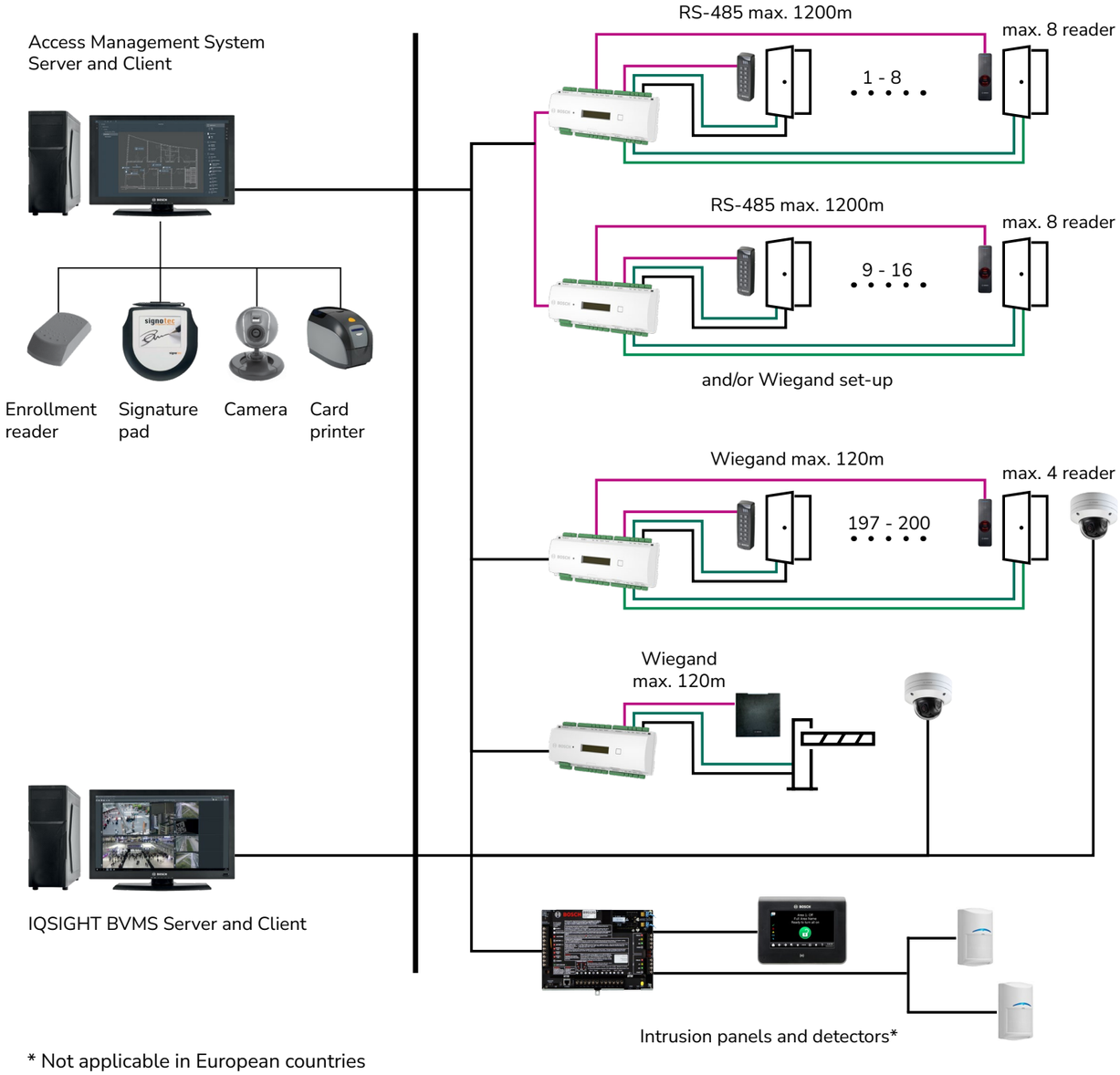
Access control system design example



* Not applicable in European countries

System description / application

System size

- 200 doors
- 1,200 cardholders
- Three operators

AMS features

- Max. 10,000 doors
- Max. 400,000 cardholders
- 5 cards per person
- 1,024 authorizations per MAC
- Graphical location map
- Video integration for video verification via IQSIGHT BVMS
- Credential management

AMC features

- 2 RS-485 buses or 4 Wiegand ports
- 8 inputs
- 8 relays
- TCP/IP, RS-485 connection

