

Flex Tube Pixel SE™

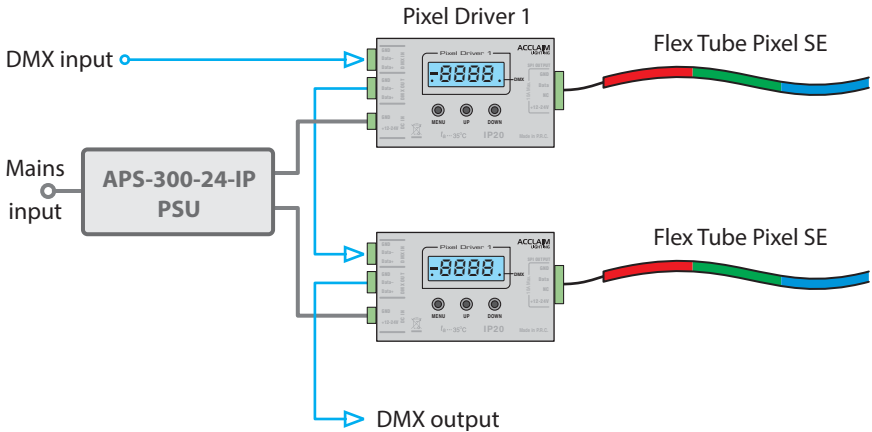
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INTRODUCTION

WELCOME

Welcome to the Flex Tube Pixel SE from Acclaim Lighting. Like all Flex Tubes, these flexible LED powered strips produce a greatly homogenized light output along their full length. The difference with the Pixel SE variant is that it is internally split into 60 separate segments. Each segment is individually addressable so that you can apply different mixes of red, green and blue colors to each segment. The segments closely abut each other and, combined with the homogenizing effect of the tube optics, produce smooth color transitions between the segments. Designed from the outset for external applications, Flex Tube Pixel SE strips are rated to IP68 and can be submersed up to 3 feet (1m) in depth.



Each Flex Tube Pixel SE strip is controlled by its own dedicated Pixel Driver 1 module. Each Pixel Driver 1 module takes a standard DMX control input, plus a 24VDC power feed, at one end and supplies a specialized data signal, together with 24VDC power to the Flex Tube Pixel SE strip at the other. The data signal allows the 60 segments in each strip to be uniquely addressed and controlled.

Note: No user installed feed cables or end caps are available for this product.

The Acclaim Lighting APS-300-24-IP (IP67-rated) power supply is ideal for providing power for up to two Pixel Driver 1 modules and their respective full length Flex Tube Pixel SE strips. See the section "Control and power" on page 6 and also www.acclaimlighting.com for further details.

SAFETY

- Ensure that the power input is supplied from a correctly fused and environmentally protected location.

