Installation Instructions - Configuring

IQ5, IQ5-IO
Controller & I/O Modules

Important: Retain these instructions

These instructions shall be used by trained service personnel only. If the equipment is used in a manner not specified by these instructions, the protection provided by the equipment may be impaired.

https://partners.trendcontrols.com

CONTENTS

1 BEFORE STARTING CONFIGURATION

Install the IQ5, I/O Modules & Adapters

IQ500 Installation Instructions - Mounting (TG201482)
IQ528 Installation Instructions - Mounting (TG201513)
IQ5-IO Installation Instructions - Mounting (TG201484)
IQ4/IO/.. Installation Instructions - Mounting (TG201342)
XCITE/IO/.. Installation Instructions - Mounting (TG200627)
IQ5-LAN-ADPT Current Loop LAN Adapter Installation Instructions - Mounting (TG201511)

Install IQ®SET on Engineering PC / Laptop

IQSET Manual (TE200147)

Additional Documentation Required

- IQSET Manual (TE200147)
- IP Tool Manual (TE200638)
- IQTool Monitor Applet Manual (TE201298)
- IQTool Addresser Applet Manual (TE201299)
- IQ5 Configuration Manual (TE201486)

Note: PDF copies are included with IQSET installation in the following folder: C:\...\Trend Control Systems\Documentation

Prepare the Ethernet Network(s)

Install DHCP Server
If the IP address settings (IP address, subnet mask, default router, WINS and DNS servers' addresses) are to be supplied by a DHCP server, ensure one is installed on the Ethernet segment to which IQ5 is connected.

Install DNS Server
If email alarms are to be sent, and the email server address is identified by internet domain name, a DNS server must be installed.

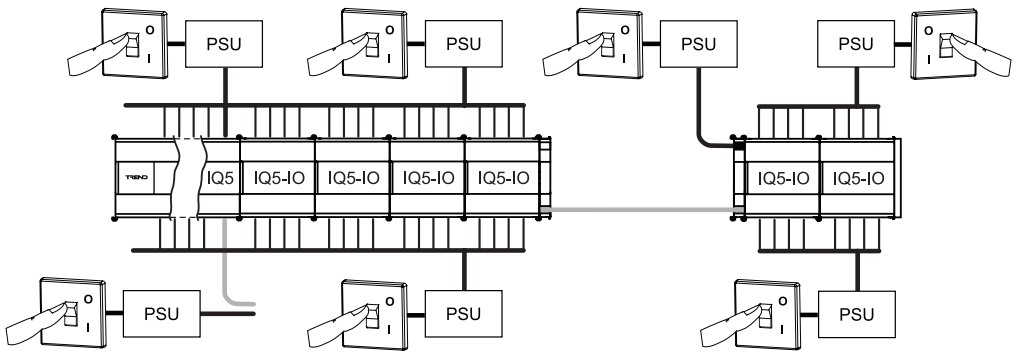
Note: IQ5 does not support WINS. If hostnames are to be used, then a DNS server is recommended. For security the use of LLMNR protocol is not advised.

2 CONFIGURATION

1 Isolate All Power

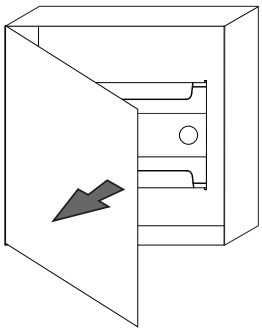
Isolate all power including additional supplies I/O devices and Current Loop LAN Adapters.

WARNING Connecting leads may be connected to power supplies. Isolate before touching.



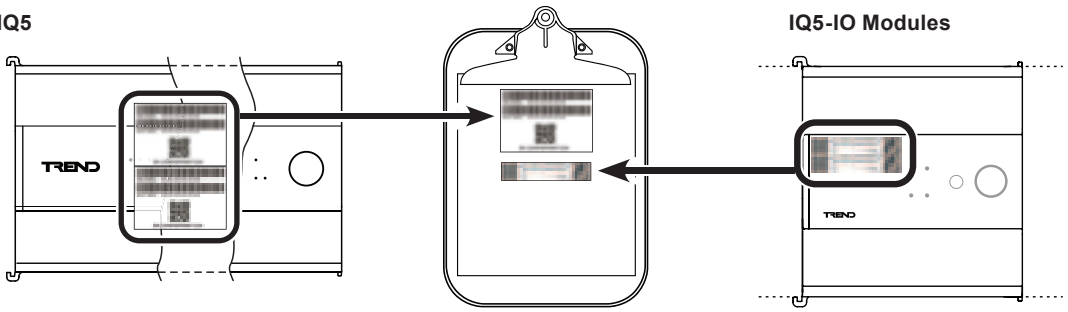
2 CONFIGURATION (continued)

2 Open Panel / Enclosure



WARNING Opening the panel may expose dangerous voltages.

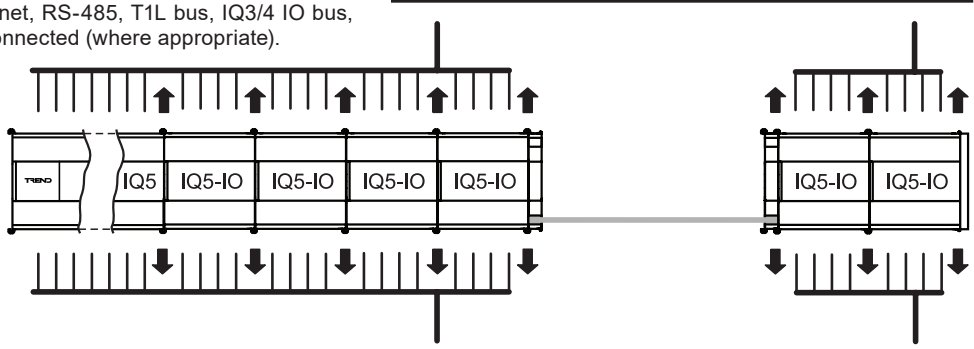
3 Peel Off Serial Label(s) and Retain (leave front panel protective film in place)



4 Disconnect All I/O from I/O Modules

WARNING Connecting leads may be connected to power supplies. Isolate before touching.

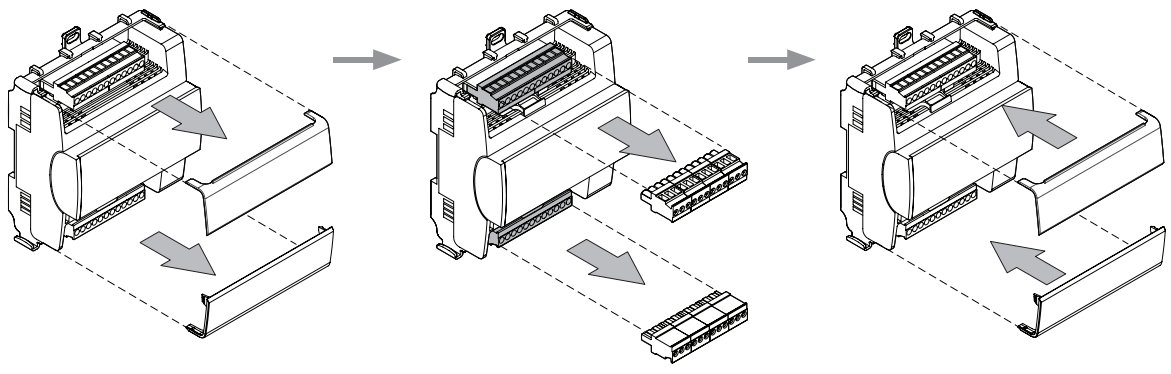
Leave IQ5 Power, Ethernet, RS-485, T1L bus, IQ3/4 IO bus, USB and current loop connected (where appropriate).



Remove terminal covers

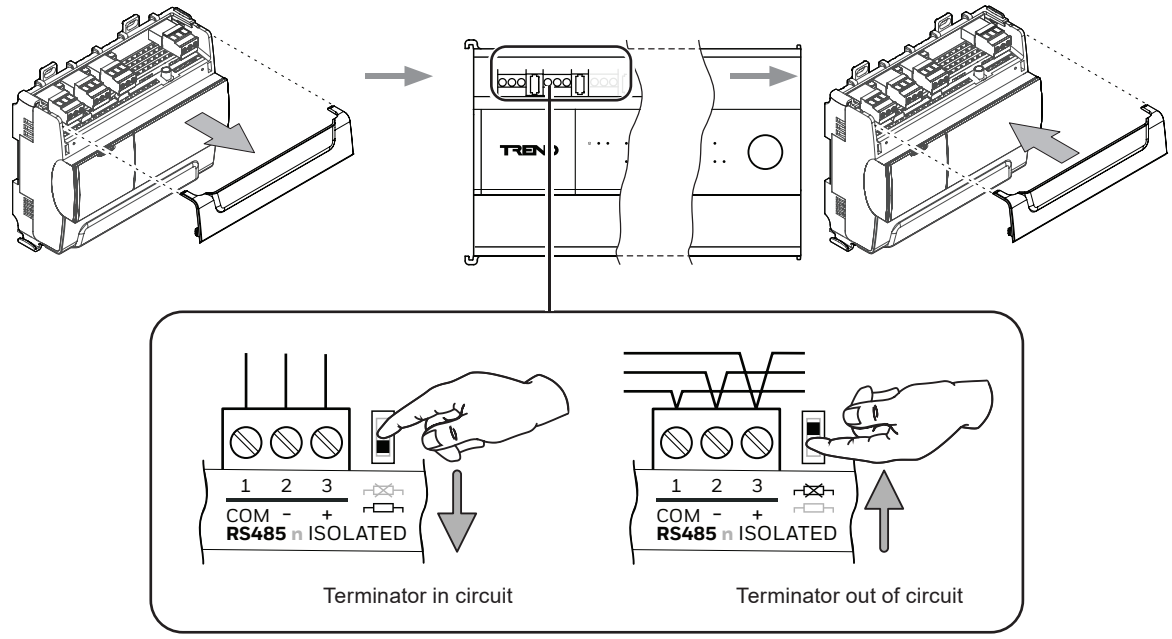
Unplug connectors

Refit terminal covers



2 CONFIGURATION (continued)

5 Set RS-485 Terminator Switches (if RS-485 networks are connected)



Terminator in circuit

Terminator out of circuit

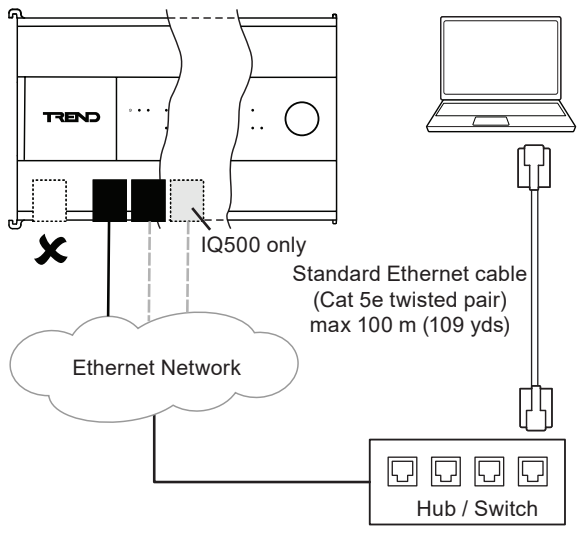
6 Configure XCITE/IO Modules (where fitted)

