1. Start the program INELS Designer & Manager by clicking on the item "Inels Designer & Manager" in the menu of Start button, or click on the icon on the screen.



Inels Designer & Manager.Ink

- 2. When triggered, the window "Connect setup will be displayed (Picture 10), where you shall set up:
 - "Connection type" according to a type you choose you can decide whether you will connect to an appropriate CPU, or you will make a project without a connection, or you will connect through SoftPLC product which enables simulation and testing of programmed actions.
 - "Connection"- enter IP address of CPU, or IP port (default IP port for communication is 61682), on which CPU communicates. In this dialogue you can also "Connection test" to the central unit (analogy of the command ping).
 - "Connect type / password", where you have the following options:
 - a. Administrator level enables an access to all setting windows of IDM program and it allows full administration of the system and project. For this level the connection to CPU is not necessary and it is possible to work off-line over a project on the disk.
 - *b. Configuration level* enables basic user configuration of the program. You need CPU connection.
 - *c.* User level does not allow any configuration and it serves only for basic displaying the system and its control. You need CPU connection.

Connection type	Connection				
	IP address	192.168.1.1 💌			
C Not connect	🗍 IP Port	5000			
Connect to CPU					
C. Connect to SoftBLC		Connection test			
	Connect type				
	 Administrator 	,			
	C Configurator	C Configurator			
	C User				
	Password	****			
nguage		J			
poličtina (Spojené státy)	J Save passwo	ra			

"Language IDM"– you can select from Czech, English, Spanish, Hungarian, Dutch, Polish, Romanian, and Russian.

3. After choosing a connection type and confirmation by "*OK*" button, a dialogue window will be shown "*Select-open project*" with projects list (Pict. 11). If you are connected on the user level, the window "*Select-open project*" is not displayed, but the initial screen of the program will appear with the dialogue of downloading the project from CPU.

elect-Open project		
bez ničeho	^	👌 Open project
fotky_byt		
Kufr INELS 2		
kufr INELSII - 9.7.08		New project
kufr INELS_II_domecek		× Delete project
kufry NEW		
kufr_real		
panel		Backup project
panel INELS II		Restore project form Backup
panely_Megajet		
panely_Megajet A		
polsko	2.0	Pestore from controller
	~	Rescore from controller

- With the button "New project" make a new project.
- With the button "Open project" open a new project that have been chosen.
- With the button "*Delete project*" delete a selected project. If you do so, you cannot recover.
- With the button "Backup project" you will make back-up of the project on the disk. The file with "*piz" suffix contains full information on the project, full list and setting of all used INELS units, and all used pictures. The back-up file does not contain communication parameters of the central unit connected, either firmware that has been downloaded. The file can be transferred from a computer to another by any means of transferring, or it can be sent by e-mail.

- With button *"Restore project from back-up"* you will restore the project from the back up *"*piz"*. A new project is made for the restored project.
- With button *"Upload from CPU"* you will upload the project from CPU, where you are being connected, if the CPU contains the project.

4. Basic screen of the program

When you open the program, the basic screen will appear (Pict. 12).



The screen consists of the following:

- The main menu,
- List of plans (floors),
- Visualization of a floor the biggest area on the screen.

At the bottom bar of the main window there is also running time of CPU, date, and information whether a project that we are working on is saved on the computer disk "(*HDD*)", or whether we are working on a project that we have downloaded from CPU and that has not been saved on the disc yet "(*CPU*)". You can also see IP address of CPU where you are connected and a description of an inserted object, when you put the mouse pointer on it.

The main menu contains the following items:

"Project" item (Picture 13) contains basic operation with the project. Creating "New project (keys Ctrl+N)", "Open project (keys Ctrl+O)/, "Close project", "Project setup" (keys Shift+Ctrl+f11)" and "Backup actual open project", i.e. project that you are working on. Last option is "Finish program".



"Setting" item (Pict. 14) contains options for the system configuration. The option "Unit/device manager (keys Shift+f11)" opens the window for a choice of connected peripheral units and their basic setup. The option "Configuration (key F11)" serves for displaying the window to configurate unit inputs and outputs and their mutual links. The option "Action/statement manager" displays the window for managing programmed system events. The option "System setup" (keys Ctrl+F11)" displays the window for main system setup, e.g. date and time, IP address, password to connection levels to the central unit, etc. There are also options to open windows to set up "Time schedules"" and "Time events". By an appropriate choice of "Language", you can switch to any language version.

Picture 14



"Help" item (Pict. 15) contains options for displaying help, the guide of the software (Inels Designer & Manager software), hyperlink to a catalogue of intelligent electric installation Inels, also IDM registration, and SoftPLC registration (if you have not done so having installed IDM). Only registered IDM users have a possibility to detect new IDM versions, firmware for CPU, internal and external masters of the CIB bus and peripheral units. The last option is information on application.



The main menu also contains information on *"CPU connection state"* (Pict. 16) and menu *"Connect (keys Crtl+Alt+C) "* or *"Disconnect" (keys Crtl+Alt+D)"* and further *"CPU errors list":*

- RUN CPU is running and controlling peripheral units, the display of the central unit is indicating G,
- HALT CPU is stopped, not controlling peripheral units, the display of the central unit is indicating H,
- RUNs you are on SoftPLC (mode),
- NoComm communication is off, i.e. CPU is not connected,
- CommErr communication error caused by frequent communication failure between IDM and CPU,
- ERP central unit failure. In CPU a failure occurred while controlling, it is not controlling peripheral units. At the same time the error notice appears on the front panel of CPU, where red LED is on and the notice with a failure number appears on the display. Error diagnostics and their recovery is a subject of Chapter 12 Errors diagnostics and their recovery, see page 98.



Picture 16

In the main menu there are fast selection icons (left => right), picture 17:

- Program change over "Manager <-> Designer (M <-> D)". The mode "Manager" enables changing states of objects inserted to the plan. The mode "Designer "enables to add individual graphic plans², and change their parameters. Also it allows adding and deleting objects to the plans, changing their position and size. Merely the administrator is allowed to switch to the "Designer". Being switched to the "Designer", on the bar you can see objects that you can place to the plan.
- See www sites³
- Administrator,
- System setup,
- Project setup,

² Plan format must be *jpg. Space for web must be 3 MB maximum, while size of individual plan is not limited, however 128 kB is recommended.

³ An initial browser is opened

- Configuration,
- Action/statement manager,
- Saving configuration to controller,
- Time events setup,
- Time schedules setup,
- View logged events,
- Showing monitor of user's bits, counters, and timers,
- Setting and reading archive of input/output state.



The following fast selection icons can be used only in the mode "Designer (left => right)", picture 18:

- Add plan,
- Delete plan,
- Plan setup,
- Add object,
- Delete object,
- Object setup.



5. Description of menu and graphic icons

You can find detailed description of an offer menu IDM.

1. <u>Item "Project" (Pict. 19):</u>

Picture 19



When new project is opened, you will see the above listed items:

- "New project (keys Crtl+N)" to create a new project. We will demonstrate basic steps for making a new project (the procedure is like the option "New project" which is offered after connection to the central unit in window "Select-open a project", see page 7, Pict. 11). When you choose the option, the new dialogue window "Project" will be opened (Pict. 20) with a possibility to choose a name of the new project.



When you confirm the choice by *"OK"*, you will get to the next level of creating the project, which is "Setting the floor" (Picture 21), where you can define names of floors and insert a graphical background of the application.

Setting the floor
Background setup Options
Name of the floor
plan1
Read the picture
🖌 OK 🛛 🗶 Cancel

When you confirm the selection by "OK", the inserted graphical background will be uploaded to the main window of the program (picture 22), whereas the name of floor is shown on the right hand top (plan list, see page 8, picture 12) and name of project on the left hand top next to the IDM icon. Then you can work with the project that you have just made in the designer mode (more on page 26).



Picture 22

- "Open project (keys Crtl+O") serves for opening projects that have already been created. If you choose the option, the dialogue window "Select-open project" will be opened (picture 23).

Select-Open project		
bez ničeho	^	👌 Open project
fotky_byt		
Kufr INELS 2		
kufr INELSII - 9.7.08]	New project
kufr INELS_II_domecek		X Delete project
kufry NEW		
kufr_real		
panel		Backup project
panel INELS II		Restore project form Backup
panely_Megajet		
panely_Megajet A		
polsko	~	Restore from controller

- *"Close project"* to close an actual project. After confirmation of the option a blank window of floor visualization will appear.
- *"Project setup (keys Shift+Crtl+F11)"* serves for global adjusting of a project being opened. The option is also accessible in fast selection icons (see page 11, Pict. 17). If you choose the option, new dialogue window *"Project setup"* (Pict. 24) will open.

Pi	ctur	e 24
•	orun	

Project setup				
Project	Project name	project		
Version number	Use full control f	for used objects.		
General information				
Vendor Information				
WWW links				
Setup export				
RELI				
of Web page				
of Text file				
of OpenOffice sheet				

"Project" item enables editing of the name of a project. *"Numbering of version"* enables numbers of modifications of the project, which we do on the project with a possibility of automatic incrementation. *"General information"* contains general description of a project, which is displayed when you access through web server. *"Vendor information"* will also be displayed when you access via web server. The dialogue window also contains possibilities *"Setup export of a web site, text file and Open Office sheet"*, and *"WWW links"* to turn on/of generating for web server (heating, alarm, user's actions and external hyperlinks, e.g. web camera). The option *"Use full control for used objects"* serves especially for testing, when full service is generated for all used objects in a plan, even if it is not used in a statement, or an action is not matched. The option "RELI" serves for making export of variables for scada/hmi software Reliance 4 (see individual Chapter 13, page 110).

- "Back-up actual open project" to make back-up of a project that you are working on. The file has "*piz" sufix.
- *"Finish"* to close a program.
- 2. <u>Item "Setup" (Pict. 25):</u>

Picture 25



Choosing the option the items above are offered:

- *"Units/devices manager (keys Shift+F11), Pict. 26"* to add/delete units from net configuration, upload new firmware to peripheral units, internal master of CIB bus and its external masters, to exchange defective units with new ones while plan and events functions is kept, and eventually to allow/forbid individual devices of the unit. You can also name individual units (recommended)

and thus in the configuration use their new names instead of part numbers. E.g. use "Bedroom controller" instead of IART2-1 and the name will be used in the environment further on. You can name all inputs / outputs of units in the same way. You can open the item also by the means of fast selection icon (see page 11, Pict. 17).

U	nit/device	manager	r					X
Γ	MA		MAO	MA2				Flash firmware to CIB master
	CIB1	CIB2						
1	CIDI	CIDZ						
Γ	ID	HW ad	ID	Unit/device type	Status	Name of Unit/device/	~	Setup
ľ	1:0	5008	1	SA2-02M/Ni	OK	sa02m rs		Select unit/device
	2:0	00CD	1	IM2-140M	ОК	im140m_rs		
	3:0	0089	1	SA2-01B/Ni	OK	sa01b_zadveri		Unit Name
	4:0	008E	1	SA2-01B/Ni	OK	sa01b_obyvaci_pokoj		sa02m_rs
	5:0	00A0	1	SA2-01B/Ni	OK	sa01b_schodiste		
	6:0	003B	1	WSB2-40	OK	wsb40_zadveri		Unit HW address 5008
	7:0	0047	1	WSB2-20	OK	wsb20_zadveri		
	8:0	0046	1	WSB2-20	OK	wsb20_obyvaci_pokoj		
	9:0	003A	1	WSB2-40	OK	wsb40_jidelna		
	10 :	003E	1	WSB2-40	OK	wsb40_jidelna_kuchyn		Use device
	11 :	008F	1	SA2-01B/Ni	OK	sa01b_jidelna		
	12 :	003C	1	WSB2-40	OK	wsb40_kuchyn_linka		
	13 :	0039	1	WSB2-40	OK	wsb40_obyvaci_pokoj		
	14 :	003D	1	WSB2-40	OK	wsb40_schodiste		
	15 :	0043	1	WSB2-20	OK	wsb20_koupelna		
	16 :	00A1	1	SA2-01B/Ni	OK	sa01b_terasa_dvere		
	17:	0037	1	WSB2-40	OK	wsb40_terasa		
	18 :	00A2	1	SA2-01B/Ni	OK	sa01b_terasa		
	19:	00A5	1	SA2-01B/Ni	OK	sa01 kotel	×	
	<							Elach firmware to CIB upit
F	Show up	ite devicer						
1	Show un	its, devices	,					Fuch as as the he
Γ	Show uni	its, devices	s, I/O					Exchange Units
	Ac	ld unit		Delete unit	Delete	e all		Read configuration from controller
						🗸 ок 📗	×	Cancel ? Help

			~ ~
Р	ICT	ure	26

Definitely the biggest part of unit manager screen takes unit connected to CIB bus. To make it better organized, you can switch over branches of the bus with buttons CIB1 and CIB2. You can also see how the branches are occupied with connected units. Next, buttons MA, MAO, and MA2 can change between internal and external masters of the CIB bus if those are connected to CPU via TCL2⁴ bus. "ID" represents an order of units on each bus (1 - 32), when you broaden the column you will see a unique internal number of a unit. "HW address" represents a unique physical address of a unit, which is assigned to the unit in the factory⁵. "ID CIB net" indicates which CIB bus are the devices connected to, whereas the number corresponds with CIB1 and CIB2 buttons. "Unit/device type" shows a part number of the unit. "Status" indicates communication status of units connected CIB1 and CIB2⁶. Use the button "Upload firmware to CIB master" see chapter 12" to upload firmware to the internal master and external masters, if those are connected to CPU. "Select unit" is used to browse units / devices. Item "Unit name" enables description of units instead of their part number. "Exchange units" is used to exchange a unit with another one. Here is a simple example – let's say, there is the unit WSB2-40 with HW address e.g. 1111 on the bus. The unit discontinues communication (ECOM) and it is necessary to change it. Connect a new unit WSB2-40 with HW address e.g. 2222 and add it to CPU configuration, whereas the new unit overtakes all setting programmed in IDM for the old unit.

⁴ In case that external masters of bus are connected, it is necessary set an adress to TCL2 bus corresponding with numbers displayed in the unit/device manger, i.e. 0 and 2 – the catalogue of intelligent electroinstallation, page 12. Set on the front pannel by a rotary switch.

⁵ You can find it on the plastic enclosure of the unit..

⁶ State can be OK – the unit is the communication state or ECOM (error communication) .

The same is applied also for changing units among masters of CIB. *"Load configuration from CPU"* stands for automatic search of units connected to CIB bus. *"Add unit"* is used to add units to CIB bus manually. If the option is used, a dialogue window *"Select unit"*, showing portfolio of units supported by the up-to-date IDM version, will be displayed (picture 27)



.

Select unit		X
Name	Unit Name	~
DAC2-04M	Convertor CIB/0-10V, 4 channels, version 1-10V, input for thermosensor, DIN-rail instala	
DAC2-04B	Convertor CIB/0-10V, 4 channels, version 1-10V, input for thermosensor, box instalation	
SA2-02M/Ni	Switching unit, 2 switch-over contact(Ni) 16A, LED indication of relay status, hand contr	
SA2-02M/Sn	Switching unit, 2 switch-over contact(Sn) 16A, LED indication of relay status, hand contr	
SA2-04M/Ni	Switching unit, 4 switch-over contact(Ni) 16A, LED indication of relay status, hand contr	
SA2-04M/Sn	Switching unit, 4 switch-over contact(Sn) 16A, LED indication of relay status, hand contr	=
SA2-01B/Ni	Switching unit, 1 switch-on contact(Ni) 16A, input for termosensor, for instalation box	
SA2-01B/Sn	Switching unit, 1 switch-on contact(Sn) 16A, input for termosensor, for instalation box	
SA2-02B/Ni	Switching unit, 2 switch-on contact(Ni) 8A, LED indication of relay status, input for termo	
SA2-02B/Sn	Switching unit, 2 switch-on contact(Sn) 8A, LED indication of relay status, input for term	
WSB2-20	Interior group switch with short click - Single - 1 two-status buttons, Build-in thermosensor	
WSB2-40	Interior group switch with short click - Double - 2 two-status buttons, Build-in thermosensor	
WSB2-80	Interior group switch with short click - Quadro - 4 two-status buttons, Build-in thermosen	
IM2-80B	Input unit, 8x IN-general purpose inputs, thermosensr input, for instalation box	
IM2-140M	Input unit, 14x IN-general purpose inputs, DIN-rail instalation, 3-MODUL	
IART2-1	Analog room temperature controller	
IDRT2-1	Digital room temperature controller	~
	Салана Сал	ancel

"Delete unit" is used to delete a selected unit that has been uploaded in the manager of units/devices, *"Delete all"* shall delete all units in the Unit/device manager. Choosing the item *"Show all devices"* evokes list of devices integrated in units connected to CIB bus, and their addressing in IDM, e.g. we can see that WSB2-40 unit on the position ID 1 contains digital input, output, and thermometer (picture 28). Simultaneously the option *"Use devices"* is activated, allowing or banning some devices integrated in units – for example, you can see that in unit WSB2-20 on ID 3 position the thermometer is not used in the system, i.e. the option *"Use device"* is not active, the box is not ticked.

/device	manager	MO -		1			Elach firmuara t	o CIP mostor
··· 💻							Fidsiffiniware c	o cib master
IB1	CIB2							
		1	1	1	[1000	Sohun	
	HW ad	ID	Unit/device type	Status	Name of Unit/device/	<u>_</u>	Decup	(A)
1 : 0x	0036	2	W5B2-40	OK	wsb40_loznice_vchod		Select unit/device	Ľlŧ
	X1028		Digitální vstup		universal dig. inputs			
	Y1024		Digitální výstup		LED indicators		Device name	
	X1029		Teploměr		thermo sensor		thermo sensor	
2:0x	0044	2	W5B2-20	OK	wsb20_detsky_pokoj			
	X1033		Digitální vstup		universal dig. inputs		Unit HW address	0036
	Y1025		Digitální výstup		LED indicators			
	X1034		Teploměr		thermo sensor			
3 : 0x	0048	2	WSB2-20	OK	wsb20_balkon		E Use device	
	X1038		Digitální vstup		universal dig. inputs		J Use device	
	Y1026		Digitální výstup		LED indicators			
			Teploměi		thermo-sensor	_		
4 : 0x	008B	2	5A2-01B/Ni	OK	sa01b_loznice			
	Y1027		Digitální výstup		universal rele outputs			
			Teploměr		theimo sensoi			
5 : 0x	008C	2	5A2-01B/Ni	OK	sa01b_satna			
	Y1028		Digitální výstup		universal rele outputs			
	%-1		Teploměr		theimo sensoi			
6 : 0x	008D	2	5A2-01B/Ni	OK	sa01b detsky pokoj	\mathbf{M}		
					>		Elach firmware l	to CIB upit
Show uni	ts, devices							co cro anic
Show uni	ts, devices,	1/0					Exchange	Units
Ad	d unit		Delete unit	Delet	e all		Read configuration	from controlle
					1 or 1	~	Cancel	

You can also use item *"Show units, devices and inputs/outputs"* (Picture 29), which enables to see detailed data structure of devices integrated in units, including their description from configuration system (see page 18, picture 30). For example, you can see the unit WSB2-40 on ID 1 position, that the digital input consists of 4 – WSB2-40 is 4-points bus button. Moreover, you can mark and name i/o that we intend to use (export) for visualization in scada/hmi software Reliance 4 (see individual Chapter 13, page 110).

							Thasiminimidie to Cib indisc
IB1	CIB2						
	HW ad	ID	Unit/device type	Status	Name of Unit/device/	^	Setup
1:	0036	2	W5B2-40	OK	wsb40_loznice_vchod		Select unit/device
	X1028		Digital input		universal dig. inputs		
					svetlo_skrine/komfort_na_		Device name
					svetlo_skrine		thermo sensor
					svetlo_chodba		
					svetlo_postel		Unit HW address 0036
	Y1024		Digital output		LED indicators		
					GREEN1		
					RED1		Use device
					GREEN2		j ose device
					RED2		
	X1029		Thermometer		thermo sensor		
					loznice		
2:	0044	2	W5B2-20	OK	wsb20_detsky_pokoj		
	X1033		Digital input		universal dig. inputs		
					bodovky/komfort_na_1h		
					bodovky/intenzita_60%		
	Y1025		Digital output		LED indicators		
			10		topeni aktivni		
							Flash firmware to CIB unit
Show unit	ts. devices						P
-							Evolution Lipite
Show unit	ts, devices, I,	io.					Exchange onits
	d . mit	1	Delete unit	Delete	all		Read configuration from control

Picture 29

The option "*OK*" shall close the window of the manager of units/devices and save changes done in the window of units/devices. The option "Cancel" shall close the window of the Device/unit manager, but changes that have been done will not be saved.

"System configuration (key F11", picture 30" sets parameters of individual inputs/outputs, configuration of heating/cooling, alarm system, GSM modem, keypad, and multifunction unit Sophy. The separate chapter 6 – Configuration of the system, page 33 deals with the window.



- *"Action/statement manager, picture 31"* is a window defining actions/statements assigned in the window of system configuration, which is very closely associated with the manager. The window will be described in details when we are dealing with window System configuration, see the separate Chapter 7 Action/statement manager, page 60.

nam akcí	RAM = 8473 (28.24) REM = 2390 (7.97) FB	= 734 (36.70) COD = 54720 (1.03)
wsb40_schodiste - auto_off - svetlo_schodiste	- Maskaugan Jakaa	
wsb40_schodiste - emulace - svetlo_jidelna	Nascaveni akce	
wsb40_schodiste - emulace - svetlo_koupelna_h	Nazev akce	
wsb40_schodiste - emulace - svetlo_jidelni_stul	wsb40_schodiste - auto_off - svetlo_schodiste	
wsb20_koupeina - on - svetlo_zrcadio	Commence and the second second second	. 🔊 🔺
wsb20_koupelna - dlouhy_stisk - komfort_na_1h	Sezi ani povelu ve vybrane akci	
wsb20_koupelna - off - svetlo_zrcadio	Povel Na výstupu	Volby
wsb20_zadveri - auto_off - svetlo_zadveri	Zapnout s automatickým vypnutím da22m_2_rs ~ sve	etlo_schodiste
wsb20_zadveri - dlouhy_stisk - komfort_na_1h		
wsb20_zadveri - emulace - svetlo_zadveri_obyv		
wsb40_jideina_kuchyn - emulace - svetlo_kuchyi		
wsb40_jidelna_kuchyn - dlouhy_stisk - vytapeni		
wsb40_jidelna_kuchyn - auto_off - svetlo_zadve		
wsb40_jidelna_kuchyn - dlouhy_stisk - vytapeni_		
wsb40_jidelna_kuchyn - emulace - svetlo_jidelni		
wsb40_jidelna_kuchyn - emulace - svetlo_jidelna		
wsb20_obyvaci_pokoj - emulace - bodovky_seda		
wsb20_obyvaci_pokoj _ dlouhy_stisk - svetlo_za		
wsb20_obyvaci_pokoj - emulace - bodovky_knih		
wsb40_loznice_vchod - on - svetlo_skrine		
wsb40_loznice_vchod - dlouhy_stisk - komfort_n		
wsb40_loznice_vchod - off - svetlo_skrine		
wsb40_loznice_vchod - auto_off - svetlo_chodb		
wsb40_loznice_vchod - emulace - svetlo_postel		
wsb20_detsky_pokoj - on - bodovky		
wsb20_detsky_pokoj - dlouhy_stisk - komfort_na		
wsb20_detsky_pokoj - auto_off - svetlo_chodba		
wsb20_detsky_pokoj - off - bodovky		
wsb20_detsky_pokoj_dlouhy_stisk - bodovky_6		1
wsb20_detsky_pokoj - auto_off - svetlo_chodba	Add statement Edit statement Delete statement	Delete all statements
wsb40 chodba - auto off - svetlo chodba 🛛 🎽	Les this statement	
>	Log this statement	
Add new action Add action copy	Use this event on the web pages	

Picture 31

- *"Systems setup (keys Ctrl+F11), picture 32"* is used to set basic CPU data, such as date and time, IP address, net mask, initial gate, and passwords for different levels of access to the central unit.

Pi	icti	Ire	32
	ισιι	ᆔᄃ	52

System setup and information				×
RMO, ADRO: CU2-01M 29H0300 00000062 CHI : UMI A- 0 S-9_6 TR- 5 TT-40 RTS-ms interface RS-232 CH2 : off no interface BTH1 : IP = 192.168.001.001 IM = 255.255. GW = 000.000.000	Time Date Time of run	08:42:08 15.7.2008 úterý 15.7.2008 06:36:46	Shortest prog. cycle Longest prog. cycle Last prog. cycle	0 ms 30 ms 11.7 ms
FL interface Ethernet 10/100Mb MAC: C EEPRON off DATABOX 512KB Switch CU201M v2.0 CU201M v2.9 Boot CU2C	Set date Set time	15. 7 .2008 • 9:54:19 •	IP address Subnet Mask	192.168.001.001 255.255.000.000
RMO, ADR2: MI2-01M CIB1 09H0100 00000063 RMO, ADR3: MI2-01M CIB2 09H0100 00000063	Set da	te and time	Default proxy Save IP con	000.000.000.000
RNO, ADRO: SA2-04M/Sn 01H0100 13027586 RNO, ADR1: DAC2-04M 01H0100 13026025	Admin password		****	
RMO, ADR2: SA2-02B/Sn 12H0100 13202116 RMO, ADR3: SA2-02M/Sn 01H0100 13201659	User password	Sa	ve password	
Save new verison of SW			X Close	? Help

An important item in the list is the option *"Save new SW version"*, which we recommend to use always after installation of a new version of IDM – actually you will save IDM application to CPU. Other important information is *"Last prog. cycle"*, which is information on a rotation (cycle) of CPU, during which CPU reads all inputs, evaluates their state, and performs actions on outputs – time of the loop depends on number of i/c being services, i.e. i/c controlled by program. It also depends on web sever service and other communication. Further information shown in the left hand window is accessible only in a special mode. Detailed description is the subject of chapter 12 – Error diagnostics and their remedy, see page 98.

- *"Time events setup, picture 33"* is a window of time events that have been set up. The window can be opened by a fast selection icon (see page 11, picture 17). Work with time events is a subject of a separate chapter 9 – Time events manager, page. 87.



"Time schedules set up, picture 34", shows the window *"Time/week schedule manager*", which is linked to Heating/cooling bar in the window *"System configuration"*. The window can be also opened by a fast selection icon (see page 11, picture 17). Detailed description is a subject of a separate chapter 8 – Time/week schedule manager (see page 80).



- *"Language setup, picture 35"* serves for switching IDM to a language version used in an area. You can choose from the following versions:

Picture 35



3. Item "Help" (picture 36):





The item offers the following options:

- "Help " generates text of the guide.
- *"User guide"* opens the guide for Inels Designer & Manager software, the one that you are just dealing with.
- *"Catalogue"* opens a catalogue of intelligent electric installation Inels in pdf format, where you can find detailed technical parameters of all Inels elements.
- *"Online registration IDM "* serves for IDM registration. If you choose that option, the following notice will appear (picture 37):



Inels De	signer & Manager
٩	The intenet browser will be opened in the next step, where you will obtain registration number after filling the form. Paste this number to the registration window using clipboard. In case you have slower computer or connection opening of registration form can take a while.
	OK
	By clicking "OK" you will open Internet browser (picture 38) with a form (picture 39).

Picture 38

Inels Designer & Manager	
Insert register number	
KUBACNTB-0010C69A9550-0012F0C	84387-0014C2DFFDD4
, 	
oĸ	Cancel



As soon as you fill in the form and send the registration, a registration number will appear on the window. Paste the number to the window above for an e-mail code (picture 38). By the clicking the option *"Check up-to-date versions"* (page 23, picture 44) the registration will be done. *"Register SoftPLC"* is the option for SoftPLC product registration, if you have not done the step

when installing IDM and SoftPLC (see page. 5, picture 6). SoftPLC enables simulation and testing of programmed functions. If you choose this option, the following form of SoftPLC registration will be opened in the Internet browser (see picture 40).



😺 softPLC register form - Mozilla Firefox			
Soubor Úprgvy Zobrazit Historie Zálgžky Nástroje Nápogěda			0
< - inter- inte		• •	G- Google Q
Ki Hotmal 🗋 Vlastní odkazy 📄 Windows Media 📄 Windows			
SoftPLC Tecomat - Register form Company name Company address ⁽¹⁾ Contact person Contact person Contact phone ⁽¹⁾	Algeo	Alleso	Allebo
Confine - mail SoftPLC version ICO ^D DIC ^D I can emails with news about SoftPLC V Extended information	Aleeo		
Path file 'SoffPLC_Info TXT > SEND REGISTER < Odeslinin, zároveň potvrzuji, že	Prochézet.	ALGEO	Algeo
 Souhlasim s platbou předem na základě zálohové faktury vystavene firmou Teco a s Souhlasim s podminicami licenční smlouvy na poskytovaný SW. 			
 These data is not needed for free version for testing (c) 2006-2007 Teco a.s. v1.0++ 			
Hotoma Maria Mari	- n-1210)	-n-an	n-rell

After completing the form it is necessary to map out *"SoftPLC_Info.TXT"* file that is being generated to the computer screen. The generating of the file will be completed by starting SoftPLC (Picture 41), whereas starting will open the window *"SoftPLC configuration"* (picture 42).



SoftPLC configuration			
	Project Files PLC1 Project name Project1 Folder for remanent data store		
	Information about user Company name ELKOEP Company address Contact phone -	Contact person	
SoftPLC Configurator v. 1.5.0 ©2006- 2008 Teco a.s.	Company ID - Contact email technik@inels.cz Save Order of full vers	VAT no.	ī ī

Filling in basic data and clicking "Save" will activate options "Registration of full version" and "Registration TRIAL". We recommend to register TRIAL version. It is free of charge and valid for 4 hours from launching. If you click on "Registration of TRIAL version" will generate the file SoftPLC_Info.TXT". Paste it to the registration form. When you send the registration, within a couple of minutes you will receive a message with the activation key for SoftPLC. By opening the key will be imported to SoftPLC, which is then ready for using. SoftPLC can be executed from the window above from PLC1 bar (picture 42), where you can just click on the option "Run" – by this you will make SoftPLC work. The general application for SoftPLC will appear (picture 43).



