

IQView4 Touch Screen Display



Description

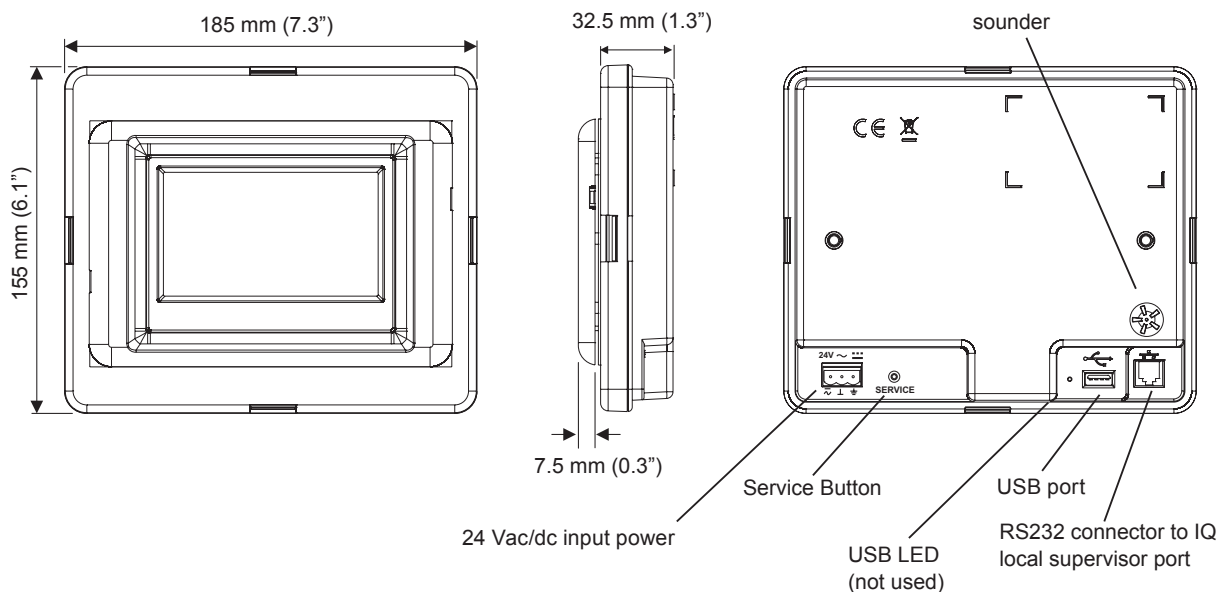
The IQView4 is a touch screen display which provides an interface to an IQ controller by way of its local supervisor port. It allows access to modules, graphs, alarms, and timezones. It has a 4.3" (109.2 mm) LCD touch screen colour display, and is housed with the electronics in a single unit suitable for rear panel mount applications.

As well as a 'Home' screen, the unit can be programmed with a number of favourite screens

Features

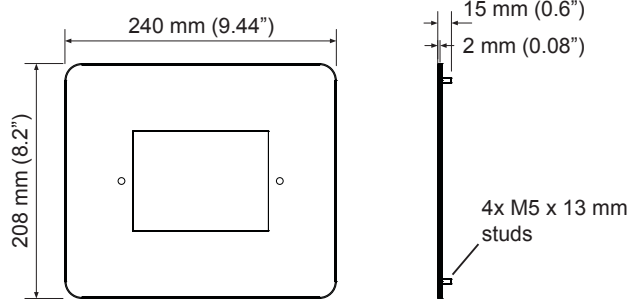
- RS232 connection options
- Rear panel mount with front cover
- 24 Vac/dc input power supply
- Colour touch screen display
- Connects directly to IQ controller local supervisor port
- Compatible with IQ1s (v5 and above), IQ2s, IQ3s
- Key click sounder
- View of inputs, outputs, directories, alarms, plots
- Adjustment of knobs, switches, time zones, time

