



**PY-7000 Pyramid to System 7000 Interface
Installation Instructions**

Use this manual in conjunction with

- Manual 1 - Operating Instructions
- Manual 2 - Network Wiring
- The instructions provided with your System 7000

IMPORTANT

The first few pages of these instructions contain important information on safety and product conformity. Please read, and ensure that you understand this information before continuing.

	CONTENTS
Product Safety	4
Product Safety and Electromagnetic Compatibility (EMC)	4
Manufacturer's Declaration of Conformance	5
Terminology	5
Unpacking	5
Functional Description	6
Physical Description	6
Installation	7
Mounting	7
System 7000 Network Connections	8
Pyramid Network Connections	9
Typical Network Connections	9
Connecting the power	10
Connecting the 12vDC power supply	11
Switching on and configuration	11
Operation using the Pyramid keyboard	11
Getting the Neuron ID into the installation tool	12
Updating your PY-7000 Software	13
Setting Presets	13
'NO Rx' Message for camera which has a receiver	13
Specification	14
Appendix A - Network expander	15
Appendix B - Direct Access Codes	16
Appendix C - PY-7000 internal links	17

PRODUCT SAFETY

Please follow these instructions as you install your Pyramid module and retain them for future use. If you have any problems, contact your Baxall agent.

⚠ WARNING

Installation is only to be carried out by competent, qualified and experienced personnel.

Wire in accordance with your national wiring regulations. Failure to do so can result in injury or death by electric shock.

Use a class 2 isolated power supply for the 12v DC

This product must not be used for intrinsically safe or medical applications.

⚠ CAUTION

Do not exceed the voltage and temperature limits given in the specification.

PRODUCT SAFETY AND ELECTROMAGNETIC COMPATIBILITY (EMC)

⚠ CAUTION

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.

This product is intended for use in general purpose CCTV applications in a residential, commercial or light industrial EMC environment, refer to Baxall Limited before using the product in an industrial EMC environment.

The product must be installed in accordance with good installation practice to enable the product to function as intended and to prevent problems. Refer to your agent for installation guidance.

Contact your agent to obtain a specification defining the acceptable levels of product degradation with regard to EMC immunity.

MANUFACTURER'S DECLARATION OF CONFORMANCE

The manufacturer declares that the product supplied with this manual is compliant with the essential protection requirements of the EMC directive 89/336 and the Low Voltage Directive LVD 73/23 EEC. Conforming to the requirements of standards EN 55022 for emissions and IEC801 parts 2, 3 and 4 for immunity and BS415 superseded by EN60950 for Electrical Equipment Safety.

TERMINOLOGY

Camera numbers are decided by which video input (on the matrix) they are connected to.

The phrases 'camera number' and 'receiver number' are used throughout the document. They are used interchangeably and refer to the same value.

The receiver number is the same as the camera number to which it is attached as selected at the keyboard.

UNPACKING

Keep your packaging for use if your PY-7000 is stored for a time or needs to be returned for whatever reason. The packaging should contain:-

- Your PY-7000
- An IEC mains connector
- A Module Description Sheet (for installation details)
- These Instructions

Check the product code on the serial number label. If you have an incorrect item or it is damaged then inform the suppliers and carriers immediately. If this is the case then do not attempt to use your PY-7000.

FUNCTIONAL DESCRIPTION

The System 7000 interface (PY-7000) is for connecting an existing functional and correctly configured System 7000 network to a Pyramid system. Baxall strongly recommend that any outstanding System 7000 problems are resolved before connecting using the PY-7000.

The PY-7000 allows you to retain your System 7000 receivers. You will need to replace your 7000 matrix, alarm units and keyboards with Pyramid units. Keep the original 7000 keyboard for system maintenance and programming.

The installation of your PY-7000s is simple because they are self-configuring. The 7000 network can retain the previous 7000 receiver (camera) numbering, so if you want to change the receiver numbering, do this by using your System 7000 keyboard (refer to the System 7000 Programming Manual).

When you transfer from your System 7000 matrix to your Pyramid matrix you must ensure that the video signals are connected to the appropriate matrix input (i.e. keep the same numbering).

Once installed, for normal operation, there will appear to be no difference between System 7000 receivers and Pyramid receivers.