However, in is not necessary to start SoftPLC in that way. As you choose the option *"Connect to SoftPLC"* in the window *"Connect setup* (see page 6, picture 10)", SoftPLC is launched automatically. You can see its activity on a bar in the indicative area. If the option is not active, SoftPLC product is not registered.

- *"Check up-todate versions"* is an option for detection of new version of IDM. By activation the window for downloading a new version of IDM will be opened, if a new version is available. If it is not, the window in picture 44 will appear.



- The option *"About application" (Pict. 45)* opens the window with IDM version, copyright software IDM and information if the version is registered or unregistered.



Picture 45

4. Fast selection icons for "Manager" mode (see page 11, picture 17):



You are familiar with some icons from description of the item "Project" and item "Setup". They include:

- Device manager,
- System setup,
- Project setup,
- Configuration,
- Action/statement manager,
- Time events setup,
- Time schedule setup.

Among those we have not mentioned yet there are as follows:

- *"Show as www, picture 46"* opens the window of an initial Internet browser with the log in window. Use a user password to log in (see page 19, picture 32).

Sudor (kryay Solansk Indone 2000) (kildnine Nikopolide Control la Perdona (ki Perdona v Natura) (kildnine indone) Cantrol la Perdona (ki Perdona v Natura) Vitejte a prihlašte se, prosina. Uživatelská jméno : Heslo : Plihlášeni	🕑 Login - Mozilla Firefox			
Contrida Fierderuu Contrida Field tyrele : L3.gg : porascript: %20wref Vitejte a příklašte se, prosinn. Uživatelské jméno :	Soubor Úprgvy Zobrazit Historie Zálgžky Mástrose Nápovéda			-
Contrala Prefrou 🧱 Préried grafer 🗋 13,9g 📄 presorget:%20verf Vitejte a prihlašte se, prosim. Uživatelské jméno : els Heslo : FRMášlant	🧼 - 🧼 - 😴 🕝 🏠 📄 http://192.168.4.76/syswww.flogn.xml		- D Ge Google	1941 (R)
Vitejte a přihlašte se, prosin. Uživatelské jméno : mels Heslo : PRhlášent	🗭 Centrála Firefoxu 🔂 Přehled zpráv 🗋 L3. jpg 📋 javascript:%20wref			
Uživatelské jméne : inels Hesto : Pfihlóšeni		Vitejte a přihlašte se, prosim.		
Hesto: Filh/Ateni		Uživatelské jméno : inels		
Phosen		Heslo :		
		Phhlaseni		

- *"Save configuration to controller "* performs saving of action/statement, time events, time schedules, and CPU programming. Saving of the above mentioned terms is indicated by dialogue window, where a text is running central unit programming, saving of a project to the central unit and an update of plans in CU.
- "View logged events, picture 47" to preview recorded events. Events saved in DATABOX in CPU (512kB size) are shown here. The logged events can be defined in "Action/statement manager" (see chapter 7 Action/statement manager, page 60). Obviously, you can export the events to a text file "*txt", using an icon on the left bottom. In CPU memory there is a space for 10000 events of the action/statement manager and 10000 events of the alarm system. When it is full, the logged events will be overwritten from the oldest log.

Picture 47

22.01.2006 15:39:30.039 im140m_rs ~ universal dig. inputs ~ pir_zadveri 22.01.2008 16:03:24.779 wsb40_zadveri - dlouhy_stisk - esz_yap 22.01.2008 16:04:24.839 im140m_rs ~ universal dig. inputs ~ pir_adveri 22.01.2008 16:04:24.839 im140m_rs ~ universal dig. inputs ~ pir_adveri 22.01.2008 16:04:24.839 im140m_rs ~ universal dig. inputs ~ pir_adveri 22.01.2008 16:04:24.839 im140m_rs ~ universal dig. inputs ~ pir_adveri 22.01.2008 18:10:57.079 wsb40_zadveri - dlouhy_stisk - esz_vyp 22.01.2008 18:10:57.079 wsb40_zadveri - dlouhy_stisk - esz_vyp 22.01.2008 18:10:57.050 sa01b_kotel - on/off - ovladani_kote 22.01.2008 21:02:050.349 im140m_rs ~ universal dig. inputs ~ pir_zadveri 22.01.2008 22:00:00.150 sa01b_kotel - on/off - ovladani_kote 22.01.2008 22:02:050.349 im140m_rs ~ universal dig. inputs ~ pir_zadveri 22.01.2008 5:18:00.109 sa0b1_kotel - on/off - ovladani_kote 22.01.2008 6:22:05.539 im140m_rs ~ universal dig. inputs ~ pir_zadveri 22.01.2008 6:22:05.539 im140m_rs ~ universal dig. inputs ~ pir_zadveri 23.01.2008 6:22:05.539 </th <th>•• Preview</th> <th>of events in</th> <th>n system</th> <th>-</th>	•• Preview	of events in	n system	-
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24.01.2008 5:18:00.099 sabbi_kotel - on/off - ovladan_kote 24.01.2008 5:56:24.369 wsb40_chotba - dlouty_stikk - esz_vyp 24.01.2008 6:25:00.109 wsb40_zadveri - dlouty_stikk - esz_zap 24.01.2008 6:25:00.140 im140m_rs ~ universal dig. inputs ~ pir_zbyvaci pokoj 24.01.2008 6:26:00.140 im140m_rs ~ universal dig. inputs ~ pir_zbyvaci pokoj 24.01.2008 6:26:00.140 im140m_rs ~ universal dig. inputs ~ pir_zbyvaci pokoj 24.01.2008 7:00:00.009 Denni_rezim_icas 24.01.2008 7:00:00.0140 sa01b_kotel - on/off - ovladani_kote	23.01.2008	21:23:20.769	im140m_rs ~ universal dig. inputs ~ pir_terasa	
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	24.01.2008	/:00:00.140	saU1b_kotel - on/off - ovladani_kotle	
			Delete	lastars

- "Monitor, picture 48" enables browsing bit status, counters and timers.

Picture 48

toe Monitor			_ 🛏 🔀
Watch bits			•
Watch bits Watch counters Watch timers system monitor MA - CIB 1			-
MA - CIB 2 MAO - CIB 1 MAO - CIB 2 MA2 - CIB 1 MA2 - CIB 1 MA2 - CIB 2 comm. monitor error monitor			-
bit 9	0	bit 25	0
bit 10	0	bit 26	0
bit 11	0	bit 27	0
bit 12	0	bit 28	0
bit 13	0	bit 29	0
bit 14	0	bit 30	0
bit 15	0	bit 31	0
bit 16	0	bit 32	0

Next, you can monitor system information here, though it is available only in a special mode. More details in chapter 12 - Error diagnostics and their remedy.

- "Setup and reading archive state of input or outputs, picture 49" chapter 10.

Picture 49

Archive setup	Downloaded data			
13.01.2008 10:5	59:17.880> 13.01.2	008 16:44:56.400		
Date and time		Caption	Value	
13.01.2008 16:43	3:03.019	teplomer_obyvaci_pokoj	22.010000	
13.01.2008 16:43	3:03.019	teplomer_zadveri	16.090000	
13.01.2008 16:43	3:03.019	teplomer_koupelna	20.879999	
13.01.2008 16:43	3:03.019	teplomer_terasa	16.010000	
13.01.2008 16:43	3:03.019	teplomer_tzb	11.340000	
13.01.2008 16:43	3:03.019	teplomer_loznice	20.420000	
13.01.2008 16:43	3:03.019	teplomer_detsky_pokoj	21.639999	
13.01.2008 16:43	3:03.019	teplomer_satna	20.209999	
13.01.2008 16:43	3:46.750	teplomer_schodiste	21.309999	
13.01.2008 16:43	3:46.750	teplomer_jidelna	21.100000	
13.01.2008 16:43	3:46.750	teplomer_obyvaci_pokoj	22.000000	
13.01.2008 16:43	3:46.750	teplomer_zadveri	16.090000	
13.01.2008 16:43	3:46.750	teplomer_koupelna	20.900000	
13.01.2008 16:43	3:46.750	teplomer_terasa	16.010000	
13.01.2008 16:43	3:46.750	teplomer_tzb	11.340000	
13.01.2008 16:43	3:46.750	teplomer_loznice	20.420000	
13.01.2008 16:43	3:46.750	teplomer_detsky_pokoj	21.639999	
13.01.2008 16:43	3:46.750	teplomer_satna	20.209999	
13.01.2008 16:44	1:56.400	teplomer_schodiste	21.309999	
13.01.2008 16:44	4:56.400	teplomer_jidelna	21.100000	
13.01.2008 16:44	4:56.400	teplomer_obyvaci_pokoj	21.990000	
13.01.2008 16:44	1:56.400	teplomer_zadveri	16.090000	
13.01.2008 16:44	1:56.400	teplomer_koupelna	20.889999	
13.01.2008 16:44	1:56.400	teplomer_terasa	16.010000	
13.01.2008 16:44	1:56.400	teplomer_tzb	-304.929993	
13.01.2008 16:44	1:56.400	teplomer_loznice	20.420000	
13.01.2008 16:44	1:56.400	teplomer_detsky_pokoj	21.639999	
13.01.2008 16:44	1:56.400	teplomer_satna	20.180000	
>			Clear archive	Download archived data

5. Fast selection icons for "Designer" mode (page 11 and page. 27, picture 18):

We have briefly mentioned the icons in Chapter 4. The designer mode enables to add plans and change their features – add and delete objects of plan, change their position and size. Merely the administrator can switch over to the Designer mode. When you enter the mode, the bar with possible objects to be put on the screen is available. The window looks as follows (Pict. 50):

Picture 50



The main icons of fast selection (Pict. 18) are:



"Add plan icon (1st from left), picture 19" is used to add a new or another graphic background (we do not mean only a floor, but also a part of a building, e.g. room, boiling room, etc.) Space for web can be 3 MB maximum, while size of plans is not limited. However, we recommend 128 kB. By clicking the new dialogue window "Background setup" (Pict. 51) will appear.



Setting the floor	Setting the floor
Background setup Options	Background setup Options
Name of the floor	Name of the floor
	Menu not used for web pages. From main www menu open in new window.
Read the picture	
OK X Cancel	Cancel

Type its name to *"Name of the floor"*. *"Read the picture"* offers a navigation window *"Open"* (Pict. 52) for a choice of a saved graphical background.

Oblast <u>h</u> ledání:	C INELS_logo	•	← 🗈 💣 📰•		Picture:	<u>a</u>
Recent Plocha Dokumenty Tento počítač Místa v síti	ikona_vasdum_inels_1 inels_domecek inels_domecek_tsp inels_nalepky.partner_fin inels_zapati logo_C2 ilogo_C2_web_server ilogo_inels ilogo_inels_bez_popisu ilogo_inels_s_popisu ilogo_systpartner_bile ilogo_systpartner_bile ilogo_systpartner_modre ilogo_alnels_ppt2	💼 zahlavi_inels_manua			(None)	
	Název souboru:		•	<u>O</u> tevřít		

Picture 52

Choose required graphical background and insert it to the window "*Setting the floor*" by clicking "*OK*", which pastes the chosen file to the window (picture 53). The option in picture 51 is used for setting up an option for www site – "*Menu not used for web pages*" and *"From main WWW menu open in new window*".

Picture 53



Click "OK" to insert a graphical background to the main window of the Designer (Pict. 54).

Picture 54



- *"Delete plan icon (2nd from the left hand side), picture 18"* is used to delete selected graphic background, more precisely plans being shown in the right hand part of the main window of the Designer mode.
- *"Plan setup" (3rd from left), picture 18"* serves for editing a selected plan. Plans are displayed in the right part of the main window. By clicking the icon a window you are familiar with "Setup of floor" will appear (picture 51), where you can change graphic background of the plan and its name.
- "Add object icon (4th from left), picture 18", adds objects (their offer corresponds with the bar in the left part of the main window Designer mode, picture 51). You can select an option "STD standard" (switch, bulb, flour tube, fan, thermometer, output, door door contact, time schedule, and label free), "EXT extern" (smoke detector, keyboard, and PIR sensor) and "SIM simulation" (wsb

buttons). By clicking you will evoke the window "Object setup" (picture 55). We can do the same with the key "*Ins (Insert)*". You can also insert objects directly from the bar by pulling with a mouse to the graphical background. Then the dialogue window *"Select of control controlled device*" (see page 30, picture 58) will appear.

Pictu	re 55
Setup floor object	Setup floor object 🛛 🛛 🛛 🛛
Object type Position and size	Object type Position and size
Object type :	Postion Y 40 👤
×	Position X 40 🚖
	Height 15
	Width 40 🜲
Visual with inversion logic	Visual with inversion logic
C Default size setup	☐ Default size setup
Cancel	Cancel

"Position and size" changes a position of the object within axis X and Y and also change size of the object by entering numeric values. *"Default size setup"* returns the object to the initial icon size. *"Visual with inversion logic"* can be found only with sensor, as the sensor output is NC. *"Object type"* represents the offer of objects above mentioned, which is listed if you open the item. (page 30, Pict. 56).



Setup floor object		×
Object type Positio	n and size	
Object type :		
Bulb	•	ī
standard		ίI
Switch		
Bulb		
Flourtube		
Fan		
Thermometer		
Output		
Label		
Time programm		
Door contact		
extern		
Smoke sensor		
Keyborad		
Sensor		
simulation		
W5B-20 sim		
WSB-40 sim		\square
WSB-80 sim		1
WWW		
🔲 Web page URL		

If you insert e.g. a bulb, graphic picture of the object will appear instead of "*edCaption*" object (picture 57). *Make export for SCADA SW* serves for export of i/o and creating visualization by means of scada/hmi software Reliance 4 (see separate chapter 13, page 110).

Picture 57

Setup floor object 🛛 🛛 🛛 🛛	Setup floor object
Object type Position and size SCADA	Object type Position and size SCADA
Object type :	
Bulb	Make export for scada sw
DAC2-04M ~ triak outputs ~ OUT1 *	Name / alias
Caption	
e	
_	
🔽 Default size setup	☐ Default size setup

If you insert an undefined object to a plan, it will be displayed with the red edging, which means that the object is not matched with any unit (its input/output for an action) connected to CIB1 or CIB2 bar. To match click a "star" sign under an object type. The window "*Select of control / controlled device*" (picture 58) will be shown, where you will appoint an input/output of e selected unit to an object.

Select units	SOPHY2,LM2-11B	,WSB2-80,SA2-04M/Sn,SA2
Filter by text value		
Unit	Device	I/O name in device
SOPHY2	VoiceIN	RE1
LM2-11B	triak outputs	OUT1
WSB2-80	LED indicators	GREEN1
WSB2-80	LED indicators	RED1
WSB2-80	LED indicators	GREEN2
WSB2-80	LED indicators	RED2
WSB2-80	LED indicators	GREEN3
WSB2-80	LED indicators	RED3
WSB2-80	LED indicators	GREEN4
WSB2-80	LED indicators	RED4
SA2-04M/Sn	universal rele outputs	RE1
SA2-04M/Sn	universal rele outputs	RE2
SA2-04M/Sn	universal rele outputs	RE3
SA2-04M/Sn	universal rele outputs	RE4
SA2-02B/Sn	universal rele outputs	RE1
SA2-02B/Sn	universal rele outputs	RE2
DAC2-04M	triak outputs	OUT1
DAC2-04M	triak outputs	OUT2
DAC2-04M	triak outputs	OUT3
DAC2-04M	triak outputs	OUT4
SA2-02M/Sn	universal rele outputs	RE1
SA2-02M/Sn	universal rele outputs	RE2

Picture 58

To avoid complicated browsing a list of i/o, you can filter by *"Select units" or "Filter by text value"*. You can evoke *"Select all "* and *"Cancel selection"* by right button of the mouse (Pict. 59).

Select units	SOPHY2,LM2-1	1B,W5B2-80,5A2-04M/5n,	5A2 🔻
Filter by text value	 ✓ SOPHY2 ✓ LM2-11B ✓ W5B2-80 	<	Select all
l Init	Devic SA2-04M/SI	1	Unselect a
	Voice V DAC2-02B/SF	1	
 DOFITZ LM2-11R 	Frink SA2-02M/SI	1	
WEP2 00	LED indicators	CDEENI	
WED2-00	LED indicators	DED1	
WSB2-00	LED indicators	CDEENO	
W562-00	LED indicators	GREENZ	
W502-00	LED indicators	RED2	-
W502-00	LED indicators	GREENS	
W582-80	LED indicators	RED3	
W502-00	LED indicators	GREEN4	*
W582-80	LED Indicators	RED4	
SA2-U4M/Sh	universal rele output	s RE1	
SAZ-U4MUSN	universal rele output	s REZ	
SA2-U4M/Sn	universal rele output	s RE3	
SA2-04M/Sn	universal rele output	s RE4	
SA2-02B/Sn	universal rele output	s RE1	
SA2-02B/Sn	universal rele output	s RE2	
DAC2-04M	triak outputs	OUT1	
DAC2-04M	triak outputs	OUT2	
DAC2-04M	triak outputs	OUT3	
DAC2-04M	triak outputs	OUT4	
SA2-02M/Sn	universal rele output	s RE1	
SA2-02M/Sn	universal rele output	s RE2	
Display also unused	Idevice		

Select a required unit and its input/output and confirm by clicking *"OK"*. Then you are back in the window "Object setup" (Pict. 60).

Setup floor object 🛛 🛛 🔀
Object type Position and size
Object type :
Bub
SOPHY2 ~ VoiceTN ~ BE1 *
Caption
e
🔲 Default size setup
🖌 OK 🛛 🗶 Cancel

Confirming by "OK" you will insert the object to the plan. You can see that red edging has disappeared, as the unit was matched with the object. If you point at the unit with the mouse indicator, a description of the Unit/device manager and description of output will appear (picture 61). Double click will open again the window "Object setup" (Pict. 60) and you can edit the object.



- *"Delete object" icon (5th from right), picture 18* deletes a selected object from the floor. You can also use the key "Del".
- *"Object setup" icon (6th from the left), picture 18*, used for editing an inserted object, will open the window *"Object setup"* (Pict. 60) and you can do so.

Fast selection icons (Add object, Delete object, Object setup) will also appear if you click the right button of the mouse. Also the following items will be offered (Pict. 62):

- "Default size" in case of size change it will setup the default size of an object,
- "Delete all objects from the floor" all objects will be deleted.



Picture 62
6. System configuration

"Configuration" window (Pict. 63) sets up parameters of inputs/outputs, heating/cooling, alarm system, GSM modem, keyboard, and multifunction unit Sophy. The items are divided to basic sections by sheets.

Picture 63

uts Outputs	Heating/cooling	Sophy Alarm	System GSM	1
ital inputs	Analog inputs Thern	nometers Ca	rdreaders	
ielect group ol	funit system,50	OPHY2,LM2-11B,V	VSB2-80, SA2-04M/S	VSn,SA2-c 💌
Init	Devices	Input name	Statu Op.	Digital Input Name
/stem	IN	Zelené 1	OFF A-II	-ID
/stem	IN	Zelené 2	OFF A	
/stem	IN	Zelené 3	OFF A	
/stem	IN	Zelené 4	OFF A-I-	I-
OPHY2	DI	IN 1	OFF A	🗖 B -Balanced input (security system)
DPHY2	DI	IN 2 IN 2	OFF A	T T Tourseted insult (astron if some A(C)
JPHY2	DI	IN 3 TN 4	OFF A	I -inverted input (active ir open, NC)
	DI		OFF A	D -Hard distinction of short/long push
OPHV2	DI	IN 6	OFF A	
42-11B	binar inputs	IN 1	OFF A	Double balanced input
SB2-80	universal dia, in	UP1	OFF A	
'SB2-80	universal dig. in	DOWN 1	OFF A	Action during input switch-on (push)
'SB2-80	universal dig. in	UP2	OFF A	Akce při sepnutí vstupu (stisknutí) :: system 🔻 🚺
'SB2-80	universal dig. in	DOWN 2	OFF A	
/SB2-80	universal dig. in	UP3	OFF A	
/SB2-80	universal dig. in	DOWN 3	OFF A	Action during input switch-off (pull)
/SB2-80	universal dig. in	UP4	OFF A	No statement or create new event -> 💌 🏌
				Long push action (1.5s) No statement or create new event -> Action during long input switch-off (pull) No statement or create new event ->

The sections/sheets will be described in details in individual sub-chapters including their links to "Action/statement manager" (see page 18, picture 31) - in picture 63 the last icon on the left bottom, "Time events manager" (see page 19, picture 33) - in Pict. 63 the first icon on the left bottom, and "Time/week schedules manager" (Pict. 63) - in Pict. 63 the 2nd icon on the left bottom. It is necessary to highlight the following information about the "Configuration" window. The red exclamation mark (!) in front of an item means a change of saved setting. If you do not save changes when closing the window, the changes will not be done. The item "Save to CPU" serves for saving of programmed actions/statements, time events, and time schedules and CPU is programmed. Saving of the above described items is indicated by a window with a running text - the central unit programming, project saving, or plan update in CU. You can also find the option on the fast selection icon bar (see page 24, picture 17). Confirm by "OK" or "Cancel". The option "Select group of units" is a roll-off element if you have lots of inputs/outputs (i/o) - by the element you can select one unit or several units that will be displayed in (Pict. 64). By the right mouse button you will display the familiar options - "Select all" and "Cancel all". If you need to set up a feature for more inputs/outputs, press together "Ctrl" or "Shift" and select more items with a mouse - the change will be carried out on more items. You cannot change name of more items at the same time.

Inputs Outputs Heating/cooling Sophy Alarm System GSM Digital inputs Analog inputs Thermometers Cardreaders Setup digital input system,SOPHY2,LM2-11B,W5B2-80,SA2-04M/Sn,SA2-0 Select group of unit Devices ✓ system Devices ✓ SOPHY2 IN ✓ LM2-118 IN ✓ SA2-04N/SR IN ✓ SA2-028/SR IN ✓ SA2-028/SR IN ✓ SA2-028/SR DI ✓ SA2-028/SR DI ✓ SA2-028/SR DI ✓ SA2-028/SR DI ✓ SA2-020/SR Digital Input N Unit Zelené 4 system system system SOPHY2 SO IN V 5A2-0: IN V 5A2-0: DI V 5A2-0: DI DI DI DI DI DI Universal dig. in... universal dig. in... universal dig. in... 🔽 A -Active (used) IN 2 IN 3 IN 4 IN 5 IN 6 IN 1 UP1 OFF OFF OFF OFF OFF OFF OFF OFF A----A----A----A----A----A----A----A----A----A----▼ I -Inverted input (active if open, NC) D -Hard distinction of short/long push Double balanced in UP1 DOWN 1 UP2 DOWN 2 Action during input switch-on (push) Akce při sepnutí vstupu (stisknutí) :: system 💌 🄃 WSB2-80 universal dig. in... WSB2-80 universal dig. in... UP3 DOWN 3 Action during input switch-off (pull) WSB2-80 universal dig. in... WSB2-80 WSB2-80 universal dig. in... universal dig. in... UP4 DOWN 4 No statement or create new event -> ▼ 10. Long push action (1.5s) • 10. No statement or create new event -> Action during long input switch-off (pull) - 12 No statement or create new event -> Save to controller Ö Þ 🗸 ок 🗶 Cancel

Picture 64

6.1. "Section (sheet) Inputs (picture 63)".

The sheet contains a list of all input devices read in the system. They are divided into three subgroups:

- "Digital inputs, i.e. binary inputs" (picture 63)" are all binary inputs read in the system, if they are allowed in the window "Unit/device manager" (see page 16, Pict. 28, option Use device)". Among those devices there are bus buttons (WSB, SOPHY, SOPHY L), input units (IM), and 4 universal inputs that CPU (system) manages and also SOPHY (SOPHY L) unit. The column "Unit" stands for a name of unit defined in "Unit/device manager" (see page 15, Pict. 26). The column "Device" contains a name of a device, whereas a name cannot be edited. The column "Input" is description of a particular input, which can be edited in the window "Name of digital input". "Input status" means an actual status of a particular input "ON/OFF". The last column "Selection" means input setup generally, for binary inputs depending on an input type it is possible to set, if the input is "A Active used", "B Balanced input (for security systems)", "I inverted input (active if open, NC), "D-Hard distinction of short/long push" or "Double balanced input" (for security systems). If the input is not used (active), appropriate events are not evoked. You can define an action for each input:
 - a. "Action on input switch-on (press)", i.e. response to a short press,
 - b. "Action on input switch-off (release)", i.e. response to a release of a short press,
 - *c. "Long push action (more than 1.5s)",* i.e. response to a long press, whereas there are 2 possibilities:
 - if you do not mark the option "D-distinction of short/long push", short press will cause statement defined for "Action on input switch-on" (if defined) and then if you hold long press, also for an action defined for "Long push action (minimum 1.5 s)".

- If you mark the option "*D*-distinction of short/long push", short press will cause only an action defined for "Action on input switch-on or if you hold, only action defined "Long push action (minimum 1.5 s)⁷".
- *d. "Action on long input switch on"*, i.e. response to the release of a long press. Previous option is also applicable.

If you define one of the options listed above by an icon *"Action/statement manager"*⁸, the window *"Action/statement manager"* (see page *18, Pict. 31*) will appear. The window *"Action/statement manager"* is a subject of chapter 7 – Action/statement manager.

2. "Analogue inputs (Pict. 65)" represent all analogue inputs uploaded in the system, if they are allowed in the "Unit/device manager" (option Use device)", i.e. only rotary switch adjusting temperature on thermo-regulator IART2-1 and IDRT2-1. Actually these inputs do not have any options. The column "Unit " stands for a name of unit that is defined in "Unit/device manager". The column "Device" contains a name of device, whereas the name cannot be edited. The column "Name of IO" is a description of a particular input, which can be edited in "Name" window. "Status" means an actual status of a particular input in ℃.

Picture 65

ice+system configuration puts Outputs Heating/cooling Sophy Alarm System GSM Sinital inputs Analog inputs Thermometers Cardreaders	
Select group of unit	Setup digital input Digital Input Name [JN 1
🖌 🙀 🕼 🕅 🖉	Cox X Cancel 🛛 🖓 Help

On the unit adc2-40m we can define the following *"Input types"* – Picture 66 (but those are not selectable at iart2-01 and idrt2-01).

⁷ Response time of short press can be up to 1.5 sec.

Picture 66.

1	Typ vstupu	_
	Pt100 W100 = 1,385	
	Pt100 W100 = 1,385	
	Pt100 W100 = 1,391	
	Pt1000 W100 = 1,385	
	Pt1000 W100 = 1,391	
-	Ni1000 W100 = 1,617	
	Ni1000 W100 = 1,500	
	OV1000	
	NTC-12k	
	0 - 20 mA	
	4 - 20 mA	
	0 - 10 V	
	0-5V	
	0-2V	
	0 - 1 V	
	0 - 0,5 V	

"Input filtration" means time in which input value is updated. If you need to filter the input analogue value, update the filtration mode and set the time constant. Set values of an appropriate channel go through the filter of the 1st rate. The filter is set by the formula:

$$y_{t} = \frac{y_{t-1} \cdot \tau + x}{\tau + 1}$$

x --> converted value of the analogue input

yt --> output

yt-1 --> last output

--> time constant of the 1st rate filter

Value of time constant is set in the range 0,1 \div 25,0 s.

We have two options how to operate the analogue input. The first one is *"Direct control of analogue output – Picture 67*, which represents e.g. control of dimmable output via light sensor. If direct control is used, it is not possible to control output via events, because the output is controlled directly.

Konfigurace systém Vstupy Výstupy	nu Vytápění/Chlazení	Alarmy Systém GSM	X
Digitální vstupy Vyber skupinu je Jednotka adc40m adc40m	Analogové vstupy dnotek adc40m, Zařížení analog input analog input	y Teploměry Čtečky karet , iart, idrt, SA2-02M/Sn, WSB2-80 ↓ Název IO Stav vstup_1 vstup_2	Nastavení analogového vstupu Název vstup_4 Typ vstupu
adc40m adc40m iart idrt	analog input analog input correction correction	vstup_3 vstup_4 iart_korekce idrt_korekce	Image: State of the state
 ⊘ ≅ ⊫≽	Ð	왕쑻 Ulož do CPU	✓ OK X Zrušit 🖉 Nápověda

By press the icon *"S*elect analog output" which you want to control – it will open the window *"Select of control / controlled device"*". Next, you can define *"Input limits" and "Output limits", where it is possible to tick an option <i>"Check minimum"* and *"Check maximum"*. Those options serve for statuses, when minimum and maximum is exceeded --> defined value is set, while any value can be on the input.

The other option is using the analogue input "Setup of test values - Picture 68".

Device+system configuration Inputs Outputs Heating/cooling Alarm System GSM Keyboa Digital inputs Analog inputs Thermometers Cardreaders I	rd
Select group of unit da22m_1_rs, da22m_2_rs, da22m_3_rs, (Unit Name of IO Status add40m ai1 add40m ai2 add40m ai3 add40m ai3 add40m ai3 add40m ai3 add40m ai3 add40m ai4	Setup analog input Analog input Name ai4 Type Pt100 W100 = 1,385 Filtr 0,0 Irect control analog output - Setup of test values Test value Input value Equal '=' Test value Operation second condition AND Input value Equal '=' Test value 0,0 Operation second condition AND Input value Equal '=' Test value 0,0 Action on true condition No statement or create new event -> Action on false condition No statement or create new event -> VAL1 VAL2 VAL1 VAL2
🗿 🧃 🕒 🎉 🎇	✓ OK X Cancel ? Help

"Thermometer" (Pict. 69) contains all temperature sensors read in the system, if they are allowed З. in the "Unit/device manager" (see page 16, Pict. 28, option Use device. These are temperature sensors integrated in bus buttons (WSB), in multifunction units (SOPHY, SOPHY L) and external temperature sensor connected to units as an installation box version. The column "Unit" stands for a name of a unit that is defined in "Unit/device manager" (see page 15, Picture 26). The column "Device " contains the name of a device, whereas the name cannot be edited. The column "Input" is a description of a particular input, which can be edited in the window "Name of thermometer". "Thermometer status" is a current temperature measured by the temperature sensor. The column "MIN (\mathcal{C})" is a value, at which "Action at the start of high temperature event" is performed and "Action at the end of high temperature event". The columns "MAX (\mathcal{C})" is a value at which "Action at the start of high temperature event" and "Action at the end of high temperature event" is performed. The temperature value is set up in the item "Low temperature" and the item "High temperature". The column "OFFSET" serves for calibration of measured (monitored) temperature, i.e. to eliminate influence of temperature emission of a unit placed in a room. The value can be setup in the item "Temperature offset" (correction +-)". In the item "Temperature hystheresis" you can setup a temperature hystheresis, i.e. in what temperature range will the action be done.