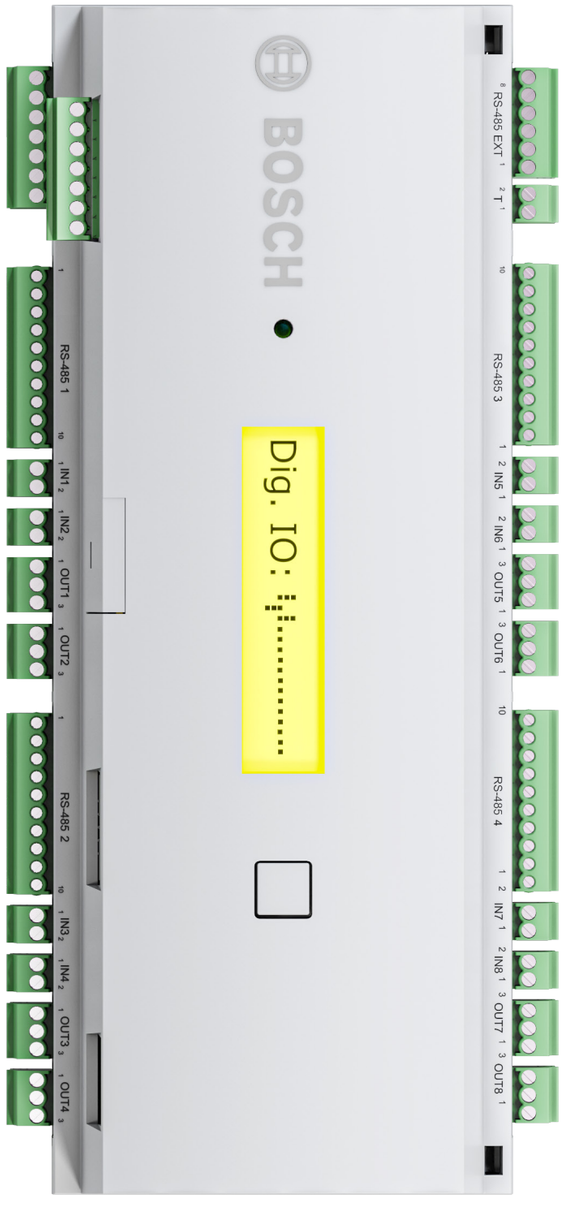
Reader features

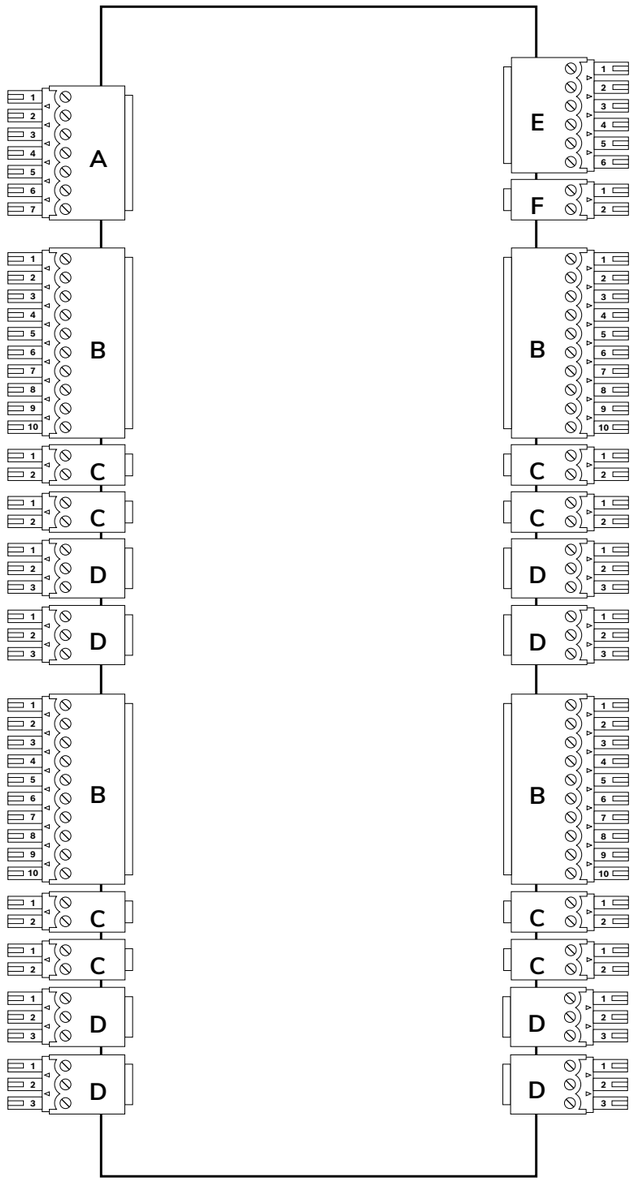
- Support of OSDPv2 secure channel
- Outdoor resistant (up to IP67)
- Multitechnology support (125kHz and 13.56MHz)
- Wiegand and RS-485 support
- Keypad or fingerprint for verification

Access components	Item type
Readers	ARD-AYBS6380, ARD-FPBEW2-H3, ARD-SIGR40-ICL, ARD-SELECT-BO
Lock	to be puchased from 3rd party
Magnetic contact	ISN-CSM35-W
Request-to-exit	Request-to-exit Detector DS160
AMS Software	1 x MAS-BBIS, 1x AMS-X128DORBIS, 2 x AMS-X1CLIBIS
Controller	APC-AMC2-4R4CF, APC-AMC2-4WCF
Power supply	APS-PSU-60
Battery	D126

Integrations

BVMS Software	
Cameras	
Intrusion control panel *	B8512G
Intrusion touch screen keypad *	B942
Intrusion detectors	CDL2-A15G





A

Power supply	
1	Power supply, DC positive (10V - 30V)
2	Shield
3	Power supply (0V)
4	UPS (power good signal) - AC
5	UPS (power good signal) - Battery
6	UPS (power good signal) - DC
7	UPS (power good signal) - Common

B

	RS-485 reader interface	Wiegand interface AMC
1	Reader Supply (10V - 30V)	Reader Supply (12V)
2	Reader Supply (0V)	Reader Supply (0V)
3	Shield	Data 0
4	Data RxTx+	Data 1
5	Data RxTx-	Shield
6	Data shield (PAG)	green LED
7	not connected	red LED
8	not connected	Beeper
9	not connected	Hold
10	not connected	Card Present

C

Analog input	
1	Analog input, in
2	Analog input, out

D

Relay output	
1	Relay Output, normally open
2	Relay Output, common
3	Relay Output, normally closed

E

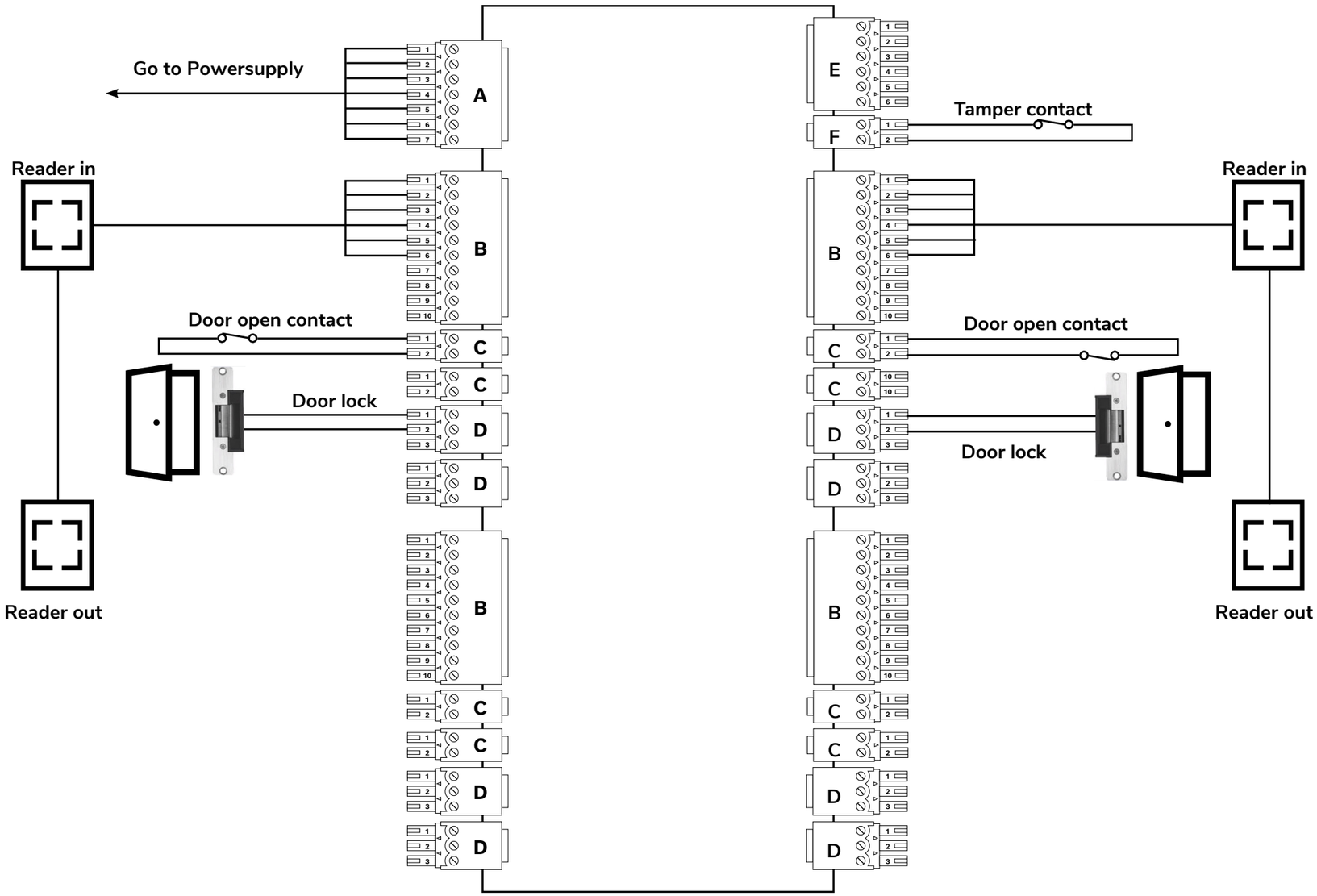
Host/Extension Interface	
1	Power supply for external devices (10V - 30V)
2	Power supply for external devices (0V)
3	Shield
4	Data RxTx+
5	Data RxTx-
6	Ground (PAG)