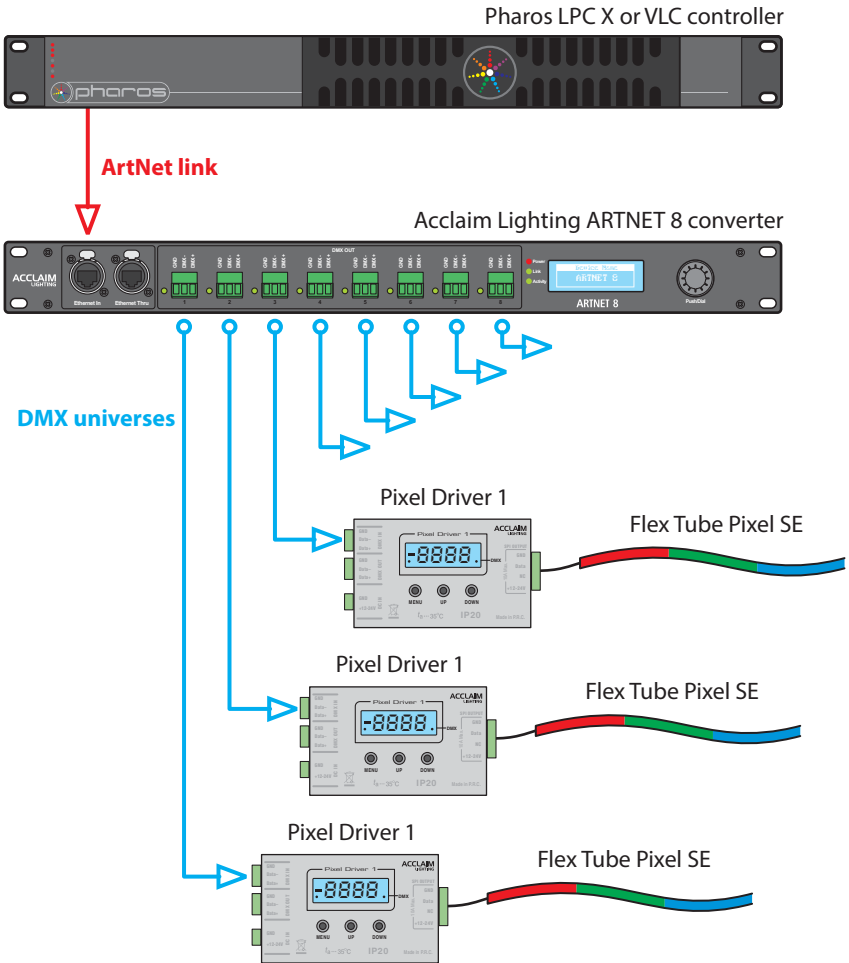
LARGE SCALE INSTALLATIONS

A common requirement is to drive large arrays of Flex Tube Pixel SE strips. To achieve this we offer a tried and trusted hybrid solution using Pharos controllers and multiple ARTNET 8 converters.

A base choice of two Pharos controllers is offered:

- **LPC X** - Capable of controlling multiple zones across a selectable number of DMX universes; from 10 to 100 (5,120 channels up to 51,200).
- **VLC** - Able to play video content across a single zone of many DMX universes, selectable from 50 DMX universes up to 1500 (25,600 channels up to 768,000).

Programming for both types is carried out using the free Pharos Designer 2 software.

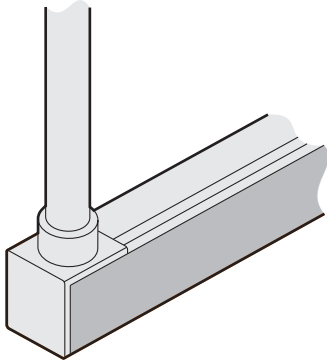


The ArtNet output from each Pharos controller is fed to multiple Acclaim Lighting ARTNET 8 converters, each of which splits out the individual universes and sends them to the appropriate Pixel Driver 1 units. Each Pixel Driver 1 then feeds its own Flex Tube Pixel SE strip.

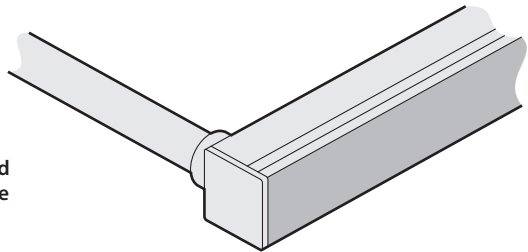
MOLDED INPUT STYLES

Flex Tube Pixel SE strips are available with a choice of three IP68-rated injection molded (IM) feed connection styles. In each case the 3-core feed cable is 9.84' (3m) in length and supplied with bare tails:

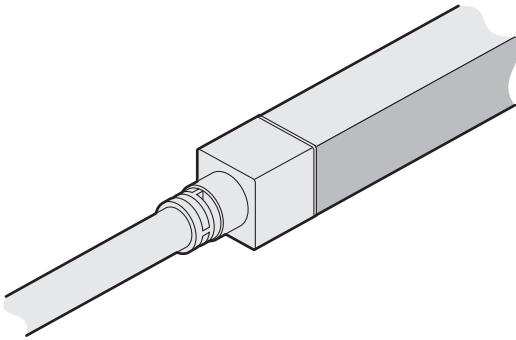
Note: No user installed feed cables or end caps are available for this product.



