

Important: Retain these instructions




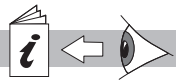
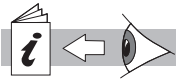
These instructions shall be used by trained service personnel only

If the equipment is used in a manner not specified by these instructions, the protection provided by the equipment may be impaired.

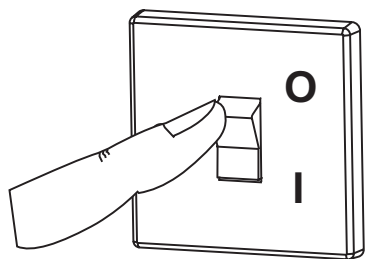
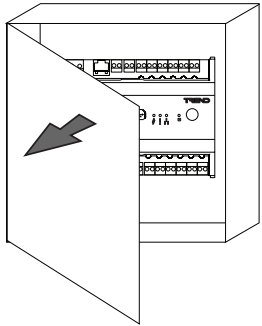

CONTENTS

1	Before starting Configuration.....	1	4	Reset to Defaults.....	12
2	Installation - Configuring.....	1	5	Disposal.....	12
3	Connect to IQ4.....	10			

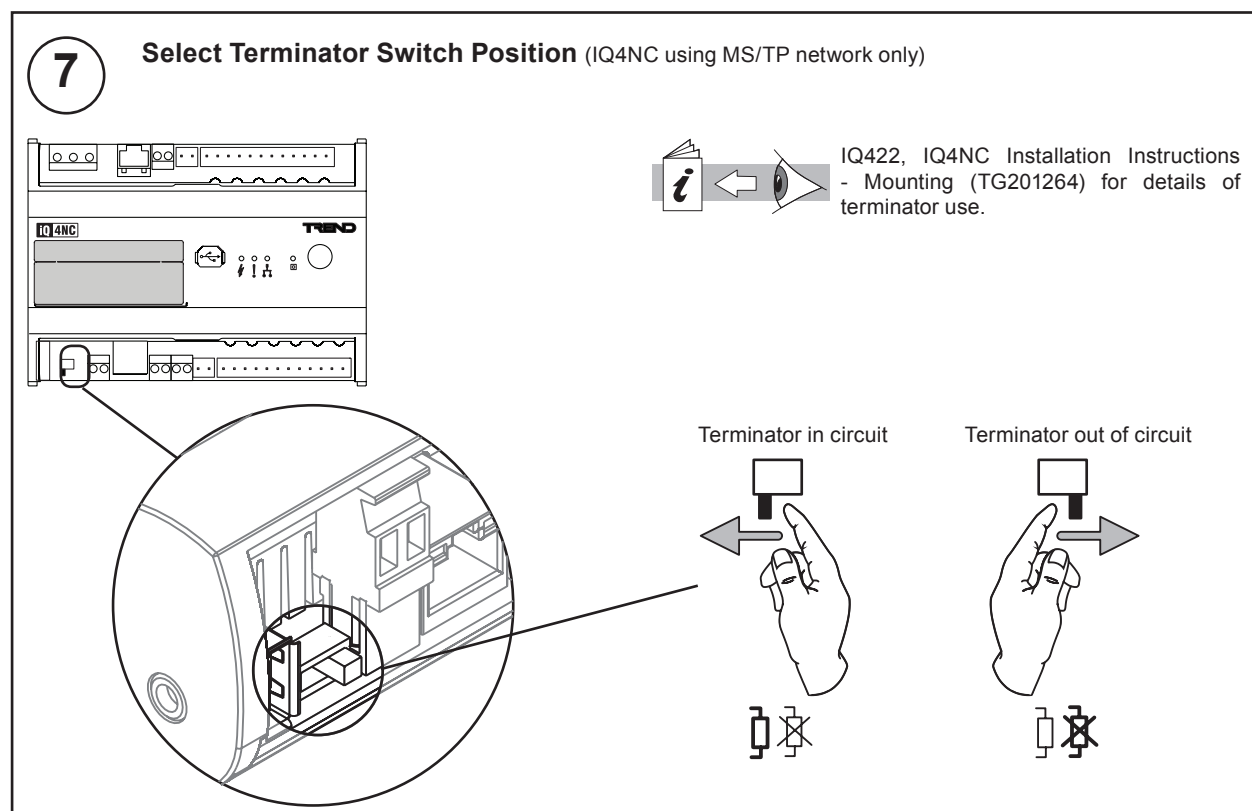
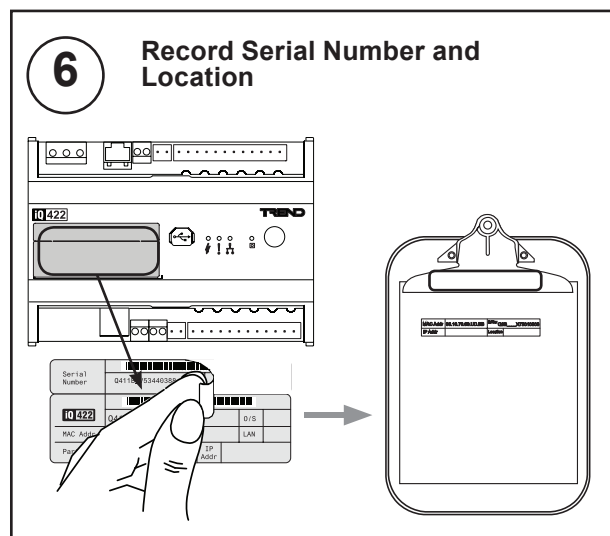
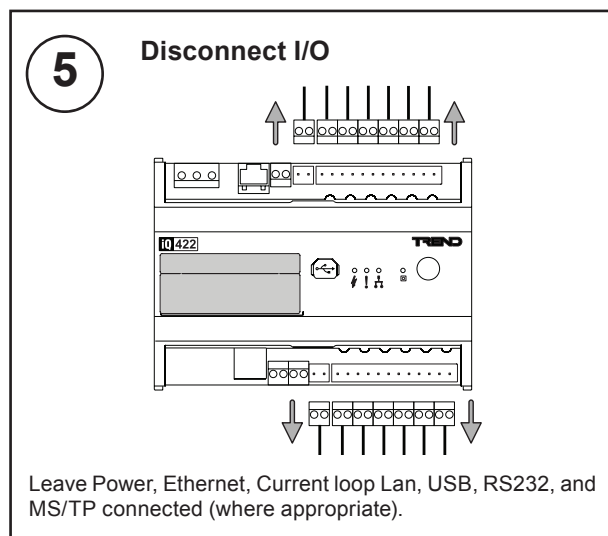
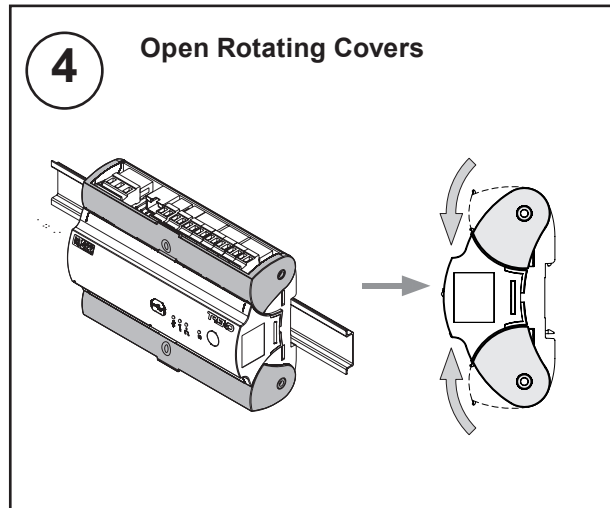
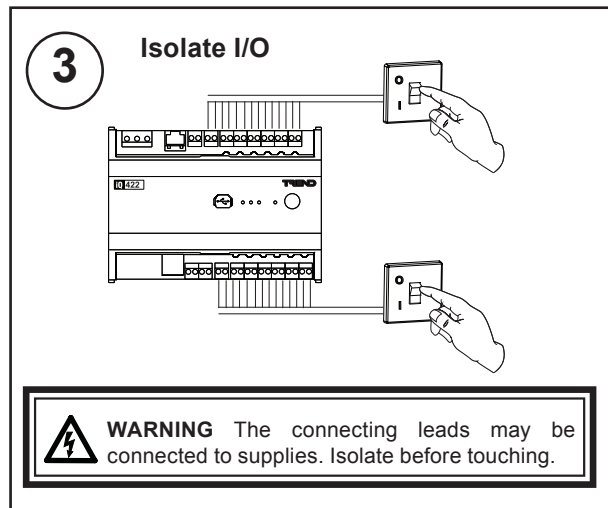
1 BEFORE STARTING CONFIGURATION

