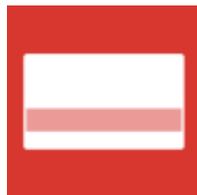




# ***ID Microserver 2***

*TCP server for local PC readers operation*

*User's guide*



***techfass***<sup>®</sup>

# 1 Content

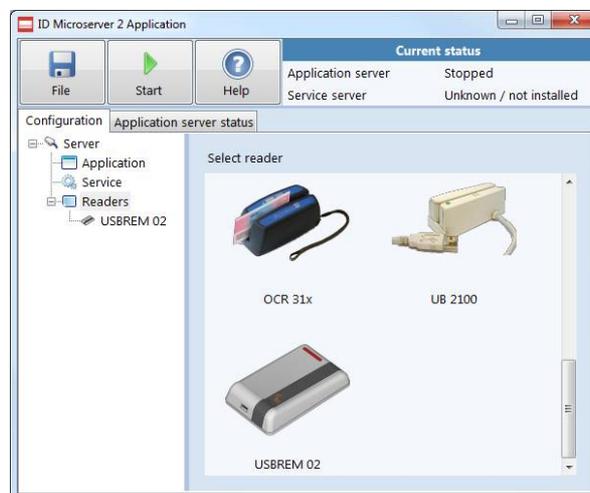
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## 2 Product description, program requirements

### 2.1 Brief product description

The *ID Microserver 2* program (*pic. 1*) is used for connecting local readers to a PC via *serial port*, *USB* or *TCP/IP* converter and for distribution of IDs read by connected readers to other TECHFASS programs via *TCP/IP*, or to get the IDs in Windows environment using *keyboard buffer* or *clipboard*.

The program is able to handle multiple readers connected to a PC at the same time.



*Pic. 1: ID Microserver 2 application*

### 2.2 Hardware and software requirements

For connecting a reader, it is necessary to connect appropriate *TCP/IP / COM* converter to the network with a server running the program or connect the reader directly to a *COM* or *USB* port of the computer. The program requires *Windows 10 / 11* and *.NET Framework* version *4.6.1* to run.

### 2.3 Supported readers

The program supports following reader types:

- REM 181.USB, REM 281.USB,
- USBREM 02,
- Lektor D-1-USB, R1U I-LG,
- OCR 312, OCR 315,
- Omnikey Reader (5125, 5321, 5325 CL),
- Idesco Access7C2 (serial port, TCP/IP),
- APSLAN (WIEGAND mode) (reader with WIEGAND output connected through APSLAN converter),
- UB 2100,
- System reader (system reader communicating with APS Server program).

## 3 Program installation

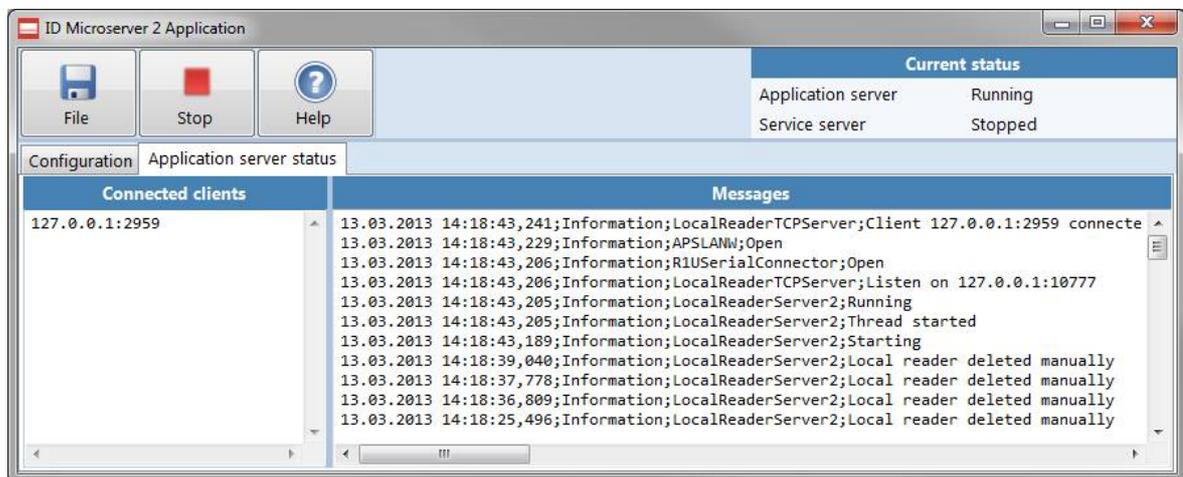
The program is installed by running the installer.

