

GE
Security

ATS125x 4-Door DGP Installation Manual



Copyright © 2009 GE Security, Inc.

This document may not be copied in whole or in part or otherwise reproduced without prior written consent from GE Security, Inc., except where specifically permitted under US and international copyright law.

Disclaimer

The information in this document is subject to change without notice. GE Security, Inc. ("GE Security") assumes no responsibility for inaccuracies or omissions and specifically disclaims any liabilities, losses, or risks, personal or otherwise, incurred as a consequence, directly or indirectly, of the use or application of any of the contents of this document. For the latest documentation, contact your local supplier or visit us online at www.gesecurity.com.

This publication may contain examples of screen captures and reports used in daily operations. Examples may include fictitious names of individuals and companies. Any similarity to names and addresses of actual businesses or persons is entirely coincidental.

Trademarks and patents

GE and the GE monogram are trademarks of General Electric Company. The ATS Advisor Master name and logo are trademarks of GE Security.

Other trade names used in this document may be trademarks or registered trademarks of the manufacturers or vendors of the respective products.

Intended use

Use this product only for the purpose it was designed for; refer to the data sheet and user documentation for details. For the latest product information, contact your local supplier or visit us online at www.gesecurity.com.

Certification and compliance



European directives

1999/5/EC (R&TTE directive): Hereby, GE Security declares that this device is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.



2002/96/EC (WEEE directive): Products marked with this symbol cannot be disposed of as unsorted municipal waste in the European Union. For proper recycling, return this product to your local supplier upon the purchase of equivalent new equipment, or dispose of it at designated collection points. For more information see: www.recyclethis.info.

2004/108/EC (EMC directive): Non-European manufacturers must designate an authorized representative in the Community. Our authorized manufacturing representative is:

GE Security B.V., Kelvinstraat 7,
6003 DH Weert, The Netherlands.

Contact information

For contact information see our Web site: www.gesecurity.com.

Content

Important information ii

Installation 1

- ATS125x 4-door DGP overview 1
- Connections 2
- Battery replacement 3
- Important notes on mounting 3
- LEDs 3
- General installation guidelines 4
- Cabling 5
- Earthing 5
- Shielding 6
- ATS system databus connection 7
- ATS125x local databus and earth connection 7
- DIP switch settings 7
- Connection diagrams 8

Zones, RASs and outputs 10

- Numbering 10
- Outputs devices 11
- ATS125x default zone and relay settings 11
- Door numbering 12

Power-up procedure 13

Setup procedure 13

- How to access the ATS125x programming menu 13
- ATS125x programming menus 14
- Initialise the database 14
- Poll connected RASs 15

Troubleshooting 16

- ATS system data bus indicator LED's 16
- 4-door DGP local data bus indicator LEDs 16

Programming map 17

Specifications 19

Important information

This manual provides information for the following 4-door access control data gathering panels (DGPs): ATS1251, ATS1252, ATS1253 and ATS1254. When referring to the 4-door DGP, this can be read as any model of the ATS125x, unless specifically stated otherwise.

Table 1: List of existing 4-door DGP models

Model	Auxiliary power	Locks power	Housing	Dimensions
ATS1251	12 V _{DC}	12 V _{DC}	ATS1642 big enclosure	480 x 464 x 160 mm
ATS1252	12 V _{DC}	24 V _{DC} *	ATS1642 big enclosure	480 x 464 x 160 mm
ATS1253	12 V _{DC}	12 V _{DC}	ATS1640 small enclosure	445 x 315 x 90 mm
ATS1254	12 V _{DC}	24 V _{DC} *	ATS1640 small enclosure	445 x 315 x 90 mm

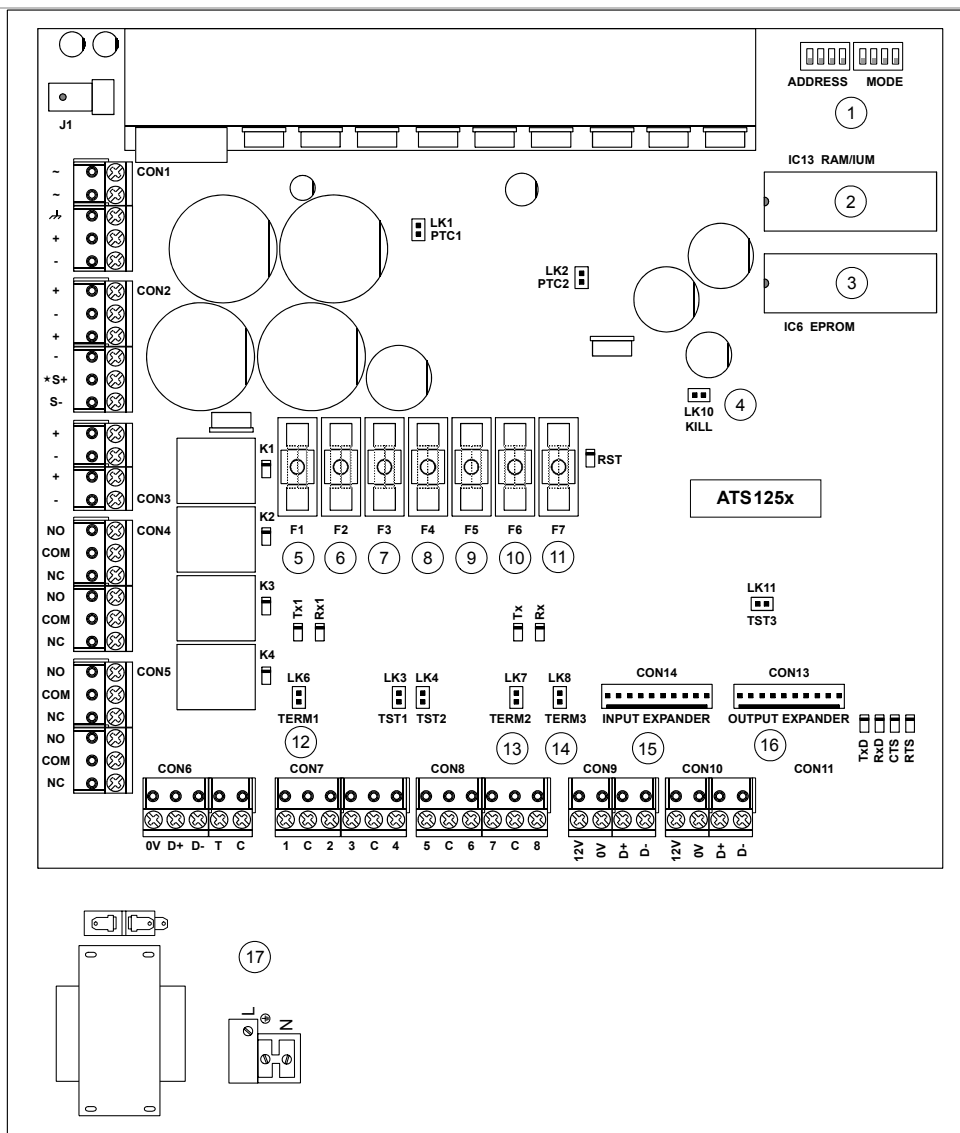
* For 24 VDC models, always use two batteries in series.

