

Instruction Manual
P2268BA/EN
2015-10

Cleco®

Arcnet Socket Tray

S133410, S133411



For additional product information visit our website at <http://www.apextoolgroup.com>

Notes on this Instruction Manual

This Instruction Manual is the Original Instruction Manual and

- provides important instructions for safe and effective operation.
- describes functionality and operation
- serves as a lexicon for technical data.

Symbols in the text:

App	Application
LG	Linking group, combination of individual linking steps (links)
LS	Linking steps
→	identifies instructions to be followed.
•	identifies lists.
<i>Italics</i>	Indicates menu items such as <i>Diagnostics</i> in software descriptions
<...>	identifies elements that have to be selected or deselected, such as buttons or check boxes, i.e. <F5>
Courier	Indicates the name of paths and files, e.g. setup.exe
\	A backslash between two names indicates the selection of an item from the menu, e.g. file \ print

Symbols in graphics:

	Identifies movement in one direction.
	identifies function and force.

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1 Safety

1.1 Symbols

CAUTION!



A symbol combined with the word **CAUTION** warns of a **potentially hazardous** situation for the health of personnel or damage to property or the environment. If this warning is not observed, injuries, property or environmental damage may occur.

ATTENTION!

This sign warns of a potentially hazardous situation.
If the note is not adhered to, the product or parts of it may be damaged.



This symbol indicates a **general** instruction.
General instructions include application tips and special useful information, but not warnings against dangers.

1.2 Safety instructions

The socket tray described in this Instruction Manual was developed, manufactured, inspected and documented according to the relevant safety standards. Therefore, the socket tray does not normally represent a danger to property or persons as long as the handling instructions and safety notes are adhered to during installation and first operation.

1.3 Designated use

The socket tray must only be used with the fastener control mPro400GC(-P, -M, -S) from Apex Tool Group. Unauthorized alterations, repairs and modifications are prohibited for reasons of safety and product liability.

2 Product description

The socket tray is used in conjunction with an Apex Tool Group fastener control with Arcnet port. Depending on the software, the following can be parameterized:

- a **Application** (App)
 - A App (fastening strategy, fastening parameter set) includes settings for
 - Fastening sequence
 - Shut off and boundary values
 - Torque
 - Speed specifications
- a **Linking Group** (LG).
 - The LG (links) comprises several linking steps (LS).

The socket tray couples App/LG with a socket. The following use cases are possible (see chapters below):

- Use case 1 – Controlling App/LG by socket removal, Seite 9.
 - Use case 2 – Controlling socket removal by App/LG, Seite 13
- A defined bit pattern defines which socket has to be taken.

Depending on the version, the socket tray can have up to 4 or 8 sockets.

2.1 Sizes

Number of possible sockets	Socket tray	App selection
4	S133410	1-4
8	S133411	1-8

3 Before initial operation

The socket tray must be connected before commissioning on Arcnet.

3.1 Necessary components

System bus cable Order no. S133408-xxx	System bus terminator Order no. S133412	Hex wrench Phillips PH3	Hex wrench Blade width 2 Potentiometer calibration	Threaded pin Order no. S906934 for not connected use	Offset screw- driver 2.5 for not connected use
					

3.2 Identifying and programming Arcnet address

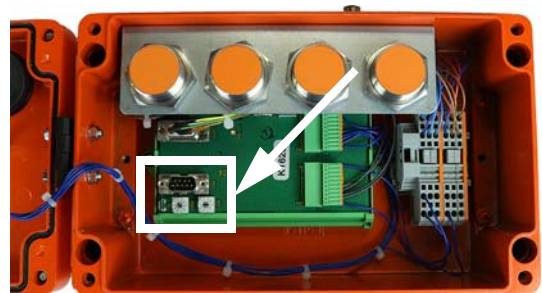
Each socket tray is supplied with a default address (110) which can be seen on the respective type plate. If only one socket tray is used, the default address is sufficient.

The default address must be changed if several Arcnet components are connected to the system bus. Identical addresses are not allowed.

- Open the housing with a Phillips screwdriver and continue with the next step.



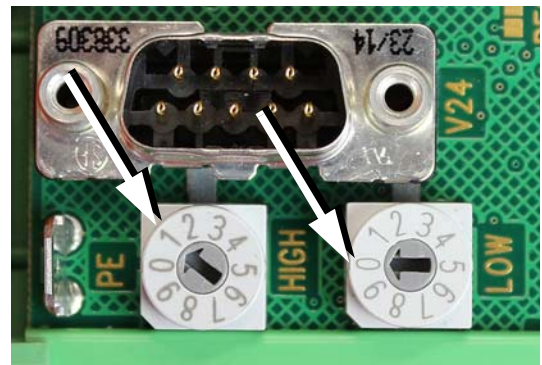
- Set the corresponding Arcnet address. Possible address range 100–131.



The illustration on the right shows the default address 110, where the two dials stand for the last two digits. The first digit is always 1.