<p>Install the IQ4NC, IQ422</p>  <p>IQ4NC, IQ422 Installation Instructions - Mounting (TG201264)</p>	<p>Install SET on PC / Laptop</p>  <p>SET Manual (TE200147)</p>
<p>Prepare Ethernet Network (if using Ethernet)</p> <p>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 IQ4 is connected.</p> <p>Install WINS Server If host names are being used for IP addressing across a router, a WINS server must be installed.</p> <p>Install DNS Server If email alarms are being sent, and the email server address is identified by internet domain name, a DNS server must be installed.</p>	<p>Additional Documentation Required</p> <ul style="list-style-type: none"> • SET Manual (TE200147) • IP Tool Manual (TE200638) • IQTool Monitor Applet Manual (TE201298) • IQTool Addresser Applet Manual (TE201299) • IQ4 Configuration Manual (TE201263) <p><i>Note: PDF copies are included with SET installation in the following folder: C:\...\Trend Control Systems\Documentation</i></p> <p>Read & Agree to End User Licence Agreement</p>  <p>IQ4NC, IQ422 Installation Instructions - Mounting (TG201264)</p>

2 INSTALLATION - CONFIGURING

<p>1 Switch Off</p> 	<p>2 Access Unit</p>  <div style="border: 1px solid black; padding: 5px; margin-top: 10px;">  <p>WARNING Opening the panel may expose dangerous voltages.</p> </div>
--	---

2 INSTALLATION - CONFIGURING (continued)

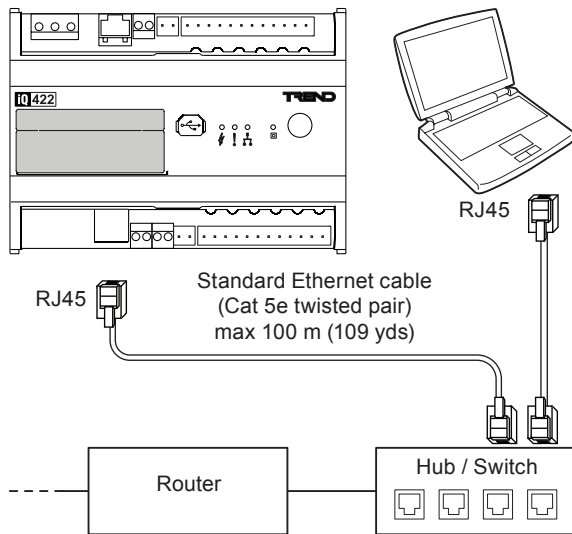


2 INSTALLATION - CONFIGURING (continued)

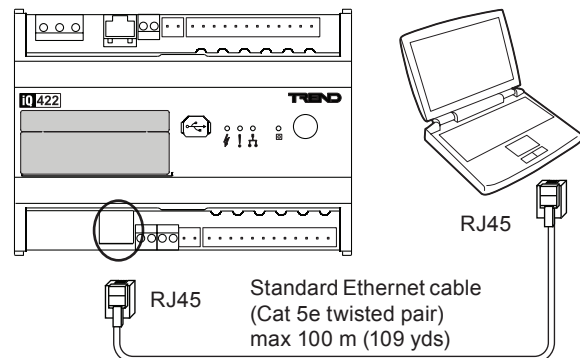
8

Connect PC / Laptop

Either: via Ethernet Hub/Switch



Or: using direct connection

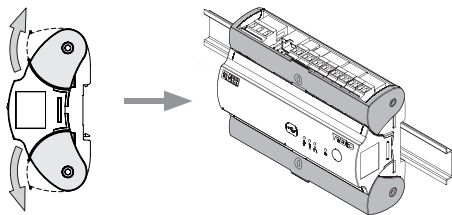


Note: To connect with SET a vCNC is required. SET can connect when on a different subnet.

