PENKO Engineering B.V.

Your Partner for Fully Engineered Factory Solutions
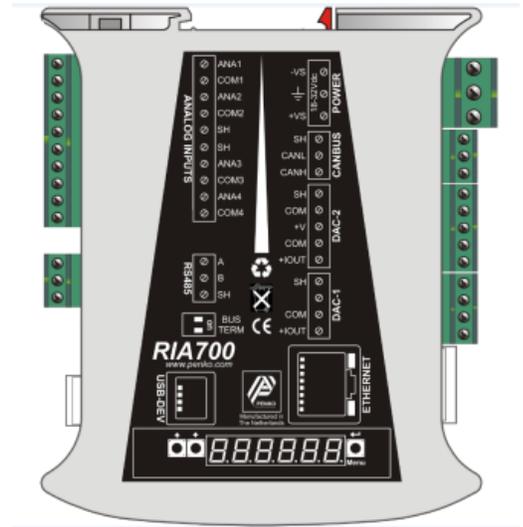
Manual:
RIA700 Analog

RIA700 Analog

IMPORTANT SAFETY INFORMATION

READ THIS PAGE FIRST!

PENKO Engineering B.V. manufactures and tests its products to meet all applicable national and international standards. It is vital that this instrument is correctly installed, used, and maintained to ensure it continues to operate to its optimum specification.

The following instructions must be adhered to and incorporated into your safety program when installing, using, and maintaining PENKO products. Failure to follow the recommended instructions can affect the system's safety and may increase the risk of serious personal injury, property damage, damage to this instrument and may invalidate the product's warranty.

• Read the instructions fully prior to installing, operating, or servicing the product. If this Instruction Manual is not the correct manual for the PENKO product you are using, call 0031(0)318-525630 for a replacement copy. Keep this Instruction Manual in a safe place for future reference.

• If you do not fully understand these instructions, contact your PENKO representative for clarification.

• Pay careful attention to all warnings, cautions, and instructions marked on and supplied with the product.

• Inform and educate your personnel about the correct installation, operation, and maintenance procedures for this product.

• Install your equipment as specified in the installation instructions of the appropriate Instruction Manual and as per applicable local and national codes. Connect all products to the proper electrical sources.

• To ensure correct performance, use qualified personnel to install, operate, update, program, and maintain the product.

• When replacement parts are required, ensure that qualified technicians use replacement parts specified by PENKO. Unauthorized components and procedures can affect the product's performance and may affect the continued safe operation of your processes. The use of non-specified 'look-alike' substitution parts may result in the risk of fire, electrical hazards, or improper operation.

• Ensure that all equipment doors are closed and protective covers are in place, except when maintenance is being performed by qualified persons, to prevent electrical shock and personal injury.

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WARNING

ELECTRICAL SHOCK HAZARD

Installing cable connections and servicing this instrument require access to shock hazard level voltages which can cause death or serious injury.

Disconnect separate or external power sources to relay contacts before commencing any maintenance.

The electrical installation must be carried out in accordance with CE directions and/or any other applicable national or local codes.

Unused cable conduit entries must be securely sealed by non-flammable blanking plates or blind grommets to ensure complete enclosure integrity in compliance with personal safety and environmental protection requirements.

To ensure safety and correct performance this instrument must be connected to a properly grounded, three-wire power source.

Proper relay use and configuration is the responsibility of the user.

Do not operate this instrument without the front cover being secured. Refer any installation, operation or servicing issues to qualified personnel.

WWW.PENKO.COM

PENKO Engineering B.V.is an ETC Company

Email: info@PENKO.com

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1. Indication of display

The RIA700 display with closed cover:
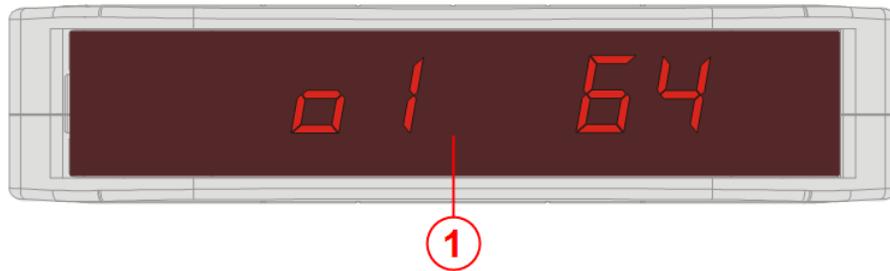
1   Input / Output status

The RIA700 display with open cover:
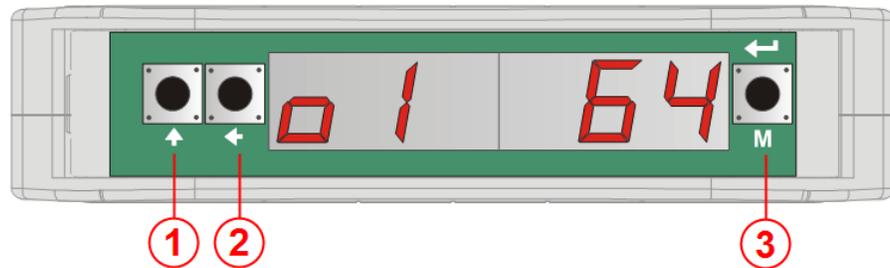
1   key 1 press <2sec.=   **1** SHORT   **3**   key 3 press <2sec.=   **3** SHORT

      key 1 press >2sec.=   **1** LONG   key 3 press >2sec.=   **3** LONG

2   key 2 press <2sec.=   **2** SHORT

      key 2 press >2sec.=   **2** LONG

Functions of these keys are described on the next page.

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2. Explanation of front keys

The buttons on the RIA700 have the following functionality:

1 SHORT
Pressing key 1 "short".
In Menu mode: increase value by 1 or move up in menu.

1 LONG
Pressing key 1 "long".
In Menu mode: decrease value by 1 or move down in menu.

2 SHORT
Pressing key 2 "short".
In Menu mode: go into sub-menu or move cursor 1 position to the left.

2 LONG
Pressing key 2 "long".
In Menu mode: move cursor 1 position to the right.

3 SHORT
Pressing key 3 "short".
In Menu mode: escape and move back in menu without saving changes.

3 LONG
Pressing key 3 "long".
In Normal mode: enter configuration menu.
In Menu mode: confirm made changes.

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3. Display notification

The RIA700 constantly shows the status of the 4 inputs and 2 outputs. Every input and output is shown in the display for about a second.