- 1 Fixed
- 1 HIGH switch for tens digit (00-30)
- 0 LOW switch for ones digit (0-9)

- Note the new address.



3.3 Connecting socket tray to control

- Connect the socket tray to the control by cable with control.



- Plug the terminator to the underside.
- If several Arcnet components are connected, plug the terminator to the last Arcnet participant.



3.4 Adjusting inserts before installation

- Adjust the inserts for the use case concerned. See drawing below.

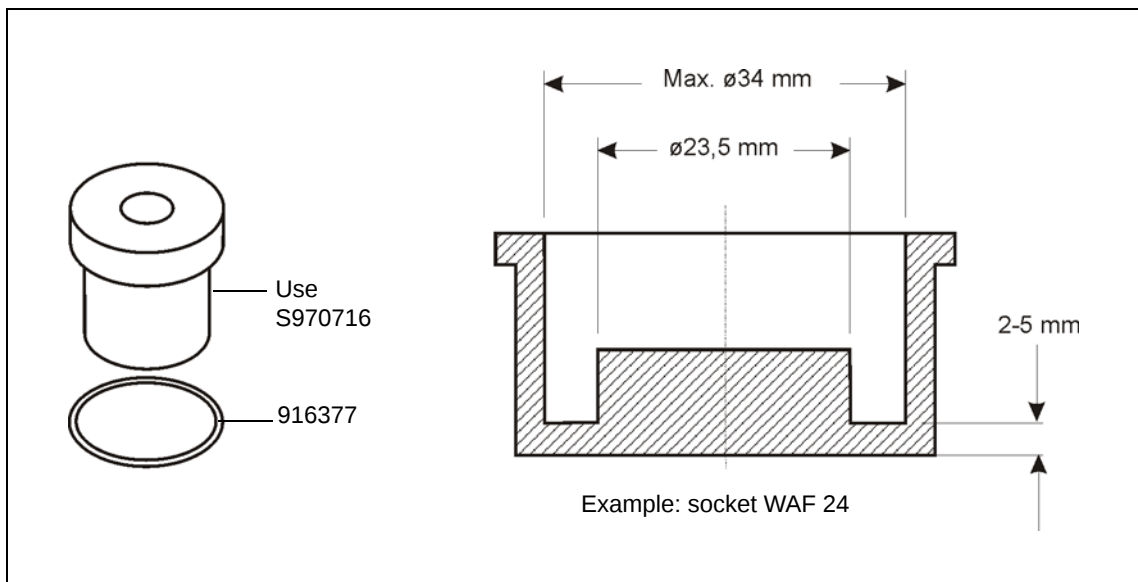


Fig. 3-1 : Inserts

4 Use case 1 – Controlling App/LG by socket removal

Example: SW S168813 V1.4, 4x socket tray, Arcnet address 110



1.
mPro400GC Programming

- Application (App)/ Linking Group (LG)
- Outputs and inputs



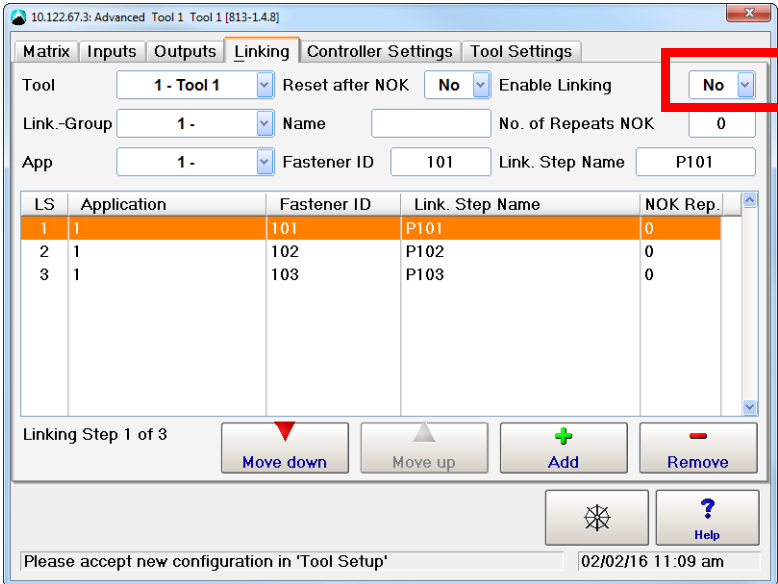
2.
Remove socket – the order is not important.
LED for the removed socket goes out.



3.
Use socket:
The relevant App/Linking Group is selected
App mode: Result after working through each App
LG mode: Overall result after working through all linking steps

4.1 Selecting mode

- Switch on control.
- Select <Navigator> <Advanced> <Linking>.