Physical

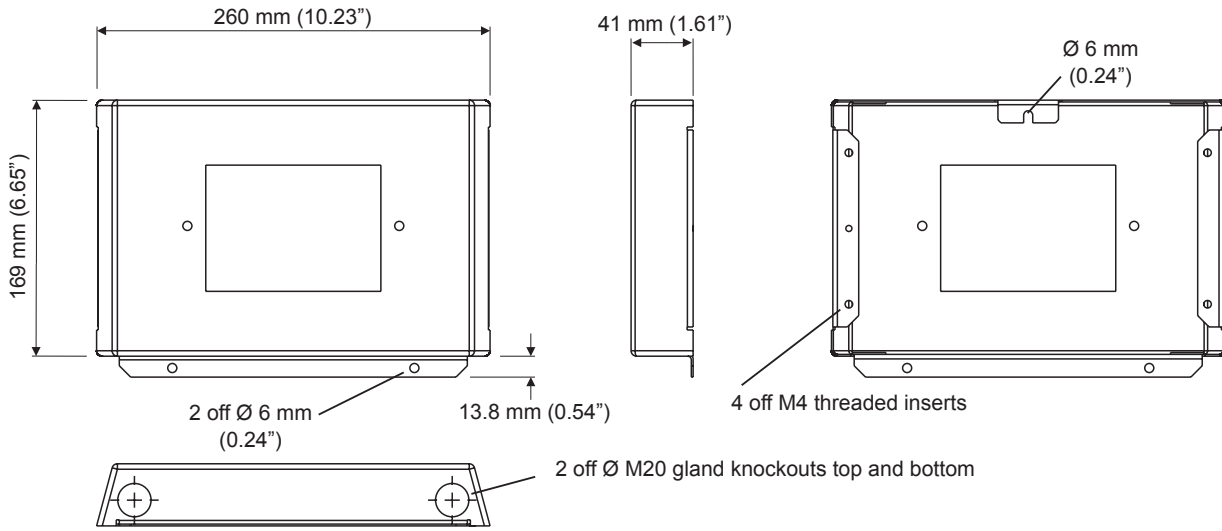


Physical (continued)

IQVIEW4/FPK ADAPTOR PLATE



IQVIEW4 SM BOX (Surface Mount Box)



FUNCTIONALITY

The functionality of the IQView4 touch screen display can be split into system, hardware, and software sections:

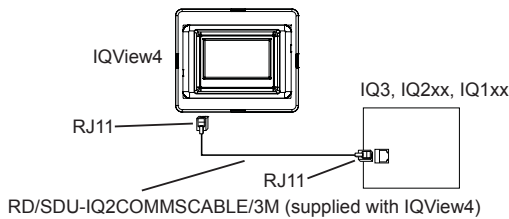
SYSTEM

The IQView4 version has an RS232 port for connection to an IQ controller's local supervisor port. The IQView4 is supplied with a 3 m (9' 10") RJ11 to RJ11 cable.

RS232 Connection

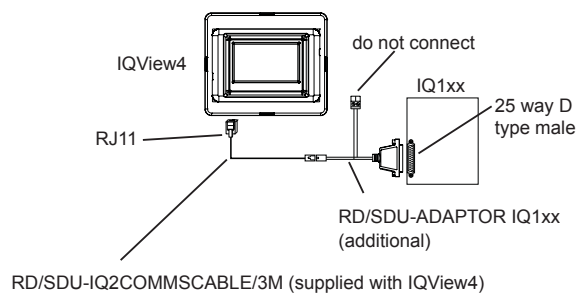
The RS232 port on the IQView4 enables direct connection to the local supervisor port of IQ1xx, IQ2xx series, or IQ3 controllers.

The RJ11 to RJ11, 3 m cable , RD/SDU-IQ2COMMSCABLE/3M, EJ105046, supplied with the IQView4 can be used to connect to IQ3, IQ2xx, and some IQ1xx controllers. The 10 m cable, RD/SDU-IQ2COMMSCABLE/10M, EJ105047, (not UL listed, not supplied with IQView4), may be used instead.

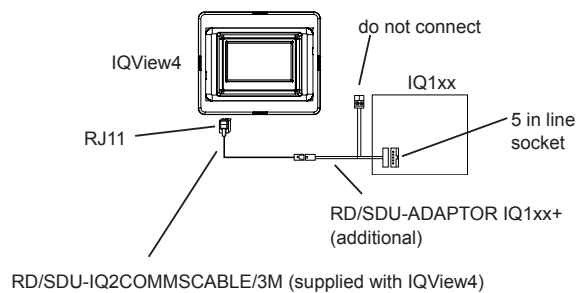


The signal connection to IQ1xx controllers with a 25 way socket requires an additional adaptor cable (RD/SDU-ADAPTORIQ1xx).

Note that for IQ1xx controllers with a separate CNC board, the Address module Local address parameter, R(L), must be set up correctly so that the IQView4 can identify the controller.

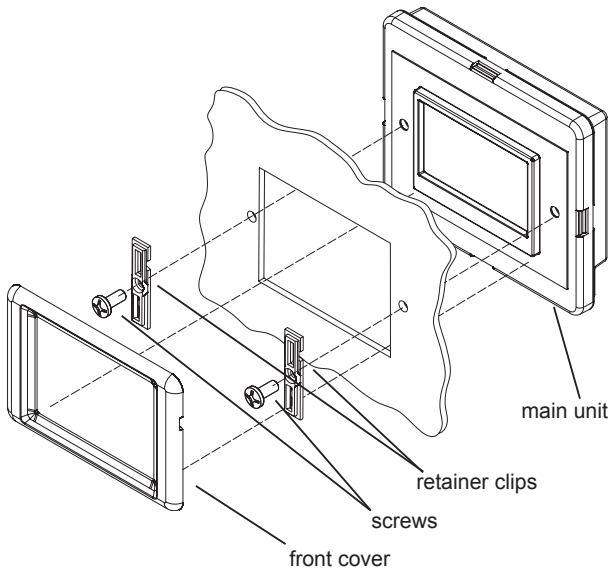


Some IQ1xx's have a 5 way in-line local supervisor port connector which can be connected using an additional adaptor cable (RD/SDU-ADAPTORIQ1xx+)



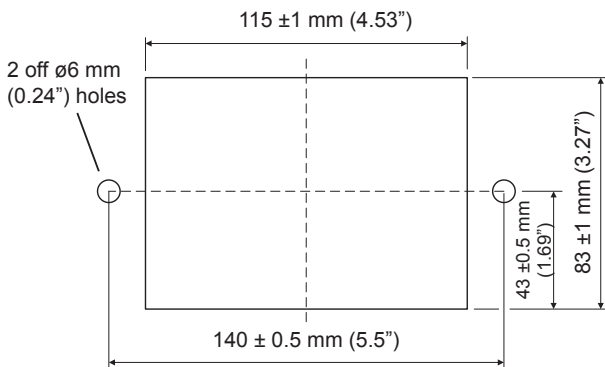
HARDWARE

Box: The IQView4 is designed for rear panel mounting.