Installation

ATS125x 4-door DGP overview

The figure below shows the 4-door DGP layout.


Figure 1: ATS125x layout



- | | |
|---|---|
| <ol style="list-style-type: none"> 1. DIP switches (see "DIP switch settings" on page 7) 2. RAM or IUM (optional) 3. EPROM (factory fitted) 4. KILL jumper: Factory default ATS125x when shorted 5. Battery fuse F1 6. Auxiliary power fuse F2 7. Databus 1 fuse F3 8. Databus 2 fuse F4 9. Lock power 1 fuse F5 | <ol style="list-style-type: none"> 10. Lock power 2 fuse F6 11. Siren / switch fuse F7 12. TERM 1: Use this link to terminate the system databus 13. TERM 2: Use this link to terminate the local databus, connection 1 on terminal CON9 14. TERM 3: Use this link to terminate the local databus, connection 2 on terminal CON10 15. CON14 Input expander connector 16. CON15 Output expander connector 17. Mains terminal |
|---|---|

Connections

Table 2: ATS125x connections

Terminal block	Wire	Description
CON1	~, ~	Mains power connection
		System earth (see details on page 5).
	+, -	2 x 12 V batteries, 7.2 Ah (24 V version) * 1 x 12 V battery, 7.2 Ah (12 V version)
CON2	+, -	Aux. power
	+, -	Aux. power
	S+, S- **	External siren output
CON3	+, -	Lock 1 power
	+, -	Lock 2 power
CON4	NO, COM, NC	Door 1 relay
	NO, COM, NC	Door 2 relay
CON5	NO, COM, NC	Door 3 relay
	NO, COM, NC	Door 4 relay
CON6	0V, D+, D-	System databus and panel tamper wiring (see page 7 for details).
	T, C	Tamper switch
CON7	1, 2, 3, 4	Zone 1-4 inputs
	C	Common
CON8	5, 6, 7, 8	Zone 5-8 inputs
	C	Common
CON9	12V, 0V, D+, D-	Local databus to connect RASs and DGPs (see page 7 for details).
CON10	12V, 0V, D+, D-	Local databus to connect RASs and DGPs (see page 7 for details).

* For 24 VDC models, always use two batteries in series.

** External siren output is a supervised output. Typical EOL resistor is 1 kΩ.

Mains power connection

Use the mains terminal to connect the mains-supply. A fixed cable, or a flexible mains lead to an earthed mains outlet, can be used. In case fixed wiring is used, insert a dedicated circuit breaker in the power distribution network.

WARNING: Disconnect the mains power before opening the cabinet!

Disconnect the AC mains plug from the AC mains wall socket.

—or—

Disconnect the mains with the dedicated circuit breaker.

Battery replacement

This product contains one or more sealed, rechargeable, BS-type lead-acid batteries. These are a maintenance-free, leakproof, long-life batteries that should not be removed under normal circumstances. Because removing a battery may affect the product's configuration settings or trigger an alarm, only a qualified installer should remove the batteries.

To remove a battery, do the following:

1. Make sure that your product settings allow you to open the cover without starting the tamper alarm.
2. Switch off the mains power, if necessary, and remove the cover.
3. Disconnect the battery, sliding the product's wires off the wire connectors. Note that, depending on the battery model, the connectors may be located differently.
4. Remove the battery from the holder.
5. For proper recycling, dispose of all batteries as required by local ordinances or regulations.

See the specifications for your product or contact technical support for information on replacement batteries.

Important notes on mounting

Mount the unit using screws or bolts through the four mounting holes in the base.

Ensure that the unit is mounted on a flat, solid, vertical surface so that the base will not flex or warp when the mounting screws or bolts are tightened.

Allow 50 mm clearance between equipment enclosures mounted side-by-side, and 25 mm between an enclosure and the sidewall.

Only use units in a clean environment and not in humid air.

LEDs

Table 3: ATS125x LEDs

LED	Description
RST	OFF: The microprocessor is functioning normally. ON: The system is in the reset state.
Rx1	Flashing LED indicates polling data is being received from the ATS control panel on the system databus.
Tx1	Flashing LED indicates the 4-door DGP is replying to polling from the ATS control panel on the system databus.
Rx	Flashing LED indicates remote units (readers and interfaces) replying to polling.
Tx	Flashing LED indicates the 4-door DGP is polling remote units (readers and interfaces) on the ATS125x local databus. The Tx LED should always be active.
L1 – L4	Indicates the Unlock Relay is active.

General installation guidelines

The ATS125x DGP has been designed, assembled, and tested to meet the requirements related to safety, emission, and immunity with respect to environmental electrical and electromagnetic interference, in accordance with the current, relevant standards.

If the following guidelines are followed, the system will give many years of reliable service.

In addition to the following guidelines, during the installation of the ATS125x DGP, it is essential to follow any country-dependent installation requirements and local applicable standards. Only a qualified electrician or other suitable trained and qualified person should attempt to wire this system to the mains or to the public telephone network.