PHYSICAL DESCRIPTION

The PY-7000 is provided as a 19" x 1U rack mounting unit. It can be split into a separate wall mounted unit and PSU by removing the 5 screws holding in the PY-7000 electronics and unclipping the PSU.

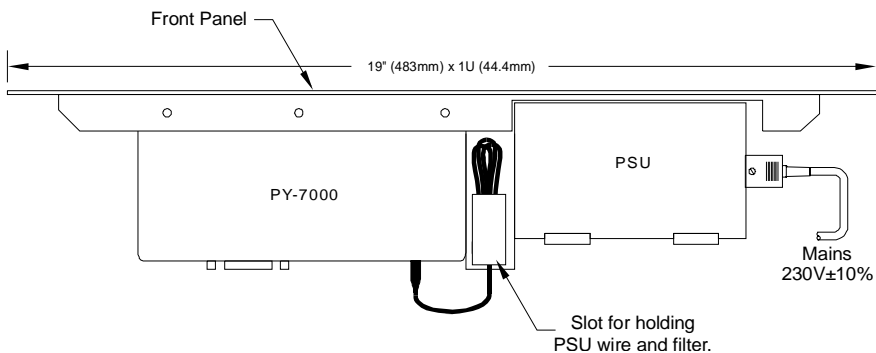


Fig.1 PY-7000 Layout

The front panel is blank except for an identifying label. The rear of the PY-7000 is shown in Fig. 2.

PHYSICAL DESCRIPTION

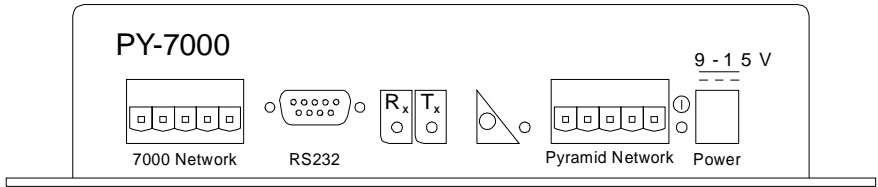


Fig. 2 PY-7000 rear layout

All nodes on the System 7000 network must be daisychained even if flexible topology is used on the Pyramid side of the network. Note that the PY-7000 is a node and by adding a PY-7000, you will add one extra node to both the 7000 network and the Pyramid network.

On the PY-7000, the important connections are for: 1. the 7000 network, 2. the Pyramid network, 3. power. **The RS232 interface is not currently used.**

The back panel also contains a service-pin button and LED, and 3 diagnostic LEDs Receive (Rx), Transmit (Tx) and Power.

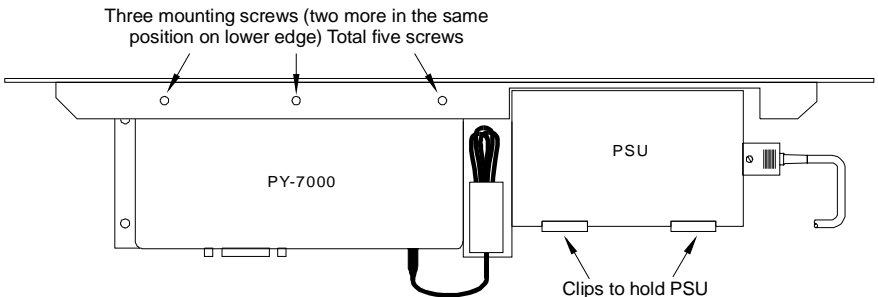
INSTALLATION

Mount the unit, connect the Pyramid network and the System 7000 network to *all* your PY-7000s then connect the power. Note that all connections on the System 7000 network must be daisychained. This includes all the PY-7000s you are adding. No further connections are necessary.

Note : the camera video signal BNCs must be connected to the same number input on the Pyramid matrix as they were on the 7000 matrix. If this is not the case then you will not view the camera under control.

MOUNTING

The unit is supplied fitted to a 1U front plate suitable for mounting in a 19" rack. If you want to mount the PY-7000 electronics separately, remove the 5 screws shown below. Mount the PY-7000 using the 4 mounting holes shown in Fig. 4.