If you define some of the above described action by the icon *"Action/statement manager*", the window *"Action/statement manager*" will be displayed. The window *"Action/statement manager"* is dealt with in an individual Chapter 7 – Action/statement manager.

evice+system configuration Inputs Outputs Heating/cooling Digital inputs Analog inputs	Sophy Alarm System GSM	
Digital inputs Analog inputs Select group of unit LM: Unit Devices SOPHY2 Light Intenzi WSB2-80 thermo sense	Thermometers Cardreaders -11B,50PHY2,system,WSB2-80,5A2-04M/Sn,5A2-0 Inputs name Sta Inputs name Sta IND [MAX TERM 19.6 5.0 100.0	28/Sn,DA ▼ Setup thermometer Thermometer Name 9FF -6.1 -5.5 Low temperature [°C] [255,0] ● °C High temperature [°C] [255,0] ● °C High temperature [°C] [255,0] ● °C Temperature Offset (corr.+-) [°C] [0,0] ● °C Temperature hystheresis [°C] [3,0] ● °C Action at the start of high temperature event No statement or create new event ● ● No statement or create new event ● ● No statement or create new event ● Action at the start of how temperature event No statement or create new event ●
		Action at the end of low temperature event

4. *"Card readers" (Pict. 70)* are all external media readers in the system, if they are allowed in the window "*Unit/device manager – option "Select group of units"*. The column *"Unit"* stands for a unit name defined in "Unit/device manager". The column "Device" contains device name whereas the name can be edited in the item "Cardreader name".

"Allowance level" views test condition defined in the item "*Card level*" here you can choose is higher or equal (>=), *is higher* (>), *or is equal* (=). *"Status*" displays card number when a card is placed to the reader. "Basic level of allowance" is bound with allowance level in the sheet "Alarm/users"; range of the level is <u>0-255</u>. It serves to assign allowance level tested by logic operands in the item *"Card level condition"*.

Next, the option *"Use LED for true or false log in"* activates LED diodes on the reader indicating reading the card. *"Use impulse on relay"* is an option for impulse for digital output that the reader contains. *"Use beep for true login"* is an option when the reader gives an acoustic signal when a card is placed. *"Use user to log in"* is an option when placing a card to the reader logs in to the security system. At last you can define *"Action with true level card"*. If it is defined by the icon *"Action/device manager"*, when a card is placed the window *"Action/device manager"* will open (see Chapter 7 – "Unit/device manager").

it	Device	Card level State	Cardreader name
nr11	reader_entry	Greater than or equ	reader_entry
			Card level 0
			Card level condition Greater than or equal '>= 💌
			Use LED for true or false login
			Use impuls on rele
			Use beep for true login
			Use for user login
			Action with true level card No statement or create new event ->
			Action with true level card No statement or create new event ->

6.2. "Section (sheet) Outputs (Pict. 71)".

The sheet contains list of all output devices read in the system. Those are divided into two basic subgroups:

1. "Digital outputs" (Pict. 71)" are all digital (binary) output uploaded in the system, if they are allowed in the "Unit/device manager" (option Use device).

The devices correspond with all outputs of switching actors (SA units and also LED indicators of bus buttons (WSB). The column *"Unit "* represents the name of the unit defined in the *"Device/unit manager"*. The column *"Device"* stands for the name of a device, whereas the name cannot be edited. The column *"Output "* is a description of a particular output, which can be edited in the window "Digital/Relay o*utput name"*. *"Status"* means an actual status of a particular output *"ON/OFF"*. If you need the output in an inverted performance, you can click the option *"Neg output"*.⁹ Each output is allowed to have an action defined:

- a. "Action during output switch on",
- b. "Action during output switch off".

If you define some of the above described action by the icon *"Action/statement manager*", the window *"Action/statement manager*" will be displayed, *(see page 18, Pict. 31).* The window *"Action/statement manager*" is dealt with in an individual chapter 7 – Action/statement manager.

⁹ Primary it is intended for thermo, type NO, i.e. opened witout voltage.

rs, da22m_4_rs Fetup output Digita/Relay Output Name
Digital/Relay Output Name
Statu re1 cirena
OFF Neg output OFF OFF OFF OFF OFF OFF OFF OFF OFF OFF OFF OFF OFF Action during output switch on OFF OFF OFF No statement or create new event -> OFF Action during output switch-off OFF No statement or create new event -> OFF No statement or create new event -> OFF F OFF No statement or create new event -> OFF F OFF Groups of digital outputs OFF Groups of digital outputs OFF Signalizace_okruhu_vytapeni OFF Termoelektricke_hlavice

Binary outputs are also divided into groups – the window *"Groups of digital outputs"*. <u>Maximum</u> <u>number of groups is 32, number of output in a group is unlimited</u>. You can create binary groups in two ways:

- a. Click the option *"Binnary group"*, which will open an offer *Add group"*, *"Delete group"* and *"Edit Name of group"* (*Pict. 72*).
- b. Press the right mouse button in the window *"Digital output groups"* and the offer above will be opened (Pict. 73). Function of the options is evident.

Picture 72

Action during output swit	ch on
No statement or create	new event -> 💌 🏗
Action during output swit	ch-off
No statement or create	new event -> 💽 🔛
Groups of digital outputs	
Bir	Add group
	Delete group
	Edit Name of group
ок 🛛 🗶 са	ancel % Help

Picture 73

Action during output switch on	
No statement or create new event	-> 💌 🔃
Action during output switch-off	
No statement or create new event	-> 💌 🔃
Groups of digital outputs	
Vse skokove	Add group Delete group Edit Name of group
Binar groups	
OK X Cancel	

2. Analog outputs (Pict. 74)" contains all analog outputs uploaded in the system, if they are allowed in the window "Unit/device manager (see page 16, Pict. 28, option Use device)". These devices are outputs of dimming (units LM, DA, LBC) and also outputs of converters d/a (units DAC). The column "Unit" means the name of a unit defined in "Unit/device manager" (see page 15, Pict. 26). The column "Device " means the name of a device, which cannot be edited. The column "Output" is a description of a particular output, which can be edited in the window "Description of control element". "Light status" means a state of a particular output, which can take value 0 - 100%. Double-click of left mouse button opens a roller of a gradual light control (Pict. 75). The columns "MIN%" and "MAX%" is a status, i.e. minimum and maximum light level defined by the option "Minimum level" and "Maximum level"¹⁰. On the controlling element output (dimming actor) you can define the following options:

¹⁰ You can define any value within range 0 - 100%. Minimum value is not required 0% and maximum 100%.

Picture 74

Dev	ice+sys	tem co	nfiguration							6
Ir	iputs 🚺	utputs	Heating/cooling	Sophy Alarm	System G	SM				
ſ	Digital/Rel	ay Outp	uts Analog ou	tputs		·				
	Select c Unit LM2-11E DAC2-0 DAC2-0 DAC2-0 DAC2-0	ay Outp group of 3 4M 4M 4M 4M	uts Analog ou unit system Devices triak outputs triak outputs triak outputs triak outputs triak outputs triak outputs	tputs ,50PHV2,LM2-11B, Output OUT1 OUT1 OUT2 OUT3 OUT4	W5B2-60,5A2-0- Statu 0.0 0.0 0.0 0.0 0.0 0.0	4M/Sn, SA MIN [0.0 0.0 0.0 0.0 0.0	2-028/5n,C MAX 100.0 100.0 100.0 100.0 100.0		Setup output Descritpion of control elem OUT1 MIN Minimum level [%] MAX Maximum level [%] on strain time Run down time BRG Period of level chanç AOFF Automatic switch-off Type Action during output on No statement or create in	ent 0.0 % 100.0 % 00:00:10.000 00:00 00
						1			Action during output off No statement or create n Groups of continuous cont OV Vše analog Analog gro	ew event
Ğ) 🖬	b	ŧ.		Save to controll	er	~	ок	K Cancel	? Help

Picture 75

evice+system co	nfiguration	nby Alarm System GSM	1		E
Digital/Relay Out	Digital/Relay Outputs Analog outputs				
Digital/Relay Out	f unit system, SOP Devices (triak outputs (triak out	s	n,SA2-02B/Sn,DA	Image: Second control Image: Second continuous control Image: Second continuous control	0 % 0 % 00:10.000 00:10.000 01:00.000 00:10.000 10V ♥ vent ♥ 121 vent ♥ 121
Analog groups					

a. "Delay ON" means on strain time from 0 to 100% when a light is switched on. Time basis is from 0.01 sec - 24 hour.

- *b.* Delay OFF" is a run down time when from 0 to 100% a light is switched off. Time basis is 0.01sec 24 hour.
- *c. "Period of level change"* is time during which light intensity is changed while holding the button. The value is always 0% to 100%. E.g. if it is 10 sec, the change from 10% to 30% lasts 2 sec. Time base is from 0.01 sec to 24 hour.
- *d. "Automatic switch off"* is a function of automatic switch off after defined time. Time base is from 0.01 sec to 24 hour
- *e. "Delayed switch OFF"* is a function when after the input activation a light switches off when defined time elapses. Time base is from 0.01 sec to 24 hour.

If dimming actors LBC or converters DAC are included in the system, you can select between the outputs 0 - 10V or 1 - 10V, the option *"Type "* (Pict. 76).



Device+system c	onfiguration				X
Inputs Output	s Heating/cooling	Sophy Alarm	System GSM		
Digital/Relay Out	puts Analog ou	tputs			
		. ,			Setup output
Select group o	r unit system	,SOPHY2,LM2-11B	,WSB2-80,SA2-04M/SD,S	A2-028/Sn,DA 💌	Descritpion of control element
Unit	Devices	Output	Statu MIN [MAX	OUT2
LM2-11B DAC2-04M	triak outputs triak outputs	OUT1 OUT1	0.0 0.0 0.0 0.0	100.0 100.0	MIN Minimum level [%] 0.0 %
DAC2-04M	triak outputs	OUT2	0.0 0.0	100.0	MAX Maximum level [%] 100.0 %
DAC2-04M	triak outputs	OUT4	0.0 0.0	100.0	on strain time 00:00:10.000
					Run down time 00:00:10.000
					BRG Period of level chang 00:00:10.000
					AOFF Automatic switch-o 00:01:00.000
					TOFF Delayed switch-off 00:00:10.000
					Type 0 - 10V 💌
					Action during output on 0 - 10V
					No statement or create new event
					Action during output off
					No statement or create new event 💌 🏩
					Groups of continuous control
					✓ Vše analog
					JI
					Analog groups
1					
	82	105			
🥝 🗖 🗎	TR.#		Save to controller	🗸 ок	Cancel 7 Help

Each output is allowed to have an action defined:

- c. "Action during output switch on",
- d. "Action during output switch off".

If you define some of the above described action by the icon *"Action/statement manager*", the window *"Action/statement manager*" will be displayed. The window *"Action/statement manager"* is dealt with in an individual chapter 7 – Action/statement manager.

Analog outputs can also be grouped – the window *"Group of continuous control"*. <u>Maximum</u> <u>number of groups is 32, number of output in a group is unlimited</u>. Group of continuous control can be created in two ways as described above (for digital output group):

- a. click on the option "Analog groups", which will open the offer "Add group", "Delete group" and "Edit group name" (Pict. 77).
- b. Press the right mouse button in the window *"Analog groups"* and the offer above will be opened (Pict. 78). Function of the options is evident.

Picture 77		
Action during output on		
No statement or create new event 💌 🔃		
Action during output off		
No statement or create new event 💌 🄃		
Groups of continuous control		
V vse analog		
Analog groups		
Add group		
Delete group		
Edit Name of group		

Action during output	on	
No statement or cre	eate new event 💌 🔃	
Action during output	off	
No statement or cre	ate new event 💌 🏗	
Groups of continuous	s control	
🗹 Vše analog		
	Add group	
	Delete group	
	Edit Name of group	
Eact Name of group		
[
Analog groups		
🗙 Cancel 🕺 💡 Help		

6.3. "Section (sheet)) Heating/Cooling (Pict. 79)".

The sheet serves for full setup of heating and cooling circuits, including their links to Time/week schedule. You can add heated/cooled sections in the window *"List of heated/cooled sections"* by the option "Add heated/cooled section", delete by *"Delete heated/cooled section"*. <u>Altogether you can define 64 sections of heating/cooling</u>. It is possible to edit a name in the column *"Name of area"* by the option *"Name of group"*. The column *Status of area"* displays actual status (operation mode) of an area from *"Time/week schedule manager"* – operation modes are as follows:

- Comfort,
- Normal,

- Depression,
- Minimum,
- And combination of impressed modes, presentation mode, changeover of modes, changeover of mode and time schedule application.

Detailed description is in chapter 8 – Time/week schedule manager.

Device + system configuration	
	untur loca l
Inputs Outputs Heating/cooling Sophy Alarm S	vyscem GDM
List of heated/cooled sections	Setup heated/cooled section
Name of area Statu	Name of group obyvaci_pokoj
obyvaci_pokoj	Select thermometer WSB2-80 ~ TERM
zadveri	
tzb	- Setup heating
terasa	Heat control valve SA2-02B/Sn ~ RE2 *
loznice detsku pokoj	
satna	
koupelna	Maximum temperature[°C] in Not used0,0 € °C
jidelna	
	over high temporary
	Over high temporary end No statement or create new event 🔽 🕨
	Use delayed switch on cooper
	+ Setup the cooling —
	Select unit for temperature setpoint
	Select Setpoint unit Not used
	Temperature bystheresis [°C1 0.0 ≜ °C
	Time/Week schedule
	Setup time/week schedule
Add heated/cooled section Delete heated/cooled section	
🧑 📕 🕒 🎉	re to controller 🛛 🗸 OK 🛛 🗶 Cancel 🔗 Help

In *"Thermometer"* window selects a thermometer from the system which will monitor temperature in a particular room. Then in *"Setup heating"* menu define by clicking on the icon " * " (will be opened the window *"Select of control/controlled device"*):

- *"Heat control valve",* is a switching actor controlling thermo-valve 0/1 230 V or 24 V on the heating unit or floor heating distributor.
- *"Domestic boiler"*, is a switching actor, from the center controlling heating source following requirements from different circuits¹¹. The window is closely related with the window *"Used delayed switch on cooper (global option)"*, which causes delayed control of the switching actor controlling the boiler in order to avoid heating to closed circuits¹².
- "Maximum temperature" is a function monitoring temperature of floor or medium in a circuit when floor heating is used. The function works on the basis of inner logic, i.e. you set up only temperature. Moreover, you can link the function to actions performed at "Over high temp." and Over high temp. end". Define the actions by the icon "Action/statement manager" that will open the window "Action/statement manager". The window "Action/statement manager" is dealt with in Chapter 7 Action/statement manager.

¹¹ Simply said, if there is no demand on heating from any circuit, the boiler does not heat and vice versa.

¹² We recommend to set time till the valve is switched over from closed to opened, aprox.. 3 min.

Rolling menu to set up cooling is similar- "Setup cooling" (Pict. 76)". Again, by the icon "*" (clicking on the icon will open the window "Select of control/controlled device" define:

- "Cool control valve" is a switching actor controlling cooling unit.
- *"Cooler control"* is a switching actor controlling directly from the centre cooling source according to cooling circuits requirements.

Device+system configuration	×
Inputs Outputs Heating/cooling Sophy Alarm	System GSM
List of heated/cooled sections	Setup heated/cooled section
Name of area Statu	Name of group Vytápění
Vytápění	Select thermometer WSR2-80 or TEDM
	+ Setup heating —
	- Setup the cooling
	Cool control valve
	Cooler control *
	- Calast unit fay temperature establish
	Select unit for temperature setpoint
	Select Setpoint unit
	Temperature hystheresis [°C] 0,0
	Time/Week schedule
	Setup time/week schedule
Udd bested/cooled section Delete bested/cooled section	
🧿 📕 🕒 🎉	ive to controller 🛛 🗸 OK 🔹 🗶 Cancel 🛛 🔗 Help

Picture 80

Further setting do by the option "Select unit for temperature set point" where there are items:

- "Select set point unit" to select room thermoregulator IART or IDRT, if those are allowed in the window "Unit/device manager (the option Use device)".
- *"Temperature of hystheresis"* setting temperature dispersion.
- "Week schedule" defined by the option "Setup time/week schedule". Click the option to open the window "Time/week schedule manager". You can evoke the window also by the 2nd icon from the left on the left bottom. The window is more described in Chapter 8 Time/week schedule manager.

6.4. "Section (sheet) Sophy (Pict 81)".

The sheet serves for setting up parameters of the units Sophy a Sophy L, it is divided to three subgroups.

Device+system configuration			
Inputs Outputs Heating/cooling Sophy Voice control IR control Lighting List of Sophy units Name of SOPHY State obyvak	Alarm System GSM	Setup Jakub Action on voice command Bez události nebo vložit novou -> Start training Sophy language Angličtina (Spojené státy)	
	Add new voice command	Delete all	
	Delete command	Play message	
🧿 🖬 🕒 🖭	्रिश्च Save to controller	V OK X Cancel Relp	

"Voice control (Pict. 81)" serves for voice processor training. In the left window "List of Sophy units" there are listed all Sophy units connected to the CIB bar and managed by IDM. "Name of Sophy" contains description of a particular unit. Define the name through the window "Unit/device manager". Define commands in the window "Setup voice control" by the button "Add new voice command", when you click you will be offered options "Add voice command/Add nested voice command". You can delete commands by "Delete" or "Delete all" . "Play message" plays voice messages saved in the memory – click the button and enter a message number to the window. You can change name in the window "Setup. By "Action on voice command" define action on voice command any by clicking the "Action/statement manager" you will open the window "Action/statement manager (see page. 18, Pict. 31)" – the window is described in more details in Chapter 7 – Action/statement manager. By clicking the button Start training" you will evoke a window advising to follow voice unit Sophy instructions when training. "Sophy language" selects a language version of Sophy – nowadays there are 4 basic language versions – Czech, English, German, and Russian.

- "IR control (Picture 82)" sets up IR signal of transceiver and transmitter of remote control.

Device+system configuration	
Inputs Outputs Heating/cooling Sophy	Alarm System G5M
Voice control IP control Lighting	
List of Sophy units	Setup IR control
SOPHY2 000000	Code Name
1	New IR code Delete
🧿 📕 🕒 🔃	💐 Save to controller 🛛 🗸 OK 🕺 🗶 Cancel 🔗 Help

In the left window *"List of Sophy units"* there are displayed all Sophy units connected to the CIB bar and managed by IDM. *"Name of Sophy"* contains description of a particular unit. Define the name through the window *"Unit/device manager (see page 15, picture 26)"*. *"Status"* stands for IR code. In the right window *"Setup IR control"* is used to set IR control of transceiver and transmitter. From the list choose a particular Sophy unit for which you want to read codes from IR control. The button *"New IR code"* adds new button to the list. If you mark a code, you will open detailed setup of IR control (Pict. 83). You can delete by *"Delete"* button.

Pi	ctu	re	83
	uu	10	00

Device+system configuration			
Inputs Outputs Heating/cooling Sophy Alarm System GSM			
Voice control IR control Lighting			
List of Sophy units	Setup IR control		
Name of SOPHY State	Code Name Name		
200000	Name		
	Code Načtení Send rode		
	Action on recive IR code		
	No statement or create new event ->		
	New IR code Delete		
A 🖬 🖪 🕅			
🐨 🚥 🛶 18.5			

You can change code name in Name window, e.g. corresponding with IR remote control key. If you want to read a code from an IR control, press the button "Read / Nacteni", which activates IR code reading. It is possible to read out 128 codes, which are common for all Sophy units connected to the CIB bus. If you want to define an action on IR code, select a SOPHY unit from the list, select required IR code and by "Action on receive IR code" – clicking "Action/statement manager" open the window "Action/statement manager" (see page 18, Pict. 31)" – the window is a subject in Chapter 7 – Action/statement manager. The button "Send code " serves for testing.

"Lighting (Pict. 84)" sets detection of Sophy unit light. In the left window "List of Sophy units" there are displayed all Sophy units connected to the CIB bar and managed by IDM. "Name of Sophy" contains description of a unit. The name is defined in the "Unit/device manager (see page 15, Pict. 26)". In the right window "Setup light detection" define low/high intensity¹³ and three actions performed when set value is exceeded. Low or high intensity can be set manually in the "Low level/High level" or automatically by the button "Detect". In the window "Action" for low/high/middle intensity define actions performed when set values of intensity are exceeded. Clicking the icon "Action/statement manager" you will open the window "Action/command manager" (see page 18, Pict. 31), which is a subject of Chapter 7 – Action/command manager. As described above, it is possible to define 3 actions – their performance can be described as follows. Action at low intensity (A), i.e. if actual bellow low, action at middle (B), i.e. if actual is above low, but lower than high, and action at high, i.e. if actual is above high intensity. Say, we have set up low intensity 100 and high intensity 200. Defined actions in the "Action/statement manager" (see page 18, Pict. 31) will be performed as follows:

¹³ Light intensity range is 0 - 255. Hysterhesis is +/- 5 of defined.

- Action for low \leq 95 (A),
- Action for high \geq 205 (C),
- Action for middle \geq 105 and \leq 195 (B).

Picture 84			
Device+system configuration			
Inputs Outputs Heating/cooling Sophy Voice control IR control Lighting List of Sophy units Name of SOPHY State SOPHY2 0	Alarm System GSM		
	Action No statement or create new event ->		
	High level [%] 255 Detect Action No statement or create new event ->		
	Midle intensity Action on middle No statement or create new event ->		
🧿 📕 🕒 😥	💱 Save to controller 🗸 🗸 Cancel 🔗 Help		

6.5. "Section (sheet) Alarm (Pict. 85)".

The sheet alarm enables to define the system setting for the security system. The sheet is also divided into several subgroups, in this case 4 subgroups.

- "Monitored zones/inputs (Picture 85)". In the subgroup define monitored zones (inputs), i.e. individual detectors of the security system connected to the system via digital (binary) inputs. In the left window named "Zone " you can add zones or sensors by the button "Add zone/sensor". The window "Select of control / Controlled device (see page 31, Pict. 59)" will appear where you will select binary outputs and appropriate security sensors. When you confirm by "OK" the inputs will be displayed in the "Zone" window. The option "Exchange zone/input" is intended for exchanging zones/inputs if you click, you will evoke the window "Select of control / Controlled device (see page 31, Pict. 59)". Use the button "Delete zone/input" to delete selected zone/input. In the right window called "Input setup" in the window "Zone " you can assign inputs to zones and assign them type of zone by clicking the box "Alarm type". You can choose from the following zones:
 - *"Immediate "-* in a zone defined in this way, the alarm will be alerted immediately after an intrusion, if it is activated (monitoring). The zone is mainly used for monitoring windows, balcony door, and other peripheral areas.

- "Delayed 1" if the zone is in monitoring status, after an intrusion there is time to enter a code and thus turn off the system. The keyboard is warning with bleeping for 30 sec that it must be deactivated. If the code is not entered within this time, the alarm is alerted.
- "Delayed 2" works as Delayed 1 but with different delay. It is used e.g. for a garage door/gate.
- "Internal " if the zone is intruded, the alarm is not alerted, if Delayed zone was not intruded before. Otherwise an immediate alert is caused. It is used mainly to protect indoor, e.g. for motion sensor.

If you define zones/inputs as described above, you can join zones/inputs to eight groups (AG1 - AG8) – a change of name is done gradually in the subgroup *"Functional alarm groups"*, and also to groups with 24-hour attribute 24-hod (medical, trouble, tamper, fire, gas, water high/low temperature) – if the groups are intruded, the alarm is alerted, regardless its status (ON/OFF).

Device+system configuration	×
Inputs Outputs Heating/cooling Sophy Alarm System GSM Monitored zones/inputs Functional Alarm groups Users Alarm common setu Zone	Setup input: Alarm type Immediate - at once alarm Assign to group with specific activity setting Ø Prizemi Ø Prizemi Ø Softerovi AG3 AG4 AG5 AG6 AG7 AG8 24-hod Tamper (antisabotážní kontakt) 24-hod Phyn 24-hod Phyn 24-hod Nízká teplota 24-hod Nízká teplota
Add alarm zone/input Swap alarm zone/input Delete alarm zone/input	
🙆 📕 🕒 🎉	✓ OK X Cancel ? Help

Picture 85

"Function alarm groups (Pict. 86)" serves for a detailed alarm parameters setup. In the left window there are alarm groups displayed (AG1 - AG8). *"Group name"* is defined in the box *"Setup alarm groups"*. Also 24-hours alarm groups are displayed in the window. In the column *"Status of alarm group"* are displayed the following statuses:

Device+system configuration	
Inputs Outputs Heating/cooling Sophy Alarm System GSM	
Monitored zones/inputs Functional Alarm groups Users Alarm common	setups
Group name Status of alarm	Setup Alarm groups
Group name Status of alarm Přízemí T:00 podkroví T:00 AG3 T:00 AG4 T:00 AG5 T:00 AG6 T:00 AG6 T:00 AG6 T:00 AG6 T:00 AG7 T:00 AG8 T:00 24-hod Lékař LOCK T:00 24-hod Tiseň LOCK T:00 24-hod Plyn LOCK T:00 24-hod Plyn LOCK T:00 24-hod Voda LOCK T:00 24-hod Nizká teplota LOCK T:00 24-hod Nízká teplota LOCK T:00	Group name Přízemí Action during G No statement or create new even Action during G No statement or create new even Alarm No statement or create new even Restore No statement or create new even Guard/unguard signalization on output Guard/unguard signalization on output
	Restore group
🧑 🞽 📴 🛐	✓ OK X Cancel ? Help

- "Locking" the group is in activating status (locking) and "T" sign indicates time to leave (delay),
- "Lock" the group is locked,
- "*Alarm*" the alarm is alerted, "*T*:" sign indicates the alert length and time to next alert, when the one is over.

In the right window *"Setup alarm groups"* you can define *"Group name"* and further primer security system setups:

- "Action when switched on", i.e. action when the security system is activated,
- "Action when switched off", i.e. action when the security system is deactivated,
- "Alarm ", i.e. action when alarm alerts.
- *"Restore ",* i.e. action when the security system is activated change over from the *"Alarm "* status to *"Lock" status.*

All he actions are defined in the way you are familiar with, by the icon "Action/statement manager", which will open the window "Action/statement manager" (see Pict. 31)" – the window is a subject of Chapter 7 – Action/statement manager.

There is also a possibility to define a grip control setting:

- *"Guard/unguard signalization on output"*, e.g. LED indicators wsb2 or key2-01 are flashing during time to leave and they are continuously on after activation,
- "Violation signalized on output",
- "Activate guarding by input",
- "Guard activation by input",

- "Restore group".

There are also four options for the security system control directly from IDM. The options are as follows:

- "Guard alarm group activation",
- "Unguard alarm group",
- "Restore group after test",
- Test the break of alarm group"
- "Users (Pict. 87)". In the subgroup we define users controlling the alarm system.

Picture 87

Device+system configuration		
Device+system configuration Inputs Outputs Heating/cooling Sophy A Monitored zones/inputs Functional Alarm group User	Alarm System GSM ps Users Alarm common set	Setup users Name Jirka Enabled alarm groups
		Login No statement or create new even
Add user	Delete user	
🧑 📕 🕒 🔃	्रिद्ध Save to controller	🗸 OK 🛛 🗶 Cancel 🛛 💡 Help

In the left window add or delete users by the buttons *Add user*" and "*Delete user*". When you add a new user, the item "*User name*" will appear. Enter name in the window "*Setup users*", box "*Name* ". In the window "*Enabled alarm groups*" we assign users control access of named and set groups. "*Access code*" is a PIN used to a user log in. Maximum number of signs is 8, minimum number is 1. If key2-01 in the application is equipped with a card reader, the window "*Card number*" will be used. You can type a number to the window, if you know a card number, or you can use the option "*Read card from keyboard*", i.e. select "*card reader (select a keyboard if more than one are used*)", click "square" icon and place the card o the key bellow LED indicators - the card number will be displayed in the box "Card number" automatically. The last option in the window is "*Login*" window. It represents setting up of actions performed on a user login to the security system. Pressing the icon "Action/statement manager" (*see page 18, Pict. 31*)" will be opened – the window is a subject of Chapter 7 – Action/statement manager.

"Alarm common setup (Pict. 86). The subgroup serves for common setup of the security system.

Device+system configuratio		X X
Inputs Outputs Heating/	ooling Sophy Alarm	System GSM
Monitored zones/inputs	Functional Alarm groups	Users Alarm common setups
Monitored zones/inputs Length of alarm Delay 1 Delay 2 Number of failed code typing: Delay on departure Time to next alarm	Functional Alarm groups U	Users Alarm common setups
õ 🖬 🖒 🗵	Sa	Save to controller 🛛 🗸 OK 🛛 🗶 Cancel 🔗 Help

There are the following setups:

- *"Length of alarm"* time base 1 240 sec (according to standards the alert length shall be 30 sec. maximum),
- "Delay 1" (see page 48) accessing time 1, time base 1 250 sec,
- "Delay 2" (see page 48) accessing time 2, time base 1 250 sec,
- "Number of failed code typing" selection in range 1 99,
- "Delay on departure" leaving time, time base 1 250 sec,
- "Time to next alarm" time from end of one alarm to another one, time base 5 10 min.

6.6. "Section (sheet) System (Pict. 89)".

In the sheet you set special occasions of the system, define counters and readers using. The sheet is also divided into three subgroups.

- "Counters (Pict. 89)". Here you can add or delete counters. <u>It is possible to set up to 32</u> counters. <u>Counter value range is 0 to 65535</u>. The column "Name" can be edited in the window "Counter name". The column "Status" informs on an actual state of a counter, i.e. its value. If you want to each a value or do an action on exceeding the value, thick the option "Start action on counter value". Thus the following options are activated:
 - *"Only start the action",* i.e. defined action started by value will be done, whereas the counter keeps incrementing or decrementing,
 - *"Reset counter", "*, i.e. defined action started by value will be done and the counter will be reset (if you do not set value, the counter will be only reset),
 - *"Tested value"*, can be selected from range (<u>0 65535</u>) and the value can be compared by logic symbols:

- \geq (higher than or equal),
- > (higher than),
- = (equal).
- *"Event on value"* is an action done on comparing and reaching tested value. The action is again defined by clicking the icon *"* "*, which opens the window *"Action/statement manager (see page 18, Pict. 32),* The window is dealt with in Chapter 7 Action/statement manager, page 60.