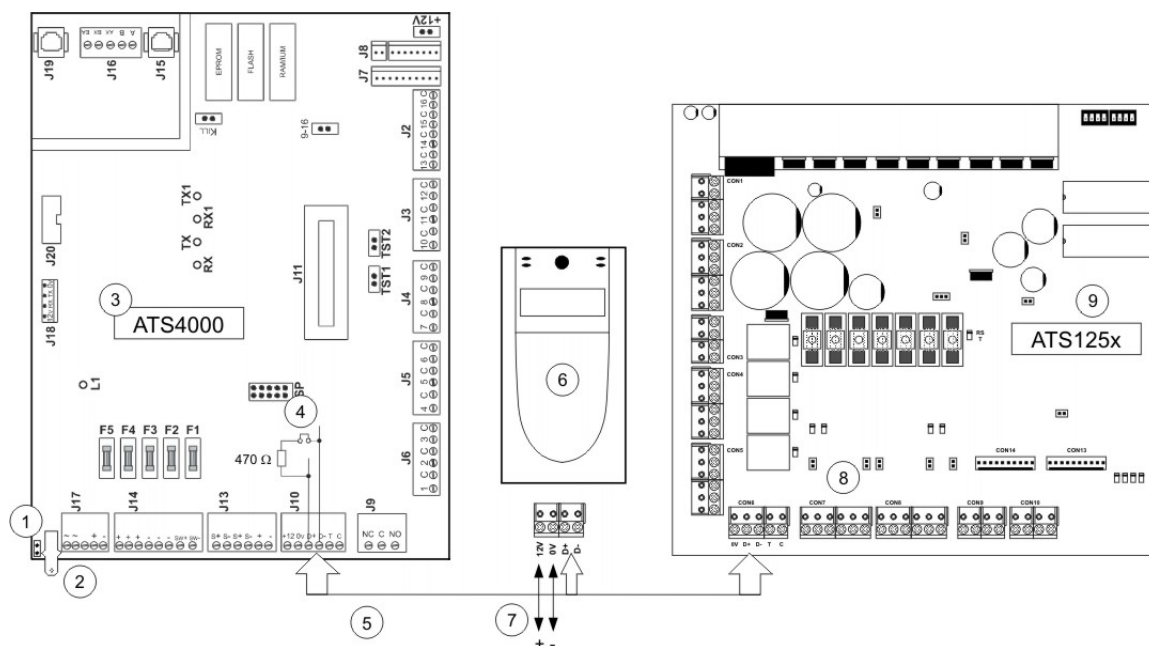
1. Ensure that there is a good earth available for the alarm system.
2. Maintain a separation between low voltage and mains supply cables. Use separate points of cable entry to the control panel cabinet.
3. If the upper and/or lower cabinet entry cable holes are used to route wiring into the control panel, always use a proper pipe fitting system by means of an appropriate conduit and junction box. For this purpose, use only materials of suitable flammability class (HB or better).
4. For mains power connection, use the mains connector terminal either through a permanent wiring or a flexible mains cable to an earthed mains outlet. Always use cable ties to fix the mains cable at the dedicated fixing point provided near the mains terminal connector.
 - a. In case when installing permanent fixed wiring, insert an easily accessible, dedicated bipolar circuit breaker in the power distribution network.
 - b. Never attempt to solder mains connection wires at the ends where they will be wired to the terminal connectors.
5. Avoid loops of wire inside the control panel cabinet and route cables so that they do not lie on top or underneath of the printed circuit board. The use of cable ties is recommended and improves neatness of the wiring within the box.
6. The battery used with this unit, must be made of materials of suitable flammability class (HB or better).
7. Any circuit connected either directly to the onboard relay's contact or to the external relay's contact through the onboard electronic output, must be rated as a SELV (safety extra-low voltage) operating circuit.
 - a. Mains switching relay must not be fitted inside the control panel cabinet
 - b. Always place a suppression diode (e.g. a 1N4001) across the relay coil
 - c. Use only relays with good insulation between the contacts and the coil.
8. The minimum clearance between equipment closures is 50 mm (between equipment vents).
9. Only use these units in a clean environment and not in humid air.

Cabling

System databus preferred wiring

The *TERM* link is on the first and last devices on the system databus. In a star-wiring configuration, the *TERM* link is only fitted on the devices at the ends of the two longest system databus cable runs.

Figure 2: System databus wiring example



1. GND link (*do not fit*).
2. Earth lug to connect shield.
3. ATS4000 control panel.
4. ATS4000 *TERM* link fitted (first device on system databus).
5. Preferred data cable type is WCAT 52 (two twisted pairs).
6. ATS1110 LCD RAS (*TERM* switch not set to ON).
7. Separate 12 V power supply. Required if RAS is more than 100 m from the nearest panel or DGP. Connect the negative terminal of the power supply to the “-” wire of the databus.
8. ATS125x *TERM* link fitted (last device on system databus).
9. ATS125x 4-Door DGP.

Note: The local databus (not shown) has the same requirements. The local databus is connected to CON9/CON10 of the ATS125x.

See “ATS system databus connection”, “ATS125x local databus and earth connection”, and earthing details below.

Earthing

WARNING: Correct earthing procedure must be followed.

Earthing of one cabinet containing several devices

All devices designed for the system allow earth connection to the metal housing via metal studs. Take care that these metal studs have a good connection to the housing (beware of paint).

The earth connections on each piece of equipment in the system can be used to connect the shielding of cables.

If a device is placed in a plastic housing, the earth lug of this device also has to be connected, except for devices that are not provided with an earth lug.

Earthing panels in a single building

In a single building several cabinets or devices are earthed. A licensed contractor must check the safety earth of this building.

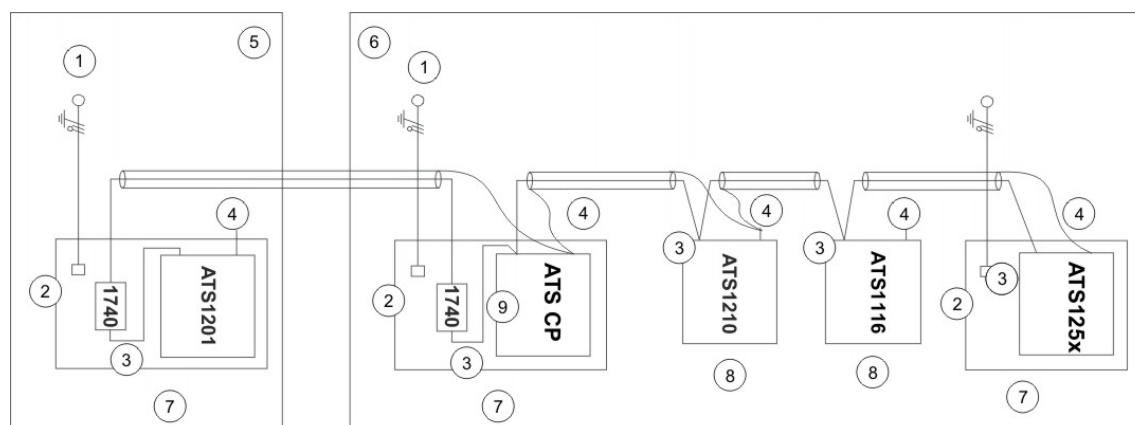
Earthing panels in more than one building

If the wiring extends to separate buildings, use more than one common earth system. Use the ATS1740 isolator/repeaters to isolate the system databus. This protects the system against variations in earth potential.

Shielding

The shield of all the shielded cables used in the system should only be connected on *one* side to one common earthing point in a building. If a shielded databus cable is routed via more than one plastic device, the shield from the incoming and outgoing cable must be connected.

Figure 3: System shielding example



- | | |
|---------------------------------|------------------------------|
| 1. Mains power with local earth | 6. Building 2 |
| 2. Mains power connector | 7. Device in metal housing |
| 3. System databus | 8. Device in plastic housing |
| 4. Earth lug | 9. ATS control panel |
| 5. Building 1 | |

ATS system databus connection

The system databus is used to connect DGPs (such as ATS125x) and arming stations to the ATS control panel. Remote devices can be up to 1.5 km from an ATS control panel.

Each remote device is assigned an address and is polled in sequence by the ATS control panel. Up to 12 4-door DGPs can be connected on the main ATS system databus.

Arming stations and DGPs must be connected via a two-pair twisted shielded data cable from the system databus connection (WCAT 52 is recommended).

Connect the shield of the data cable to earth at the ATS control panel. It should be left disconnected at the other end.