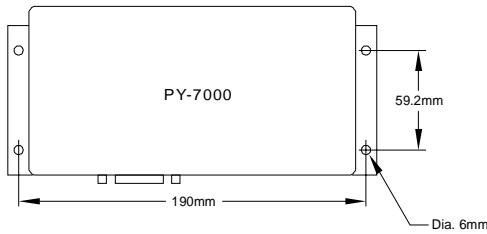


Fig. 4 Mounting holes for separate mounting of the PY-7000 electronics

⚠ WARNING

Only use the Class 2 isolated power supply provided. Do not use it to power more than one PY-7000.

SYSTEM 7000 NETWORK CONNECTIONS

The System 7000 network is polarity sensitive. Do not cross the wires or it will not operate correctly. Note that all the System 7000 connections on the PY-7000s and all nodes on the System 7000 network must be daisychained, and network expanders used where appropriate - see Appendix A. Refer to System 7000 network instructions. The connections are shown in Fig. 5.

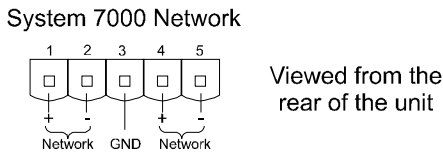


Fig. 5 System 7000 network connection

The + and - network lines correspond to the connectors on the receiver shown in Fig. 6.

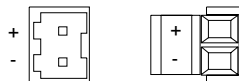


Fig. 6 System 7000 receiver network connections

These connections are explained more fully at the start of your System 7000 Programming manual. Jumpers are provided inside the PY-7000 to allow line termination - see Appendix C. Normally, sufficient line termination will already be present on an existing System 7000 system.

PYRAMID NETWORK CONNECTIONS

The Pyramid network is also polarity sensitive therefore connect the network as normal (refer to the Pyramid Network Wiring Instructions). Note that the PY-7000 is normally wired in series (daisychained) with other Pyramid nodes on the Pyramid side of the network. If FTT10 is used, free topology may be in use on the Pyramid side of the network.

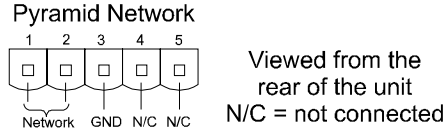
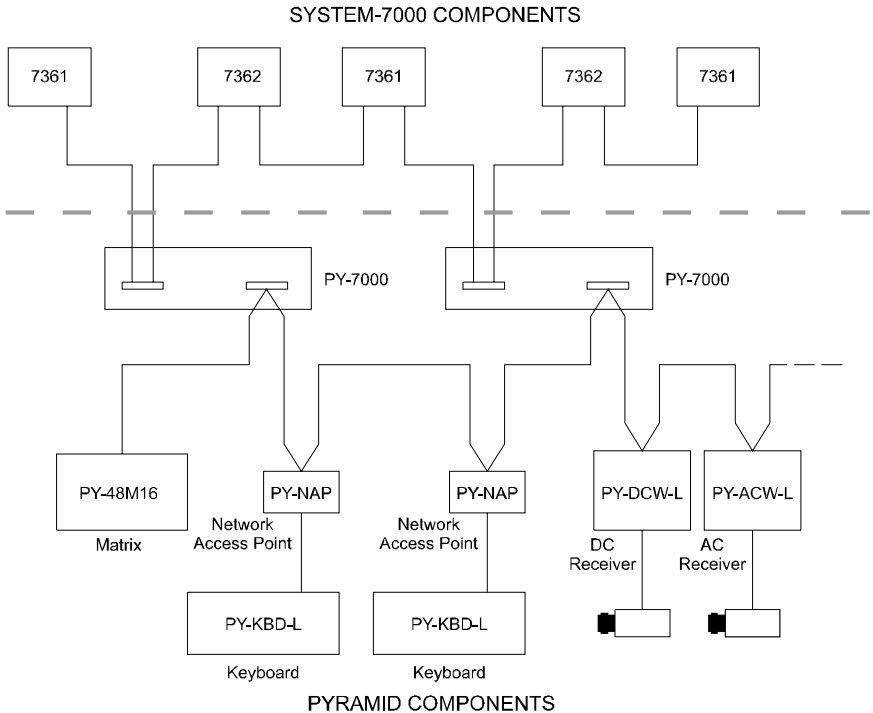


Fig. 7 Pyramid network connection

Note that if a PY.COM card is fitted in the PY-7000 it must be set up correctly as instructed in Manual 11 - Pyramid Network Cards.