LS	Application	Fastener ID	Link. Step Name	NOK Rep.
1	1	101	P101	0
2	1	102	P102	0
3	1	103	P103	0

c01276_STN-nein_en.png

Fig. 4-1 Linking

→ **Enable linking:**

No	App mode
Yes	LG mode

4.2 To define selection mode

→ Select <Advanced> Tool Settings.

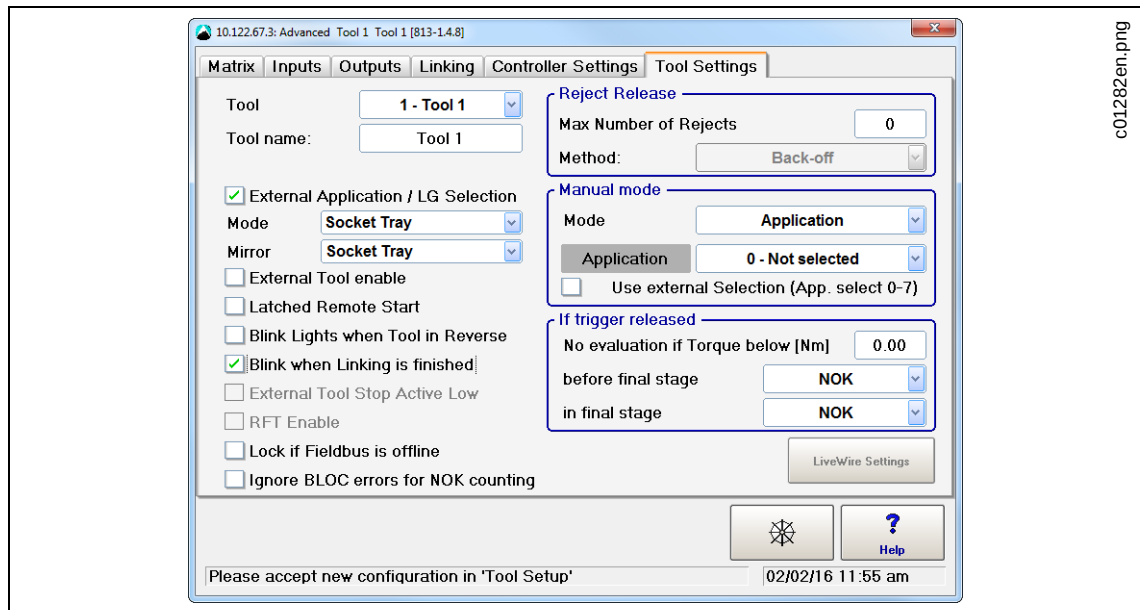


Fig. 4-2 : Tool settings

- Select relevant **Tool**.
- Activate **External Application / LG Selection**
- Under **Mode**, select **Socket Tray** (see note on Page 12).
- Under **Mirror**, select **Socket Tray**.
- Accept settings until Navigator menu appears.
- Back with <Navigator>.

4.3 Inserting socket tray in I/O mapping

- Select <Navigator> <Diagnostics> <System Bus> and check whether a socket tray is present in the I/O mapping: Status: Bridge not in I/O mapping.
If the socket tray has been successfully inserted, the status will change to: Ready for communication.