The 4-door DGPs have their own built-in power supply and do not require power from the databus. Only the D+, D– and 0 V connections are required between the ATS control panel and a 4-door DGP.

See also Figure 4 on page 8.

ATS125x local databus and earth connection

The ATS125x allows for 16 arming stations (LCD remote arming stations, Smart Card readers) to be connected to the local databus (CON9/CON10).

The ATS125x local databus consists of two electrically independent loops. If there is a failure in one loop, the other loop can still communicate with the remote devices. The location of devices on the first or on the second loop has no influence on the functionality, as both loops behave as one databus.

Wire the door contacts and request-to-exit buttons associated with each door to the ATS125x inputs.

Any zone used for DOTL (*door open too long*) cannot have any wiring connected.

Each unit is assigned an address and is polled in sequence by the ATS125x on each loop. Remote units can be located anywhere up to 1.5 km from the ATS125x. Each loop must have termination on both ends.

See also Figure 5 on page 9.

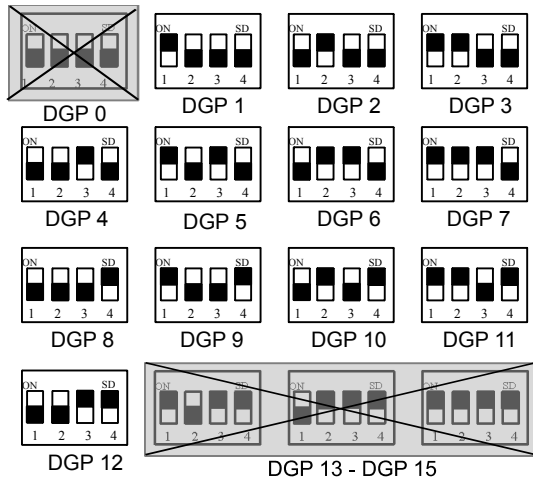
DIP switch settings

DIP switches 1 to 4 (DGP address) are used to identify a DGP to the Advisor MASTER control panel, i.e. to assign the DGP address. A 4-door DGP can only be addressed, as DGPs 1 to 12.

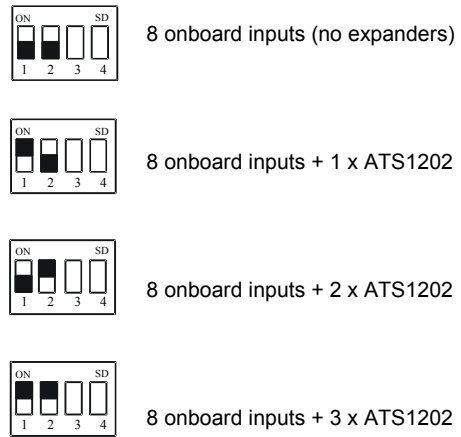
DIP switches 5 to 6 are used for zone expansion configuration.

DIP switches 7 to 8 are not used.