The display panel assembly consists of the main unit, 2 retainer clips and screws, and a front cover.

The display panel can be fixed to a panel of 2 to 5 mm (0.08" to 0.2") in depth. The panel must be cut according to the template supplied.



The panel should be pieced with a square cutout for the display, and drilled with two 6 mm (0.24") holes for the screws.

The main unit is offered up to the square cutout with the display frame fitting into the hole, and the screws are tightened through the retainer clips into the main unit to hold it in place. The front cover then clips over the retainer clips.

Adaptor Plate: An adaptor plate (IQVIEW4/FPK ADAPTOR PLATE) is required for replacing an FPK (2 line display, front panel kit) with an IQView4. It can also be used for replacing the old GDP, the NDP, or the new GDP+. It can be used to provide a low profile fitting on panels up to 5 mm in depth. The replacement of panel mounted SDU-IQs or SDU-xcites does not require an adaptor plate.

Surface Mount Box: The IQVIEW4 SM BOX can be used to mount the IQView4 on a wall or on a panel (without the need to cut square holes). It can also be used when replacing any of the panels (GDP, FPK, NDP, SDU). For wall mounting it uses a 3 point fixing, with cable access either from the rear or from M20 cable entry knockouts, two in the top face and two in the bottom face. For panel mounting it uses a 4 point fixing by screwing through the panel from the rear with cable entry normally from the rear; the 4 M4 screws are provided.

Power: The unit requires a 24 Vac, 50/60 Hz, 8 VA supply, or a 24 Vdc, 3 W supply. This power level cannot be guaranteed to be provided from an IQ controller's auxiliary supply output; a separate supply is generally required.

Note that the 'neutral' terminal (⊥) of the 24 Vac input power supply is internally connected to the IQView4's earth (ground) terminal.

A 230 V/24 Vac, 24 VA, transformer is available (ACC/24VAC). This is a sealed unit with two mounting lugs; it has an isolated 24 Vac output and an additional earth (ground) lead connected through from its input power supply earth (ground) to the 24 Vac output earth (ground) for earthing (grounding) the IQView4. A general purpose 24 Vac transformer may be used to supply the IQView4, but if one side of its output is earthed (grounded), this side must be connected to the IQView4's 'neutral' (⊥) terminal.

The PSR/230/24-1.3 DIN rail mounting DC power supply may be used to supply the IQView4.

The IQView4 must be earthed (through its input power supply earth (ground) terminal).

Fusing: The input supply is protected by a 3.15 A fast-blow fuse; this protects the IQView4 board from drawing excessive current from the supply. If it blows the unit should be returned to the supplier for repair.

Indicator: The following indicator can be seen when viewing the rear of the unit:

USB Power: (green) Not used. For future development

Sounder: The sounder can produce a key click when the touch screen is tapped, if the key click is enabled. By default the key click is disabled. It can be enabled using the application software.

Battery: The IQView4 does not have a battery or supercap. User configuration data is stored in non-volatile memory (Flash). After power is cycled, the IQView4 will obtain the time and date from the controller. The IQView4's database will be restored after power failure; this includes the presentation modules discovered in the controller (i.e. sensors, drivers etc.) and any customer settings including Users, language etc.

Connectors: Two part connectors are used throughout to facilitate installation.

The RS232 port uses an RJ11 socket. The input power supply uses two part screw terminals. The USB port uses a standard USB socket.

Display: The IQView4 has a colour (64k colours) display. It is LCD 480 x 272 pixels (WQVGA) TFT with touch screen. The backlight is LED with autodim. The autodim function enables the screen brightness to be dropped to ½ brightness after a backlight delay time defined in the application (auto dim off, or 1, 2, 3, 4 or 5 minutes).

Note that the screen should only be tapped using a finger, no sharp objects (e.g. screwdriver) or pointers should be used. Failure to comply may damage the unit.

Note that the screen should be cleaned regularly to remove dust and grease by wiping gently with a soft cloth such as that used for cleaning the lenses of spectacles. The Clean Screen feature switches off the touch screen for 30 s so that it can be cleaned.

USB port: The IQView4 has a USB port which can be used to plug in a memory stick (maximum size: 2 Gbyte, fully formatted FAT/FAT32). This can be used for several purposes:

Backup and Restore: to backup and restore the user configuration data. The data can be written to the card, and the card may be removed and stored in a safe location as a backup, or to transport the configuration from one IQView4 to another.

Software Upgrade: The software can be upgraded by way of the USB port. The application software enables the user to select the upgrade function.