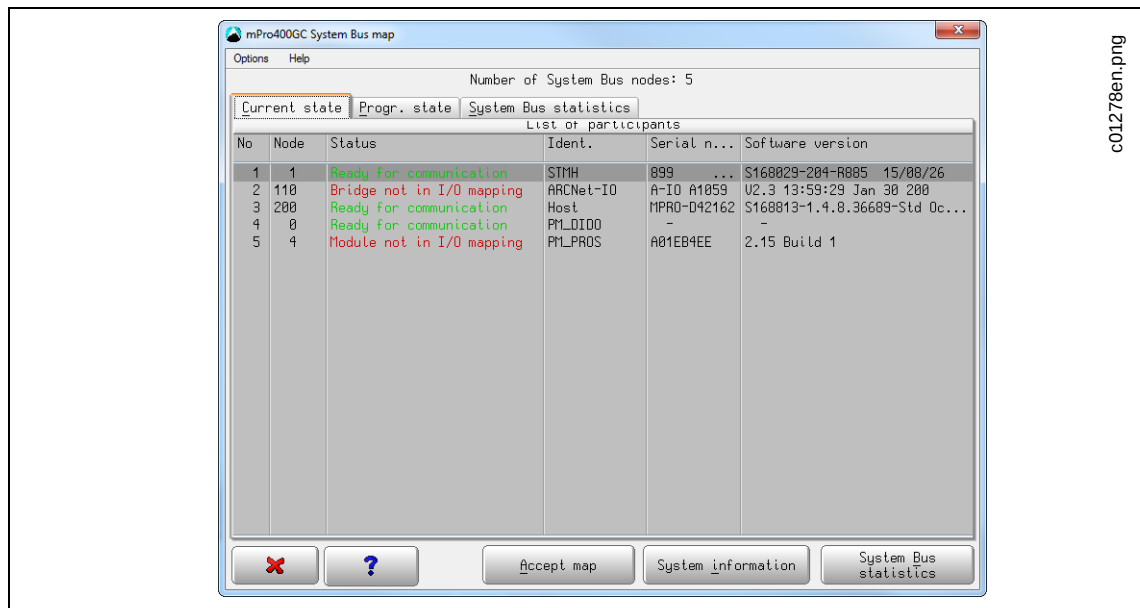


Fig. 4-3 System bus

- Back with  <Navigator>.
 - Select <Navigator> <Advanced> *Controller Settings*.
 - Activate Display mPro button.
 - Save settings with <Navigator>.
 - Select <mPro>.
 - Select <Main menu> <System Programming> *Service* > *Programmable I/O mapping*.
 - Select User number Service (if required).
 - Enter password 0736381254 (if required).
 - Note warning. Select <Run>.
- Fastenings must be completed or else the programmable I/O mapping will be disabled.

4.4 Defining input/output signals

- Select signals individually and confirm with <Insert>

4x socket tray			
Inputs	Bit	Outputs	Bit
Ext.App.Sel.1	0	Conf.App.Sel.1	8
Ext.App.Sel.2	1	Conf.App.Sel.2	9
Ext.App.Sel.3	2	Conf.App.Sel.3	10
Ext.App.Sel.4	3	Conf.App.Sel.4	11

8x socket tray			
Inputs	Bit	Outputs	Bit
Ext.App.Sel.1	0	Conf.App.Sel.1	8
Ext.App.Sel.2	1	Conf.App.Sel.2	9
Ext.App.Sel.3	2	Conf.App.Sel.3	10
Ext.App.Sel.4	3	Conf.App.Sel.4	11
Ext.App.Sel.5	4	Conf.App.Sel.5	12
Ext.App.Sel.6	5	Conf.App.Sel.6	13
Ext.App.Sel.7	6	Conf.App.Sel.7	14
Ext.App.Sel.8	7	Conf.App.Sel.8	15

- In dropdown list **1**, select *Group* (Tool).
- In dropdown list **2**, select A-IOS (Arcnet bridge).
- In input field **3**, enter Arcnet address, e.g. 110.
- In dropdown list **4**, select the relevant inputs and outputs (see table).
- In input field **5**, enter the relevant bit (see table).

→ Accept settings until *Navigator menu* appears.

