VANDERBILT VSRC-A Single Door Installation Guide

-JUMPERS DEPICT THE FACTORY DEFAULT SETTINGS
-USE A CLASS 2 POWER LIMITED UL294 LISTED ACCESS CONTROL POWER SUPPLY
-ALL INTERCONNECTED DEVICES MUST BE UL LISTED
-USE ALL UL LISTED AND/OR RECOGNIZED WIRE SUITABLE FOR THE APPLICATION
-DEFAULT IP ADDRESS: 192.168.168.249
-DEFAULT SUBMASK: 255.255.255.0

IMPORTANT WARNING
Incorrect wiring to the power connector [1] (VIN) will cause serious damage to the equipment.
Please check all wiring connections prior to turning the system on.

1 - POWER (VIN)

VIN	⊕	-	GROUND
VIN	⊕	+	VOLTAGE IN
VIN	⊕	S	SHIELD (CONNECT TO CHASSIS GROUND)

VSRC-A Power Requirements: 12-24VDC @485mA
VSRC-A Current Consumption: 260mA max without a reader connected
Required power supply - Class 2 power limited UL294 power supply capable of four hours of standby battery power

24 - VSRC-A NETWORK CONNECTION
VSRC-A SMS Controller: Ethernet
Recommended wire: CAT5 or greater
It is recommended to install a data surge protector:
Ditek DTK-MRJ45C5E or UL listed equivalent between the network connection and VSRC-A

11 & 5 - CONTACT INPUTS

IN 1/2	⊕	1	REQUEST TO EXIT
IN 1/2	⊕	2	DOOR POSITION SWITCH
IN 1/2	⊕	C	GROUND

IN 3/4	⊕	3	PUSH BUTTON OVERRIDE
IN 3/4	⊕	4	AUXILIARY INPUT
IN 3/4	⊕	C	GROUND

Wire Specifications:
Maximum distance: 2,000 FT
2 Cond. / 22 Awg. / Twisted / Shielded / Stranded
For contact supervision, refer to SMS Installation Manual

4 & 3 - RELAY OUTPUTS

RLY1	⊕	NC	NORMALLY CLOSED
RLY1	⊕	C	COMMON
RLY1	⊕	NO	NORMALLY OPEN

RLY2	⊕	NC	NORMALLY CLOSED
RLY2	⊕	C	COMMON
RLY2	⊕	NO	NORMALLY OPEN

Two relay outputs max 30VDC @ 2A Inductive 0.6pf
Relay 1 is the unlock relay.
Relay 2 is the activate relay for door held/forced.

ONBOARD READER PIN TERMINATOR (EOL)

▨◙ EOL End Of Line Resistors

[14] - Jumper - Reader 1	Sets Configuration for Reader 1
[17] - Jumper - Reader 2	Not Applicable

Only supports CLK/Data and D0/D1 communications
All EOL jumpers shown in default position. (Jumper on pins 1 & 2)
Will work as CLK/Data or D0/D1 with jumpers removed (FACTORY SHIPPED WITHOUT JUMPERS)

9 & 10 - READER HEAD CONNECTIONS
Proximity

READER1	⊕	A	(CLK) DATA 0	GREEN
READER1	⊕	B	(DAT) DATA 1	WHITE
READER1	⊕	-	(GND) GROUND	BLACK
READER1	⊕	+	(PWR) POWER	RED
OUT 1/2	⊕	1	(LED) GREEN LED	ORANGE
OUT 1/2	⊕	2	(NA) NOT USED	
OUT 1/2	⊕	C	(NA) NOT USED	

Wiring Notes:
Maximum Distance to read head: 500FT
Cable: 5 Cond. / 18 Awg / Twisted / Stranded / Shielded
HID or XCEED-ID Reader Output - AVG 55mA DC peak-167mA DC
For further information, please refer to manufacturer installation guides.

Magnetic Stripe

READER1	⊕	A	(CLK) DATA 0	WHITE
READER1	⊕	B	(DAT) DATA 1	GREEN
READER1	⊕	-	(GND) GROUND	BLACK
READER1	⊕	+	(PWR) POWER	RED
OUT 1/2	⊕	1	(LED) GREEN LED	BROWN
OUT 1/2	⊕	2	(NA) NOT USED	
OUT 1/2	⊕	C	(NA) NOT USED	

Wiring Notes:
Maximum Distance to read head: 500FT
Cable: 5 Cond. / 18 Awg / Twisted / Stranded / Shielded

Red LED Operation:
For the Red LED on the Magnetic Stripe Reader to function properly, connect a 10K ohm resistor between "+" (PWR) [9] and "1" (LED) [10] (Shown on hardware drawing)

For further information, please refer to manufacturer installation guides.