Service Button: Pressing the service button during power up enables access to screen calibration, restore to factory defaults, and software upgrade; these last two features are normally accessed from the regular IQView4 screens.

SOFTWARE

The IQView4 software is field upgradeable.

Power Up:

When an IQView4 powers up for the first time it prompts the user to select the language. The unit will pause allowing the user to plug in a USB stick containing configuration settings stored from another IQView4. The unit then prompts the user for a PIN which should match a PIN in the controller with level 99, if the connected IQ has a PIN set up. If the connected IQ is not PIN protected then the IQView4 PIN can be left at 0000. If the unit is connected to a running IQ it will obtain date and time from the IQ (otherwise it can be set up manually later).

The unit will then learn all the presentation modules (sensors, drivers, knobs, switches, digital inputs, time zones, logs, and display and directory modules) in the controller and store them to its database in non-volatile memory. This learning process can be instigated manually at any time (see 'Rediscover' below).

After successful entry the IQView4 will request the user to touch the screen upon which it will present the 'Home' display.



The main part of the display contains icons to select the main features.

Scrolling down gives the about button:

The bottom of the display has ancillary buttons and indicators. The 'Favourites' button is present on most displays:

- Favourites:** This takes the user to the Favourites page
- Login/Logout:** This enables the user to log in or log out. It also indicates whether a user is logged in or out; if the button shows 'Logout' then a user is currently logged in (and vice versa).

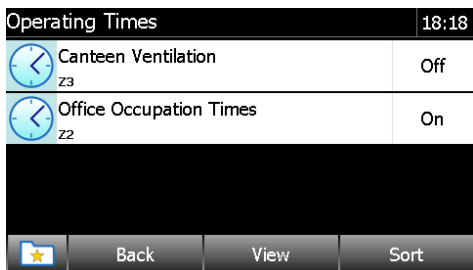
Admin: This part of the display shows status messages. The example above indicates that the Admin user is logged in.

USB Status: This indicates whether a USB memory stick is currently plugged in to the unit.

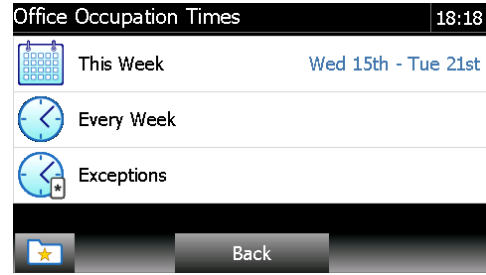


Operating Times

Selecting Operating Times will present the user with a list of the time zones.



Selecting a time zone will present the user with the following screen.

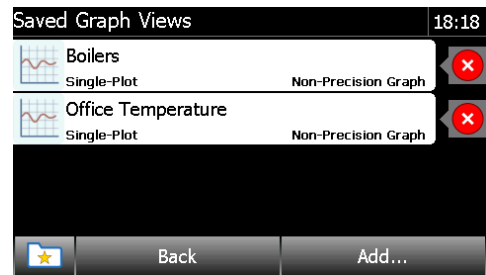


This enables the user to view and change This Week (the week ahead), Every Week (the normal week, the standard operating pattern), and Exceptions (special operating times set to operate over a specified date range - IQ3 only).

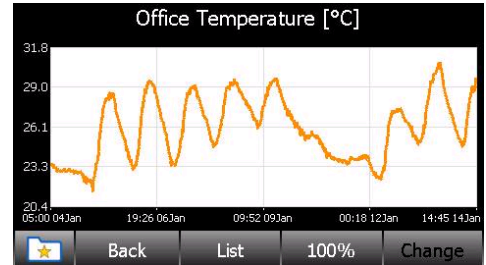


Graphs

Selecting the Graphs icon presents the user with a list of Saved Graphs.



Add...: This enables the definition of a graph from a plot module in the controller to be added to the saved graphs. Selecting a saved graph shows the graph view.



Dragging the finger over an area of graph will zoom to that area. The left or right hand arrows enable the individual traces to be selected.

List: This enables a list of the graph values to be seen. This list view also enables access to the graph's legend.

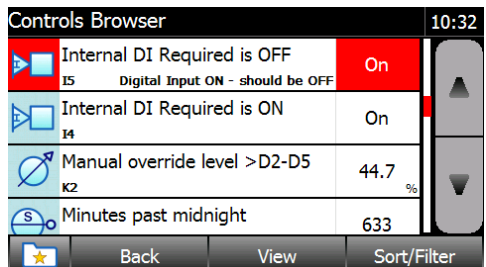
100%: This will return to normal size graph after a zoom.

Change: This enables the graph view to be edited (label, trace colour, and left or right hand axis).



Controls Browser

Selecting the Controls Browser will present the user with a display of presentation modules (i.e. sensors, digital inputs, critical alarms (not IQ3), knobs, switches, time zones, and drivers).

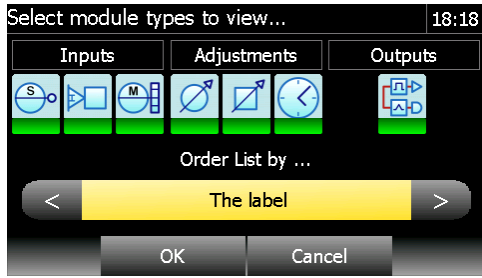


The large arrows on the right of the screen allow the user to scroll up and down the list.

