SIEMENS

SiPass integrated

AFO5200

Installation Manual

Fire Safety & Security Products

Siemens Building Technologies

Contents

1 Product description

The AFO5200 is an input/output module that provides an interface between input and output devices and an Advanced Central Controller (ACC) in a Siemens access control and security environment.

2 Safety

PLEASE NOTE	We decline any liability for material damage or personal injury caused by improper use or non-observance of these safety instructions. In such case any guarantee expires.

PLEASE NOTE	Connection, commissioning and maintenance must only be carried out by suitably qualified personnel. Correct and safe operation of this device depends on proper transport, storage, installation and connection, as well as careful operation and maintenance.

DANGER	Work on electrical systems should only be performed by trained personnel under the supervision of a certified electrician in accordance with the appropriate regulations.

3 Technical specifications

Electrical	
Power (input)	12 V DC, -15 to +10% or 24 V DC, -15 to +10%
Consumption	max. 2 A @ 12 V DC, max. 1.5 A @ 24 V DC (Fully loaded: All Relays are driven and the Aux Power Output supplies its max current of 1.5 A)
Communications FLN	RS-485 two wire, half-duplex
Inputs (internally supplied)	8 x Auxiliary (unsupervised or supervised)
Outputs	8 x Relay 2 A @ 30 V DC
Fire Override (FOR) input	1 x Fire Override input Normal or Enhanced Modes: ● Normal mode requires an input voltage of 12 V DC ● Enhanced mode requires the connection of 22 kOhm resistor circuits. Cable must be shielded and total cable run resistance must not exceed 100 Ohms.
Fire Override (FOR) output	1 x Relay 2 A @ 30 V DC
Local input	1 x passive device connection
Local output	1 x open-collector 100 mA @ 9.7 – 12 V DC
Aux Power output	1.5 A @ 9.7 – 12 V DC
Dimensions	
with base plate (W x H x D)	250 x 210 x 40 mm (9.84 x 8.27 x 1.57")
without base plate (W x H x D)	216 x 190 x 28 mm (8.50 x 7.48 x 1.10")
Environmental	
Operating Temp	0 – 50 °C (32 – 122 °F)
Storage Temp	0 – 60 °C (32 – 140 °F)
Humidity	10 – 90% RH (non-condensing)
Standards and Guidelines	
European Directives “Directive of Electromagnetic Compatibility”	Emitted interference: EN 61000-6-3: 2001 EN 55022 +A1 +A2 Kl. B: 2003 Interference resistance: EN 50130-4 +A2: 2003
C-Tick	Standard for Australia and New Zealand (equivalent to EN 55022 of the European Directive).
UL-Directives	UL 294 Access control units. Details can be found under: http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/gfilenbr.html with UL File Number: BP9490