F

External tamper contact	
1	Tamper contact, in
2	Tamper contact, out

RS-485 AMC2-4R4CF
Wiring diagram - 2 doors

1 door with two readers, door contact and lock per door application



A

Power supply

1	Power supply, DC positive (10V - 30V)
2	Shield
3	Power supply (0V)
4	UPS (power good signal) - AC
5	UPS (power good signal) - Battery
6	UPS (power good signal) - DC
7	UPS (power good signal) - Common

B

RS-485 reader interface

1	Reader Supply (10V - 30V)
2	Reader Supply (0V)
3	Shield
4	Data RxTx+
5	Data RxTx-
6	Data shield (PAG)
7	not connected
8	not connected
9	not connected
10	not connected

C

Analog input

1	Analog input, in
2	Analog input, out

D

Relay output

1	Relay Output, normally open
2	Relay Output, common
3	Relay Output, normally closed

E

Host/Extension Interface

1	Power supply for external devices (10V - 30V)
2	Power supply for external devices (0V)
3	Shield
4	Data RxTx+
5	Data RxTx-
6	Ground (PAG)

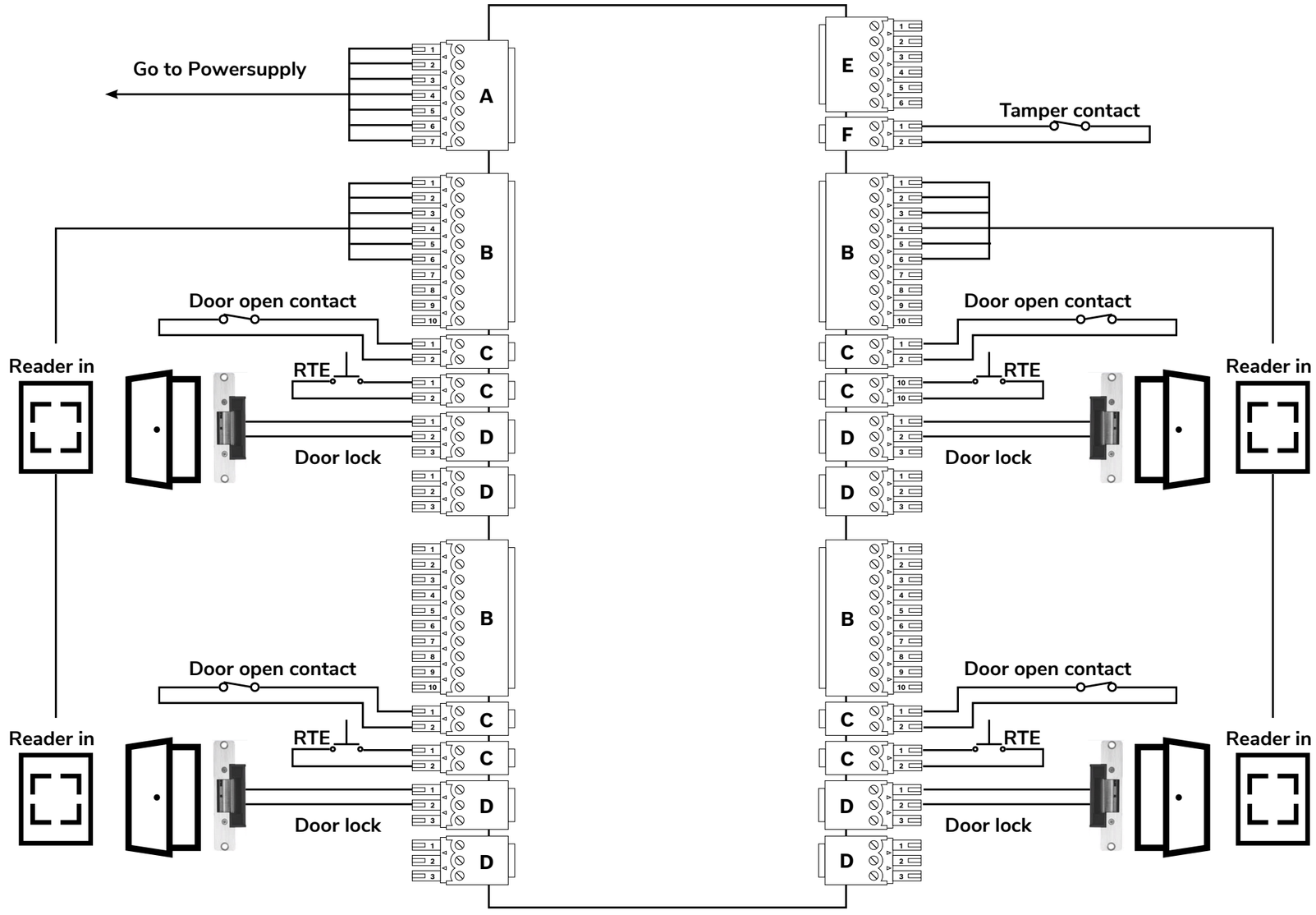
F

External tamper contact

1	Tamper contact, in
2	Tamper contact, out

RS-485 AMC2-4R4CF
Wiring diagram - 4 doors

Entrance set-up with 1 reader and 1 request-to-exit button per door application



A

Power supply

1	Power supply, DC positive (10V - 30V)
2	Shield
3	Power supply (0V)
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5	UPS (power good signal) - Battery
6	UPS (power good signal) - DC
7	UPS (power good signal) - Common