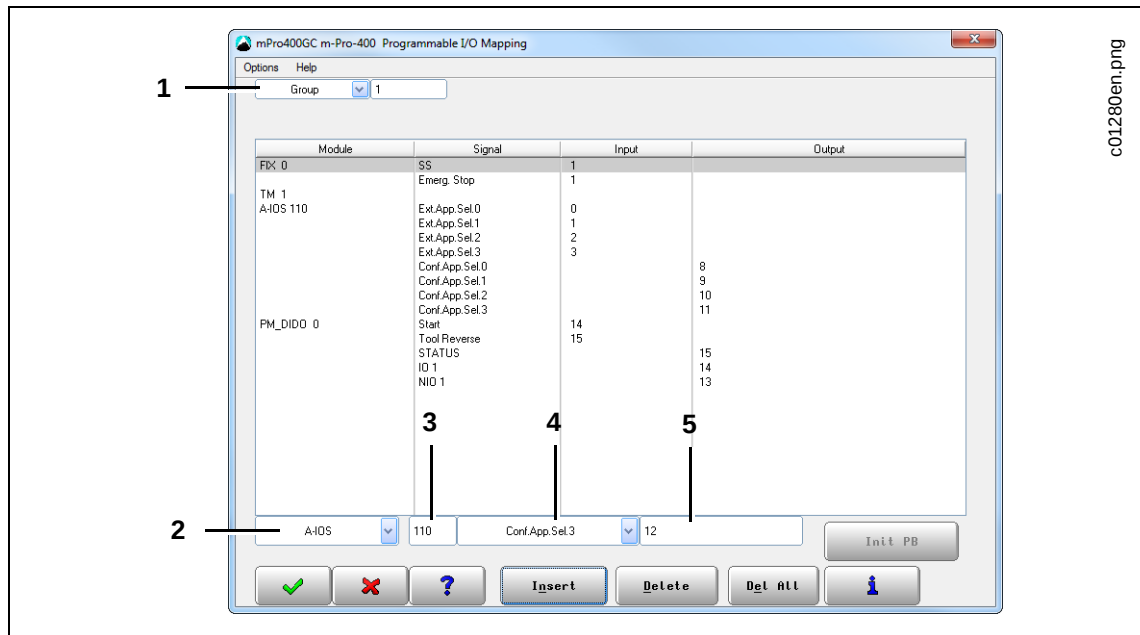


Fig. 4-4 Programmable I/O Mapping

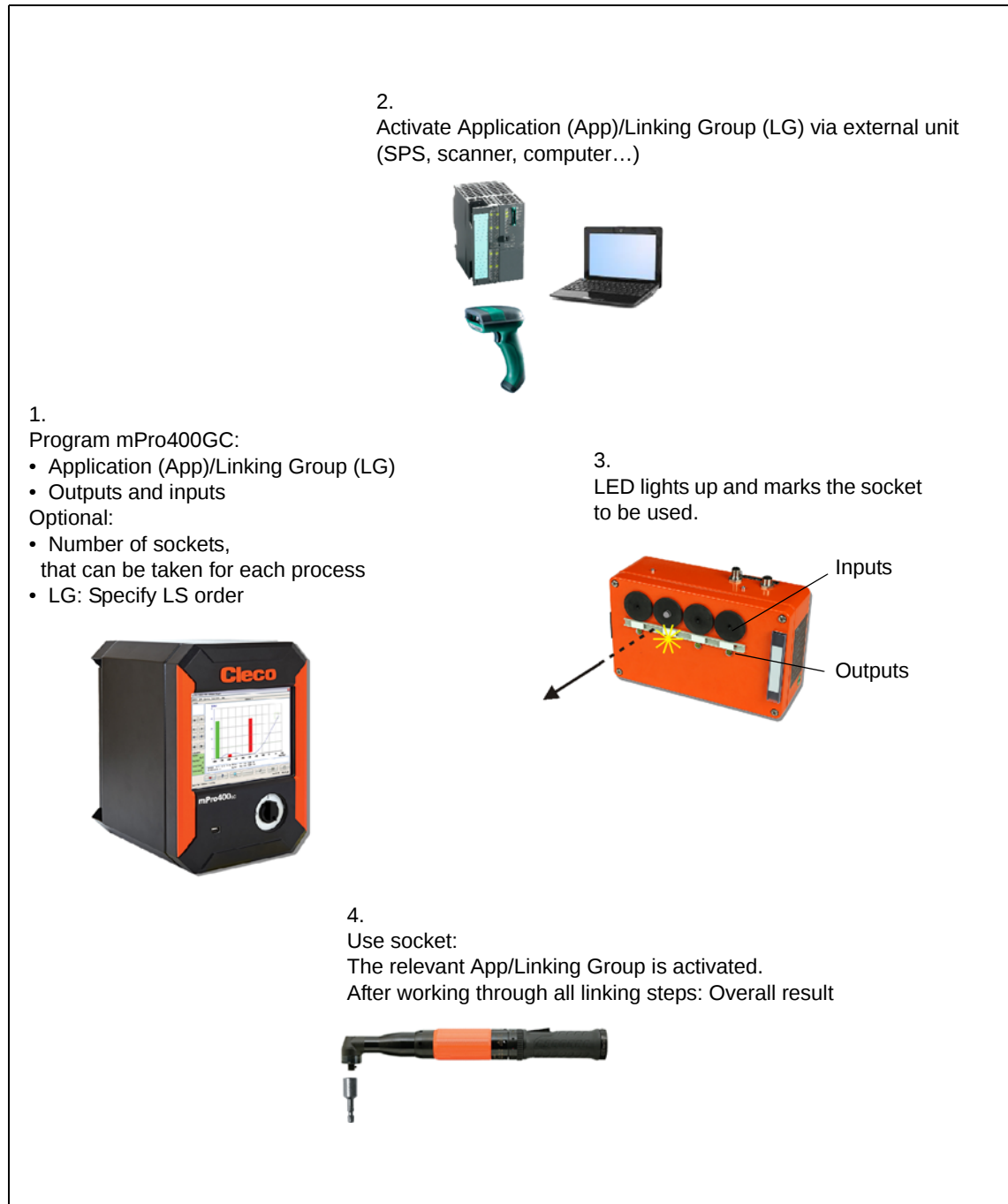


Only take one socket in mode *Socket Tray* or else the tool will be disabled.
Seal unconnected inserts with a threaded pin.

5 Use case 2 – Controlling socket removal by App/LG

Specification of socket with defined bit mask

Example: SW S168813 V1.4, 4 sockets, Arcnet address 101



5.1 Selecting mode

- Switch on control.
- Select <Navigator> <Advanced> <Linking>.

