

GTV-I

INTELLIGENT 24 V DC POWER SUPPLY FOR DOOR CONTROL IN FIRE AND SECURITY APPLICATIONS

A new standard in safety, flexibility and ease of use





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1 INTRODUCTION

In situations where safety and reliability leave no room for compromise, a high-quality power supply solution is essential. Electroproject's GTV-I power supply unit is designed for the most demanding applications in fire safety and access control. This intelligent 24 V DC power supply combines proven technology from the GTV-A series with the latest innovations in software, signal processing, and energy management.

Drawing on more than 50 years of experience in magnetic technology and electromechanical control systems, Electroproject presents the GTV-I: a powerful, modular, and future-proof power supply solution for the safety systems of tomorrow.



2 DISCOVER THE GTV-I POWER SUPPLY UNIT



The GTV-I is designed for situations where doors must open or close in a controlled manner in response to alarm signals or user commands.

- **Fire doors**

Automatic closing in case of smoke or fire detection

- **Escape doors:**

Automatic release in case of power failure or evacuation

- **Double doors with closing sequence**

Correct compartmentalisation of smoke or fire zones

- **Electric door locks**

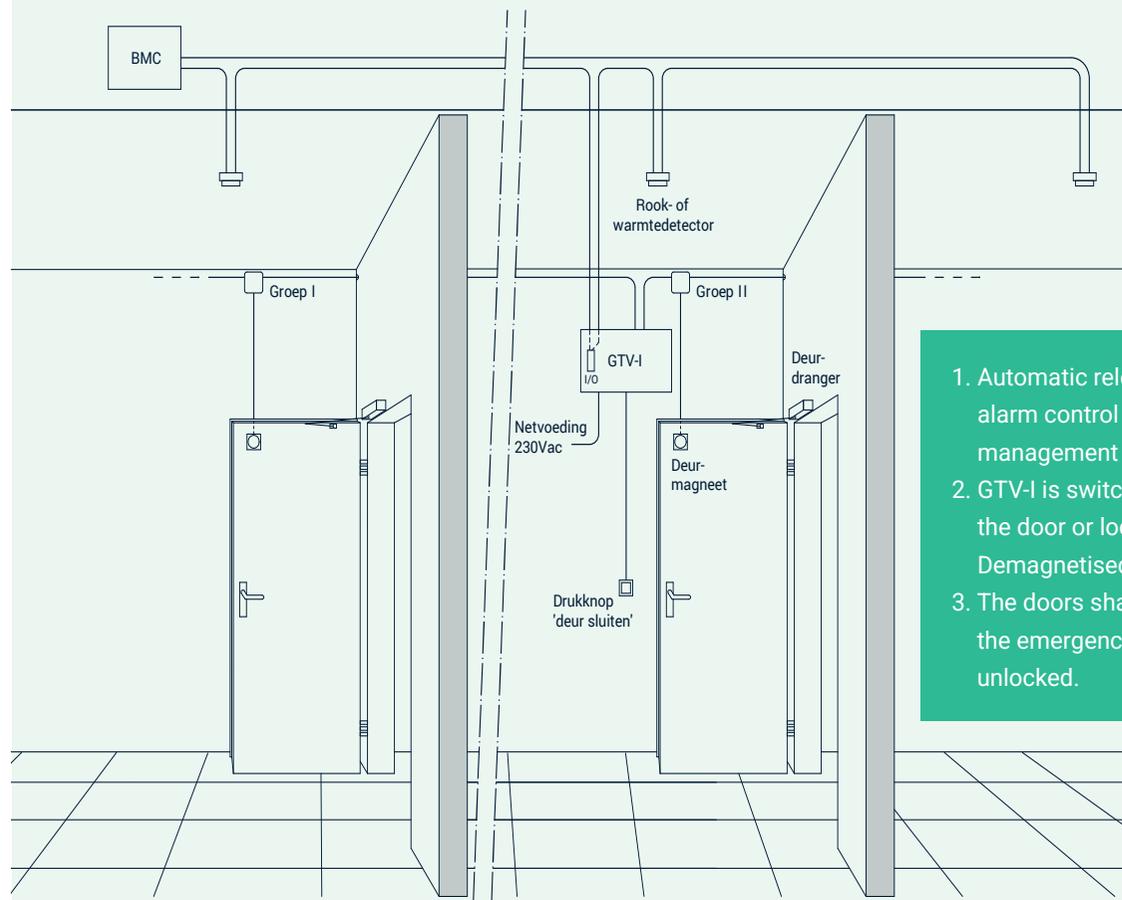
Controlled access to secure areas

- **Smoke vents and air exhausts**

Activated via fire alarm control panel (FAC) or building management system (BMS)