Note: Other methods of connection are available see 'Connect to IQ4' on page 10.

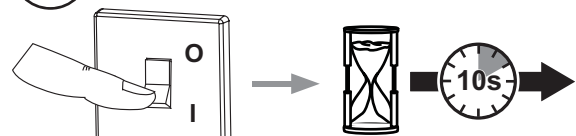
9

Close Rotating Covers



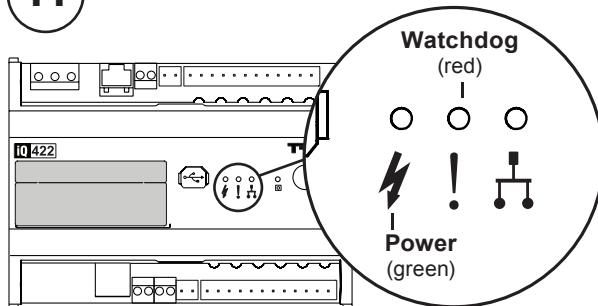
10

Switch On



11

Check Watchdog/Power LEDs



Normal operation indication

! Watchdog	●
⚡ Input power supply	☀

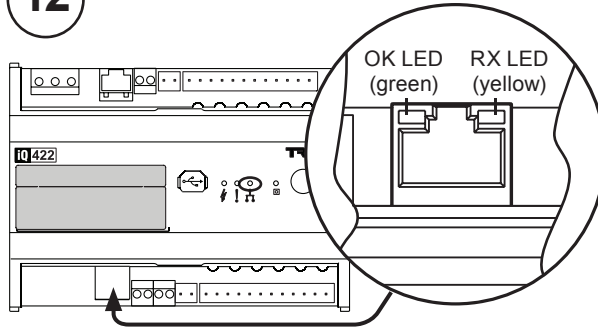
Fault indications

! Watchdog	☀	Device faulty reset to defaults, see 'Reset to Defaults on page 12.
⚡ Input power supply	●	Check input power supply

Note: All LEDs illuminate for several seconds after switch on.

12

Check Ethernet LEDs (if Ethernet is connected)



Normal operation indication

RX	☀ ● ☀ or ☀
OK	☀

Fault indications

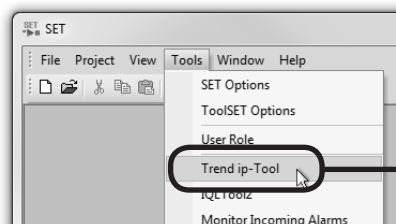
OK	●	Check Ethernet
----	---	----------------

Note: All LEDs illuminate for several seconds after switch on.

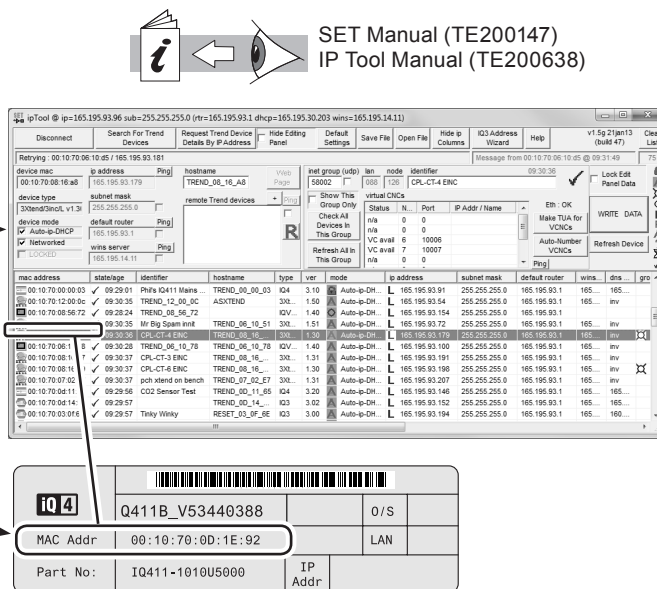
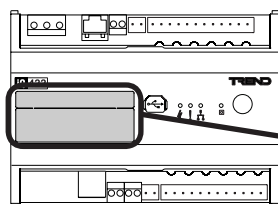
2 INSTALLATION - CONFIGURING (continued)

13

Connect to IQ4NC, IQ422 Using SET / IP Tool



Find the IQ4NC, IQ422 by its MAC address shown on serial label



14

Set up IP Addressing Details (if using Ethernet)

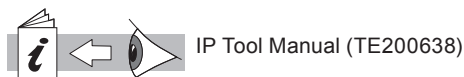
Use IP Tool – see step 13 – to choose either static (fixed) or dynamic (DHCP) addressing:

Dynamic (DHCP) Addressing (default)

Parameter	Value
Device Mode	device mode <input checked="" type="checkbox"/> Auto-ip-DHCP

Static (Fixed) Addressing

Parameter	Value
Device Mode	device mode <input type="checkbox"/> Auto-ip-switch
IP Address	
Subnet Mask	Enter required value in format: xxx.xxx.xxx.xxx
Default Router	
WINS Server	



When set to dynamic (DHCP) addressing the unit automatically obtains its IP addressing details (IP address, subnet mask, default router, WINS server and DNS server) from the network's DHCP (Dynamic Host Configuration Protocol) server. If no DHCP server is found, the unit defaults to link/local mode where it autonegotiates 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.