XCITE/IO/.. Installation Instructions - Configuring (TG200627)
Section 2 Only

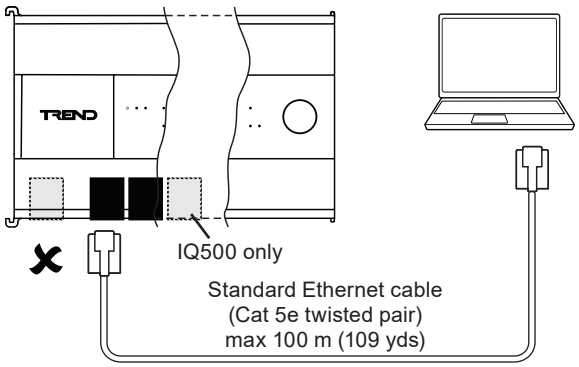
7 Connect Engineering PC / Laptop (with IQSET installed)

Note: On IQ500 the Isolated port is disabled by default an cannot be used for the initial addressing configuration.

Either: via Ethernet Hub/Switch



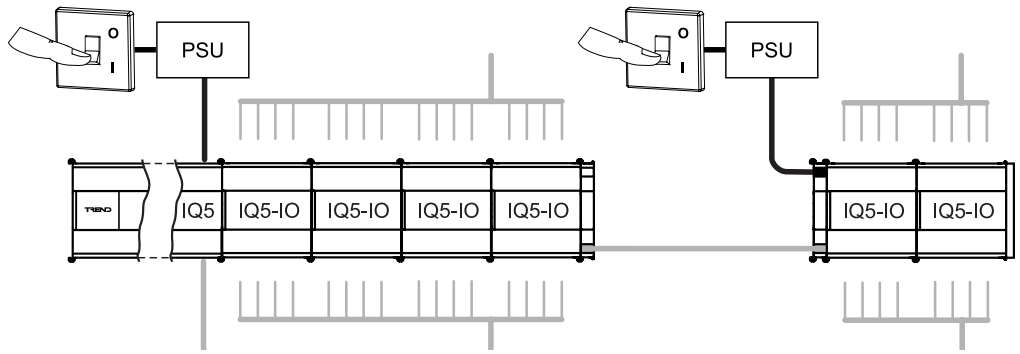
Or: using direct connection



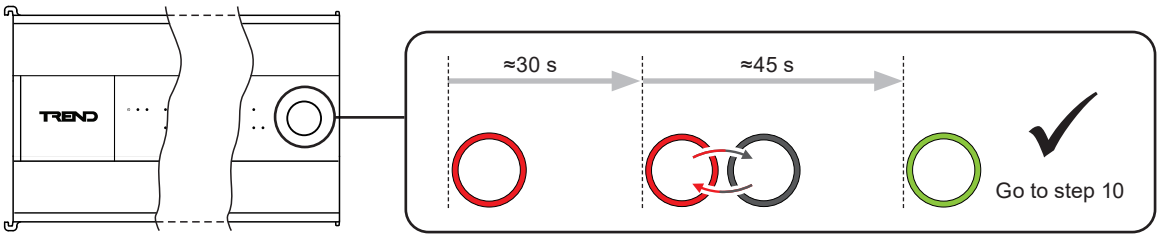
Note: A connection via the USB Local Engineering Port cannot be used at this point.

2 CONFIGURATION (continued)

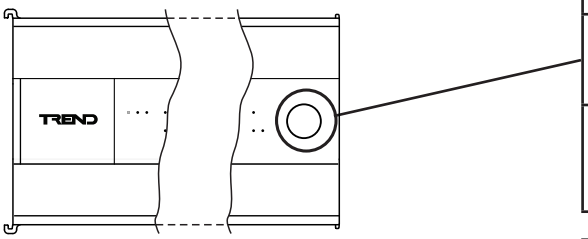
8 Switch On Power to IQ5 (including any additional PSUs)



9 Wait for Controller to Boot Up



10 Check IQ5 Status Indicator

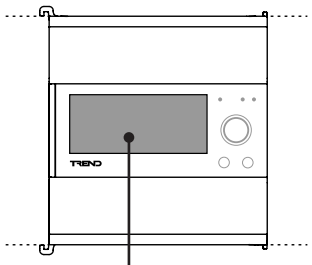


Expected indications	
	Controller is running OK. Proceed to step 11.
	One or more modules on the T1L bus or IQ3/4 IO bus is not addressed correctly. This can be ignored at this stage - proceed to step 11.

Fault indications	
	Normal for 30 seconds on power up or reboot. If displayed for longer than 60 seconds the controller has encountered a problem and has stopped. Try resetting the IQ5 to default settings. (see page 23).
	No power - check input power supply

2 CONFIGURATION (continued)

11 Configure IQ5-IO HOA Modules (if required)

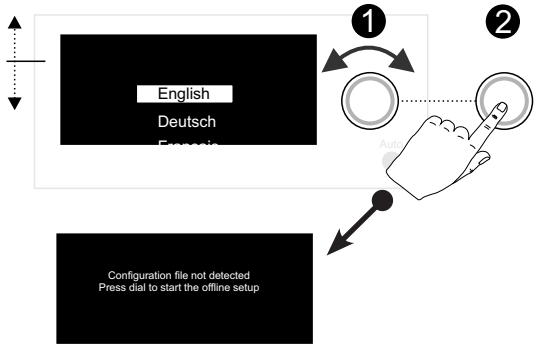


IMPORTANT: If Offline mode is selected the IQ5-IO module will NOT be configurable for the controller. To change to Online mode see page 26.

Note: To reconfigure after initial setup, reset the module by following the procedure in section 7 on page 24.

Note: In online mode the language of HOA IO modules is set by the controller, any language setting made here will be overridden by the controller.

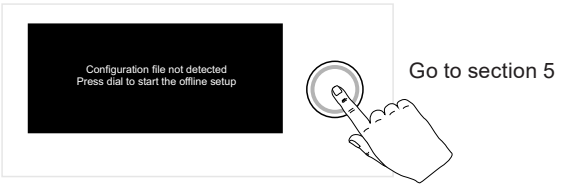
Select Display Language



Select Mode

Online mode

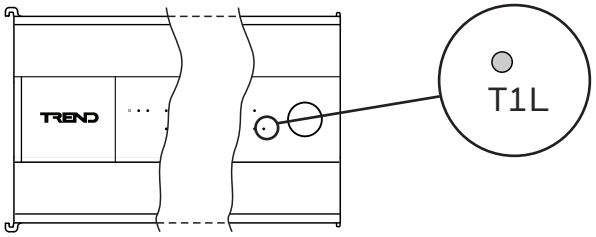
Offline mode



2 CONFIGURATION (continued)

12 Check Status of T1L Bus (only if T1L devices are connected)

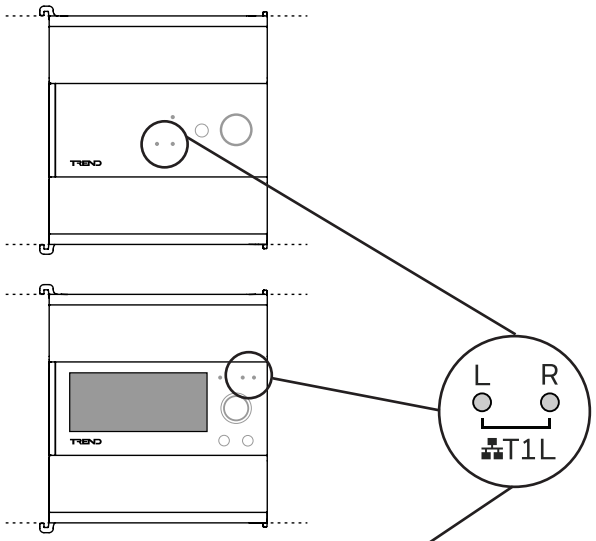
IQ5



Normal operation indication	
●	Bus is connected and working correctly.
●	Bus is not connected (no T1L devices).

Fault indication	
●	Bus is connected but not working correctly. Check the bus wiring and that all T1L devices are powered ON.

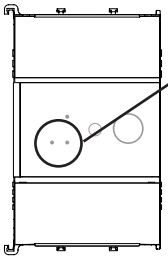
IQ5-IO Modules



Normal operation indication		
L ● R ●	Bus is active on both sides of the T1L device	
L ● R ●	Bus is active on **left** side only	Valid for the last module on the bus. For all others, check wiring on the side that is unlit.
L ● R ●	Bus is active on **right** side only	

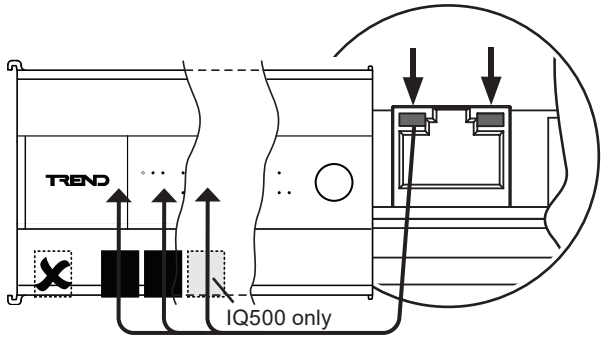
Fault indication	
L ● R ●	Bus is connected on right side but not working correctly. Check the bus wiring and that all T1L devices are powered ON.
L ● R ●	Bus is connected on left side but not working correctly. Check the bus wiring and that all T1L devices are powered ON.
L ● R ●	No valid T1L connection (wiring error or communicate error). Check the bus wiring.
L ● R ●	Bus is not connected (no T1L devices) on either side.