3.1 Dimensions

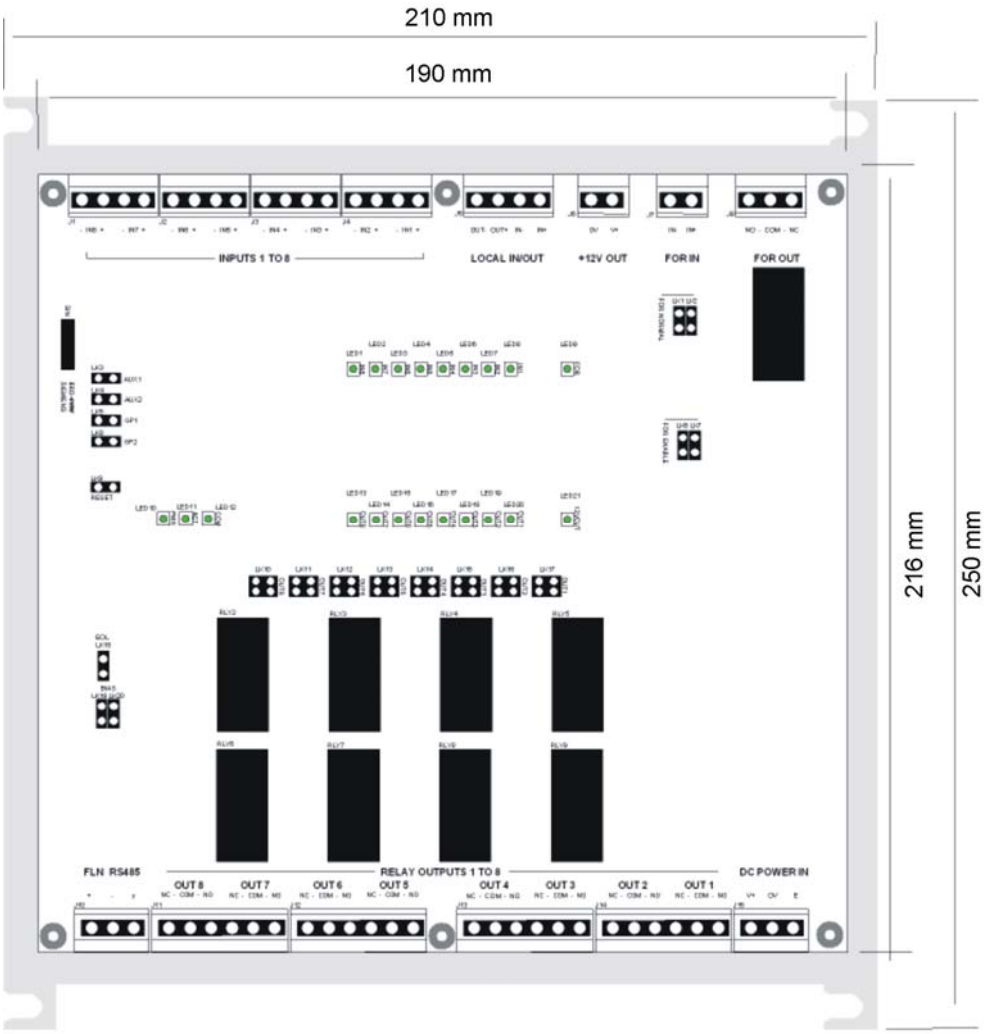


Fig. 1 Dimensions (including base plate)

- Width: 250 mm (9.84")
- Height: 210 mm (8.27")
- Depht: 40 mm (1.57")

4 Ordering data

Type	Part no.	Designation	Weight
AFO5200	S24246-A2600-A1	Eight Input Output Module	0.7 kg

5 Scope of delivery

1 x AFO5200 mounted on base plate

1 x accessory bag (resistors for monitored inputs)

1 x installation manual English

1 x installation manual German

6 Installation

Required tools & material

- Medium-duty drill and associated drill-bits
- 4 mounting screws or standoffs (approx. 4 mm)
- Flat-blade terminal screwdriver
- Wire cutters
- Cable strippers

Expected installation time

30 minutes

Mounting instructions

1. Remove the AFO5200 from its carton and discard the packaging material.

2. Place the AFO5200 (base plate) against the surface to which it is to be affixed and mark the location of the mounting holes.
We recommend to mount the AFO5200 within a cabinet. Align the AFO5200 base plate with the holes located on the cabinet backplane and proceed to step 3.
It is recommended that you affix the AFO5200 at all four of the mounting locations provided.

Warning	Do not apply power to the AFO5200 or associated components at this stage.

3. Select the appropriate drill bit according to the mounting surface / hole size and drill the holes in the locations marked (if required).

4. Fasten the AFO5200 (base plate) to the surface using the correct type of screws or standoffs for the surface.

5. Connect the AFO5200. For more information, see Section 7.1: Connections.

6. Apply power to the AFO5200 and test its operation.
This step may require installation and programming of the access control host software and download of the firmware instruction set.
Alternatively, the firmware and configuration may be carried out using the FLN Field Service Tool.