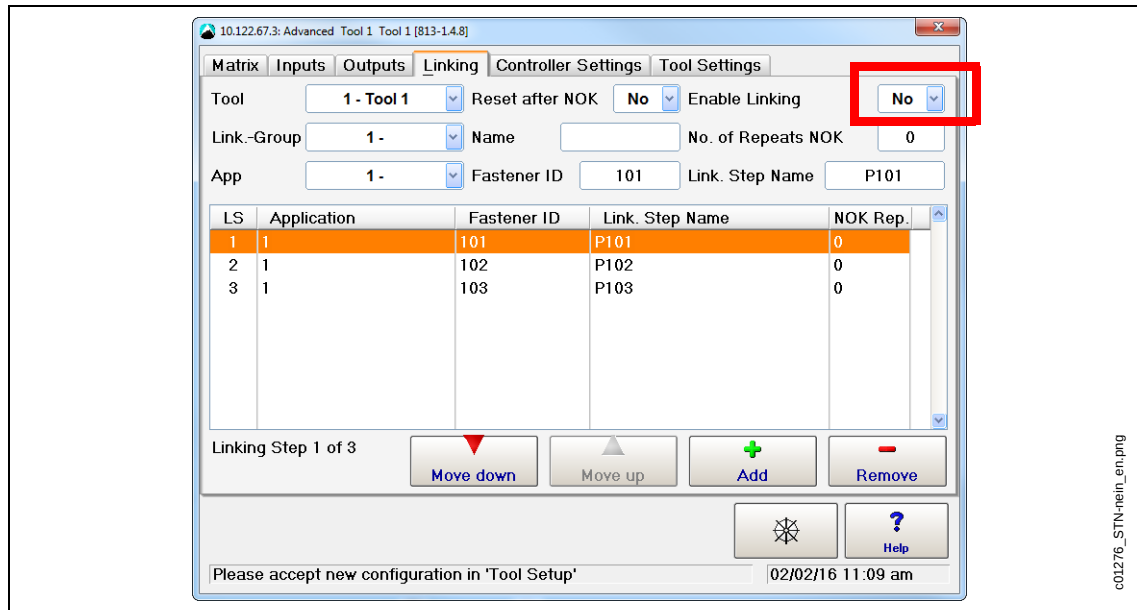


Fig. 5-1 Linking

→ Enable linking:	No	App mode
	Yes	LG mode

5.2 Defining input/output signals

- Select signals individually and confirm with <Insert>

4x socket tray			
Inputs	Bit	Outputs	Bit
EIN_S_1	0	AUS_S_1	8
EIN_S_2	1	AUS_S_2	9
EIN_S_3	2	AUS_S_3	10
EIN_S_4	3	AUS_S_4	11

8x socket tray			
Inputs	Bit	Outputs	Bit
EIN_S_1	0	AUS_S_1	8
EIN_S_2	1	AUS_S_2	9
EIN_S_3	2	AUS_S_3	10
EIN_S_4	3	AUS_S_4	11
EIN_S_5	4	AUS_S_5	12
EIN_S_6	5	AUS_S_6	13
EIN_S_7	6	AUS_S_7	14
EIN_S_8	7	AUS_S_8	15

- In dropdown list **1**, select *Group* (Tool).
- In dropdown list **2**, select A-IOs (Arcnet bridge).
- In input field **3**, enter Arcnet address, e.g. 110.
- In dropdown list **4**, select the relevant inputs and outputs (see table above).
- In input field **5**, enter the relevant bit (see table above).
- Accept settings until *Navigator menu* appears.

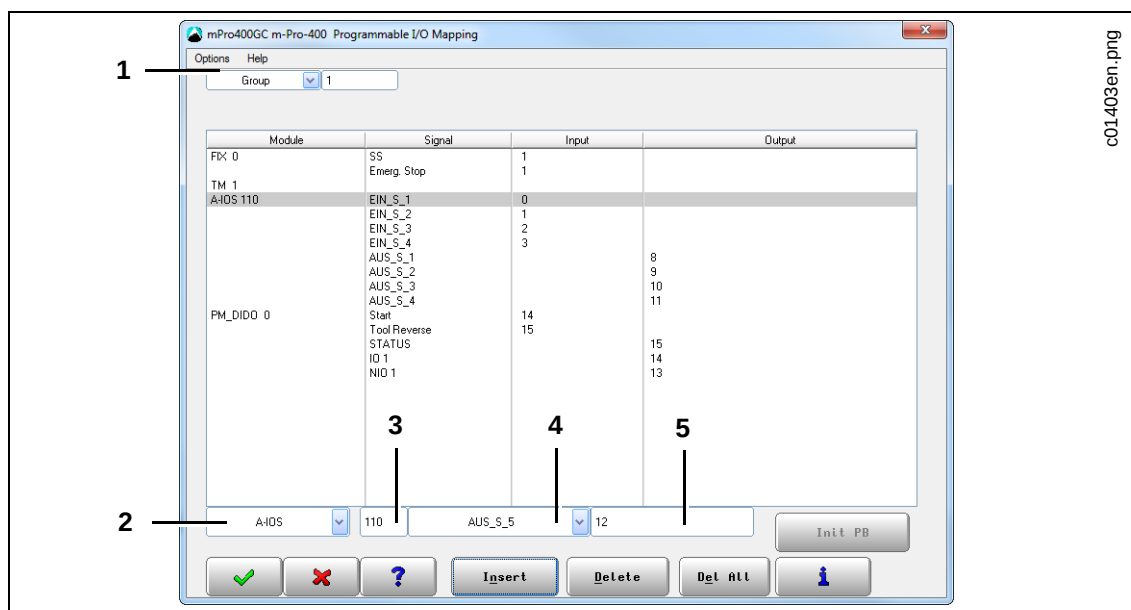


Fig. 5-2 Programmable I/O mapping

5.3 Assigning socket to LS

- Select <Navigator> <Advanced> *Controller Settings*.
- Activate Display mPro button.
- Save settings with <Navigator>.
- Select <mPro> .
- Select tool group no. and program individual linking steps (LS):
Mark **LS** and open with .