Display	Time
i1 12	1 sec
i2 25	1 sec
i3 68	1 sec
i4 41	1 sec
o1 34	1 sec
o2 0	1 sec

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4. Connections

This product is intended to be supplied by a NEC class 2 or Limited Power Source, rate 18 - 32 Vdc, 0.2A@24Vdc.
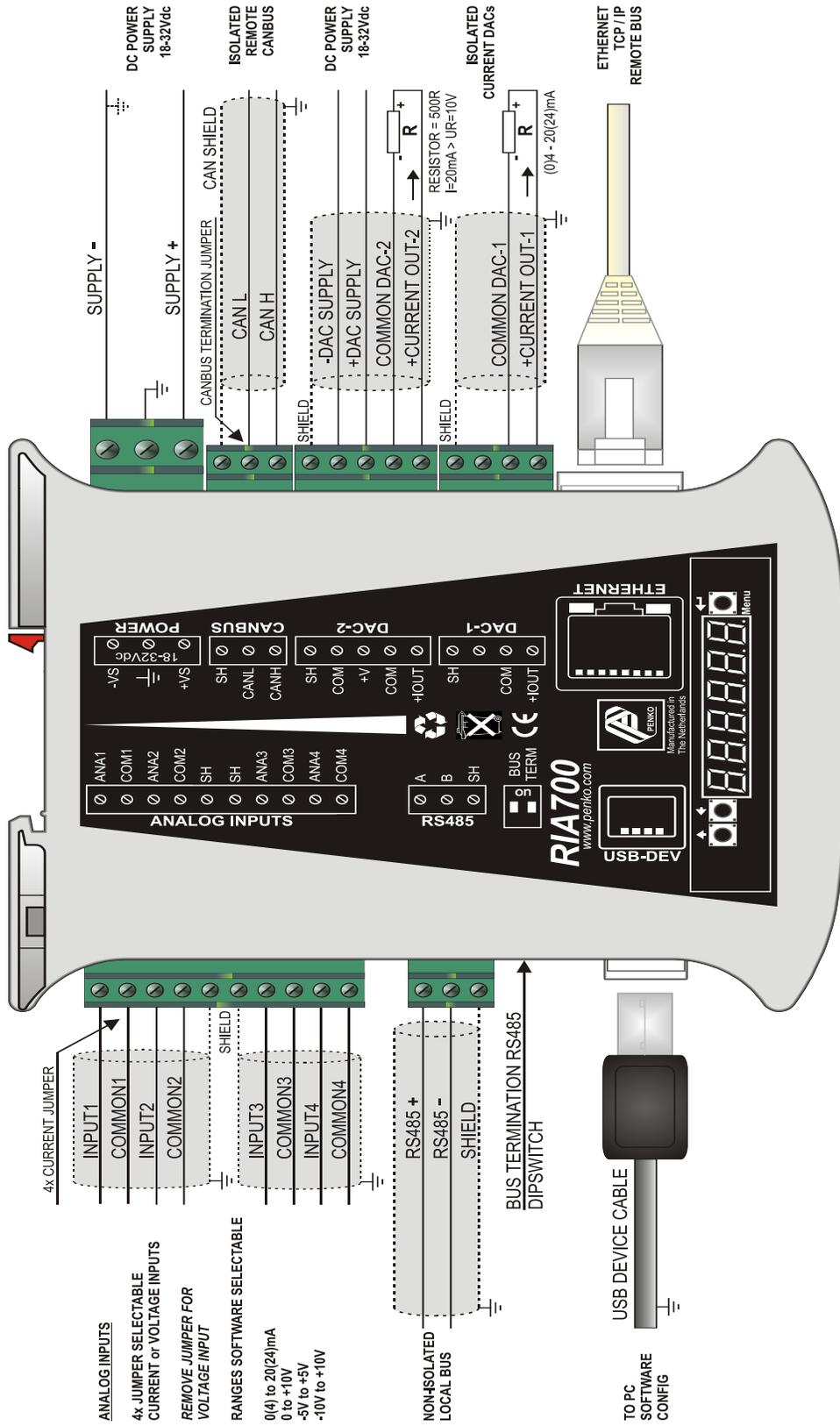
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⚠️ *Before connecting the device to a computer using USB, make sure PENKO Suite is installed.*

⚠️ *When connecting the device to a computer using USB, the device will power up using the USB 5V power supply. Several parts of the device will not be active so always make sure to connect the 24VDC power supply.*

4.1. Power supply
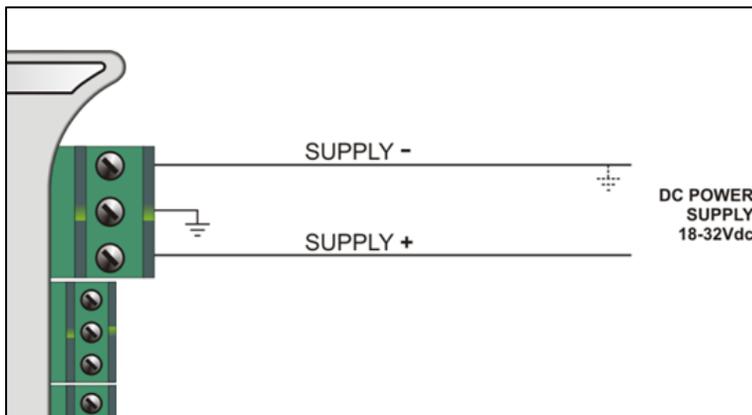
Power the device using a 24VDC power supply (min 18VDC, max 32VDC). The maximum power consumption is 2.5W.

4.2. USB
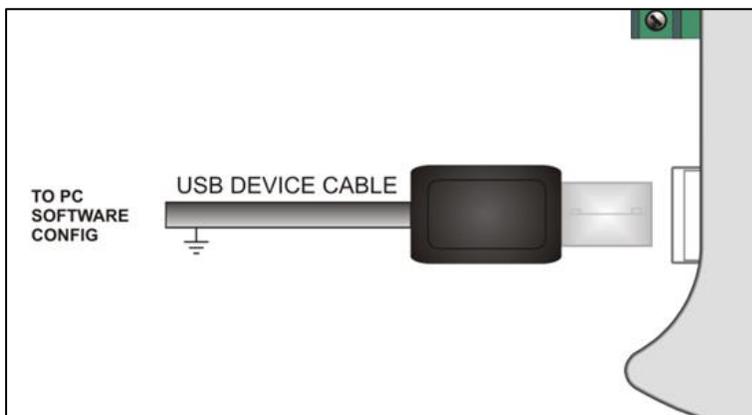
Connect the device to a computer using an A-B USB cable. The USB interface is used for configuration with Pi Mach II Manage software.

The USB interface ***cannot*** be used for communication protocols, printers etc.
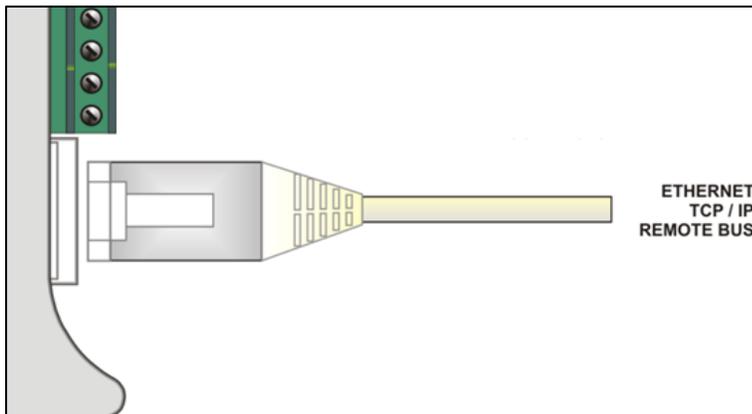
4.3. Ethernet

The Ethernet connection is used for the PENKO BusLink protocol. See chapter 7 for more information.

It can also be used for communication with Pi Mach II.