Picture	89
I ICIUIC	03

Device+system configuration			
Device+system configuration Inputs Outputs Heating/coo Counters Timers System er Name Alarm alarm ON alarm OFF	Vilng Sophy Alarm Syste vents Counter status 0 0 0 0	GSM	Alarm ar value: Greater than or equal '>= ¥ 2 ¥ Hodnotou volaná událost :: Alarm ¥
Add counter	Delete counter	controller V OK	K Cancel

- "Timers (Pict. 86)". Here you can ad or delete timers. It is possible to set up to 32 timers. Maximum timing period is 24 hours. The column "Name " can be edited in the window "Timer name". The column "Counter status" informs on an actual timer status i.e. its value. If you wish to do an action when a value is reached or exceeded, click the option "Start action after counted time". Thus the following options are activated:
 - *"Only start action" (timer is running),* i.e. defined action will be done after time, the timer will be running,
 - "Stop timer, i.e. defined action will be done after time, the timer will stop,
 - *"Reset timer",* i.e. defined action will be done after time, the timer will be reset and it will be timing,
 - "Tested value" can be selected within time (<u>1 msec 24 hod</u>) and the value can be compared by logical symbols:
 - \geq (higher or equal),
 - > (higher than),
 - = (equal).
 - *"In time call event"* is an action done when the tested value is compared and reached. The action can be defined by clicking the icon, *"* ",which opens the window "Action/statement"*

manager (see page 18, Pict. 32), The window is dealt with in Chapter 7 – Action/statement manager.

Picture 90

		Export for SCADA Name for SCADA
Add timer	Delete timer	

- "System events (Pict. 91)" sets up special system events such as:
 - *"System start"*, i.e. events performed after the system start or after mains connection, or after saving configuration to the system (see page 25),
 - "PSM inputs". CPU disposes inputs PSM1 and PSM2, which are intended for monitoring of power supply <u>230V AC</u> and status of backup accumulators <u>24V DC</u>. Connection of the inputs is in the catalogue of Intelligent electric installation Inels. The inputs operate on the following principles:
 - "PSM1" monitoring mains supply voltage, monitord on <u>24V DC</u> level (e.g. via a relay on 24V level). The input is double-value with a fixed decision level about <u>20V DC</u>, information on a mains status is given to the system mains failure can activate an event (SMS, consumption reduction break of all relays, etc.),
 - "PSM2" monitoring batteries status, i.e. supply of the system <u>27V/24V</u>, analogue input can forward also its own value of supply voltage (in V), output is a double-value information on weak AKU, adjustable decision level (implicitly about <u>20-21V</u>). An event ca be activated bellow this level (first of all signaling of discharged backup, complete failure might occur, SMS, etc.).

With regards to IDM, you can define actions for:

- "PSM1" "Power supply drop out" and "Power supply return". Again, clicking on the icon "Action/statement manager" the window "Action/statement manager" (see page 18, Pict.. 32). The window is a subject of Chapter 7 Action/statement manager, see page 60.
- "*PSM2"* You can appoint actions for *"Low battery power"* and *"Battery power return"*. Clicking on the icon *"Action/statement manager"* the window *"Action/statement*

manager" (see page 18, Pict. 32). The window is a subject of Chapter 7 - Action/statement manager, we can set decision level, i.e. *"Guarded power layer"* between <u>10V - 30V.</u>

Device+system configuration	
Inputs Outputs Heating/cooling	Sophy Alarm System G5M
Counters Timers System events	
Start operation (system)	No statement or create new event ->
- DCM include	
Power supply arop-out	No statement or create new event ->
Power supply return	No statement or create new event ->
Guarded power layer	20,5 🚔
Low battery power	No statement or create new event ->
Battery power return	No statement or create new event ->
🥝 📕 🕨 🗵	🗱 Save to controller 🛛 🗸 OK 🕺 🗶 Cancel 🔗 Help

Picture 91

6.7. "Section (sheet) GSM (Pict. 92)".

The sheet serves for GSM modem setting. Again, the sheet is divided into several subgroups:

- "Phone numbers (Pict. 92)" is a list of used phone numbers. You can assign a command to send SMS. In the list you can also set numbers from which SMS commands are allowed. which. You can insert up to 32 phone numbers. In the left window you can add or delete phone numbers by the buttons "Add phone number" and "Delete phone number". Enter numbers to the box "Number" and an owner's name to "Name".
- "SMS out" (Pict. 93)" is a list of leaving SMS. You can insert up to 48 messages of maximum length 20 signs. In the left window you can add and delete SMS by the buttons "Add SMS" and "Delete SMS". Define SMS in the box "Text of SMS".

vice+s	ystem cor	figuration												
nputs	Outputs	Heating/co	ooling	Sophy	Alarm	System	GSM							
Phone i	numbers	SMS out	SMS in	Active S	MS G	SM Setup	GSM M	onitor						
							Setup pho	ne numbe						
Phone r	number	Analog Inj	put Descri	tpion			Decap prior	ne nambe	21					
+ 42077	76881320	Pavla					Number							
+ 42077	75371517	Jirka_sluz	ebni				+ 420776	884932						
							Descritpior	n						
							Jirka							
							·							
							Action at t	he numbe	er call					
							No states	ent or cr	eate new e	vent ->				
							pro staten	ione or er	0000 11097 0	Source and				
						L								
		- h	1	Delete tel		1								
	4ad tel, nur	nder		Delete tel	. number									
		92			(0)•		1		A	1		. 1	0	
3 🧧	- B	P.			100	Save to co	ontroller		🗸 ок		🗙 Can	cel	? F	ielp

Picture 93

nputs Outputs Heating/cooling Sophy Alarm Sys	stem GSM
Phone numbers SMS out SMS in Active SMS GSM Se	stup GSM Monitor
text	Setup sending message
Pokus	Text of SMS
	Pokus
Add SMS Delete SMS	1

"SMS in (Pict. 94)" is a list of coming SMS that are allowed to start an event. <u>You can insert up</u> to 32 SMS of maximum 20 signs. The system distinguishes a size of signs in a coming SMS.
 In the left window you can add or delete SMS by the buttons *"Add SMS"* and *"Delete SMS"*.
 Define SMS in the box *"Text of SMS"*. The option *"Enable only numbers from the list"* allows

commands only for numbers listed here. The option "Confirm the received statement" means that confirmation SMS about receiving and performing command will be sent. "Allow identification by PIN" is an option related to active SMS; it is necessary to insert access PIN from Alarm sheet. (there must be a gap between the PIN and SMS text). The option "SMS event" is used to define an action on incoming SMS. Clicking the icon "Action/statement manager" you will open the window "Action/statement manager" – the window is a subject of the chapter 7 – Action/statement manager.

Device+system configuration	
Inputs Outputs Heating/cooling Sophy Alarm System G5M	
Phone numbers SMS out SMS in Active SMS GSM Setup GSM Mo	nitor
Text of SMS	n
Test Text of SM:	
Test	
	only numbers from a list
	the received statement
Allow th	e identification of users using PIN
SMS Event	
No statem	ent or create new event ->
Add SM5 Delete SM5	
🧿 🧃 🕒 🕅	✓ OK X Cancel

Р	icture	94
	iciui e	34

Active SMS (Pict. 95) serves for setting active SMS; these are special SMS, which require access PIN from the "Alarm" sheet in front of the text. There must be a gap between the PIN and the text of SMS. The SMS serves for the output control; the output can be controlled by one command ON, OFF, TRIG and xx% (fluently). In the right window thee is a list of SMS where you can found <u>up to 32 messages of maximum length 20 signs</u>. The system distinguishes a size of signs in an incoming SMS. "Text of SMS" can be edited in the box "Command name". "*Controling I/Ot*" is a defined i/o that can be chosen by the option "Controlled element (input/output)"; when you click the icon "*Action/statement manager*", the "Action/statement manager" window will be opened; it is subject of chapter 7 – Action/statement manager, see page 66. The option "Confirm the received statement" will send a confirming SMS that a command has been accepted and performed. "Necessitate level" is an authorization level linked to an authorization level defined in the sheet "Alarms"; you will compare it in the box "Tested value" where you can choose the following logical

operands – is higher or equal (>=), is higher (>), and is equal (=). The buttons "Add active SMS" serves foe adding and deleting active SMS.

Picture 95

puts Outputs Heating/cooling Alarm System GS	IM Keyboard tup GSM Monitor	
hone numbers SMS out SMS in Active SMS GSM Se Command name IO Test sa02m_rs ~ re1_sirena	up GSM Monitor Setup active SMS Command name Test! Controling IO sa02m_rs ~ re1_sirena Confirm the received statement Necessitate level Tested value	0 € Greater than or equal '>=' ▼
	ste active SMS	

- "Setup" (Pict. 96)". Here set up operator gate for messages and PIN code. You can edit the number according to operators in your country.
- *"Monitor (Pict. 97)"* The sheet is displayed only in a special initial mode that is a subject of 12
 Diagnostics and error remedy.

Device+system configuration				×
Inputs Outputs Heating/cooling	Sophy Alarm System GSM			
Phone numbers SMS out SMS in	Active SMS GSM Setup GSM Md	nitor		
		т		
Gate of operator for SMS messages	+420 602 909 909 ▼]		
PIN code of SIM card	[****]			
🧿 📕 🕒 🔯	्रिंदु Save to controller	🗸 ок	X Cancel	💡 Help

Picture 97

Device+system conf	figuration	×
Inputs Outputs	Heating/cooling Sophy Alarm System CSM	
Phone numbers		
		1
Кеу	Value	GRID-TXT
READY	GSM gate is't ready or busy	
STATE	Vypnuti echovani [ggso_Init]	Clear TXT
ERROR	Bez chyby [gger_None]	Bun
SIGNAL	-1 %	
BUFFER_IN		
BUFFER_OUT	ATEODD	
HELP		
RING		
L		
🎯 🖬 🗎	🕅 👷 Save to controller	🦿 Help

6.8. "Range (sheet) Keyboard (Pict 98)".

The sheet serves for the keyboard key2-01 setting. The keyboard is used not only for the security system control, but also for heating circuit control.

Device+system configuration						
Inputs Outputs Heating/cooling Sophy Alarm System GSM Keyboard						
Inputs Outputs Heating/cooling Sophy Keyboards list Keyboard name INELS	Alarm System GSM Keyboard Keyboard setup Keyboard name ITNELS					
🧿 🖬 🕒 😥	Way Save to controller ✓ OK X Cancel Ø Help					

Picture 98

In the *"Keyboards list"* there are keyboards connected to CIB bus – name is taken from the window *"Action/statement manager.* Ticking the options you will activate:

- "Use alarms on key" if you security system data,
- "Use heats on key" if you want to define heating circuits,
- "Beep on key press" if you wish an acoustic signal of press,
- *"Use auto logout (30s)"* if you wish to log out automatically.

Clicking option *"Update texts in keyboard"* you will update texts from the sheet *"Heating /Cooling (see Pict. 79)"* and from the sheet *"Alarms (see page 49 , Pict. 82)"* and a keyboard name , that will be on the keyboard display (Pict. 99 and 100). Texts are localized in Czech and English. Keyboard menu structure is as follows:

- 1. Actual time / date (switch over by ENTER key)
- 2. Alarm + status of groups 1-8 (menu alarm is activated by pressing NEXT key)
 - Log in
 - Selection of allowed groups
 - Group status
 - Start guarding
 - End guarding

- Restore
- Lock of all allowed
- Unlock of all allowed
- Logout of user
- 3. Heating (menu activated by pressing NEXT key)
 - Circuit selection
 - Actual mode
 - Actual temperature
 - Minimum setup
 - Depression setup
 - Normal setup
 - Comfort setup
 - Presentation setup (comfort till time notice)
 - Temporary comfort setup (1h)
 - Switched on time schedule

Next, you can also use a key as fast selection used for fast lock of an allowed 1 - 8. The fast selection keys are "# and group number".







7. Action/statement manager

"Action/statement manager (Pict. 101)" is a manager defined on i/o by the icon "Action/statement manager" in the window "Configuration (see page 33, Pict. 63)" and selected sheets. The window "Action/command manager" can also be opened by "Fast selection icons" (see page 11, Picture 17)". Picture 101

Action/statement manager	
List of actions	RAM = 8473 (28.24) REM = 2390 (7.97) FB = 734 (36.70) COD = 54720 (1.03)
 wsb40_kuchyn_linka - trig - svetlo_terasa wsb40_loznice_prava - emulace - svetlo_postel wsb40_loznice_prava - auto_off - svetlo_chodbx wsb40_loznice_prava - do - svetlo_skrine wsb40_loznice_prava - douby_stik - komfort_n W čase vyvolat událost :: Topeni_sdata V čase vyvolat událost :: Topeni_terasa V čase vyvolat událost :: Topeni_terasa V čase vyvolat událost :: Topeni_terasa V čase vyvolat událost :: Topeni_topupla Denni_rezim_letni_cas Nocni_rezim_letni_cas Nocni_rezim_letni_ Nocni_rezim_letni_ Nocni_rezim_letni_ Nocni_rezim_letni_ Nocni_rezim_letni_ Nocni_rezim_letni_ Nocni_rezim_letni_ Nocni_rezim_letni_ Nocni_rezim_letni_ Nocni_rezim_l	Setup action Event name On - Casovy program - Vypnuti_termohlavic List of statements Statement On output Options Vypnout Termoelektricke_hlavice Nastavit systémový bit system ~ Bit2 Vypnout časový program schodiste Vypnout časový program zadveri Vypnout časový program terasa Vypnout časový program loznice Vypnout časový program loznice Vypnout časový program satna Vypnout časový program koupehna Vypnout časový program jidelna_ Přepnout wsb40_jidelna_kuchyn ~ kotel_vyp
Off - Casovy_program - Zapnuti_termmohlavic [Termohlavice_letni_provoz 🛐 Add new action Add action copy	Add statement Edit statement Delete statement Delete all statements Image: Construction of the web pages Use this event on the web pages Image: Construction of the web pages
	✓ OK K Cancel

In the left window *"List of actions"* there are all actions/statements defined for individual i/o and other actions/statements defined in appropriate sheets of the window *"Configuration (see page 33, Pict. 63).* By the button *"Add statement"* you can add an event to the list. It will be displayed with *"New event (Pict. 102)"* attribute. By the button *"Add action copy"* you can copy a selected action, which will be displayed with attribute "copy of ..." (*Pict. 103*)". If you click with the right mouse button on an event in the "List of actions", the following offer will appear (Pict. 104):

- "Add new action " is a filter of i/o actions defined automatically according to a sheet of the "Configuration" window (see page 33, Pict. 63)". Of course you can rank the actions also to other categories. The offer contains (Pict. 105):
 - System action, i.e. actions of the "System" sheet (see page. 51, Pict. 85),
 - Time action, i.e. action *"Time/week schedule manager (see page 20, Pict. 34")* and *"Time action manager (see page. 19, Pict. 33)"*,
 - User action, see this chapter, page 71,
 - Alarm action, i.e. actions of "Alarm" sheet ,
 - Input action, i.e. actions of the sheet "Inputs",
 - Output action i.e. actions of the sheet "Outputs",
 - Sophy unit action, i.e. actions of the sheet "Sophy",
 - Heating action, i.e. actions of the sheet "Heating/Cooling" .

Picture 102

List of actions RAM = 8473 (28.24) Rd = 2390 (7.97) FB = 734 (36.70) COD = 54720 (1.03) Akce pri sepnuti vistupu (stiskruti) :: wsb40_oby Setup action Event name Akce pri sepnuti vistupu (stiskruti) :: wsb40_idet Setup action Event name Akce pri sepnuti vistupu (stiskruti) :: wsb40_idet Akce pri douhém sepnuti vistupu (minimálné 1.5s) Setup action Akce pri douhém sepnuti vistupu (minimálné 1.5s) Akce pri douhém sepnuti vistupu (minimálné 1.5s) Setup action Setup action Akce pri douhém sepnuti vistupu (stiskruti) :: wsb40_idet Akce pri douhém sepnuti vistupu (minimálné 1.5s) Setup action Setup action Akce pri douhém sepnuti vistupu (minimálné 1.5s) Akce pri douhém sepnuti vistupu (minimálné 1.5s) Setup action Setup action Akce pri douhém sepnuti vistupu (stiskruti) :: wsb40_ioan Akce pri douhém sepnuti vistupu (stiskruti) :: wsb40_ioan Akce pri sepnuti vistupu (stiskruti) :: wsb40_ioan Akce pri sepnuti vistupu (stiskruti) :: wsb40_ioan Akce pri sepnuti vistupu (stiskruti) :: wsb40_ioan Akce pri sepnuti vistupu (stiskruti) :: wsb40_ioan Akce pri sepnuti vistupu (stiskruti) :: wsb40_ioan Akce pri sepnuti vistupu (stiskruti) :: wsb40_ioan Akce pri sepnuti vistupu (stiskruti) :: wsb40_ioan Akce pri sepnuti vistupu (stiskruti) :: wsb40_ioan Akce pri sepnut	
Akce při sepnuť vstupu (stisknut): :: wsb40_oby Setup action Akce při sepnuť vstupu (stisknut): :: wsb40_idel Event name Akce při sepnuť vstupu (stisknut): :: wsb40_idel Akce při douhém sepnutí vstupu (minimálně 1.5s Akce při douhém sepnutí vstupu (minimálně 1.5s Statements Akce při sepnuť vstupu (stisknut): :: wsb40_idel Statements Akce při douhém sepnutí vstupu (minimálně 1.5s Akce při douhém sepnutí vstupu (minimálně 1.5s Akce při douhém sepnutí vstupu (minimálně 1.5s Statement Akce při sepnuťi vstupu (stisknut): :: wsb40_idel Statement Akce při douhém sepnutí vstupu (minimálně 1.5s Akce při douhém sepnutí vstupu (minimálně 1.5s Akce při douhém sepnutí vstupu (minimálně 1.5s Akce při sepnutí vstupu (stisknut): :: wsb40_iden Akce při sepnutí vstupu (stisknut): :: wsb40_orn Akce při sepnutí vstupu (stisknut): :: wsb40_orn Akce při sepnutí vstupu (stisknut): :: wsb40_orn Akce při sepnutí vstupu (stisknut): :: wsb40_orn	
Akce při sepnutí vstupu (stisknutí) :: vsb40_oby Akce při sepnutí vstupu (stisknutí) :: vsb40_oby Akce při sepnutí vstupu (stisknutí) :: vsb40_idel Akce při douhém sepnutí vstupu (inimiáně 1.5s Akce při douhém sepnutí vstupu (minimáně 1.5s Akce při douhém sepnutí vstupu (minimáně 1.5s Akce při douhém sepnutí vstupu (minimáně 1.5s Akce při sepnutí vstupu (stisknutí) :: vsb40_idel Akce při sepnutí vstupu (minimáně 1.5s Akce při sepnutí vstupu (stisknutí) :: vsb40_idel Akce při sepnutí v	
 Akce při sepnutí vstupu (stisknutí) :: wsb40_oby Akce při sepnutí vstupu (stisknutí) :: wsb40_idel Akce při douhém sepnutí vstupu (minimálně 1.5s Akce při douhém sepnutí vstupu (stisknutí) :: wsb40_oho Akce při sepnutí vstupu (stisknutí) :: wsb40_oho 	
 Akce při sepnutí vstupu (stisknutí) :: wsb40_jidel Akce při douhém sepnutí vstupu (minimálně 1.5s Akce při sepnutí vstupu (stisknutí) :: wsb40_otn 	
Akce při deuhém sepnutí vstupu (minimálně 1.55 Akce při sepnutí vstupu (stiskrut) :: wsb40_ocn	_
 Akce při dlouhém sepnutí vstupu (minimálně 1.5s Akce při sepnutí vstupu (stiskrutí) :: wsb40_cho Akce při sepnutí vstupu (stiskrutí) :: wsb40_loan Akce při sepnutí vstupu (stiskrutí) :: wsb40_loan Akce při sepnutí vstupu (stiskrutí) :: wsb40_loan 	
Akce při dlouhém sepnutí vstupu (minimálně 1.5s Statement On output Options Akce při dlouhém sepnutí vstupu (minimálně 1.5s Akce při sepnutí vstupu (stisknutí) :: wsb40_cho Akce při sepnutí vstupu (stisknutí) :: wsb40_loan Akce při sepnutí vstupu (stisknutí) :: wsb40_loan Akce při sepnutí vstupu (stisknutí) :: wsb40_loan	•
Akce při dlouhém sepnutí vstupu (minimálně 1.5s Akce při dlouhém sepnutí vstupu (minimálně 1.5s Akce při sepnutí vstupu (stiskrutí) 1: vsb40_cho Akce při sepnutí vstupu (stiskrutí) 1: vsb40_lozn Akce při sepnutí vstupu (stiskrutí) 1: vsb40_lozn Akce při sepnutí vstupu (stiskrutí) 1: vsb40_lozn	
 Akce při dlouhém sepnutí vstupu (minimálně 1.5s Akce při sepnutí vstupu (stisknutí) :: wsb40_choi Akce při sepnutí vstupu (stisknutí) :: wsb40_loan Akce při sepnutí vstupu (stisknutí) :: wsb40_loan Akce při sepnutí vstupu (stisknutí) :: wsb40_loan 	_
– Akce při sepnutí vstupu (stisknutí) :: wsb40_cho – Akce při sepnutí vstupu (stisknutí) :: wsb40_lozn – Akce při sepnutí vstupu (stisknutí) :: wsb40_lozn – Akce při sepnutí vstupu (stisknutí) :: wsb40_lozn	
Akce při sepnutí vstupu (stisknutí) :: wsb40_lozn Akce při sepnutí vstupu (stisknutí) :: wsb40_lozn Akce při sepnutí vstupu (stisknutí) :: wsb40_lozn	
— Akce při sepnutí vstupu (stisknutí) :: vsb40_lozn — Akce při sepnutí vstupu (stisknutí) :: vsb40_lozn	
Akce při sepnutí vstupu (stisknutí) :: wsb40 lozn	
- Akce při dlouhém sepnutí vstupu (minimálně 1.5s	
- Akce při dlouhém sepnutí vstupu (minimálně 1.5s	
- Akce při sepnutí vstupu (stisknutí) :: wsb40_lozn	
Akce při sepnutí vstupu (stisknutí) :: wsb40_lozn	
- Akce při sepnutí vstupu (stisknutí) :: wsb40_lozn	
Akce při sepnutí vstupu (stisknutí) :: wsb40_lozn	
- Akce při dlouhém sepnutí vstupu (minimálně 1.5s	
- Akce při sepnutí vstupu (stisknutí) :: wsb40_kuci	
- Akce při dlouhém sepnutí vstupu (minimálně 1.5s	
- Akce při sepnutí vstupu (stisknutí) :: wsb40_sch	
Akce při vypnutí výstupu :: lm11b_detsky_pokoj	
Akce při sepnutí výstupu :: Im11b_detsky_pokoj	
Akce při sepnutí výstupu :: da22m_2_rs ~ triak (
— On-aktivuj povely: :: Vypnuti/zapnuti_termohlav	
Off-deaktivuj povely: :: Vypnuti/zapnuti_termoh	
- Termohlavice_letni_provoz_protoceni 📴	
Add statement Edit statement Delete statement Delete all statements	
C Log this statement	
Add new action Add action copy I Use this event on the web pages	
JOK Y Cancel	

ist of actions				
		RAM = 8473 (28.24) REM = 239	0(7.97) FB = 734(36.70) COD	= 54720 (1.03)
Akce pri sepnuti vstupu (stisknuti) :: wsb40_oby	Setup action			
Akce při sepridů vstupů (súskridů) :: wsb40_oby	Seedy action			
Also a construction of the second statement of the second				
Akce při seprutí vstupu (stisknutí) :: wsb40_jidel	Jupy or a remonavi	te_lethi_provoz_protoceni		
Akce při deubém conputriucturu (minimálně 1 Ec	List of statements			🔊 🛧 🐺
Akce při dlouhém sepnutí vstupu (minimaine 1.5s	Chathananat	Con autout		لـــــــــــــــــــــــــــــــــــــ
Akce při dlouhém sepnutí vstupu (minimálně 1.55	Statement		Options	
Akce při dlouhém seprutí ustupu (minimálně 1.55	Impuls	Termoelektricke blavice	2 IMP=00:10:0	
Akce při douhem seprad vstapů (minimaine 1.55	Impaid	Tormooloneneno_marico		
Akce při seprutí vstupu (stisknutí) :: WsD40_t10				
Akce při sepnutí vstupu (stisknutí) u wsb40 lozn				
Akce při sepriutí vstupu (stisknutí) :: wsb40_lozn				
Akce při sepriuci vstupu (stiski luci) :: wsb+o_lozi1				
Akce při dloubém cepputí vstupu (minimálně 1.55				
Akce při dodnění sepřidů vstupů (nimimane 1.55				
Akce při sepnutí vstupu (stisknutí) v wsbto_ozn				
Akce při sepnutí vstupu (stisknutí) u wsb40 lozn				
Akce při sepnutí vstupu (stisknutí) wsbto_lozn				
Akce při sepháci vstapů (susknaci) :: wsb40_021				
Akce při dodnem sepřidu vstupu (minimane 1.5s				
Alice ei) alle de se energi d'unitaria (sussidia) : : wsb40_kaci				
Akce più dounem septida vistapa (minimalite 1.55				
Akce při seplidu vstupu (suskiladi) :: wsb40_stilu				
Akce při vypraci výstapa :: IIII 15_detsky_pokoj				
Akce při sepnutí výstupu :: Im110_detsky_pokoj				
Akce pri sephuti vystupu :: dazzm_z_rs ~ triak (
Off-aktivu) povery: :: vypnuti/zapnuti_termoniav				
Tamaahlaviaa latai ayayya ayahagani 🕬				
	1	[
copy of :: remoniavice_lechi_provoz_protoceni	Add statement	Edit statement Delete stater	ment Delete all statements	
	🔲 Log this statement			
Add new action Add action copy	Use this event on I	he web pages		
			🖌 ок	

Picture 104

Action/statement manager				
of actions		RAM = 8473 (28.24) REM = 2390)(7.97) FB = 734(36.70) COD =	54720 (1.03)
– Akce při sepnutí vstupu (stisknutí) :: wsb40_oby				
– Akce při sepnutí vstupu (stisknutí) :: wsb40_oby	Setup action			
Akce při sepnutí vstupu (stisknutí) :: wsb40_oby	Event name			
– Akce při sepnutí vstupu (stisknutí) :: wsb40_jidel	copy of :: Termol	nlavice_letni_provoz_protoceni		
– Akce při sepnutí vstupu (stisknutí) :: wsb40_jidel				د 🔺 🧑
– Akce při dlouhém sepnutí vstupu (minimálně 1.5s	List of statements			
Akce při dlouhém sepnutí vstupu (minimálně 1.5s	Statement	On output	Options	
– Akce při dlouhém sepnutí vstupu (minimálně 1.5s				
– Akce při dlouhém sepnutí vstupu (minimálně 1.5s	Impuls	Termoelektricke_hlavice	? IMP=00:10:0	
Akce při sepnutí vstupu (stisknutí) :: wsb40_cho-				
– Akce při sepnutí vstupu (stisknutí) :: wsb40_lozn				
– Akce při sepnutí vstupu (stisknutí) :: wsb40_lozn				
– Akce při sepnutí vstupu (stisknutí) :: wsb40_lozn				
– Akce při dlouhém sepnutí vstupu (minimálně 1.5s				
– Akce při dlouhém sepnutí vstupu (minimálně 1.5s				
– Akce při sepnutí vstupu (stisknutí) :: wsb40_lozn				
– Akce při sepnutí vstupu (stisknutí) :: wsb40_lozn				
– Akce při sepnutí vstupu (stisknutí) :: wsb40_lozn				
– Akce při sepnutí vstupu (stisknutí) :: wsb40_lozn				
– Akce při dlouhém sepnutí vstupu (minimálně 1.5s				
– Akce při sepnutí vstupu (stisknutí) :: wsb40_kucł				
– Akce při dlouhém sepnutí vstupu (minimálně 1.5s				
– Akce při sepnutí vstupu (stisknutí) :: wsb40_sch(
– Akce při vypnutí výstupu :: lm11b_detsky_pokoi		_		
— Akce při sepnutí výstupu :: lm11b_detsky_j Act	ion assignement 🔸			
– Akce při sepnutí výstupu :: da22m_2_rs ~ l 🛛 Del	ete action			
- On-aktivuj povely: :: Vypnuti/zapnuti_term Del	ete all actions			
Off-deaktivuj povely: :: Vypnuti/zapnuti_te		-		
- Termohlavice_letni_provoz_protoceni 😭 🛛 🧧 Ma	ke before			
copy of :: Termohlavice_letni_provoz_prote Ma	ke later	Edit statement Delete staten	nent Delete all statements	
	-			
· · · ·	Log this stater	nent		
Add new action Add action copy	Use this event	on the web pages		
			J or	Cancel

P. Action/statement manager				
List of actions		RAM = 8473 (28.24) REM = 2	390 (7.97) FB = 734 (36.70) CO	D = 54720 (1.03)
Akce při sepnutí vstupu (stisknutí) :: wsb40_oby				
- Akce při sepnutí vstupu (stisknutí) :: wsb40_oby	Setup action			
Akce při sepnutí vstupu (stisknutí) :: wsb40_oby	Event name			
Akce při sepnutí vstupu (stisknutí) :: wsb40_jidel	copy of :: Termohl	avice_letni_provoz_protoceni		
Akce při sepnutí vstupu (stisknutí) :: wsb40_jidel				
 Akce při dlouhém sepnutí vstupu (minimálně 1.5s 	List of statements			
 Akce při dlouhém sepnutí vstupu (minimálně 1.5s 	Statement	On output	Options	
 Akce při dlouhém sepnutí vstupu (minimálně 1.5s 				
 Akce při dlouhém sepnutí vstupu (minimálně 1.5s 	Impuls	Termoelektricke_hlavice	? IMP=00:10:0	
 Akce při sepnutí vstupu (stisknutí) :: wsb40_cho 				
 Akce při sepnutí vstupu (stisknutí) :: wsb40_lozn 				
Akce při sepnutí vstupu (stisknutí) :: wsb40_lozn				
Akce při sepnutí vstupu (stisknutí) :: wsb40_lozn				
 Akce při dlouhém sepnutí vstupu (minimálně 1.5s 				
 Akce při dlouhém sepnutí vstupu (minimálně 1.5s 				
 Akce při sepnutí vstupu (stisknutí) :: wsb40_lozn 				
Akce při sepnutí vstupu (stisknutí) :: wsb40_lozn				
Akce při sepnutí vstupu (stisknutí) :: wsb40_lozn				
Akce při sepnutí vstupu (stisknutí) :: wsb40_lozn				
 Akce při dlouhém sepnutí vstupu (minimálně 1.5s 				
Akce při sepnutí vstupu (stisknutí) :: wsb40_kucł				
 Akce při dlouhém sepnutí vstupu (minimálně 1.5s 				
 Akce při sepnutí vstupu (stisknutí) :: wsb40_schc 				
Akce při vypnutí výstupu :: lm11b_detsky_pokoi				
Ace při sepnutí výstupu :: lm11b_detsky_r Ac	ion assignement 🔸	System actions		
Akce při sepnutí výstupu :: da22m_2_rs ~ De	ete action	TIme actions		
- On-aktivuj povely: :: Vypnuti/zapnuti_term De	ete all actions	User actions		
 Off-deaktivuj povely: :: Vypnuti/zapnuti_te 		Alarm action		
- Termohlavice_letni_provoz_protoceni 📝 🛛 Ma	ke before	 Inputs actions 		
copy of :: Termohlavice_letni_provoz_proto Ma	ke later	Outputs actions Delete sta	tement Delete all statements	
		Sophy actions		
	Log this staten	Heats actions		
Add new action Add action copy	Use this event	on the web pages		
			🗸 ок	X Cancel

- "Delete action" is used to delete actions in the window "List of actions",
- "Delete all actions" to delete all actions in the action tree in the window "List of actions",
- "Make before" to shift selected actions in the action tree upward,
- "Make later" to shift selected actions downward.