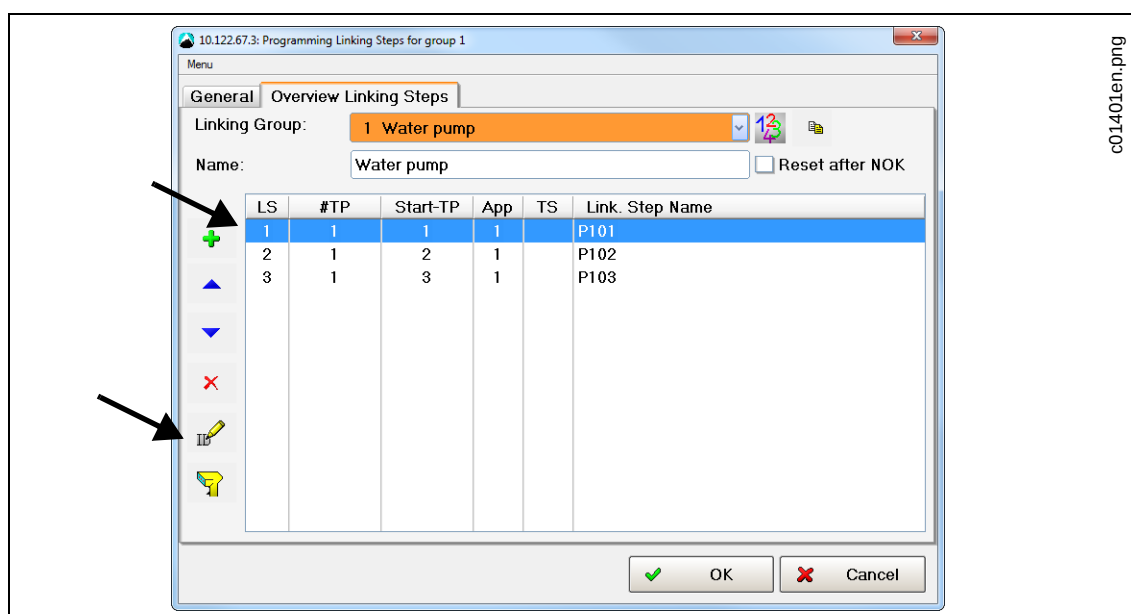


Fig. 5-3 : Overview of linking steps

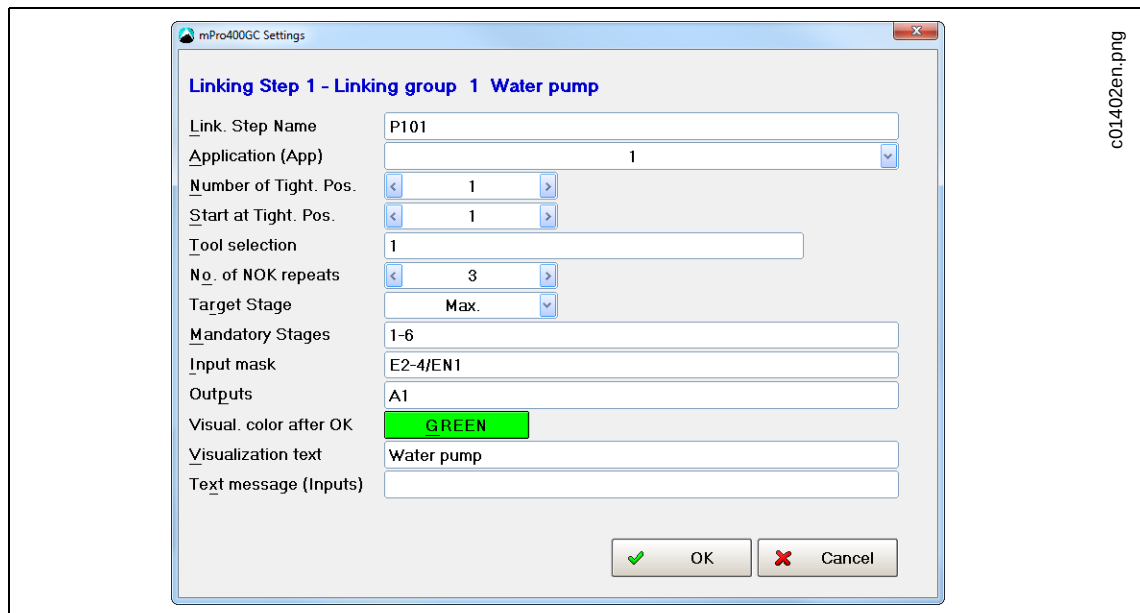


Fig. 5-4 : Linking step 1

- Program **input mask** (see table).
- Program **output mask** (see table).