4.4. Local Bus
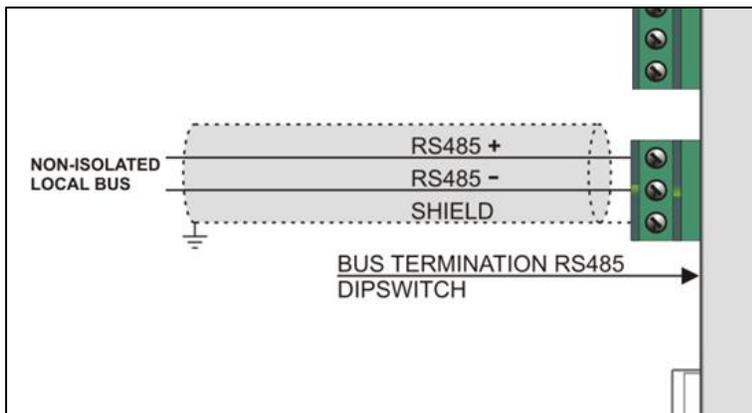
The local bus is used to connect up to 32 RIA700 devices to one USB or Ethernet communication. The device with local bus (RS485) address 1 is connected to the computer by USB or Ethernet. The other devices are parallel connected to the RS485 local bus and all need a unique local bus address. In Pi Mach II Manage, the devices are all shown in the tree with their own unique number. The last device on the bus must set the dipswitch for bus termination.
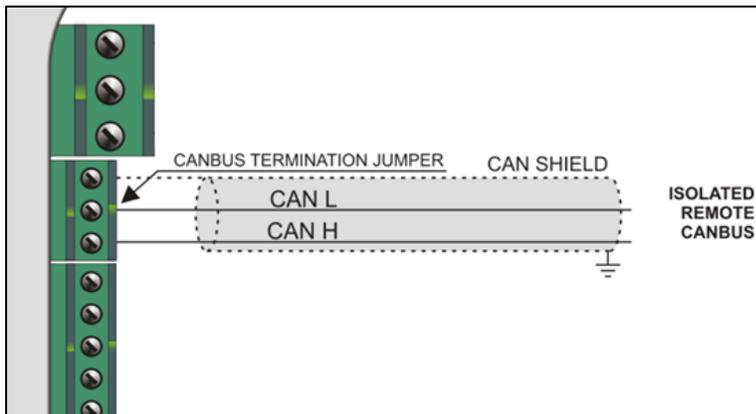
4.5. CanBus

The CAN Bus is used for the PENKO BusLink protocol. See chapter 7 for more information.

⚠️   *Note that the CANopen protocol is not available*

The CAN bus termination is done with a jumper:

Jumper setting termination Off

Jumper setting termination On (120Ω)
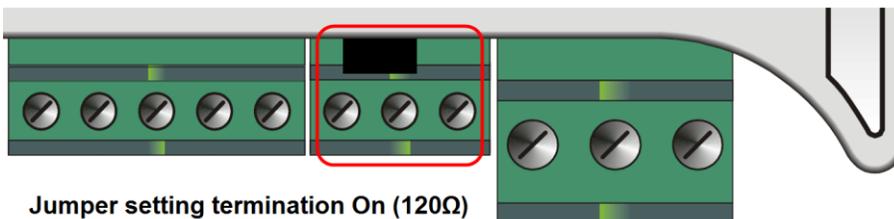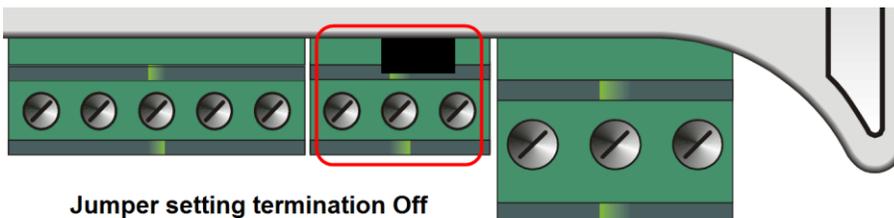
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4.6. Analog inputs
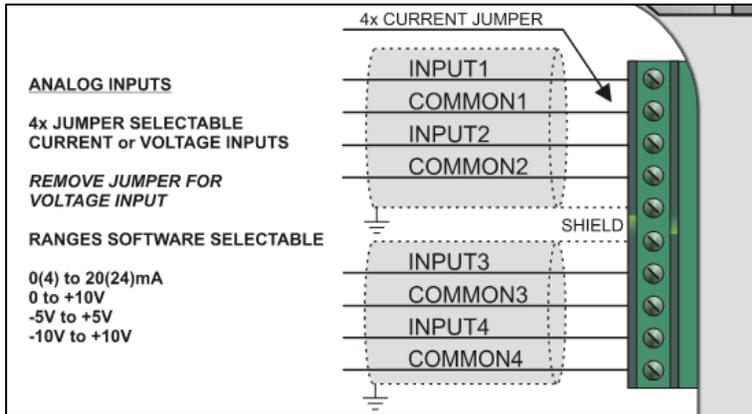
The four analog inputs can be used for current or voltage input. The selection is made with a separate jumper for each input. The following ranges can be selected:

Option	Jumper	Description
RAW	-	16 bit DAC value
0 to 24 mA	Yes	The minimum and maximum value of the input
0 to 20 mA	Yes	The minimum and maximum value of the input
4 to 20 mA	Yes	The minimum and maximum value of the input
4 to 24 mA	Yes	The minimum and maximum value of the input
0 to +10 V	No	The minimum and maximum value of the input
-10 to +10 V	No	The minimum and maximum value of the input
-5 to +5V	No	The minimum and maximum value of the input

4.7. Analog outputs
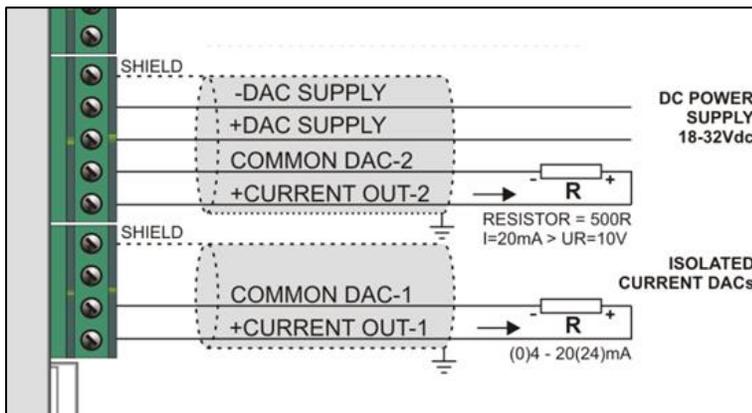
The two analog outputs can be used for current or voltage output.

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The following ranges can be selected:

Option	Description
RAW	16 bit DAC value
0 to 24 mA	The minimum and maximum value of the output
0 to 20 mA	The minimum and maximum value of the output
4 to 20 mA	The minimum and maximum value of the output
4 to 24 mA	The minimum and maximum value of the output

To use the outputs as voltage output, place a 500 ohm resistor in the loop. With the 0 to 20 mA range setting the output will be 0 to 10 V. *(20mA * 500 ohm = 10V)*

In order to function, the DAC has to be connected to an 18 - 32 VDC power supply. This can be done using the device power supply or an external power supply.

