CYPRESS
INTEGRATION SOLUTIONS

OSMIUM™ Series

OSM-1000
Universal OSDP Interface Module

Features:

Field Configurable
- Reader,I/O to OSDP
- OSDP to Panel

Interfaces and Formats
- Wiegand (4 to 300 bits)
- F/2F (Binary, ABA)
- Strobed (Wiegand, ABA)
- Serial (RS-232, RS-485)
- ABA
- BarCode
- Others

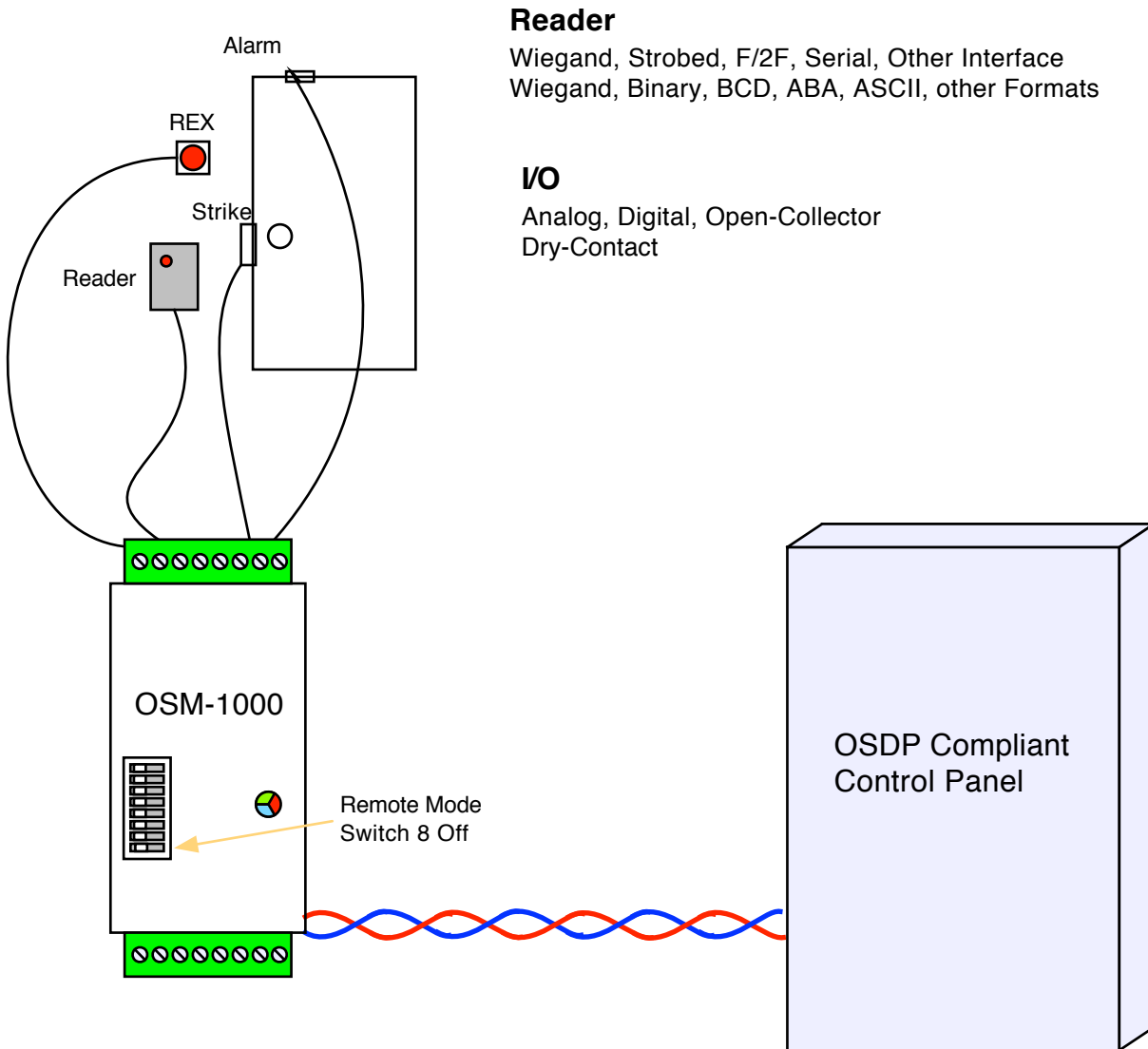Secure Channel Communications
- AES-128
- CBC Authentication

