SX:RELIO

MANUAL

INTRODUCTION

The SX:RELIO is an I/O module designed for the SIOX Smoke Control System. The module has four changeover relay outputs and four configurable digital inputs and outputs. Its intended uses include alarm handling, and it can be configured with our SIOX Smoke Configurator or SIOX Smoke Editor software to integrate or distribute alarms. The module is connected to our tried and tested 3-wire bus which provides a voltage supply as well as communication.

INSTALLATION

Connect the voltage supply and communication (SIOX) to the module at terminals 7,8,9 or 10,11,12. The module can be supplied with 24 V AC or DC. There are two terminals for onward connection to the next module. When the voltage is switched on, all the LEDs on the module quickly light up. If there is no active SIOX communication, PWR and SIOX will stay constantly lit.

FLASHING SEQUENCES

SX:RELIO has LEDs indicating the operating status. The LEDs are each labelled with their main function, but some are also used to identify various operating states as follows.

Power supply connected

Module being identified

No SIOX communication

SIOX communication

SIOX shorted to GND (G0)

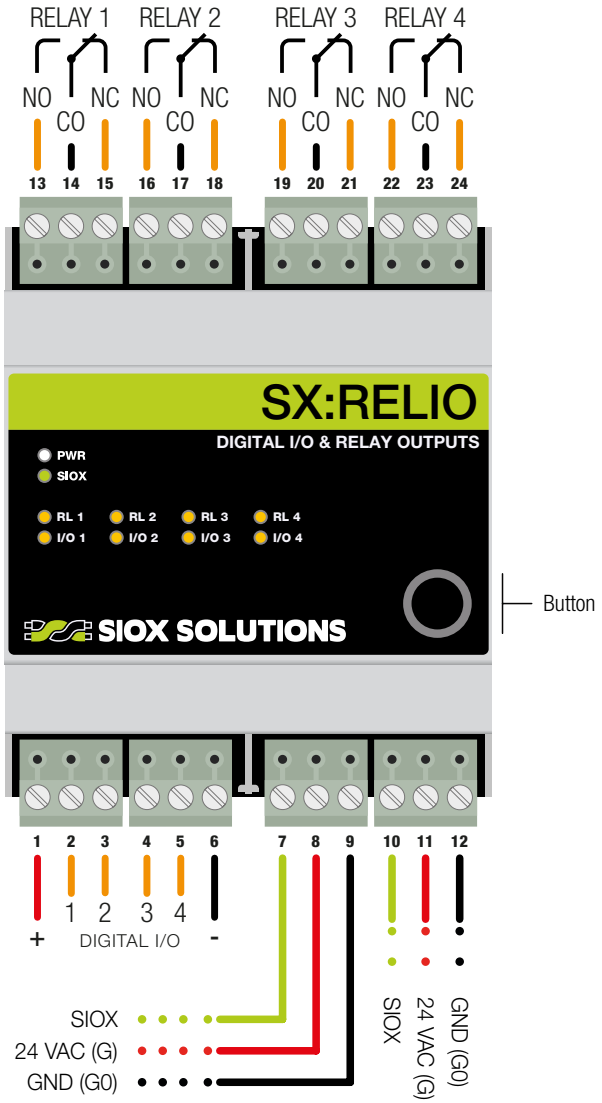
Addressing taking place

There is also a low voltage indication – all LEDs light up then go off line by line from the bottom up.

ADDRESSING

On delivery, the module has the SIOX address 00:59. If you need to change the address, use the SIOX Smoke Manager software. The module must be connected to a master unit such as SX:NETLINK or SX:ACCESS. Start the software and connect using the **CONNECT** menu. Press the **ADDRESSING** option, select a start address, and press **START**. The SIOX LED on the module now flashes quickly three times. Press the physical button on the module to accept the address. The LEDs and the software confirm the assigned address.