Using the device power supply:
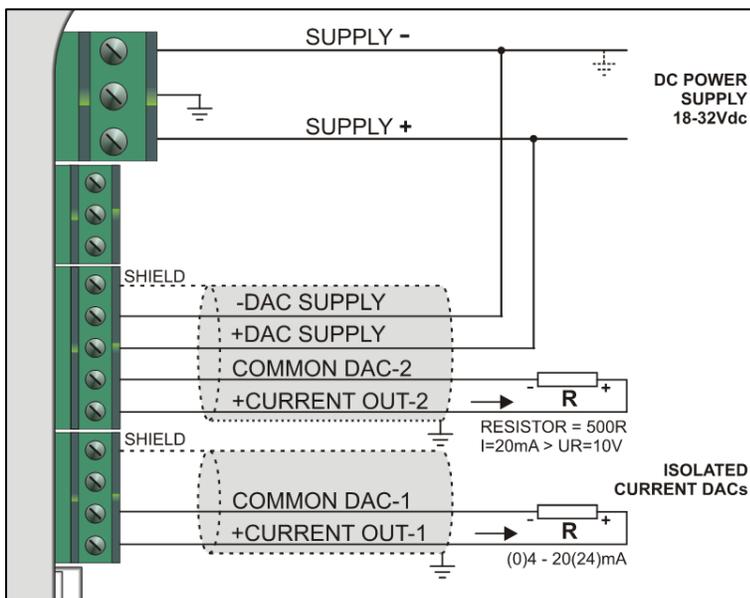
⚠️ *COMMON DAC-1 and COMMON DAC-2 are internally connected to the -DAC SUPPLY. When using the device power supply for the DAC, the current loop will include the SUPPLY- of the device power supply.*
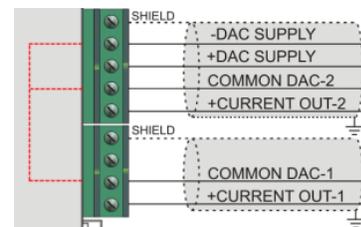
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Using an external power supply:
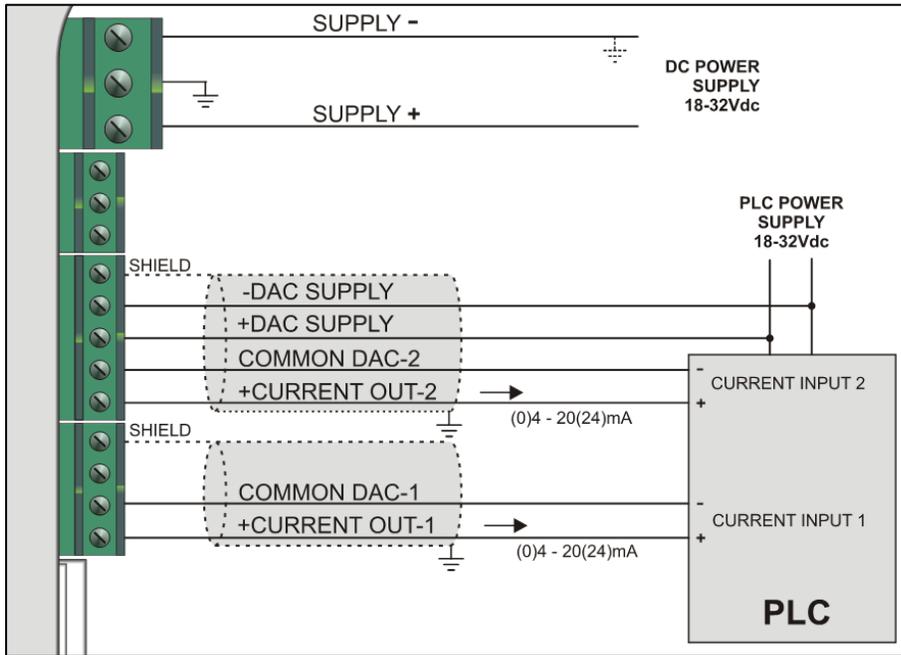
In this example the current loop is isolated from the device power supply.

5. Configuration menu

De RIA700 can be configured in two ways:

- With the buttons and display on the device itself
- With the PENKO Pi Mach II software

With Pi Mach II software all settings can be configured. This is also the easiest way. On the device itself not all settings are available.

This chapter describes configuration on the device.

Chapter 6 describes configuration with Pi Mach II.

Press button 3 >2 sec to enter the Configuration Menu.

The following options are available in the configuration menu:

Option	Description
---**485**	Local bus communication settings (RS485)
---**CbL**	CAN Buslink settings
---**Eth**	Ethernet settings
---**EbL**	Ethernet Buslink settings
---**rcL**	Recall
---**SoF**	Firmware update

Scroll through the menu options pressing key 1 and enter a sub-menu pressing key 2 <2 sec or key 3 >2 sec.

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5.1. ---485 Local bus communication settings (RS485)

In this menu, the communication address can be set for communication with multiple devices. Press key 2 <2 sec to enter the settings.

The display shows:

In **485 1** you set the address of the RIA700. Press 2 <2sec to enter **485 1**.

Set the address using key 1 and key 2. Key 1 is for changing the number (1-9), key 2 is for changing the position of the cursor. Confirm by pressing key 3 > 2 sec. (options are 1-32)

1 SHORT	1 LONG	2 SHORT	2 LONG	3 LONG
Increase	Decrease	Left	Right	Confirm

The display shows:

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5.2. ---CbL CAN Buslink settings

The options for the CAN Buslink protocol are:

Option	Description
CbL 1	Protocol
CbL 2	Buslink address
CbL 3	Buslink subaddress
CbL 4	Baudrate

Press key 2 <2 sec to enter the settings.

The following screen is shown:

In **CbL 1** you set the protocol for the CAN bus. Press key 2 <2 sec to change the protocol. Use key 1 to change the value (1-2). Confirm by pressing key 3 >2sec.

1 SHORT	1 LONG	3 LONG
Up	Down	Confirm

The protocol options are:

Option	Description
1	None
2	Buslink

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The display shows:

In **CbL 2** you set the Buslink address. Press key 2 <2 sec to change the address. Use key 1 to change the value (1-8). Confirm by pressing key 3 >2 sec.

2 SHORT	

1 SHORT	1 LONG	3 LONG
Up	Down	Confirm

The display shows:

In **CbL 3** you set the Buslink Subaddress. Press key 2 <2sec to change the subaddress. Use key 1 to change the value (1-5). Confirm by pressing key 3 >2sec.

2 SHORT	

1 SHORT	1 LONG	3 LONG
Up	Down	Confirm

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The display shows:

In **CbL 4** you set the baudrate for the communication. Press key 2 <2sec to change the baudrate. Use key 1 to change the value (1-4). Confirm by pressing key 3 >2sec.

1 SHORT	1 LONG	3 LONG
Up	Down	Confirm

The baudrate options are:

Option	Description
1	100k
2	125k
3	250k
4	500k

The display shows:

5.3. ---Eth Ethernet settings

In this menu, the communication settings can be set for the Ethernet port. The options for the Ethernet port communication settings are:

Option	Description				
Adr 1-4	4 bytes of the IP address	192 Adr1	168 Adr2	1 Adr3	2 Adr4
Sub 1-4	4 bytes of the Subnet address	255 Sub1	255 Sub2	255 Sub3	0 Sub4
gAt 1-4	4 bytes of the Gateway address	192 gAt1	168 gAt2	1 gAt3	1 gAt4
dHCP	Disable or enable Dynamic Host Configuration Protocol				

Press key 2 <2sec to enter the settings.

The display shows:

In **Adr 1** you set the first byte of the IP address you want to give the RIA700 (example: 192.168.151.112). Press key 2 <2sec to change the number. Set the numbers using key 1 and key 2. Key 1 for is changing the number (1-9), key 2 is for changing the position of the cursor. Confirm by pressing key 3 >2sec. (options are 0-255).

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The display shows:

Follow the same steps as for **Adr 2**, **Adr 3** and **Adr 4** to set the IP address, Subnet address (**Sub 1**, **Sub 2**, **Sub 3**, **Sub 4**) and Gateway address (**gAt 1**, **gAt 2**, **gAt 3**, **gAt 4**).

After completing these steps the display shows:

In **dHCP** you can **disable** or **enable** the Dynamic Host Configuration Protocol (DHCP). Press key 2 <2sec to disable or enable the protocol. Use key 1 to change the value (1-2). Confirm by pressing key 3 >2sec.