The OSM-1000 is the first in a family of products that are specifically designed to allow legacy card access panels and readers to interface with the SIA - Open Supervised Device Protocol (OSDP). Wiegand, Serial, Strobed, ABA, Bar Code, and other widely used interfaces and formats are re-packaged into an equivalent OSDP packet structure. The OSM-1000 can be field configured to be a reader-side (PD) or panel-side device (CP).

Reader-Side (PD): converts legacy card reader interfaces and formats to a 2-wire OSDP protocol to be connected to a compatible access control panel.

Panel-Side (CP): converts OSDP readers and other door hardware to legacy Wiegand, MagStripe, Serial, and other panel required formats. Door signals such as REX, alarm, and strike are converted to simple relay, digital, or analog equivalents.

Reader-Side Application (PC)

Reader
Wiegand, Strobed, F/2F, Serial, Other Interface
Wiegand, Binary, BCD, ABA, ASCII, other Formats

I/O
Analog, Digital, Open-Collector
Dry-Contact

Alarm

REX

Strike

Reader

OSM-1000

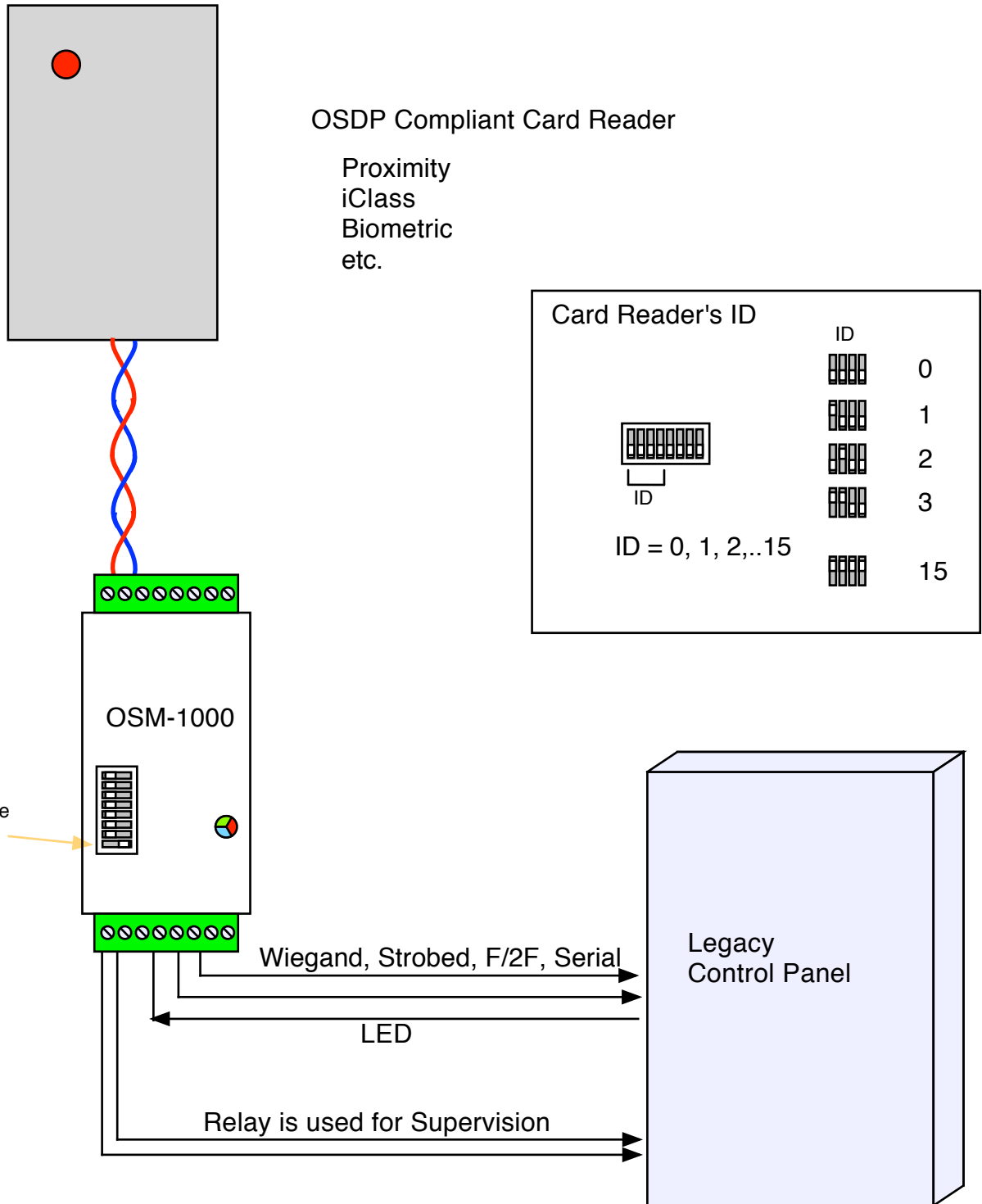Remote Mode
Switch 8 Off

OSDP Compliant
Control Panel