Flex Tube Pixel SE with feed connection on the side face
(FTZ-224-####)



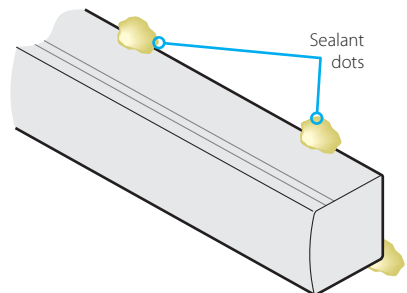
Flex Tube Pixel SE with feed connection on the rear face
(FTZ-225-####)



Flex Tube Pixel SE with feed connection on the end
(FTZ-226-####)

WHEN MOUNTING ON THE SIDES OR UNDERSIDES OF SURFACES

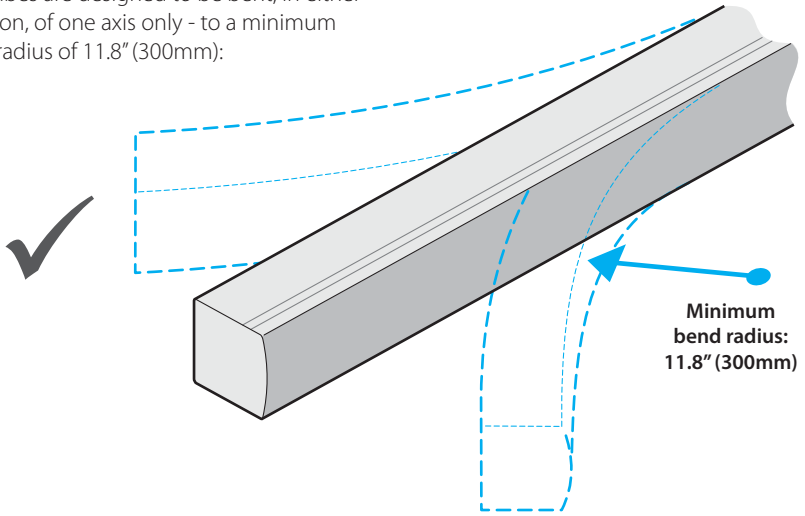
We recommend that you add small dots of silicone sealant along both sides of the Flex Tube (to overlap the tape edge and mounting surface) using Dow Corning 700 or equivalent. This will provide additional stability and help to prevent any separation of the tube from the mounting surface over time. The silicone dots are best applied once the Flex Tube is fixed in place; then the whole installation should not be disturbed until it the sealant has fully cured.



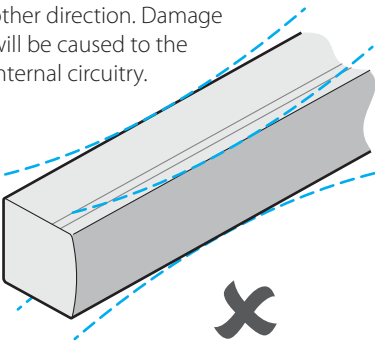
INSTALLATION

BENDING A FLEX TUBE SE

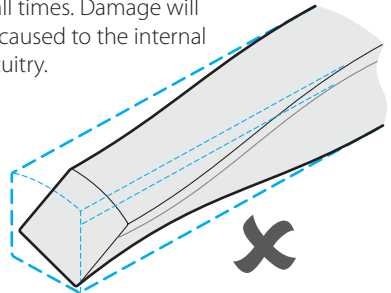
Flex Tubes are designed to be bent, in either direction, of one axis only - to a minimum bend radius of 11.8" (300mm):



Flex Tubes are NOT designed to be bent in the other direction. Damage will be caused to the internal circuitry.



Avoid twisting Flex Tubes at all times. Damage will be caused to the internal circuitry.