The options are:

Option	Description
1	Disable
2	Enable

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The display shows:

5.4. ---EbL Ethernet Buslink settings

In this menu, the Ethernet Buslink protocol can be configured. The options are:

Option	Description
EbL 1	Buslink address
EbL 2	Buslink subaddress

Press key 2 <2 sec to enter the settings.

The display shows:

In **EbL 1** you set the Buslink address of the RIA700. Press key 2 <2 sec. to enter **EbL 1**. Use key 1 to set the address (1-8). Confirm by pressing key 3 >2sec.

Up   Down   Confirm

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The display shows:

In **EbL 2** you set the Buslink subaddress of the RIA700. Press key 2 <2 sec. to enter **EbL 2**. Use key 1 to set the address (1-8). Confirm by pressing key 3 >2sec.

1	1	3
SHORT	LONG	LONG
Up	Down	Confirm

The display shows:

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5.5. ---rcL Recall

In **Recall**, you can reset all parameters back to factory settings.

Press key 2 <2sec to enter Recall.

The display shows:

To set all parameters back to factory settings Press key 3 >2sec.

The display shows:

To reset the file system back to standard factory settings press key 1 >2sec.

The display shows:

Confirm by pressing key 3 >2 sec.

The RIA700 will reboot after the file system is reset.

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5.6. ---SoF Firmware update

In **SoF**, you can set the RIA700 in boot mode for a software update.

Press key 2 <2sec to enter boot mode.

The display shows:

Press key 3 >2sec to set the RIA700 in boot mode.

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6. Configuration with Pi Mach II

With Pi Mach II software all settings can be configured.

Download PENKO Suite from www.PENKO.com and install it. The following items will be installed:

- Pi Mach II   Program Interface to configure all PENKO devices
- Job Manager XE   Version Control System for Pi Mach II projects
- Drivers   USB drivers for latest series PENKO devices
- Manuals   Product manuals and protocol descriptions

After installation, connect the RIA700 to the computer using an A-B USB cable.

Start Pi Mach II
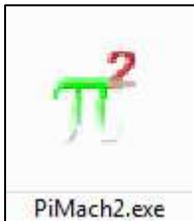
Consult the Pi Mach II manual on how to setup a connection and for troubleshooting with the USB driver.

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In Pi Mach II, open Manage.
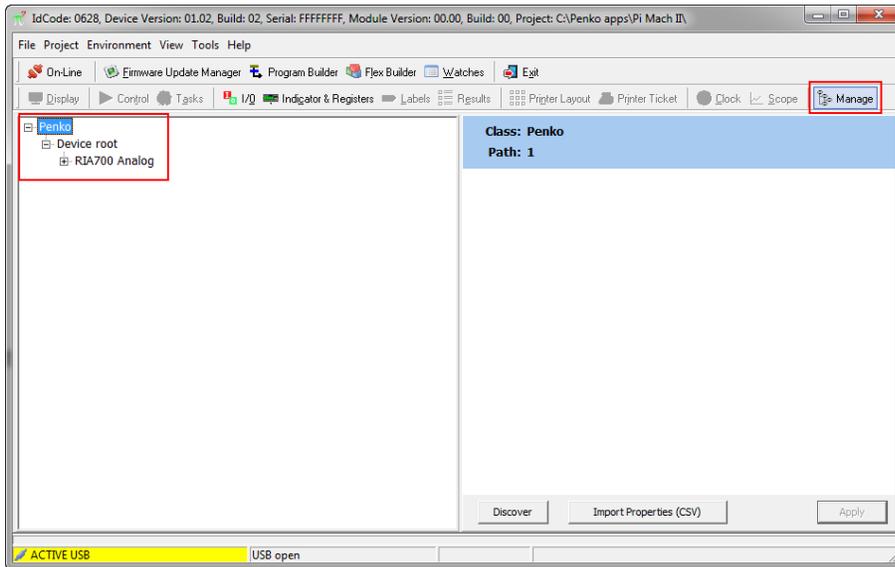
On the left side a tree is shown. The right side shows the properties of the selected node in the tree. Click RIA700 Analog to open the options:
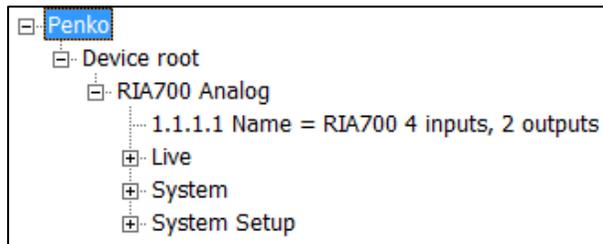
6.1. Live

Live shows all real time information of the device.
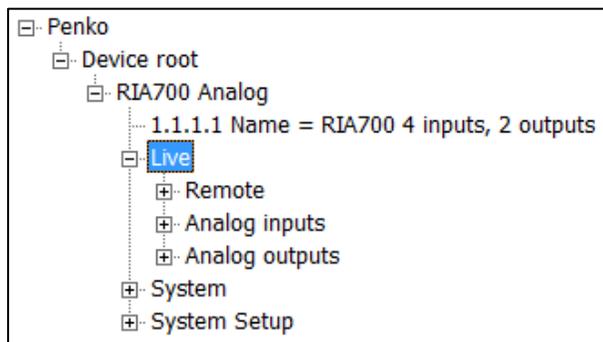
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Remote

Display	01 0
	Up
	Down
	Left
	Right
	Enter / Menu
	Escape

Analog inputs

INPUT 1	0,00 %
INPUT 2	0,00 %
INPUT 3	0,00 %
INPUT 4	0,00 %

Analog outputs

OUTPUT 1	0,00 %
OUTPUT 2	0,00 %

Remote shows the buttons corresponding to the buttons on the device. Inputs and outputs show the live status of the inputs and outputs.

6.2 System

System shows the device info.

```
⊟ Penko
   ⊟ Device root
      ⊟ RIA700 Analog
         ⋯ 1.1.1.1 Name = RIA700 4 inputs, 2 outputs
         ⊞ Live
         ⊟ System
            ⊞ Info
         ⊞ System Setup
```

ID	0628
Version	1.2.1.9.0.2
Serial	FFFFFFFF
Hardware	ANALOG
Revision	0
Boot version	1.0.0.9.0.2
Option A	not installed
Option B	not installed

Option	Description
ID	Device hardware ID
Version	Firmware version number
Serial	Serial number
Hardware	Hardware version (ANALOG for RIA700)
Revision	Hardware revision number
Boot version	Boot loader version number
Option A	*Reserved for future use*
Option B	*Reserved for future use*

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6.3. System Setup

System Setup contains all settings of the device.

```
⊟ Penko
  ⊟ Device root
    ⊟ RIA700 Analog
        ⋯ 1.1.1.1 Name = RIA700 4 inputs, 2 outputs
      ⊞ Live
      ⊞ System
      ⊟ System Setup
        ⊞ Service
        ⊞ Communication
        ⊞ Analog input
        ⊞ Analog output
        ⊞ Factory recall
```
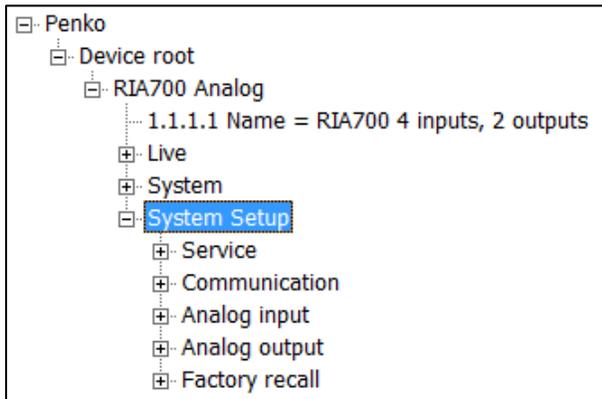
Option	Description
Service	For PENKO employees only
Communication	All settings for the communication options on the device
Analog input	Settings for the 4 analog inputs
Analog output	Settings for the 2 analog outputs
Factory recall	Set device back to factory settings