TYPICAL NETWORK CONNECTIONS



Note that the PY-7000 can be connected anywhere across the two networks. It does not have to be near the keyboard and in practice would normally be housed in the rack cabinet.

⚠ WARNING

Always provide a separate, secure means of isolation

Your PY-7000 has a 115/230V at 47 to 63 Hz auto-line-switching power supply. An IEC connector is provided to connect a mains lead to the power supply shown below.

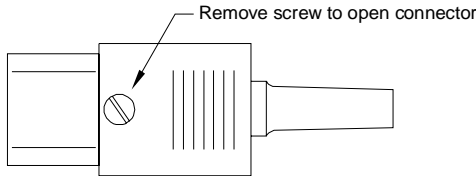


Fig. 8 IEC Connector

To power your PY-7000 firstly wire the IEC connector according to the instructions below.

⚠ WARNING

Ensure that all power supplies are off before wiring the IEC connector. Failure to do so may result in electric shock.

1. Remove the top from the IEC connector by undoing the screw indicated using an appropriate screwdriver.
2. Connect the Neutral (blue) wire to the terminal marked N.
3. Connect the Earth (green and yellow) wire to the terminal labelled E or marked by an earth symbol.
4. Connect the Live (brown) wire to the terminal marked L.
5. Tighten the cord grip.
6. Refit the lid and tighten the screw.
7. Insert the mains connector into the socket on the power supply.

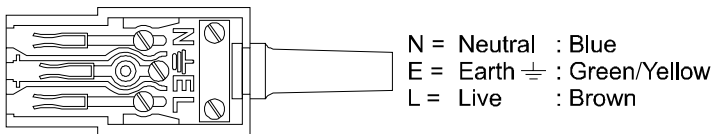


Fig. 9 Internal connections on the IEC plug

CONNECTING THE 12vDC POWER SUPPLY

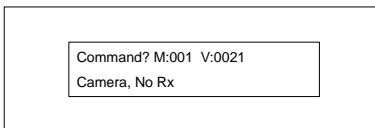
The 12v DC lead has an in-line filter and plugs into the power socket on the rear of your PY-7000 electronics.

SWITCHING ON AND CONFIGURATION

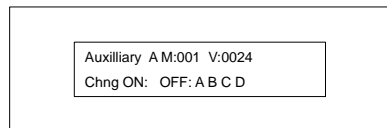
1. Switch on the power to all your PY-7000s and System 7000 receivers. The PY-7000s should display activity on their Rx and Tx LEDs. Press the Service Pin on each PY-7000 and they will configure themselves. If the service pin is not pressed, they will take up to 10 minutes to self configure.

Note: The Pyramid keyboard software must be version 2.11 or higher before the PY-7000 will self configure.

2. Select each camera in turn (according to their previous System 7000 numbering). Wait for the keyboard LCD to indicate telemetry control. This can take up to 5 seconds for each receiver.



No telemetry control



Telemetry control

Note: If the numbering of the receivers on the System 7000 was different from the numbering as attached to the Pyramid matrix, then you can gain telemetry control but cannot view the correct camera.

The cameras and receivers should now operate as normal. Note that one PY-7000 is required for each keyboard in a multiple keyboard control system. If this is the case, then the PY-7000s must be connected in series (daisychained) with the other nodes on the System 7000 network. If this is not done, then each individual keyboard will only control the part of the network that it is connected to.

OPERATION USING THE PYRAMID KEYBOARD

Once telemetry control of each channel is confirmed by the keyboard you then have control of the following receiver functions:

- Pan and Tilt
- Zoom and Focus
- Auxiliaries 1, 2, 3 and 4
- Presets 1 to 16

OPERATION USING THE PYRAMID KEYBOARD

Select each of these functions in the same way as you would for a Pyramid receiver (see the Operating Instructions).

Engineering Direct Access Code functions are available on the 7000 receivers. For more information see Appendix B.

GETTING THE NEURON ID INTO THE INSTALLATION TOOL

After clicking the Get Neuron ID button in the installation tool, the following window will be displayed.