B

RS-485 reader interface

1	Reader Supply (10V - 30V)
2	Reader Supply (0V)
3	Shield
4	Data RxTx+
5	Data RxTx-
6	Data shield (PAG)
7	not connected
8	not connected
9	not connected
10	not connected

C

Analog input

1	Analog input, in
2	Analog input, out

D

Relay output

1	Relay Output, normally open
2	Relay Output, common
3	Relay Output, normally closed

E

Host/Extension Interface

1	Power supply for external devices (10V - 30V)
2	Power supply for external devices (0V)
3	Shield
4	Data RxTx+
5	Data RxTx-
6	Ground (PAG)

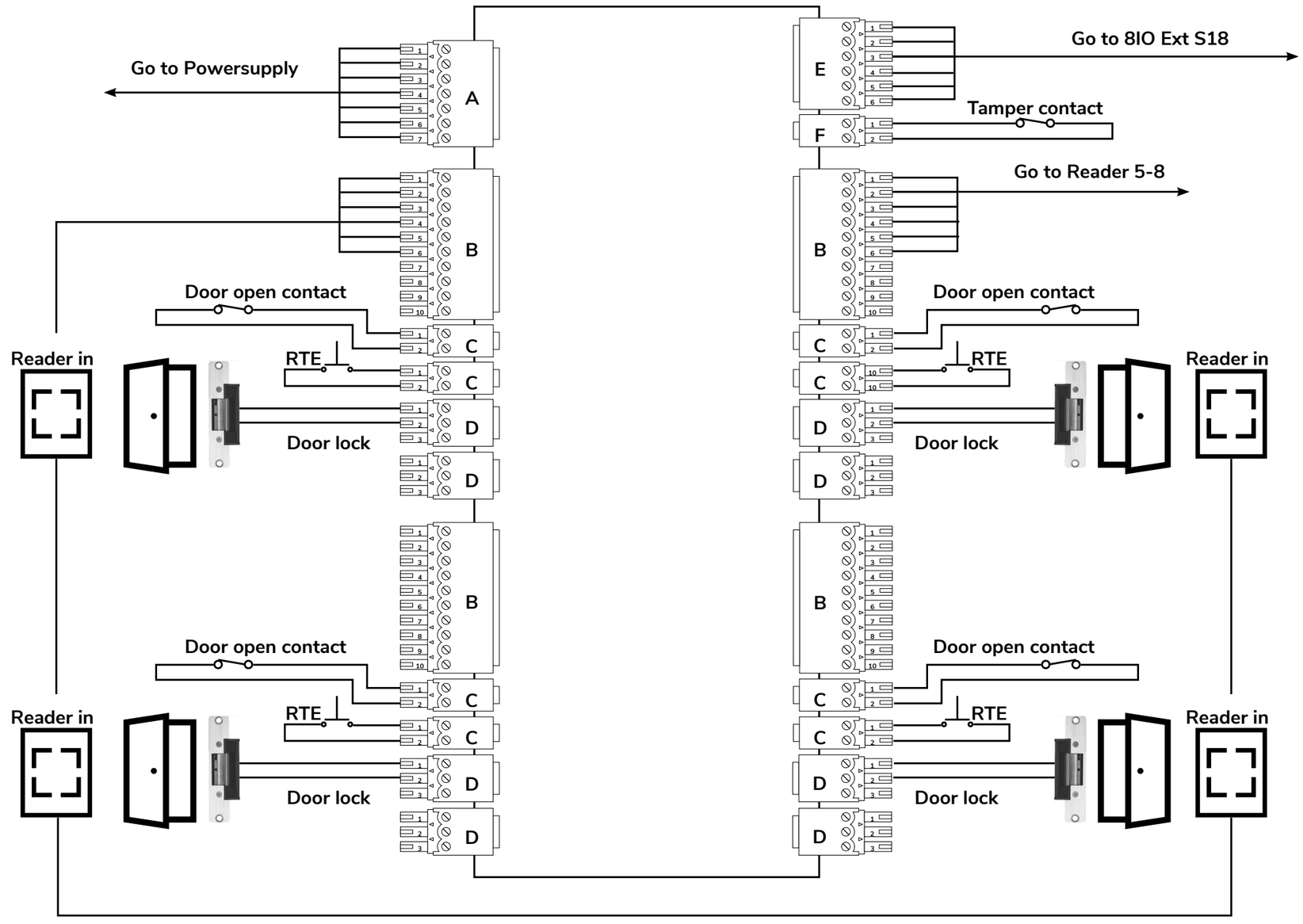
F

External tamper contact

1	Tamper contact, in
2	Tamper contact, out

RS-485 AMC2-4R4CF
Wiring diagram - 8 doors

Entrance set-up with 1 reader and 1 request-to-exit button per door application



A

Power supply

1	Power supply, DC positive (10V - 30V)
2	Shield
3	Power supply (0V)
4	UPS (power good signal) - AC
5	UPS (power good signal) - Battery
6	UPS (power good signal) - DC
7	UPS (power good signal) - Common

B

RS-485 reader interface

1	Reader Supply (10V - 30V)
2	Reader Supply (0V)
3	Shield
4	Data RxTx+
5	Data RxTx-
6	Data shield (PAG)
7	not connected
8	not connected
9	not connected
10	not connected