On the right top you can see CPU memory indicator status. CPU sharing of *"RAM, REM, FB and COD"* is displayed only in a special mode, dealt with in Chapter 12 – Diagnostics and errors remedy. *"Event name"* is a description, e.g. Pict. 105, overtaken from the window *"Unit/device manager (see page 15, Pict. 26)* and from the window *"Configuration"*. Obviously *"Event name"* is also overtaken from other sheets of the *"Configuration"* window, in which action is named and defined.

On the right top, as an *"Event name"* there are three icons available. The first is used to copy statements in the window *"List of statements"* for a selected event, i.e. "Double event" and the other icons serve for changing order of statements in the window *"List of statements"* upwards and downwards (icon arrows).

In the window "List of statements" there are available the buttons "Add statement, Edit statement, Delete statement and Delete statement". In the column "Statement " a defined statement is displayed, see for which output it is applicable in the column "On output". If you want to add a new statement, click the button "Add statement", which will open the window "Setup the statement for event (see Pict. 106)".
Setup the statement for event 🛛 🛛 🛛
Select unit and statement
Hardware control
C User action
<u>*</u>

Setup parameters of statement
- Use trigger condition
*
Logic operation
Value 0
J ^o
OK X Cancel

Generally, in the window you can define output unit statements, i.e. from the sheet "Outputs" There are the following units among the switching actors: sa2-01b, sa2-02b, sa2-02m, sa2-04m, dimming actors Im2-11b, da2-22m, LED indicators of bus buttons wsb2, LED indicators of key2-01 and LED indicators of the room thermoregulator iart2-01 and idrt2-01. When you click *"Select unit and statement"* you can select *"Action nested in unit"* and *"User action"*. Let's describe in more details.

1. "Event nested in a unit". Clicking the button " * " opens the window "Select of control / controlled device (see Pict. 107).

elect of control/controlled device		
Select units SOPHY2,LM2-11B,WSB2-80,SA2-04M/Sn,S		
Filter by text value	ļ	
Unit	Device	I/O name in device
SOPHY2	VoiceIN	RE1
LM2-11B	triak outputs	OUT1
WSB2-80	LED indicators	GREEN1
WSB2-80	LED indicators	RED1
WSB2-80	LED indicators	GREEN2
WSB2-80	LED indicators	RED2
WSB2-80	LED indicators	GREEN3
WSB2-80	LED indicators	RED3
WSB2-80	LED indicators	GREEN4
WSB2-80	LED indicators	RED4
SA2-04M/Sn	universal rele outputs	RE1
SA2-04M/Sn	universal rele outputs	RE2
SA2-04M/Sn	universal rele outputs	RE3
SA2-04M/Sn	universal rele outputs	RE4
SA2-02B/Sn	universal rele outputs	RE1
SA2-02B/Sn	universal rele outputs	RE2
DAC2-04M	triak outputs	OUT1
DAC2-04M	triak outputs	OUT2
DAC2-04M	triak outputs	OUT3
DAC2-04M	triak outputs	OUT4
SA2-02M/Sn	universal rele outputs	RE1
SA2-02M/Sn	universal rele outputs	RE2
🔲 Display also unused d	evice	
🚫 Clear	🗸 ок	X Cancel

In the window you can select all output units connected via the CIB bus. For the description purposes we will use dividing into switching actors and dimming actors and describe statements that can be assigned.

"Output units", i.e. switching actors (sa2-01b, sa2-02b, sa2-02m and sa2-04m), led indicators of bus buttons wsb2, led indicators of room thermoregulator iart2-01, indicator of thermoregulator idrt2-01 and led indicator of the keyboard key2-01. If you select one of the devices above (in our case sa2-02m) and click "OK", the window "Setup the statement for event (see Pict. 108)" with the device defined.

Picture 108
Setup the statement for event 🛛 🛛 🛛
Select unit and statement
Hardware control
C User action
SA2-04M/Sn ~ universal rele outputs ~ RE1
Switch on
Setup parameters of statement
🗖 Has krisser condition
Logic operation
value ju
OK X Cancel

It is possible to assign the units the following statements (Pict. 109):

"Use trigger condition" for a selected output of the unit (in our case sa2-02m, re1 named alarm in the window "System configuration", sheet "Inputs", subgroup "Digital outputs".

Setup the statement for event 🛛 🛛 🛛 🛛
Select unit and statement
Hardware control
C. User action
SA2-04M/Sn ~ universal rele outputs ~ RE1 *
Switch on
Switch on
Switch off
Pulse
Delayed on
Delayed off
Delayed switch over
Delayed pulse
- Use trigger condition
Logic operation Equal '='
Value
V OK V Cancel

Picture 109

"Pulse "on a selected output of a unit (in our case sa2-02m, re1 named alarm in the window "System configuration", sheet "Inputs", subgroup "Digital outputs". Selecting the statement,

the window *"Setup the statement for event (Picture 104)"*, i.e. time base for a pulse, <u>1 sec –</u> <u>24 hours</u>.

- *"Use trigger condition"* for a selected output of a unit (in our case sa2-02m, re1 named alarm in the window *"System configuration"*, sheet *"Inputs"*, subgroup *"Digital outputs, see page 36, picture 67)*. If you select one of those statements, you will be offered a *"Setup the statement for event (Pict. 111)"* and *"Time delay"* that can be <u>1 sec 24 hours.</u>
- *"Delayed pulse"* on a selected output of the unit (in our case sa2-02m, re1 named alarm in the window *"System configuration"*, sheet *"Inputs"*, subgroup *"Digital outputs"*. If you select the statement, you will be offered the window *"Setup the statement for event (Pict. 111)"*, i.e. time base for a pulse that can be <u>1 sec 24 hours</u> and *"Time delay"* from <u>1 sec 24 hours</u>.
- *"Turn on/off thermostat"* is a command that can turn on/off time schedules of controlled heated circuits.

Setup the statement for event
Select unit and statement
Hardware control
C User action
SA2-04M/Sn ~ universal rele outputs ~ RE1 *
Pulse
Setup parameters of statement
Set pulse width [hh:mm:ss] 00:00:10.000
Use trigger condition
Value 0
OK X Cancel

Setup the statement for event	×
Select unit and statement	1
Hardware control	
C User action	
SA2-04M/Sn ~ universal rele outputs ~ RE1 *	
Delayed switch over	
Setup parameters of statement	
Delay time 00:00:10.000	
Use trigger condition	
*	
Logic operation Equal '='	
Value 0	
🖌 OK 🛛 🗶 Cancel	1

Picture 112

Setup the statement for event	×
Select unit and statement	٦
Hardware control	
C User action	
SA2-04M/Sn ~ universal rele outputs ~ RE1	
Setup parameters of statement	
Set pulse width [hh:mm:ss] 00:00:10.000	
Delay time 00:00:10.000	
Use trigger condition	
*	
Logic operation Equal '='	
Value	
,	
	1
V OK X Cancel	

- *"Input units"*, i.e. dimming actors Im2-11b and da2-22m. If you select one of the devices and confirm by "*OK*, the window *"Setup the statement for event (see picture 113)"* with the device defined.

Setup the statement for event	×
Select unit and statement	
Hardware control	
C User action	
DAC2-04M ~ triak outputs ~ OUT2	
MIN=0.0, MAX=100.0, RON=00:00:10.000, ROFF=00:00:1	
Direct control input (one button control)	
Setup parameters of statement	_
User output value 0.0	
Use trigger condition	
SOPHY2 ~ DI ~ IN 1	
Logic operation	
Value Juliu	
V OK X Cancel	

You can assign the units the following statements (Pict. 114):

- "Direct control input (one button control)" statement primary intended for binary power inputs (IN) control of the units Im2-11b and da2-22m. It works as follows. Short

Setup the statement for ev	ent 🛛 🛛	
Select unit and statement		
 Hardware control 		
C User action		
LM2-11B \sim triak outputs \sim	OUT1 *	
MIN=0.0, MAX=100.0, ROM	√=00:00:10.000, ROFF=00:00:1	
Direct control input (one bu	utton control)	
Supervised and the set of the set	amp) amp) sp Off e) e	
Logic operation Equal '='		
Value 0		
ок	Cancel	

Picture 114

press only switches on/off lightning, considering light channel setup from the sheet *"Outputs, subgroup analogue outputs".* If you hold a button and release (stops on selected intensity), you can control light channel intensity. If you turn off the light channel, which was

on e.g. 50% intensity, it will be switched on the same intensity level. You can use the same statement also for bus buttons wsb2.

- *"Up one step"* means switch on 0 100% (delay on/off) regardless times defined in the sheet *"Output, subgroup analog outputs".*
- *"Up smoothly (with run up ramp)/Down (with slowing down ramp)* means switch on off light channel 0 100% (delay on/off) with respect to times defined in the sheet *"Output, subgroup analog outputs".*
- *"Up/down level value"* is an alternative of *up/down smoothly.* We recommend using it together with the next statement bellow.
- *"Stop level value change"* is a command used to stop intensity change on smooth switch on/off or increasing/decreasing intensity. You can combine with the previous command and thus control light intensity, i.e. long pressat a button activation increases/decreases intensity and stops at a certain intensity of deactivation.
- "Set level value with one step" is used to switch on a light channel on a set level regardless times defined in the sheet "Output, subgroup analog outputs"". After selecting the command, you will be offered the window "Setup the statement for event (Pict. 115)", where you select intensity.

Setup the statement for event	×
Select unit and statement	
Hardware control	
C User action	
LM2-11B ~ triak outputs ~ OUT1	
Set level value with one step	
Setup parameters of statement	
User output value 50	
Use trigger condition	
*	
Logic operation Equal '='	
Value 0	
	1



- "Set continuously level value" is a command to switch on the light channel on a preset intensity, taking into account delay on/off times defined in the sheet "Outputs, analogue outputs group" (see page 38, Pict. 70)". If you select the statement, the window "Set the statement for event (Pict 116)" will appear, where you select an intensity level.

Picture	1	1	6
---------	---	---	---

Setup the statement for e	event 🔀
Select unit and statement	
Hardware control	
C User action	
LM2-11B ~ triak outputs	~ OUT1 *
MIN=0.0, MAX=100.0, R	ON=00:00:10.000, ROFF=00:00:1
Dec level value slowing	
Setup parameters of stater	nent
User output value	50
Use trigger condition	
	*
Logic operation	Equal '='
Value	0
	Cancel

- *"Switch on, then automatic off"* will switch off the light channel after time defined in the sheet *"Output, subgroup analog outputs"*. It respects times defined in the sheet (delay on/off).
- "Delay off (delayed to leave)" will switch the light channel off after time defined in the sheet "Output, subgroup analog outputs" (see page 38, Pict. 70)". It respects times defined in the sheet (delay on/off).
- *"Switch over "* is trigged switching the light channel over . It does not respect times defined in the sheet *"Output, subgroup analog outputs".*
- *"Set level value in steps by %"* causes increasing light intensity in steps to pre-set value, regardless times (delay on/off) defined in the sheet *"Output, subgroup analog outputs"*.
 Selection of the command will offer the window *"Setup the statement for event"*, where you set up a step value (Pict. 118).

Setup the statement for event	×
Select unit and statement	
Hardware control	
C User action	
DAC2-04M ~ triak outputs ~ OUT2 *	
MIN=0.0, MAX=100.0, RON=00:00:10.000, ROFF=00:00:1	
Set level value in steps	
Setup parameters of statement	_
User output value 0.0	
Use trigger condition	
SOPHY2 ~ DI ~ IN 1	
Logic operation Equal '='	
Value 0.0	
🗸 OK 🛛 🗶 Cancel	

"Set continuously level value" is a step increase to preset value with respect to times (delay on/off) defined in the sheet *"Output, subgroup analog outputs"* (see page 38, Pict. 70)". ".
 Selecting the command will offer the window *"Setup the statement for event"*, where you set up a step value (Pict. 120).

Picture 11	8
------------	---

Setup the statement for event	×
Select unit and statement	
Hardware control	
C User action	
DAC2-04M ~ triak outputs ~ OUT2	
MIN=0.0, MAX=100.0, RON=00:00:10.000, ROFF=00:00:1	
Set continuously level value	
-Setue parameters of statement	
Secup parameters of statement	
User output value 0.0	
- Use trigger condition	
Logic operation	
Value 0.0	
OK Cancel	

2. "User action". If you tick the box in the window "Setup the statement for event (Pict 119)", the window with the following statements will open (Pict 120).

Setup the statement for event	×
Select unit and statement	7
C Hardware control	
User action	
· · · · · · · · · · · · · · · · · · ·	
User actions 🗨	
MIN=0.0, MAX=100.0, RON=00:00:10.000, ROFF=00:00:1	
- Columnations of station and	
Setup parameters or statement	
- Use trigger condition	
Logic operation Equal '='	
Value 0.0	
	1
Cancel	ī
]

Picture 120



a. "User action". The option opens the window *"Setup the statement for event" (Pict. 113),* where you can set already called event from the action list (Pict. 121) in the window *"Action/statement manager (see page 60, Pict. 96).*

Setup the statement for event
Select unit and statement
C Hardware control
User action
User actions
MIN=0.0, MAX=100.0, RON=00:00:10.000, ROFF=00:00:1
Akce při sepnutí vstupu (stisknutí) :: WSB2-80 ~ universal d
Akce při sepnutí vstupu (stisknutí) :: WSB2-80 ~ universal d
Akce při sepnutí vstupu (suskilutí) :: WSB2-80 ~ universal d Akce při sepnutí vstupu (stisknutí) :: WSB2-80 ~ universal d
Akce při sepnutí vstupu (stisknutí) :: WSB2-80 ~ universal d
Akce při sepnutí vstupu (suskilutí) :: WSB2-80 ~ universal d Akce při sepnutí vstupu (stisknutí) :: WSB2-80 ~ universal d
Akce při sepnutí vstupu (stisknutí) :: WSB2-80 ~ universal d
Akce při sepnutí vstupu (stisknutí) :: system ~ IN ~ Zelené Akce při sepnutí vstupu (stisknutí) :: system ~ IN ~ Zelené 1
Akce při sepnutí vstupu (stisknutí) :: system ~ IN ~ Zelené
Akce při sepnutí vstupu (stisknutí) :: system ~ IN ~ Zelené ·
Hodnotou volana udalost :: alarm ON Hodnotou volaná událost :: alarm OFF
Hodnotou volaná událost :: Alarm
Akce při sepnutí vstupu (stisknutí) :: LM2-11B ~ binar inputs Akce při sepputí vstupu (stisknutí) :: SOBHY2 :: DI :: IN 2
Akce při sepnutí vstupu (stisknutí) :: SOPHY2 ~ DI ~ IN 3
Akce při sepnutí vstupu (stisknutí) :: SOPHY2 ~ DI ~ IN 5
Akce pri sepnuti vstupu (stisknuti) :: SOPHY2 ~ DI ~ IN 6
V OK X Cancel

b. "System bit setup". By the option you set up a selected system bit (inner variable) to logic status
 1 (Pict. 1122. <u>There are 32 system bits available.</u>

etup th	e statement fo	r event	×
Select (unit and statemeni	-	
ОН	ardware control		
€ U	ser action		
Syst	em bit setup		•
MIN=	0.0, MAX=100.0,	RON=00:00:10.000, R	OFF=00:00:1
Bit1			-
Cohun		omont	
perah t	Jarameters of stat	emenc	
	se trigger conditioi	۰	
SOPH	1Y2 ~ DI ~ IN 1		*
Logic	operation	Equal '='	T
Value		0.0	
		,	
	 ✓ 	ок 🔰	Cancel

- *c. "Reset system bit".* The option resets (deletes) a selected system bit (inner variable) to logic status 0. (Pict. 122).
- *d. "Send SMS* (Pict. 123)*".* The option enables sending SMS defined in the sheet "GSM. The messages are sent to numbers defined in the sheet *"GSM".*

Picture ⁻	123
----------------------	-----

Setup the statement for event	×
Select unit and statement	
C Hardware control	
• User action	
Send SMS	
MIN=0.0, MAX=100.0, RON=00:00:10.000, ROFF=00:00:1	
Pokus	
Setup parameters of statement	
	1
Phone number Jirka	
Pavla Jitta dupobni	
Use trigger condition	
SOPHY2 ~ DI ~ IN 1 *	
Logic operation Equal '='	
Value 0.0	
,	
OKX Cancel	

e. "Dial a number, ring for 20 sec and stop, give a short ring (Pict. 124)". The option enables giving a short ring to a selected phone numbers, defined in "GSM" sheet.

in the statement f	or ou ont			
ect unit and statement	nt			
C Hardware control				
 Hardware concror Hardware concror 				
• User action				
Dial number, ringing ((20s) and hang			_
Jirka				
[—] Use trigger conditi wsb40_chodba ∼ univ	ion versal dig. input	s ~ up1_svetlo_	chodba/komfr	ort_na _*
Use trigger conditi wsb40_chodba ~ univ .ogic operation	ion versal dig, input	s ~ up1_svetlo_	chodba/komfr	ort_na _*
Use trigger conditi wsb40_chodba ~ univ ogic operation /alue	ion versal dig. input Equal '= 0.0	s ~ up1_svetlo_	chodba/komfr	ort_na _*

- *f. "Commands for alarm groups (Pict. 125)".* There are the following possibilities to set up an alarm group defined in the sheet *"Alarms":*
 - Turn on alarm group guarding,

- Turn off alarm group guarding,
- Group reset.

Picture 125	
Setup the statement for event	×
Select unit and statement	1
C Hardware control	
User action	
· · · · · · · · · · · · · · · · · · ·	
Unguard alarm group	
MIN=0.0, MAX=100.0, RON=00:00:10.000, ROFF=00:00:1	
ALARM	
ALARM	
AG2	1
AG4	
AG6	
AG7 AG8	
Use trigger condition	
Logic operation	
Value 0.0	
	1

- *g. "Commands for timers (Pict. 126)".* There are the following possibilities to set up timers defined in the sheet *"System" :*
 - Run timer (not reset),
 - Stop timer (stops, but not reset),
 - Reset timer (reset, but not stopped).
- *h. "Commands for counters" (Pict. 127".* There are the following possibilities to set counters defined in the sheet *"System":*
 - Increment counter (always +1),
 - Decrement counter (always -1),
 - Reset counter,
 - Counter value setup.
- *i. "Commands for lighting groups" (Pict. 128)".* There are the following possibilities to set lighting groups defined in the sheet *"Outputs":*
 - Switch on/off the group one step up, i.e. switch on 0 100% regardless times (delay on/off)) defined in the sheet *"Outputs, subgroup Analogue outputs".*
 - Switch on/off the group smoothly (with run up/down ramp), i.e. switch on a lighting group 0 100% with respect to times (delay on/off defined in the sheet "Outputs, subgroup Analogue outputs".

Picture 1	26
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Setup the statement for event	×
Select unit and statement	٦
C Hardware control	
• User action	
Run the timer	
MIN=0.0, MAX=100.0, RON=00:00:10.000, ROFF=00:00:1	
blikání LED žaluzie	
blikání LED žaluzie závlaha	
St Alarm ON	
Value 00:00:01.000	
Use trigger condition	
SOPHY2 ~ DI ~ IN 1	
Logic operation Equal '='	
Value 0.0	
· · · · · · · · · · · · · · · · · · ·	
V OK X Cancel	
	-

Setup the statement for event 🛛 🛛 🔀
Select unit and statement
C Hardware control
User action
Counter value setup
MIN=0.0, MAX=100.0, RON=00:00:10.000, ROFF=00:00:1
Alarm
Alarm
alarm ON
Value 1000
SOPHY2 ~ DI ~ IN 1
Logic operation
Value 0.0
✓ OK X Cancel

up the statement fo	or event
elect unit and statemer	nt
C Hardware control	
Icer action	
Lip one step the grou	
MIN=0.0, MAX=100.0	RON=00:00:10.000, ROFF=00:00:1
Vše analog	· · · · · · · · · · · · · · · · · · ·
Vše analog	
ietup parameters of sta	atement
(team and an describer a	0.0
User output value	0.0
- Use trigger conditio	
	211
SOPHY2 ~ DI ~ IN 1	*
SOPHY2 ~ DI ~ IN 1	*
SOPHY2 ~ DI ~ IN 1	Equal '='
SOPHY2 ~ DI ~ IN 1 Logic operation Value	Equal '='
SOPHY2 ~ DI ~ IN 1 Logic operation Value	Equal '='
SOPHY2 ~ DI ~ IN 1 Logic operation Value	Equal '='
SOPHY2 ~ DI ~ IN 1 Logic operation Value	Equal '=' ▼ 0.0 OK Cancel

- Switch on the group with automatic switch off, i.e. when switched on, the group will switch off after time defined in the sheet *"Outputs, subgroup Analogue outputs"*. Defined times (delay on/off) are respected.
- Delay off the group (delay to leave), i.e. when the button is activated, a lighting group will switch off with a delay defined in the sheet *"Outputs, subgroup Analogue outputs"*. Times defined in the sheet are respected (delay on/off).
- *j. "Commands for relay groups (Pict. 129)".* There are the following options to set digital output groups defined in the sheet "Outputs":
 - Switch on/off the group,
 - Switch over the group (trig),
 - Pulse to the group (time base 1 sec 24 hours will appear),
 - Delay on/off/ switch over the group (time base <u>1 sec 24 hours will appear</u>),
 - Delayed pulse to group (time base for pulse and delay 1 sec 24 hours will appear).
- *k.* "Commands for heating" (Pict. 130). There are the following possibilities to set a mode (detailed description of modes is a subject of Chapter 8) of heating circuits defined in the sheet "Heating/Cooling":

Picture	129
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ecup the statement for e	event 🕑
Select unit and statement	
C Hardware control	
Output User action	
Switch-On the group	•
MIN=0.0, MAX=100.0, R	ON=00:00:10.000, ROFF=00:00:1
Vše skokově	•
Vše skokově	
□□ Use trigger condition	
Use trigger condition	*
Use trigger condition	
Use trigger condition SOPHY2 ~ DI ~ IN 1 Logic operation	*
SOPHY2 ~ DI ~ IN 1	* Equal '='
SOPHY2 ~ DI ~ IN 1 Logic operation	* Equal '='
Use trigger condition SOPHY2 ~ DI ~ IN 1 Logic operation Value	* Equal '='

ietup the statement for event	×
Select unit and statement	7
C Hardware control	
• User action	
Prezentation mode	
MIN=0.0, MAX=100.0, RON=00:00:10.000, ROFF=00:00:1	
standart 🔽	
Setup parameters of statement	
Use trigger condition	
SOPHY2 ~ DI ~ IN 1 *	
Logic operation Equal '='	
🖌 OK 🛛 🗶 Cancel	

- Presentation till change, i.e. comfort mode till time stamp,
- Switch on temporary comfort (1 hour),
- Impose minimum,
- Impose depression,
- Impose normal,
- Impose comfort,
- Use time schedule, i.e. switch over e.g. from imposed mode back to time schedule,

- Switch over, i.e. from time schedule to presentation mode (comfort mode till next change in time schedule)
- Switch on/off time schedule, i.e. permanent switch on/off time schedule.

Each statement in the window "Setup the statement for event" can be combined with so call "start condition", i.e. using logic operations. <u>Actually you can use 1 logic condition for a defined statement</u>. Logic conditions are described in chapter 11 – Logic conditions (instructions) in IDM software, see page 93.

In the window "Action/statement manager" you can select actions (events) that will be saved (logged) in CPU memory with a possibility to export the saved data. Choose the option by ticking the box "Log the statement (Pict. 131)". Such marked event is indicated by "writing" icon.