SOFTWARE (continued)

The colour of a module icon in the Controls Browser will change to red if the module goes into alarm.

Sort/Filter: This allows the list to be filtered and/or sorted e.g. by label or module type using the screen below.



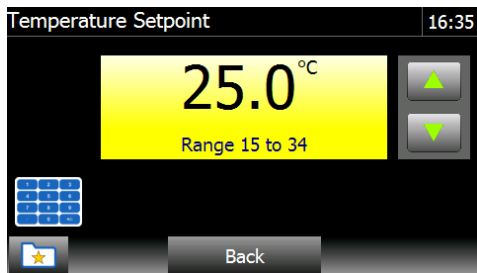
Module types can be selected or de-selected by clicking on the icons; a selected module type will have an icon with a green bar at the bottom.

The list can be sorted by selecting right or left arrow keys on the Order list bar.


Once the user has made the selections, pressing OK will display the Controls Browser screen again with only the selected module types, sorted as selected..


View: This allows the user to zoom in /out.

A module can be selected by clicking on its icon in the Controls Browser, and this will display the module details page which can enable adjustments to be made (i.e. for knobs and switches) and graphs to be selected.



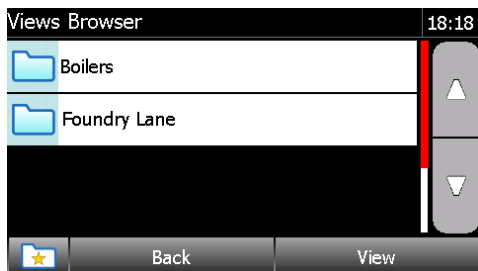
The above display is a knob module details page. It enables the knob value to be adjusted either by selecting the up or down arrow keys which allow increments/decrements of 0.1. As the value is changed on the screen, the value in the in the controller is updated.

Selecting the bottom left keypad icon  enables a numeric keypad to be used to set the knob value; pressing the keypad icon again will toggle back to the original display.

: Selects the view of the graph if the module is being logged in the controller. The definition of this graph can then be set as a Saved Graph.

Views Browser

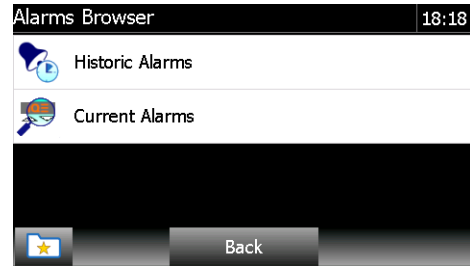
The Views Browser gives access to the display and directory modules set up in the controller. Selecting the Views Browser button produces a list of the directory modules.



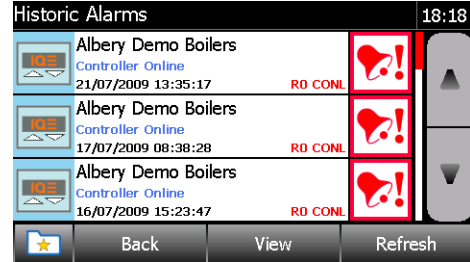
Selecting a directory module will display the modules pre-configured in the controller's display modules.

Alarms Browser

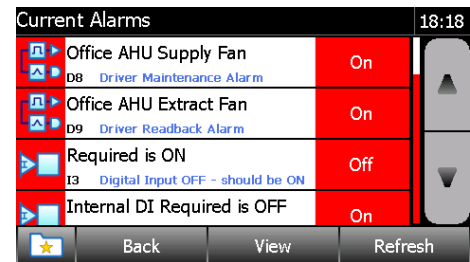
The Alarms Browser gives access to the controller's historic or current alarms.



The Historic Alarms come from the controller's alarm history buffer (alarm log).

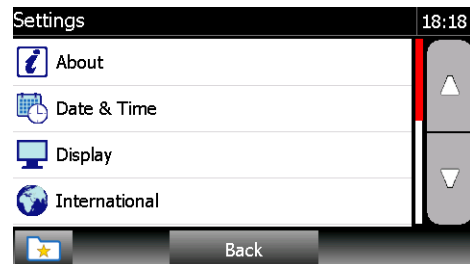


The Current Alarms show all the current item alarms (module alarms which are enabled) and critical alarms (pre-IQ3 controllers only).



Settings

Selecting Settings causes the following page to be displayed.



About: This icon enables information about the IQView4 to be viewed (i.e. Version, Build, Date, and Bootloader build)

Date and Time: This icon enables the date, time, or daylight saving and Timemaster settings to be viewed, or changed and the updated values sent to the controller.

Display: This icon enables the Backlight Delay, Screen Clean, and Screen Saver features to be accessed.

Backlight delay: The time before the backlight illumination can be set between 1 to 5 mins.; this cannot be set to zero.

Clean Screen: This function disables the touch screen for 30 seconds so that the screen can be wiped clean without the touch screen operating.

Note that the screen should be cleaned regularly to remove dust and grease by wiping gently with a soft cloth such as that used for spectacles.