DIP switches 1 to 4



DIP switches 5 to 8



Connection diagrams

Figure 4: System databus connection

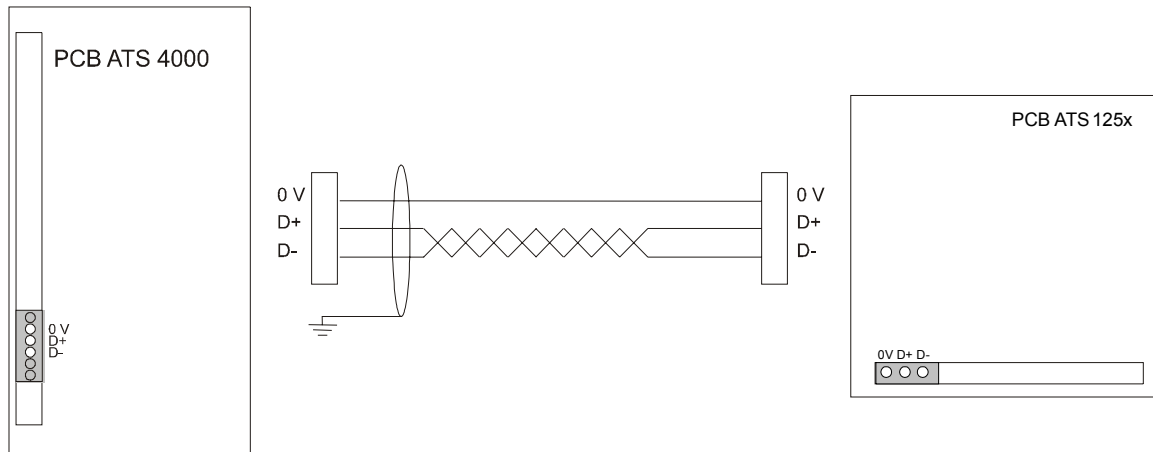


Figure 5: Local databus connection

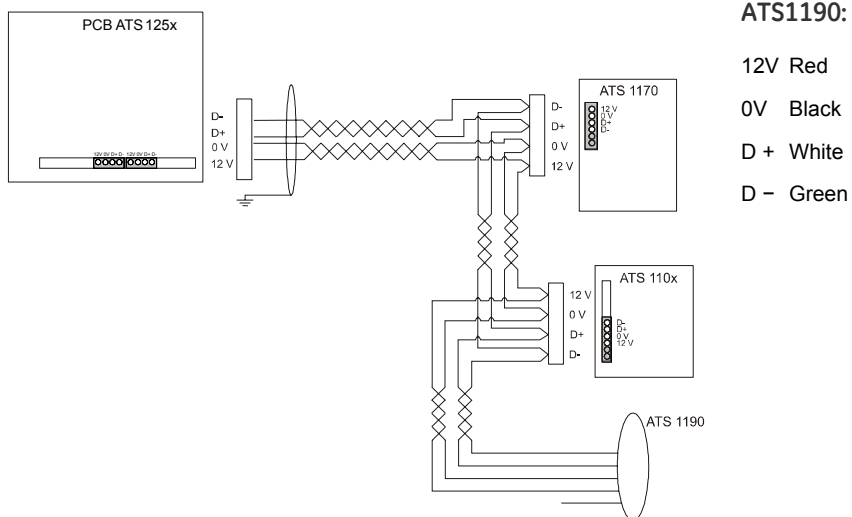


Figure 6: Connection door contact and request-to-exit button

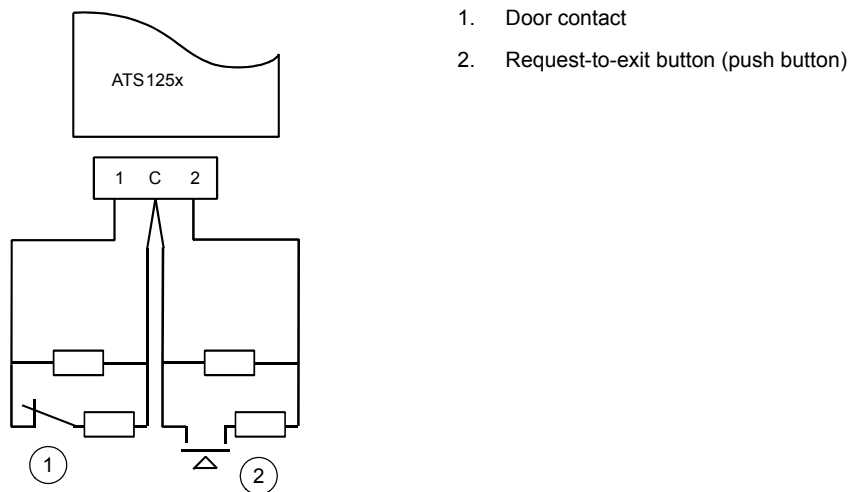
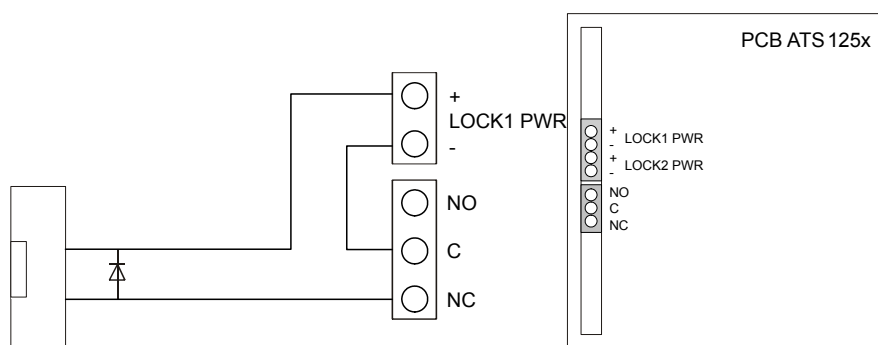


Figure 7: Door lock connection



Zones, RASs and outputs

Numbering

All DGPs, zones, RASs, and outputs are numbered according to a set formula. This is used when determining the physical numbers and locations of DGPs, outputs etc. during programming.

Table 4: Zones, RASs and outputs allocated per DGP

DGP / panel	Zones / RASs / outputs	DGP / panel	Zones / RASs / outputs
Control panel	1-16	DGP 7	113-128
DGP 1	17-32	DGP 8	129-144
DGP 2	33-48	DGP 9	145-160
DGP 3	49-64	DGP 10	161-176
DGP 4	65-80	DGP 11	177-192
DGP 5	81-96	DGP 12	193-208
DGP 6	97-112		

Zones

A 4-door DGP has a maximum of 16 zones available (or 32 zones, if occupies two addresses). These zones follow the standard zone numbering.

For example: ATS125x 1 is DGP1 and has 16 zones, which the ATS control panel identifies as zones 17 to 32.

If all 32 zones are used, the next DGP address is not available.

For example: DGP1: zones 17-48, DGP2 is not available, DGP3: zones 49-64.

See tables on page 11 for more details on default zone and unlock relay settings.

Note: The ATS125x 4-door DGP has only 8 zones onboard. Another 24 zones can be connected with ATS1202 zone expanders.

RASs

Card readers, keypads (ATS110x, ATS115x), and ATS1170 units are polled as RASs. Polling allows the RAS to transfer data to the ATS125x. RASs are connected to the ATS125x local databus. Each RAS has a unique number in the system depending on 4-door DGP address and RAS address on local databus. See Table 4 above for more details.

16 RASs can be connected to each ATS125x local databus. The RAS addresses relate to specific doors on the ATS125x, and to the reader location if readers are mounted on both sides of the same door.

Table 5: RAS address and reader function

	IN	IN	OUT	OUT
Door 1	1	5	9	13
Door 2	2	6	10	14
Door 3	3	7	11	15
Door 4	4	8	12	16

Outputs

The 4-door DGP has one output available as a switched power output (external siren output). There are also four onboard unlock relays available, one for every door (K1 to K4).

A 4-door DGP can address 48 outputs in total using macro logic.

Output controllers are used to expand the number of outputs on a DGP. Each output controller expands the outputs by eight. Output and zone numbers are always the same as the first 16 zone numbers on the DGP to which they are connected.

Outputs devices

ATS1810: 4-way relay card allows the use of output numbers 5 to 8 of the outputs allocated to the DGP address. For example, DGP 1 uses unlock relay 17, 18, 19, and 20 for opening doors, and outputs 21 to 24 are available on the relay card.

Note: this card cannot be used together with ATS1811/ATS1820 clocked output cards.

ATS1811: 8-way relay cards allow use of output numbers 5 to 48 of the outputs allocated to the DGP address. For example, DGP 1 uses unlock relay 17, 18, 19, and 20 for opening doors and outputs 21 to 63 are available on the relay cards.

ATS1820: 16-way open collector card. This is the same as ATS1811.

The 4-door DGP can activate outputs 33 to 63 only by utilizing macro logic.

When using more than two ATS1811s or ATS1820s, use a separate power supply.

ATS125x default zone and relay settings

Table 6: ATS125x defaults

	Door 1	Door 2	Door 3	Door 4
Door contact	1	3	5	7
Request-to-exit zone	2	4	6	8
DOTL	1	3	5	7
Door relay	K1	K2	K3	K4

The zone numbers in Table 6 on page 11 refer to the physical zone numbers on the ATS125x PCB.

The system zone numbers relating to these functions for each of the ATS125x can be found in Table 4.

Door numbering

Door numbers are determined by:

- The RAS or reader address when connected to the ATS system databus (doors 1 to 16).
- 4-door DGP address (doors 17 to 64).

Doors 1 to 16 are reserved for RAS 1 to 16 and are connected to the ATS system databus. These only provide basic access control (door opening).

Doors 17 to 64 are used for door numbers and are controlled by a 4-door DGP (ATS125x). These doors provide enhanced access control functions (such as anti-passback).

Table 7: Door numbers allocated per DGP

Device address / Door number				
RAS 1 to 16	1 to 16 (door open only)			
	Door			
	1	2	3	4
DGP1	17	18	19	20
DGP2	21	22	23	24
DGP3	25	26	27	28
DGP4	29	30	31	32
DGP5	33	34	35	36
DGP6	37	38	39	40
DGP7	41	42	43	44
DGP8	45	46	47	48
DGP9	49	50	51	52
DGP10	53	54	55	56
DGP11	57	58	59	60
DGP12	61	62	63	64

Power-up procedure

When the installation is complete, ensure that the unit is addressed correctly using DIP switches 1 to 4. Only addresses 1 to 12 are available.

Verify that the RAM memory in the ATS125x and the Advisor MASTER control panel is the same.

On initial power-up, the LEDs on the 4-door DGP should indicate as follows:

- RST LED: OFF.