7 Connections and LEDs

7.1 Connections

It is recommended that you wear a grounding strap while carrying out this procedure.

1. Connect all input devices to the ports **INPUT1** to **8**.

Listed end-of-line resistors must be connected to the wiring for each input device if they are to be supervised. For more information, see Section 7.3: Wiring of monitored input.
Please note (this applies to all inputs): The total cable run resistance must not exceed 100 Ohms.

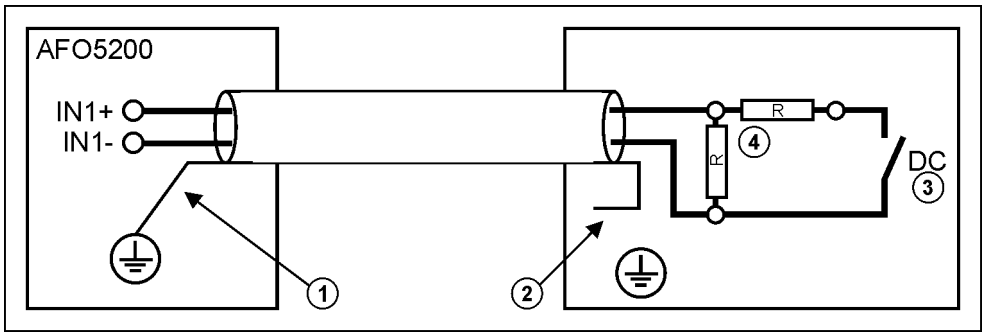
2. Connect all output devices to the ports **RELAY OUTPUT1** to **8**. Access doors can only be connected to relay outputs that are controlled by readers.
3. Connect the wiring from the **Fire and Emergency Override system** to the **FOR IN** port. Ensure the correct FOR link settings are applied.
4. Connect the next device in the Fire Override sequence to the **FOR OUT** port.
5. Connect the FLN wires (from the ACC) to the FLN RS485 port.
6. Connect the active (+ve) and neutral (-ve) wires from the **power supply unit** (PSU) to the **DC POWER IN** port. Ensure the polarity of the connection is made correctly.
7. Check all **jumpers**. For more information, see Section 7.5: Links and jumpers.
8. Check all connections thoroughly, including the polarity of each connection. Once you have verified all connections power can be applied to the AFO5200.

7.2 Port locations

Port name	Description
DC POWER IN	DC power input (12 V DC or 24 V DC).
FLN RS485	RS-485 bus for AC5100, FLN bus
RELAY OUTPUTS 1-8	Auxiliary relay outputs.
INPUTS 1-8	Inputs
FOR* IN	FOR input (e.g. fire alarm button)
FOR* OUT	FOR output
LOCAL IN	Tamper input for local tamper detection
LOCAL OUT	Alarm output (e. g. siren, strobe light)
+12V OUT	Auxiliary 12 V DC power output

* FOR: Fire Override

7.3 Wiring of monitored input



1 Connect the shielding to the housing earth.

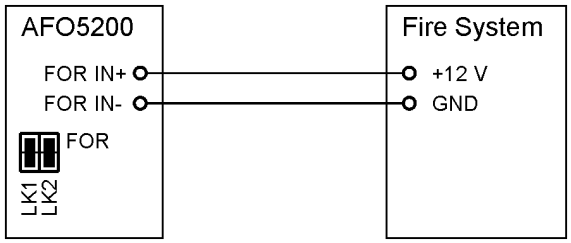
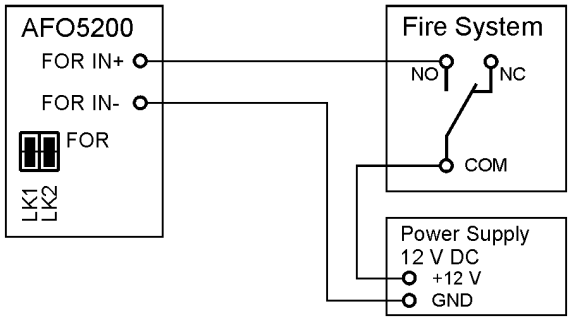
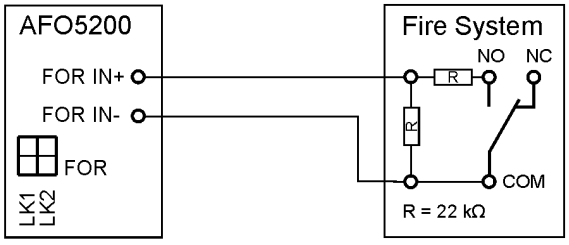
2 Insulate the shielding at the input (e.g. door contact), do not connect it.