Start Screen Saver After: The idle time before screen saver starts can be set between 1 to 5 mins.

Screen Saver: Selecting this option will cause the IQView4 to access the USB port looking for screen saver files. If there is more than one file they may be selected as a slide show. Screen saver files are .PNG files.

SOFTWARE (continued)

International: This icon enables the language used to be viewed and modified. The IQView4 supports the following languages: Chinese, Danish, Dutch, English (UK), English (US), Finnish, French, German, Italian, Norwegian, Polish, Portuguese, Spanish, Swedish, and Russian, .

Language: The language of the text on the screen.

Communications:

Host Device Details: This gives a display of the connected controller details (Identification label, Type (e.g. IQ3xcite16), Issue/Date, Lan and Outstation address).

Re-learn Controller: This re-instigates the process of learning all the controller's presentation modules; it can be used when the controller's strategy has been changed.

Security: This icon enables Password, Idle Timeout, and PIN number to be selected.

Password: This enables the password to be changed

Idle Timeout: This is the idle time before the User password times out and the screen saver appears. It can be set to off, 1, 2, 3, 4, or 5 minutes.

IQ PIN Number: The PIN number used to access the IQ controller to which the IQView4 is connected. It is normally set up when the IQView4 is first started. It should match a PIN number set up in the controller with an authority level of 99.

Sounds: This icon gives access to the Key Click setting (on or off; default is off).

System:

Upgrade Software: This enables the IQView4 software version to be upgraded (or downgraded) from the USB stick.

Restore from USB Drive: This enables the information stored on a USB drive to be loaded onto the IQView4. After loading the data the IQView4 will perform a 'soft' restart and start running with the new configuration.

Backup to USB Drive: This enables the IQView4's configuration settings (Controller PIN, users etc.) to be stored on a memory stick so that it can be restored (or copied to another IQView4) as described below.

Restart IQView4: This will cause the IQView4 to perform a 'soft' restart.

Restore to factory defaults: This will cause the unit to reset all the configured parameters back to factory defaults. It will restart as though starting for the first time as described above.

Diagnostics: This enables the diagnostics feature to be switched on or off.

**Users**

The IQView4 can operate without password protection or with password protection (see Secure Mode below). Once secure mode is set up, the user has to log on. There are two users set up by default, the Admin user and the Guest user. Initially the user can log on by selecting Admin or Guest user.


Each User can have a name, password, PIN level (authority level), and language. In addition the feature filter enables the selection of which features the user can access, and the settings filter enables the selection of which settings the user can change

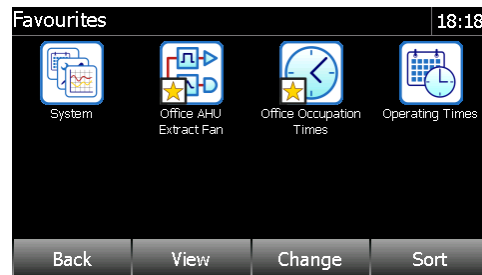
Once the users are set up with passwords, restarting the IQView4 will allow the user to select from the list of users and to enter the password for that user.

**About**


Selecting this icon will present information about the IQView4 (i.e. Version, Build, Date, Start time).

**Favourites**

Any page can be selected as a Favourite. The Favourites pages can be selected from most screens by pressing the star button .

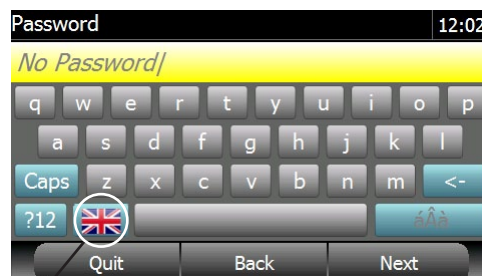


This will present a page showing icons of all the Favourites, enabling one of them to be selected.

A screen can be selected as a Favourite by pressing and holding the star button  for greater than 2 s when the required screen is displayed. The Favourites screen can be ordered, and each Favourite has an editable name and PIN level. Users can only see Favourites with a PIN level less than or equal to their own PIN level. In addition any Favourite can be designated as the Home screen.

Keyboard:

The keyboard is selected where text and numbers need to be entered (e.g. entering password).



Select language

The flag button enables the keyboard language to be changed; the flag can be clicked on repeatedly until the flag corresponding to the language required is shown.

COMPATIBILITY

Controllers: It is compatible with IQ1xx controllers version 5 and above and all IQ2xx, (not IQ22x/ADL) and IQ3 controllers. *Note that for IQ1xx controllers with a separate CNC board, the Address module Local address parameter, R(L), must be set up correctly so that the IQView4 can identify the controller.*

IQView4 only supports synchronised plots. It is unable to obtain graphs from triggered and periodic plots.

IQ1, IQ3 web pages, and FNC/FC controllers are not supported.

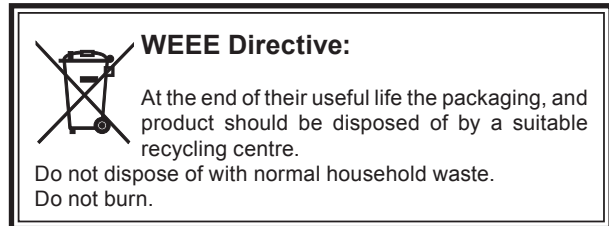
Networks: The IQView4 connects to a local controller through its supervisor (RS232) port; it has no network access.