Power for the OSM-1000 can be supplied
by the panel on a separate pair or be
supplied locally at the door.

All reader and I/O signals are monitored and controlled by the
OSDP compatible control panel.

Set the OSM-1000's polling ID in switches 1 to 4 (ID 0 to 15). Or use the OSDP
configured ID (see page 4).

Panel-Side Application (CP)

OSDP Compliant Card Reader

Proximity
iClass
Biometric
etc.

Card Reader's ID

ID

	ID
	0
	1
	2
	3
	15

ID

ID = 0, 1, 2,..15

OSM-1000

Central Mode
Switch 8 On

Wiegand, Strobed, F/2F, Serial

LED

Legacy
Control Panel

Relay is used for Supervision

If Secure Channel is used (Sw 7 On), the OSM-1000 will initiate the authentication sequence with the device whose polling ID matches the DIP switch setting (or configured via OSDP *COMSET* command).
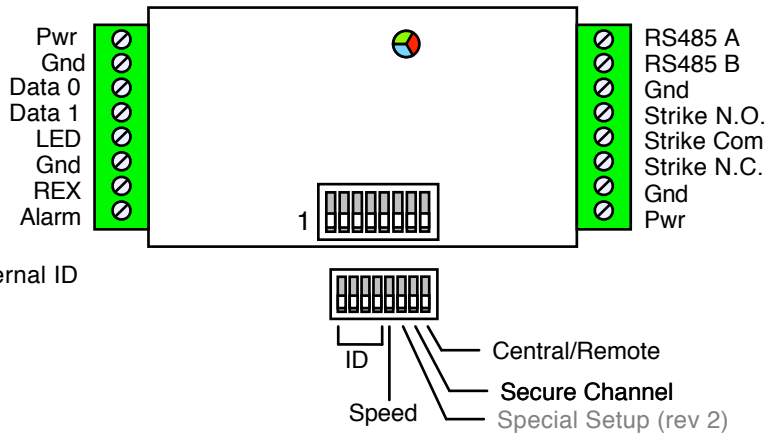
ID - Override Stored Polling Address {1..15}, 0 = use internal ID
Speed - on = 9600, off = use internal speed
Special Setup - allow intrinsically safe configuration
Secure Channel:
      Central - initiate SC Session
      Remote - require SC communication only
Op Mode - on = Central (CP), off = remote (PD)