ATS system databus indicator LEDs:

- Rx1: Flashes if the ATS125x receives polling from the ATS control panel.
- Tx1: Off if the ATS125x is not addressed or is not programmed to be polled by the control panel.

4-door DGP local databus indicator LEDs:

- Tx: Flashes when the ATS125x is polling remote devices (readers/interfaces) on the local databus; TX should always be active.
- Rx: Flashing indicates remote devices reply to polling.

Setup procedure

1. The minimal setup only consists of those settings required to activate the DGP and the connected RASs for programming.
2. Set addresses of RASs (readers or keypads) connected to the local databus of the 4-Door DGP.
3. In the Advisor MASTER control panel, installer programming (menu 19.4): DGP, activate polling for the 4-Door DGP and set the DGP type.

How to access the ATS125x programming menu

Access to the Door programming menu is via the Advisor MASTER, Installer menu 28, "To remote devices". When programming in the 4-door programming menu, you are actually programming the ATS125x.

If you are denied access to "To remote devices", it is because one or more of the above hardware or programming criteria have not been met.

To access the menu:

1. Start with the display showing:

```
Remote Device: 1-DGP, 2-RAS  
Device:
```

Enter the type of remote device you want to program. Select 1 (DGP).

- Enter the number of the remote device you want to program.

```
Remote DGP Setup
DGP No.:
```

The DGP number is the same as the DGP address.

The following is briefly displayed:

```
Connecting...
Enter to Abort
```

You have now accessed the ATS125x Programming menu for the ATS125x that you have selected. The display shows the 4-door programming menu display:

```
`#` -Move On  `*` Move back
Menu:
```

See the “ATS125x programming menus” below for information on available options and how to set them.

ATS125x programming menus

No.	Menu	Description
1.	DGP Options	Global options valid for all doors of the selected 4-door DGP.
2.	Door Options	Options valid for each individual door on the ATS125x.
3.	Initialise Database	Allows initialisation of door database. Resets all data in the DGP to default.
4.	Display Card	Displays card details on LCD for the last card that is badged.
5.	Door Groups	Allows door group details to be viewed.
6.	Reserved	
7.	System Options	Allows ATS125x outputs to be activated to indicate system faults on the ATS125x.
8.	Program Macro Logic	Enables outputs and internal events to be generated by logic functions using ATS125x events.
9.	Version Number	ATS125x firmware and CPLD version number.
10.	To Local Devices	Enables you to access the remote devices on the local databus.

Initialise the database

Initialise the 4-door DGP on initial power-up only. This is done via the door data menu option 3, Initialise database.

Caution: All programming and settings will be reset to factory defaults. Factory defaults are listed in the programming guide.

Poll connected RASs

Go to menu 1, DGP options.

Set or select the following options:

1. Enter RASs connected to be polled.
2. Enter LCD RAS connected.

For more details on how to program the ATS125x 4-door DGP refer to the *ATS125x Programming Guide*.