3 DC: Door contacts

4 R: Terminating resistors 22 kOhm each

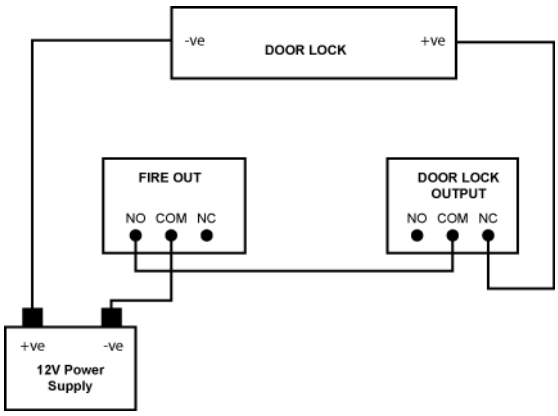
Fig. 2 Wiring of monitored input

7.4 FOR inputs

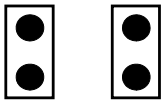
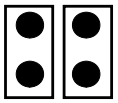
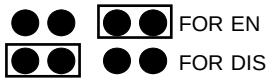
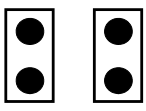
AFO5200	External device	Port	Remark
FOR* input (normal mode)	Fire alarm system (+ UB)		**Fire alarm system output:** Fire alarm system OK ➔ +12 V In case of fire alarm or malfunction ➔ 0 V
FOR* input (normal mode)	Fire alarm system (relay contact)		**Fire alarm system output:** Fire alarm system OK ➔ contact between NO and COM closed In case of fire alarm or malfunction ➔ contact between NO and COM open
FOR* input (enhanced mode)	Fire alarm system (relay contact)		**Fire alarm system output:** Fire alarm system OK ➔ contact between NO and COM closed In case of fire alarm or malfunction ➔ contact between NO and COM open

* FOR: Fire Override

The following diagram provides an example for wiring a door lock in a fail-safe mode for fire override operation:



7.5 Links and jumpers

Jumper	Description	Value
LK1 + LK2	**FOR MODE** Configuration of the Fire Override mode: – Enhanced FOR mode (monitored) – Normal FOR mode (floating).	LK1 LK2  Jumpers placed over both links: ➔ Input set to Normal FOR mode. Jumpers not placed: ➔ Input set to Enhanced FOR mode.
LK3, LK4 + LK8	These links are general purpose links that have been included for future enhancement.	
LK5	**GP1 RESET MODE** Reset the firmware: – Close LK5 – Close link 9, wait for the activity LED to switch off, then remove LK9. – Remove LK5 before loading the new firmware	
LK6 + LK7	**FOR AKTIVATION** – FOR enabled ➔ Activation of the FOR input will cause the appropriate output relays to pick up or drop out depending on where the links LK10 – LK17 are placed. – FOR disabled ➔ The input will have no effect on the relays.	FOR ENABLE  **LK6 LK7** FOR disabled FOR ENABLE  **LK6 LK7** FOR enabled
LK9	**RESET (Restart)** Reset the AFO5200 retaining the unit's firmware: – Interrupt the power supply to the unit for 1 sec or – Close link 9, wait for the activity LED to switch off, then remove LK9.	
LINKS 10 – 17	**FOR OUTPUT CONTROL** These links control the Fire Over-ride activation for each individual relay output 1-8. Depending on where you place the link, the relay output behaviour will be modified by the FOR input, or FOR will be disabled for that relay.	 FOR EN FOR DIS LK10 LK11 Output OUT8 (LK10): FOR disabled Output OUT7 (LK11): FOR enabled.
LK18	**EOL TERMINATION (FLN System Bus)** This link allows the RS485 bus communication channel to be terminated in lengthy comms lines – more than 100 m at 115 kb/s. **Note:** Only units that are located at the ends of bus lines should have Link 26 set to on.	
LK 19 + LK 20	**BIAS** These links enable the RS-485 bus biasing resistors. The resistors create a voltage divider to force the voltage to be less than the threshold of the receiver. This prevents invalid data bits that are picked up from the noise on the cable from being transmitted.	Jumper placed across LK19 and LK20: ➔ RS485-FLN biasing resistors enabled. LK19 LK20 