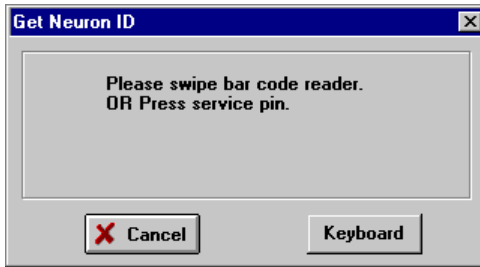


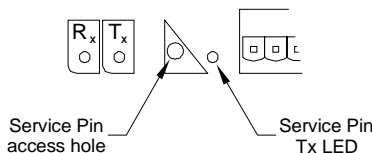
Fig. 10 Get Neuron ID dialogue box

Use one of the following methods to enter the Neuron ID:

1. Using a jeweller's screwdriver or similar, push the button through the service pin access hole on the front panel.

⚠ CAUTION

The Service Pin Access is less than 5 mm deep. Do not force any object further inside the access hole as this will result in damage to your PY-7000.



Indicator LED and service pin locations

As you press the Service Pin, the Service Pin Tx LED should light and the Neuron ID box should immediately display the Neuron ID (an alphanumeric hexadecimal number).

If it does not then check all your connections and check that all your modules have the correct network cards and that they are running at the correct speed i.e. all part number suffixes are the same (L=9.8kb/s H=78kb/s)

GETTING THE NEURON ID INTO THE INSTALLATION TOOL

2. Swipe the bar-code using the bar-code reader.
3. Click the Keyboard button and type in the Neuron ID written below the bar-code.

UPDATING YOUR PY-7000 SOFTWARE

To load enhancements to your PY-7000 as they become available, you can use the Pyramid Utilities tool to send a .NXE file to each PY-7000. The new software file should be sent to every PY-7000 in turn because each has its own individual Neuron ID.

Note : This is not a standard operation and is only intended to be carried out by installation engineers.

1. Ensure that the PY-7000 is powered and connected normally to the Pyramid system network.
2. Start Windows and run the Pyramid Utilities software
3. Click the mouse in the empty Neuron ID box. This will display the Get Neuron ID dialogue box shown in Fig. 10.
4. Press the Neuron ID pin on the PY-7000.
5. The captured Neuron ID for the first PY-7000 will now appear in the Neuron ID box. The current software version will also appear in the Software Version box.
6. Select the correct .NXE file and click the Program button in the Utilities dialogue box.
7. Wait until the message 'Programmed Device OK' appears.
8. Capture the Neuron ID for the next PY-7000.

Do this for each PY-7000. Once for each Neuron ID.

SETTING PRESETS

If your presets are already set you do not need to change them. They are stored in the receiver and can still be called by the Pyramid system.

'NO RX' MESSAGE FOR CAMERA WHICH HAS A RECEIVER

Rx is an abbreviation for receiver. You may have 'Receiver present' switched off in the 'Video Source Config' menu. Enter the menu system and change the setting to System 7000.

SPECIFICATION

Inputs and Outputs

Pyramid Network
7000 Network

Power Supply

Physical input is a standard IEC connector (provided)

Physical output 800 mm flying lead to main unit

Electrical Input : 115/230V AC, 1.2A at 47 to 63 Hz. Automatic line switching

Electrical Output : 13.5v at max. 2.8A

Physical

Dimensions

Assembled unit : 19" x 1U (483 x 44.4) x 116 mm

Power Supply : 128 x 75 x 43 mm

Main Unit : 209 x 90 x 40

Temperature Specification

Operational temperature limits:-

-10°C to +50°C at 10% to 80% relative humidity (non-condensing)

Storage temperature limits:-

-20°C to +60°C at 10% to 95% relative humidity (non-condensing)

System 7000 uses RS485 bidirectional balanced data transmission lines for distribution of data to all system components. At high data rates over long transmission lines, differential data transmission has high immunity to radiated interference and noise. The following points should be noted:

- The System 7000 RS485 network configuration should be DAISYCHAIN
- The maximum data cable length of a single run is 1200m (Belden 9841 or equivalent)
- This maximum length is reduced if lower specification cable is used.
- For cable runs in excess of 1200m, or for systems with greater than 10 equipment nodes, 7366 Network Expander Units must be used.
- An equipment node is represented by a telemetry receiver, e.g. 7362WBX or a PY-7000.

Note: Network Data cable screens should be continuous throughout the whole network and only earthed at a central point e.g. at the VMS.