Troubleshooting

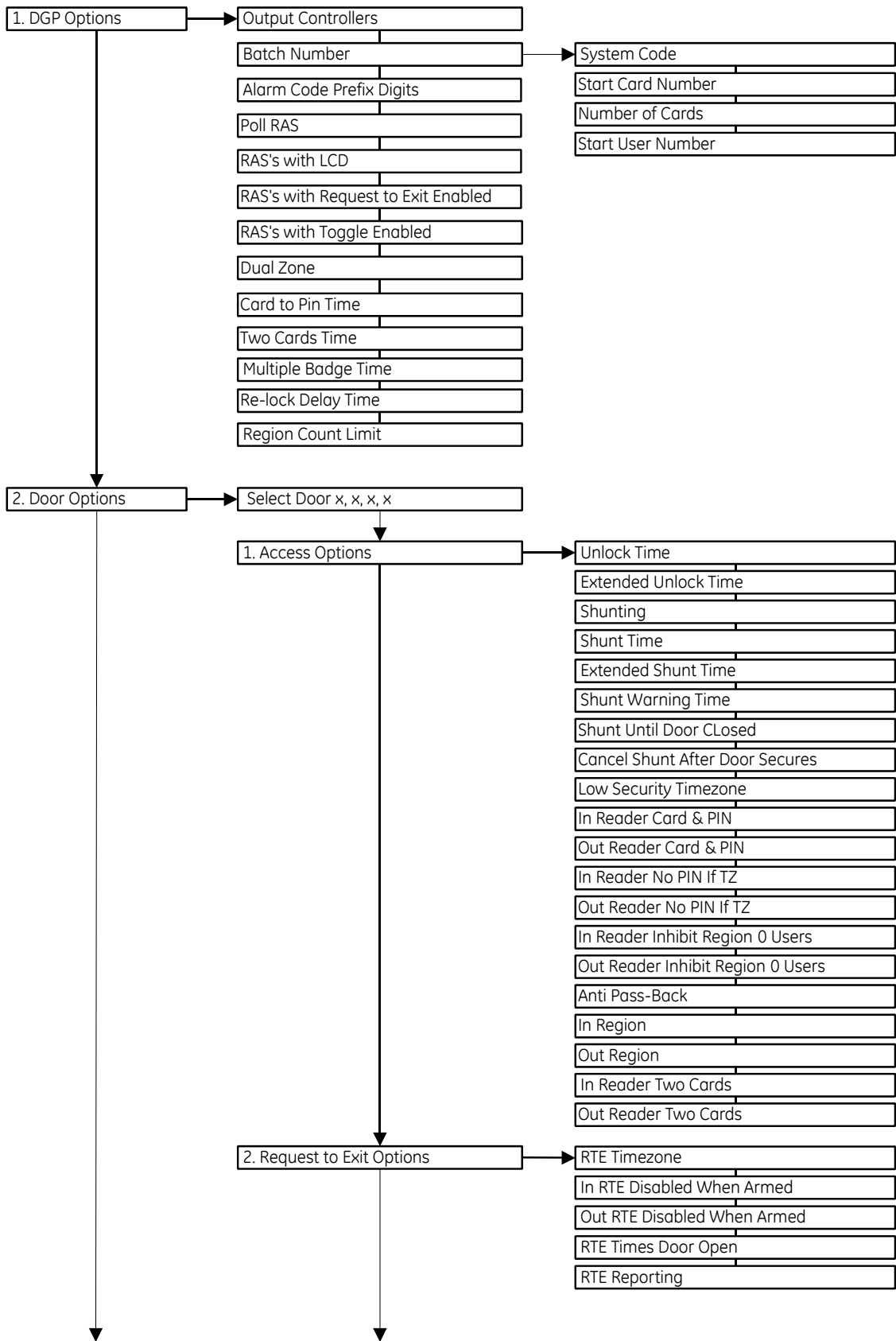
ATS system data bus indicator LED's

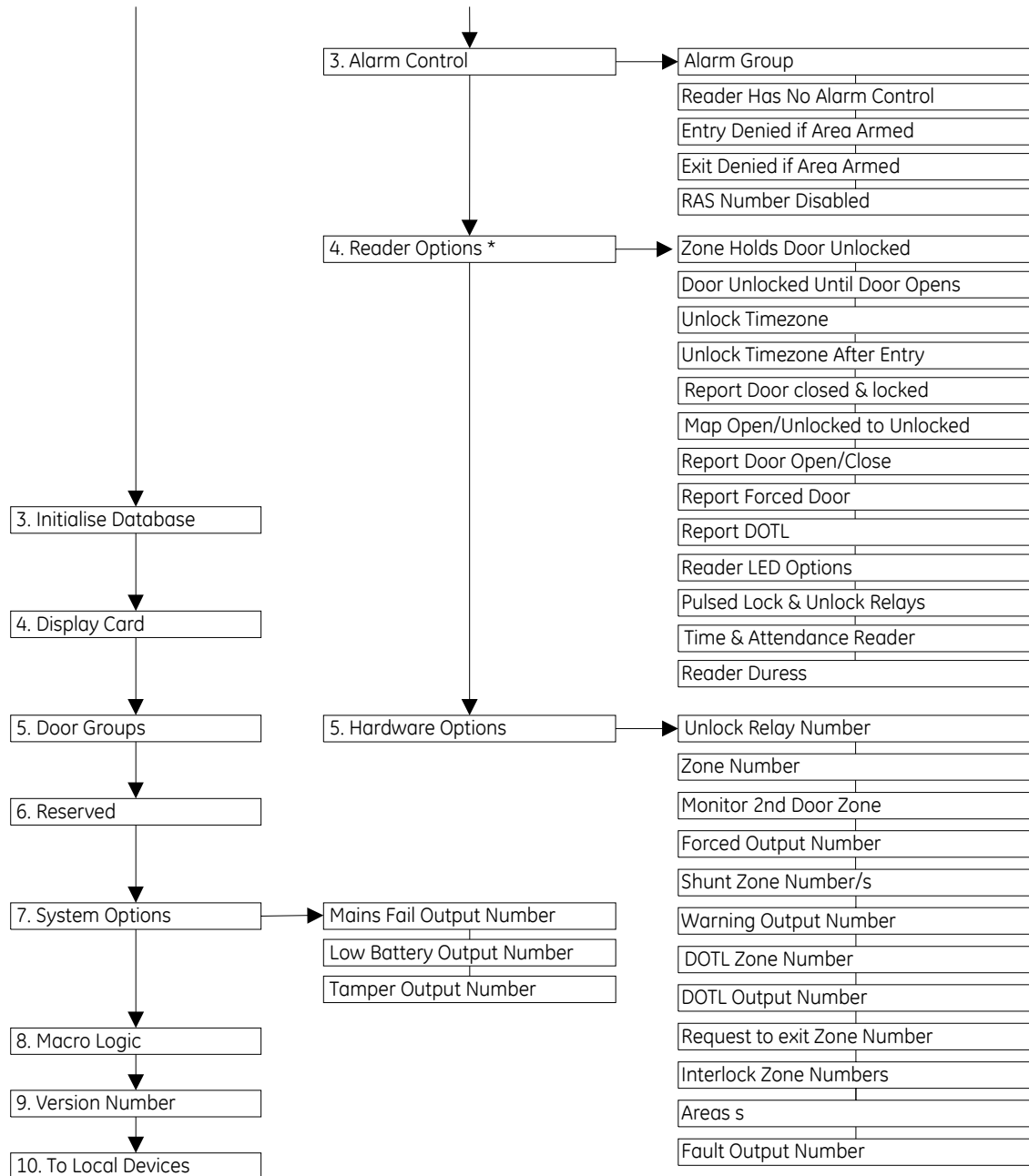
- | | |
|-------|---|
| Rx1 | <p>The yellow Rx1 LED flashes to indicate polling data is received on the system data bus from the panel. If the LED does not flash, the control panel is not operational or the bus is faulty</p> <ul style="list-style-type: none">• Check that DGP is powered correctly.• Check wiring DGP data bus connections. |
| <hr/> | |
| Tx1 | <p>The red Tx1 LED flashes to indicate the DGP is replying to polling from the control panel. If the Rx LED flashes but the Tx LED does not, the DGP is not programmed to be polled in the control panel or has the wrong address.</p> <ul style="list-style-type: none">• Check if the DGP connected to the data bus has the correct address.• Check that the DGP is being polled (ATS control Menu 19 > 4). |
-

4-door DGP local data bus indicator LEDs

- | | |
|-------|---|
| Tx | <p>The red Tx LED flashes when the ATS125x is polling remote devices (readers and interfaces) on the local databus. The Tx LED should always be active.</p> |
| <hr/> | |
| Rx | <p>The yellow Rx LED flashes to indicate remote devices reply to polling.</p> <p>If the LED does not flash, the RASs are not programmed to be polled, are addressed incorrectly, or the bus is faulty.</p> <ul style="list-style-type: none">• Check that RASs are powered correctly.• Check RAS data bus connections.• Check that the RASs (readers and interfaces) are polled. (ATS 125x Menu 1.4 Poll RAS).• Check that RASs are addressed correctly. |
-

Programming map





* CARD FORMAT only can be configured via management software.

Specifications

General specifications	ATS1251	ATS1252	ATS1253	ATS1254
End of line resistor	Default: 4.7 k Ω , 2%, 0.25 W (Other: 10 k Ω , 2%, 0.25 W; 2.2 k Ω , 2%, 0.25 W)			
Housing	480 x 464 x 160 mm		445 x 315 x 90 mm	
PCB	202 x 218 x 48 mm			
Colour	Beige			
Operating temperature	-10 to +55°C			
Humidity	95% noncondensing			
IP protection grade	IP30			
Mains power specifications				
Mains input voltage	230 V ~ \pm 10%, 50 Hz \pm 10%, 129 VA max.			
Current consumption at 230 V~	560 mA max.			
Main board supply voltage (J17)	30 VAC typical			
Power supply specifications				
Power supply voltage	13.8 \pm 0.2 V $\overline{=}$	27.6 \pm 0.2 V $\overline{=}$	13.8 \pm 0.2 V $\overline{=}$	27.6 \pm 0.2 V $\overline{=}$
Power supply current	4.0 A max. @ 13.8 \pm 0.2 V $\overline{=}$	1600 mA max. @ 27.6 V $\overline{=}$ + 1100 mA max. @ 13.8 V $\overline{=}$	4.0 A max. @ 13.8 \pm 0.2 V $\overline{=}$	1600 mA max. @ 27.6 V $\overline{=}$ + 1100 mA max. @ 13.8 V $\overline{=}$
Auxiliary power output	13.8 \pm 0.2 V $\overline{=}$, 2 A max.			
	Note: Maximum permanent current to power devices external to the control equipment in the absence of alarm conditions.			
Battery power output	13.8 \pm 0.2 V $\overline{=}$	27.6 \pm 0.2 V $\overline{=}$	13.8 \pm 0.2 V $\overline{=}$	27.6 \pm 0.2 V $\overline{=}$
Battery type	Lead acid rechargeable			
Battery max. capacity	1 x 26 Ah nom.	2 x 26 Ah nom.	1 x 7.2 Ah nom. or 1 x 18 Ah nom.	2 x 7.2 Ah nom.
Main board consumption	100 mA at 13.8 \pm 0.2 V $\overline{=}$			
Remaining current	3900 mA @ 13.8 VDC	1600 mA max. @ 27.6 VDC + 1000 mA max. @ 13.8 VDC	3900 mA @ 13.8 VDC	1600 mA max. @ 27.6 VDC + 1000 mA max. @ 13.8 VDC