When connecting the readers to a PC follow the recommended installation instructions supplied with the specific reader. Any USB device requires installation of appropriate driver as a rule. Drivers for all supported USB readers are available at [www.techfass.cz](http://www.techfass.cz).

Run the program by its shortcut from the *Start* menu.

Program contains following tabs:

- *Configuration* tab (*pic. 1*) contains configuration parameters for the program operation.
- *Application server status* tab (*pic. 2*) contains information about connected clients and read IDs.



*Pic. 2: Application server status*

## 4 Program configuration

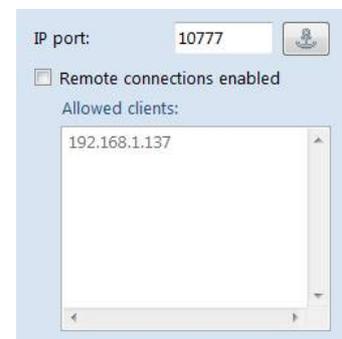
The *Configuration* tab contains a tree of configurable properties of the *ID Microserver 2* program.

The root element *Server* contains the setting of parameters for client programs, which can connect to the ID Microserver 2 program. The *Application* element contains a series of options for working with the read ID, when the program operates in application mode (not applicable when operating as a system service). The *Service* element contains resources for TF.IDMicroserver2.Service Windows service administration. The *Readers* element enables to add and configure supported readers; after adding a reader, it is necessary to configure its operating parameters.

### 4.1 Server

The root element *Server* (pic. 3) contains the setting of operating parameters for the server:

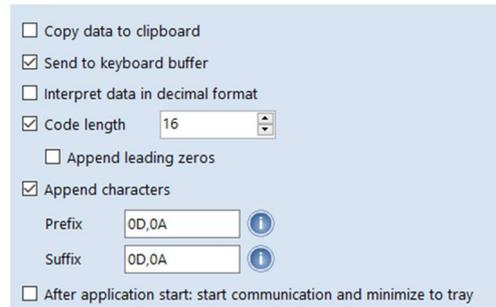
- *IP Port* – IP port, on which the server listens and receives the connections from client programs; the default IP port value is *10777*.
- *Remote connections enabled* – a list of addresses, from which the remote connections to the server are accepted; the program enables the connection of clients with IP address listed in the *Allowed clients* list only; the other connections are refused (relevant record can be found in the program log).



Pic. 3: Server

## 4.2 Application

The *Application* element (*pic. 4*) contains a series of options for working with the read ID, when the program operates in application mode (not applicable when operating as a system service).