Supply Power:
      7 to 16vdc @ 100ma

Form C Relay:
Typical: 1amp @ 30Vdc, 0.3amp @ 125Vac
Max Power: 30W (DC), 37.5VA (AC)
Max Voltage: 110Vdc, 125Vac

Diagnostic LED (RGB)

When powered on the LED goes thru a sequence of Red, Blue, Green, White then settles on the mode dictated by switch 8 (PD or CP).
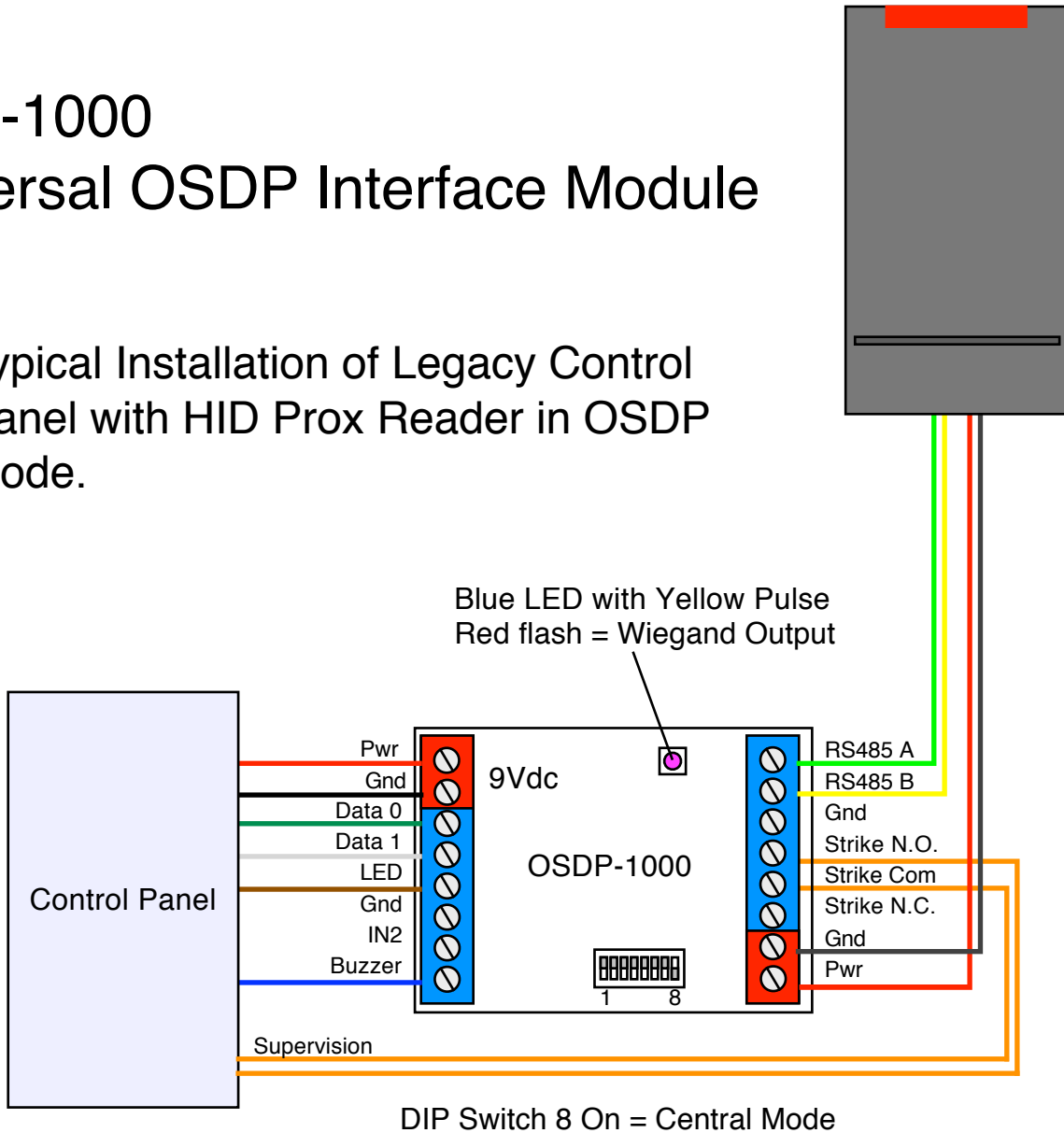
Remote (PD) Mode
      • undulating Red indicates no communication.
      • flickering blue / red () - communication with central unit (CP)
      • any solid color indicates fault - reset the unit by removing power for 1 second

