## Краткая инструкция по настройке преобразователя MGate 5101-PBM-NM для мониторинга состояния Profibus устройств

1. Импортируйте GSD-файл из утилиты MGate Manager (MGate Manager> GSD Management > Add)

Name	Vendor	Filename		
M151-7 CPU V3	SIEMENS	siem8199.gse		Add
ET 2005 (IM151)	SIEMENS	siem806a.gse		Demons
SIMOCODE pro V (GSD V1.5)	SIEMENS	SI1380fd.gse		Remove
Moxa Profibus Slave	Moxa Inc.	MP8S0D80.gsd		OK
			_	
			_	
e	m			

2. Перейдите в раздел Profibus и нажмите кнопку Profibus Settings

	S		ate 5101-PBM-MN	PROFIBUS	
Basic Netw Address	ork PROFEBUS Moc Type Name Maister Moxa t	Bus System	Vendor Moxia Inc.		
		PROFI	BUS Settings		

3. Перетащите выбранное устройство на панель управления.

*PROFIBUS Settings		
File Edit PROFIBUS		
R 🕒 Q		
SIEMENS     SIEMENS     SIEMENS     Gateway     Moxa Inc.     Programmable Logic Controllers     SIEMENS     SIEMENS	(1)Moxa PROFI	)IM151-7 CPL
Master_I Slave_Q 1 B unit Master_I Slave_Q 2 B unit Master_I Slave_Q 2 B tot.lgth. Master_I Slave_Q 4 B unit Master_I Slave_Q 4 B tot.lgth. Master_I Slave_Q 8 B unit Master_I Slave_Q 8 B tot.lgth. Master_I Slave_Q 8 B tot.lgth. Master_I Slave_Q 16 B unit	Common I/O dat venuor:	ta Group properties User parameter
Master_I Slave_Q 16 B tot.lgth. Master_I Slave_Q 1 Wo unit	Family:	Programmable Logic Controllers
Master I Slave O 2 Wo tot.loth.	Model name:	IM151-7 CPU V3
Master_I Slave_Q 4 Wo unit Master_I Slave_Q 4 Wo tot.lgth.	GSD file:	siem8199.gse
Master_I Slave_Q 8 Wo unit Master_I Slave_Q 8 Wo tot.lgth. Master I Slave_Q 13 Wo unit	Maximum bau	ud rate: 12000 kbit/sec
Master_I Slave_Q 13 Wo tot.lgth. Master_I Slave_Q 16 Wo unit	PROFIBUS inte	erface
Master_I Slave_Q 16 Wo tot.lgth.	Slave name:	IM151-7 CPU V3
Master_Q Slave_I 1 B unit Master_Q Slave_I 2 B unit	PROFIBUS ad	ddress: 3
Master_Q Slave_I 2 B tot.lgth. Master_Q Slave_I 4 B unit	Active slave:	
Master_Q Slave_I 4B tot.lgth. Master_Q Slave_I 8B unit	Watchdog:	V
Master_Q Slave_I 8 B tot.lgth. 👻	]	

4. Перейдите в раздел данных ввода-вывода (I/O Data) и перетащите данные ввода-вывода с Profibus устройства.

\* Важно соблюдать согласованность: Если узел имеет тип «unit», то вы должны перетащить в список значок типа «unit». Это правило также относится к типу «tot.length»



## 5105-PBM-NM. Мониторинг состояния Profibus устройств

*PROFIBUS Settings			22771	and him				
File Edit PROFIBUS								
R 💾 Q								
Output: 63 Words Output: 64 Words Output: 64 Words Output: 64 Words StEMENS StEMENS IM151-7 CPU V3 Ist general ID Organized and general ID Organized and general ID Organized and general ID Organized and general IS Organi		(3)IM	151-7 CPU					
Master_I Slave_Q 2 Wo tot.lgth.	Common	I/O data	Group properties	User parameter	e l			
Master_I Slave_Q 4 Wo unit Master I Slave_Q 4 Wo tot.loth.	Slot	Module ty	pe Module		Input address	Output address	Timeout (ms)	Fault val *
Master_I Slave_Q 8 Wo unit	1							
Master_I Slave_Q 8 Wo tot.lgth.	2	0x1F	Master IS	ave Q 16 B unit	015			E.
Master_I Slave_Q 13 Wo unit	3		Constant day			1	A	
Master_I Slave_Q 13 Wo tot.lgth.	4							
Master_I Slave_Q 16 Wo unit	5							
Master_I Slave_Q to Wo tot.ight.	6							
Master O Slave I 28 unit	7							
Master O Slave I 28 tot loth	8							
Master O Slave I 48 unit	9							
Master O Slave I 4B tot loth	10							
Master O Slave I 8 Bunit	11							
Master O Slave I 8 B tot. loth.	12							
Master O Slave I 16 B unit	- 13							-