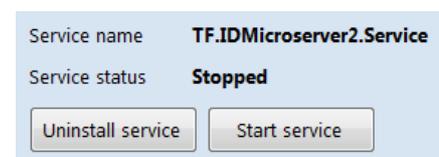


Pic. 4: Application

- *Copy data to clipboard* – when using this option, the data read at the PC reader are saved in the *computer clipboard*. The data can be pasted from the clipboard into any text field by the *Paste* command.
- *Send to keyboard buffer, append characters* – when this option is used, the data read at the PC reader are directly sent to the *keyboard buffer*. As a result the ID code is immediately written at the cursor position.
- *Interpret data in decimal format* – by default the data is interpreted in hexadecimal format. If the decimal format of the read data is required, press the relevant choice, the program will automatically perform the conversion.
- *Code length* – the program works with the full code length by default. If there is need to shorten / extend the code, check the proper checkbox and set the code length (characters count). If the set code length is higher than the read code, you can check the *Append leading zeroes* option to extend the code from left with zeroes to get required length.
- *Append characters* – if you need to add any characters in front or behind the read ID, fill it in the *Prefix* and/or *Suffix* field. The data is entered as a comma separated list of *bytes (ASCII codes)*. The control characters can be used as well, typically: *0D* – carriage return; *0A* – line feed.
- *After application start: start communication and minimize to tray* – if the option is selected, the program is automatically minimized to *system tray* and the *communication is automatically started* after the application is run.

## 4.3 Service

The program is able to operate as a standard Windows service. The Service element (*pic. 5*) contains all resources for the *TF.IDMicroserver2.Service* service administration.



Pic. 5: Service

All operations with the Windows services require Administrator privileges at the computer.

- *Service name: TF.IDMicroserver2.Service* – name of the service.
- *Service status* – the status of the service; if *Unknown / not installed* value is displayed, the service is either not installed, or you do not have sufficient rights to display the service status.
- *Install service* – after the button is pressed, the service is installed; the service is installed to be run after the computer is started.
- *Start service* – after the button is pressed, the service is manually started.
- *Stop service* – after the button is pressed, the service is stopped manually.
- *Uninstall service* – after the button is pressed the service is uninstalled.

## 4.4 Readers

The *Readers* element (pic. 6) enables to add supported readers into the program configuration and to set the operational parameters for individual readers in the configuration.

### 4.4.1 REM 181.USB, REM 281.USB

Connecting the *REM 181.USB* (resp. *REM 281.USB*) reader using *USB* port; after installation of the drivers the reader gets a *virtual COM port* assigned; when configuring the reader, select *COM port* in the relevant field.

### 4.4.2 USBREM 02

Connecting the *USBREM 02* reader using *USB* port; after installation of the drivers the reader gets a *virtual COM port* assigned; when configuring the reader, select *COM port* in the relevant field.

### 4.4.3 Access7C2 (serial port)

Connecting the *IDESCO Access7C2* reader directly using a serial port of a computer; when configuring the reader properties, select the *COM port* in the relevant field.

### 4.4.4 Access7C2 using TCP/IP

Connecting the *IDESCO Access7C2* reader using a *TCP/IP converter* (e.g. *GNOME 232*); when configuring the reader properties, fill in *IP address* and *IP port* parameters of the converter in relevant fields.

### 4.4.5 APSLAN (WIEGAND mode)

Connecting a reader with *WIEGAND* output using *APSLAN* converter in Wiegand -> TCP/IP operation mode; when configuring the reader properties, fill in *IP address* and *IP port* parameters of the APSLAN in relevant fields.

### 4.4.6 Omnikey Reader

Connecting *Omnikey reader 5321, 5325 CL, or 5215* using *USB port*; after installation of the drivers the reader is displayed in the Device manager; when configuring the reader properties, select *relevant reader* in the list.

### 4.4.7 Lektor D-1-USB

Connecting the *Lektor D-1-USB* reader using *USB* port; after installation of the drivers the reader gets a virtual COM port assigned; when configuring the reader, select *COM port* in the relevant field.



Pic. 6: Supported readers

## 4.4.8 MREM 21

Connecting *MREM 21* reader directly using a serial port of a computer; when configuring the reader properties, select the *COM port* in the relevant field.

The MREM 21 reader is not supported on OS Windows 7 and newer!
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## 4.4.9 OCR 31x

Connecting *OCR 31x* OCR document reader using USB port; after installation of the drivers the reader gets a virtual COM port assigned; when configuring the reader, select *COM port* in the relevant field. If the reader is set not to provide the document type on its own, select the *Insert document type (ID)* option.