Example: 8x socket tray, output 1

Removal	Input mask	Outputs
Socket 1	E2-4/EN1	A1
Socket 2	E1/3-4/EN2	A2
Socket 3	E1-2/4/EN3	A3
Socket 4	E1-3/EN4	A4
Socket 5	E1-4/6-8/EN5	A5
Socket 6	E1-5/7-8/EN6	A6
Socket 7	E1-6/8/EN7	A7
Socket 8	E1-7/EN8	A8

5.4 Assigning socket to App

→ Select <Navigator> <Standard> **Settings** > Input / output bitmask.

Definition of bitmask:

Inputs	E1	E2	E3	E4	E5	E6	E7	E8
	0 ¹	1 ²	1	1	1	1	1	1
	1	0	1	1	1	1	1	1
	1	1	0	1	1	1	1	1
	1	1	1	0	1	1	1	1
	1	1	1	1	0	1	1	1
	1	1	1	1	1	0	1	1
	1	1	1	1	1	1	0	1
	1	1	1	1	1	1	1	0
Outputs	A1 ³	A2	A3	A4	A5	A6	A7	A8

1) Logic 0 = EN1 → Remove socket 1

2) Logic 1 = E2 → Socket 2 remains

3) Output = A1 → LED to socket 1

Example for a 4x socket tray, socket 1 must be taken:

- Set Input 1 bit to 0.
- Set Inputs 2–4 to 1. Inputs 5–8 are not defined.
- Set Output 1 to 1.
- Set other outputs to 0.
- Confirm with <OK>

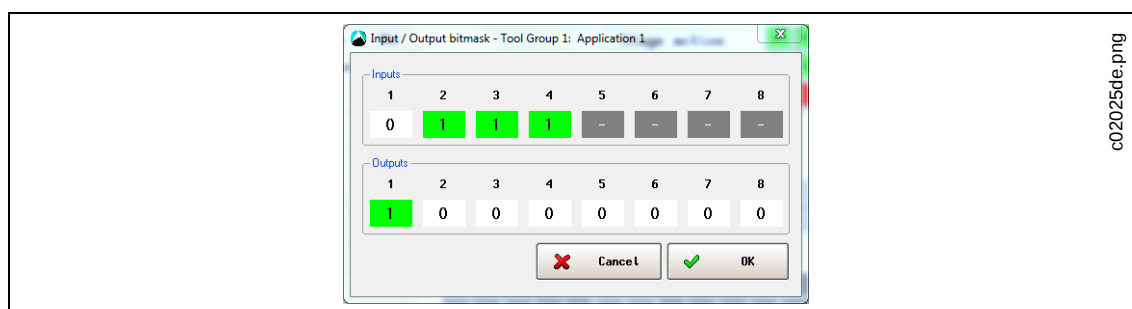


Fig. 5-5 Input / Output bitmask 4x socket tray



Seal unconnected inserts with a threaded pin.
Do not define Inputs 5-8 if a 4x socket tray is being used.

6 Technical data

6.1 General

Ambient Conditions	
Storage temperature	0° C...+75° C
Ambient temperature	0° C...+45° C
Permissible relative humidity	0...90%, non-condensing
Electrical data	
Power supply with reverse polarity protection	
Supply voltage	21.6...26.4 VDC
Current draw S133410	approx. 200 mA
Current draw S133411	approx. 300 mA
Protection rating (DIN EN 60529)	IP54

6.2 Mechanic dimensions and weights

Housing	S133410 (4x)	S133411 (8x)
Dimensions (L x W x H)	258 x 91 x 160	258 x 91 x 160
Weight with connector cable	approx. 2.95 kg	approx. 3.55 kg
Color	RAL 2004	RAL 2004

7 Service

ATTENTION!

Should a repair be necessary, send the complete socket tray to Apex Tool Group! If you attempt to perform a repair yourself, there is a risk of malfunction in the fastener control mPro400GC and thus faulty screw joints. In the event of non-compliance, the manufacturer will be entitled to declare all warranty obligations to be invalid.

8 Disposal

CAUTION!



Injuries and environmental damage from improper disposal.
Components and auxiliary materials of the tool pose risks to the health and the environment.

- Separate the components of the packing and segregate the different materials before disposing of them.
- Follow the locally applicable regulations.



Observe generally valid disposal guidelines such as, in Germany, the Electrical and Electronic Equipment Act (ElektroG):

- Submit S133410 and S133411 at your company collection point or return them to Apex Tool Group.

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Please note that all locations may not service all products.

Contact the nearest Apex Tool Group Sales & Service Center for the appropriate facility to handle your service requirements.

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