CONTROL AND POWER

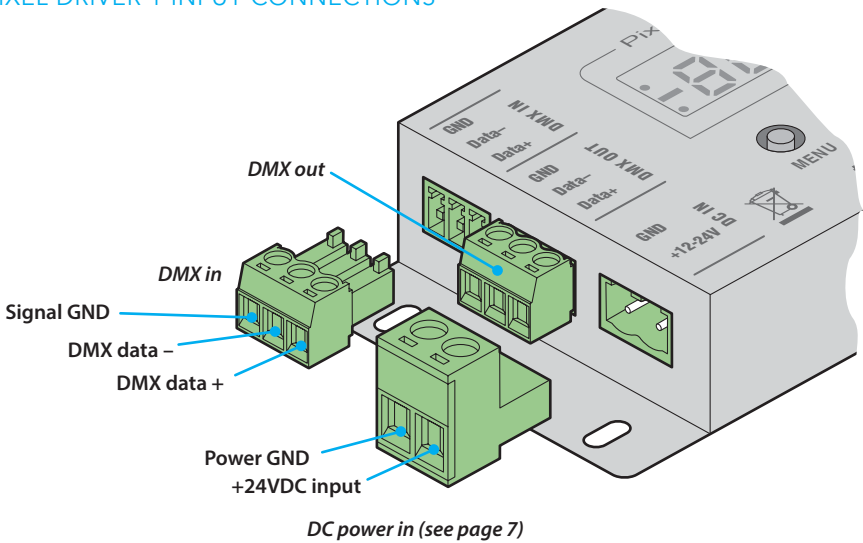
Flex Tube Pixel SE strips are run at 24VDC and consume 5W per foot (or 16.5W per meter) - 82.5W for a full length 16.4'/5m strip.

A 9.84' (3m) feed cable is supplied, injection molded to the strip. This 3-core cable has bare tails. Further connection cables (not supplied) used to link Flex Tube Pixel SE strips to the Pixel Driver 1 unit should follow these guidelines:

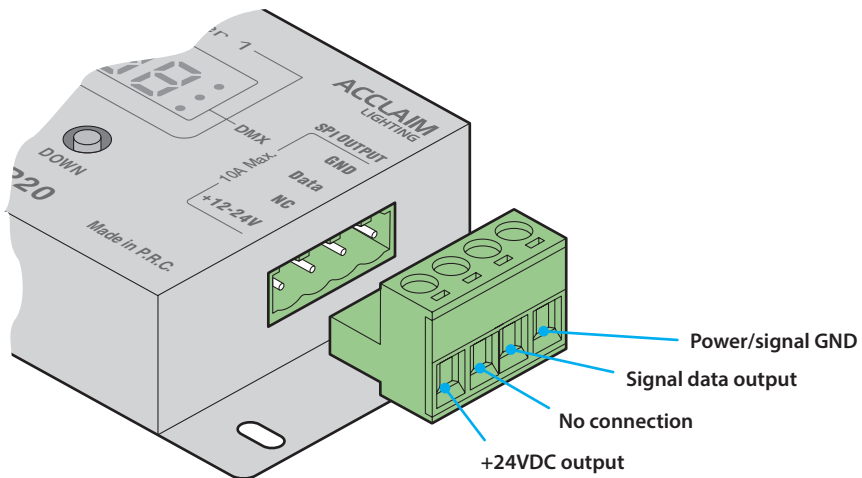
- Up to 32 feet (10m) 14 AWG (2.081 mm²)

Ensure that the voltage drop at the fixture end of the link cable is no greater than 8% (1.92V) of the original 24VDC supply.

