IDS NXT

Vision apps – RS-232 Gateway

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1 Preface

Introduction

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2 RS-232 Gateway vision app

The RS-232 Gateway vision app is used to communicate via the RS-232 interface of the IDS NXT camera. Information on installing the IDS NXT camera and the pin assignment of the I/O connector can be found in the data sheet of the respective camera model or in the "Technical Manual" of the camera family.

This symbol indicates hints with useful information for better understanding and using features and functions.

This symbol indicates important warnings for product safety to prevent damage.

2.1 Overview

You activate and configure the vision app in IDS NXT Cockpit.

1. Open the IDS NXT Cockpit.
2. Go to the "VApp Manager" section.
3. Activate the RS-232 Gateway vision app via the slider. As soon as the vision app is activated, it is displayed in the navigation on the left.
4. When the vision app is running, you can connect the result sinks of the vision app e.g. with the result sources of the CNN manager vision app.
5. Connect the 1st entry with the result source "Inference" and the 2nd entry with the result source "Probability".
6. You can make further settings directly in the vision app.

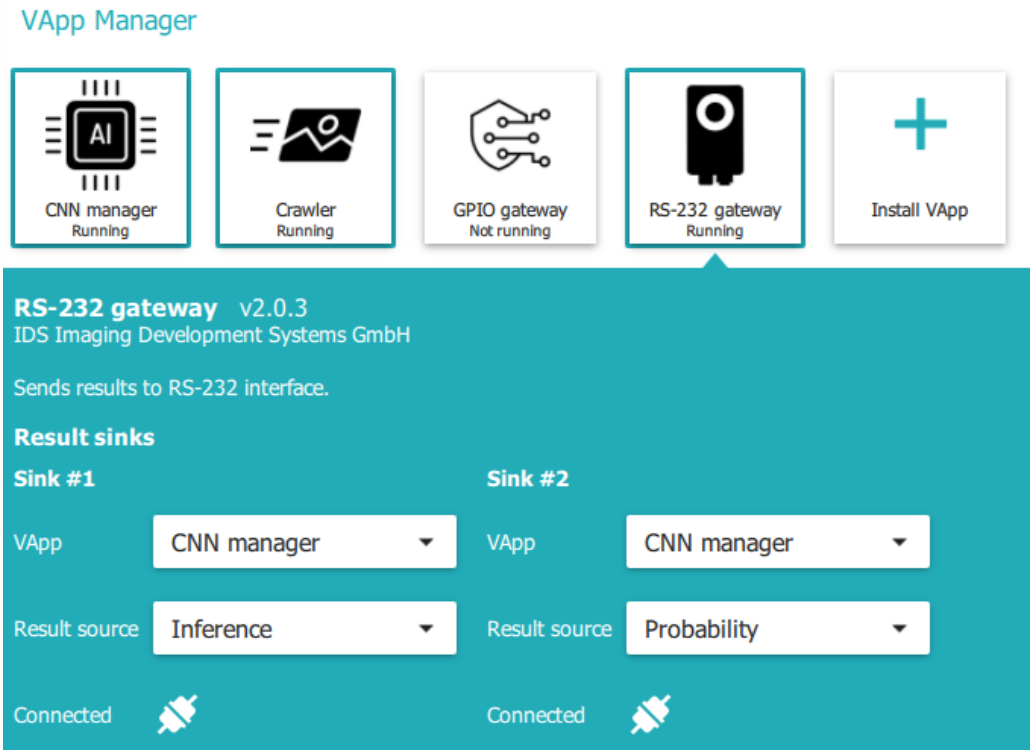

Fig. 1: Activate RS-232 Gateway

2.2 Settings

In the vision app itself, you configure the start and end characters for result transfer to the RS-232 interface.