DISPOSAL

COSHH (Control of Substances Hazardous to Health - UK Government Regulations 2002) ASSESSMENT FOR DISPOSAL OF DISPLAY. No parts affected.

RECYCLING 

All plastic and metal parts are recyclable. The printed circuit board may be sent to any PCB recovery contractor to recover some of the components for any metals such as gold and silver.



INSTALLATION

The IQView4 is designed for rear panel mounting. The panel needs to be pierced with a rectangular aperture and drilled with 2 holes, then the panel can be mounted using the two retaining clips and screws provided. A plastic front cover is clipped over the front to hide the screws.

All units are UL rated as 'UL916, listed open energy management equipment'.

The procedure involves:

- mount the unit (using template provided
- (if replacing FPK in panel use IQVIEW4/ADAPTOR PLATE)
- connect power (do not power up)
- connect to local IQ local supervisor port (RS232)
- read End User Licence Agreement
- power up
- configure the unit (if required)
- test the unit.

A full description of installing the unit is given in the IQView4 Installation Instructions, TG201038. A mounting template, IQView4 Template, TG201037, is provided with the unit. The upgrading of firmware is described in the IQView4 Upgrade Information Sheet, TG201045. The installation of the IQView4/FPK ADAPTOR PLATE is described in its installation instructions TG201039, and mounting template, TG201040. The installation of the IQView4 SM BOX is described in its installation instructions TG201078, and mounting template, TG201079.

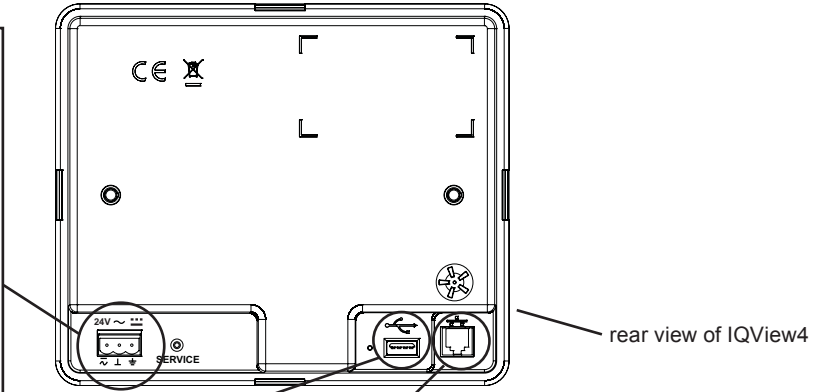
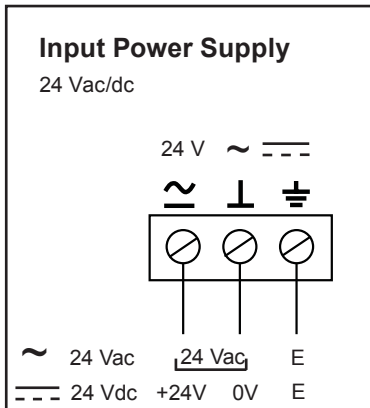
FPK and DP replacement: The IQView4 can be used to replace an FPK (2 line display, front panel kit); this requires the use of an adaptor plate(IQVIEW4/FPK ADAPTOR PLATE)

It will not physically replace a DP (2 line display panel) fitted in the cover of an IQ controller; it would have to be fitted alongside, with the DP left in place.

SDU replacement: The IQView4 can be used to replace a panel mounted SDU-IQ or SDU-xcite.

INSTALLATION (continued)

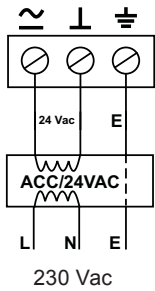
CONNECTIONS



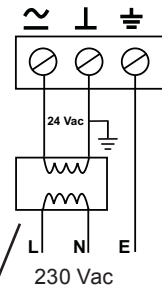
CAUTION:
Do not apply 230 V input power to this connector

Note that the required power cannot be guaranteed to be provided from an IQ controller's auxiliary supply output; a separate supply is generally required.

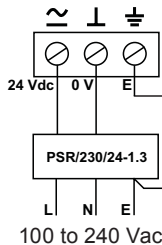
using 230V/24V ac transformer with isolated output (e.g. ACC/24VAC)



using 230V/24V ac transformer with one side earthed (grounded)



using 24 Vdc power supply (e.g. PSR/230/24-1.3)



Some transformers are earthed on one side of the secondary. If so ensure the earthed side is connected to the central terminal of the power connector. If the polarity of the connection is incorrect the unit will not power up. If this happens swap left and central connectors

RS232

RJ11 (FCC68)

For IQ3, IQ2xx, and some IQ1xx
 RD/SDU-IQ2COMMSCABLE/3M
 EJ105046 (supplied with IQView4)

IQ3, IQ2xx, IQ1xx

RS232

For IQ1xx with 25 way D type socket
 RD/SDU-IQ2COMMSCABLE/3M
 EJ105046 (supplied with IQView4)