5. Столбец Input address/output address должны совпадать с параметрами ваших устройств Profibus

I/O data	Gro	up properties	User parameter				
Module ty	pe	Module		Input address	Output address	Timeout (ms)	Fault value
0x00		1st general	ID				
0x00		2nd general	ID				
0x00		3rd general	ID				
0x67	Master_Q Slave_I 8 Wo unit		ave_I 8 Wo unit		015	0	00 00 00 0
0xSF		Master_I Sla	we_Q 16 Wo	031			
0x63		Master_Q SI	ave_I 4 Wo unit		1623	0	00 00 00 0
0x53		Master_I Sla	we_Q 4Wo unit	3239			
0x53		Master_I Sla	we_Q 4Wo unit	4047			
0x61		Master_Q SI	ave_I 2 Wo unit		2427	0	00 00 00 00
0x57		Master_I Sla	we_Q 8 Wo unit	4863			
	I/O data Module ty 0x00 0x00 0x00 0x67 0x57 0x63 0x53 0x53 0x53 0x53	I/O data         Gro           Module type         0x00           0x00         0x07           0x07         0x57           0x53         0x53           0x61         0x53           0x61         0x57	I/O data         Group properties           Module type         Module           0x00         Lst general           0x00         2nd general           0x00         3rd general           0x07         Master_Q SI           0x5F         Master_Q SI           0x53         Master_I SI           0x53         Master_Q SI           0x54         Master_I SI           0x55         Master_I SI           0x57         Master_J SI	I/O data         Group properties         User parameter           Module type         Module         Ist general ID           0x00         2nd general ID         0x00           0x00         3nd general ID         0x07           0x67         Master_Q Slave_I & Wo unit           0x58         Master_Q Slave_I & Wo unit           0x53         Master_I Slave_Q & Wo unit           0x53         Master_I Slave_Q & Wo unit           0x53         Master_I Slave_Q & Wo unit           0x61         Master_I Slave_Q & Wo unit           0x657         Master_J Slave_U & Wo unit	I/O data         Group properties         User parameter           Module type         Module         Input address           0x00         Ist general ID         Input address           0x00         2nd general ID         Input address           0x00         3rd general ID         Input address           0x67         Master_Q Slave_J 8 Wo unit         Input address           0x63         Master_Q Slave_J 4 Wo unit         Input address           0x53         Master_J Slave_Q 4 Wo unit         3239           0x53         Master_J Slave_Q 4 Wo unit         047           0x61         Master_J Slave_Q 8 Wo unit         4863	I/O data         Group properties         User parameter           Module type         Module         Input address         Output address           0x00         1st general ID         Output address         Output address           0x00         2nd general ID         Output address         Output address           0x00         3rd general ID         Output address         Output address           0x67         Master_Q Slave_I & Wo unit         015         Output address           0x63         Master_Q Slave_I & Wo unit         031         Output address           0x53         Master_I Slave_Q 4 Wo unit         3239         Output address           0x51         Master_Q Slave_I 2 Wo unit         4047         Output address           0x61         Master_Q Slave_Q 8 Wo unit         4863         Output address	I/O data         Group properties         User parameter           Module type         Module         Input address         Output address         Timeout (ms)           0x00         1st general ID         Input address         Output address         Timeout (ms)           0x00         3rd general ID         Input address         Input address         Input address           0x00         3rd general ID         Input address         Input address         Input address           0x67         Master_Q Slave_I 8 Wo unit         015         0         Input address         Input address           0x63         Master_Q Slave_I 4 Wo unit         031         Input address         Input ad

Sys Syst	em cons	stants Texts					
~ ^	I-slave	communication					
	Tran	isfer areas					
		Transfer area	Туре	Master address	Slave address	Length	Consistency
	1	Transfer area_1	MS		+ 11000_1015	8 word	Unit
-	2	Transfer area_2	MS		← Q 10001031	16 word	Unit
	3	Transfer area_3	MS		110321039	4 word	Unit
2-2	4	Transfer area_4	MS		← Q 1032 1039	4 word	Unit
<b>ELEPT</b>	5	Transfer area_5	MS		← Q 10401047	4 word	Unit
	6	Transfer area_6	MS		→ L10481051	2 word	Unit
	7	Transfer area_7	MS		← Q 10561071	8 word	Unit



Input address -> Profibus на стороне Modbus

Output address -> Modbus на стороне Profibus

## **Data Exchange Between Modbus TCP and PROFIBUS**

The MGate's internal memory is used to exchange data between Modbus and PROFIBUS. On both sides of the connection, the internal memory data will be used as the new data to send to connected devices. For example, with Modbus function 06 - write holding register writes a word into the device's register. Configure the MGate to use this command if you would like to use the specified internal memory data as the new data. For PROFIBUS, the output I/O module will use the same method to retrieve data from the internal memory to write the new data to the remote device. The received data will also be put into the internal memory for the Modbus read command and PROFIBUS input I/O modules.