When set to static (fixed) addressing the IP addressing details must be configured manually.

Note: If email alarms are being sent, and the email server address is identified by internet domain name, then a DNS server must also be specified using Text Comms.

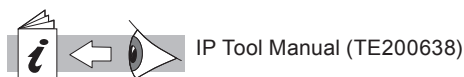
15

Set up Virtual CNC (if required)

A Virtual CNC must be set up if connection to a supervisor, tool or display is required.

Use IP Tool – see step 13 – to set up the address and port number of the vCNC.

Parameter	Range
Address	0 (disabled), 1, 4 to 9, 11 to 119
Port Number	1 to 32767 Defaults to 10000 plus the address (e.g. address 123 sets port to 10123)



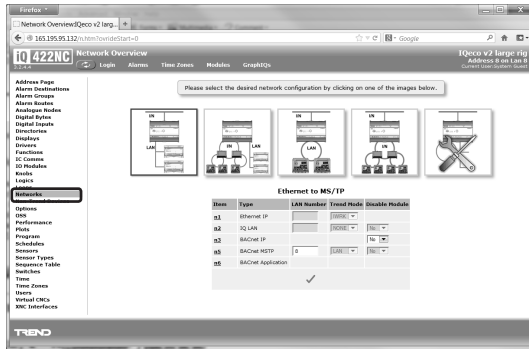
IQ4NCs have 4 vCNCs at addresses 4, 5, 6, and 7) enabled by default therefore it may also be necessary to disable, or re-configure this to avoid address conflict. IQ422s do not have any vCNCs enabled.

2 INSTALLATION - CONFIGURING (continued)

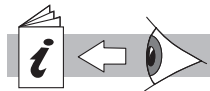
16

Set up IQ4NC Communication Mode (if using IQ4NC)

- Connect a PC directly to the IQ4 using an Ethernet cable, see 'Connect to IQ4' on page 10.
- Using a web browser, e.g. Internet Explorer, access the controller's web pages and select **Modules>Networks** to display the **NC Configuration Wizard**.



- Click required mode, and if necessary specify any parameters e.g. Lan number.
- Click ✓; the controller will restart.



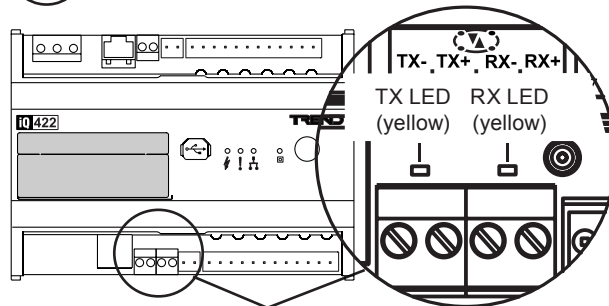
IQ4 Web User Guide (TC201256).

Note: The IQ4NC always has a Lan to connect to the internetwork so cannot join another Lan on the internetwork.

	Ethernet Internetwork to MS/TP Lan (default)	
	Parameter	Notes
	Lan number	1, 4 to 9, 11 to 119
	BACnet IP	Can be 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 e.g. for connection of PEHA devices
	Ethernet Internetwork to Current loop Internetwork	
	Parameter	Notes
	Lan number	1, 4 to 9, 11 to 119
	BACnet IP	Can be disabled
	BACnet MSTP	Can be enabled e.g. for connection of PEHA devices.
	Manual configuration	
	E.g. Ethernet Internetwork to Current loop Internetwork plus MS/TP Lan	

17

Check Trend Current Loop Network (if current loop network being used)

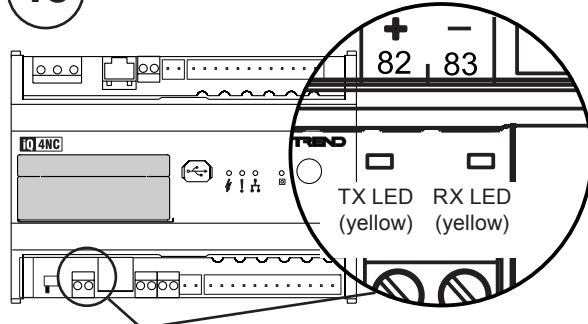


Normal operation indication		
RX		
TX		
Fault indications		
RX		Check previous device on network
TX		Check next device on network
TX/RX		>30s Set baud rate manually

Note: All LEDs illuminate for several seconds after switch on.

18

Check MS/TP Network (If IQ4NC using MS/TP network)



Normal operation indication		
RX		
TX		
Fault indications		
RX		Check MS/TP connection and baud rate.
TX		Check MS/TP connection and baud rate.

2 INSTALLATION - CONFIGURING (continued)

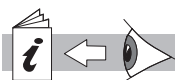
19

Set up Ethernet Access Across Routers (if required)

If the LAN is to be built across a router(s) details of devices (on each subnet) must be specified to enable cross-router communications.

Use IP Tool – see step 13 – to specify IP settings for up to 20 devices in the Remote Trend Devices list:

Parameter	Value
IP Address	<i>If using dynamic (DHCP) addressing:</i> Enter the host name of the remote device. <i>If using static (fixed) addressing:</i> Enter the IP Address of the remote device, in the format: xxx.xxx.xxx.xxx
Subnet Mask	The subnet mask for the remote device, in the format: xxx.xxx.xxx.xxx



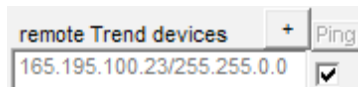
IP Tool Manual (TE200638)

It is recommended that at least two devices from each subnet are specified. For increased reliability details of additional 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 EINC type devices on the network.