6.3.1. Communication

Communication contains the settings for the RS485, Ethernet and CANbus.

```
⊟ System Setup
  ⊞ Service
  ⊟ Communication
    ⊞ RS485
    ⊞ Ethernet
    ⊞ Ethernet BusLink
    ⊞ CAN Buslink
    ⊞ Output Control
  ⊞ Analog input
  ⊞ Analog output
  ⊞ Factory recall
```
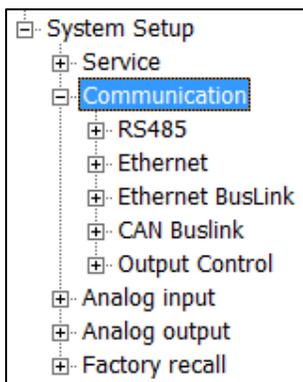
RS485:

Address	1

Set the local bus address for the RIA700 to use in multiple RIA700 setup.

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Ethernet:

MAC	1E:30:6C:A2:45:5E
Name	Penko
Address	10 . 1 . 2 . 4
Mask	255 . 255 . 255 . 0
Gateway	0 . 0 . 0 . 0
DHCP	DISABLE

Option	Description
MAC	Indicates the MAC address of the device
Name	Fill in the name for the device for identification in the network
Address	Fill in the IP address for the device
Mask	Fill in the subnet mask for the device
Gateway	Fill in the gateway address for the device
DHCP	Disable of enable DHCP (Dynamic Host Control Protocol)

Ethernet BusLink:

Address	0
Sub address	0

Option	Description
Address	Select the Buslink address (1 - 8)
Sub address	Select the Buslink Sub address (1 - 5)

Can BusLink:

Protocol	Buslink
Buslink Address	1
Buslink Subaddress	1
Baudrate	250k

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Option	Description
Protocol	Select None or Buslink protocol
Buslink Address	Select the Buslink address (1 - 8)
Buslink Subaddress	Select the Buslink Sub address (1 - 5)
Baudrate	Select the communication baud rate

Output Control:

Address	0
Sub address	0
Enable	Off

Option	Description
Address	Select the Buslink address (1 - 8) of the connected PENKO FLEX
Sub address	Select the Buslink Sub address (1 - 5) of the connected PENKO FLEX
Enable	Enable or disable the output control

6.3.2. Analog input

Analog input contains the settings for the four analog inputs.

Input 1, 2, 3 or 4:

Range	4-20mA jumper

Select the range for the input.

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Option	Jumper	Description
RAW	-	16 bit DAC value
0 to 24 mA	Yes	The minimum and maximum value of the input
0 to 20 mA	Yes	The minimum and maximum value of the input
4 to 20 mA	Yes	The minimum and maximum value of the input
4 to 24 mA	Yes	The minimum and maximum value of the input
0 to +10 V	No	The minimum and maximum value of the input
-10 to +10 V	No	The minimum and maximum value of the input
-5 to +5V	No	The minimum and maximum value of the input

6.3.3. Analog output

Analog output contains the settings for the two analog outputs.
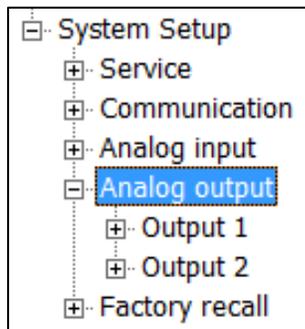
Output 1 or 2:
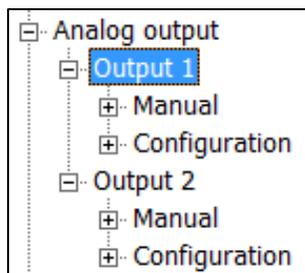
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Option	Description
Manual output level	Set level of analog output for manual control
Manual control	Enable manual control of the analog output
Manual 0.00%	Set level of analog output to 0%
Manual 100.00%	Set level of analog output to 100%
Manual off	Disable manual control of the analog output
Indicator	Indicator number of connected PENKO FLEX to scale to the analog output
Minimum Level	Level of PENKO FLEX indicator which indicates analog output as 0%
Maximum Level	Level of PENKO FLEX indicator which indicates analog output as 1000%
Range	Set range for the analog output, see table below

Option	Description
RAW	16 bit DAC value
0 to 24 mA	The minimum and maximum value of the output
0 to 20 mA	The minimum and maximum value of the output
4 to 20 mA	The minimum and maximum value of the output
4 to 24 mA	The minimum and maximum value of the output

6.3.4. Factory recall

Reset the device to factory settings.
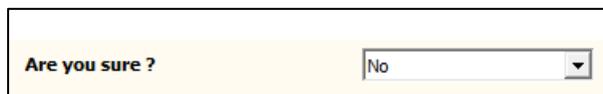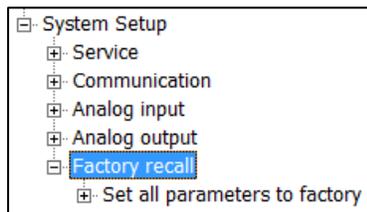
7. PENKO BusLink protocol

The PENKO BusLink protocol is available over Ethernet and over CAN. A technical description of the protocol can be found in the PENKO Suite, the **PENKO CAN Buslink Protocol** PDF file.

The addressing within the protocol works with addresses and sub addresses. The addresses range from 1 to 5 and the sub addresses from 1 to 8. This results in 40 unique addresses making it possible to create a Bus network with 40 PENKO devices, over Ethernet or CAN.

The RIA700 can be connected to a PENKO FLEX controller to extend the analog inputs and outputs of the FLEX:

- The **4 analog inputs of the RIA700** are mapped to indicator numbers of the FLEX, depending on the BusLink address and sub address set in the RIA700. Appendix I contains a list with mapped indicator numbers.
- The **2 analog outputs of the RIA700** follow a FLEX indicator, depending on the BusLink address set at Output control and the indicator numbers set at the Analog output configuration.

In case an error occurs in the BusLink connection, the display shows error:

Check the connection and make sure the settings of the connected devices correspond.

7.1. CAN BusLink

Connect the RIA700 to the FLEX:

RIA700		FLEX

CAN L	---	CAN-L1 (1)
CAN H	---	CAN-H1 (2)
CAN SHIELD	---	Shield (4)
CanBus Termination jumper ON		*Place 120 ohm resistor between 1 and 2*

RIA700 Analog

Apply the following settings:

FLEX
For CAN 1, set the protocol to Buslink and the baudrate to 250kbs. Set the address to 1 - 1 for identification on the bus.