List of actions RAM = 6422 (c3.24), Et M = 2390 (7.97) FB = 734 (36.70) COD = 54720 (1.03) Setup action Setup action - web40_jideha = emulace - sveto_jideha, std Setup action - web40_jideha = emulace - sveto_jideha, std Setup action - web40_jideha = emulace - sveto_jideha Setup action - web40_jideha = emulace Setup action - web40_jideha = std; Sizeria - Pitzeria - signalizace Setup action - web40_jideha - enulace - setup, off - sveto_jodeha Setup action - web40_jadena ext, orit, off - sveto_jodeha Setup action - web40_jadeha - skrup, off - teleso_joteha Setup action - solib_jorice - orkup, off - teleso_joteha Setup action - solib_jorice - orkup, off - teleso_joteha Setup action - solib_jorice - orkup, off - teleso_joteha Setup action - solib_jorideha - orkup, off - teleso_joteha Setup	2. Action/statement manager				×
widd0_jddha - emulace - sveto_jddha_ widd0_jddha - emulace - sveto_jddha_thyte sollb_jddha - emulace - sveto_jddha_st sollb_jddha - emulace - sveto_jdeha_st	List of actions		PAM = 8473 (28-24) _ REM = 1	2390 (7 97) EB = 734 (36 70) COD	= 54720 (1.03)
web40_jdeha - emulace - svetlo_judni_stul web40_jdeha - emulace - svetlo_judni_stul web40_jdeha - emulace - svetlo_judnip web40_jdeha - emulace - svetlo_judnip web40_jdeha - emulace - svetlo_judnip web40_jdeha - auto_off - svetlo_schodate Alam - prisem - Chonxa - prisem - Chonxa - prisem - web40_jadeha - auto_off - svetlo_schodate - web40_jaderi - uto_off - svetlo_schodate - web40_jaderi - duohy_stik - sez_ap - web40_jaderi - duohy_off - teleso_jdehate - aotib_jateri - okruh_off - teleso_jdekty - aotib_jateri - okruh_off - teleso_jdektay - aotib_jateria - okruh_off - teleso_jdektay - aotib_jateria - okruh_off - teleso_jateria - aotib_jateria - okruh_off - teleso_jateria - aotib_jateria - okruh_off - teleso_jateria - aotib_jateria - okruh_off - teleso_jateria </td <td>wsb40_jidelna - emulace - svetlo_jidelna</td> <td></td> <td>KAN - 0473 (20/24) Kan - 1</td> <td>2390 (7.97) 18 = 734 (30.76) COD</td> <td>- 54720 (1.05)</td>	wsb40_jidelna - emulace - svetlo_jidelna		KAN - 0473 (20/24) Kan - 1	2390 (7.97) 18 = 734 (30.76) COD	- 54720 (1.05)
 -wsbr0_jdelna - envlace - sveto_jschvjne -wsbr0_jdelna - envlace - sveto_jschvjne -wsbr0_jdelna - auto_off - sveto_schvjte -Zopnuti střeženi - Prizemi - signalizace -vyputi střeženi - Prizemi - signalizace -wsbr0_jzadveri - douhy, stšk. esz., zyp M -wsbr0_jzadveri - douhy, stšk. esz., zyp M -wsbr0_jzadveri - douhy, stšk. esz., zyp M -wsbr0_jsatna - okruh_off - teleso_jsatna -solib_jsatna - okruh_off - teleso_jsatna -solib_jtatna - okruh_off - teleso_jsatna -solib_jtatna - okruh_off - teleso_jtelena_sat -solib_terasa_okrere - okruh_off - teleso_jtelena -solib_terasa_okrere - okruh_off - teleso_jtelena -solib_terasa_okrere - okruh_off - teleso_terasa -solib_terasa_okrere - okruh_off - teleso_te	wsb40_jidelna - emulace - svetlo_jidelni_stul	Setup action			
-wsb40_jideha - auto_off - svetio_schodste Asam - prizem Ochowa - prizem 2apruti strěžení - Prizemi - signalizace -wsb40_zadveri - auto_off - svetio_zadveri -wsb40_zadveri - douby_stikk - esz_zap -wsb40_zadveri - douby, stikk - esz_zap -wsb40_zadveri - doub, off - teleso_detsky - sa01b_detsky_pokoj - okruh_off - teleso_detsky - sa01b_stana - okruh_off - teleso_zabrei - sa01b_stana - okruh_off - teleso_zabrei - sa01b_stana - okruh_off - teleso_zabrei - sa01b_schodiste - okruh_off - teleso_zabrei - sa01b_schodiste - okruh_off - teleso_jdelna - sa01b_schodiste - okruh_off - teleso_jdelna - sa01b_schodiste - okruh_off - teleso_jdelna - sa01b_jchena - okruh_off - teleso_jdelna <t< td=""><td></td><td>Event name</td><td></td><td></td><td></td></t<>		Event name			
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- salls_lozinice - okruh_on - teleso_lozinice - salls_lozinice - okruh_on - teleso_lozinice - salls_detsky_pokoj - okruh_on - teleso_detsky - salls_batna - okruh_on - teleso_satna - salls_obyvaci_pokoj - okruh_on - teleso_obyvaci_pokoj - okruh_on - teleso_obyvaci_pokoj - okruh_on - teleso_boyvaci_pokoj - okruh_on - teleso_zadveri - salls_zadveri - okruh_on - teleso_zadveri - salls_schoiste - okruh_on - teleso_zadveri - salls_schoiste - okruh_on - teleso_jidelna_sch - salls_schoiste - okruh_off - teleso_jidelna_sch - salls_schoiste - okruh_off - teleso_koupe - salls_trasa_dvere - okruh_off - teleso_koupe - salls_terasa_dvere - okruh_off - teleso_koupe - salls_terasa_okruh_off - teleso_koupe - salls_terasa_teras	wsb20_balkon - auto_off - svetlo_chodba				
salls_jornice - okrun_on - teless_detsky salls_detsky_pokoj - okruh_off - teleso_detsky salls_datsky_pokoj - okruh_off - teleso_satna salls_dotsky_pokoj - okruh_off - teleso_satna salls_dotyvaci_pokoj - okruh_off - teleso_obyvaci salls_dotyvaci_pokoj - okruh_off - teleso_pokyvaci salls_shodiste - okruh_off - teleso_jidelna_sch salls_idelna - okruh_off - teleso_jidelna salls_terasa_dvere - okruh_off - teleso_koupe salls_terasa_dvere - okruh_off - teleso_koupe salls_terasa_okrere - okruh_off - teleso_koupe salls_terasa_tera - okruh_off - teleso_kerasa	saulb_loznice - okrun_orr - teleso_loznice				
- Sallb_detsky_poko) - okruh_off - teleso_detsky - sallb_satna - okruh_off - teleso_satna - sallb_satna - okruh_off - teleso_satna - sallb_obyvaci_pokoj - okruh_off - teleso_byva - sallb_byvaci_pokoj - okruh_off - teleso_byva - sallb_zadveri - okruh_off - teleso_zadveri - sallb_schodiste - okruh_off - teleso_zideria - sallb_schodiste - okruh_off - teleso_jidelna_sct - sallb_schodiste - okruh_off - teleso_jidelna_sct - sallb_idelna - okruh_off - teleso_jidelna - sallb_idelna - okruh_off - teleso_jidelna - sallb_terasa_dvere - okruh_off - teleso_koupe - sallb_terasa_dvere - okruh_off - teleso_koupe - sallb_terasa - okruh on - teleso terasa - Log this statement - Log this statement - Log this statement	Sauld_loznice - okrun_on - teleso_loznice				
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saltb_obyvaci_pokoj - okruh_off - teleso_obyv. saltb_obyvaci_pokoj - okruh_off - teleso_poyve. saltb_zadveri - okruh_off - teleso_jadveri saltb_schodiste - okruh_off - teleso_jidelna_sct saltb_jidelna - okruh_off - teleso_jidelna saltb_jidelna - okruh_off - teleso_jidelna saltb_bidelna - okruh_off - teleso_jidelna saltb_terasa_dvere - okruh_off - teleso_koupe saltb_terasa_dvere - okruh_off - teleso_koupe saltb_terasa_dvere - okruh_off - teleso_koupe saltb_terasa_dvere - okruh_off - teleso_terasa saltb_terasa - okruh on - teleso terasa saltb_terasa - okruh on - teleso terasa saltb_terasa - okruh on - teleso terasa Add new action Add action copy	sauld_satia - okrub_on - teleso_satia				
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- sa01b_zadveri - okruh_on - teleso_zadveri - sa01b_schodiste - okruh_off - teleso_jidelna_sch - sa01b_sidelna - okruh_off - teleso_jidelna - sa01b_jidelna - okruh_off - teleso_jidelna - sa01b_jidelna - okruh_off - teleso_koupe - sa01b_terasa_dvere - okruh_on - teleso_koupe - sa01b_terasa_dvere - okruh_on - teleso_koupe - sa01b_terasa_dvere - okruh_on - teleso_koupe - sa01b_terasa - okruh on - teleso_terasa - sa01b_terasa - okruh on - teleso terasa - ddd new action Add action copy - Use this statement - Use this event on the web pages	sa01b_covvac_bologi olival_oni cooso_covvic				
sa01b_schodiste - okruh_off - teleso_jidelna_sct sa01b_schodiste - okruh_off - teleso_jidelna_sct sa01b_jidelna - okruh_off - teleso_jidelna sa01b_jidelna - okruh_off - teleso_jidelna sa01b_jidelna - okruh_off - teleso_jidelna sa01b_jidelna - okruh_off - teleso_koupe sa01b_terasa_dvere - okruh_on - teleso_koupe sa01b_terasa - okruh on - teleso_terasa sa01b_terasa - okruh on - teleso terasa sa01b_terasa - okruh on - teleso terasa sa01b_terasa - okruh on - teleso terasa Log this statement Log this statement Log this statement Use this event on the web pages	sa01b zadveri - okrub on - teleso zadveri				
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sa01b_jidelna - okruh_off - teleso_jidelna sa01b_jidelna - okruh_on - teleso_jidelna sa01b_terasa_dvere - okruh_on - teleso_koupe sa01b_terasa_dvere - okruh_on - teleso_koupe sa01b_terasa - okruh_off - teleso_koupe sa01b_terasa - okruh_off - teleso_terasa sa01b_terasa - okruh on - teleso terasa Add new action Add action copy Add new action Add action copy	sa01b schodiste - okruh on - teleso jidelna sch				
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sa01b_terasa_dvere - okruh_off - teleso_koupe sa01b_terasa_dvere - okruh_off - teleso_koupe sa01b_terasa - okruh_off - teleso_terasa sa01b_terasa - okruh on - teleso terasa Add new action Add action copy Add new action Add action copy	sa01b_jidelna - okruh_on - teleso_jidelna				
		1			
Add statement Edit statement Delete statement Delete all statements Add new action Add action copy Use this event on the web pages					
Add new action Add action copy	- sa01b terasa - okruh on - teleso terasa	Add statement	Edit statement Delete st	atement Delete all statements	
Add new action Add action copy Image: Copy this statement Use this event on the web pages			J J		
Add new action Add action copy Use this event on the web pages		Log this statemer	nt		
	Add new action Add action copy	Use this event or	the web pages		
					1
OK X Cancel				🛛 🗸 ок	X Cancel

Picture 131

Another possibility in the window "Action/statement manager" is the option to select actions (events) that can be controlled via web server. The option is activated by ticking the box "Use the event on the web pages" (Pict. 132)". The icon of web sites will indicate the event.



8. Time/week schedules manager

"Time/week schedules manager" (Pict. 133" is linked to the sheet "Heating/Cooling", where it is activated by the button *"Week schedule setup"*. You can also open the window *"Time/week schedules manager"* by fast selection icons.

		Picture 133		
Time/week schedule manager				
Name State standart	Name	standart	Temperature (H	IVAC) schedule 💽
		Mode setup		
		Time stamp setup SCADA setup		
Add schedule				
Delete schedule				
			OK	X Cancel

as the name of the window indicates, it can be divided to time schedules and week schedules, which will be described further.

1. Week schedules (Pict. 133).

The schedules are bound with the sheet *"Heating/cooling*, therefore the option *"Heating/Cooling"* is displayed in the right list box. In the right window you can add or delete a heating circuit by the buttons *"Add"* and *"Delete"*. *You can define its name by the box "Name"*. Status means an actual mode of a circuit. There are the following modes:

- Comfort. It is an operation mode for an occupied room operating with set comfort temperatures for heating and cooling. Required temperatures are set up by a configuration program in the range + 5 °C + 100 °C for heating and cooling in steps of 0.1 °C. In IRC system the mode is signaled by in a zone of operation data in COMFORT variable. The comfort mode is activated by:
 - Week time schedule,

- Room thermoregulator in a room with the comfort button (for 1 hour) or presentation button. When the mode is activated by the comfort button, it is finished after setup time. Ehen it is activated by the presentation button, it is finished on the nearest scheduled mode change.
- Response to persons' presence by PIR motion detector,
- Imposed mode setup from IRC system.
- Normal. It is an operation mode that does not correspond with an empty room status. It is supposed to switch over fast to the comfort mode in case of person's presence. Required temperature is set by configuration program in the range + 5 °C + 100 °C for heating and cooling in steps of 0.1 °C. In IRC system is the mode indicated in a zone of operation data in NORMAL variable. The normal mode is activated by:
 - Week time schedule,
 - Imposed mode setup from IRC system.
- Depression. It is an operation mode corresponding an empty room, and it is not supposed to be occupied soon (e.g. at night, rarely attended rooms, etc.). When the switch over to the comfort mode happens, you must expect longer time until the temperature rises. Required temperature is set by configuration program in the range + 5 °C + 100 °C for heating and cooling in steps of 0.1 °C. In IRC system is the mode indicated in a zone of operation data in DEPRESSION variable. The depression mode is activated by:
 - Week time schedule,
 - Imposed mode setup from IRC system.
- Minimum. It is an operation mode corresponding with a room that is permanently empty. In the mode, heating/cooling is closed and only so called "antifreeze" function to protect heating medium is activated. If the temperature in the room declines bellow set temperature, heating actuator will be opened. Cooling function is analogical. The mode will be activated from any mode, if an opened window is detected by a window contact. Required temperature is set by configuration program in the range + 5 °C + 100 °C for heating and cooling in steps of 0.1 °C. In IRC system is the mode indicated in a zone of operation data in MINIMUM variable. The depression mode is activated by:
 - Week time schedule,
 - Imposed mode setup from IRC system,
 - Detection of an opened window by a window contact.

There are three roll off menu available: "Mode setup", "Time stamps setup" and "SCADA setup" (see Chapter 13, page. 109)":

- "Mode setup" (Pict. 134)":

	State	Name	stand	lart		Temperal	ure (HVAC) schedule
standart			J. Contraction of the second			1. campor de	
		-			Mode setup		
				Comfort	Normal	Depression	Minimum
		Minimum	32.0 ℃				
		Depression	30.0 ℃				
		Normal	28.0 ℃				
		Comfort	25.0 ℃				
		Comfort	24.0 ℃				
		Normal	20.0 ℃				
		Depression	15.0 ℃				
		Minimum	8.0 ℃				
		-		τ			
					ECADA setup		

Picture 134

The window of the offer displays modes setup (see Pict. 127). Green area represents range of set temperature regulation. Blue area is "Cooling", red are in "Heating". You can set an appropriate (required) temperature in the range + 5 °C - + 100 °C for each mode described above.

• "Time stamps setup" (Pict. 134)



The offer displays time stamps setup (see Pict. 134). Time stamps can shifted by the mouse pointer (arrows will be displayed) within time axis or by editing time base – the editing activated

Picture 134

by double-click. By the option "*Copy time schedule to (Pict. 136)*" you can copy setup of selected circuit to:

- All days,
- Monday to Friday,
- Saturday and Sunday.



The first icon on the left at the bottom is used for graphic displaying of mode setup and time stamps setup of a selected heating (see Pict. 137).





The second icon on the left at the bottom serves for exporting time schedules *bmp file. Clicking will open a window to save the file (Pict. 138).

Uložit jako					? 🛛
Uložit <u>d</u> o:	🕒 Dokumenty		•	← 🗈 💣 📰•	
Recent Plocha Dokumenty Dokumenty Tento počítač	Adobe AXIS Media Co Bluetooth Exci DVDPab My eBooks My Blooks My Skype Con My Skype Pict My Skype Pict My Skype Rec Co SoftPLC Co Zdroje dat	ontrol - Snapshots hange Folder tent ures eived Files			
	<u>N</u> ázev souboru: Uloži <u>t</u> jako typ:	<mark>time_programs</mark> Obrázek (*.bmp)		- -	<u>U</u> ložit Storno

After selecting saving route, a question will appear, if you want to save all time/week schedules or only the selected schedule (Pict. 140).

Picture 140

Time/week schedule manager 🛛 🔀
Export all time schedules?
Yes No Cancel

When you select "yes / no" option, you will be asked if you want to open the exported file (Pict. 141).

Picture 141				
Time/wee	k schedule	manager	X	
، 🏈	Do you want	to open export	ed file?	
	Ano	Ne		

We have selected export of all time schedules. The exported file has the following form (Pict. 142).



2. Time schedules

In time schedules there is a possibility to use *"Double status program"* or *"Continuous time sector"*. *"Double status program"* switches on/off schedules timed by us. There are two menus available:

- "Program event setup (Pict. 143)", where we define commands on start of time program

Picture 143

Time/week schedule manager				×
Name State	Name	standart	Temperature (HVAC) schedule	•
	+ - Monday	Mode setup Time stamp setup Tuesday Wednesday Thuersday Friday	Saturday Sunday	
	Comfort Normal Depression Minimum	0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	30 17:05 21:00 23:00 16 17 18 19 20 21 22 23 24	
			Copy this schedule to	
Add schedule Delete schedule				
			VOK X Cance	el d

- "On – activate commands" and at the end of program - "Off-deactivate commands". Clicking on the icon "Action/statement manager" you will open the window "Action/statement manager" (see page 60), where you can define the actions.

"Time stamps setup" (Pict 144)". When you open the offer, time stamps setup will be displayed.
 Time stamps can be changed when you shift them by the mouse pointer (arrows appear) or

directly by editing time base – editing activated by double click. By the option *"Copy this schedule to..."*(*Pict. 145*) you can copy setup to:

- All days,
- Monday to Friday,
- Saturday and Sunday.



Picture 144

Picture 145



"Continuous time sector" switches on/off time scheduled in a selected time sector. Again, there are two roll off menus:

- "Events setup" (Pict. 146), here you define statements on time sector start (switch on)

Name State	Name	standart [pojits	včasový úsek
		Events setup	
		Time sector setup	
	Setup statements		
	Begin of program	1 👤 leden 💌	
	Finish the program	1 文 leden 💌	
Add schedule			
Add schedule			

- "On-activate statements" and at the end of time sector – "Off-deactivate commands". Click the icon "Action/statement manager" to open the window "Action/statement manager (see page. 60), where you define the actions.

- *"Time sector setup" (Pict. 147),* where you define time sector of continuous time schedule – *"Begin of program"* and *"Finish the program".*

ne/week schedule manager				
Vame State State	Name	standart	spojitý časový úsek	
		Events setup Time sector setup		
	Setup statements Begin of program Finish the program	14 💇 květen 1 🔮 červenec	•	
Add schedule				
Delete schedule				
			🖌 ок	Cancel

Picture 147

9. Time events manager

Time events manager serves for full setup and management of time events. It is opened by fast selection icons (see page 11, Pict. 17). It is not possible to edit defined events in this window. To create a new time event or edit already created one, you must open the *"Time events manager"* from the window *"System configuration"* (see page 35)", by the first icon *"Time events manager"* ⁽¹⁴⁾ (bottom on left). Clicking the icon, the window *"Time events management"* (Pict. 148) will open

ist of events	
Name of event	Name of event leto
🔋 leto	Time of activation/spread 16:06:54.000 00:10:00.000
	✓ Event is active
	No statement or create new event ->
	Type of event
	C Each day in week
	C Day in month
	Each day in month
	Year setting
	leden únor březen
	☐ duben ✔ květen
	 ✓ červen ✓ červenec
	✓ srpen ✓ září
	iistopad prosinec
	-56404
	Export for SCADA
	Name for SCADA
	Add new Delete

Picture 148

In *"List of events"* you can see time events that have already been created. Whereas a new time events will be created by the option *"Add new event"*. The option *"Delete "* will delete selected time events. The name of a time event is defined the box *"Name of event"*. By the option *"Time of activation/spread"* define time of time event start (activation time) and also spread defining a time sector, when time event will be performed at random (you can use in order to simulate persons presence in a building). If you tick the box *"Event is active"*, you will activate a selected event. Otherwise the time event is not active. Clicking *"Action/statement manager"*¹⁵, you will open the window *"Action/statement manager"*, where action/statement can be defined (see Pict. 141). *"Type of event"* means time when the selected time event shall be performed, following activation time that has been setup. You can choose:

- Each day in week (Pict. 150),
- Day in month (Pict. 151),

14 🧿

- Each day in month (Pict. 152).

By clicking "OK" you will confirm and save changes, by "Cancel" changes will not be saved.

Picture 149

Action/statement manager		
List of actions Akce při sepnulí vstupu (disknutí) :: WSB2-80 ~ un Akce při sepnulí vstupu (disknutí) :: WSB2-80 ~ un Akce při sepnulí vstupu (disknutí) :: WSB2-80 ~ un Akce při sepnulí vstupu (disknutí) :: WSB2-80 ~ un Akce při sepnulí vstupu (disknutí) :: WSB2-80 ~ un Akce při sepnulí vstupu (disknutí) :: WSB2-80 ~ un Akce při sepnulí vstupu (disknutí) :: WSB2-80 ~ un Akce při sepnulí vstupu (disknutí) :: WSB2-80 ~ un Akce při sepnulí vstupu (disknutí) :: WSB2-80 ~ un Akce při sepnulí vstupu (disknutí) :: WSB2-80 ~ un Akce při sepnulí vstupu (disknutí) :: System ~ IN ~ Akce při sepnulí vstupu (disknutí) :: System ~ IN ~ Akce při sepnulí vstupu (disknutí) :: System ~ IN ~ Akce při sepnulí vstupu (disknutí) :: System ~ IN ~ Hodnotou volaná událost :: Alarm Akce při sepnulí vstupu (disknutí) :: SOPHY2 ~ DI / Akce při sepnulí vstupu (disknutí) :: SOPHY2 ~ DI / Akce při sepnulí vstupu (disknutí) :: SOPHY2 ~ DI / Akce při sepnulí vstupu (disknutí) :: SOPHY2 ~ DI / Akce při sepnulí vstupu (disknutí) :: SOPHY2 ~ DI / Akce při sepnulí vstupu (disknutí) :: SOPHY2 ~ DI /	RAM = 2701 (9.00) REM = 53 (0.18) FB 187 (6.23) COD 107376 (2.09) Setup action Event name Image: Constraint of the setup in th	
Add new action Add action copy	Add statement Edit statement Delete statement Iver Log this statement Use this event on the web pages	
	🗸 ок	X Cancel

Picture 150

me events management	
List of events	
Name of event	- Name of event boiler
leto	Time of activation/spread 16:12:57.000 00:10:00.000
💈 boiler	
	Vent is active
	No statement or create new event ->
	Type of event
	Each day in week
	C Day in month
	C Each day in month
	veek setting
	 ✓ úterý ✓ středa
	✓ čtvrtek ✓ pátek
	sobota
	Export for SCADA
	Name for SCADA
1	Add new Delete
	V OK

Picture 151

List of events Name of event test Image: test Time of activation/spread 16:06:54.000 00:10:00.000	í
Name of event Test Image: test Time of activation/spread 16:06:54.000 00:10:00.000	
Image: state Time of activation/spread 16:06:54.000 00:10:00.000 Image: state Image: state Image: state Image: state No statement or create new event -> Image: state Image: state	
I Event is active No statement or create new event -> ■	
No statement or create new event ->	
Type of event	
C Each day in week	
O Day in month O	
C Each day in month	
Setting	
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	
6 16 26 7 17 27 8 18 28 9 19 ✓ 29 10 20 30	
SCADA	
Name for SCADA	_
Add new Delete	
✓ OK X Cancel	1



st of events	
Name of event	Name of event Denni_rezim_zimni_cas
Denni_rezim_zimni_cas	Time of activation/spread 07:00:00.000 00:00:00.000
Nocni_rezim_zimni_cas	
Nocni_rezim_letni_cas	Event is active
Denni_rezim_letni_cas	deppi rezim zimpi cas
Svetio_vchod_orr	
Cerpadio_kotel	Type of event
	C Each day in week
	C Day in month
	Each day in month
	Year setting
	✓ leden ✓ únor
	✓ březen
	červen
	✓ říjen
	SCADA
	V Export for SCADA
	Name for SCADA
	Add new Delete
	() · · · · · · · · · · · · · · · · · ·

10. Archive of inputs/outputs (i/o)

The archive of i/o function serves for saving states of selected i/o. Run the function fro the main nemu on the bar by the fast selection icon 16 (str. 11, Pict. 17). By clicking the icon, you will open the window *"Setup and reading archive state of input or output" (Pict. 144)"*. You can archive up to <u>24 i/o, max.</u> records number for all i/o is 10000 logs, i/o can be changed or completed, when memory capacity is full data will be replaced from the oldest log (oldest first)

tup and reading archi	ve state of input or outputs		
chive setup Downloaded of	data		
Caption	Time delay	Setup input or outputs	
teolá voda	02:00:00	- Cantion	teplá voda
topení	00:00:00		,
ALARM	00:00:00	Archive input or outputs	system ~ IN ~ Zelené 1 *
not used	00:00:00		
not used	00:00:00	Archive time delay	02:00:00 hh:mm:ss
not used	00:00:00	Ex Eachlad	
not used	00:00:00		
		V	Cancel y Help

Picture 153

The window is divided into two sheets:

16 💐

- "Archive setup", where you define the archive setup. In the left window there is a list of all i/o, whereas its description is set in the box "Caption ". "Delay " contains time of enquires on i/e state, whereas time base is <u>1 sec 24 hours</u>. The delay is set in the box "Archive time delay". Tick the box "Enabled" to make the archiving active. The last option to be defined is "Archive input or output", where you select a required i/o by clicking " * " icon, which opens the window "Select of control/controlled device" (Pict. 154). In the window select required i/o for archiving.
- "Downloaded data (Pict. 155)". Archived data are downloaded in the sheet and then they can be exported to *txt or *csv format by the icon Data export¹⁷. At the top on the left there is time sector, when the archiving was started to another time sector. By clicking "Download archived data" you will

download data from CPU memory. (Pict. 156). The button "Delete archive" deletes saved data from CPU memory.

ilter by text value	elect units	SOPHY2,LM2-11B	,WSB2-80,SA2-04M/Sn,SA2
Init Device I/O name in device SOPHY2 DI IN 1 SOPHY2 DI IN 2 SOPHY2 DI IN 3 SOPHY2 DI IN 4 SOPHY2 DI IN 5 SOPHY2 DI IN 6 SOPHY2 DI IN 6 SOPHY2 Light Intenzity Sensor TERM SOPHY2 Light Intenzity Sensor TERM SOPHY2 Infra Reader UT1 LM2-11B binar inputs UN 1 WSB2-80 universal dig. inputs DOWN 1 WSB2-80 universal dig. inputs DOWN 2 WSB2-80 universal dig. inputs DOWN 2 WSB2-80 universal dig. inputs DOWN 3 WSB2-80 universal dig. inputs DP4 WSB2-80 universal dig. inputs DP4 WSB2-80 LED indicators GREEN1 WSB2-80 LED indicators GREEN1 WSB2-80 LED indicators REEIN1	ilter by text value		
SOPHY2 DI IN 1 SOPHY2 DI IN 2 SOPHY2 DI IN 3 SOPHY2 DI IN 4 SOPHY2 DI IN 5 SOPHY2 DI IN 5 SOPHY2 DI IN 6 SOPHY2 DI IN 6 SOPHY2 DI IN 6 SOPHY2 Light Intenzity Sensor TERM SOPHY2 Light Intenzity Sensor TERM SOPHY2 Infra Reader UN1 LM2-11B binar inputs UN1 WS82-80 universal dig. inputs DOWN 1 WS82-80 universal dig. inputs DOWN 2 WS82-80 universal dig. inputs DP4 WS82-80 universal dig. inputs DOWN 3 WS82-80 universal dig. inputs DP4 WS82-80 universal dig. inputs DVM 4 WS82-80 LED indicators GREEN1 WS82-80 LED indicators RED1 WS82-80 L	Init	Device	I/O name in device
SOPHY2 DI IN 2 SOPHY2 DI IN 3 SOPHY2 DI IN 4 SOPHY2 DI IN 5 SOPHY2 DI IN 6 SOPHY2 DI IN 6 SOPHY2 DI IN 6 SOPHY2 Light Intenzity Sensor TERM SOPHY2 Infra Reader UI1 LM2-11B binar inputs IN 1 LM2-11B triak outputs OUT1 WS82-80 universal dig. inputs DOWN 1 WS82-80 universal dig. inputs DOWN 2 WS82-80 universal dig. inputs DOWN 2 WS82-80 universal dig. inputs DOWN 3 WS82-80 universal dig. inputs DP4 WS82-80 universal dig. inputs DOWN 4 WS82-80 LED indicators GREEN1 WS82-80 LED indicators RED1 WS82-80 LED indicators RED1 WS82-80 LED indicators RED1 WS8	SOPHY2	DI	IN 1
SOPHY2 DI IN 3 SOPHY2 DI IN 4 SOPHY2 DI IN 5 SOPHY2 DI IN 6 SOPHY2 DI IN 6 SOPHY2 Light Intenzity Sensor TERM SOPHY2 Infra Reader IIN 1 LM2-11B binar inputs IN 1 LM2-11B triak outputs OUT1 WSB2-80 universal dig. inputs DOWN 1 WSB2-80 universal dig. inputs UP2 WSB2-80 universal dig. inputs DOWN 2 WSB2-80 universal dig. inputs DOWN 1 WSB2-80 universal dig. inputs DOWN 2 WSB2-80 universal dig. inputs DOWN 4 WSB2-80 universal dig. inputs DOWN 4 WSB2-80 LED indicators GREEN1 WSB2-80 LED indicators GREEN1 WSB2-80 LED indicators RED1 WSB2-80 LED indicators RED1 WSB2-80 LED indicators RED1 WSB2-80 LED indicators RED2	SOPHY2	DI	IN 2
SOPHY2 DI IN 4 SOPHY2 DI IN 5 SOPHY2 DI IN 6 SOPHY2 Light Intenzity Sensor TERM SOPHY2 Light Intenzity Sensor TERM SOPHY2 Infra Reader IN 1 LM2-11B binar inputs OUT1 WS82-80 universal dig. inputs UP1 WS82-80 universal dig. inputs UP2 WS82-80 universal dig. inputs UP2 WS82-80 universal dig. inputs UP3 WS82-80 universal dig. inputs DOWN 2 WS82-80 universal dig. inputs DOWN 3 WS82-80 universal dig. inputs DOWN 3 WS82-80 universal dig. inputs DOWN 4 WS82-80 LED indicators GREEN1 WS82-80 LED indicators GREEN1 WS82-80 LED indicators RED1 WS82-80 LED indicators RED2	SOPHY2	DI	IN 3
SOPHY2 DI IN 5 SOPHY2 DI IN 6 SOPHY2 DI IN 6 SOPHY2 DI IN 6 SOPHY2 Light Intenzity Sensor TERM SOPHY2 Infra Reader IN 1 LM2-11B binar inputs IN 1 MSE2-60 universal dig. inputs UP1 WSE2-80 universal dig. inputs DOWN 1 WSE2-80 universal dig. inputs UP2 WSE2-80 universal dig. inputs UP3 WSE2-80 universal dig. inputs UP4 WSE2-80 universal dig. inputs UP4 WSE2-80 universal dig. inputs DOWN 3 WSE2-80 universal dig. inputs DP4 WSE2-80 LED indicators GREEN1 WSE2-80 LED indicators RED1 WSE2-80 LED indicators RED2	SOPHY2	DI	IN 4
SOPHY2 DI IN 6 SOPHY2 Light Intenzity Sensor TERM SOPHY2 Liffs Reader Intenzity Sensor TERM LM2-11B binar inputs IN 1 Intenzity Sensor TERM LM2-11B binar inputs UN 1 UN Sensor Sensor VSB2-80 universal dig. inputs DOWN 1 SSE2-80 UNEYSE3 dig. inputs DOWN 2 WSB2-80 universal dig. inputs DOWN 2 WSE2-80 UNYSE3 dig. inputs DOWN 3 WSB2-80 universal dig. inputs DOWN 3 UP3 WSE2-80 universal dig. inputs DOWN 4 WSB2-80 universal dig. inputs DOWN 4 WSE2-80 LED indicators GREEN1 WSB2-80 LED indicators GREEN1 WSE2-80 LED indicators RED1 WSB2-80 LED indicators RED1 WSB2-80 LED indicators RED1 WSB2-80 LED indicators RED1 WSB2-80 LED indicators RED1	SOPHY2	DI	IN 5
SOPHY2 Light Intenzity Sensor TERM SOPHY2 Infra Reader I LM2-11B binar inputs IN 1 LM2-11B triak outputs OUT1 WSB2-80 universal dig. inputs UP1 WSB2-80 universal dig. inputs UP2 WSB2-80 universal dig. inputs UP2 WSB2-80 universal dig. inputs UP3 WSB2-80 universal dig. inputs DOWN 2 WSB2-80 universal dig. inputs DOWN 3 WSB2-80 universal dig. inputs DOWN 4 WSB2-80 universal dig. inputs DOWN 4 WSB2-80 universal dig. inputs DOWN 4 WSB2-80 LED indicators GREEN1 WSB2-80 LED indicators RED1 WSB2-80 LED indicators RED2	SOPHY2	DI	IN 6
SOPHY2 Infra Reader LM2-11B binar inputs IN 1 LM2-11B triak outputs OUT1 WS82-80 universal dig. inputs UP1 WS82-80 universal dig. inputs DOWN 1 WS82-80 universal dig. inputs UP2 WS82-80 universal dig. inputs UP3 WS82-80 universal dig. inputs UP3 WS82-80 universal dig. inputs UP4 WS82-80 universal dig. inputs DOWN 3 WS82-80 universal dig. inputs DV4 WS82-80 universal dig. inputs DV4 WS82-80 LED indicators GREEN1 WS82-80 LED indicators RED1 WS82-80 LED indicators RED2	SOPHY2	Light Intenzity Sensor	TERM
LM2-11B binar inputs IN 1 LM2-11B triak outputs OUT1 WSB2-80 universal dig. inputs DWN 1 WSB2-80 universal dig. inputs DOWN 1 WSB2-80 universal dig. inputs DOWN 2 WSB2-80 universal dig. inputs DOWN 2 WSB2-80 universal dig. inputs DOWN 2 WSB2-80 universal dig. inputs UP3 WSB2-80 universal dig. inputs DOWN 3 WSB2-80 universal dig. inputs DP4 WSB2-80 universal dig. inputs DP4 WSB2-80 LED indicators GREEN1 WSB2-80 LED indicators RED1 WSB2-80 LED indicators RED2	SOPHY2	Infra Reader	
LM2-11B triak outputs OUT1 WSB2-80 universal dig. inputs UP1 WSB2-80 universal dig. inputs DOWN 1 WSB2-80 universal dig. inputs DOWN 2 WSB2-80 universal dig. inputs UP2 WSB2-80 universal dig. inputs DOWN 2 WSB2-80 universal dig. inputs DOWN 3 WSB2-80 universal dig. inputs DOWN 4 WSB2-80 universal dig. inputs DOWN 4 WSB2-80 universal dig. inputs DOWN 4 WSB2-80 LED Indicators GREEN1 WSB2-80 LED Indicators RED1	LM2-11B	binar inputs	IN 1
WSB2-80 universal dig. inputs UP1 WSB2-80 universal dig. inputs DOWN 1 WSB2-80 universal dig. inputs UP2 WSB2-80 universal dig. inputs DOWN 2 WSB2-80 universal dig. inputs DOWN 2 WSB2-80 universal dig. inputs UP3 WSB2-80 universal dig. inputs UP4 WSB2-80 universal dig. inputs DOWN 4 WSB2-80 universal dig. inputs DOWN 4 WSB2-80 LED indicators GREEN1 WSB2-80 LED indicators RED1 WSB2-80 LED indicators RED1 WSB2-80 LED indicators REEN2 WSB2-80 LED indicators REEN2	LM2-11B	triak outputs	OUT1
WSB2-80 universal dig. inputs DOWN 1 WSB2-80 universal dig. inputs UP2 WSB2-80 universal dig. inputs DOWN 2 WSB2-80 universal dig. inputs UP3 WSB2-80 universal dig. inputs DOWN 3 WSB2-80 universal dig. inputs DP4 WSB2-80 universal dig. inputs DP4 WSB2-80 universal dig. inputs DOWN 4 WSB2-80 LED indicators GREEN1 WSB2-80 LED indicators RED1 WSB2-80 LED indicators RED1 WSB2-80 LED indicators RED2	WSB2-80	universal dig. inputs	UP1
WSB2-80 universal dig. inputs UP2 WSB2-80 universal dig. inputs DOWN 2 WSB2-80 universal dig. inputs DVM 2 WSB2-80 universal dig. inputs DOWN 3 WSB2-80 universal dig. inputs DOWN 4 WSB2-80 universal dig. inputs DP4 WSB2-80 universal dig. inputs DOWN 4 WSB2-80 LED Indicators GREEN1 WSB2-80 LED Indicators RED1	WSB2-80	universal dig. inputs	DOWN 1
WSB2-80 universal dig. inputs DOWN 2 WSB2-80 universal dig. inputs UP3 WSB2-80 universal dig. inputs DOWN 3 WSB2-80 universal dig. inputs UP4 WSB2-80 universal dig. inputs DOWN 4 WSB2-80 LED indicators GREEN1 WSB2-80 LED indicators RED1 WSB2-80 LED indicators RED1 WSB2-80 LED indicators RED2	WSB2-80	universal dig. inputs	UP2
WSB2-80 universal dig. inputs UP3 WSB2-80 universal dig. inputs DOWN 3 WSB2-80 universal dig. inputs UP4 WSB2-80 universal dig. inputs DOWN 4 WSB2-80 LED indicators GREEN1 WSB2-80 LED indicators RED1 WSB2-80 LED indicators RED1 WSB2-80 LED indicators RED2	WSB2-80	universal dig. inputs	DOWN 2
WSB2-80 universal dig. inputs DOWN 3 WSB2-80 universal dig. inputs UP4 WSB2-80 universal dig. inputs DOWN 4 WSB2-80 LED indicators GREEN1 WSB2-80 LED indicators RED1 WSB2-80 LED indicators RED1 WSB2-80 LED indicators RED1 WSB2-80 LED indicators RED2	WSB2-80	universal dig. inputs	UP3
WSE2-80 universal dig. inputs UP4 WSE2-80 universal dig. inputs DOWN 4 WSE2-80 LED indicators GREEN1 WSE2-80 LED indicators RED1 WSE2-80 LED indicators GREEN2 WSE2-80 LED indicators REEN2 WSE2-80 LED indicators RED2	WSB2-80	universal dig. inputs	DOWN 3
WSE2-80 universal dig. inputs DOWN 4 WSE2-80 LED indicators GREEN1 WSE2-80 LED indicators RED1 WSE2-80 LED indicators GREEN2 WSE2-80 LED indicators GREEN2 WSE2-80 LED indicators RED2	WSB2-80	universal dig. inputs	UP4
W582-80 LED indicators GREEN1 W582-80 LED indicators RED1 W582-80 LED indicators GREEN2 W582-80 LED indicators RED2	WSB2-80	universal dig. inputs	DOWN 4
WS82-80 LED indicators RED1 WS82-80 LED indicators GREEN2 WS82-80 LED indicators RED2	WSB2-80	LED indicators	GREEN1
WSB2-80 LED indicators GREEN2 WSB2-80 LED indicators RED2	WSB2-80	LED indicators	RED1
WSB2-80 LED indicators RED2	WSB2-80	LED indicators	GREEN2
	WSB2-80	LED indicators	RED2
WSB2-80 LED indicators GREEN3	WSB2-80	LED indicators	GREEN3
WSB2-80 LED indicators RED3	W5B2-80	LED indicators	RED3