Hint: Ticking the check box next to the Remote Trend Devices list retains the list in IP Tool, allowing it to be easily copied to other devices:



20

Set up Trend Addressing

Lan of IQ4s on current loop:

- Run SET, right click the Lan of IQ4s in the **System View** select **Address IQ4 Device** to run the IQTool Addresser Applet, and click to run the Discovery Wizard.
- Select either 'Automatic Discovery' (recommended) or 'Manual Discovery'. If 'Automatic Discovery' was selected you should also select Duplicate Address Resolution.

Automatic Discovery: The tool will discover the devices, and attempt to resolve duplicate addresses.

Manual Discovery: Scan the bar code, or press the Service Button for each controller.



WARNING For /230 options hazardous voltages exist when the unit is powered. Take suitable precautions.

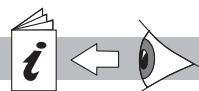
- If the Lan is not as expected it could be because of installation related reasons, e.g. wiring faults, power failure etc. Check the devices are operating correctly and repeat discovery. If there are duplicate addresses add the devices to the grid manually, using network address and serial number. If necessary use SET's System View to set the Lan number, and IQTool to set the address.

Single IQ4 or Lan of IQ4s on Ethernet:

- Use IP Tool – see step 13 – to set the address (ensuring it is unique on the Lan) and Lan number.

Lan of IQ4 and pre IQ4 controllers on current loop:

- Run SET, right click the Lan of IQ4s in the **System View** and select **Address IQ4 Device** to run the IQTool Addresser Applet.
- Add the IQ4 to the grid manually by clicking specifying the serial number, and address, and clicking .
- Use SET's System View to set the Lan number.



IP Tool Manual (TE200638)

IQTool Addresser Applet Manual (TE201299)

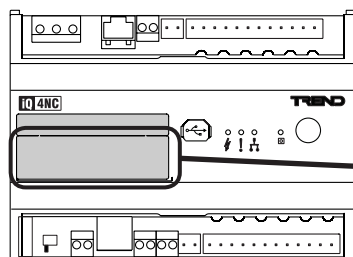
IQ4s are given an address and Lan number in the factory. The address is set in the range 11 to 119 on a rolling basis with the Lan number set to 20. Therefore it may be necessary to set up the address/Lan number as required.

Parameter	Range	Description
Address	1, 4 to 9, 11 to 119	Must be unique on Lan
Lan number	1, 4 to 9, 11 to 119	Must be the same as all devices it is to form a Lan with.

Note: Changing the Lan number and address will cause the IQ4 to reset.

21

Write Details on Label



iq 4	Q411B_V53440388	O/S
MAC Addr	00:10:70:0D:1E:92	LAN
Part No:	IQ411-1010U5000	IP Addr

O/S
Lan
Fixed IP Address
or Hostname (if DHCP)

2 INSTALLATION - CONFIGURING (continued)

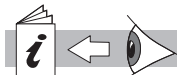
22

Set up Baud Rate (current loop network of IQ4s only)

It is necessary for one IQ4 to be set to a specific baud rate to ensure the other IQ4s select the required baud rate.

Use SET's IQTool Monitor Applet to disable autobaud and specify the baud rate.

Module	Parameter	Range
IQ Lan network	Autobaud	0 or 1. 0=Disabled
	Baud Rate	1k2, 4k8, 9k6, 19k2, 38k4



IQTool Monitor Applet Manual (TE201298)
SET Manual (TE200147)
IQ4 Configuration Manual (TE201263)

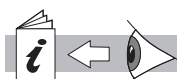
23

Set up Additional Trend Addressing (if required)

If the controller is to provide connection to the network for supervisors and tools it is necessary to setup the Supervisor Port or USB Engineering Port as required.

- Use SET's IQTool Monitor Applet to set the Supervisor Port or USB Engineering Port as required.

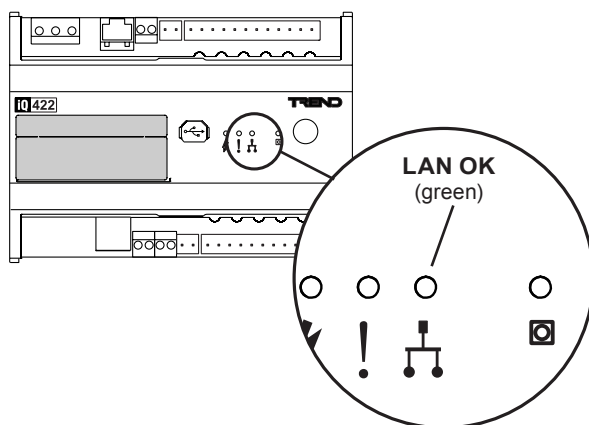
Parameter	Range
Supervisor port	0, 4 to 9, 11 to 119 Default=0 local access only
USB Engineering port	0, 4 to 9, 11 to 119 Default=0 temporarily takes address 125



IQTool Monitor Applet Manual (TE201298)
SET Manual (TE200147)
IQ4 Configuration Manual (TE201263)

24

Check LAN OK LED (not IQ4NC)



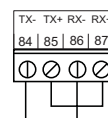
Normal operation indication

	Lan built OK
	Attempting to build Lan

Fault indication

every 15s	Longer than 2 minutes indicates Lan/internetwork cannot be built.
-----------	---

- Check baud settings of all devices on Current Loop – see step 6, and check all device connections.
- If still flashing, fit loop back.



If OFF, device is faulty. If ON, reconnect network and switch off all other devices on the network.

- If still OFF, check network cabling for short circuits with a multimeter (NOT Megger).
- If ON switch on other devices until faulty device found (i.e. OK LED goes OFF), inspect that device to determine and correct the fault.