CONNECTION

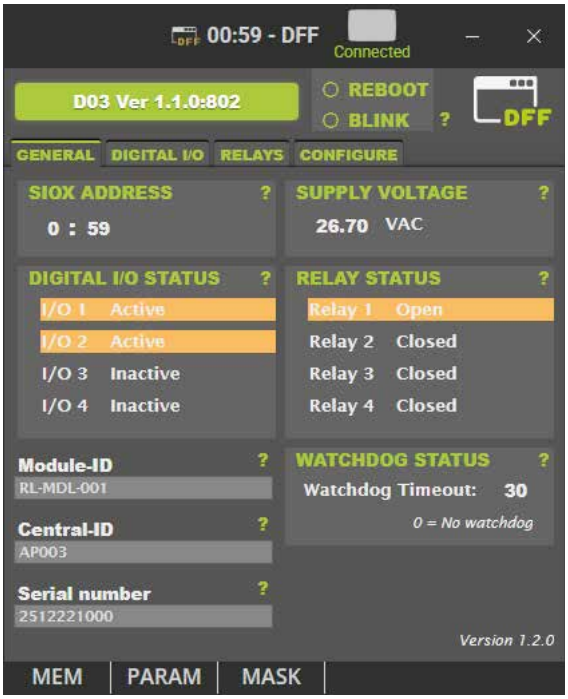


CONFIGURATION

To configure the module, use SIOX Smoke Manager. You can search from the **SEARCH AND MANAGE** menu. Double-click on the module when you can see it in the list. A new box appears with the module's DFF form. You can view the status here and perform a full configuration.

DFF FORM

The first tab **GENERAL** displays basic information. SIOX address, voltage, I/O and relay status, and configured watchdog time. The Module-ID, Central-ID and Serial number fields also appear in the bottom left. Module-ID and Central-ID are text fields (up to 31 characters per field) that are saved locally in the module and can be viewed in a search from SIOX Smoke Manager. They can be configured in the **CONFIGURE** tab.

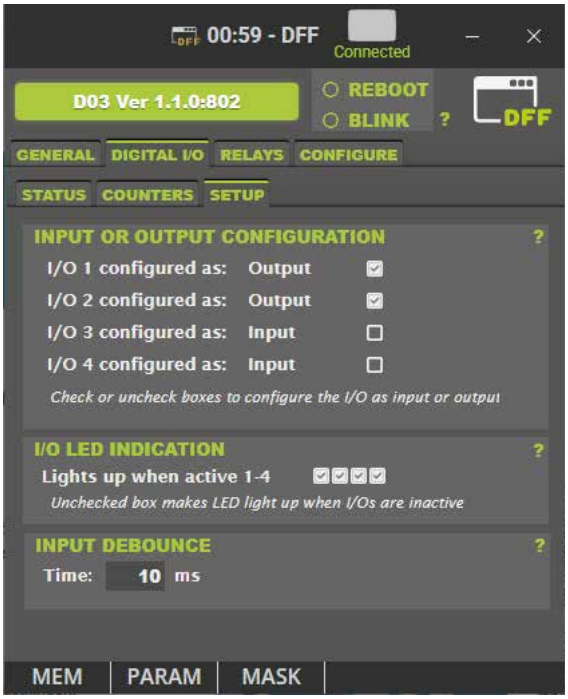


DIGITAL I/O CONFIGURATION

The module has four configurable inputs and outputs. You can configure them in the **DIGITAL I/O > SETUP** tab. On delivery, all four channels are configured as inputs. Place a checkmark next to the channels you want to be outputs. In the **I/O LED INDICATION** section, you can configure the LED indication. Place a checkmark if you want the LED to light up when a channel is active.

INFORMATION

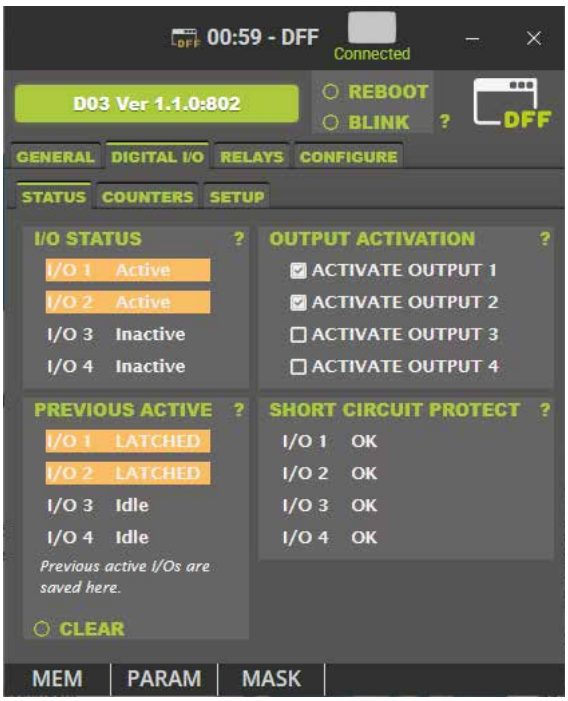
Most of the status and configuration options in the DFF form can be viewed, activated or changed via SIOX or Modbus TCP communication. See the list of parameters on the next page. The Modbus Wizard in our SIOX Smoke Manager software can also help.