Central (CP) Mode
      • slow flash (1/2 sec intervals) - no response from remote unit (PD).
      • flickering blue / red - communication with central unit (PD)
      • any solid color indicates fault - reset the unit by removing power for 1 second
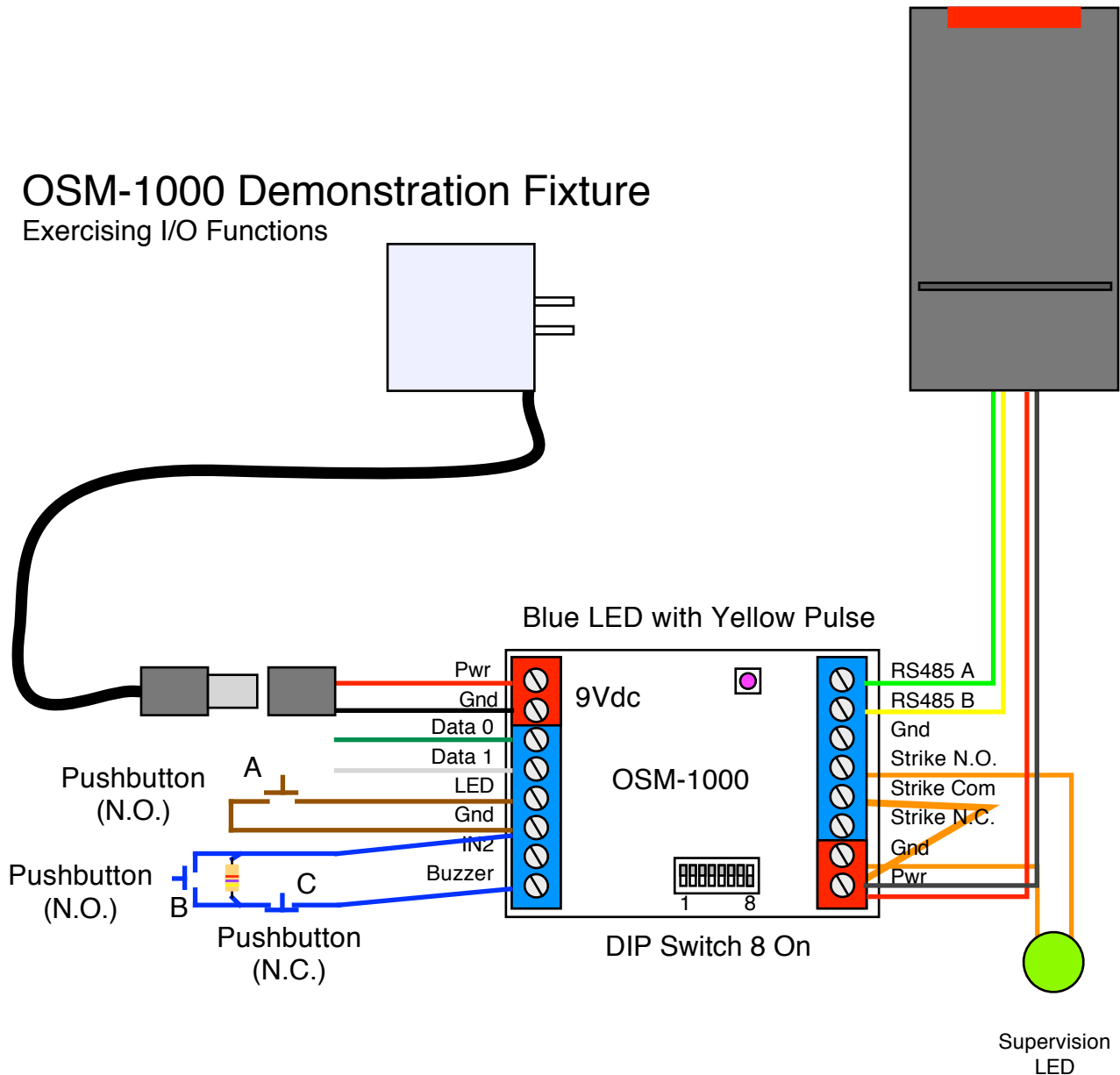
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OSM-1000
Universal OSDP Interface Module