RIA700
Set the protocol to Buslink and the baudrate to 250kbs. Set the address to 1 - 2 for identification on the bus.
Set output control to address 1 - 1, the address of the FLEX.
Set input 1 to the range 0 - 20 mA.
Set output 1 to scale FLEX indicator 1: • 0 = 0 mA • 1000 = 20 mA

- RIA700 input 1 is now shown as indicator 116 on the FLEX (see mapping in Appendix I)
    - *Input 2, 3 and 4 are shown as 117, 118 and 119*

- RIA700 output 1 now shows the percentage of the scaling of FLEX indicator 1
    - *In this example, if FLEX indicator 1 is 500, RIA700 output 1 is 10 mA and indicates 50.00%*

7.2. Ethernet BusLink

Place the RIA700 and the FLEX in the same Ethernet network, for example:

RIA700	FLEX

Apply the following settings:

FLEX	
	Set the address to 1 - 1 for identification on the bus.

RIA700

RIA700 Analog

Communication
  RS485
  Ethernet
  Ethernet BusLink
  CAN Buslink
  Output Control
	Address 1
	Sub address 2
		Set the address to 1 - 2 for identification on the bus.

Communication
  RS485
  Ethernet
  Ethernet BusLink
  CAN Buslink
  Output Control
	Address 1
	Sub address 1
	Enable On
		Set output control to address 1 - 1, the address of the FLEX.

Analog input
  Input 1
    Configuration
  Input 2
  Input 3
  Input 4
	Range 0-20mA jumper	Set input 1 to the range 0 - 20 mA.

Analog output
  Output 1
    Manual
    Configuration
  Output 2
	Indicator 1
	Minimum Level 0
	Maximum Level 1000
	Range 0-20mA
		Set output 1 to scale FLEX indicator 1:
		• 0 = 0 mA
		• 1000 = 20 mA

- RIA700 input 1 is now shown as indicator 116 on the FLEX (see mapping in Appendix I)
  - *Input 2, 3 and 4 are shown as 117, 118 and 119*

- RIA700 output 1 now shows the percentage of the scaling of FLEX indicator 1
  - *In this example, if FLEX indicator 1 is 500, RIA700 output 1 is 10 mA and indicates 50.00%*

8. Firmware update

Update the application firmware by Ethernet or USB connection.

8.1. Ethernet

Connect the RIA700 to the computer through Ethernet. Start PI Mach II. Set communication to Ethernet. Also see the Pi Mach II manual.

Start the Firmware Update Manager.
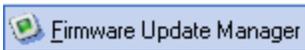
Click Open and select the PIP file.
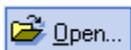
Click Search for devices and select the device IP address for the RIA700.

Use double click or the arrow button to move the device from the Source List to the Destination List and click OK.
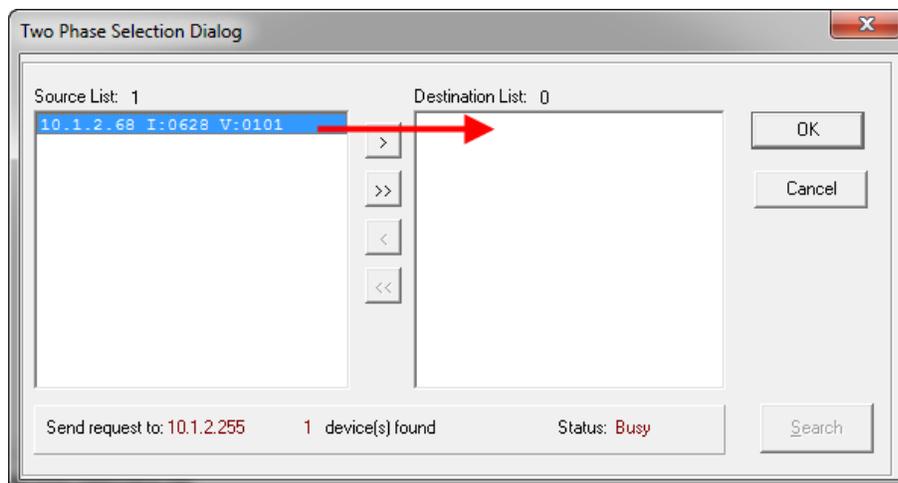
Now click Firmware Update to start the update.

RIA700 Analog
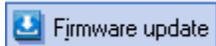
Firmware update

The RIA700 will reboot automatically and the Firmware Update Manager will show Updated.

Device	Id-code	Softw Version	Status
☑ 10.1.2.68 - 0628	0628	0101	Updated

8.2. USB

Connect the RIA700 to the computer through USB. Start PI Mach II. Set communication to USB. Also see the Pi Mach II manual.

PiMach2.exe

Start the Firmware Update Manager.

Firmware Update Manager

Click Open and select the PIP file.

Open...

Click Search for devices and select the device with source "0".
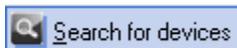
Search for devices

Use double click or the arrow button to move the device from the Source List to the Destination List and click OK.

RIA700 Analog
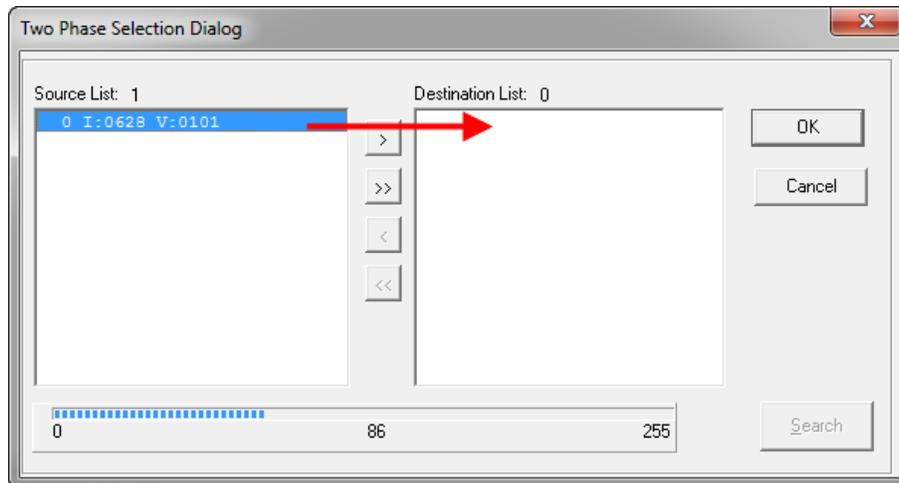
Now set the RIA700 in Update mode:

Go into the configuration menu by pressing key 3 >2 sec.

Go to **---SoF** by pressing key 1 <2 sec until you see **---SoF**

Press key 2 <2sec to enter boot mode.

The display shows:

Press key 3 >2sec to set the RIA700 in boot mode.

RIA700 Analog

Now click Firmware Update to start the update.
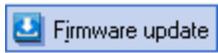
The RIA700 will reboot automatically and the Firmware Update Manager will show Updated.

Device	Id-code	Softw Version	Status
☑ 0 -		0628 V:0101	Updated

9. Backup and Restore

With the RIA700 it's possible to make a backup of the software as it's installed in the device. The software will be saved as an FDI file which stands for Flex Data Image. The Backup data assures that when the device fails, a replacement device can be programmed as a copy of the original device. In case of multiple devices which have to be configured similarly, one device can be programmed, and a backup of this device can be used to program the other device.

9.1. Backup

To back up the device, open Pi Mach II. Go to MENU → ENVIRONMENT → BACKUP DEVICE.

A save dialog is shown. Choose a destination and filename, and click SAVE. The image will be created and saved to this destination.

9.2. Restore

To restore the device, open Pi Mach II. Go to MENU → ENVIRONMENT → RESTORE DEVICE.

An open dialog is shown. Select the backup file, and click OPEN. The image will be programmed into the device, and the device will restart.