Electroproject supplies 24 V DC GTV-I power supplies up to 10 amps with and without TX1 Super Cap Back-Up solution

Principle of door release systems with GTV power supplies



1. Automatic release of a fire alarm control panel or building management system (BMS)
2. GTV-I is switched off and the door or lock magnets are Demagnetised.
3. The doors shall close and the emergency doors shall be unlocked.

3 TECHNOLOGY THAT WORKS FOR YOU

The GTV-I is designed for reliability, installation flexibility and intuitive use. Every detail contributes to faster installation and easier commissioning.



• Capacity

For reliable supply of magnetic systems and door controls up to 10 amps 24 V DC

• Programmable I/O functionality

For complex control scenarios, including locking sequence controls

• Flexible control

Selector switch with multiple selector programmes, five inputs and two switched outputs.

• Safety

Short-circuit-proof with automatic overcurrent detection and reset push button

• Easy Installation

DIN-rail mounting space, large connection terminals and flexible cable entry

• Backward compatible

Seamless integration with existing GTV-A and GTV power supplies

Feature	Specification
Input voltage	180 • 240 V AC, 50/60 Hz
Output voltage	24 V DC, set to 25 V DC
Maximum current	Up to 10 A, depending on version
Ripple voltage	<1% • suitable for sensitive applications
Programming	20 programmes: 16 standard + 4 OEM customer-specific
Inputs	5 digital inputs for control via FAC/BMS
Outputs	2 power outputs, 4 relay outputs, 3 digital outputs
Back-up support	Prepared for TX1 SuperCap module (no batteries required)
Status indication	Front LEDs, load indicator on the PCB, clear push buttons
Installation	DIN rail, large terminals, gland entry

4 WHAT MAKES THE GTV-I INTELLIGENT?

Where earlier GTV models offered a limited number of programmes, the GTV-I provides an extensive set of 20 control programmes, including four customer-specific OEM programmes.

The smart software offers unprecedented flexibility in scenarios such as:

- Closing sequences of double doors
- Delayed shutdowns to keep escape routes open longer
- Separate control of different zones
- Peak current limitation on switch-on
- OEM programmes tailored to customer-specific situations

Programmes	Description	Example of use
0 and 10	Enable output I and II independently of the status of the inputs. (test programme)	Testing of output functions without dependence on inputs.
1 and 5	Switching 1 load (zone) ON and OFF simultaneously via output I and II.	Simultaneously close all doors on multiple floors/sections.
2 and 6	Two loads (zones) with closing-sequence control via outputs I and II, switched on simultaneously and switched off with delay.	Switching off double doors with a specific closing sequence control.
3 and 7	Two loads (zones) switched separately on and off via outputs I and II.	Control the doors in segments per section to keep escape routes open longer.
4 and 8	Two loads (zones) switched separately on and off via outputs I and II, with output II protected against switch-off.	Be able to control pedestrian doors and emergency doors and/or secure sections separately, each with their own switch-off protocol.
9	Two loads (zones) switched on sequentially with a delay via outputs I and II, and switched off simultaneously.	Delayed switching on of two loads with high inrush currents to avoid peak load.

Setting function switch

- Function switch is located on the control board and is used to set programmes 0 to 19.
- The power supply switches ON automatically in operating modes 1 to 4 and 9.
- The power supply switches ON manually in operating modes 5 to 8.
- Use the push button (PB) to switch the power OFF and ON again.
- Only operating modes are backed up if the TX time Xtender is connected.



Program selection is carried out via a rotary switch on the PCB, with jumper settings supporting the 0–9/10–19 selection. During installation and maintenance, the active programme and the behaviour of the outputs are immediately visible.

5 KEY INNOVATIONS AT A GLANCE

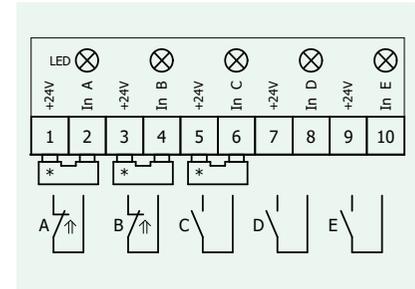
Intuitive operation

With a new front layout, four LED status indicators and integrated push-button operation, status diagnosis becomes child's play • even without additional equipment.