Note: It is normal behaviour for Lan OK LED to extinguish for up to 1 min after detecting baud rate, then illuminate.

Fault indications (Ethernet Lan)

LAN OK	Unable to communicate on Lan. Only applies if current loop is disabled or is not fitted.
--------	--

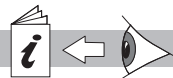
2 INSTALLATION - CONFIGURING (continued)

25

Download Strategy

Configure the strategy using SET, and test using SET's simulation mode.

Use SET to download the strategy and backdrop file (if required).



SET Manual (TE200147)
IQ4 Configuration Manual (TE201263)

Note: An Ethernet connection is required to download both strategy and backdrop files. Other connection types only allow download of strategy files.

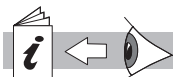
Note: strategy download is not recommended over current loop with baud rate <9k6.

Note: SET will set up the controller's date and time to that of the PC during download. However, they may be set up from a controller configured as timemaster.

26

Check IQ422 or IQ4NC on BACnet (If /BAC or IQ4NC and BACnet protocol communications required)

Use SET to check that IQ4's BACnet functionality is operating by checking it appears correctly in the System View on its BACnet network.



SET Manual (TE200147)

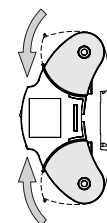
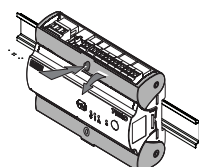
27

Test Inputs (Not IQ4NC/.../00)

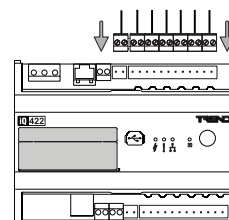
Switch off



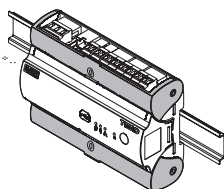
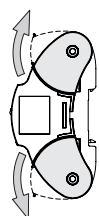
Open covers



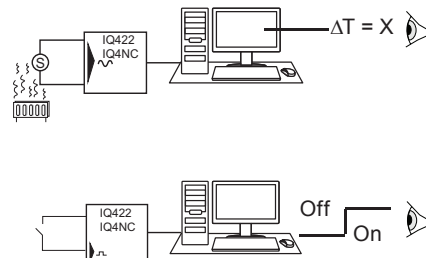
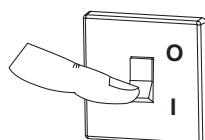
Re-connect inputs



Close covers



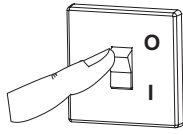
Switch on



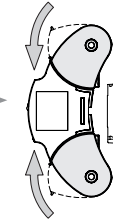
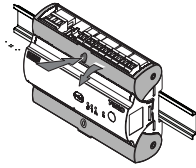
2 INSTALLATION - CONFIGURING (continued)

28 Test Outputs (Not IQ4NC/.../00)

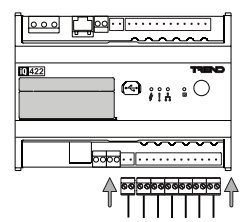
Switch off



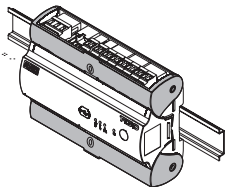
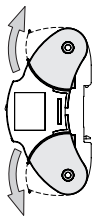
Open covers



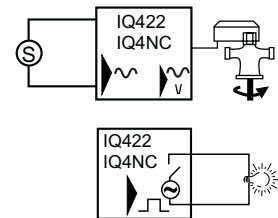
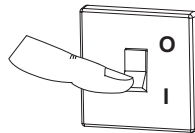
Re-connect outputs



Close covers



Switch on



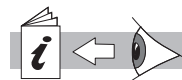
29 Connect Supervisors/Tools/Display Panels

Connect PCs (e.g. for supervisors/tools) and displays as described in 'Connect to IQ4' on page 10.

Connection of supervisors, tools, display panels etc can be made directly to controller via the RS232 Local supervisor Port, USB Local Engineering Port, or Ethernet port. Connection can also be made over the Trend network over Ethernet or the current loop.

30 Backup Strategy

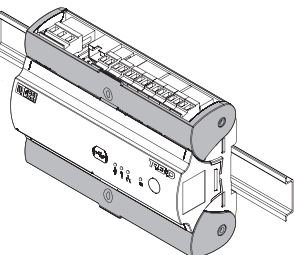
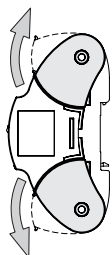
Use SET to upload the strategy and compare it with the strategy held by SET.



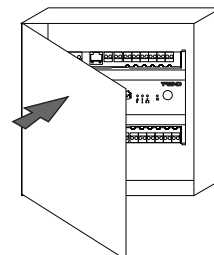
SET Manual (TE200147)

Note: An Ethernet connection is required to upload strategy and backdrop files. Other connection types only allow upload of strategy files.

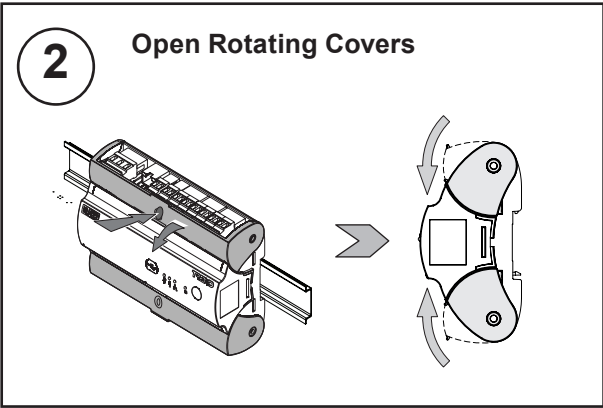
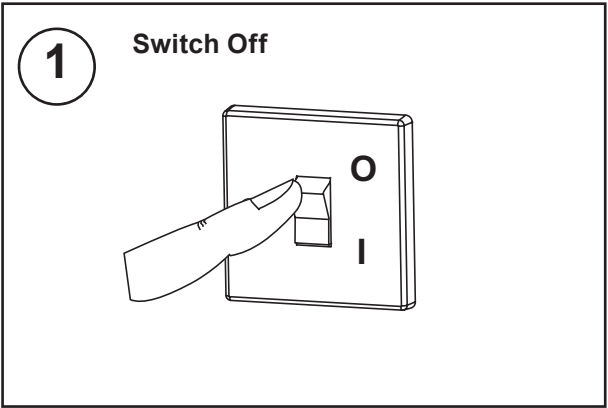
31 Close Rotating Covers