Picture 154

Picture 155

Setup and reading archive state of	input or outputs		
Archive setup Downloaded data			
: ??> ??			
Date and time	Caption	Value	
		Clear archive	Download archived data
		🗸 OK 🛛 🗶 Canc	el 🛛 🖓 Help

Setup and reading archive stat	e of input or outputs		
Archive setup Downloaded data			
: ((> ()			
Date and time	Caption	Value	
6.02.2008 12:49:04.789	teplomer_obyvaci_pokoj	20.760000	
6.02.2008 12:49:04.789	teplomer_zadveri	16.799999	
6.02.2008 12:49:04.789	teplomer_koupelna	20.750000	
6.02.2008 12:49:04.789	teplomer_terasa	17.040001	
6.02.2008 12:49:04.789	teplomer_tzb	10.420000	
6.02.2008 12:49:04.789	teplomer_loznice	20.180000	
6.02.2008 12:49:04.789	teplomer_detsky_pokoj	19.980000	
6.02.2008 12:49:04.789	teplomer_satna	19.910000	
6.02.2008 13:49:04.769	teplomer_schodiste	20.510000	
6.02.2008 13:49:04.769	teplomer_jidelna	20.309999	
6.02.2008 13:49:04.769	teplomer_obyvaci_pokoj	20.740000	
6.02.2008 13:49:04.769	teplomer_zadveri	16.799999	
6.02.2008 13:49:04.769	teplomer_koupelna	20.670000	
6.02.2008 13:49:04.769	teplomer_terasa	17.049999	
6.02.2008 13:49:04.769	teplomer_tzb	10.560000	
6.02.2008 13:49:04.769	teplomer_loznice	20.139999	
6.02.2008 13:49:04.769	teplomer_detsky_pokoj	19.930000	
6.02.2008 13:49:04.769	teplomer_satna	19.820000	
6.02.2008 14:49:04.769	teplomer_schodiste	20.459999	
6.02.2008 14:49:04.769	teplomer_jidelna	20.170000	
6.02.2008 14:49:04.769	teplomer_obyvaci_pokoj	20.639999	
6.02.2008 14:49:04.769	teplomer_zadveri	17.150000	
6.02.2008 14:49:04.769	teplomer_koupelna	20.629999	
6.02.2008 14:49:04.769	teplomer_terasa	17.150000	
6.02.2008 14:49:04.769	teplomer_tzb	10.360000	
6.02.2008 14:49:04.769	teplomer_loznice	19.959999	
6.02.2008 14:49:04.769	teplomer_detsky_pokoj	19.750000	
6.02.2008 14:49:04.769	teplomer_satna	19.690001	
		Clear archive Download arch	nived data
		🗸 OK 🛛 🗶 Cancel	

11. Logic conditions (instruction) in IDM software

IDM software disposes logic conditions (instructions) that can be used when programming intelligent electric installation Inels. Logic conditions (instructions) are defined when setting up actions/statements in *"Action/statement manager"*. If you use a logic condition (instruction), there will be *"?"* mark in the column *"Options"* in the window *"Action/statement manager"* (Pict. 157).

Picture 157

P. Action/statement manager				
List of actions	R	AM = 2723 (9.08) REM = 53 (0.18	 FB = 189 (6.30) COD = 107376 (2. 	09)
📄 Akce při sepnutí vstupu (stisknutí) :: WSB2-80 ~ un			,,,,	,
 Akce při sepnutí vstupu (stisknutí) :: WSB2-80 ~ un 	Setup action			
– Akce při sepnutí vstupu (stisknutí) :: WSB2-80 ~ un	Event name			
— Akce při sepnutí vstupu (stisknutí) :: WSB2-80 ~ un	Akce při sepnutí vstupu	ı (stisknuti) :: SOPHY2 ~ DI ~ IN 6		
 Akce při sepnutí vstupu (stisknutí) :: WSB2-80 ~ un 				
– Akce při sepnutí vstupu (stisknutí) :: WSB2-80 ~ un	List of statements			
– Akce při sepnutí vstupu (stisknutí) :: WSB2-80 ~ un	Statement	On output	Options	
Akce při sepnutí vstupu (stisknutí) :: WSB2-80 ~ un	Direct control input (. DAC2-04M ~ OUT4	an a	
– Akce při sepnutí vstupu (stisknutí) :: system ~ IN ~				
— Akce při sepnutí vstupu (stisknutí) :: system ~ IN ~				
– Akce při sepnutí vstupu (stisknutí) :: system ~ IN ~				
– Akce při sepnutí vstupu (stisknutí) :: system ~ IN ~				
- Hodnotou volaná událost :: alarm ON				
- Hodnotou volaná událost :: alarm OFF				
- Hodnotou volaná událost :: Alarm				
Akce pri sepnuti vstupu (stisknuti) :: LM2-11B ~ bin				
- Akce při sepnuti vstupu (stisknuti) :: SOPHY2 ~ DI				
Akce při sepnuti vstupu (stisknuti) :: SOPHY2 ~ DI				
Akce pri sepnuti vstupu (stisknuti) :: SOPHY2 ~ DI /				
Akce pri sepnuti Vstupu (stisknuti) :: SOPHYZ ~ DI 4				
	J			
	MIN=0.0, MAX=100.0,	RON=00:00:10.000, ROFF=00:00	:10.000, BRG=00:00:10.000, AOFF=00	:01:00.000, TOFF=00:00:
	Add statement	Edit statement Delete sta	atement Delete all statements	
<				
	Log this statement			
Add new action Add action copy	Use this event on th	ne web pages		
			🗸 ок	🗶 Cancel

To show an example, we choose "*Edit statement*" option. The window "*Setup the statement for event*" will open, where you can see setup trigger condition. In Picture 149 you can see, that the statement will be performed only if inner variable (bit 1) = 1.

Before we describe logic conditions (instructions), it is important to mention *"Inner system variable, i.e. bit"*. Bit is an inner variable that can take two values in CPU memory:

- logic 0,
- logic 1.

System bits are set up and reset in the window *"Setup the statement for event / User action /System bit setup – system bit reset (Pict. 159)".* In Pict. 160 you can see that the action system bit 1 has value 1. We can say that system bits are widely used for programming applications. However, their using is individual, as well as using logic operations; it means using depends on programmer's creativity.

Picture 158

Setup the statement for event
Select unit and statement
Hardware control
C User action
DAC2 04M - hisk subsubs - OUT4
MIN=0.0, MAX=100.0, RON=00:00:10.000, ROFF=00:00:1
Direct control input (one button control)
Setup parameters of statement
User output value 0.0
Logic operation Equal '='
Value 1.0
Cancel

Picture 159

-Select unit and statement	
Delect drift and statement	
C Hardware control	
• User action	
User actions .	•
User actions	^
System bit setup	
Reset system bit	
Send SMS	
^{De} Dial number, ringing (20s) and hang	
Commands for alarm groups	
Guard alarm group	
Unguard alarm group	
Alarm group restore	
Commands for timers	
Run the timer	
Stop timer	
Reset timer	
Commands for counters	
Increment counter	
Decrement counter	
Reset counter	
Counter value setup	
Commands for lighting groups	
Up one step the group	E
Down one step the group	
Up the group smoothly (with run up ramp)	

D. Action/statement manager		
Bit Action/statement manager List of actions — Akce pri sepnuti vstupu (stisknuti) :: WSB2-80 ~ un — Akce pri sepnuti vstupu (stisknuti) :: WSB2-80 ~ un — Akce pri sepnuti vstupu (stisknuti) :: WSB2-80 ~ un — Akce pri sepnuti vstupu (stisknuti) :: WSB2-80 ~ un — Akce pri sepnuti vstupu (stisknuti) :: WSB2-80 ~ un — Akce pri sepnuti vstupu (stisknuti) :: WSB2-80 ~ un — Akce pri sepnuti vstupu (stisknuti) :: WSB2-80 ~ un — Akce pri sepnuti vstupu (stisknuti) :: WSB2-80 ~ un — Akce pri sepnuti vstupu (stisknuti) :: WSB2-80 ~ un — Akce pri sepnuti vstupu (stisknuti) :: WSB2-80 ~ un — Akce pri sepnuti vstupu (stisknuti) :: WSB2-80 ~ un — Akce pri sepnuti vstupu (stisknuti) :: WSB2-80 ~ un — Akce pri sepnuti vstupu (stisknuti) :: System ~ IN ~ — Akce pri sepnuti vstupu (stisknuti) :: System ~ IN ~ — Akce pri sepnuti vstupu (stisknuti) :: system ~ IN ~ — Hodnotou volaná událost :: alarm ON — Hodnotou volaná událost :: alarm OFF — Hodnotou volaná událost :: slarm ON — Akce pri sepnuti vstupu (stisknuti) :: SOPHY2 ~ DI - — Akce pri sepnuti vstupu (stisknuti) :: SOPHY2 ~ DI - — Akce pri sepnuti vstupu (stisknuti) :: SOPHY2 ~ DI -	RAM = 2723 (9.08) REM = 53 (0.18) FB = 189 (6.30) COD = 107376 (2.09) Setup action Event name Akce pri sepnuti vstupu (stisknuti) :: SOPHY2 ~ DI ~ IN 6 List of statements Statement Statement On output Options System bit setup system ~ Bit1	×
Add new action Add action copy	MIN=0.0, MAX=100.0, RON=00:00:10.000, ROFF=00:00:10.000, BRG=00:00:10.000, AOFF=00:01:00.000, Add statement Edit statement Delete statement Delete all statements C Log this statement Use this event on the web pages VOK	TOFF=00:00:

As a result of comparing values, you can create trigger conditions using logic functions:

- is equal =,
- is not equal < >,
- is greater >,
- is greater or equal ≥,
- is smaller than <,
- is smaller or equal \leq ,
- AND (logic product) after checking two bytes and their bits the following operations will be performed:
 - If 1st bit is 0 and 2nd bit is 0, result is 0,
 - If 1st bit is 0 and 2nd bit is 1, result is 0,
 - If 1st bit is 1 and 2nd bit is 0, result is 0,
 - If 1st bit is 1 and 2nd bit is 1, result is 1.

It is clearer in the following chart:

1 st bit	2 nd	Result
	bit	
0	0	0
0	1	0
1	0	0
1	1	1

- OR (logic sum) after checking two bytes and their bits the following operations will be performed:
 - If 1st bit is 0 and 2nd bit is 0, result is 0,
 - If 1st bit is 0 and 2nd bit is 1, result is 1,
 - If 1st bit is 1 and 2nd bit is 0, result is 1,

• If 1st bit is 1 and 2nd bit is 1, result is 1.

Again see the chart:

1 st bit	2 nd bit	Result
0	0	0
0	1	1
1	0	1
1	1	1

We must also describe values (status) that i/o, counters, and timers can reach and that you can use for definition of logic conditions (instructions).

The values are:

- Digital input off = logic 0 / on = logic 1,
- Digital output off = logic 0 / on = logic 1,
- Temperature number (value) in ℃,
- Alarm groups deactive security system ("unlocked ") = logic 0 / active ("locked ") = logic 1
- Counter value,
- Timer number (value) in msec.

As we have already stated, logic condition (instruction) is defined directly by the statement on action in the window *"Setup the statement for event" (Pict. 161).*

Picture 161

Setup the statement for event
Select unit and statement
Hardware control
C User action
SA2-04M/Sn ~ universal rele outputs ~ RE1 *
Delayed pulse
Setup parameters of statement Set pulse width [hh:mm:ss] 00:10:00.000
Delay time 00:01:00.000
Use trigger condition
SA2-02M/Sn ~ universal rele outputs ~ RE1 *
Logic operation Equal '='
V OK X Cancel

If you want to use logic condition (instruction), tick the box "Use trigger condition". Next, click the icon " * " and open the window "Select of control / controlled device" (Picture 162), where you can select a required i/o, counter, timer, or alarm group to meet trigger condition. "System" items of inner system variables (bits), counters, timers, alarm groups and digital inputs for CPU. Other i/o (Pict. 163) are displayed with description from "Select of control/controlled device" and from the window "System configuration".

Picture 162

Select of control/cont	rolled device		×
Select units	50PHY2,LI	M2-11B,WSB2-80,SA2-04M/Sn,S	A2 🔻
Filter by text value			_
Unit	Device	I/O name in device	<u> </u>
system	user bits	Bit1	
system	user bits	Bit2	
system	user bits	Bit3	
system	user bits	Bit4	
system	user bits	Bit5	
system	user bits	Bit6	
system	user bits	Bit7	
system	user bits	Bit8	
system	user bits	Bit9	
system	user bits	Bit10	
system	user bits	Bit11	
system	user bits	Bit12	
system	user bits	Bit13	
system	user bits	Bit14	
system	user bits	Bit15	
system	user bits	Bit16	
system	user bits	Bit17	
system	user bits	Bit18	
system	user bits	Bit19	
system	user bits	Bit20	
system	user bits	Bit21	
system	user bits	Bit22	
system	user bits	Bit23	
system	user bits	Bit24	~
T Display also unused device			
🚫 Clear		🖌 OK 🛛 🗙 Can	cel

Select units	SOPHY2,LM2-11B	,WSB2-80,SA2-04M/Sn,SA	2 🗸
Filter by text value			
Unit	Device	I/O name in device	^
WSB2-80	universal dig. inputs	DOWN 3	
WSB2-80	universal dig. inputs	UP4	
WSB2-80	universal dig. inputs	DOWN 4	
WSB2-80	LED indicators	GREEN1	
WSB2-80	LED indicators	RED1	
WSB2-80	LED indicators	GREEN2	
WSB2-80	LED indicators	RED2	
WSB2-80	LED indicators	GREEN3	
WSB2-80	LED indicators	RED3	
WSB2-80	LED indicators	GREEN4	
WSB2-80	LED indicators	RED4	
WSB2-80	thermo sensor	TERM	
SA2-04M/Sn	universal rele outputs	RE1	
SA2-04M/Sn	universal rele outputs	RE2	
SA2-04M/Sn	universal rele outputs	RE3	
SA2-04M/Sn	universal rele outputs	RE4	
SA2-02B/Sn	universal rele outputs	RE1	
SA2-02B/Sn	universal rele outputs	RE2	
DAC2-04M	triak outputs	OUT1	
DAC2-04M	triak outputs	OUT2	
DAC2-04M	triak outputs	OUT3	
DAC2-04M	triak outputs	OUT4	
SA2-02M/Sn	universal rele outputs	RE1	
SA2-02M/Sn	universal rele outputs	RE2	~
Display also unused	device		
🚫 Clear	🗸 ок	🔰 🗙 Canc	el

You can use the other logic conditions (instructions) to define counters and timers, whereas the setting is done *"System configuration, the sheet System"*. Detailed description has been described.
12. Error diagnostics and their remedy

Diagnostics system CPU is a part of standard SW and HW equipment, which aim is to provide error-free and exactly defined CPU function in any situation. In case of CPU, first of all must diagnostics system avoid emergency state in a technology connected to CPU. Another task of diagnostics system is to facilitate service personnel, or to user to fix caused failures. Diagnostics system is in operation from connecting CPU to supply and its operation is independent on user. Generally we can say that the diagnostics system monitors permanently important parts and functions of CPU and in the moment of failure it provides its treatment and informs on the failure. Thus safety controlling is provided and also a possibility of a prompt correction in case of CPU failure. Another function of diagnostics system is to warn a user about incidental defective handling or procedures when servicing CPU, which makes CPU using easier and more effective.

For a correct diagnostics it is necessary to know CPU utility program principle, which is as follows. Control algorithm of CPU is written as a sequence of instructions in application program. CPU gradually reads instructions from the memory, performs appropriate operation with data in scratch pad memory and receiver, eventually it carries out changeovers in the instruction sequence. When all instructions of required algorithm have been done, CPU updates output variables for output peripheral modules and updates status from input peripheral modules to scratch pad memory. The process repeats and is called cycle of the program (Pict. 164). One-shot input variables status update during all program cycle eliminates a possibility of hazardous states occurance when an algorithm is being solved (input variables cannot be changed during calculation).



Picture 164

Cycle of application program solution:

- reading X rewriting values of input modules CPU to X sector in scratch pad memory
- record Y rewriting values calculated by the program to Y sector to output modules CPU
- mode preparing of CPU unit to solve another program cycle

12.1 Conditions for correct function of CPU diagnostics

The basic condition for error-free function of CPU and correct diagnostics performance is the correct function of CPU supply and its peripheral units.

12.2. Error indication

CPU disposes an error receiver containing last 8 errors announced by diagnostics of the whole CPU. The errors in the receiver are 4 bytes long. A content of the error container can be read by Mosaic development environment. The last serious error that caused interruption of CPU performance is displayed on the central unit display in the following form:

E-80-09-0000

E - followed by en error code in hexadecimal form (digits 0 - F). 0-09-0000 – error code. Errors beginning with figure 9 display central unit failure code longer by two digits.

E-95-00-014212

Errors in the receiver usually concern CPU programming and peripheral modules status. For a fast orientation, numbers of errors and their description can be found straight in IDM, clicking on the icon **RUN**, the item *"Error list"* (Pict. 156). If you select the option, the errors list in *"*PDF"* format will open.



Error dividing according to relevancy:

Failures appearing in CPU can be divided according to their relevancy to two groups:

- *Major errors disabling error-free performance* LED diodes ERR and RUN is on, CPU converts to HALT mode and blocks all outputs, the last error is on the display.
- Other errors not influencing controlling LED diode ERR is not on, LED diode RUN is flashing, CPU stays in RUN mode, error mode is written to register S48 to S51 and it is available for the application program to be worked out. It is possible to use also interrupting P43 opened when such an error appears.

12.3. Major errors

In case of major errors, first the diagnostics system blocks outputs, interrupts performance of the user's program and identifies the failure. Information on the error is either on the display (last error) or it can be read from the error receiver superior to the system (PC). The error indication can be cancelled by a command from the superior system or when you turn on and off CPU supply.

12.4. Survey of errors saved to the main error receiver of the central unit

```
<u>Used abbreviations:</u>
cc – communication channel number
kk – error code
pc – address of an instruction where the error is (program counter)
pp – position in frame
r – frame number
t t – chart T number
Number codes are in hexadecimal form.
System errors:
```

- 02 cc 1200 address error
- 02 cc 15hh byte failure hh
- 02 cc 16ss wrong parameters of communication service ss
- 02 cc 1809 security error
- 07 00 0000 error during remanet zone inspection
- 08 00 0000 first limit of monitored cycle exceeded

User's program errors:

- 10 00 0000 dividing by zero
- 13 00 0000 chart instruction over the pad exceeded its range
- 14 00 0000 source block defined out of range
- 15 00 0000 target block defined out of range
- 20 00 pcpc user's program failure detected during maintained inspection

Errors at on-line change:

- 70 05 0000 defective map length of new user program
- 70 06 0000 false security sign (CRC) of new user program in RAM
- 70 07 0000 false security sign (CRC) of the whole new program in RAM
- 70 09 0000 program is translated for a different line of CU
- 70 0B 0000 EEPROM programming failed
- 70 24 0000 list of on-line changes is missing
- 70 25 0000 list of on-line changes has false CRC
- 70 31 r r pp inicialization chart is missing
- 70 43 r r pp false frame address, higher than maximum
- 70 64 r r pp false sw of peripheral module
- 73 cc 3701 false length of initialization chart of series channel
- 73 cc 3702 auxiliary chart does not exist
- 73 cc 3801 false speed in series channel initialization chart
- 73 cc 3802 false staion address
- 73 cc 3803 false number of net participants or date blocks
- 73 cc 3804 number of net participants exceeds number of lines
- 73 cc 4204 series channel is not in required mode
- 73 cc 4206 maximum volume of transferred data exceeded within net or within a participant
- 73 cc 4207 series channel impossible to assign permanently occupied by another module
- 73 cc 4208 forbidden mode of communication channel

Errors in user's program saving:

- 80 01 0000 false map length of user's program in EEPROM
- 80 02 0000 false security sign (CRC) of user program map in EEPROM
- 80 03 0000 false security sign (CRC) of the whole program in EEPROM
- 80 04 0000 no user program in EEPROM
- 80 05 0000 false map length of user program in RAM
- 80 06 0000 false security sign (CRC) of user's program map in RAM
- 80 07 0000 false security sign (CRC) of the whole program in RAM
- 80 08 0000 editation interference to user program while EEPROM connected

- 80 09 0000 program translated for different line of central units
- 80 0A 0000 attempt to progarm EEPROM in off status
- 80 0B 0000 EEPROM programming failed

CPU HW errors:

- 80 0C 0000 rela time RTC circuit failure
- 80 1B t t t t false configuration of T chart
- 80 44 0001 false identification record reading failed
- 80 44 0002 false identification no record
- 80 44 0003 false identification false record lenght
- 80 44 0004 false identification false record data
- Communication channels service errors:
- 83 cc 3701 false length of series channel initialization chart
- 83 cc 3702 no auxiliary chart
- 83 cc 3801 false speed in initialization chart of series channel
- 83 cc 3802 false station address
- 83 cc 3803 false number of net participants or date blocks
- 83 cc 3804 number of net participants exceeds number of lines
- 83 cc 3810 forbidden local port number
- 83 cc 3811 unknown Ethernet interference report
- 83 cc 4204 series channel in not in required mode
- 83 cc 4206 maximum volume of transferred data exceeded within net or within a participant
- 83 cc 4207 series channel impossible to assign
- 83 cc 4208 forbidden mode of communication channel

Programming errors:

- 90 00 pcpcpc overflow of release addresses receiver
- 90 40 pcpcpc underflow of release addresses receiver
- 90 80 pcpcpc nonzero release addresses receiver after process end
- 91 00 pcpcpc label is not declared
- 91 40 pcpcpc label number greater than maximum value
- 91 80 pcpcpc T chart is not declared
- 91 C0 pcpcpc unknown instruction code
- 92 00 pcpcpc space of field or chain exceeded
- 92 40 pcpcpc space of pad exceed during indirect addressing
- 92 80 pcpcpc BP instruction nesting failure
- 92 C0 pcpcpc BP service process is not programmed
- 93 00 pcpcpc user program failure detected during maintained inspection
- 93 40 pcpcpc DP impossible to set up pad space exceeded
- 93 80 pcpcpc SP impossible to set up system stack space exceeded
- 93 C0 pcpcpc FP impossible to set up system stack space exceeded
- 94 80 pcpcpc unsupported function block
- 95 00 pcpcpc maximum cycle time exceeded
- 95 40 pcpcpc maximum time of interruption process exceeded

Errors in peripheral system:

Ar pp 1200 address error

Ar pp 15hh hh service byte failure

Ar pp 16ss false ss communication service parameters

Ar pp 1705 receive zone overflow

Ar pp 1809 security failure

Ar pp 3100 initialization not performed

Ar pp 3101 missing initialization chart

Ar pp 3401 maximum variable size exceeded

Ar pp 3402 false address in pad

Ar pp 3700 false length of initialization chart in module

Ar pp 3701 false length of declared initialization chart in module

Ar pp 3805 false number of communication channel

Ar pp 3806 false mode of communication channel

Ar pp 3807 false activated variable combination

Ar pp 3808 false activated variable length

Ar pp 3809 unsupported type of analogue channel

Ar pp 3813 unsupported type of data conversion

Ar pp 4301 no existing module

Ar pp 4302 type of module is not correct - initialization intended for another type

Ar pp 4303 false frame address, higher than maximum acceptable

Ar pp 4304 module with unknown service

Ar pp 4401 module identification reading failure - record reading impossible

Ar pp 4402 module identification reading failure - no record

Ar pp 4403 module identification reading failure – false record length

Ar pp 4404 module identification reading failure - false record

Ar pp 4502 HW module configuration failure – no data for configuration

Ar pp 4503 HW module configuration failure – no data for configuration

Ar pp 4504 HW module configuration failure - false configuration data

Ar pp 50ss module is not responding to communication service ss

Ar pp 5103 initialization unfinished

Ar pp 52ss bus is not responding to communication service ss

Ar pp 53ss bus is busy after communication service ss

Ar pp 54ss module response to communication service contains false data

Ar pp 5501 unknown mode of data exchange

Ar pp 6000 communication with central unit interrupted

Ar pp 6001 peripheral module is not receiving data

Ar pp 6201 HALT mode data transfer impossible

Ar pp 6202 bus service is not available

Ar pp 6203 bus service is not available - HW module failure

Ar pp 6204 unknown service of the bus

Ar pp 6401 false SW of peripheral module

Ar pp 7005 low supply voltage of peripheral module

Ar pp kkkk further errors reported by peripheral module are described in the module documentation.

FF kk kkkk system failure of central unit (kk – any number assigning type of error).