C

Analog input

1	Analog input, in
2	Analog input, out

D

Relay output

1	Relay Output, normally open
2	Relay Output, common
3	Relay Output, normally closed

E

Host/Extension Interface

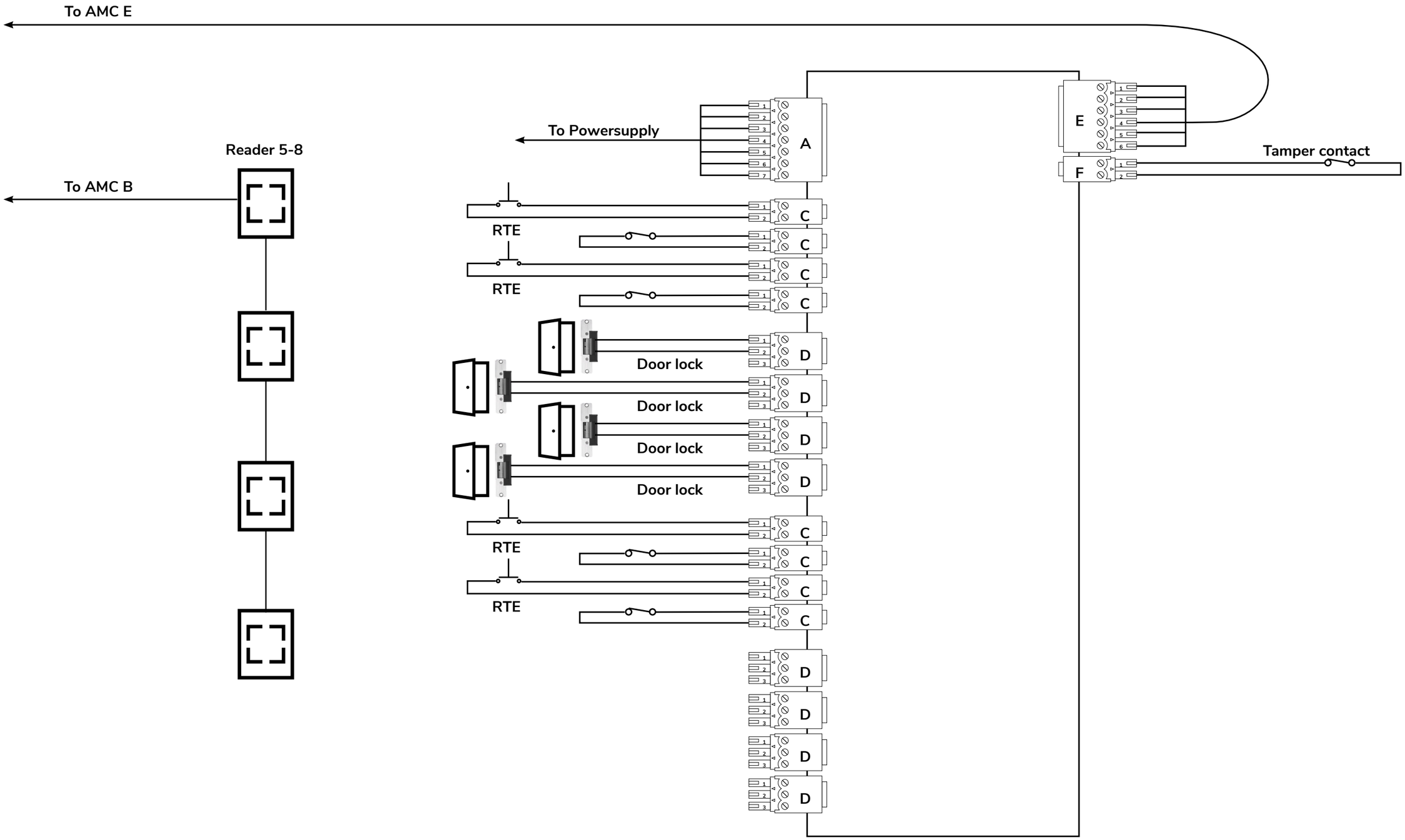
1	Power supply for external devices (10V - 30V)
2	Power supply for external devices (0V)
3	Shield
4	Data RxTx+
5	Data RxTx-
6	Ground (PAG)

F

External tamper contact

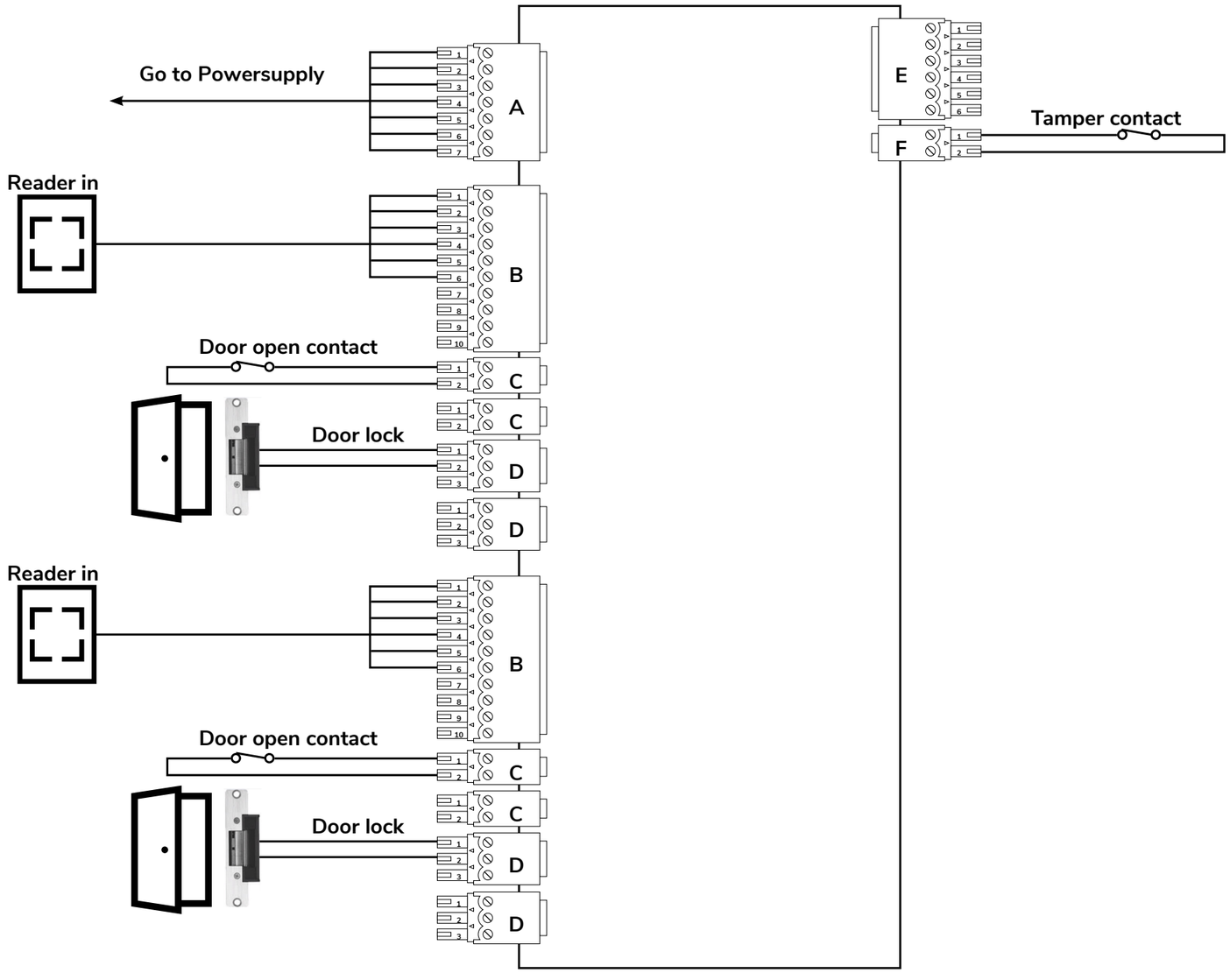
1	Tamper contact, in
2	Tamper contact, out