9.3. Progress

The progress of reading and writing is shown in a progress bar. The action can fail by a loss in communication between the PC and the controller. In that case the progress bar will be stuck somewhere between 0 and 100 %. In this case, check the communication and retry.

RIA700 Analog

Erasing the Flash takes a while.
Do not close the application until ready.

Restore progress 30 %

| Abort | Close |
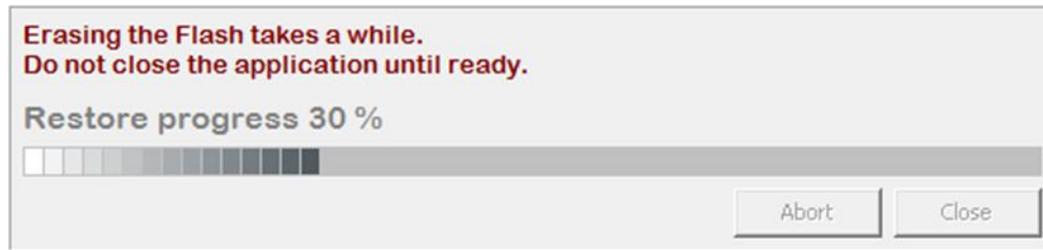
RIA700 Analog

10. Standard Factory Settings

Description	Display	Value	Your setting
Local bus communication	485 1	1	
CAN Buslink	CbL 1	2	
	CbL 2	1	
	CbL 3	1	
	CbL 4	250k	
Ethernet	Adr	10	
	Adr	1	
	Adr	2	
	Adr	4	
	Sub	255	
	Sub	255	
	Sub	255	
	Sub	0	
	gAt	0	
	gAt	0	
	gAt	0	
	gAt	0	
	dHCP	1 (disable)	
Ethernet Buslink	EbL 1	0	
	EbL 2	0	

RIA700 Analog

Appendix I - Mapping RIA700 inputs to FLEX indicators

Buslink settings RIA700		FLEX indicator number			
Address	Subaddress	1	2	3	4
1	1	101	102	103	104
1	2	116	117	118	119
1	3	131	132	133	134
1	4	146	147	148	149
1	5	161	162	163	164
2	1	201	202	203	204
2	2	216	217	218	219
2	3	231	232	233	234
2	4	246	247	248	249
2	5	261	262	263	264
3	1	301	302	303	304
3	2	316	317	318	319
3	3	331	332	333	334
3	4	346	347	348	349
3	5	361	362	363	364
4	1	401	402	403	404
4	2	416	417	418	419
4	3	431	432	433	434
4	4	446	447	448	449
4	5	461	462	463	464
5	1	501	502	503	504
5	2	516	517	518	519
5	3	531	532	533	534
5	4	546	547	548	549
5	5	561	562	563	564
6	1	601	602	603	604
6	2	616	617	618	619
6	3	631	632	633	634
6	4	646	647	648	649
6	5	661	662	663	664
7	1	701	702	703	704
7	2	716	717	718	719
7	3	731	732	733	734
7	4	746	747	748	749
7	5	761	762	763	764
8	1	801	802	803	804
8	2	816	817	818	819
8	3	831	832	833	834
8	4	846	847	848	849
8	5	861	862	863	864

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RIA700 Analog

Appendix II - Specifications

Type	Description
Power supply	18-32 Vdc (24 V type); 2,5W max
Display size	6 digits x 7 segment LED red
Display functions configuration	Ethernet, CAN, Localbus
Display functions live	Display input and outputs on 7 segment display
Buttons	3
Inputs	4 Analog input 16bit, 4..20 mA, 0..20 mA, 0..24mA, 4..24 mA or 0..10V, -5..5V, -10..10V Voltage or Current selectable by jumper, range by software Resolution 10.000 parts
Outputs	2 Analog output 16bit, 4..20 mA, 0..20 mA, 0..24mA, 4..24 mA Voltage possible by placing external resistor i.e. 430 Ohm @ 0-24mA range Resolution 10.000 parts
I/O read	By CAN BusLink/Ethernet BusLink
I/O write	By CAN BusLink/Ethernet BusLink
MIB	Full MIB support by USB interface and Ethernet
RS485	Non isolated Local Bus protocol
Ethernet	TCP/IP, UDP layer with PENKO TP protocol
USB	Device, MIB configuration
CANBUS	Isolated port for Buslink protocol
Operating temperature	-10°C to +40°C [14°F to 104°F]
Storage temperature	-20°C to +70°C [-4°F to 158°F]
Relative Humidity	40-90% non-condensing
Protection class	IP20
Weight	160g
Approvals	Industrial CE

Side view

Top view
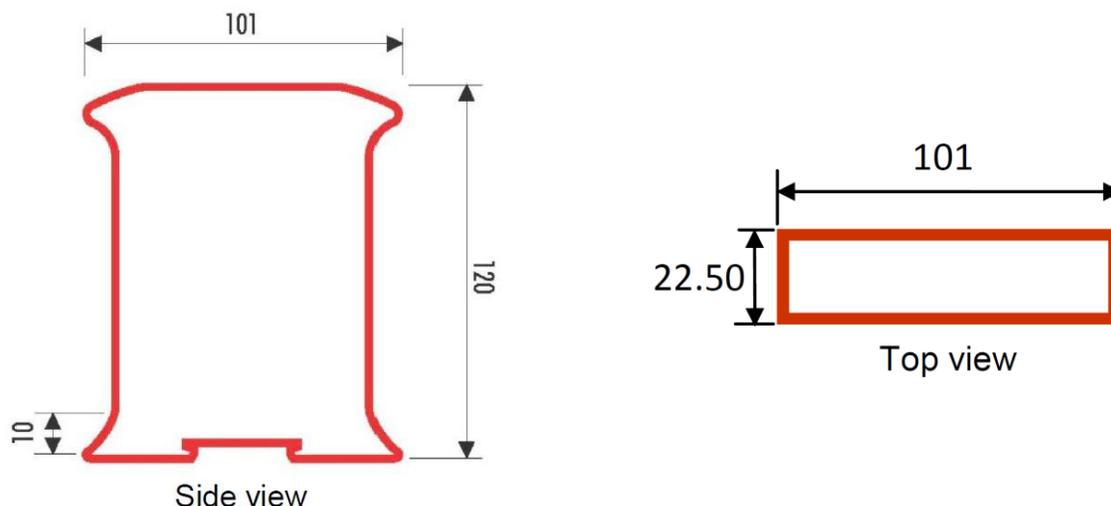
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Our design expertise include systems for manufacturing plants, bulk weighing, check weighing, force measuring and process control. For over 35 years, PENKO Engineering B.V. has been at the forefront of development and production of high-accuracy, high-speed weighing systems and our solutions continue to help cut costs, increase ROI and drive profits for some of the largest global brands, such as Cargill, Sara Lee, Heinz, Kraft Foods and Unilever to name but a few.

Whether you are looking for a simple stand-alone weighing system or a high-speed weighing and dosing controller for a complex automated production line, PENKO has a comprehensive range of standard solutions you can rely on.

Certificeëringen

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http://penko.com/nl/publications_certificates.html

PENKO Profesional Services

PENKO is committed to ensuring every system is installed, tested, programmed, commissioned and operational to client specifications. Our engineers, at our weighing center in Ede, Netherlands, as well as our distributors around the world, strive to solve most weighing-system issues within the same day. On a monthly basis PENKO offers free training classes to anyone interested in exploring modern, high-speed weighing instruments and solutions. A schedule of training sessions is found on: www.penko.com/training

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