## 4.4.10 UB 2100

Connecting the *UB 2100* reader using USB port; after installation of the drivers the reader gets a virtual COM port assigned; when configuring the reader, select *COM port* in the relevant field.

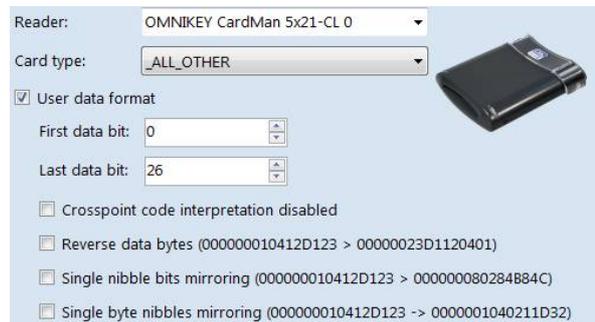
## 4.4.11 System reader

The program enables to use any APS mini Plus or APS 400 *system reader* as a table-top reader. To do so, you have to use the APS Administrator solution to manage the system and the reader has to be communicating with the APS Server program.

When configuring the setting, you have to enter the *IP address* and *IP port* of the APS Server application (service). Additionally, you have to enter the *system ID* and the *HW address* of selected reader.

**4.5 User data format**

Readers supporting standard ID code reading can be configured to alter the read code in *User data format* (pic. 7). Such function is meaningful only in cases when codes of ID media read at system readers differ from the codes read at the enrolment reader, e. g. by inappropriate interpretation of parity bits or by some reverse operation set at the system readers.



*Pic. 7: User data format*

To enable the function, select the proper *Card type* (available only for selected PC readers) and check the *User data format* checkbox. The program will consider only the data from the range given by the *First Data Bit* and *Last Data Bit* to be a valid code to use (for selected Card type), starting with index 0.

Example: The standard length of EM Marin technology ID media is 40bits; if you need to use the entire code, it is necessary to set the range to *0 ÷ 39*.

In the next step the cut code is handled with the options selected below.

The first option is to suppress the use the *Crosspoint algorithm* (*Crosspoint code interpretation disabled*), which is standardly applied to IDs in proper format (5byte EM Marin cards with MSBs: 0F, 00; or 01, 00), which are transferred to a 24bit code in compliance to the mechanism description.

Another option is to use the *Reverse data bytes* option. This option is able to switch the order of all complete bytes in used code.

Use example: source code: *000000010412D123*; final code: *00000023D1120401*.

Another option is to use the *Single nibble bits mirroring*. This option is able to switch the order of all bits in every nibble (nibble = bits quartet).

Use example: source code: *000000010412D123*; final code: *00000080284B84C*.

Another option is to use the *Single byte nibbles mirroring*. This option is able to switch the order of nibbles in every byte (switching bit quartets in every byte).

Use example: source code: *000000010412D123*; final code: *0000001040211D32*.

## 5 Program operation

After all configurations are finished, it is possible to start the server operation. The configuration is not saved by any special action; it is saved immediately after each configuration change. The configuration cannot be changed, if the server is started.

The program can be run either as an *application*, or as a *standard Windows service*. It is not possible to use the program in both modes simultaneously.

In the application mode the server is started by pressing the *Start* button at the top toolbar. To stop the server operation, press the *Stop* button.

In the service mode all resources for operating the service are available after selecting the *Service* element in the configuration tree.

When the program is operated in the application mode, all events, which happen while the server operates, are displayed at the *Application server status* tab, and also the events are saved in text log files.

When the program is operated in the service mode, the events are only saved in the text log files. The directory containing the files can be opened with *File > Open folder with Log files* command.

The program can be exited with *File > Exit* command.

The information about the program version is available in the menu *Help > About ID Microserver 2*.

Help can be displayed after selecting *Help > Help* (English) or *Help > Nápověda* (Czech).