12.5. Trigger parameters for service interference

IDM software can be started by special trigger parameters that enable service actions to the administrator of the application and display special system information. The trigger parameters are the following:

- ENABLEFLASHCU
- debug

To activate special functions it is necessary to define the parameters in the stand-in for IDM triggering (Pict.s 166).

Inels Designer	£ Manager - vlastnosti 🛛 🔹 🛛 💽
Obecné Zástup	oce Kompatibilita Zabezpečení
ion Ind	els Designer & Manager
Typ cíle:	Aplikace
Umístění cíle:	IDM
<u>C</u> íl:	Files\IDM\idm.exe'' /debug /ENABLEFLASHCU
<u>S</u> pustit v: Klávesová zk <u>r</u> atka:	není
Spus <u>t</u> it:	V normálním okně 💌
<u>K</u> omentář: <u>N</u> aj	(t cíl
	OK Storno P <u>o</u> užít

Picture 166

 ENABLEFLASHCU. If you trigger IDM by the parameter, you have an access to upload firmware to CPU¹⁸ (firmware CPU is practical operation system) and also access to upload firmware to internal and external masters of CIB bus and access to upload firmware to peripheral units. The parameter is shown by activation of buttons designated to upload firmware. The buttons are in the window "Connect setup"– Update firmware in CPU, Pict. 167", and also in the window "Unit/device manager – Flash firmware to CIB - unit / master", Pict. 168.

¹⁸ Upload fw to CPU cannot be performed through distant access.

Connection type	IP address 192.168.1.1	_
C Not connect	☐ IP Port 5000	
 Connect to CPU 	Connection test	
C Connect to SoftPLC	Update firmware in CPU	
	Connect type	
	Administrator	
	C Configurator	
	C User	
	Password *****	
Angličtina (Spojené státy)	Save password	



	• L	1A0 [Flash firmware to CIB mast
IB1	CIB2						
)	HW ad	ID	Unit/device type	Status	Name of Unit/device/	~	Setup
1 :	5008	1	SA2-02M/Ni	OK	sa02m_rs		Select unit/device
2 :	00CD	1	IM2-140M	OK	im140m_rs		
3 :	0089	1	SA2-01B/Ni	OK	sa01b_zadveri		Device name
4 :	008E	1	SA2-01B/Ni	OK	sa01b_obyvaci_pokoj		sa02m_rs
5 :	00A0	1	SA2-01B/Ni	OK	sa01b_schodiste		
6 :	003B	1	WSB2-40	OK	wsb40_zadveri		Unit HW address 5008
7 :	0047	1	WSB2-20	OK	wsb20_zadveri		
8 :	0046	1	WSB2-20	OK	wsb20_obyvaci_pokoj		
9 :	003A	1	WSB2-40	OK	wsb40_jidelna		
10	003E	1	WSB2-40	OK	wsb40_jidelna_kuchyn		Use device
11	008F	1	SA2-01B/Ni	OK	sa01b_jidelna		
12	003C	1	WSB2-40	OK	wsb40_kuchyn_linka		
13	0039	1	WSB2-40	OK	wsb40_obyvaci_pokoj		
14	003D	1	WSB2-40	OK	wsb40_schodiste		
15	0043	1	WSB2-20	OK	wsb20_koupelna		
16	00A1	1	SA2-01B/Ni	OK	sa01b_terasa_dvere		
17	0037	1	WSB2-40	OK	wsb40_terasa		
18	00A2	1	SA2-01B/Ni	OK	sa01b_terasa		
19	00A5	1	SA2-01B/Ni	OK	sa01b kotel	<u> </u>	
						>	Elash firmware to CIB unit
Show un	iits, devices						
Show un	its, devices, i	i/o					Exchange Units
Add unit Delete unit				Delete	all		Read configuration from contro

2. Debug. If you trigger IDM by the parameter, system information is displayed in two IDM windows. The first is the window "System setup and information", Pict. 169. In the left part of the window you can see (instead of CPU picture) system CPU information (firmware version, hardware version, production code), CH1 (CHx) mode of series communication channel, RS-232 is information on mounted piggyback, connection to Ethernet, active memory (EEPROM on) for the user program backup and DATABOX memory capacity (memory for legged events). Next, you can see information on internal master and external masters, if they are connected (firmware and hardware version, production code). Then there is information on all units connected with the system via CIB (again, you can see type, firmware and hardware version,

production code), Pict. 170.

19

System setup and information				×
RM0, ADR0: CU2-01M 29H0300 00000062 CH1 : UNI A- 0 S-9_6 TR- 5 TT-40 RTS-me interface RS-232 CH2 : off no interface BTH1 : IP = 192.168.001.001 IM = 205.255.	Time Date Time of run	07:35:41 17.7.2008 čtvrtek 16.7.2008 15:43:25	Shortest prog. cycle Longest prog. cycle Last prog. cycle	10 ms 30 ms 15.0 ms
PC interface Ethernet 10/100Mb MAC: C EEPROM off DATABOX S12KB Switch CU201M v2.0 CU201M v2.9 Boot CU2C EMO. ADR2: M12-01M CIE1 09H0100 00000063	Set date Set time	 17.2008 ▼ 8:47:53 ÷ 	IP address Subnet Mask	192.168.001.001 255.255.000.000
RM0, ADR3: MI2-01M CIB2 09H0100 00000063	Set da	ate and time	Save IP con	figuration
RMO, ADRO: SA2-04M/Sn 01H0100 13027586 RMO, ADR1: DAC2-04M 01H0100 13026025 RMO, ADR2: SA2-02B/Sn 12H0100 13202116	Admin password User password User password		******** *******	
RM0, ADR3: SA2-02M/Sn 01H0100 13201659 Save new verison of SW Save new verison of SW Save new verison of SW		Sa	ve password	? нер

Picture 169

Picture 170

5	iystem	setup	and information							×
	RMO,	ADR2:	MI2-01M CIB1	09H0100	00000063	^				
	RMO,	ADR3:	MI2-01M CIB2	09H0100	00000063		Time	07:36:56	Shortest prog. cycle	10 ms
						_	Date	17.7.2008 čtvrtek	Longest prog. cycle	30 ms
	RMO,	ADRO:	SA2-04M/Sn	01H0100	13027586		Time of run	16.7.2008 15:43:25	Last prog. cycle	15.0 ms
	RMO,	ADR1:	DAC2-04M	01H0100	13026025					
	RMO,	ADR2:	SA2-02B/Sn	12H0100	13202116		Set date	17.7.2008 💌	IP address	192.168.001.001
	RMO,	ADR3:	SA2-02M/Sn	01H0100	13201659		Set time	8:47:53	Subnet Mask	255.255.000.000
	RMO,	ADR4:	WSB2-80	11H0100	13315024				Default proxy	000.000.000.000
	RMO,	ADR5:	LM2-11B	11H0100	13200828		Set da	ate and time	Save IP cor	figuration
	RMO,	ADR6:	SOPHY2	12H0100	13340224					
							Admin password		***	
	****	*****	******	******	*******				***	
	PROG	:	INELS_CPU_E2_	0			User password			
	VERS:	ION :	1.4				User password		*****	
	COMP:	ILER :	IDM Drofi							1
	<				>			Sa	ave password	
	Sav	/e new v	erison of SW						🗶 Close	Relp

When you move down by the scroll bar, there is information on IDM software and full CPU history, Pict. 163. Also, the trigger parameter displays system information *"Monitor"* window that is activated by the fast selection icon¹⁹ on the bar, Pict. 171.

Picture 171



By clicking the icon you will open the window, Pict. 164, where the items *system monitor* are relevant for the parameter - MA - CIB1, MA - CIB2, MA0 - CIB1, MA0 - CIB2 and MA1 - CIB1, MA1 - CIB2. System monitor displays the following information, Pict. 165. S0 – attributes of arithmetical operation result, S1 - attributes of arithmetical operation result, S2 – attributes of the system status (set by the system program according to its state in the cycle revolution). S2 – a status of service

System	setup and info	mation					X
070 069 068 067 066 065 064	21.02.2008 21.02.2008 21.02.2008 21.02.2008 21.02.2008 21.02.2008 21.02.2008 21.02.2008	9:27:02 power ON 9:27:24 power OFF 9:27:28 power ON 9:27:50 power OF 9:27:50 power OF 9:27:54 power ON 9:28:16 power OFF 9:28:19 power ON	~	Time Date Time of run	07:38:59 17.7.2008 čtvrtek 16.7.2008 15:43:25	Shortest prog. cycle Longest prog. cycle Last prog. cycle	10 ms 30 ms 15.1 ms
063 062 061 060 059	21.02.2008 21.02.2008 21.02.2008 21.02.2008 21.02.2008 21.02.2008	9:28:41 power OFF 9:28:45 power ON 9:29:07 power OFF 9:29:10 power ON 9:29:32 power OFF		Set date Set time	17.7.2008 ▼ 8:47:53 ★	IP address Subnet Mask	192.168.001.001 255.255.000.000
058 057 056 055 054 053	21.02.2008 21.02.2008 21.02.2008 21.02.2008 21.02.2008 21.02.2008 21.02.2008	9:29:45 power ON 9:29:51 power OFF 9:30:09 power ON 9:30:11 power OFF 9:30:29 power OFF 9:30:29 power OFF		Set da	ite and time	Default proxy	000.000.000.000
052 051 050 049 048 047 046	21.02.2008 21.02.2008 21.02.2008 21.02.2008 21.02.2008 21.02.2008 21.02.2008 21.02.2008	9:31:19 power ON 10:25:33 power ON 10:25:34 power OFF 10:25:40 power OF 10:25:40 power OF 13:31:16 power ON 13:31:38 power OFF		Admin password User password User password		***** ****** ****	
045	045 21.02.2008 13:31:42 power 0N Save password Save new verison of SW Save new verison of SW Y Help						

Picture 172



toe Monitor			
Watch bits			•
Watch bits Watch counters Watch timers system monitor MA - CIB 1 MA - CIB 2 MA0 - CIB 1 MA0 - CIB 1 MA0 - CIB 2 MA2 - CIB 1 MA2 - CIB 2 comm. monitor			
bit 9	0	bit 25	0
bit 10	0	bit 26	0
bit 11	0	bit 27	0
bit 12	0	bit 28	0
bit 13	0	bit 29	0
bit 14	0	bit 30	0
bit 15	0	bit 31	0
bit 16	0	bit 32	0

input SP – external trigger plc, S3 – last cycle time in 10 ms (binary figure with 10 ms unit (range 0 - 2,55 s) states time of last cycle of user program), S4 – cycle counter (binary figure which is reset when the system is restarted and is increased by 1 with each revolution, SW22 – time of last cycle in 100 µs (binary figure with 100 µs unit (range 0 - 6,5535 s) states time of last cycle of user program, it is more accurate figure of S3 register),

ton Monitor			×
system monitor			-
%50	0x00	%SW22	154
%S1	0x01	%558	0x00
%52	0x24	%559	0x01
%53	20	PSM1	0.00
%54	173	PSM2	0.00
%5102 MI	0xA2	%SL52	36D4EE2
%5103 MI	0x80		
%5148 MI0	0x00		
%5149 MI0	0x00		
%5150 MI2	0x00		
%5151 MI2	0x00		

S58 – binary inputs to CPU (binary inputs controlled directly from CPU, i.e. 4 binary inputs to CPU), S59 – binary outputs (binary outputs controlled directly by CPU, i.e. one binary output to CPU), PSM1 – input status PSM1, PSM2 – input status PSM2, SL52 – counter of milliseconds units, type udint SL52; enables more accurate time control; individual bits can be used as sources of time units; following your needs you can use any byte or word, Sxxx MIxx – status of external (internal) master of the CIB bus(connected, configurated, and on communication). MA - CIB1 and MA - CIB2 (internal master of the CIB bus) display information on units connected to the CIB bus branches and also following information, Pict. 166. 1st column – communication status, 2nd column – error counter, 3rd column - LA – logic address, FA – physical address (hardware address from the factory), C – type of unit, ID – unique internal number and description. The same information is displayed by MA0 - CIB1, MA0 - CIB2 and MA2 - CIB1, MA2 - CIB2, if these external masters of the CIB bus are used in the system (connected).

Picture 175

om Mo	nitor		\times
MA -	CIB 1		•
0.00	0.50		
0,00	UXED	LA:0x00 FA:0x16DD C:50PHY2 ID:0x00	
0x90	OXEB	LA:0x01 FA:0x16EB C:LM2-11B ID:0x00	
0x90	0×EB	LA:0x02 FA:0x0F17 C:WSB2-80 ID:0x00	
0×90	0×EB	LA:0x03 FA:0x0635 C:SA2-04M/Sn ID:0:	
0x90	0×EB	LA:0x04 FA:0x0882 C:SA2-02B/Sn ID:0>	
0x90	0×EB	LA:0x05 FA:0x079D C:DAC2-04M ID:0x0	
0x90	0×EB	LA:0x06 FA:0x0E00 C:SA2-02M/Sn ID:0:	
0x87	0x00	LA:0x01 FA:0x00CD C:IM2-140M ID:0x0	
0x87	0x00	LA:0x02 FA:0x0089 C:SA2-01B/Ni ID:0>	
0x87	0x00	LA:0x03 FA:0x008E C:SA2-01B/Ni ID:0>	
0x87	0x00	LA:0x04 FA:0x00A0 C:SA2-01B/Ni ID:0:	
0x87	0x00	LA:0x05 FA:0x003B C:WSB2-40 ID:0x00	
0x87	0x00	LA:0x06 FA:0x0047 C:WSB2-20 ID:0x00	
0x87	0×00	LA:0x07 FA:0x0046 C:WSB2-20 ID:0x00	
0x87	0x01	LA:0x08 FA:0x003A C:WSB2-40 ID:0x0	
0x87	0x00	LA:0x09 FA:0x003E C:WSB2-40 ID:0x00	~

13. Export of variables for visualization - SCADA/HMI system Reliance

Reliance is SCADA/HMI system intended for monitoring and control of industrial processes. Data are collected on-line directly from the controlling system, archived to databases and presented to end users as visual windows, charts, and diagrams. Reliance system can be bound with other enterprise information systems (MES, ERP, etc).

It is possible to approach the visualization either from an Intranet, or from the Internet or mobile communication appliances, (e.g. PDA). Everything can be guarded by access rights – entitled users can set up process parameters through the Reliance system and thus control selected technological sectors.

The main advantages are:

- Rapid development of visualization (RAD),
- Intuitive, clear and up-to-date development environment,
- Large library of 3D graphic symbols,
- Basic functions are not programmed, only parameterized,
- Special functions can be programmed in VBScript language,
- Support of application with more languages,
- Easy access from the Internet and mobile appliances,
- The one version of application for all types of modules and any number of counters (servers, operator work stations, etc.),
- Automatic project update from the central disposal site,
- Easy to extent the visualization,
- Wide range of application from a single PC up to applications client-server,
- Support of inserting controlling elements ActiveX to the visualization,
- Support of IP cameras Axis and Vivotek,
- Detailed project diagnostics,
- Direct access to SQL databases,
- Support and using standard SQL, OPC, DDE, SOAP, XML, http, COM/DCOM, Unicode,
- Possibility of enterprise systems integration,
- Postmort process history record in real time,
- Remote administration of the application,
- Full environment no further fees for additional modules,
- Fast technical support of good quality.

13.1. Reliance Design

Reliance Design is a development environment for creating and editing visualization project. <u>Desktop</u> version is designed for one computer; <u>Enterprise</u> version is intended to develop set applications with a possibility of visualization export for web clients and mobile appliances clients.

13.2. Runtime modules Reliance

Runtime module is software for triggering visualization at an end user. Among general features rang:

- Acquiring data from communication drivers (native drivers, OPC and DDE servers),
- Acquiring data from alarms and other runtime modules via net connection,
- Generating and executing alarms,
- Data and alarms archiving,
- Redundancy support,
- Script performance, working out recipes,
- Saving Postmort records,
- Sending e-mails and SMS messages.
- DDE server.

Reliance Control, Reliance View

- Displaying visualization with up-to date date,
- Controlling through visualization²⁰,
- Display and quit (conformation) of up-to-date alarms,
- Display and print of historic alarms,
- Display and print of historic data in a form of diagrams and output reports,
- Running application diagnostics (detects causes of a failure, e.g. in communication),
- Switching between languages while the application is running.

Reliance Server

- Data server for other runtime modules,
- Data server for web clients and mobile appliances clients,
- Run as service (Windows Service),
- Possibility to exchange data with 3rd parties applications via SOAP report,
- Build-in web server contained,
- Generating reports according to clients' requirements.

Reliance Control Server

- Connects all functions of modules Reliance Control and Reliance Server

Reliance Web Client

Reliance Web client is software used to trigger visualization at distant users via the Internet.

- Web client based on Java platform (JRE 6.0 / Swing),
- Independent on an operation system (supporting Windows, Linux, Unix, Mac OS X etc.),
- Independent on a web browser (supporting IE, Mozialla Firefox, Opera, Conqueror etc.),
- Display of visualization with up-to-date data,
- Controlling via SCADA SW,
- Display and quitting (confirmation) of up-to-date alarms,
- Display of historic alarms,
- Display of historic data in a form of diagrams and output reports.

Reliance Mobile Client

Reliance Mobile Client is software for running the visualization on mobile appliances (PDA etc.).

```
<sup>20</sup> only Reliance Control
```

It is intended for operation systems Windows CE and Microsoft .NET Compact Framework 2.0.

Its function is the same as Reliance Web Client

Reliance Remote Administrator

Reliance Remote Administrator is software for the remote administration of running application.

Communication drivers

Software providing communication with HW appliances (PLC or other appliances for automatization). The following drivers are available, e.g. Teco, AmiT, Modbus, Allen-Bradley, Sauter EY2400, Johnson Controls, Rittmeyer wsr3000, Dio3000, Elgas, OPC.

13.3. Export of variables via Inels designer & manager software

IDM software enables export of variables (inputs/outputs, time programs, inner variables, counters, and timers), through which you can create SCADA SW of Reliance system. We will describe below how to export.

Inputs/outputs export

Input/output export can be done in two ways, whereas each input/output represents one data point²¹. The first way is export from the window *"Unit/device manager" (Pict. 176)*, where you can select input/output that you intend to use for SCADA, or you can change its name²², by the option *"SCADA SW / Export / Name / alias"*.



Picture 176

When you select required inputs/outputs, it is necessary to save the configuration to CPU, which results in creating file with variables export. The files are saved into pre-defined file, defined in the window *"Common settings / SCADA (Pict 177)"*. There are also other options for variables export. If you tick *"Export only marked IO"*, only i/o selected in the window *"Unite/device manager"* on the previous page will be exported. Extended export of binnary inputs represents export of binnary inputs with counter. "Announce change in export files" is an option that monitores apossible shift of variable addresses in

²¹ Total number of data points used to make SCADA in Reliance determines required licence for runtime module.

²² If you do not use the option *Name / alias*, export will be done with description from the Unit/device manager and description of input/output from *"System configuration"* window.

memory register which can appear when memory is configurated. "*Export mapping of user actions*" is an option for exporting user actions, e.g. statements for relay groups, lighting groups, etc.

Picture 177

Common settings		X
- Project setup		
Project	Project name	kufr INELS_II_domecek
Version number	Use full control for used	obiects.
General information		, ,
Vendor Information		
WWW links		
Setup export		
of SCADA		
of Web page		
of Text file		
of OpenOffice sheet		
		OK X Cancel

The files you created have suffixes" **pub or *exp"*. The file with suffix **pub* is used for import to Reliance.

The files have the following structure, see Pict. 178.

Picture 178

볼 Lister - [c:\JSt\Reliance\Styskalikovi.pub]	
Soubor Upravit Možnosti Nápověda	17 <u>%</u>
sa02m_rs_universal_rele_outputs_sirena R B 17301 .0 BOOL PUB_INOUT im140m_rs_universal_dig_inputs_pir_terasa X B 5 .0 BOOL PUB_INOUT im140m_rs_universal_dig_inputs_pir_zadveri X B 5 .1 BOOL PUB_INOUT im140m_rs_universal_dig_inputs_pir_obyvaci_pokoj X B 5 .2 BOOL PUB_INOUT wsb40_loznice_vchod_universal_dig_inputs_svetlo_skrine_komfort_n X B 1028 .0	
wsb40_loznice_vchod_universal_dig_inputs_svetlo_skrine X B 1028 .1 BOOL PUB_INOUT	
wsb40_loznice_vchod_universal_dig_inputs_svetlo_chodba X B 1028 .2 BOOL PUB_INOUT	
wsb40_loznice_vchod_universal_dig_inputs_svetio_postel X B 1028 .3 BOOL PUB_INDUT wsbk0_loznice_usbed_therme_concer_loznice_X_E_1020_PE0L_PUB_INDUT	
wsb49_lochice_vchou_thermo_sensor_lochice x r 1029 kent rob_rhool wsb20_detsky_pokoj_universal_dig_inputs_bodovky_komfort_na_1h X B 1033 .0 BOOL PUR INDUT	
wsb20_detsky_pokoj_universal_dig_inputs_bodovky_intenzita_60_ X B 1033 .1 BOOL PUB INOUT	
wsD20_detsky_pokoj_LED_indicators_okruh_vytapeni_on_off R B 17736 .0 BOOL PUB_INOUT	
wsb20_detsky_pokoj_thermo_sensor_detsky_pokoj X F 1034 REAL PUB_INOUT wsb20_balkon_universal_dig_inputs_UP1 X B 1038 .0 BOOL PUB_INOUT wsb20_balkon_universal_dig_inputs_svetlo_chodba X B 1038 .1 BOOL PUB_INOUT wsb20_balkon_LED_indicators_ezs_uzamceno_odemceno R B 17842 .0 BOOL PUB_INOUT	
sa01b_loznice_universal_rele_outputs_teleso_loznice R B 17888 .0 BOOL PÜB_INOUT sa01b_satna_universal_rele_outputs_teleso_satna R B 17953 .0 BOOL PUB_INOUT sa01b_detsku_nokoi_universal_rele_outputs_teleso_detsku_nokoi R B 18018 .0 BOOL	
PUB_INOUT wsb40 chodba universal dig inputs suello chodba komfort na 16 X B 1030 B BOOL	
vs546_chodba_universal_dig_inputs_Svetts_chodba_kownon c_na_nn x B 1039 .8 book PUB_INOUT ws540_chodba_universal_dig_inputs_DOWN1 X B 1039 .1 BOOL PUB_INOUT ws540_chodba_universal_dig_inputs_svetlo_schodiste_ezs_zap_X B 1039 .2 BOOL	
PUB_INOUT	
PUB_INOUT wsb40 chodba LED indicators okruh vutapeni on off R B 18308 .0 BOOL PUB INOUT	~

The other way to export inputs/outputs can be used when creating project in IDM mode "*Designer*". When entering and defining objects to the project, in the window "*Setup floor object (Pict. 179*)" the sheet "*SCADA* " *is offered.* If you open the sheet, the option "*Make export for SCASA SW / Name / alias (Pict. 180*)" will appear. The rest of procedure is equal to the first way of export (saving configuration to CPU

and making exported files).

Picture 179	
Setup floor object	×
Object type Position and size SCADA	
Object type :	
Bulb	-
DAC2-04M ~ triak outputs ~ OUT1	*
Caption	
e	
C Default size setup	
Cancel	
Picture 180	
Setup floor object	×
SCADA	

Setup floor object
Object type Position and size SCADA
₩ Make export for scada sw
Name / alias
C Default size setup
Cancel

Time schedules export

Export time schedules from the window "*Time/week schedule manager (Pict. 181)*", the option "*Export program setup*". There are three basic options. It is possible to export week schedule for heating/cooling and double status time schedule (Pict. 182):

Export program setting, i.e. time stamp and mode setup (represents 1 data point)²³,

- Export program control, i.e. it is possible to impose modes minimum, depression, normal and comfort including presentation, temporary comfort and switch back to time schedule (represents 7 data points 4 imposed modes minimum, depression, normal, comfort 4 points / presentation 1 data point / temporary comfort 1 data point / switch back to time schedule 1 data point)²⁴,
- Export program status, i.e. program status preview (represents 9 data points 4 modes minimum, depression, normal and comfort / actual required temperature of heating 1 data point / actual cooling temperature 1 data point / in case of imposed mode 1 data point / in case of presentation 1 data point / in case of temporary comfort 1 data point)²⁵.

²³ valid also for double status time schedule

²⁴ in double status time schedule there are altogether 3 data points (swtch off of imposed modes - 1 data point, program ON 1 data point, program OFF 1 data point).

²⁵ In double status time schedule 1 data point (imposed mode on)

Picture 181

ne State standart	Name standart	Temperature (HVAC) schedule	
standart		Mode cotup	
		Time stern	1
		SCADA setun	
	Export program setup	Export program status	
	biscapa ExportSetup	biscapa ExportState TH	
	standart_SETUP	standart_StateTH	-
		IbISCADA ExportState TC	
		standart_StateTC	1
	standart RES	IbISCADA_ExportState_VMode	
		standart_StateVMode	1
	IbISCADA_ExportControl_VM	IbISCADA_ExportState_M	
	standart_VM	standart_StateM	
	IbISCADA_ExportControl_VU	blSCADA_ExportState_U	
	standart_VU	standart_StateU	
	IbISCADA_ExportControl_VN	lblSCADA_ExportState_N	
	standart_VN	standart_StateN	
	IbISCADA_ExportControl_VK	IbISCADA_ExportState_K	
	standart_VK	standart_StateK	
	IbISCADA_ExportControl_PRE	blSCADA_ExportState_PRE	
	standart_PRE	standart_StatePRE	
	lblSCADA_ExportControl_KOM	lblSCADA_ExportState_KOM	
	standart_KOM	standart_StateKOM]
Add schedule			
Delete schedule			

andart	- Name standart	jon-orr schedule
	- •	Events setup
	- +	Time stamp setup
		SCADA setup
	Export program setup	Export program status
	IbISCADA_ExportSetup	IbISCADA_ExportState_TH
	standart_SETUP	standart_StateTH
		IbISCADA_ExportState_TC
	Export program control	standart_StateTC
	standart RES	IbISCADA_ExportState_VMode
	position (_) (ab)	standart_StateVMode
	biscada_exportControl_ON	IbISCADA_ExportState_M
	standart_VM	standart_StateM
	biscada_exportControl_OFF	lblSCADA_ExportState_U
	standart_VU	standart_StateU
	biscada_exportControl_VN	lblSCADA_ExportState_N
	standart_VN	standart_StateN
	lbl5CADA_ExportControl_VK	lbISCADA_ExportState_K
	standart_VK	standart_StateK
	lbl5CADA_ExportControl_PRE	IbISCADA_ExportState_PRE
	standart_PRE	standart_StatePRE
	lbl5CADA_ExportControl_KOM	lblSCADA_ExportState_KOM
	standart_KOM	standart_StateKOM
Add schedule		
5 LL L LL	1	

Time events export

Export time events from the window *"Time events manager (Pict. 183),* the option *SCADA / Name for SCADA.*

Name of event	Name of event	zima			
🔋 zima	Time of activation/spread	1 09:32:37.000 00:10:00.000	5		
	V Event is active				
	No statement or create	new event ->	Þ		
	Type of event				
	C Each day in week				
C Day in month					
	Each day in month	1			
	Year setting				
	✓ Ieden ✓ únor ✓ únor ✓ únor ✓ únor ✓ únor ✓ únor ✓ duben Květen Červene Červene Žaří ✓ říjen ✓ listopad ✓ prosinec SCADA ✓ Export for SCADA				
	Add new	Delete			

Counters and timers export

Export counters and timers from the window "Device + system configuration, System – counters and timers, the option SCADA / Name for SCADA (Pict. 184 and Pict. 185).

Picture 184

alarm OFF	0	Counter name Start action on cou Only start the actio Reset counter Tested value Event on value SCADA SCADA SCADA Name for SCADA Name for SCADA	Alarm unter value: on Greater than or equal '>= ▼ 2 ◆ Hodnotou volaná událost :: Alarm ▼ ★
-----------	---	--	--

vice+system configuration Inputs Outputs Heating/cooling Counters Timors System event	Sophy Alarm Syste	em GSM	
Name Dilkání LED žaluzie závlaha Alarm ON	Timer status 00:00:00.000 00:00:00.000 00:00:00.000 00:00:00.000	Timer Setup Timer name Start action after co Only start action (Tii Stop timer Reset timer Tested value In time call event SCADA SCADA V Export for SCADA Name for SCADA	blikání LED žaluzie unted time mer on fly) Equal '=' 00:00:00.500 No statement or create new event -> *
Add timer	Delete timer		
ð 🖬 🕒 🕅	🖉 🖉 Save to	controller 🛛 🗸 OK	: X Cancel 🛛 💡 Help

Picture 185

Export of events for SCADA

A special option of export for SCADA. It is direct direct export of events from the window "Unit/device manager". The exported events can de "dialed" directly from SCADA software. The action can be exported by the option *"Export for SCADA"*.

|--|

P . Action/statement manager				
List of actions	DAM	10120 (22 77) DEM - 2228 (7 46) ER - 962 (29 77) COD -	110704 (2 00)
PIR_OSVETLENI_AKCE_ALARM svetlo_zadveri/pir_zadveri_naruseni tmr_pir_zadveri_naruseni pir_terasa_naruseni pir_obyvaci_pokoj_naruseni ***F25_AKCE***	Setup action Event name sms_vypadek_230V List of statements	-10150 (55,77) - (EM = 2236 (7.46) FB = 663 (26.77) COD =	(3.00)
alarm 🛐	Statement	On output		Options
- obnova - dactko_aktivace_ezs - dactko_aktivace_ezs - prizemi_aktivace - prizemi_deaktivace - mi_deaktivace - morei_rezim_teri_cas - nocni_rezim_teri_cas - nocni_rezim_zimni_cas - norichozi_sms_obnova_ezs - prichozi_sms_tabrous_ezs - prichozi_sms_tabrous_ezs - norichozi_sms_tabrous_cas - norichozi_sm	Send SMS	Jirka		Wypadek 230V
prichozi_sms_vypnout_ezs	1			
sms_vypadek_230W sms_ohnova_230V sms_aku_nizke_napeti sms_aku_obnova_napeti Add new action	Add statement	Edit statement Delet	e statement Delete all statem	ents
			🗸 ок	Cancel
		🗸 ок	Cancel	