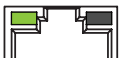
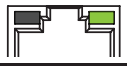
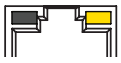
IQ5-LAN-ADPT



2 CONFIGURATION (continued)

13 Check Ethernet Indicators (for any connected ports)



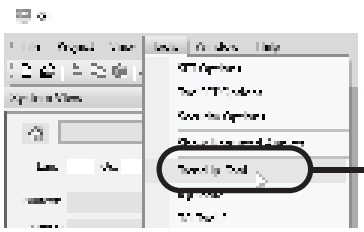
Normal operation indication	
	1000 Mbps link detected
	100 Mbps link detected
	10 Mbps link detected

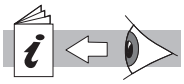
Note: The indicator will flash when data is being transmitted or received.

14 Connect to IQ5 using IP Tool

Note: On IQ500 the Isolated port is disabled by default an cannot be used for the initial addressing configuration.

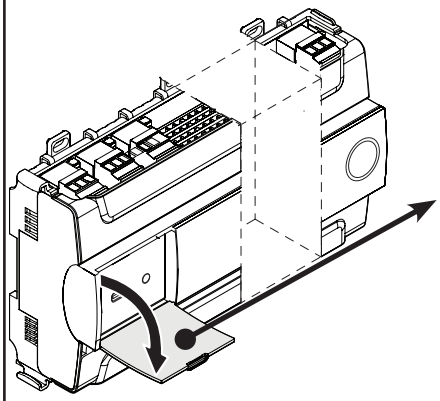
Using the PC/laptop (see step 7) run IQSET / IP Tool





IQSET Manual (TE200147)
IP Tool Manual (TE200638)

Then find the IQ5 by its MAC address, as shown on the serial label



2 CONFIGURATION (continued)

15 Set up Addressing Details (IQ5 Mode)

This step describes how to set up the addressing details when the IQ5 is to operate in IQ5 mode. For details of setting up the addressing details for Compatibility Mode see step 16.

Note: On IQ500 the Isolated port is disabled by default an cannot be used for the initial addressing configuration. Once the initial addressing information has been set up the required Ethernet ports can be enable/disabled and configured as required in the controller's strategy.

With the IQ5 selected in the IPTool devices list, check the following parameters and set as required.

IMPORTANT: The Network Key, lan and node parameters MUST be set.

Parameter	Setting / Value	Further Details
*IQ4 Compatibility Mode	☐ = operate in IQ5 mode	For the IQ5 to operate in IQ5 mode this check box must be unchecked ☐.
Network Mode - Networked*	☑ = build Trend network with other devices (default) ☐ = operate in standalone mode	In standalone mode the IQ5 will not build a LAN or internetwork with other devices.
Network Mode - Auto-ip-DHCP*	☑ = dynamic IP DHCP (default) ☐ = static IP addressing	If set to DHCP mode but no DHCP server is found, the IQ5 will operate in link/local mode where it auto negotiates its IP address with other devices on its Ethernet segment. *Note: It is recommended that link/local only be used on a single segment system.*
IP Address*, Subnet Mask*, Default Router*	If static IP addressing is selected enter the required values in the format: xxx.xxx.xxx.xxx	WINS is not supported by IQ5. If hostnames are to be used, then a DNS server is recommended. The use of LLMNR protocol is not advised.
Hostname	Default is 'Trend-' plus the last three octets from the MAC address. Change if required.	The hostname may comprise upper or lowercase characters A to Z, digits 0 to 9, underscore or hyphen, with no spaces.
UDP	Default is 57612. If required, this can be changed to a value in the range 0 and 65535 (recommended range 49152 to 65535).	**All IQ5 controllers that are required to be part of the same Trend network must have the same udp port number and the same network key.** Multiple Trend networks can exist on the same physical network, in which case each separate Trend network will require a different network key. **HINT:** *For consistency, type the network key into a text editor (e.g. Notepad), then copy and paste it for each device.* *Note: If the network is on the same Ethernet network as a legacy Trend network the two networks* **MUST NOT** *share the same UPD port.*
Network Key	Enter a suitable key comprising at least 10 alphanumeric characters (no spaces). **Do not forget the Network Key!**	
virtual CNCs*	Click Auto Number vCNCs or double-click on a vCNC in the virtual CNCs list and enter the following: **node** - the vCNC address 1, 4 to 9, 11 to 119 (0 = vCNC disabled) **port** - the vCNC port number 1 to 32767 *Note: If Use Default Port is checked the port number will be set to 10000 plus the node address (e.g. node 23 = port 10023).*	The IQ5 has four vCNCs (or eight when licenced as an NC device). All vCNCs are all disabled by default. At least one vCNC must be enabled to allow a supervisor, tool or local display to make a connection to the Trend system. For most systems it is recommended to have vCNCs on at least two separate devices on each LAN in order to provide continuity of communications (if one device is offline) and to provide load sharing during intensive data transfer operations (e.g. when downloading plot data).
LAN*	Enter the required local LAN number: 1, 4 to 9, 11 to 119 *Note: This* **must** *be the same for all devices required to form a LAN.*	IQ5 controllers are given a default device address of 20 and LAN number of 20 in the factory.
OS*	Enter the required device address: 1, 4 to 9, 11 to 119 *Note: This* **must** *be unique on a LAN.*	
Identifier	Enter a name that identifies the controller within the system.	To avoid potential confusion, it is generally recommended that this is made the same as the hostname.

Click the **WRITE DATA** button to save the new settings.

*Indicates the IQ5 will reboot when the parameter is saved.

2 CONFIGURATION (continued)

16 Set up Addressing Details (Compatibility Mode)

This step describes how to set up the addressing details when the IQ5 is to operate in Compatibility Mode. For details of setting up the addressing details for IQ5 Mode see step 15.

On IQ500s the isolated port is not supported in compatibility mode. Once the initial addressing information has been set up the required Ethernet ports can be enable/disabled and configured as required in the controller's strategy. With the IQ5 selected in the IPTool devices list, check the following parameters and set as required.

IMPORTANT: The lan and node parameters MUST be set.

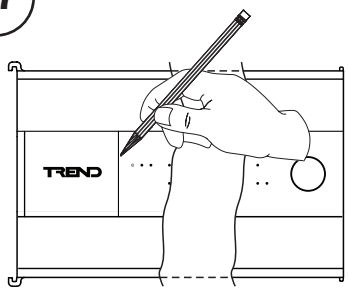
Parameter	Setting / Value	Further Details
IQ4 Compatibility Mode	☑ = operate in Compatibility mode	For the IQ5 to operate in Compatibility mode this check box must be unchecked ☐.
Network Mode - Networked*	☑ = build Trend network with other devices (default) ☐ = operate in standalone mode	In standalone mode the IQ5 will not build a LAN or internetwork with other devices.
Network Mode - Auto-ip-DHCP*	☑ = dynamic IP DHCP (default) ☐ = static IP addressing	If set to DHCP mode but no DHCP server is found, the IQ5 will operate in link/local mode where it auto negotiates its IP address with other devices on its Ethernet segment. *Note: It is recommended that link/local only be used on a single segment system.*
IP Address*, Subnet Mask*, Default Router*	If static IP addressing is selected enter the required values in the format: xxx.xxx.xxx.xxx	
Hostname	Default is 'Trend-' plus the last three octets from the MAC address. Change if required.	The hostname may comprise upper or lowercase characters A to Z, digits 0 to 9, underscore or hyphen, with no spaces.
UDP	Default is 57612. If required, this can be changed to a value in the range 0 and 65535 (recommended range 49152 to 65535).	**All IQ5 controllers that are required to be part of the same Trend network must have the same udp port number.** Multiple Trend networks can exist on the same physical network, in which case each separate Trend network will require a different udp port.
Remote Devices	Enter up to 20 remote Trend devices by clicking ▫ and entering the following for each device: **IP Address** and **Subnet Mask** in the format: xxx.xxx.xxx.xxx *Note: If Use Hostname is checked the device can be specified by entering its hostname instead of IP Address. If using DHCP it is advisable to use hostnames.*	If a Trend LAN is to be built across a router(s) details of devices on each subnet must be specified to enable cross-router communications. It is recommended that at least two devices from each subnet are specified. For increased reliability details of up to 20 devices should be specified. If static IP addressing is being used the list should contain the devices with the lowest IP addresses. The same list must be copied to other IQ5s on the network. **HINT:** *Ticking the check box next to the Remote Trend Devices list retains the list in IPTool, allowing it to be easily copied to other devices.*
virtual CNCs*	Click Auto Number vCNCs or double-click on a vCNC in the virtual CNCs list and enter the following: **node** - the vCNC address 1, 4 to 9, 11 to 119 (0 = vCNC disabled) **port** - the vCNC port number 1 to 32767 *Note: If Use Default Port is checked the port number will be set to 10000 plus the node address (e.g. node 23 = port 10023).*	The IQ5 has four vCNCs (or eight when licenced as an NC device). All vCNCs are all disabled by default. At least one vCNC must be enabled to allow a supervisor, tool or local display to make a connection to the Trend system. For most systems it is recommended to have vCNCs on at least two separate devices on each LAN in order to provide continuity of communications (if one device is offline) and to provide load sharing during intensive data transfer operations (e.g. when downloading plot data).
LAN*	Enter the required local LAN number: 1, 4 to 9, 11 to 119 *Note: This **must** be the same for all devices required to form a LAN.*	IQ5 controllers are given a default device address of 20 and LAN number of 20 in the factory.
OS*	Enter the required device address: 1, 4 to 9, 11 to 119 *Note: This **must** be unique on a LAN.*	
Identifier	Enter a name that identifies the controller within the system.	To avoid potential confusion, it is generally recommended that this is made the same as the hostname.