STATUS AND ACTIVATION OF DIGITAL I/O

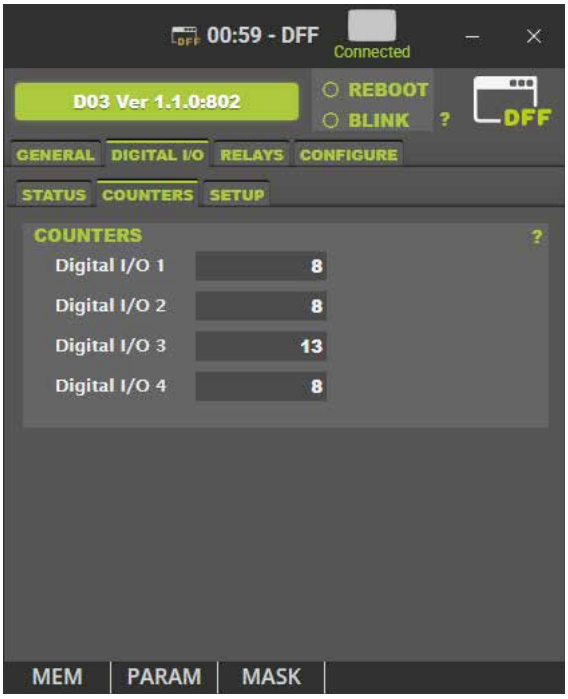
The **DIGITAL I/O > STATUS** tab shows the full status of the digital channels. In the **I/O STATUS** section, active channels light up with the word "Active" when the output is activated or the input is set. To activate an output, place a checkmark next to the channel in the **OUTPUT ACTIVATION** section. Each active output provides 19 - 21 V and can drive a current of 20 mA. To activate an input, connect terminal 1 to the channel you want.

The module also supports latching of the active I/O channel. In the **PREVIOUS ACTIVE** section you can latch an input or output. To reset the register, select **CLEAR** at the bottom.



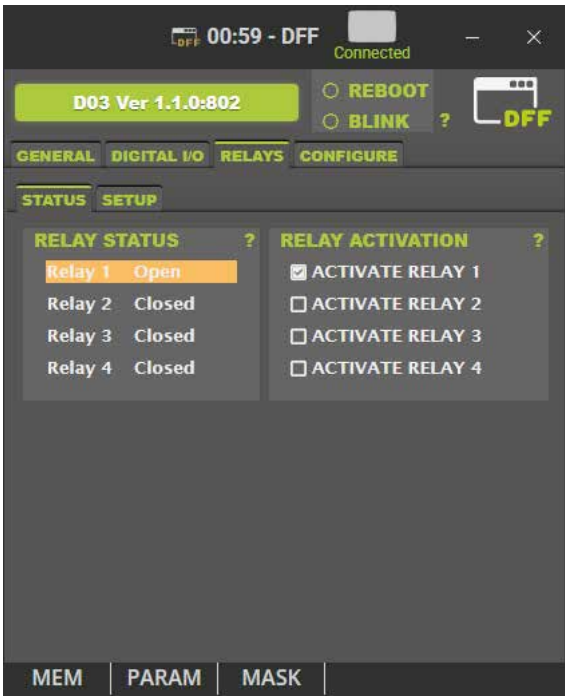
COUNTERS

The **DIGITAL I/O > COUNTERS** tab shows the counter for each I/O channel. The counters are 32-bit counters that can be overwritten or reset at any time.



