www.gazex.com

MDD-S2

series [W1], [W2]

KIU - DEVICE INFORMATION CARD

edition 2W1W2

BEFORE installation, read the full documentation regarding the device available at www.gazex.pl or at the address in the code QR →
The device information card does not contain all the information necessary for proper and safe installation of the system. The installation should be entrusted to a qualified specialist.

Recommended sequence of action during installation:

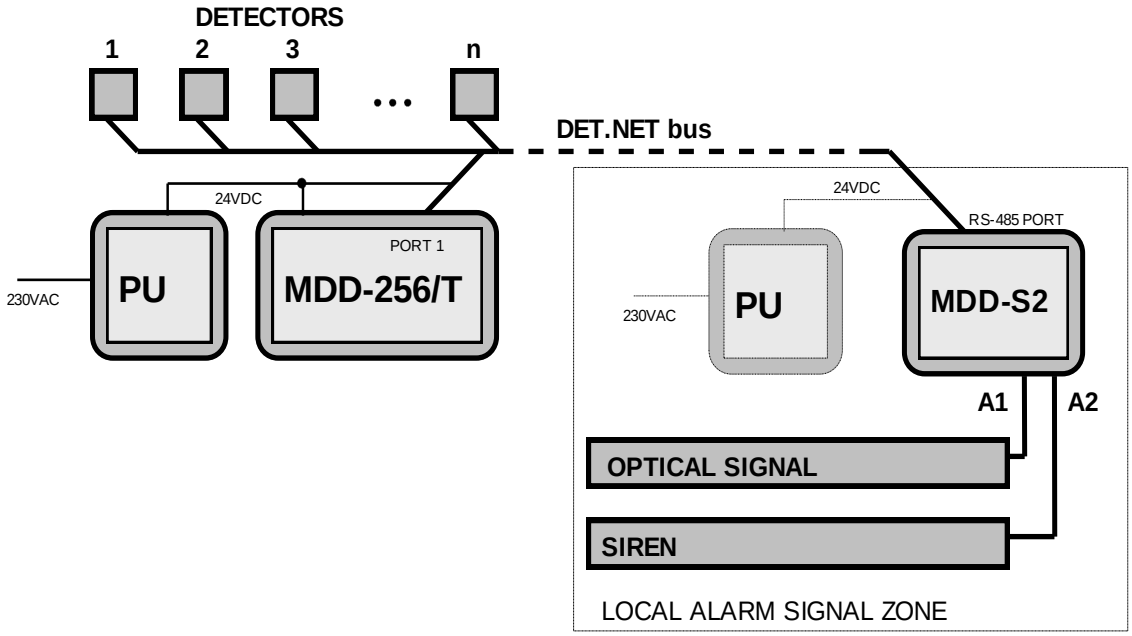
1. Read the full content of the user manual.
2. Define the group of detector addresses whose alarm states will activate the MDD-S2 outputs (Table 2, col. 3). The groups of detector addresses are factory-assigned to specific numbers of executing devices.
3. Using the SLAVE ID switches, assign the MDD-S2 module the number of the executing device that is assigned to the group of detector addresses.
4. Connect MDD-S2 to the system consisting of MDD-256/T and detectors according to Fig. 1, switch on the power supply.
5. In MDD-256/T, switch on the operation of the executive device with the number that was assigned to MDD-S2 (p. 3).
6. Perform an operation test of all devices according to the appropriate operating instructions

Product designation

The MDD-S2 digital module is the executive element of the GAZEX Digital Gas Detection System (DGDS). The MDD-S2 converts alarm signals from detectors into executive signals (one MDD-S2 module supports a maximum of 32 detectors). MDD-S2 is assigned to a group of detectors if, in this group, at least one detector is in alarm state A1 or A2, then 12V voltage will appear on the appropriate MDD-S2 output (A1 or A2 and A1), to power optical or acoustic alarms. MDD-S2 allows for the installation of alarms in a place distant from detectors without the need for additional power supply. The function of the control unit in DGDS is fulfilled by the MDD-256/T module, it can support a maximum of 224 detectors (with addresses A001-A224) and a maximum of 21 executive devices (with addresses d.o.0.1-d.o.0.7, d.o.1.1-d.o.1.7, d.o.2.1-d.o.2.7).
Power supply and digital communication can be supplied to MDD-S2 with one main cable – shielded, 3 twisted pairs, with a core cross-section of 0.5 mm^2.