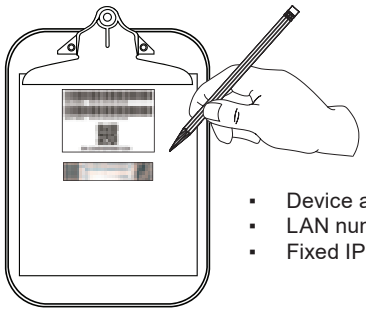
Click the **WRITE DATA** button to save the new settings.

**Indicates the IQ5 will reboot when the parameter is saved. If an IQ5-LAN-ADPT is connected the IQ5's the Type 1 (IQ LAN) Network module will be enabled when the IQ5 is put into compatibility mode.*

2 CONFIGURATION (continued)

17 Record the Address Details of the Controller

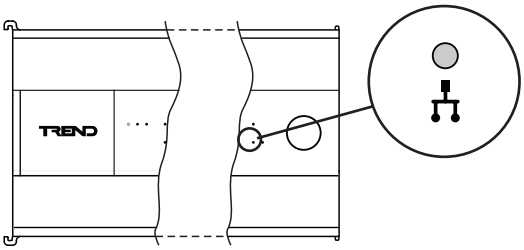




- Device address (O/S)
- LAN number
- Fixed IP Address or Hostname (if DCHP)

STOP!
It is recommended that you complete step 15 or 16, & step 17 for all IQ5 controllers in the Trend network before proceeding.

18 Check LAN OK Indicator (not NC Mode or connected to current loop)

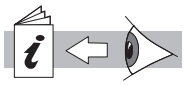


Normal operation indication	
●	LAN built OK with at least one other device.
◔	Attempting to build a LAN with other devices. This may take several minutes.
●	Controller set to standalone mode and will not build a LAN with other devices.

Fault indication	
◔	If this continues to show for more than a few minutes this indicates that the controller has not found any other devices on the same LAN. Use IPTool to check device settings.

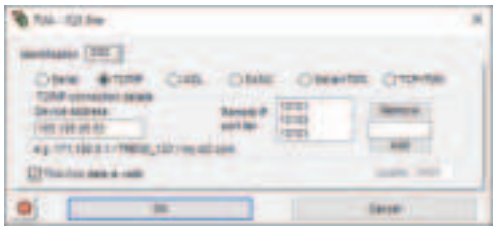
19 Connect to the Trend Network using IQSET

Using the Engineering PC/Laptop (see step 7) run IQSET and make a connection to the Trend Network (or Site). For example:



IQSET Manual (TE200147)

- Open a new site (e.g. File > Open/New Project > Live Site).
- In the IQSET **System View** panel right-click on **Sites** and select **New Site**.
- Select Trend as the network type and click **OK**.
- Enter a **Site name** and click **Edit site details**. The Connection Wizard will appear.
- Select **Launching TUA Editor** and click **Next**. The TUA editor will appear. Select the **CNC** tab:



- Select **TCP/IP**, enter the **IP Address** (or hostname) of an IQ5 and add at least one valid vCNC port in the **Remote IP port list**.

  Note: If using a hostname and DNS or LLMNR is not supported on the network, add '.local' to the hostname and ensure that IQSET is connected to the same segment.

- Click **OK** twice.
- In the **System View** panel, double-click the site name in the **Sites** tree:

IQ5 Mode
If the IQ5 (to which you are connecting) already has a System Account set up, then you will now be asked to login using the appropriate credentials - go to step 22 on page 12.

Otherwise, you will be prompted to press the controller's service button to validate the connection and create system accounts - go to step 20.

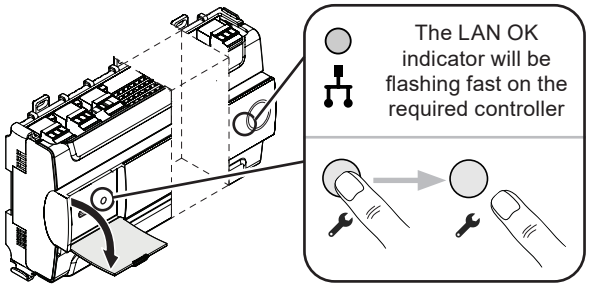
Compatibility Mode
You will be prompted to press the controller's service button to validate the connection and create a CNC user - go to step 21.

2 CONFIGURATION (continued)

20 Validate the Connection to IQ5 and Create System Accounts (IQ5 Mode Only)

If you attempt connection to an IQ5 that has no system accounts setup, then IQSET will display:

- Press the service button on the controller within the specified time limit:



- IQSET will now display a dialogue box for you to enter an **Account Name**, **Password** and **Email** address for the Admin system account.

  Note: The email address is required in order to recover from a forgotten password.

- Click to create the account.
- You will then be given the option to create a single Engineer system account - click **Yes** or **No** as required.

The new system account(s) will now be set up on the controller and synchronised with all other IQ5 controllers on the same Trend network, i.e. any IQ5 controller that has:

- the same Network Key and UDP Port set up, and
- no pre-existing system accounts.

This will take a few seconds to complete, after which time IQSET will display a login box - go to step 22 on page 12.

Note: To add further system accounts go to the System View in IQSET, right-click the site, select System Account Manager and follow the instructions in the IQSET Manual.

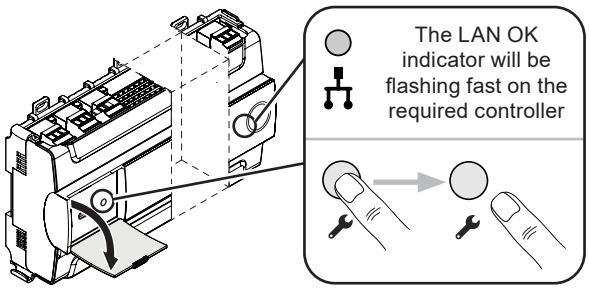
IQSET Manual (TE200147)

Remember to provide the credentials of the Admin system account plus the Network Key to the site owner to enable them to manage the system accounts. If the site owner does not have access to IQSET you may need to add another Admin system account for each system integrator working on the site.

21 Validate the Connection to IQ5 and Create CNC User (Compatibility Mode Only)

If you attempt connection to an IQ5 that has no CNC user setup, then IQSET will display:

- Press the service button on the controller within the specified time limit:



- IQSET will now display a dialogue box that enables the IQ5's vCNC connections to be configured.
- Enter the CNC User module's name in the **Name** box.
- Enter the CNC User module's password in the **Password** box.
- Retype the password in the **Retype Password** box.
- Click **Commit**.

The CNC User module will now be set up on the controller This will take a few seconds to complete, after which time IQSET will display a login box - go to step 22 on page 12.

2 CONFIGURATION (continued)

22 Login to the Trend Network

If you attempt connection to an IQ5 that has system accounts (IQ5 mode) or CNC Users (compatibility mode) setup, then IQSET will display:

- Enter the **User Name** and **Password** for a valid Admin or Engineer system account.
- Click **OK**.
- In the **System View** panel click the site name to refresh the site details (or right-click and select **Refresh**).

23 Create Strategy in IQSET

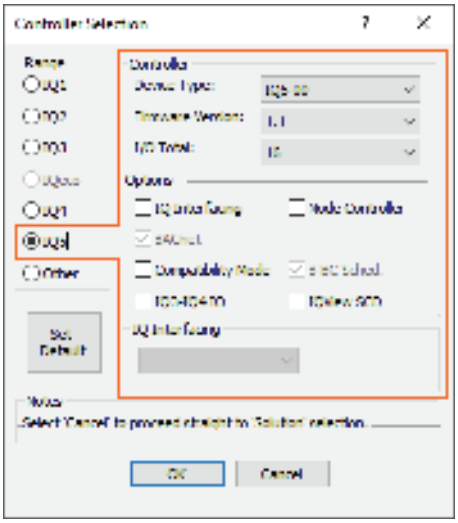
Create an IQSET project and create a strategy for each IQ5 controller.

IQSET Manual (TE200147)
IQ5 Configuration Manual (TE201486)

- In IQSET click **File** > **Open / New Project**.
- Select **Create New SET Project** and click **OK**.
- Enter the required details and click **OK**.
- In the **Project View** panel add the required LANs by right-clicking the project name and selecting **Insert Lan**.
- Enter the required **LAN Number** and **Label**, and click **OK**.

  Note: The LAN number should match the LAN(s) defined using IPTool in step 15.

- Add the required IQ5 controllers by right-clicking a LAN and selecting **Insert Device** > **IQ Controller**. The **Controller Selection** dialogue appears:



- Select **IQ5** and select the required number of I/O points (**I/O Total**) and features (**Options)** and click **OK**.

  Note: For Compatibility mode select the **Compatibility Mode** *check box, for IQ5 mode leave it un-selected.*

- In the **Device Details** dialogue enter the controller **Address** and **Name**, and click **OK**.

  Note: The Address should match the node(s) defined using IPTool in step 15.

- In the **Address Module** dialogue enter any required settings and click **OK**.
- In the **Sensor Type** dialogue enter any required settings and click **Exit**.

Set up IO Modules (if installed)

- Right-click in the empty strategy page and select **Device** > **I/O Setup**.
- In the **I/O Setup** dialogue add and configure any IO Modules as required by following the instructions in the IQSET Manual.

Configure Remaining Strategy (as required)

- Create the remainder of the strategy by following the instructions in the IQSET Manual and IQ5 Configuration Manual.

Local User Modules

IQ5 Mode: It is not necessary to create local User Modules for the IQ5 when it is operating in IQ5 Mode, unless these are required to control end users access to the web interface or the IQVIEW SCD (single controller display). All engineering access is controlled by the system accounts created in step 19.

IQ5 Compatibility Mode: Local User Modules control all access to the IQ5 and MUST be created.

2 CONFIGURATION (continued)

24 Set up IQ5 Feature Licencing

If any licensable features are required (e.g. additional IO points, NC or INT functionality) these must now be enabled.

See 'Licence IQ5 Features' in the IQSET Manual (TE200147)

- Ensure that an IQ5 with the same address and LAN number with the required options exists in the SET project see step 23.
- With IQSET connected (see step 19) and logged in (see step 22), go to **System View**.
- Right-click the site name in the **Sites** tree and select **IQ5 Feature Licensor**.
- Select the device(s) required and click to generate a Licence Request File and save it on the PC.
- Login to the HBT Licensing Portal:

  https://MyBuildings.honeywell.com

- Select Quick Cart and upload the License Request File.
- Add any additional details including the email address of the person requiring the licence, then checkout the order.