Typical Installation of Legacy Control Panel with HID Prox Reader in OSDP Mode.

Blue LED with Yellow Pulse
Red flash = Wiegand Output

Control Panel		
Pwr		RS485 A
Gnd	9Vdc	RS485 B
Data 0		Gnd
Data 1	OSDP-1000	Strike N.O.
LED		Strike Com
Gnd		Strike N.C.
IN2		Gnd
Buzzer		Pwr

1   8
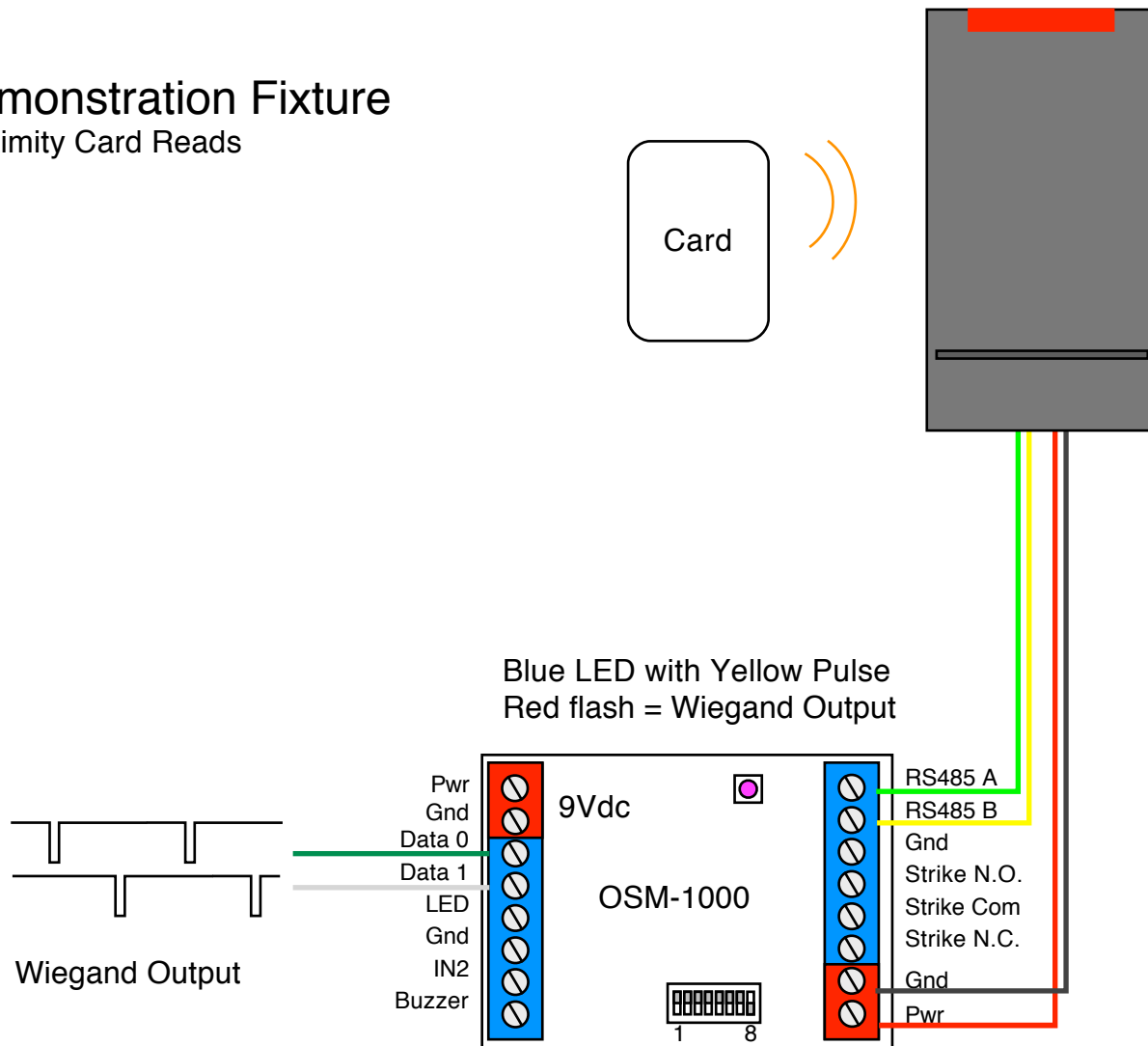
Supervision

DIP Switch 8 On = Central Mode

When operating in OSDP mode, the HID reader's activity is totally controlled by the RS-485 bus. There is no local beep or visual indication that a badge has been read for example. All activity ultimately is controlled by the panel thru the OSM-1000 and it's I/O pins. The supervision relay is an indication to the control panel that communication is established to the reader and normal processing is in effect.

OSM-1000 Demonstration Fixture
Exercising I/O Functions

Blue LED with Yellow Pulse

9Vdc

Pwr
Gnd
Data 0
Data 1
LED
Gnd
IN2
Buzzer

Pushbutton (N.O.) — A

Pushbutton (N.O.) — B

C

Pushbutton (N.C.)

OSM-1000

DIP Switch 8 On

1   8

RS485 A
RS485 B
Gnd
Strike N.O.
Strike Com
Strike N.C.
Gnd
Pwr

Supervision LED

1. Plug Power supply into wall outlet
    HID Reader will beep and LED will glow different colors for a few seconds.
    OSM-1000 will likewise display different colors as it initializes