UL INFORMATION
Model VSRC-A has been evaluated to the following performance levels per UL 294 6th edition:
Attack - I   /   Endurance - IV   /   Standby Power - I   /   Line Security - I

DATE OF MANUFACTURE: MONTH_____YEAR_____
ASSEMBLY LOCATION: PARSIPPANY, NJ
ELECTRICAL RATING:
INPUT: 12-24VDC @ 485mA
MAXIMUM CURRENT DRAW: 260mA MAX WITHOUT A READER CONNECTED

MODEL NUMBER: VSRC-A - VANDERBILT INDUSTRIES SMS SINGLE DOOR NETWORK READER INTERFACE
DOCUMENT FORM: VANDERBILT INDUSTRIES VSRC-A SMS NETWORK READER INTERFACE INSTALLATION GUIDE
PRODUCT REFERENCE MATERIAL:

-FOR PROGRAMMING INSTRUCTIONS PLEASE REFER TO VANDERBILT SMS USER MANUAL 6.4.5
-FOR HARDWARE INSTRUCTIONS PLEASE REFER TO VANDERBILT SMS INSTALLATION MANUAL 6.4.5
-VANDERBILT INDUSTRIES SMS SINGLE DOOR INSTALLATION GUIDE REVISION 2.0.15 (6/22/18)

10k ohm resistor for use with magnetic stripe only
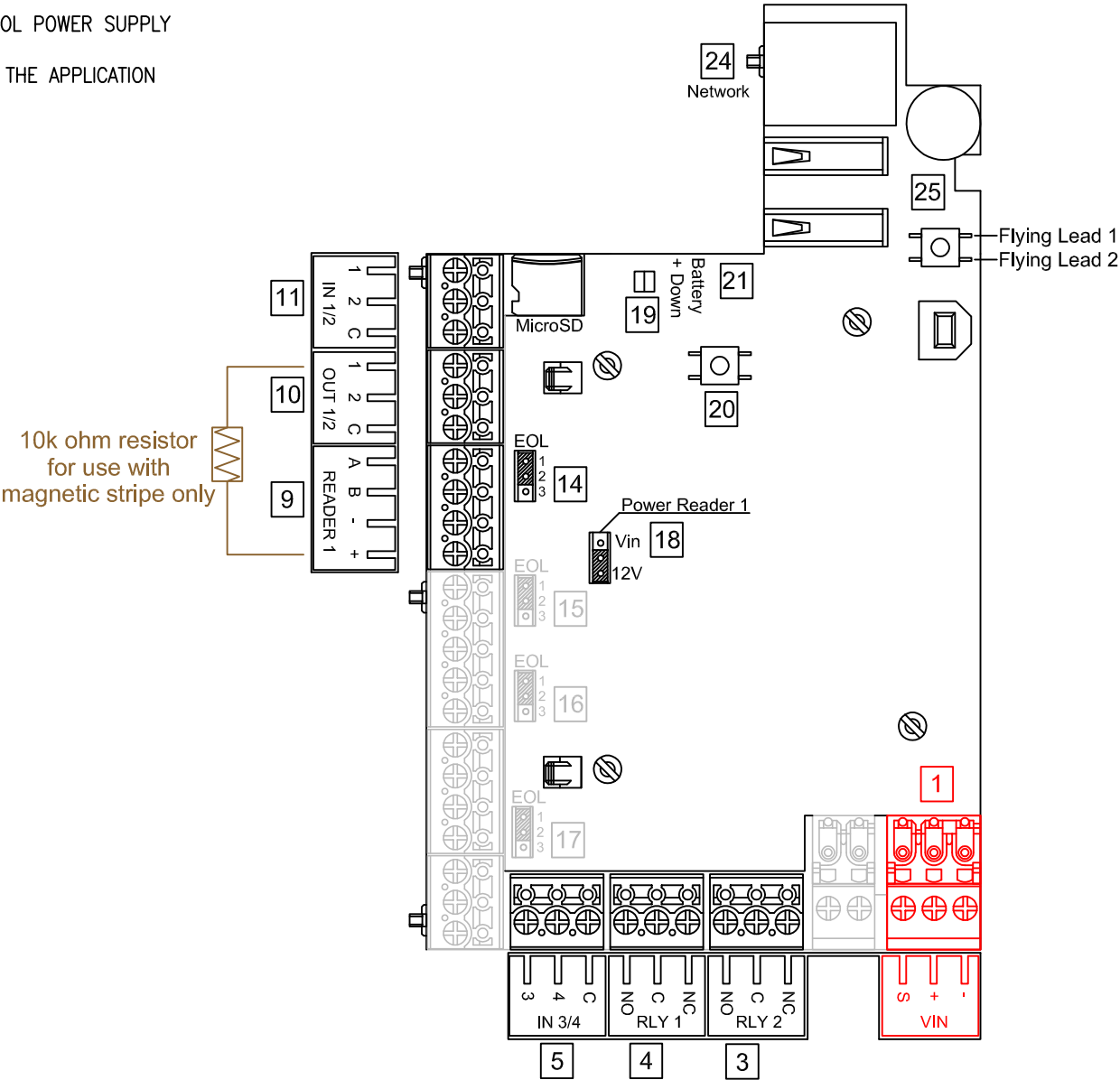
25 - TAMPER SWITCH ALARM
Connect provided Lid Tamper switch to flying leads on [25]