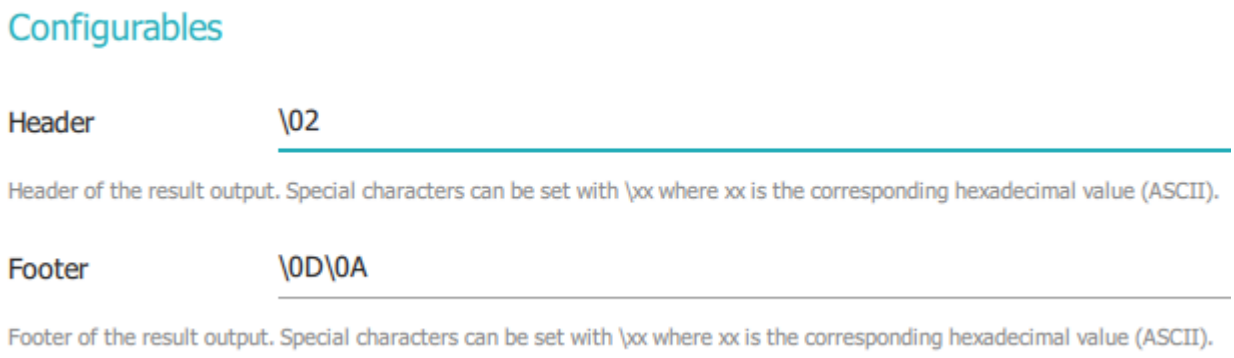

Fig. 2: Settings

2.3 Setting communication parameters

Before communicating via the RS-232 interface, adjust the interface parameters with the remote station of IDS NXT camera. Under "Interfaces" in the configuration of IDS NXT Cockpit, you can set baud rate, parity and stop bits.

Fig. 3: Set RS-232 communication parameters

2.4 RS-232 output

The result of each successful read operation is sent directly via the RS-232 interface. No request or confirmation is necessary.

Each result is enclosed by a start character (STX) and two end characters (CR + LF) to separate the result outputs.

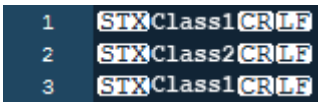

Fig. 4: Example output

3 REST interface

The description of the REST interface here is limited to the parameters/values that are specific for the RS-232 Gateway vision app. A more detailed description of the IDS NXT REST interface can be found in the manual "IDS NXT - REST interface".

REST queries of IDS NXT vision apps are only possible if the corresponding vision app is activated, as they are generated dynamically during runtime.

Depending on the action and parameters, the used HTTP methods are color-coded and assigned to the permission of IDS NXT user profiles (see manual "IDS NXT - Setup").

USER

SERVICE

ADMIN

3.1 /vapps/rs232gateway

/vapps/rs232gateway

- GET USER
- OPTIONS USER

Provides information about the RS-232 Gateway vision app.

Response format

The content of the HTTP response is transferred in JSON format (application/json).

Return values

- **Activated** (Boolean): Activation status of the vision app
- **Brief** (string): Short description of the vision app
- **Description** (string): Long description of the vision app
- **Manufacturer** (string): Manufacturer of the vision app
- **Name** (string): Name of the vision app
- **Status** (string): Runtime status of the vision app "NotRunning", "Starting", "Running", "Crashed", "FailedToStart", "TimedOut", "ReadError", "WriteError", "UnknownError", "Incompatible"
- **Title** (string): Vision app title
- **Type** (string): Vision app type (vision app, plugin, system)
- **Version** (string): Version of the vision app

Error response

See Error codes

Sample code

```
curl -i -X GET -u admin:ids "http://<ip>/vapps/rs232gateway"
```

3.2 /vapps/rs232gateway/configurables

/vapps/rs232gateway/configurables

- GET USER

- OPTIONS USER
- PATCH SERVICE

Shows the current settings of the vision app or changes the settings via the PATCH command.

Response format

The content of the HTTP response is transferred in JSON format (application/json).

Return values

- **a_header** (string): Header of the result output. Special characters can be set with "\xx" where xx is the corresponding hexadecimal value (ASCII).
- **b_footer** (string): Footer of the result output. Special characters can be set with "\xx" where xx is the corresponding hexadecimal value (ASCII).

Error response

See Error codes

Sample code

```
curl -i -X GET -u admin:ids "http://<ip>/vapps/RS-232 Gateway/configurables"
```

3.3 /vapps/rs232gateway/resultsinks/<resultsink>

/vapps/rs232gateway/resultsinks/<resultsinks>

- GET USER
- OPTIONS USER
- PATCH SERVICE

Returns the data of the connected result sink or sets a result sink via the PATCH command.

Response format

The content of the HTTP response is transferred in JSON format (application/json).

Return values

- **Brief** (string): Brief description of the result sink
- **Connected** (Boolean): Connection status
- **Description** (string): Description of the result sink
- **Source** (string): Specific result sink
- **Title** (string): Name of the result sink
- **Type** (string): Type of result sink
- **VApp** (string): Vision app which provides the result sink

Error response

See Error codes

Sample code

```
curl -i -X GET -u admin:ids
"http://<ip>/vapps/rs232gateway/resultsinks/<resultsink>"
```

3.4 Error codes

For the REST queries, HTTP response codes are used as return values. The following HTTP codes are possible return values of the REST queries, in general any HTTP code would be possible:

HTTP code	Description
200	Success
404	The requested object could not be found (e. g. wrong path)
405	The query must be made using other HTTP methods, e. g. OPTIONS instead of GET.
500	Internal device error
503	Result not available (e.g. no code read yet)

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- R -

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