Tab.1. Technical parameters *of MDD-S2*

Supply voltage	24 VDC (15.0 ÷ 30.0V)
Power consumption	20 mA@24V (no signaling devices); max 150m A@24V (at max load of alarm outputs)
Outputs	A1, A2; 12VDC, load Σ max 0,2 A; for connecting optical and acoustic signaling devices type SL…, S-3x, LD-2 or TP-4.As
Digital port	RS-485, MODBUS RTU protocol, galvanically isolated, 9600 bps; SLAVE address selection by switch; bus terminator switch
Optical indication of module status	LED, 3 pcs, see Table 3
Optical signaling of output status	LED, 2 pcs, one for each exit, see Table 4



Pic.1. System block diagram with MDD-S2.

Tab.2. Factory assignment of detector groups to actuators*:*

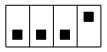
actuator number **(e.g. MDD-S2)**	**SLAVE ID**	assigned detector group **(** addresses **)**	zone from which alarms will be issued at the exits **of MDD-S2**	
			mode: Zo.11, Zo.12 or Zo.22	**mode Zo.31**
d.o.0.1	ON ▪▪▪▪	Gr.01 (A.001-A.032)	Both zones	Zone 1
d.o.0.2	ON ▪▪▫▪	Gr.02 (A.033-A.064)		
d.o.0.3	ON ▪▪▫▫	Gr.03 (A.065-A.096)		
d.o.0.4	ON ▪▫▪▪	Gr.04 (A.097-A.128)		
d.o.0.5	ON ▪▫▪▫	Gr.05 (A.129-A.160)		
d.o.0.6	ON ▪▫▫▪	Gr.06 (A.161-A.192)		
d.o.0.7	ON ▪▫▫▫	Gr.07 (A.193-A.224)		
d.o.1.1	ON ▫▪▪▪	Gr.01 (A.001-A.032)		Zone 2
d.o.1.2	ON ▫▪▪▫	Gr.02 (A.033-A.064)		
d.o.1.3	ON ▫▪▫▪	Gr.03 (A.065-A.096)		
d.o.1.4	ON ▫▪▫▫	Gr.04 (A.097-A.128)		
d.o.1.5	ON ▫▫▪▪	Gr.05 (A.129-A.160)		
d.o.1.6	ON ▫▫▪▫	Gr.06 (A.161-A.192)		
d.o.1.7	ON ▫▫▫▪	Gr.07 (A.193-A.224)		

ZONING

Due to their location or functionality, detectors can be assigned to the first, second or both alarm zones. If the MDD-S2 module outputs are to be activated by detectors assigned only to zone 1 or only to zone 2 (according to Table 2), then in the MDD-256/T in the submenu ACTUATOR DEVICE SERVICE, set Zo.31. If the MDD-S2 module outputs are to be activated by both detectors assigned to zone 1 and detectors assigned to zone 2, then in the MDD-256/T in the ACTUATOR DEVICES SERVICE submenu, set Zo.11, Zo.12 or Zo.22.

In the modes: Zo.11, Zo.12 and Zo.22, it is possible to assign two MDD-S2 addresses to detectors from one group. For example, alarm states of detectors with addresses from 33 to 64 can be displayed simultaneously on the outputs of two MDD-S2, then the address should be set in the first one SLAVE ID: ON ▪▪▫▪ (actuator number d.o.0.2), and in the second ON ▫▪▫▫ (actuator number d.o.1.2).

ENABLING MDD-S2 SUPPORT FROM MDD-256/T KEYBOARD

To enable the MDD-S2 module using the MDD-256/T keyboard, you must**:**
- enter the menu in MDD-256/T by holding the key for 3 seconds **[▲]**, set password with keys **[▲/▼]** (factory setting P001), confirm **[OK]**, a message will appear dnet (DET.NET bus configuration), confirm **[OK]**, key **[▼]** set dout. (enabling/disabling the operation of executive devices), confirm **[OK]**, a message will appear do01 (number of the executive device) set the required number of the executive device according to column no. 1 in Tab.2,
for example setting 