PIXEL DRIVER 1 INPUT CONNECTIONS

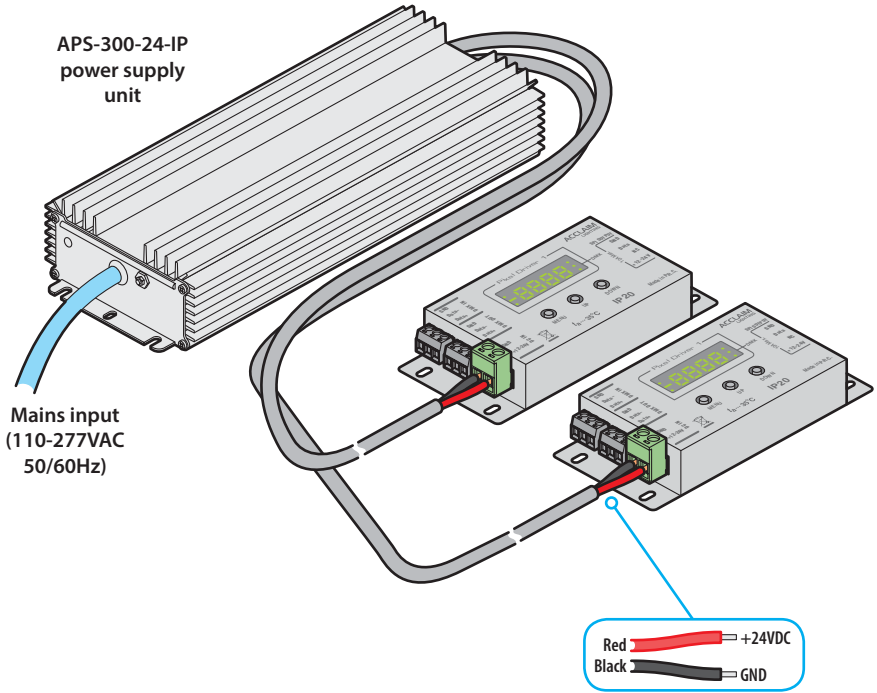


PIXEL DRIVER 1 OUTPUT CONNECTIONS



PIXEL DRIVER 1 POWER SUPPLY

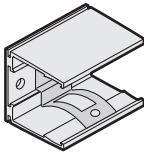
This IP67-rated APS-300-24-IP power supply can power two Pixel Driver 1 units and their 16.4' (5m) Flex Tube Pixel SE strips.



SELF-LOCKING MOUNTING CHANNEL KIT

These kits are used to mount Flex Tube Pixel SE strips onto solid surfaces.

KIT CONTENTS



Mount channel with spring clips (1.38"/35mm, 3.28'/1m or 6.56'/2m lengths)

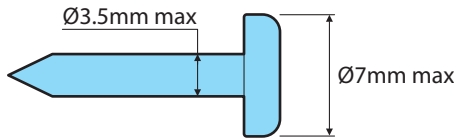


Mount screws
x2, 5 or 10 (depending
on channel length)

TO INSTALL A SELF-LOCKING MOUNTING CHANNEL KIT

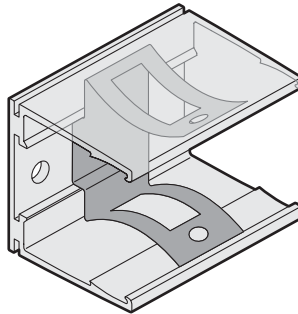
1 Use appropriate screws and fixings for the intended mounting surface. Each channel is supplied with an appropriate number of screws; these screws (M3 x 15) are best suited to mounting on wooden surfaces or possibly in other surfaces with the use of wall plugs.

If you need to source alternative screws, be aware that the limited space within the mount channel restricts the screws used to the following dimensions:



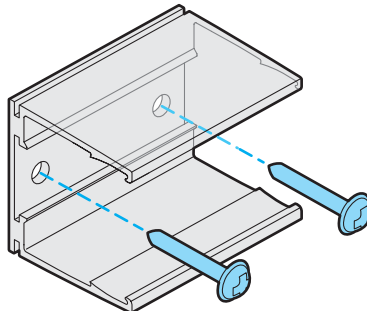
2 Ensure the spring clip(s) are in place within the mount channel and are not blocking the screw holes. Do not remove the spring clip(s) from the channel.

Note: Due to the tightness of their fit in the channel, the spring clips can be difficult to slide along. However, this is made easier if you insert a flat blade screw driver into the channel and engage it simultaneously with one side of the clip's base plus one of the two wings so that you can apply pressure to both as you slide it along.



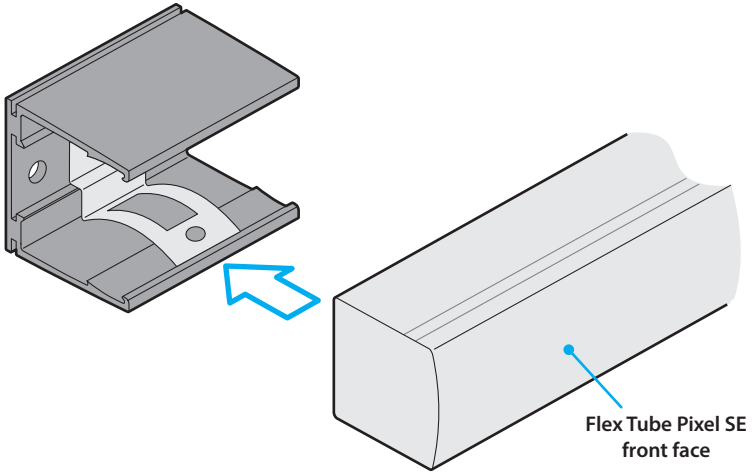
3 Attach the mount channel to the intended surface, taking all appropriate precautions as you do so.