32 Close Panel



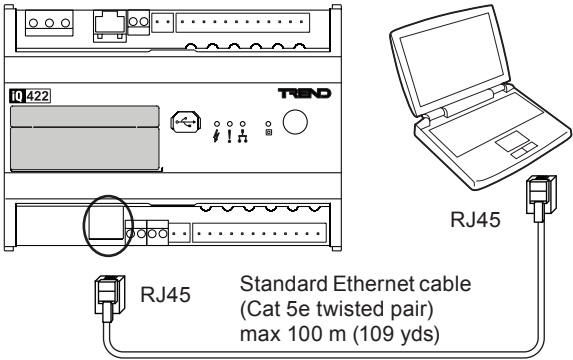
3 CONNECT TO IQ4



3 Make Connection

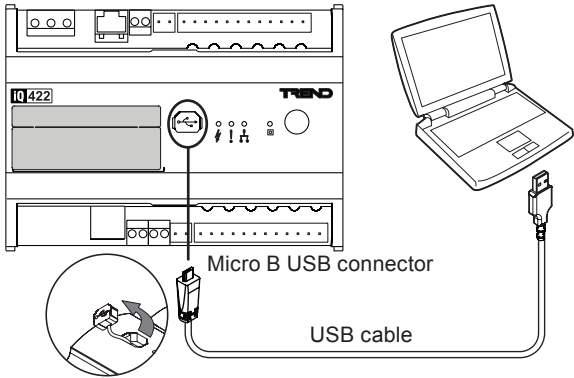
Connection to IQ4 can be made directly via the RS232 Local Supervisor Port, USB Local Engineering Port, or Ethernet Port. Connection can also be made over a network (Ethernet).

Connect Directly to Controller
PC via Ethernet Port



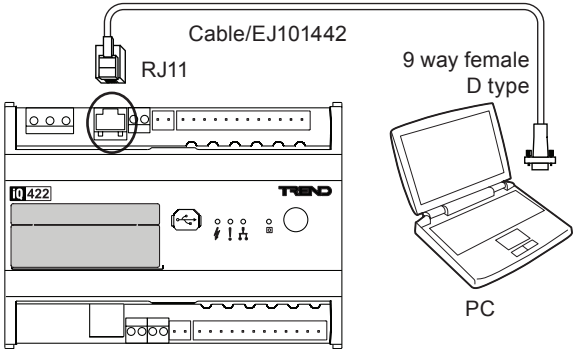
Connection use		Notes
IPTool	✓	
SET	✓	Requires vCNC
Web Browser	✓	
Supervisor	✓	Requires vCNC

PC via Local Engineering Port (USB)



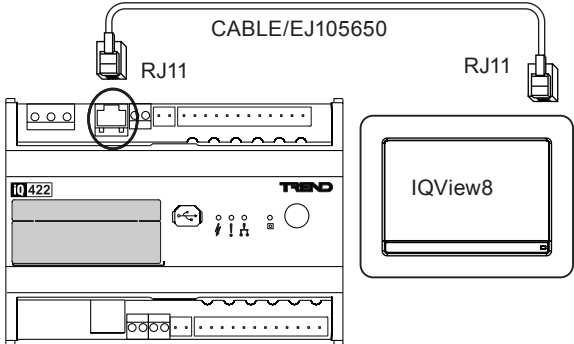
Connection use		Notes
IPTool	×	
SET	✓	
Web Browser	×	
Supervisor	×	

PC via Local Supervisor Port (RS232)



Connection use		Notes
IPTool	×	
SET	✓	
Web Browser	×	
Supervisor	✓	

IQView8 via Local Supervisor Port (RS232)
IQView8 requires its own power supply.



Note: If local supervisor port address is '0' (default) communication is limited to the IQ4. If non-zero, communication is possible over the entire network.

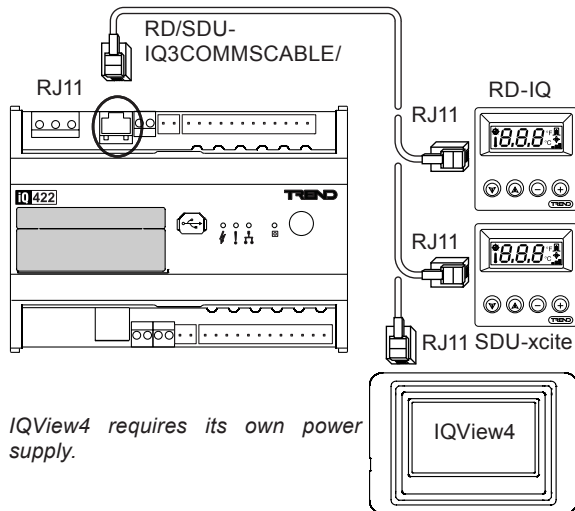
3 CONNECT TO IQ4 (continued)

