

Application note

uPASS – getting started with OSDP

Introduction

The NEDAP uPASS readers support the OSDP protocol including the secure channel protocol.

- uPASS Target (up to 10 meter read range)
- uPASS Access (up to 2 meter read range)
- uPASS Reach (up to 5 meter read range) *

* *The uPASS Reach will support the OSDP protocol by additional PCC485/OSDP protocol convert board. See PCC485 installation guide for more details.*

OSDP capabilities

The uPASS readers support the OSDP communication protocol according to the SIA OSDP v2.1.7 standard, including the secure channel protocol.

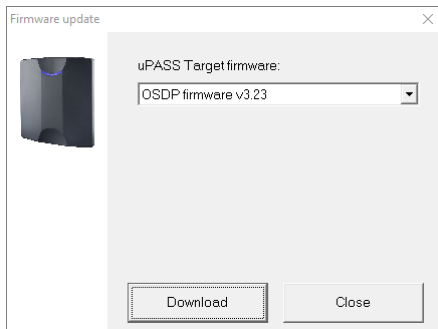
The OSDP control panel (CP) can request the reader device capabilities using the OSDP_CAP command. The uPASS reader will respond with the OSDP_PDCAP device capabilities report. Below an overview of the uPASS reader device capabilities.

	Function code	uPASS Target	uPASS Access
1	Inputs	2x IN (no supervision)	3x IN (no supervision)
2	Outputs	4x OUT (+timed)	2x OUT (+timed)
3	Card data format	Raw array of bits	Raw array of bits
4	LED control	1x RGB	1x RGB
5	Buzzer control	No buzzer	Yes (+timed)
6	Text output	No display	No display
7	Time keeping	No date/time	No date/time
8	Check character support	CRC	CRC
9	Communication security	Yes, encrypted AES128	Yes, encrypted AES128
10	Receive buffer size	256	128

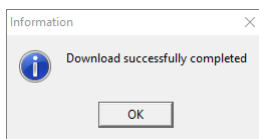
OSDP firmware

The OSDP firmware must be installed in the uPASS reader to support the OSDP protocol (by default the STANDARD firmware is loaded). Below is described how to update the OSDP reader firmware.

1. Start NEDAP UHFTOOL software
2. Connect to uPASS reader. Use STANDARD protocol. Default baud rate is 9600 (115200 for uPASS Target).
3. Click Options, Update firmware.
Select "OSDP firmware" and click Download.



4. Wait until finished.



5. Connect to the reader. Select OSDP protocol. Default baud rate is 9600. Default OSDP device address is 0.



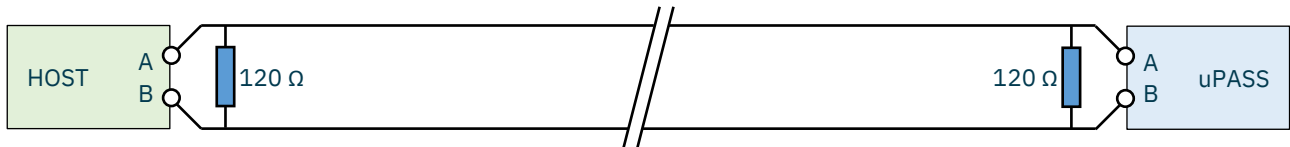
RS485

The OSDP protocol can be used in RS485 point-to-point and RS485 multi-drop communication.

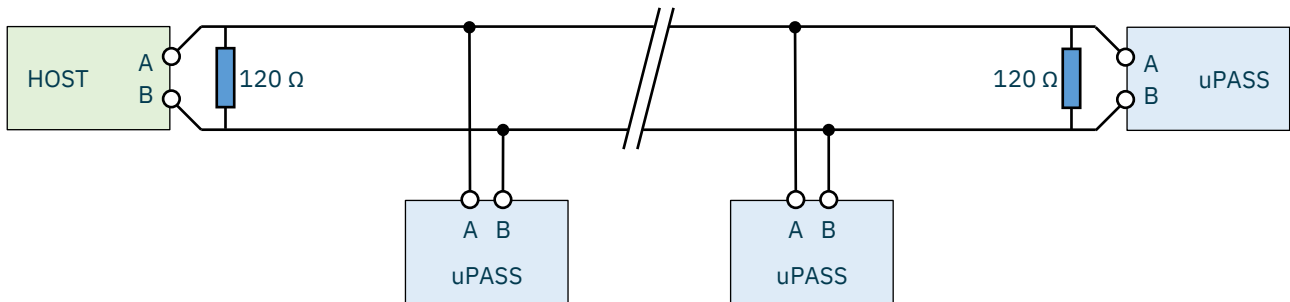
Default OSDP device address is 0 and default baud rate is 9600. This may be changed using the OSDP_COMSET command.

It is recommended to install termination resistors (120 Ω) to prevent unwanted signal reflections on long RS485 communication lines. The resistor should be installed at both ends of the communication lines.

Point-to-point wiring



Multi-drop wiring



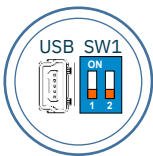
Please refer to the reader installation guide for detailed wiring information.

Remarks for uPASS Access

- The uPASS Access reader models before 2020 (Rev. A/B) have a fixed termination resistor, which cannot not be disabled. This means that these readers should only be used in point-to-point communication and you don't need to install a separate termination resistor.

Remarks for uPASS Target

- Use RS485 kit (art.no. 8500681) for convenient RS485 wiring and installation.
- Required dip-switch settings:



- In UHFTOOL, the “main comm. interface” must be set to RS422/485.