LED INDICATORS
[24] - 4 States controlled by software:
Green = Communicating with host
Orange = Acknowledgements
[19] - Communications between VSRC-A and CIM:
Green = Outbound communication from controller
Red = Inbound communication from CIM

18 - READER POWER VOLTAGE SELECTOR
10-24VDC reader output voltage based on input voltage & jumper 18 settings

VIN	12V	Regulated 12 Volts DC to Reader Head (Default)
		Minimum 20VDC is required to be connected to the VSRC-A at [1] VIN, in order to properly supply regulated 12VDC to the connected reader head.

VIN	12V	Non-regulated DC Voltage Provided to Reader Head
		DC Voltage connected to the VSRC-A at [1] VIN, will not be regulated. Voltage will be directly passed through to the reader head.

Warning: Serious damage could occur if this jumper is incorrectly set. Always check the manufacturer's installation manual for reader head voltage requirements.

SOFTWARE CONTROLLED DIPSWITCHES
The board will be factory configured as a VSRC-A.

To access the SMS Configuration Graphical User Interface, use a supported web browser to enter the following URL: **https://192.168.168.249**

Please note that the example above is the factory default IP address assigned to the board.
To access the GUI, enter the board's IP address. (May not be as listed)
The browser will likely display an invalid certificate warning.
This is normal, proceed to the login page.
Enter the login credentials:
Username: SMSAdmin
Password: Please refer to SMS Installation Manual.
Once logged in, navigate to the "Options" tab on the top of the page.
Dipswitch settings will now be displayed.

Switch 1 - Enables on-board web server, Configuration GUI, Auto Discovery and Ping.
Enabled - Switch 1 ON (Default)
Disabled - Switch 1 OFF
Switch 2 - Reserved for future use.

Type	Switch 3	Switch 4	
VSRC-A	Off	Off	Refer to SMS Installation Manual for further information in regards to Switch 3 & 4

Note: After installation, Vanderbilt recommends disabling Switch 1.
Leaving switch 1 enabled could allow unauthorized access.
Physical Access to the VSRC-A is required to re-enable the Configuration GUI.
Press and Hold the Tamper Switch [25] AND Press and Release the Reset Button [20] three (3) times in succession. Release the Tamper Switch [25] . A one (1) second beep will be heard on the 2nd and 3rd Reset Button activations. Releasing the Tamper Switch will generate a two (2) second beep.
Access and log into the Configuration GUI within ten (10) minutes, select Options, and reset Dipswitch 1 = ON and click "Save Options".

HARDWARE REBOOT & DEFAULT IP ADDRESS - 25 & 20
The button marked [20] is multipurpose. The functions of this button are accessed by holding it down for specific intervals identified by beeps. When held, the board will produce 3 long beeps followed by short beeps at a faster rate. The following functions are accessed by releasing the button after it's specified interval.
Release at:
1) 3 long beeps or less: No operational change (board remains online)
2) 9 short beeps or less: Board will automatically shutdown and restart.
Normal operations will be resumed
3) After the 10th short beep, continue to hold button [20] for 2 long beeps to force shutdown of the board. To turn on the board, disconnect and reconnect the power.
Default IP Address:
If functions 2 or 3 are used while holding [25] at the same time, when the board comes back online it will have it's default IP address reinstated: **192.168.168.249**

21 - BATTERY
Lithium Battery CR2032: Must replace every year by a trained technician.