you should choose do01,
confirm **[OK]**, a message will appear dno (actuator support disabled) with key **[▲] set** use5 (executive device support enabled), confirm **[OK]**, a message will appear Gr01 (assigning the selected actuator to a detector group, if necessary change the factory assigned group using the keys **[▲/▼]**) confirm **[OK]**, a message will appear 2a31 (division of zones), if MDD-S2 is to respond to detector alarm states taking into account the division into zones, then the keys **[▲/▼]** should be set 2a31. If the MDD-S2 is to respond to detector alarm states without distinguishing which zone they are in, then with the buttons **[▲/▼]** should be set 2a11**,** 2a12 *or* 2a22), confirm **[OK]**, by pressing the key **[▼]** go to the level dout*.,* by pressing the key **[▼]** go to the level dnet*,* by pressing the key ***[▼]*** exit the menu MD-256/T.

A helpful tool when starting the system is the MDD256_View program (available for download from www.gazex.pl), which enables clear configuration of the digital system and quick localization of incorrect settings.

ENABLING MDD-S2 SUPPORT USING A PC

To enable support for the MDD-S2 module using the MDD256_View program, you must**:**
- Install the MDD256 View program on your PC (available for download from www.gazex.pl), connect the computer to PORT 2 in MDD-256/T via the RS485/USB converter (MDD-CV/T converter available at GAZEX),
- after starting the MDD256_View program, in the [Connection] tab, select the [Connect] option, the [Connection Options] window will open, in which you should select:
[Port Name] (port through which the RS485/USB converter communicates),
[Baudrate] (default = 9600 baud),
[Parity] (default = Yes),
[Slave ID] (default = 1)
and confirm ***[OK]***,
- a tab will open ***[Visualisation]****,* you should go to the tab ***[Selection of supported devices and their configuration]****,* in the window ***[Turning off the visualisation]*** to choose ***[Yes]***,
- select a tab ***[Read the current configuration.]****,*
- in the table ***[additional devices]*** left-click on the appropriate number of the additional (executive) device according to column no. 1 in Table 2, e.g. d.o.0.1 (its highlighting will change to green),
- by right-clicking on the appropriate actuator number you can: ***[read the device status]*** or in option ***[change the settings of the additional device…]*** change the division into zones or change the delay times for switching on the outputs in MDD-S2 (OUT5 – delays for output A1, OUT6 – delays for output A2), in MDD-256/T View program version 1.2.1 or higher you can also change the assignment of an additional device to a detector group, the changes must be confirmed by clicking ***[OK]***,
- after changing the settings, click the box
[apply changes (send a new configuration to MDD-256/T)]*.*

Tab.3. Description of optical signaling - module status

LED / Module Status	**PORT** DET.NET	**POWER**	**FAULT**
Damaged processor / no program	OFF	OFF	lights up constantly
Power supply too low (power failure)	X (any condition)	pulsates slowly (0,5 Hz)	lights up constantly
Communication failure or SLAVE address not set	pulsates slowly (0,5 Hz)	X (any condition)	lights up constantly
Normal condition	X (any condition)	lights up constantly	OFF
Test	pulsates very quickly (5 Hz)	X (any condition)	X (any condition)
Service mode (no power failures at the same time)	X (any condition)	pulsates quickly (2,5 Hz)	X (any condition)

Tab.4. Description of optical signaling - output status

LED / **Output status**	**OUTPUT STATUS LAMP**
Output inactive	OFF
Output active	lights up constantly
Output inactive, was active (in Memory Mode)	pulsates very slowly (0,25 Hz) in the cycle 1s/3s
Output inactive, module in Service Mode (in Normal Mode the output would be active)	pulsates quickly (2,5 Hz)
Output overloaded	pulsates very quickly (5 Hz)

RESET, TEST

To **RESET** the MDD-S2, press the TEST button and release it after 3 ÷ 5 seconds.
To perform the MDD-S2 **Output Test**, press the TEST button and release it after 8 ÷ 11 seconds.
Approaching the magnet to the housing in the place marked with the magnet symbol (TEST ZONE) has the same effect as pressing the TEST button.

USED EQUIPMENT

In accordance with the Act of 11 September 2015 on waste electrical and electronic equipment, the used module cannot be placed together with other household waste. It should be transferred to a specialized waste collection point. Therefore, it is marked with a special symbol:
Proper disposal protects against the negative impact of waste on human health and the natural environment.