RELAY OUTPUTS

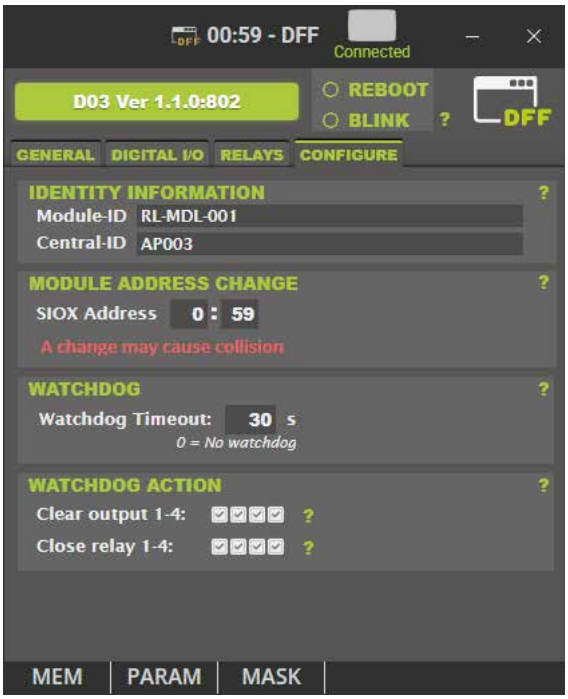
The module has four changeover relays. You can activate them in the **RELAYS > STATUS** tab. Active relays appear with the word “Open”. You can invert the LED indication in the **RELAYS > SETUP** tab.



WATCHDOG AND OTHER CONFIGURATION

In the **CONFIGURE** tab you can configure the Module-ID and Central-ID and change the module's SIOX address. Note that making changes can cause address collisions. We recommend using SIOX Smoke Manager to change the address.

In the **WATCHDOG ACTION** section you can specify the digital channels you want to clear and the relays you want to close when the watchdog is activated. In the **WATCHDOG** section, enter the maximum time a communication failure to the module can last.



NOTE

When the product is delivered, the watchdog is deactivated (set to 0 seconds) so it does not affect the installation process.

RESET AND TEST

If the module has an unknown address or baud rate, you can set it to default mode. Press and hold the button, switch on the power supply, and release after 3 seconds. All the LEDs on the module flash to indicate that the mode is active. The address is now 00:63 and the baud rate is 4800. It is a good idea to change the address. To exit this mode, switch off the power to the module. To carry out a full factory reset of the module, press and hold the button, switch on the power supply, and release after 15 seconds. The LEDs confirm by going off briefly before you release the button. Any other use of the button activates the LED test.

LIST OF PARAMETERS

DIGITAL INPUTS	SIOX			MODBUS		
	Param.	Bit	Access	0base	1base	Bit
Digital input 1	0x09	0x0001	R	9.0	10.1	144
Digital input 2	0x09	0x0002	R	9.1	10.2	145
Digital input 3	0x09	0x0004	R	9.2	10.3	146
Digital input 4	0x09	0x0008	R	9.3	10.4	147
Digital input 1 Latched	0x0B	0x0001	R	11.0	12.1	176
Digital input 2 Latched	0x0B	0x0002	R	11.1	12.2	177
Digital input 3 Latched	0x0B	0x0004	R	11.2	12.3	178
Digital input 4 Latched	0x0B	0x0008	R	11.3	12.4	179
Clear digital input 1 Latched	0x0B	0x0001	W	11.0	12.1	176
Clear digital input 2 Latched	0x0B	0x0002	W	11.1	12.2	177
Clear digital input 3 Latched	0x0B	0x0004	W	11.2	12.3	178
Clear digital input 4 Latched	0x0B	0x0008	W	11.3	12.4	179