- 1.38" (35mm) mounts have two holes, spaced 1" (25mm) apart,
- 3.28' (1 meter) mounts have five holes, spaced 7.87" (200mm) apart,
- 6.56' (2 meter) mounts have ten holes, spaced 7.87" (200mm) apart.

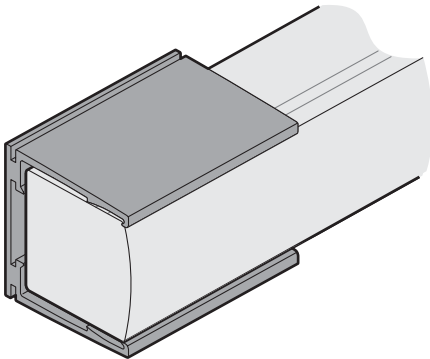


4 Push the Flex Tube Pixel SE (front face outwards) into the mount channel until it engages with the spring clip(s).

Note: To further aid long term stability - If mounting inverted or vertically, we recommend that you add dots of silicone sealant (Dow Corning® 799, 1199 or equivalent) at regular intervals between the sides of the Flex Tube Pixel SE and the inside faces of the mounting channel as it is pushed into place.



- If you should need to remove the Flex Tube Pixel SE, gently pull it out from the mount channel, taking care not to twist the strip.



OPERATION

The Pixel Driver 1 controller can drive up to 16.4' (5m) of Flex Tube Pixel SE tape. The behavior of the connected Flex Tube Pixel SE is determined using the control menu.

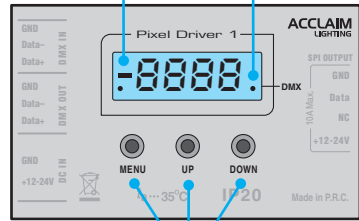
MENU NAVIGATION

Use the three control buttons to navigate around the menu and alter settings as necessary. Press and hold the **MENU** button for two seconds to enter and exit edit mode within a menu option.

Note: You must exit from edit mode within one menu option before you can move to a different menu option.

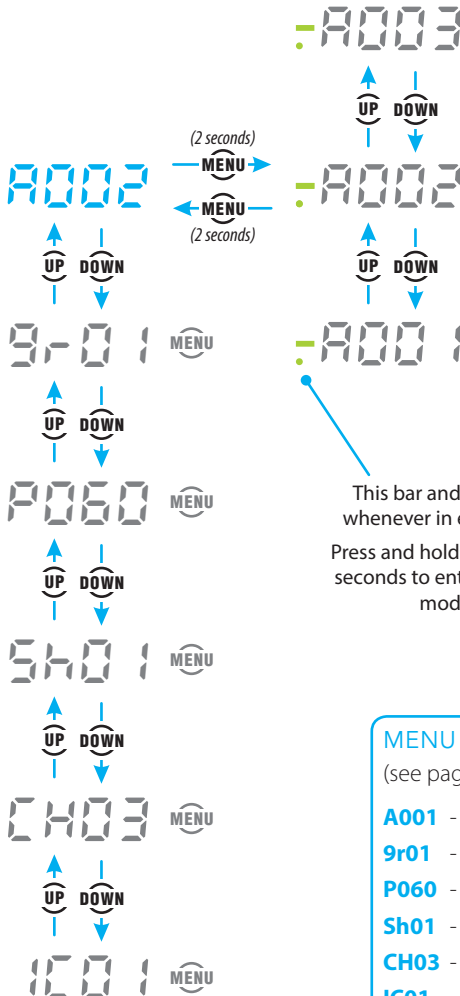
This bar and dot flash whenever in edit mode

This dot flashes to indicate a valid DMX input



MENU: Press and hold for 2 seconds to enter/exit edit mode for the current menu option.