Extension unit



Wiegand AMC2-2WCF
Wiring diagram - 2 doors

Entrance set-up with 1 reader and 1 request-to-exit button per door application



A

Power supply

1	Power supply, DC positive (10V - 30V)
2	Shield
3	Power supply (0V)
4	UPS (power good signal) - AC
5	UPS (power good signal) - Battery
6	UPS (power good signal) - DC
7	UPS (power good signal) - Common

B

Wiegand interface AMC

1	Reader Supply (12V)
2	Reader Supply (0V)
3	Data 0
4	Data 1
5	Shield
6	green LED
7	red LED
8	Beeper
9	Hold
10	Card Present

C

Analog input

1	Analog input, in
2	Analog input, out

D

Relay output

1	Relay Output, normally open
2	Relay Output, common
3	Relay Output, normally closed

E

Host/Extension Interface

1	Power supply for external devices (10V - 30V)
2	Power supply for external devices (0V)
3	Shield
4	Data RxTx+
5	Data RxTx-
6	Ground (PAG)

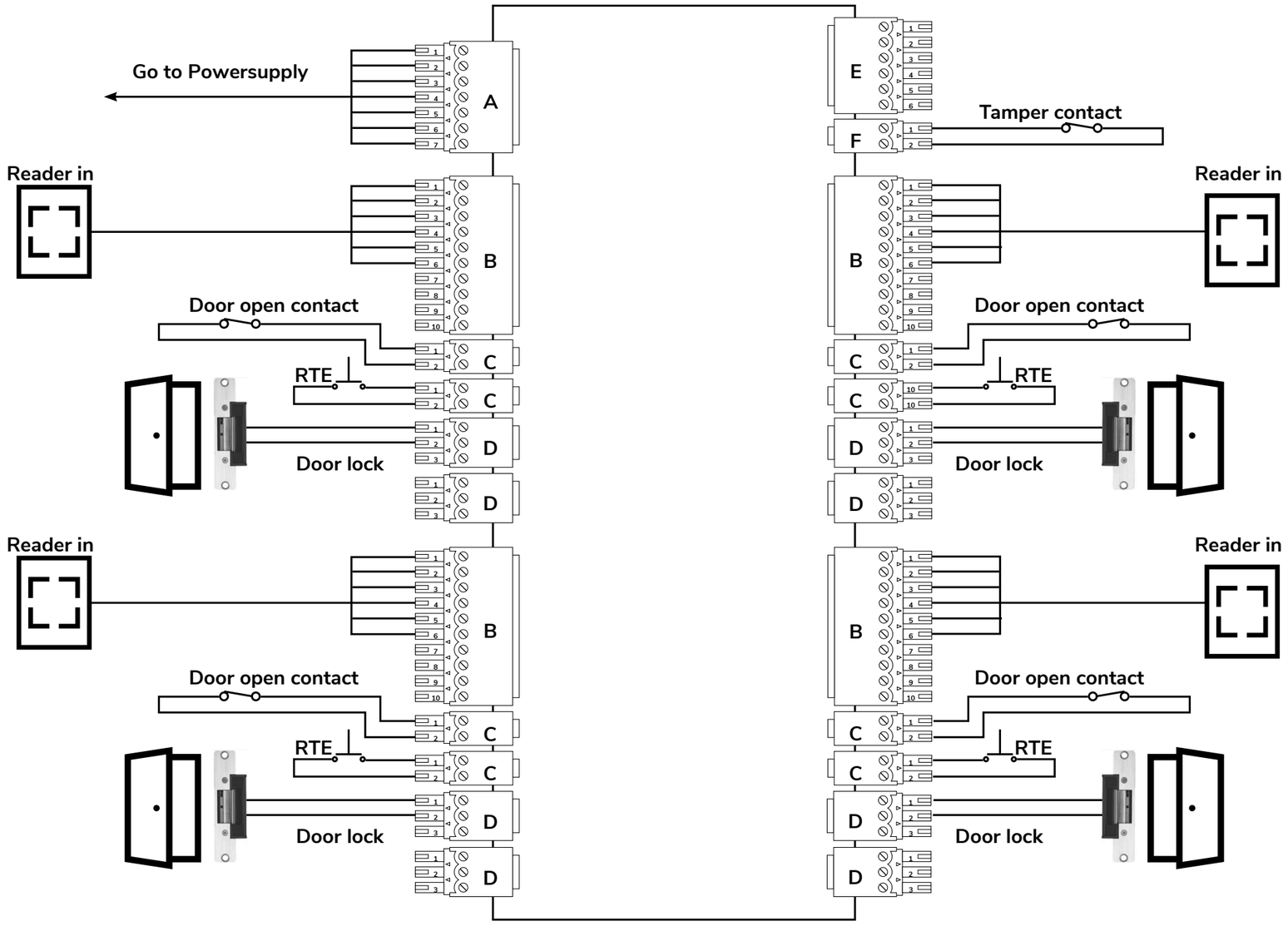
F

External tamper contact

1	Tamper contact, in
2	Tamper contact, out

Wiegand AMC2-4WCF
Wiring diagram - 4 doors

Entrance set-up with 1 reader and 1 request-to-exit button per door application



A

Power supply

1	Power supply, DC positive (10V - 30V)
2	Shield
3	Power supply (0V)
4	UPS (power good signal) - AC
5	UPS (power good signal) - Battery
6	UPS (power good signal) - DC
7	UPS (power good signal) - Common

B

Wiegand interface AMC

1	Reader Supply (12V)
2	Reader Supply (0V)
3	Data 0
4	Data 1
5	Shield
6	green LED
7	red LED
8	Beeper
9	Hold
10	Card Present

C

Analog input

1	Analog input, in
2	Analog input, out

D

Relay output

1	Relay Output, normally open
2	Relay Output, common
3	Relay Output, normally closed

E

Host/Extension Interface

1	Power supply for external devices (10V - 30V)
2	Power supply for external devices (0V)
3	Shield
4	Data RxTx+
5	Data RxTx-
6	Ground (PAG)