DIGITAL OUTPUTS	SIOX			MODBUS		
	Param.	Bit	Access	0base	1base	Bit
Digital output 1	0x08	0x0001	RW	8.0	9.1	128
Digital output 2	0x08	0x0002	RW	8.1	9.2	129
Digital output 3	0x08	0x0004	RW	8.2	9.3	130
Digital output 4	0x08	0x0008	RW	8.3	9.4	131
Relay output 1	0x08	0x0010	RW	8.4	9.5	132
Relay output 2	0x08	0x0020	RW	8.5	9.6	133
Relay output 3	0x08	0x0040	RW	8.6	9.7	134
Relay output 4	0x08	0x0080	RW	8.7	9.8	135
Output 1 shorted	0x08	0x1000	R	8.12	9.13	136
Output 2 shorted	0x08	0x2000	R	8.13	9.14	137
Output 3 shorted	0x08	0x4000	R	8.14	9.15	138
Output 4 shorted	0x08	0x8000	R	8.15	9.16	139

IO COUNTERS	SIOX			MODBUS		
	Param.	Bit	Access	0base	1base	Bit
IO 1 - high	0x24	-	RW	36	37	-
IO 1 - low	0x25	-	RW	37	38	-
IO 2 - high	0x26	-	RW	38	39	-
IO 2 - low	0x27	-	RW	39	40	-
IO 3 - high	0x28	-	RW	40	41	-
IO 3 - low	0x29	-	RW	41	42	-
IO 4 - high	0x2A	-	RW	42	43	-
IO 4 - low	0x2B	-	RW	43	44	-

ANALOG INPUTS	SIOX			MODBUS		
	Param.	Bit	Access	0base	1base	Bit
Supply voltage	0x0F	-	R	15	16	-

MODULE ID	SIOX			MODBUS		
	Param.	Bit	Access	0base	1base	Bit
Module Id	0x110 - 0x11F	-	RW	272-287	273-288	-

CENTRAL ID	SIOX			MODBUS		
	Param.	Bit	Access	0base	1base	Bit
Central Id	0x120 - 0x12F	-	RW	288-303	289-304	-

ELECTRICAL SPECIFICATION

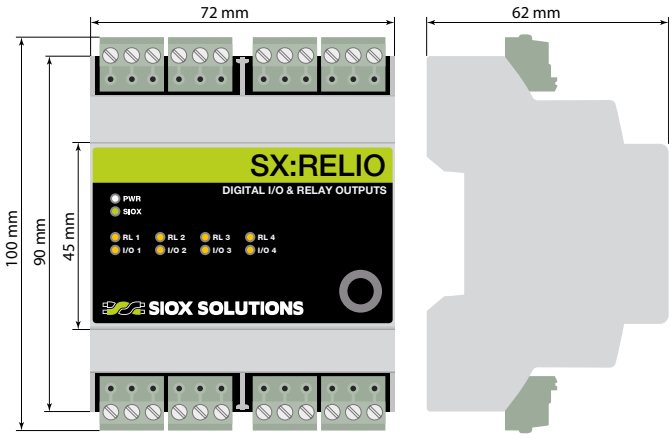
	Min	Typ	Max	Unit
Operating voltage	18	24	40	V DC
	18	24	28	V AC
Power consumption				
All I/Os inactive		0.02	0.04	W
All outputs active, no load		0.4	0.55	W
All outputs and relays active, no load		1.5	1.95	W
Max load at one output			20	mA
Input resistance		10		kΩ

The relays can handle up to 5 A at 24 V AC/30 V DC

AMBIENT AND OPERATION CONDITIONS

	Min	Typ	Max	Unit
Temperature	0		+70	°C
Height			2000	m
Relative humidity (at 31 °C)			80	%
Max relative air humidity falls in a linear fashion to 50% at 40 °C.				
IP class		IP20		

MEASUREMENT



INSTALLATION

The product is best mounted on a DIN rail, for example in an equipment cabinet, but wall-mounting with screws is also possible by extending the orange brackets on the underside. Assembly and installation must be carried out by competent personnel.

MAINTENANCE AND SAFETY

The product is maintenance-free in normal use. Regular visual inspection is recommended to check that it is undamaged and free of dirt and dust. The product must not be used and must be taken out of service if it is damaged, cracked or deformed, or if it malfunctions, overheats or smells. When the product is taken out of service, it must be safely disconnected from the power supply and external connections. The product must not be returned to service until has been inspected and found to be safe by qualified personnel. Products that are permanently taken out of service must be disposed of according to the applicable rules on electrical and electronic waste.

ORDERING

To order, visit our website or e-mail order@profcon.se

Article number SIOX-D03

CONTACT DETAILS

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