Do not connect IQ1xx

RS232

RJ11 to 25 way D type male cable
 RD/SDU-ADAPTOR IQ1xx (additional)

For IQ1xx with 5 in line plug
 RD/SDU-IQ2COMMSCABLE/3M
 EJ105046 (supplied with IQView4)

Do not connect IQ1xx

24 V AUX

RS232

RJ11 to 5 in line female cable
 RD/SDU-ADAPTOR IQ1xx + (additional)

USB Port

USB Memory Stick

For backup or upgrade

ORDER CODES

IQVIEW4/24	:IQView4 including 3 m (9' 10") RJ11 to RJ11 RS232 cable.
IQVIEW4/FPK ADAPTOR PLATE	:Adaptor plate to facilitate mounting an IQView4 in place of FPK (2 line display panel, front panel kit).
IQVIEW4 SM BOX	:Surface Mount Box for mounting the IQView4 on wall or panel (without need to cut square holes); can also be used when IQView4 is replacing display panels. Complete with screws for panel mounting.
RD/SDU-IQ2COMMSCABLE/3M (EJ105046)	:RJ11 plug to RJ11 plug 3 m cable to connect to IQ3, IQ2xx, and some IQ1xx controllers' local supervisor ports (as supplied with IQView4).
RD/SDU-IQ2COMMSCABLE/10M (EJ105047)	:RJ11 plug to RJ11 plug 10 m to connect to IQ3, IQ2xx, and some IQ1xx controllers' local supervisor ports (not UUL listed)
RD/SDU-ADAPTOR IQ1xx	:RJ11 socket to 25 way D type male plus 2 way 24 V AUX adaptor cable to connect to some IQ1xx controllers' local supervisor ports, (use in conjunction with RD/SDU-IQ2COMMSCABLE/3M or /10M). (Not available in USA.)
RD/SDU-ADAPTOR IQ1xx+	:RJ11 socket to 5 in line socket plus 2 way 24 V AUX adapter cable to connect to some IQ1xx controllers' local supervisor ports, (use in conjunction with RD/SDU-IQ2COMMSCABLE/3M or /10M). (Not available in USA.)
ACC/24VAC	:230/24 Vac, 24 VA, transformer for IQView4, with surface mounting lugs, and through earth (ground) connection. (Not available in USA.)
PSR/230/24-1.3	:A DIN rail mounted 24 Vdc power supply for supplying IQView4. (Not available in USA.)

SPECIFICATION

Electrical

CPU	:Marvell PXA270
Input Power Supply	:24 Vac \pm 10%, 50/60 Hz; 24 Vdc \pm 10%
Power	:24 Vac, 8 VA max.; 24 Vdc, 3 W max.
Fusing	:The input supply is protected by a 3.15 A fast blow fuse.
Mains failure protection:	User configuration data is stored in non-volatile memory (Flash).
Display	:Colour (64k colours), LCD display 480 x 272 pixels (WQVGA) TFT with touch screen.
Backlight	:LED with autodim.
Sounder	:piezo electric.
RS232 port	
transmission distance	:RS232, EIA/TIA,232E, V28
baud rate	:15 m
Indicator	:9k6
USB LED	visible from rear of unit
Storage Media	:(green) Not used.
	:USB port for memory stick. It can be used for backing up and restoring user configuration data, and for loading a screen saver, and upgrading the software. USB stick maximum size 2 Gbyte, fully formatted FAT/FAT32.

Mechanical

Dimensions	:185 mm (7.3") x 155 mm (6.1") x 40 mm (1.57")
Weight	:1.16 kg, 2.55 lbs
Connectors	
RS232	:RJ11 (FCC68). Connect using RJ11 to RJ11 RD-SDU-IQ2COMMSCABLE/3M (EJ105046) 3 m cable , or alternative /10M 10 m cable, non UL, EJ105047). For some IQ1xx also use RJ11 to 25 way D male RD/SDU-ADAPTOR IQ1xx, or RJ11 to 5 in line male RD/SDU-ADAPTOR IQ1xx+.
Input Power Supply	:2 part connectors with screw terminals for 0.5 to 2.5 mm ² cross section area (20 to 14 AWG) cable
USB	:Connector for USB memory stick.

Environmental

EMC	
EN61326 -1: 2006	
Immunity	:(Table 2) For equipment used in industrial locations
Emissions	:EN55011 +A2: 2007 Class A EN61000-3-2: 2006 EN61000-3-3 +A2: 2005
Warning:	This is a class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.
Safety	
EU	:EN61010-1:2001
USA/Canada	:UL rated as 'UL916 listed open energy management equipment'.
Canada	:CSA22.2 No. 205-M1983 - Signal Equipment
Ambient limits	
storage	
temp	:-10 °C (14 °F) to +50 °C (122 °F)
humidity	:0 to 80 %RH non-condensing
operating	
temp	:0 °C (32 °F) to 45 °C (113 °F)
humidity	:0 to 80 %RH non-condensing
Protection	:IP50 if correctly mounted in panel
Version	This document covers:
Software	:v1.12
Boards	
baseboard	:AP106497 issue 2
processor	:AP106469 issue 3

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