After the order has been processed an email will be sent to the specified email address. You will then need to...

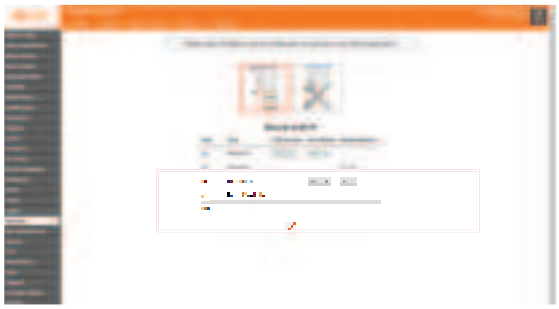
- Download the Licence File from the Portal and save it.
- Using the IQ5 Feature Licensor click to import the Licence File.
- Select which device(s) to update.
- Click to update the device licences.

Note: If you are not connected to the same IQ5 vCNC that was used when creating the Licence Request File a warning will be displayed. If you are connected to the same site you can ignore the warning. If you are not connected to the same site connect using a different connection.

25 Set up NC Communication Mode (if the IQ5 is required to operate as node controller)

Note: The IQ5 must be licenced for NC mode.

- Using the Engineering PC/Laptop (see step 7) open a compatible web browser and access the IQ5 web interface using its IP Address or Hostname.
- If prompted, login using valid system account credentials.
- Select **Modules > Networks** to display the **NC Configuration Wizard**.



- Click required mode icon (see table), and if necessary specify any parameters, e.g. LAN number.

  Note: If no icons appear, check that the IQ5 is configured and licensed for NC operation (see step 23 & 24).

- Click ; the controller will now reboot.
- Set the communications channel on the MS/TP network module to the port the MS/TP network is connected to.

Mode Icon	Parameter Settings
	Ethernet Internetwork to to MS/TP LAN (default) **Parameter** / **Setting** BACNet MSTP LAN number: 1, 4 to 9, 11 to 119 BACnet IP Disable Module: No = Enabled, Yes = Disabled
	Current Loop Internetwork to MS/TP Lan **Parameter** / **Notes** Lan number: 1, 4 to 9, 11 to 119 BACnet IP: Can be disabled
	Ethernet Internetwork to Current Loop Lan **Parameter** / **Notes** Lan number: 1, 4 to 9, 11 to 119 BACnet IP: Can be disabled BACnet MSTP: Can be enabled
	Ethernet Internetwork to Current loop Internetwork Note address no longer needs to be > 100. **Parameter** / **Notes** Lan number: 1, 4 to 9, 11 to 119 BACnet IP: Can be disabled BACnet MSTP: Can be enabled
	Manual configuration of all parameters (not recommended)

2 CONFIGURATION (continued)

26 Configure or Disable the Web Server (if required)

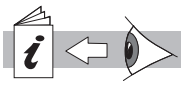
The IQ5's web server enables users to access the web interface for viewing/changing module parameters (including setting up NC mode - see step 25) or interacting with optional GraphIQ pages via a web browser.

Connection to the IQ5's web server can be made via HTTP and/or HTTPS protocol and both these ports are enabled by default.

Note: Where HTTPS is used it will be necessary to configure SSL certificates (see the IQ5 Configuration Manual).

If access to the web interface is not required it is recommended that both ports are disabled for security. For example:

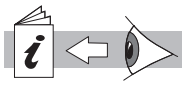
- Using the Engineering PC/Laptop (see step 7) open a compatible web browser and access the IQ5 web interface using its IP Address or Hostname.
- If prompted, login using valid system account credentials.
- Select **Modules > Networks**.
- Select **n1** (Ethernet IP).
- Set the **Web Server Port Number** and/or **Secure Web Server Port Number** parameters to 0 to disable the port.
- Click ✔.



IQ5 Configuration Manual (TE201486)
IQSET Manual (TE200147)

27 Set up Current Loop Baud Rate

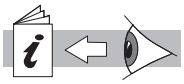
If the IQ5 is to connect to a Trend current loop network baud rate for the current loop network must be specified. The IQ5 will automatically detect the baud rate being used on the network and set itself accordingly. On systems where there is only IQ5s and IQ4s on the current loop network, the controllers will decide amongst themselves what baud rate to use; this may not be the one that is required. In this situation it is necessary for one controller to be set to a specific baud rate using IQSET's IQTool Monitor Applet to ensure the other controllers select the required baud rate.



IQTool Monitor Applet Manual (TE201298)

28 Download Strategy to IQ5 Controller

Use IQSET to download the strategy to the controller(s).



IQSET Manual (TE200147)

For a single controller...

- Select the appropriate controller/strategy in the **Project View**.
- From the **Strategy** menu select **Create Data File**.
- In the **System View** select the appropriate controller.
- Right-click the controller and select **Send File to Device**.
- In the **File Download** dialogue box check that the correct file is selected the in **Transfer Directory** field.
- Click to start the download.

For other methods or for downloading to multiple controllers please refer to the IQSET Manual

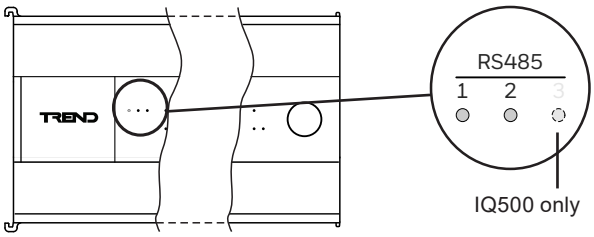
IMPORTANT: *The controller's date and time **MUST** be set correctly to ensure that the controller's security certificates can be correctly validated. Communications issues will occur if the security certificates are not valid. This can be done by selecting the option to set the controller's time is selected when downloading the strategy.*

Note: If the strategy uses an NTP server to set the IQ5's time and date, synchronisation will only occur if the IQ5's time and the server's time are within 49 days of each other.

Note: The controller's date and time may be set up from a controller configured as timemaster.

2 CONFIGURATION (continued)

29 Check RS-485 Network Indicators (if RS-485 devices are connected)

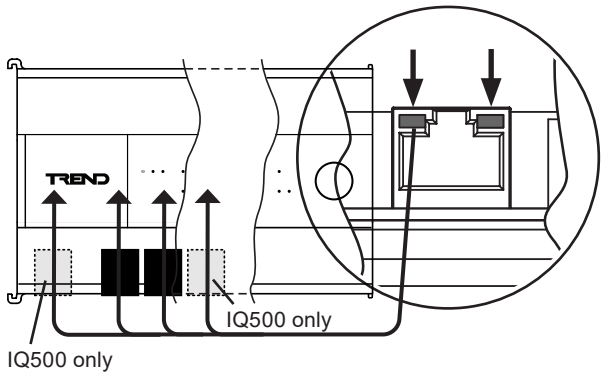


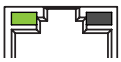
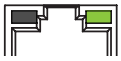
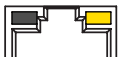
Normal operation indication	
●	Port configured OK and communications are good.
●	Port not active. No Network module exists in the controller strategy or is not configured correctly.

Fault indication	
●	No communications or no network connected. Does not apply when port is assigned to a network XNC serial module.

Note: A controller configured for NC operation will show ● on port 1 until BACnet devices are connected.

30 Check Ethernet Indicators (for any connected ports)



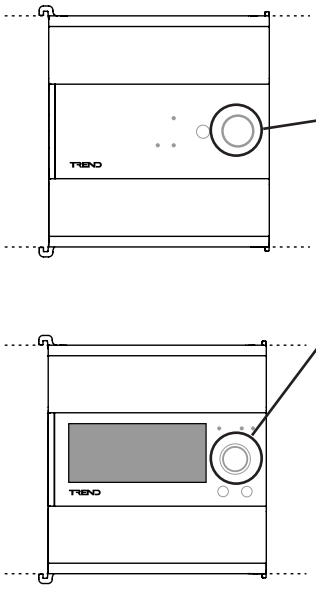
Normal operation indication	
	1000 Mbps link detected
	100 Mbps link detected
	10 Mbps link detected

Note: The indicator will flash when data is being transmitted or received.

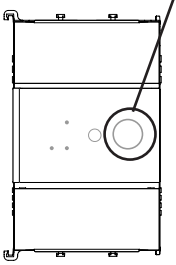
2 CONFIGURATION (continued)

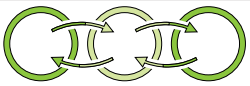
31 **Check Status Indicator of T1L Devices** (if connected)

IQ5-IO Modules



IQ5-LAN-ADPT



Normal operation indication	
	T1L device operational and address set OK. If all T1L devices are in this state, go to step '32' on page 18.
	T1L device is booting up - please wait a few minutes and check again.
	IQ5-IO HOA module is in Offline mode
 Every 0.5s	Address is being set after Service button has been pressed.
 Every 0.2s	Download or configuration in progress. - configuration address via software.

Fault indication	
	Factory default mode T1L device not addressed properly - go to step '31' on page 17.
	T1L device not powered - check connection from previous module or separate PSU (if applicable)
	The T1L device has encountered a problem.
	After T1L device has booted up. Communication with controller lost or for IO modules there is an issue with an input channel.

2 CONFIGURATION (continued)

32 Set the Address of an I/O Module or Current Loop LAN Adapter

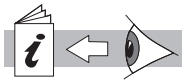
The IQ5 controller will automatically attempt to match each physical device (I/O module or Current Loop LAN Adapter) with its corresponding strategy I/O module and set its address accordingly.

However, the controller will be unable to set the address if:

- there is more than one unaddressed physical device of the same type,
- there is more than one unaddressed strategy module of the same type, or
- there is no corresponding strategy module in the strategy.

Should any of the above situations arise it will be necessary to set the address of any affected device using either of the following methods.

Method 1: Use the IQ Tool Soft Addresser Applet in IQSET.

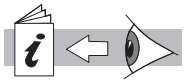


IQ Tool Soft Addresser Applet Manual (TE201356)

- Use the applet to assign the physical device to the appropriate strategy I/O module.

Note: If a T1L device is not visible in either the applet or the web interface, it may be because it has already be used with another controller. A T1L device becomes bound to the first controller it connects to over the T1L bus. If connecting the module to a different controller it will need to be reset as shown in section 7 on page 24.