Вы можете использовать раздел I/O Data view для мониторинга состояний Profibus устройств.

- MGate 5101-PBM-MN - MGate 5101_1684			IP Serial No.			192 168 127 1684	/ 254			e MA e Fin	C Address	
:• I/O Data Vi	iew											
Auto refresh												
VO Input *		5	tart Address(He	0 (X4				Len 64 ¥			Fo	mat Hex •
Internal Address	00	01	02	03	04	05	06	07	08	09	0A	0B
0000h	00	41	42	.85	54	CD	46	90	3F	60	42	C2
0010h	00	DD	3E	99	B7	F1	3F	92	CF	05	04	75
0020h	00	00	00	00	00	00	00	00	00	00	00	00
0030h	00	00	41	87	78	63	87	10	00	00	00	00
Address: 0001	Device ld: MODBUS Pe	1 int Type	Numbe Valid S	r of Polls lave Res	: 834 ponses: 83	14						
Length: 16 0	3: HOLDING RE	GISTER	•		Reset Ctr	8						
												_
40001: <0041H> 40 40002: <4285H> 40 40002: <519AH> 40 40003: <519AH> 40 40005: <38A0H> 40 40005: <38A0H> 40 40006: <42C2H> 40 40006: <42C2H> 40	0009: <0000H> 0010: <3E99H> 0011: <e268h> 0012: &lt;3F92H&gt; 0013: &lt;8911H&gt; 0014: &lt;0476H&gt; 0015: &lt;0002H&gt;</e268h>											
40000: 44220112 40	ore: «bebens											



## Дополнение:

В случае, когда необходимо контролировать состояние Profibus Master (MB5101), можно опросить диапазон адресов от 1538 до 1553, применительно к соответствующим Slave ID. Для этого обратитесь к следующей таблице:

Input	Data	Memory
-------	------	--------

0 to 1535	Input Data	
1536 to 1537	Status word	bit 1:0 = Master Mode
		00: Offline
		01: Stop
		10: Clear
		11: Operate
		bit 15:2 reserved
1538 to 1553	Communication list	1538: bit 07= Slave 07
		1539: bit 07 = Slave 815
		***
		1553: bit 05 = Slave 120125
		bit SET -> Slave is in data exchange
		bit CLEAR -> Slave is not in data exchange

Так как запрашиваемый регистр имеет тип данных word, соответственно он занимает 16 бит, т.е. 2 байта. При опросе устройства по Modbus TCP используется тип данных word, таким образом следует опрашивать адреса с 770 до 777.

	ModScan Starting Address		MB5101 Internal Memory		
		770		1538	
		//0		1539	
		771		1540	
		//1		1541	
		772		1542	
		112		1543	
		770		1544	
		115		1545	
		774		1546	
		,,,		1547	
		775		1548	
		110		1549	
		776		1550	
				1551	
		777		1552	
				1553	
107140, Россия, Москва, ул. Верхняя Красносельская, д.2/1, с	т. (495) 980-64-06 стр.2 ф. (495) 981-19-37	Industria	аIPC 199155, Россия, ул. Уральская, д	Санкт-Петербург, 1.13, литер Б, пом.	т.(8 2Нф.(7
	ИЕНШАНЦ		ABTOMATI	ИКА	

12) 326-59 12) 326-10

Пример опроса устройства MGate через modpoll

🖬 Администратор: C:\Windows\system32\cmd.exe
C:\Users\_user_name_\Desktop_\Software\modpoll.3.4\win32>modpoll_m_tcp_t_3 -r 770 -c 7 -1 192.168.127.254
modpoll 3.4 - FieldTalk(tm) Modbus(R) Master Simulator Copyright (c) 2002-2013 proconX Pty Ltd
Visit http://www.modbusdriver.com for Modbus libraries and tools.
Protocol configuration: MUDBUS/ICP Slave configuration: address = 1, start reference = 770, count = 7 Communication: 192.168.127.254, port 502, t/o 1.00 s, poll rate 1000 ms
Data type 16-bit register, input register table
Polling slave [770]: 8192
[771]: 0 [772]: 0

Следовательно к нашему MGate подключен Profibus Slave c ID = 5

Для осуществления мониторинга состояния устройств Profibus Slave необходимо заранее убедиться в наличии «status bit». Подобная информация должна быть отражена в документации к Profibus устройству.