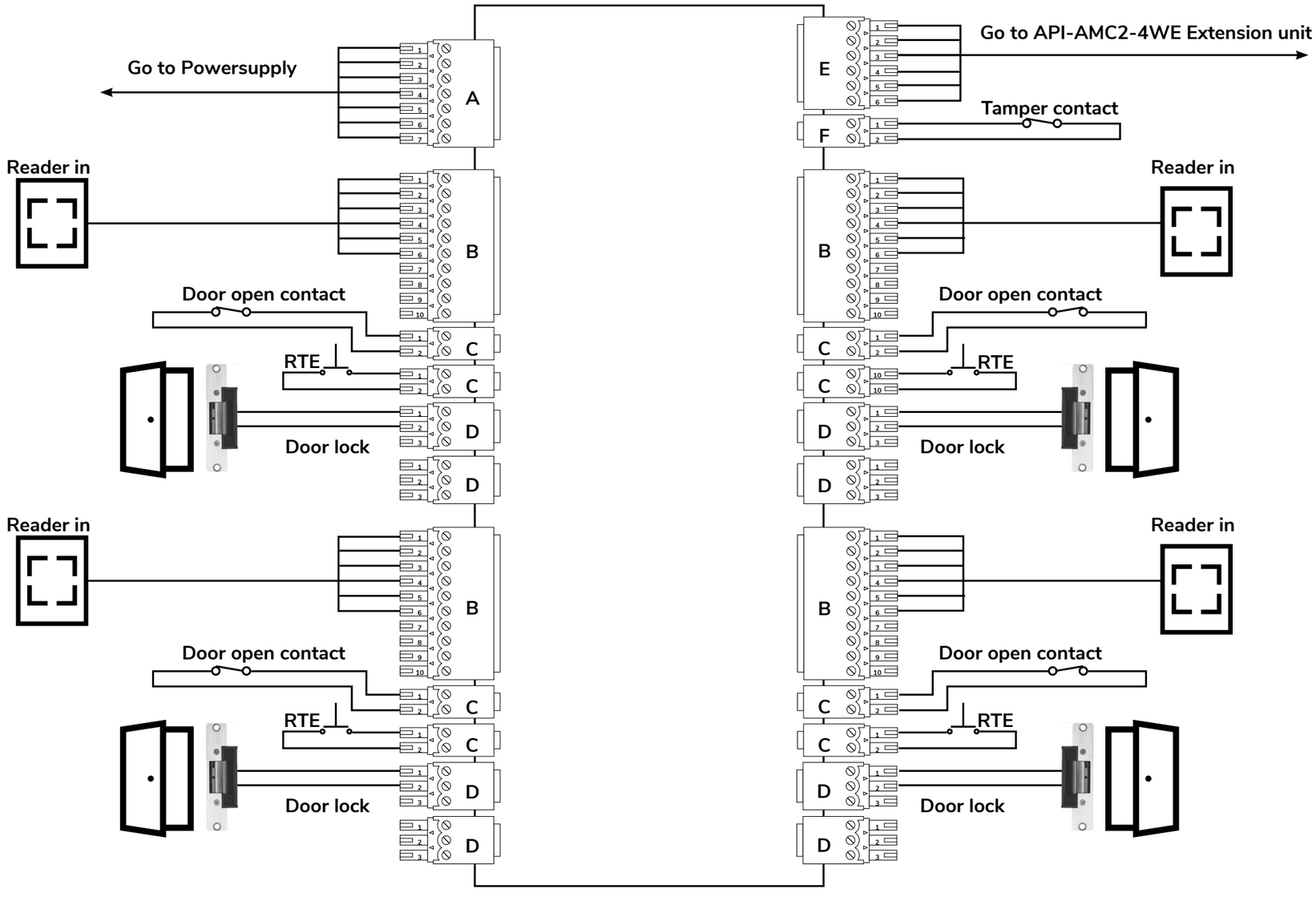
F

External tamper contact

1	Tamper contact, in
2	Tamper contact, out

Wiegand AMC2-4WCF
Wiring diagram - 8 doors

Entrance set-up with 1 reader and 1 request-to-exit button per door application



A

Power supply

1	Power supply, DC positive (10V - 30V)
2	Shield
3	Power supply (0V)
4	UPS (power good signal) - AC
5	UPS (power good signal) - Battery
6	UPS (power good signal) - DC
7	UPS (power good signal) - Common

B

Wiegand interface AMC

1	Reader Supply (12V)
2	Reader Supply (0V)
3	Data 0
4	Data 1
5	Shield
6	green LED
7	red LED
8	Beeper
9	Hold
10	Card Present

C

Analog input

1	Analog input, in
2	Analog input, out

D

Relay output

1	Relay Output, normally open
2	Relay Output, common
3	Relay Output, normally closed

E

Host/Extension Interface

1	Power supply for external devices (10V - 30V)
2	Power supply for external devices (0V)
3	Shield
4	Data RxTx+
5	Data RxTx-
6	Ground (PAG)