Method 2: Use the controller web interface.



IQ5 User Guide (TE201490)

- Login to the controller's web interface.
- Access the I/O Module page and enter addresses as required.

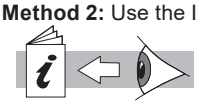
Identifying a Module using the 'Wink' Function (if required)

To help identify a specific module it can be placed in 'wink' mode, either from the module itself or set up tool. While in wink mode the module's service indicator will flash and the status indicator ring of the corresponding controller will also flash green.

Method 1: Use the module's service button..

- Press the module's service button briefly (<1 second).
- The module's service indicator will flash for approximately 1 minute, showing that the device is in wink mode.
- Open either the IQ Tool Soft Addresser Applet or the controller's web interface (see Method 2 and 3).
- Any module in wink mode will have its **Wink** parameter set to 'On'.

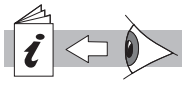
Method 2: Use the IQ Tool Soft Addresser Applet in IQSET.



IQ Tool Soft Addresser Applet Manual (TE201356)

- Click the button for the appropriate module.
- The button background will flash green and the module's service indicator will flash, showing that the device is in wink mode.
- Click the button again to turn off wink mode.

Method 3: Use the controller web interface.



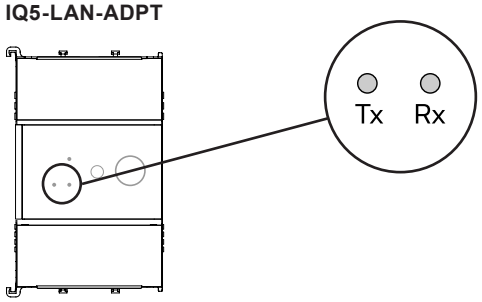
IQ5 User Guide (TE201490)

- Login to the controller's web interface.
- Access the **I/O Module** page.
- In the **Wink** column set the parameter to 'On' for the appropriate module.
- The module's service indicator will flash, showing that the device is in wink mode. It will continue to flash until the corresponding **Wink** parameter is set back to 'Off'.

2 CONFIGURATION (continued)

33 Check Tx and RX Indicators (IQ5-LAN-ADPT only)

IQ5-LAN-ADPT

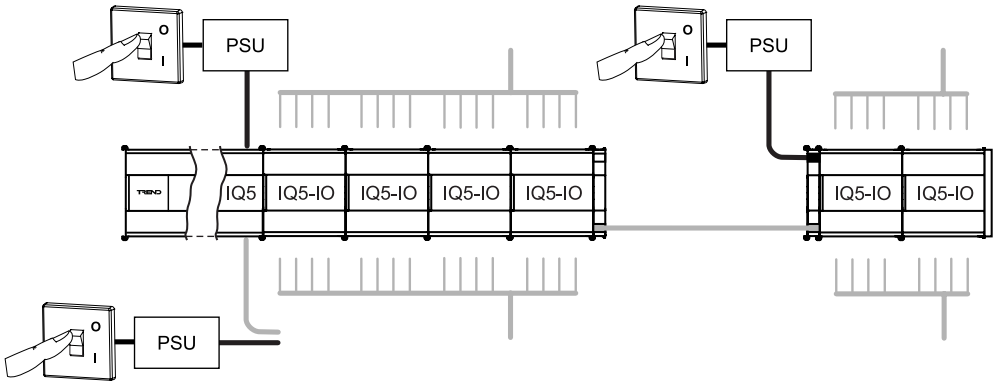


Normal operation indication	
Tx	Current loop is intact on the Tx side.
Rx	Current loop is intact on the Rx side.

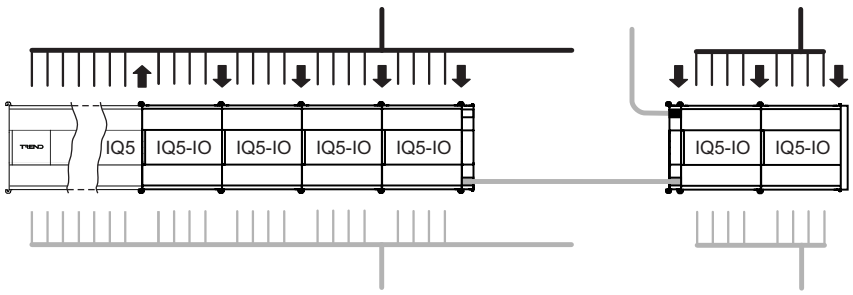
Fault indication	
Tx	Signal not reaching RX on downstream device on network
Rx	No TX signal from upstream device on network.

- Check connection between IQ5-LAN-ADPT and IQ5
- Check baud settings of all devices on current loop
- Check all device connections.

34 Switch Off Controller (including additional PSUs)



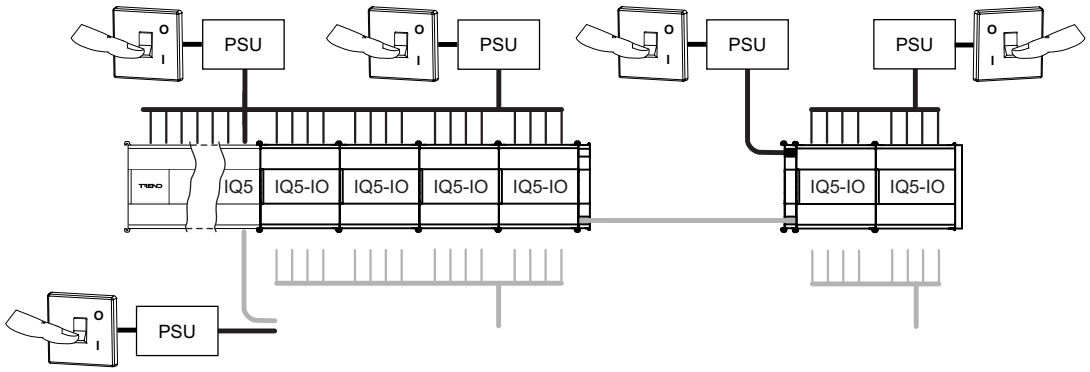
35 Reconnect Inputs



CAUTION: Check that each input connection is appropriate for the IO module input type. For example, ensure that a mains voltage is not applied to a low voltage input.

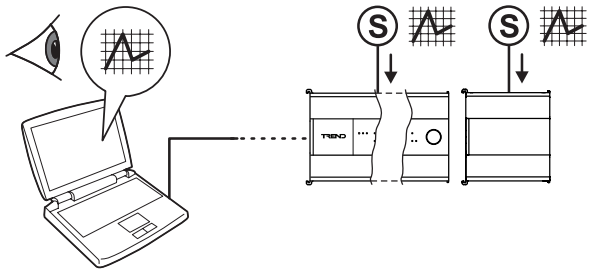
2 CONFIGURATION (continued)

36 **Switch On Controller & Input Supplies** (including additional PSUs)

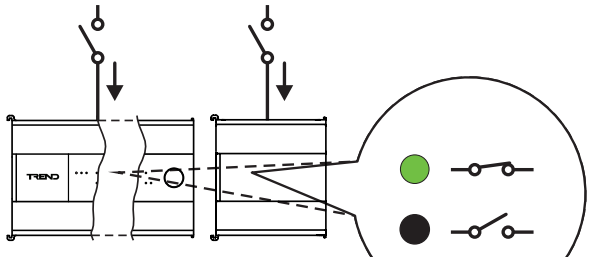


37 **Check Input Operation**

Analogue



Digital



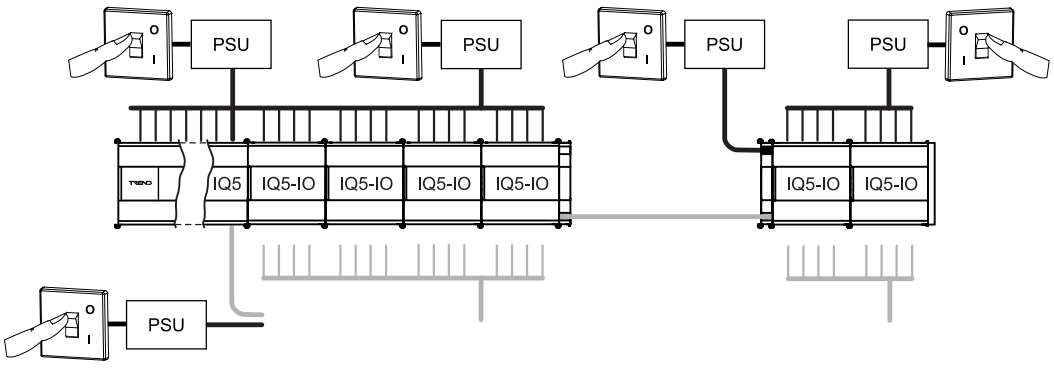
IQ4/IO Modules

IQ4/IO/.. Installation Instructions - Configuring (TG201161)
Section 4 Only

XCITE/IO Modules

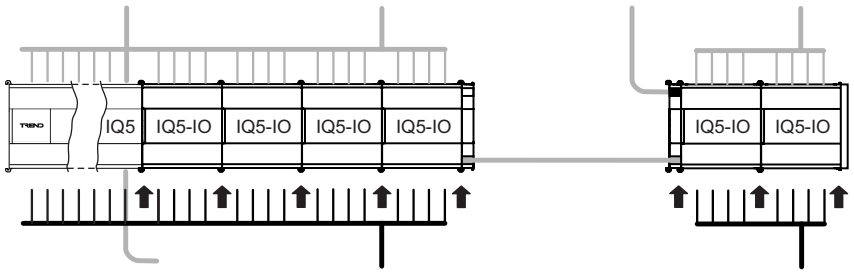
XCITE/IO/.. Installation Instructions - Configuring (TG200627)
Section 4 Only

38 **Switch Off Controller & Input Supplies** (including additional PSUs)