RS-485 PIN TERMINATORS (EOL)
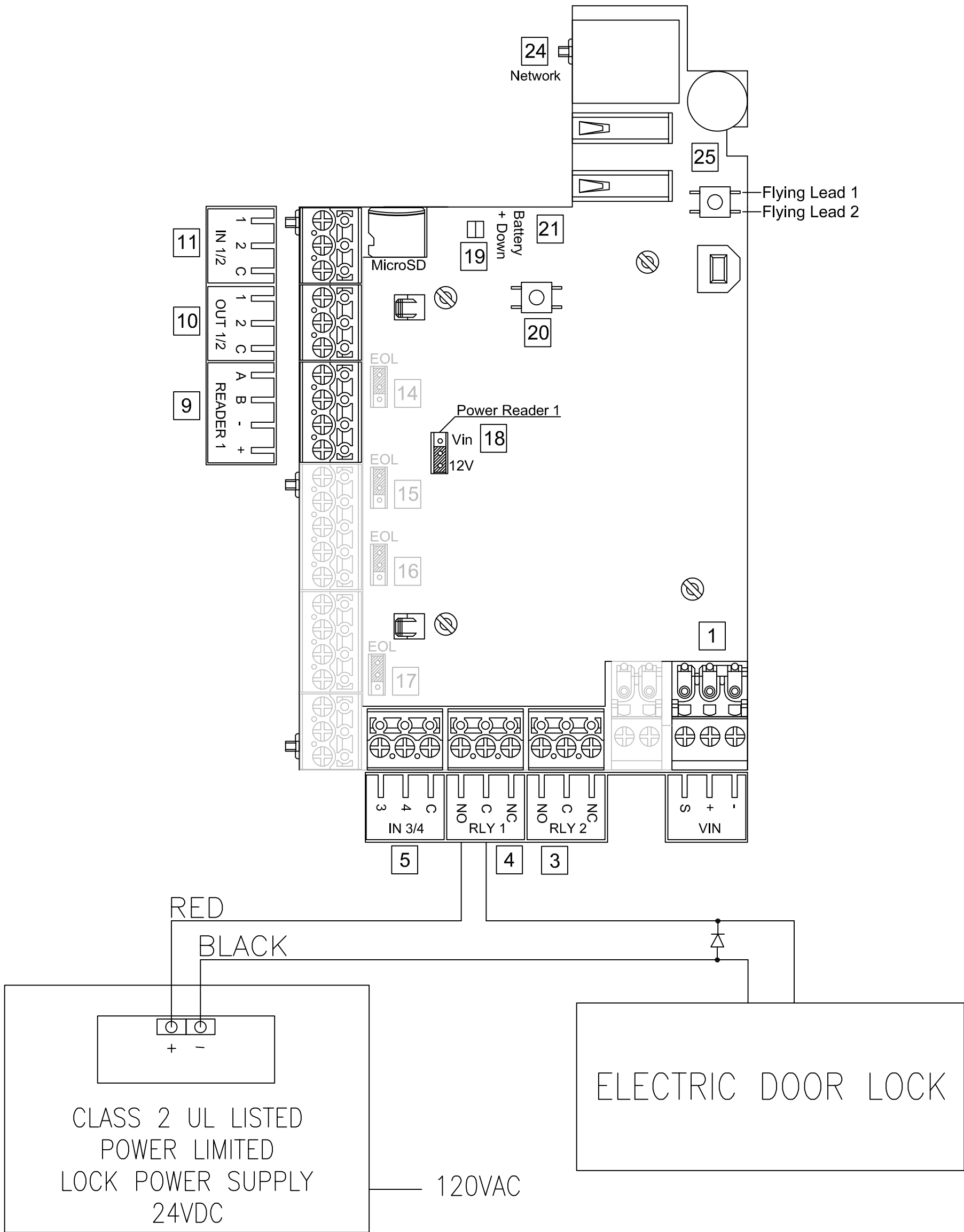### ▨◙ EOL End Of Line Resistors

[15] - Jumper - Channel 1	Not Applicable in this Configuration
[16] - Jumper - Channel 2	Not Applicable in this Configuration

All EOL jumpers shown in default position. (Jumper on pins 1 & 2)

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Vanderbilt VSRC-A SINGLE READER DIODE INSTALLATION GUIDE

A DIODE IS SUPPLIED WITH THE VSRC-A SINGLE READER WHICH SHOULD BE INSTALLED ACROSS 24V AND COM TO PROTECT THE RELAY CONTACTS.

24 Network

25

Flying Lead 1
Flying Lead 2

11 IN 1/2 — 1 2 C

MicroSD

Battery + Down

21

19

10 OUT 1/2 — 1 2 C

20

9 READER 1 — A B - +

EOL 14

Power Reader 1
Vin 18
12V

EOL 15

EOL 16

EOL 17

1

IN 3/4 — 3 4 C
RLY 1 — NO C NC
RLY 2 — NO C NC
VIN — S + -

5

4 3

RED

BLACK

+ —

ELECTRIC DOOR LOCK

CLASS 2 UL LISTED
POWER LIMITED
LOCK POWER SUPPLY
24VDC

120VAC

THE LOCK IS WIRED ACROSS 24V AND COM. A 0V LINK TO COM IS THEN REQUIRED TO COMPLETE THE CIRCUIT. THIS WILL BE WIRED TO NO OR NC DEPENDING ON THE LOCK TYPE: FAIL OPEN / FAIL CLOSED. (ABOVE DIAGRAM IS OF FAIL OPEN).