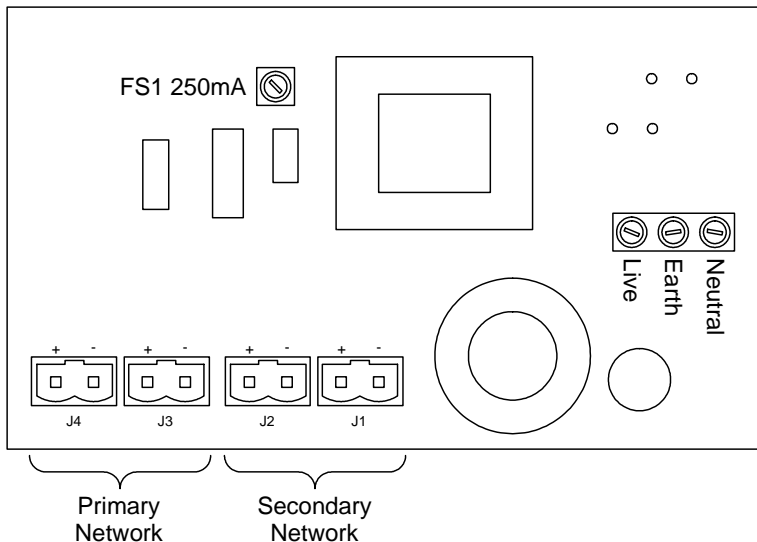


Fig. 11 Network Expander Module board

APPENDIX B - DIRECT ACCESS CODES

Direct access codes are input by using the numerical keypad on the Pyramid keyboard and then pressing the Function (F_n) key. Valid Direct Access codes are shown below.

Code	Description
701	Change Receiver address (DC and AC receivers)
703	Adjust Auto Iris level (DC receivers)
704 -709	Change pan and tilt speed steps (DC receivers)
704	Adjust Auto Iris level (AC receivers)
706, 708	Set high and low lens speeds (AC receivers)
710-711	Set high and low lens speeds (DC receivers)
712	Set inch delay (AC receivers)
716	Adjust Manual Iris (AC receivers)
729	Set inch delay (DC receivers)
730	Set Auto scan speed (DC receivers)
731	Change alarm preset speed (DC receivers)
770	Auto scan on
773	Sequence preset control
900-901	Set pan and tilt auto scan positions (DC receivers)
902-905	Set new pan and tilt limit stops (DC receivers)

APPENDIX C - PY-7000 INTERNAL LINKS

Internal links within the PY-7000 allow line termination and network biasing. Line termination is normally only required where cable runs are in excess of 1000m or in electrically noisy environments.

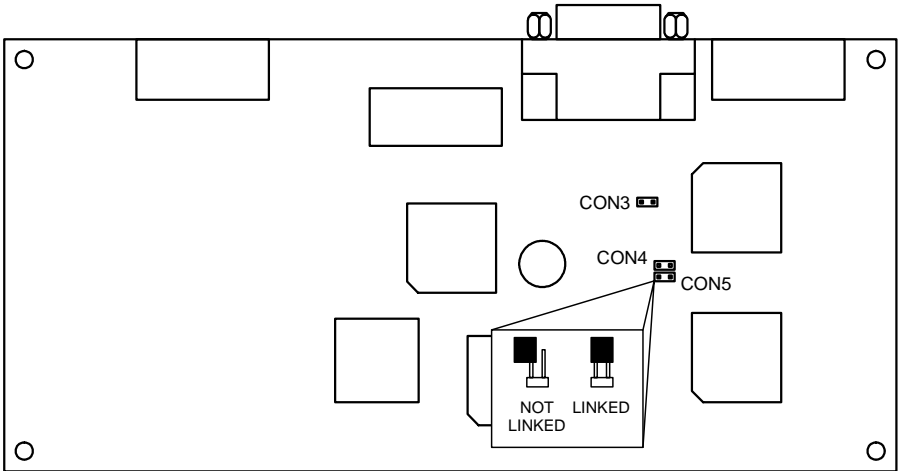


Fig. 12 Location of internal links

	Linked	Not linked
CON3	Line Termination	No line termination
CON4	Network biased	Network not biased
CON5	Network biased	Network not biased

Note the PY-7000 is supplied by default with the connectors not linked.

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Baxall Limited reserve the right to make changes to the product and specification of the product without prior notice to the customer.