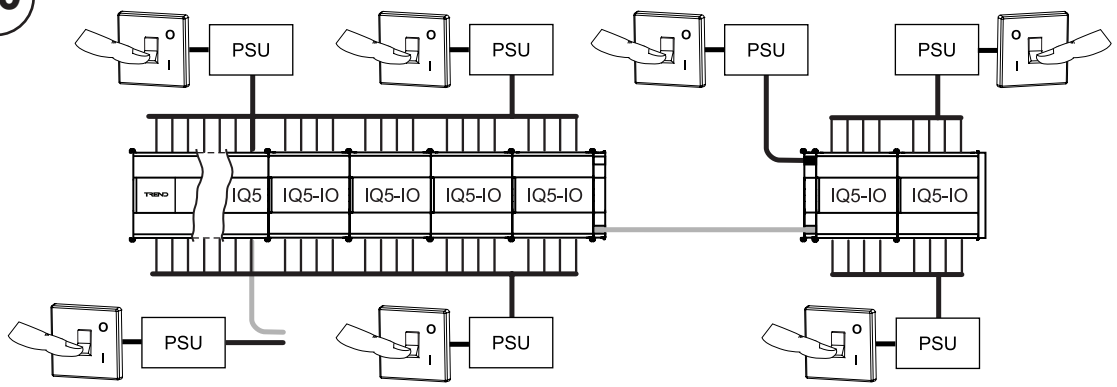
2 CONFIGURATION (continued)

39 Reconnect Outputs



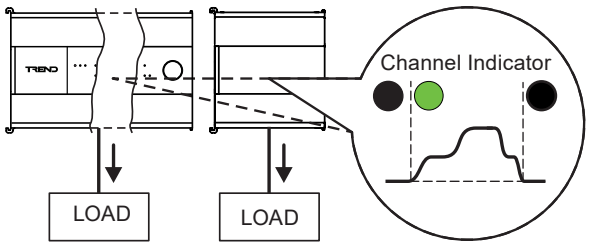
CAUTION: Check that each output connection is appropriate for the IO module output type. For example, ensure that a mains voltage is not applied to a low voltage output.

40 Switch On Controller, Input & Output Supplies (including additional PSUs)

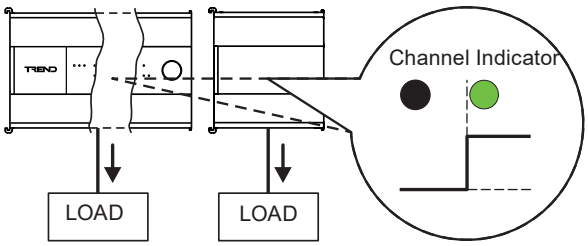


41 Check Output Operation

Analogue



Digital



IQ4/IO Modules

IQ4/IO/.. Installation Instructions - Configuring (TG201161)
Section 4 Only

XCITE/IO Modules

XCITE/IO/.. Installation Instructions - Configuring (TG200627)
Section 4 Only

42 Backup Strategy

It is good practice to upload the strategy from each controller into IQSET to create a backup.

If required, you can also compare this uploaded strategy with that held in your project and check for any differences.

IQSET Manual (TE200147)

2 CONFIGURATION (continued)

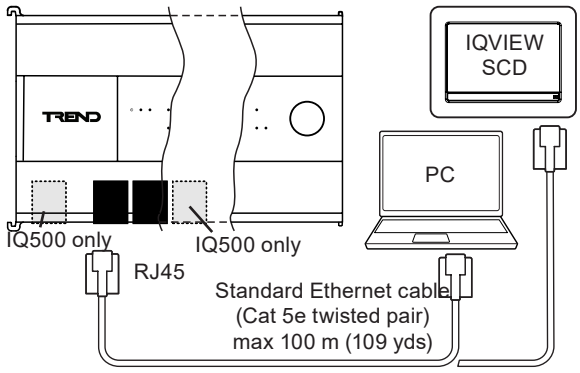
43 **Install Supervisors or Displays** (if required)

If a supervisor or local display is required, install these now following the appropriate installation instructions and the guidance notes below. Otherwise go to step 43 on page 22.

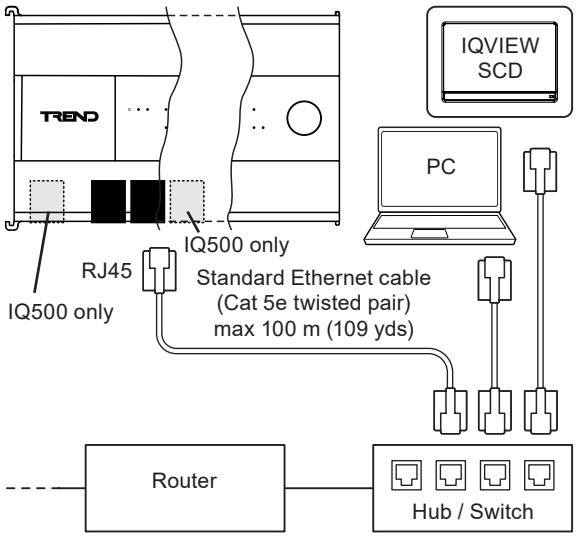
Connection Method	Suitable for			
	IP Tool	IQSET	Supervisor (e.g. IQVISION)	Web Interface (e.g. IQVIEW SCD for IQ5)
Direct via Ethernet Port	✓	✓*	✓*	✓
Via Ethernet Network	✓	✓*	✓*	✓
Direct via USB Engineering Port	×	✓	×	×

* connection requires a vCNC to be configured on the target controller.

Direct Connection via Ethernet Port



Connection via Ethernet Network

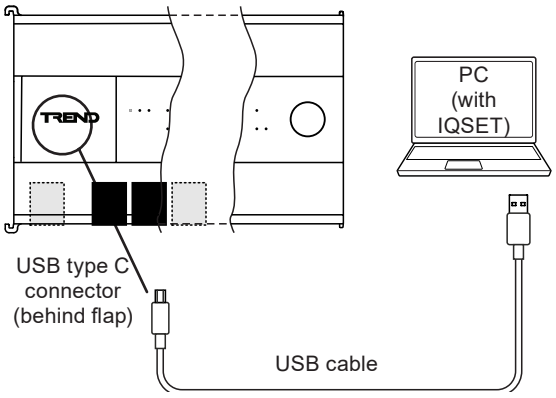


- To make a connection with IQSET or supervisor ensure that a vCNC is available in a Trend device on the same Ethernet Trend network and connect to the vCNC as described in the supplied documentation.

  Note: If connecting with IP Tool, the PC should be on the same Ethernet segment as the IQ5.

- To make a connection with a web browser run the web browser on the PC and access the IQ5's IP address or host name.
- To make a connection with an IQVIEW SCD, install the IQVIEW SCD application on the controller, then configure the display device with the URL of the IQ5 controller. For full details see IQVIEW Single Controller Display for IQ5 Manual (TE201504).

Direct Connection via USB Engineering Port



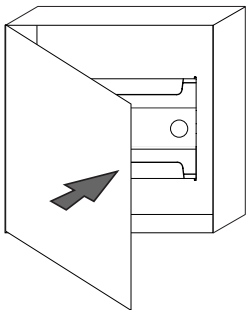
This method is only suitable for a temporary connection with IQSET during system commissioning or fault finding.

2 CONFIGURATION (continued)

44

Close Panel / Enclosure

The configuration procedure is now complete!



3 RESET IQ5 CONTROLLER TO FACTORY DEFAULTS

A factory reset will erase the strategy and reboot the controller into its default configuration.

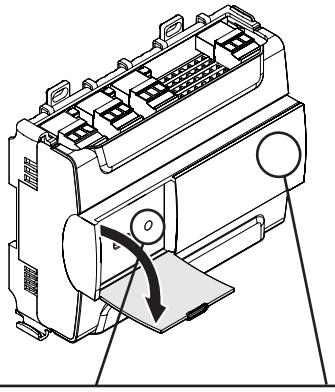
1 Isolate Power and Disconnect All I/O

Follow steps 1, 2, 4, 8 and 9 (on pages 1 to 4) to:

- Isolate Power,
- Open Panel,
- Disconnect All I/O,
- Unplug all Ethernet cables. Any RS-485 networks may be left connected,
- Switch on power to IQ5 only,
- Wait for controller to settle.

2 Perform the Reset

Press and hold down the service button (located behind the drop down flap) until the ring indicator flashes yellow, then release the button. To initiate the reset press the button again while the indicator is still flashing.

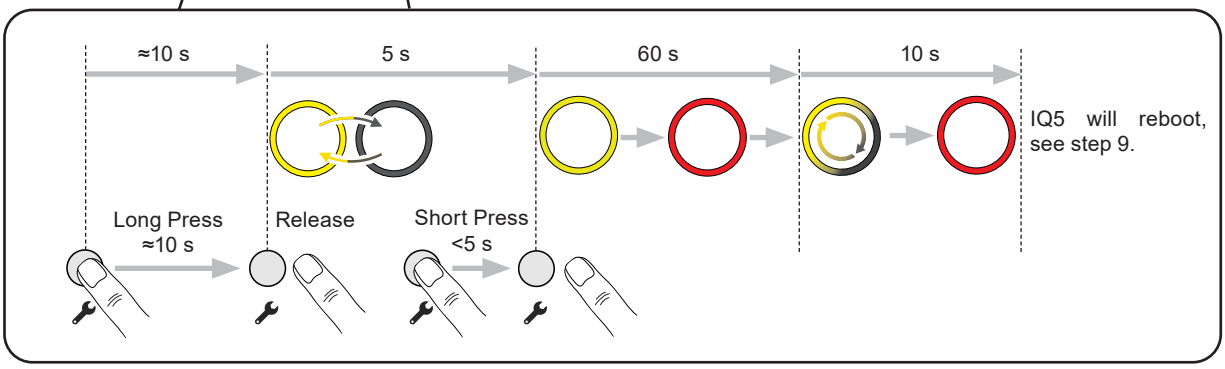


The reset process may take up to several minutes depending on the controller type. Do not remove power to the controller until the process has completed.

While the controller is erasing the strategy, the ring indicator will remain yellow and appear to 'rotate'. When the reset is complete the controller will reboot as shown in step 9 on page 4.

The strategy, user modules (passwords, etc), alarm logs, and plots records are cleared down, and all other parameters will be returned to their default settings as shown in step 15 on page 8.

Note: Time and date are left at their current values, and the license is not affected by the reset.



3 Re-configure the Controller

Go to step 15

4 RESET A T1L DEVICE TO FACTORY DEFAULTS

A factory reset will erase all settings and reboot the device into its default configuration.

