



**AN-295**

# Enhanced Smart Reader Outputs in Protege GX

Application Note



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# Introduction

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The purpose of the Enhanced Smart Reader Outputs option in Protege GX is to allow individual control of reader port outputs (i.e. reader LEDs and beepers), so they can be activated independently.

Unlike Wiegand configuration, in ICT RS485 mode the beeper and LEDs on the reader are controlled within the reader itself, not directly from the reader expander's BZ, L1 and L2 connections. Wiring the reader in RS-485 configuration leaves the BZ, L1 and L2 available for connection to additional devices. Enhanced Smart Reader Output configuration provides independent control over these outputs, enabling full use of all the outputs available on the reader expander.

Under normal operation without Enhanced Smart Reader Outputs enabled, if you activate the reader LEDs or beeper the physical reader expander output will be activated **and** a message will be sent to the entry and exit reader connected to that port to light the LED or sound the beeper.

With the Enhanced Smart Reader Outputs option enabled, when you activate the reader output only the reader port's **physical reader output** will change state, and trigger any device connected to it. The physical reader's LEDs and beeper will not be affected as they are controlled independently, through their own outputs.

This application note provides instructions on programming Enhanced Smart Reader Outputs in Protege GX.

## Prerequisites

Only the reader ports on controllers and reader expanders support the ICT RS485 functionality required to implement this feature. The following modules support this functionality:

Module	Firmware Version
Protege GX Controller	2.08.680 or higher
Protege Reader Expander	1.12.509 or higher or higher

Only controllers with RS-485 functionality on the reader ports support this feature. Older controllers may not have RS-485 reader ports.

# Enabling Enhanced Smart Reader Outputs

A key requirement of this feature is that the reader ports must be operating in ICT RS485 mode. The feature must then be enabled for each reader port.

1. Navigate to **Expanders | Reader Expanders** and select the reader expander to be configured for Enhanced Smart Reader Outputs functionality.
2. In the **Configuration** section, set the **Port 1 Network Type** and/or **Port 2 Network Type** to ICT RS485.
3. Select the **Reader 1/2** tab, scroll down to the **Misc Options** section and check the **Enable Enhanced Smart Reader Outputs** option to enable this feature.
4. When complete, click **Save**.

After enabling this feature it is necessary to perform a module update to update the programming in the reader expander. Wait for the programming to download to the controller, then right click on the reader expander record and click **Update Module**. Wait for the module update to be completed.

## Reader Outputs Table

The following table defines the available output actions for this feature. The required output records must be added in **Programming | Outputs**, with the appropriate **Module Output** setting for the corresponding function. Each output can then be activated independently by manual commands, door and area operations, programmable functions or a variety of other methods.

**Module Output** settings 1-8 control the reader expander's physical outputs, while settings 9-20 control the reader LEDs and beepers, independently of the physical outputs themselves.

Module Output	Enhanced Smart Reader Output Action
1	Relay 1
2	Relay 2
3	Port 1 L1 output
4	Port 1 L2 output (PRT-RDM2-DIN-485 only)
5	Port 1 BZ output
6	Port 2 L1 output
7	Port 2 L2 output (PRT-RDM2-DIN-485 only)
8	Port 2 BZ output
9	Port 1 Entry Reader LED
10	Reserved
11	Port 1 Entry Reader Beeper
12	Port 1 Exit Reader LED
13	Reserved
14	Port 1 Exit Reader Beeper
15	Port 2 Entry Reader LED

Module Output	Enhanced Smart Reader Output Action
16	Reserved
17	Port 2 Entry Reader Beeper
18	Port 2 Exit Reader LED
19	Reserved
20	Port 2 Exit Reader Beeper

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