7.6 LEDs

LED	Description
PWR	LED active: power is applied to the PCB
ACT	**ACTIVITY** LED **1.** LED blinking quickly: Firmware needs to be downloaded **2.** LED blinking slowly (approx. once per sec): Firmware has been downloaded
COM	The LED flashes when the AFO5200 is sending data to the AC5100.
OUT1-8	LED active: Relay active (green LED active – relay active).
IN1-8, FOR IN	Status of inputs LED red: Alarm (Fire Override at FOR input) LED green: Normal LED orange: Tampering LED off (only FOR IN): FOR disabled

8 Recommended cable specifications

The table provides a guideline for selecting an appropriate cable type only.
Other cable types are also compatible with the system and can be used to achieve the same results.

Communication Type	Recommended Cable Specifications								
	Cores	**Pairs**	**AWG**	**Cores**	**J-Y(St)Y Diameter (mm)**	**Wire Type**	**Insulation**	**Shield**	**Jacket**
RS-485	4	2	28	7 x 36	0.6	Tinned Copper	Foam Polyethylene	Aluminium foil - Polyester tape / braided shield	PVC
	6	3							
	8	4							
RS-232	4	2	24	7 x 32	0.6	Tinned Copper	Foam Polyethylene	Aluminium foil - Polyester tape / no braid	PVC
	6	3							
	8	4							
RS-422	4	2	24	7 x 32	0.6	Tinned Copper	Foam Polyethylene	Aluminium foil - Polyester tape / no braid	PVC
	6	3							
	8	4							
RJ-45	8	4	24	Solid	0.6	Bare Copper	Polyethylene	Unshielded	PVC
	8	4	24	7 x 32	0.6	Tinned Copper			
RJ-12	8	4	24	Solid	0.6	Bare Copper	Polyethylene	Aluminium foil - Polyester tape / no braid	PVC
	8	4	24	7 x 32	0.6	Tinned Copper			
Power (12/24 V DC)	2	1	18	19 x 30	1.0	Tinned Copper	Foam Polyethylene	Unshielded	PVC

9 Programming and firmware download

The AFO5200 is programmed using SiPass software, via the AC5100, or using the *„FLN Configurator“* application. Please refer to the appropriate User's Manual for more information.

10 Disposal

All electrical and electronic products should be disposed of separately from the municipal waste stream via designated collection facilities appointed by the government or the local authorities.

This crossed-out wheeled bin symbol on the product means the product is covered by the European Directive 2002/96/EC.

The correct disposal and separate collection of your old appliance will help prevent potential negative consequences for the environment and human health.

It is a precondition for reuse and recycling of used electrical and electronic equipment.

For more detailed information about disposal of your old appliance, please contact your city office, waste disposal service or the shop where you purchased the product.

10.1 Record of proper waste management

A record of proper waste management is not required.

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