2. The OSM-1000 will glow blue with periodic flashes of Yellow (sending packets)
3. The HID will glow RED indicating the OSDP-1000 has successfully communicated with it.
Coincidentally, the supervision LED will glow indicating the supervision relay is activated (online).
4. Pushing button (A) will cause the Reader's LED to change color.
5. Pushing button (B) will cause the Reader's Buzzer to beep slowly (1/2 sec on/off)
6. Pushing button (C) will cause the Reader's Buzzer to beep rapidly (1/10 sec on/off)

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Demonstration Fixture
Proximity Card Reads

Card

Blue LED with Yellow Pulse
Red flash = Wiegand Output

Pwr	9Vdc	RS485 A
Gnd		RS485 B
Data 0		Gnd
Data 1	OSM-1000	Strike N.O.
LED		Strike Com
Gnd		Strike N.C.
IN2		Gnd
Buzzer		Pwr

1   8

Wiegand Output

1. Present a proximity card to the HID Reader. (there is no audible or visual feedback at the reader)

2. The RGB LED on the OSM-1000 will flash RED momentarily to indicate Wiegand pulses are being generated on the output pins.

3. Breaking communication with the reader (power or RS-485 connectors) will cause the supervision relay to open after 10 missed polls. The Supervision LED will go out.

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