Notes

1. Remaining current means all available current that can be used for the following: auxiliary power (incl. switched), battery charge, lock power and local databus power. You can distribute the total available current over the terminals as long as the maximum remaining current and fuse rating for each output is respected.
2. The required battery current is dependant on the approval grade. See "Auxiliary current and battery capacity" on page 20 for determining which current should be reserved for charging the battery. Note that auxiliary power, lock power and local databus power is limited by the battery current.

3. For the 12 V model 3900 mA can be distributed. Higher current value drives the power supply into current limit.
4. For the 24 V model 1600 mA can be distributed over 27.6 V contacts (Locks and Battery) and 1000 mA can be distributed over the 13.8 V contacts (auxiliary power incl. switched and the local communications).

Fuses

F1: Battery 1	5 A, Fast 20x5	F5: Lock power 1	2 A, Fast 20x5
F2: Auxiliary power	1 A, Fast 20x5	F6: Lock power 2	2 A, Fast 20x5
F3: Local databus 1	800 mA, Fast 20x5	F7: Switched power	1A, Fast 20x5
F4: Local databus 2	800 mA, Fast 20x5	Mains*: Mains fuse	800 mA, Slow 20x5

* Mains fuse is part of the mains terminal block.

WARNING: Before removing the mains fuse, the mains power must be disconnected! See “Mains power connection” on page 2.

Auxiliary current and battery capacity

Note: * This is only a reference to approval requirements. Please contact your local sales office for more information about the valid certification.

Table 8: ATS1251 & ATS1253 auxiliary current and battery capacity (12 V models)

		Battery type*	7.2 Ah	18 Ah	26 Ah
Approval grade*	Discharge time (h)	Charge time (h)	Max. available auxiliary current (mA)		
EN 1&2	12	72	450	1300	1800
EN 3&4	60	24	N/A	175	290
NF & A2P - 2	36	30	N/A	330	500
NF & A2P - 3	72	30	N/A	110	200
VdS - B	30	24	110	450	700
VdS - C	60	24	N/A	175	290

* Available battery capacities depend on the housing as well. Please refer to maximum battery capacity in “Specifications” on page 19.

Table 9: ATS1252 & ATS1254 auxiliary current and battery capacity (24V models)

		Battery type*	2 x 7.2 Ah	2 x 18 Ah	2 x 26 Ah
Approval grade*	Discharge time (h)	Charge time (h)	Max. available auxiliary current (mA)		
EN 1&2	12	72	500	1400	1800
EN 3&4	60	24	N/A	200	300
NF & A2P - 2	36	30	100	400	600
NF & A2P - 3	72	30	N/A	150	250
VdS - B	30	24	120	500	730
VdS - C	60	24	N/A	200	300

* Available battery capacities depend on the housing as well. Please refer to maximum battery capacity in “Specifications” on page 19.

All Auxiliary currents mentioned in the tables above are calculated for the 24 V auxiliary. For calculation of the maximum load on 12 V auxiliary outputs a correction factor of 1.6 should be taken into account.

Formula: $I_{aux} @ 12 V = I_{aux} @ 24 V \times 1.6$

Example 1

One wants to meet Approval grade EN 1&2 with an 18 Ah battery. The application has a maximum load of 24 V locks of 800 mA. According Table 9 on page 20, the maximum available auxiliary current is 1400 mA @ 24 V.

This means that besides the 800 mA for the 24 locks either:

- $1400 - 800 = 600$ mA is left @ 24 V auxiliary or
- $600 \times 1.6 = 960$ mA left @ 12 V auxiliary, i.e. auxiliary power, local databus.

Example 2

One wants to meet Approval grade NF & A2P – 2 with an 18 Ah battery. The application has a maximum local comms load (12 V) of 200 mA. According Table 9 on page 20, it means that the maximum available auxiliary current is 400 mA @ 24 V.

This 200 mA @ 12 V local comms load results in:

- $200 \div 1.6 = 125$ mA @ 24 V and this leaves
- $400 - 125 = 275$ mA @ 24 V for auxiliary (i.e. locks power).

Restrictions

- Max 12 V auxiliary current: 1000 mA
- Max 24 V auxiliary current: 1600 mA

Maximum auxiliary current can be limited by:

- Discharge duration
- Available charge capacity for battery
- Auxiliary fuse

All data is based on a board without external equipment.

Cabling distance

Table 10: Cabling distance

From	To	Distance	Cable type
ATS control panel system databus (J10)	ATS125x system databus (CON6)	1.5 km (total databus length without repeaters)	WCAT 52 or equivalent
Local databus 1 (CON9)	RAS	1.5 km (total databus length without repeaters)	WCAT 52 or equivalent
Local databus 2 (CON10)	RAS	1.5 km (total databus length without repeaters)	WCAT 52 or equivalent

External terminals specification

Table 11: External terminals

Part	Terminal		Description	Min.	Typ.	Max.	Unit
CON1	AC		Secondary AC transformer connection		20 120		VAC VA
	BATT		Battery connection 12 V models (ATS1251, ATS1253)	13.6	13.8 7.2	14.0 25	VDC Ah
			Battery connection 24 V models (ATS1252, ATS1254)	27.4	27.6 2 x 7.2	27.8 2 x 25	VDC Ah
CON2	AUX. POWER	+- +-	Auxiliary power output	13.6	13.8	14.0 2	VDC A
		S+ S-	External siren output	13.6	13.8	14.0 1	VDC A
CON3	LOCK PWR 1/2	+- +-	Lock power output 12V models (ATS1251, ATS1253)	13.6	13.8	14.0 2	VDC A
			Lock power output 24V models (ATS1252, ATS1254)	27.4	27.6	27.8 2	VDC A
CON4, CON5	RELAY	C, NO or NC	Contacts door relays (each)			30 2	VAC A
CON9, CON10	COMMS	+12 V	Power for local bus	13.6	13.8	14.0 2	VDC A

Notes

1. Maximum total current consumption for auxiliary power outputs (++/--) and external siren should not exceed 2 A.
2. Maximum total current consumption should not exceed 3 A, including battery load current.