- Power on
- Overcurrent
- Fault
- UPS mode*

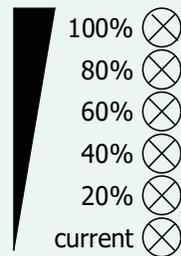
Comprehensive I/O structure

5 inputs, 2 switched power outputs, 4 relays and 3 digital outputs • all available for complex or modular applications.



Load indicator on PCB

A unique feature of the GTV-I is the direct visual feedback of the load. This feature speeds up commissioning, helps prevent breakdowns and makes maintenance more efficient.



Modular extensions

DIN rail with space for a time switch, main switch, I/O module or the TX1 back-up module. This allows customisation without housing adaptation.



SuperCap TX1 back-up (option)

Instead of batteries, the GTV-I operates with a SuperCap module that temporarily supplies 24 V DC in case of grid failure. Ideal for controlled evacuation procedures or automatic takeover by emergency power supply (UPS). Completely maintenance-free.



6 SEAMLESS TRANSITION FROM GTV-A TO GTV-I

The GTV-I is fully backward compatible with earlier GTV and GTV-A models. This means there is no need to modify existing wiring or logic. The connection structure for power supply, inputs and signalling contacts remains exactly the same. This makes the GTV-I quick and easy to install in case of replacement, without the need for system modifications.

Practical application examples



• Hospitals

Central release of doors in case of fire, preferred and non-preferred.



• Offices

Pedestrian doors with closing sequence, emergency doors with position signalling.



• Shopping malls

Automatic Back-Up in case of power failure, with temporary bridging via TX1.



• Educational institutions

Daily automatic testing of door control via optional built-in time switch.



Advantage	What it delivers
More logic & programmes	Flexible deployment in any type of building or control scenario
Visual diagnosis on the PCB	Save time on installation & maintenance
Batteries no longer required	Lower maintenance costs, higher reliability
Quick retrofit	No modifications to existing GTV systems required
Modular structure	Expand with accessories without customisation

7 GTV-I VERSIONS



GTV-I 25

Operating voltage	230V/50Hz
Secondary voltage	24 V DC
Secondary current	1 A
Secondary power	25 W
Ripple DC voltage	< 1%
Weight	4.5 KG
Dimensions (HxWxD)	250x250x120 mm
Degree of protection	IP 44



GTV-I 50

Operating voltage	230V/50Hz
Secondary voltage	24 V DC
Secondary current	2 A
Secondary power	50 W
Ripple DC voltage	< 1%
Weight	5 KG
Dimensions (HxWxD)	250x300x120 mm
Degree of protection	IP 44



GTV-I 100

Operating voltage	230V/50Hz
Secondary voltage	24 V DC
Secondary current	4 A
Secondary power	100 W
Ripple DC voltage	< 1%
Weight	5.5 KG
Dimensions (HxWxD)	250x300x120 mm
Degree of protection	IP 44



GTV-I 250

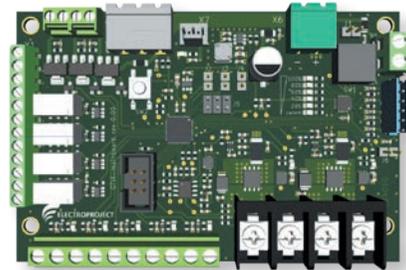
Operating voltage	230V/50Hz
Secondary voltage	24 V DC
Secondary current	10 A
Secondary power	250 W
Ripple DC voltage	< 1%
Weight	7 KG
Dimensions (HxWxD)	250x400x150 mm
Degree of protection	IP 21

8 OPTIONS AND SPARES



TX1 Time Xtender

Supercap back-up unit for GTV-I power supplies.
Suitable for at least 20 seconds of back-up voltage.



Universal GTV-I control board

Universal GTV-I control board no. E24010 for replacement purposes. Suitable for all GTV-I models.