3

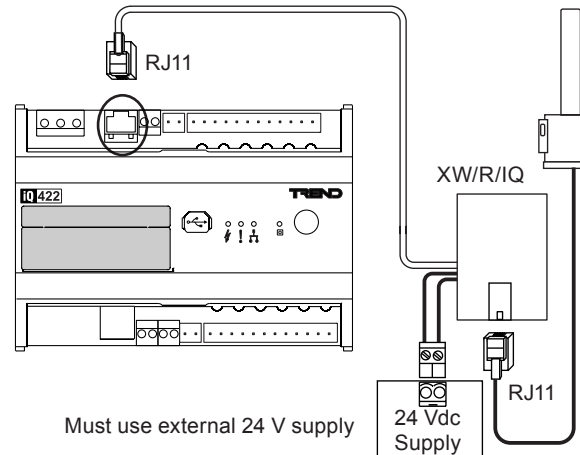
Make Connection (continued)

Connect Directly to Controller

RD-IQ, SDU-xcite, IQView4 via Local Supervisor Port (RS232)



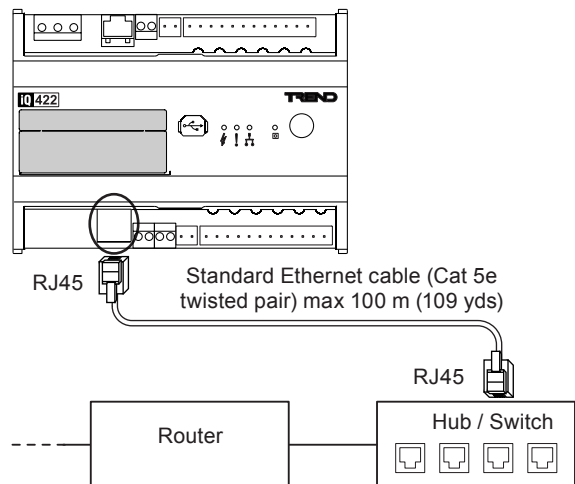
XW/R/IQ wireless sensor receiver via Local Supervisor Port (RS232)



Note: Set local supervisor port address to '0' (default) as communication is limited to the IQ4.

Connect via Ethernet Network

- Ensure the IQ4 is connected to the Ethernet network.



Connection use		Notes
IPTool	✓	
SET	✓	Requires vCNC
Web Browser	✓	
Supervisor	✓	Requires vCNC

- Connect the other device (e.g. PC) to same Ethernet network and ensure an IP connection is available between it and the IQ4.
- To make a connection with SET, a supervisor or display ensure 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 IQ4.

To make a connection with a web browser run the web browser on the device and access the IQ4's IP address or host name.

4 RESET TO DEFAULTS

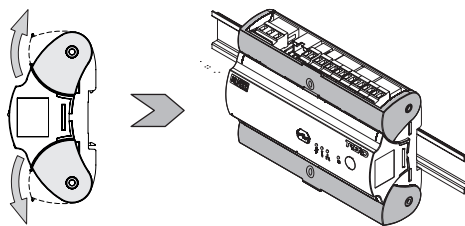
1

Open Panel

Switch Off, Isolate I/O, Open Panel, Open Rotating Covers, and Disconnect I/O as per steps (1) to (5) of the 'Installation - Configuring' section.

2

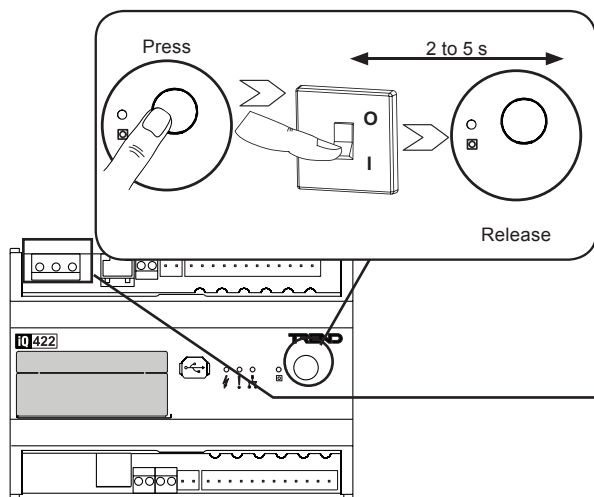
Close Rotating Covers



3

Reset Controller

Press and hold down the service button, the service button LED will flash. While continuing to hold down the button, switch on the controller. Ensure the button remains pressed for 2 to 5 s after power is switched on. Do not switch off the controller for at least 1 minute.



The strategy, user modules (passwords, PINs etc), alarm logs, and plots are cleared down and the following parameters set to defaults:

Lan number,
outstation address
IP addressing mode
IP address,
subnet mask
UDP port
identifier
Router 1
remote Trend devices,
Virtual vCNC).

Backdrop files are unchanged and time and date left at their current settings.



WARNING FOR /230 versions: Hazardous voltages exist in this area when the unit is powered. This operation should only be performed after taking suitable precautions

4

Re-configure Controller

Re-configure controller as described in these instructions.

5 DISPOSAL



WEEE Directive:

At the end of their useful life the packaging and product should be disposed of by a suitable recycling centre.
Do not dispose of with normal household waste.
Do not burn.

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

© 2014 Honeywell Technologies Sàrl, ECC Division. All rights reserved. Manufactured for and on behalf of the Environmental and Combustion Controls Division of Honeywell Technologies Sàrl, Z.A. La Pièce, 16, 1180 Rolle, Switzerland by its Authorized Representative, Trend Control Systems Limited.

Trend Control Systems Limited reserves the right to revise this publication from time to time and make changes to the content hereof without obligation to notify any person of such revisions or changes.

Trend Control Systems Limited

Albery House, Springfield Road, Horsham, West Sussex, RH12 2PQ, UK. Tel:+44 (0)1403 211888 Fax:+44 (0)1403 241608 www.trendcontrols.com

Trend Control Systems USA

6670 185th Avenue NE, Redmond, Washington 98052, USA. Tel:(425) 897-3900 Fax:(425) 869-8445 www.trend-americas.com