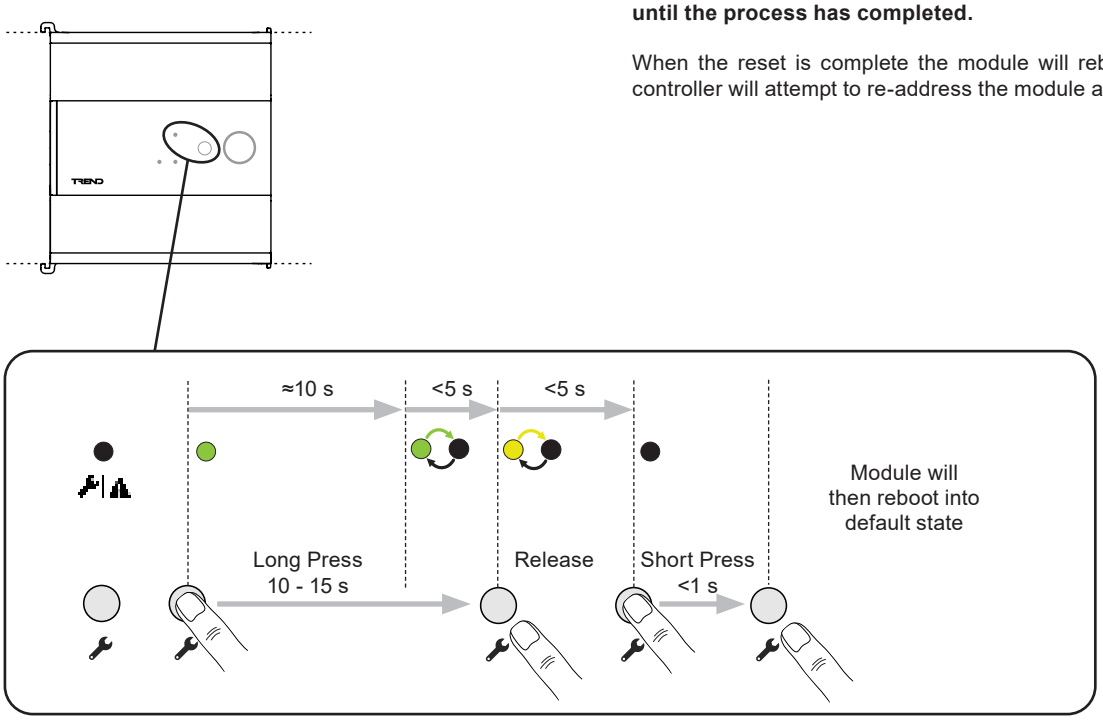
1 Isolate Power and Disconnect all I/O from the Device

Follow steps 1, 2, 4, 8 and 9 (on pages 1 to 4) to:

- Isolate any power supplies used by the device inputs or outputs,
- Open panel,
- Disconnect all I/O from the device,
- Isolate the device power supply.

2 Perform the Reset

With the device powered up, use the service button to initiate the reset process as follows:



The reset process will only take a few seconds depending on the module type. Do not remove power to the module until the process has completed.

When the reset is complete the module will reboot and the controller will attempt to re-address the module as shown in

3 Reconnect Inputs & Outputs and Check Operation

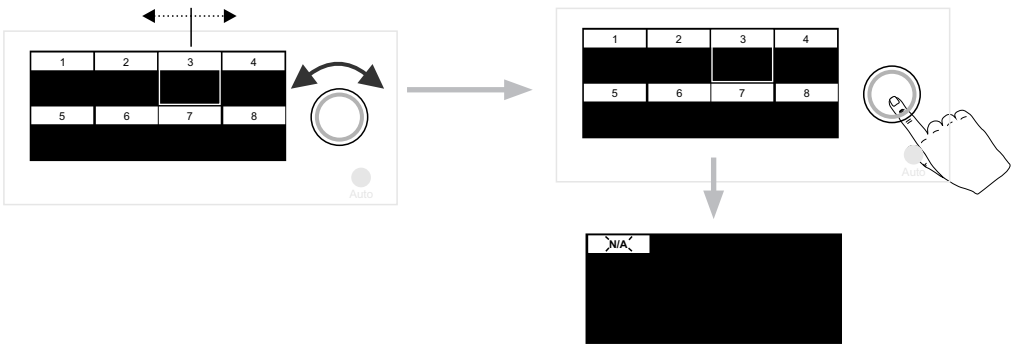
Follow the guidance from step 30 on page 16, through to step ‘43’ on page 22.

5 MANUAL CHANNEL CONFIGURATION

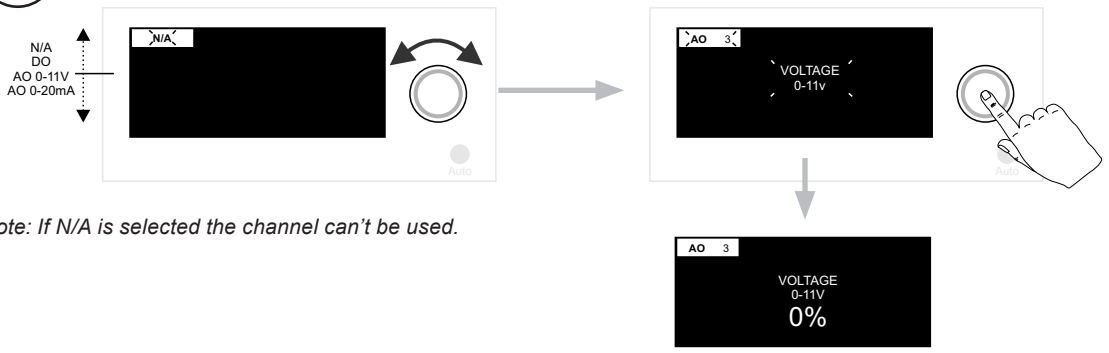
5.1 Set Channel Type and Value

When IQ5-IO HOA modules are in offline mode the channels must be configured to match the connected I/O and the required value set.

1 Select Channel

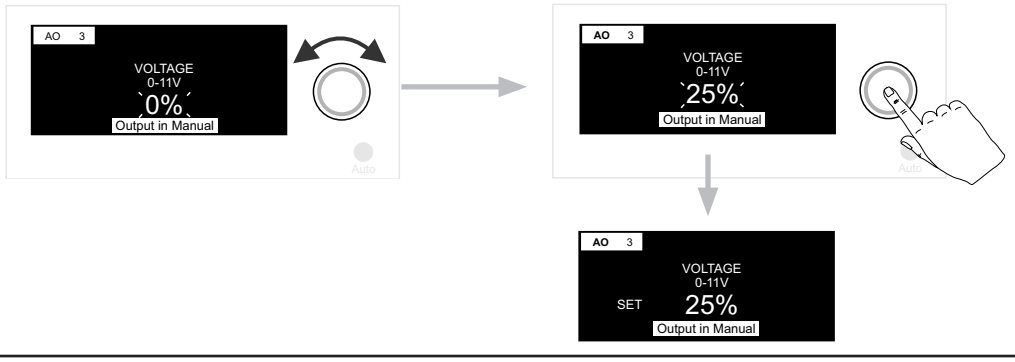


2 Select Channel Configuration



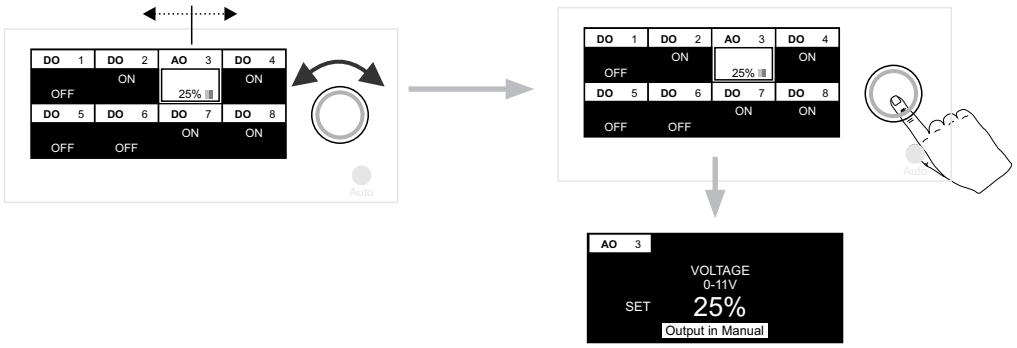
Note: If N/A is selected the channel can't be used.

3 Set Output Value

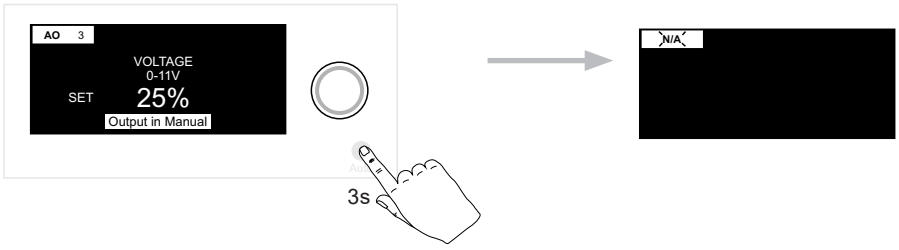


5.2 Reset Channel Type

1 **Select Channel**

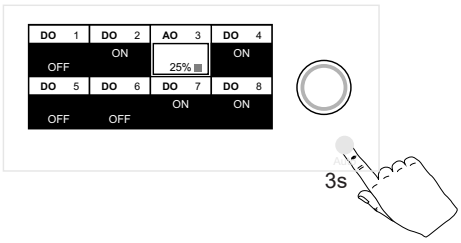


2 **Reset Channel**



6 SET AN IQ5-IO MODULE TO ONLINE MODE

1 **Set an IQ5-IO Module Back to Online Mode**



When in offline mode the IO module will attempt to communicate with the controller after 3 minutes of inactivity. If it is able to communicate with the controller it will exit offline mode and wait for the configuration from the controller. Any channels that have been overridden while in offline mode will retain their overridden status.

If it is unable to communicate with the controller it will continue to listen for the controller.

If required it can be forced to exit off-line mode during the 3 minute wait by pressing the Auto button for 3s.

Note: Resetting the IO module will start the module set up process enabling online or offline mode to be selected as required.

Please send any comments about this or any other Trend technical publication to techpubs@trendcontrols.com

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