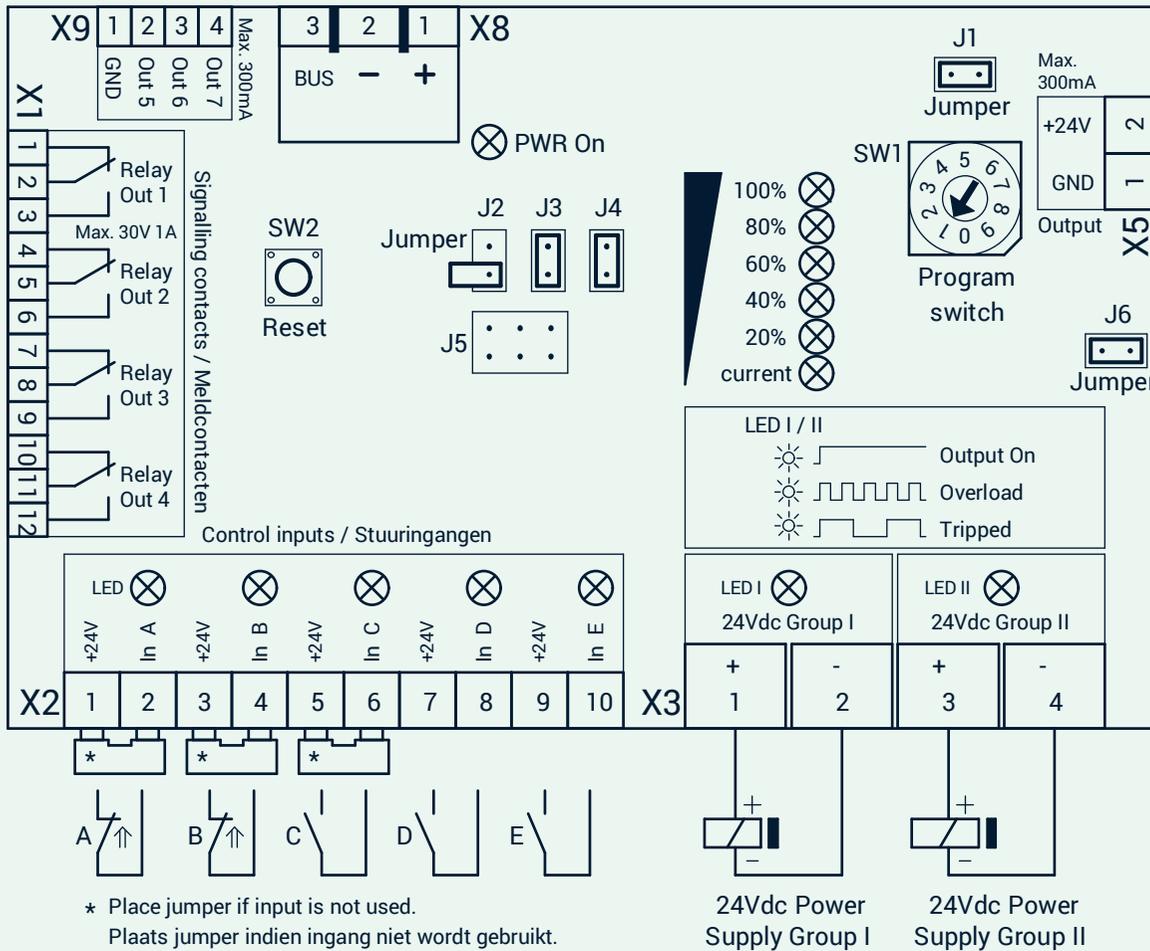


Time switches

Digital single-channel time switch for DIN-rail mounting with daily and weekly programmes, and 500-hour power reserve. Analogue single-channel time switch for DIN-rail mounting with daily programme and 70-hour power reserve.



9 GTV-I WIRING DIAGRAM



- Inputs A, B, and C are for connecting external control signals.
- The controlling device can receive a status message back via the output relay contacts.
- Master output X9 (terminals 1 and 2) can be used to control other GTV-I power supplies.
- Loads requiring continuous 24V can be connected to terminal block X5 (terminals 1 and 2).
- The load in the outputs (X5 and X9) must never exceed 300 mA.

For more information on this subject:
refer to the GTV-I power supply manual.



Want to find out more or request a quote?

Visit www.electroproject.nl

Or contact us directly at sales@electroproject.nl

Electroproject • Your partner in intelligent door control and safety technology for more than 50 years.

We make technology understandable, reliable and future-proof.



Electroproject B.V.
Albert Heijnweg 1
NL-1507 EH Zaandam
+31 (0)88 484 92 50
sales@electroproject.nl
electroproject.nl