UP/DOWN: Use to move between menu options and to change values within a menu option in edit mode.



This bar and dot flash whenever in edit mode.

Press and hold MENU for 2 seconds to enter/exit edit mode.

MENU OPTIONS SUMMARY

(see page 11 and page 12 for details)

- A001** - DMX base address
- 9r01** - Segment grouping (determines pixel size)
- P060** - Defines total pixels under control
- Sh01** - Self test (see page 12)
- CH03** - Do not change
- IC01** - Do not change

SETUP SHORTCUTS

If you're in a hurry, apply these settings to achieve common configurations:

16.4' (5m) length with 60 small pixels (DMX addr: 001) A001 9r01 P060 <i>CH03</i> <i>IC01</i>	16.4' (5m) length with 30 medium pixels (DMX addr: 001) A001 9r02 P030 <i>CH03</i> <i>IC01</i>	16.4' (5m) length with 15 large pixels (DMX addr: 001) A001 9r04 P015 <i>CH03</i> <i>IC01</i>	16.4' (5m) length with all pixels (DMX addr: 001) A001 9rAL P060 <i>CH03</i> <i>IC01</i>
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MENU OPTIONS

During configuration, three options determine how the Flex Tube Pixel SE will operate:

- **A001** - The DMX base address,
- **9r01** - The segment grouping (pixel size),
- **P060** - The total number of pixels.

Two of the remaining three options (*IC01* and *CH03*) must remain in their default settings and the *Shxx* option is used for performing self tests (see page 12).

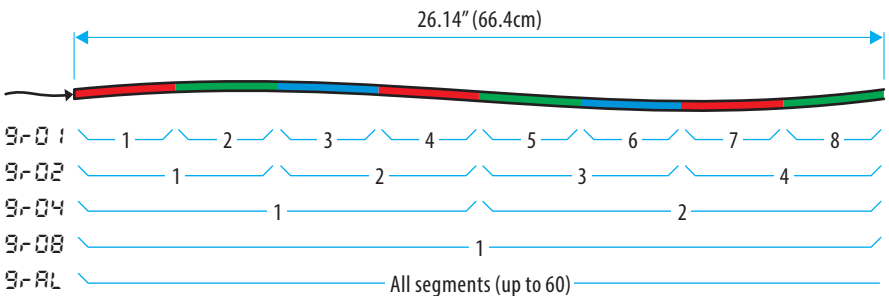
DMX BASE ADDRESS (Axxx)

Configures the base DMX address for the first color (red) of the first segment, or group of segments* of the Flex Tube Pixel SE. Successive DMX channels control the remaining colors within the various segments. When setting the base address, ensure sufficient channels remain at the upper end to control all of the pixels. For instance, a 5 meter Flex Tube Pixel SE strip with 60 pixels requires 180 DMX channels, so the base address in such a case cannot be greater than 332.

* As determined by the **9rxx** setting.

SEGMENT GROUPING (9rxx)

Determines how the various segments of the Flex Tube Pixel SE are matched to the incoming group(s) of three (RGB) DMX channels to form the controllable pixels (i.e. pixel resolution). The options range from the assignment of a set of RGB channels for each individual segment (i.e. a pixel size of 1 segment: **9r01**); up to assigning one set of RGB channels to control the whole strip (i.e. up to 60 segments as one pixel, controlled by just 3 channels: **9rAL**).



The diagram above shows how the eight segments within each 26" (66cm) section are affected by the **9rxx** option; these settings would be repeated across the remaining length of the Flex Tube Pixel SE strip.

PIXEL RANGE (Pxxx)

Defines the total number of pixels under control. This option is interdependent with the **9rxx** segment grouping setting, which determines how many segments form each pixel, and how many DMX channels are required to control them.

9rxx	Pxxx	Number of DMX channels required for 16' (5 meters)
01	060	180
02	030	90
04	015	45
08	010	24
AL	060	3

This option has a minimum setting of *010*. There are no major issues with setting the **Pxxx** value too high for a given number of pixels*; however, if set too low, the pixels which lie beyond the stated limit will most likely illuminate beyond control.