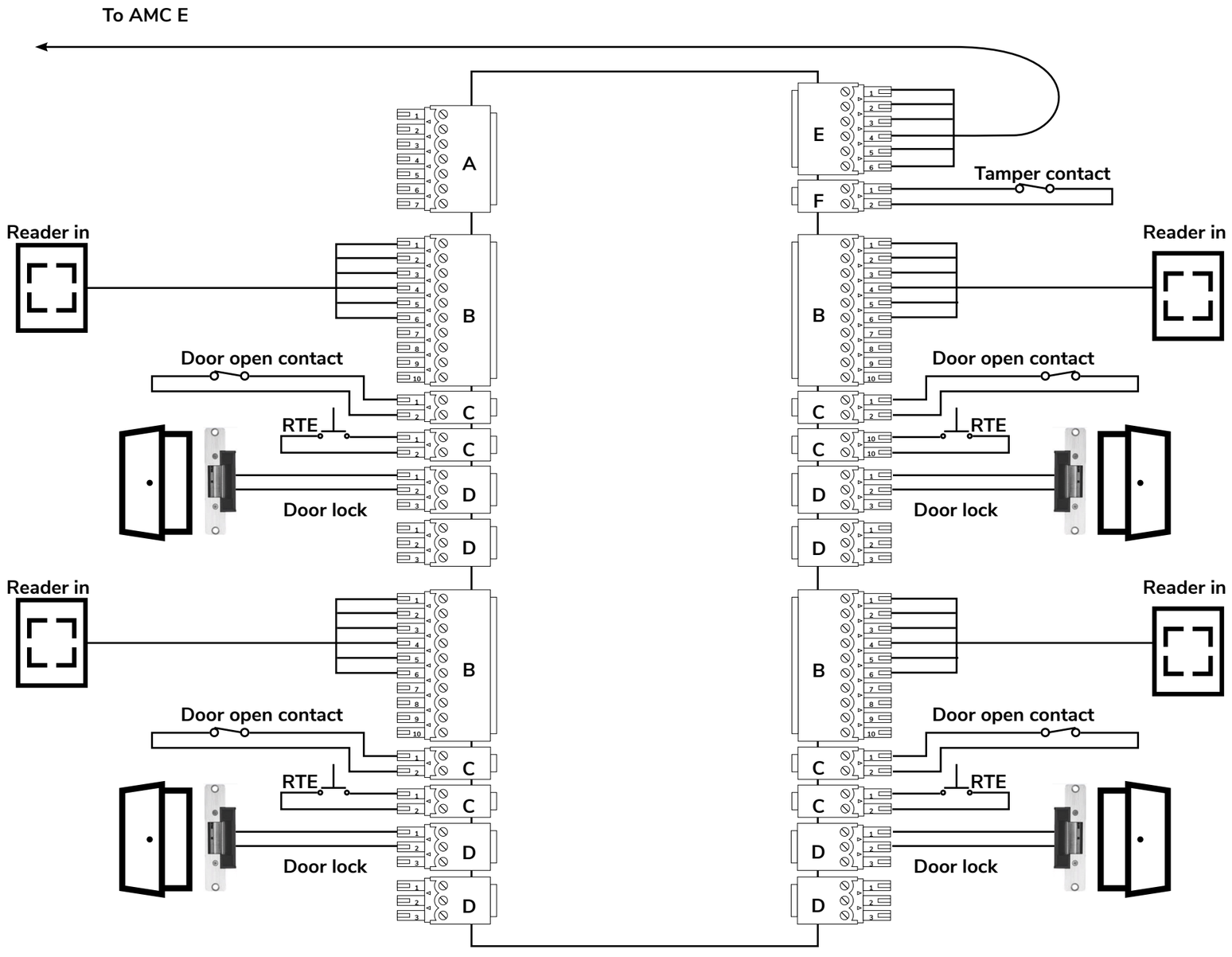
F

External tamper contact

1	Tamper contact, in
2	Tamper contact, out

Wiegand Extension API-AMC2-4WE unit
Wiring diagram - 8 doors

Entrance set-up with 1 reader and 1 request-to-exit button per door application



A

Power supply

1	Power supply, DC positive (10V - 30V)
2	Shield
3	Power supply (0V)
4	UPS (power good signal) - AC
5	UPS (power good signal) - Battery
6	UPS (power good signal) - DC
7	UPS (power good signal) - Common

B

Wiegand interface AMC

1	Reader Supply (12V)
2	Reader Supply (0V)
3	Data 0
4	Data 1
5	Shield
6	green LED
7	red LED
8	Beeper
9	Hold
10	Card Present

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Analog input

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Relay output

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2	Relay Output, common
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E

Host/Extension Interface

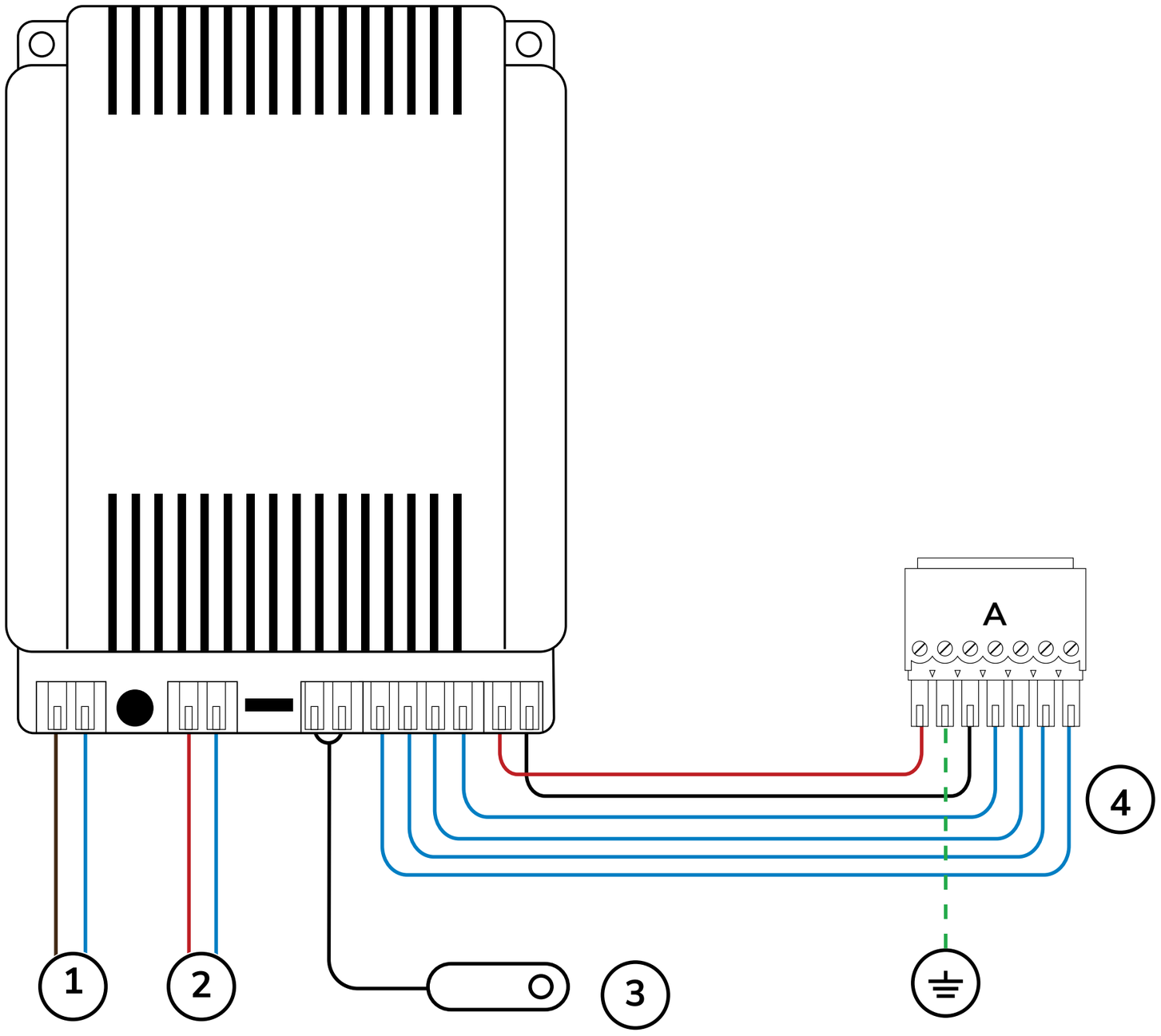
1	Power supply for external devices (10V - 30V)
2	Power supply for external devices (0V)
3	Shield
4	Data RxTx+
5	Data RxTx-
6	Ground (PAG)

F

External tamper contact

1	Tamper contact, in
2	Tamper contact, out

Power supply



A

Power supply	
1	Power supply, DC positive (10V - 30V)
2	Shield
3	Power supply (OV)
4	UPS (power good signal) - AC
5	UPS (power good signal) - Battery
6	UPS (power good signal) - DC
7	UPS (power good signal) - Common

1	AC power (110/230 VAC)
2	Battery connection (12V - 7AH)
3	Temperature sensor
4	Power supply to AMC wiring connection