** The only minor issue caused by setting the Pxxx value higher than the actual number of pixels becomes apparent when the self tests Sh03 and Sh04 are performed. In Sh03, the scrolling pixel will disappear at the upper end (while it visits non-existent segments) before running back down the length of the strip. In Sh04, the halfway split in the strip will move toward the upper end.*

SELF TEST MODE (Shxx)

This menu option provides self test routines designed to help check for stuck or failed emitters within an installation. No DMX input is required to run these tests.

TO RUN A SELF TEST

- 1 Configure the required segment grouping and pixel range settings for the installed Flex Tube Pixel SE strip.
- 2 Use the **DOWN** button repeatedly until the display shows **Shxx** (where xx is a value between 01 and 04).
- 3 Press and hold the **MENU** button for roughly two seconds until the bar and dot on the left side of the display start flashing.
- 4 Use the **UP/DOWN** buttons to choose any of the four test sequences:
 - **Sh01** - Shows a rapid sequential strobing through all red, green and blue emitters,
 - **Sh02** - Slowly fades between all red, green and blue emitters,
 - **Sh03** - Shows a band of pixels which scroll from end to end and back again, alternately using the red, green and blue emitters*,
 - **Sh04** - Shows two separate slow fades in each half of the strip, alternately using the red, green and blue emitters*.
- 5 Press and hold the **MENU** button for roughly two seconds until the bar and dot on the left side of the display stop flashing.

Note: The last state of the test pattern will remain until either a DMX input is applied or the power input is cycled.

CHANNEL MODE (CH03)

Determines the type of strip being controlled and the type of LED emitters contained within each segment: *01* for single color, *02* for dynamic white, *03* for RGB and *04* for RGBW. Flex Tube Pixel SE strips are currently available only in RGB, so this option should remain at **CH03**.

INTEGRATED CIRCUIT (IC01)

Determines the type of addressable driver ICs used within the connected Flex Tube Pixel SE. Currently the only valid option is **IC01** and this setting should not be changed.


FURTHER INFORMATION

TROUBLESHOOTING

NO LIGHT OUTPUT IS VISIBLE WHEN EXPECTED.

- Check that power is correctly applied to the fixture and that there is no damage to the power input cord.
- Check that the connections to the feed cable have the correct polarity.
- Check that the DMX address set within the Pixel Driver 1 module matches that being output by the controlling source device.

FLEX TUBE PIXEL SE SPECIFICATIONS

Emitters	Red, green and blue
Beam angle	160°
Lumens per foot	90
Maximum Candela	26
Lumens per Watt	18
Operating voltage	24VDC
Power consumption	5W per foot 16.5W per meter 82.5W per 16.4' (5m) spool
Control	Pulse Width Modulation via DMX input and SPI link via Pixel Driver 1 controller
Segments (pixels)	3.27" (83mm) segment length, 60 RGB segments per 16.4' (5m) spool, 3.6 segments per foot (12 segments per m)
Maximum overall length	16.4" (5m)
Operation temperature	-40°F to 122°F (-40°C to 50°C)
Housing	White PVC
Feed cable	Injection molded 9.84' (3m) 3-core with bare tails
Ingress protection	IP68 wet location submersible* to 3' (1m)
Impact resistance	IK08 protected up to a 5 Joule impact
Dimensions (L x W x H)	16.4' (5m) x 0.59" (15mm) x 0.63" (16mm)
Weight	7.2lbs (3.26kg)
Certifications	

**UL approval limits submersible installation to non-human occupied and freshwater locations only. All cables must be landed in environmentally suitable junction boxes.*

Release 1.0c

LIMITED PRODUCT WARRANTY

A. Acclaim Lighting™ hereby warrants, to the original purchaser, Acclaim Lighting finished products to be free of manufacturing defects in material and workmanship for a standard period of:

- Fixtures: 5 Years (1,825 days) from the date of purchase.
- Drivers, power supplies and accessories: 5 Years (1,825 days) from the date of purchase.
- Flex Products: 3 Years (1,095 days) from the date of purchase.
- Controllers: 2 Years (730 days) from the date of purchase.

It is the owner's responsibility to establish the date and place of purchase and warranty terms by acceptable evidence, at the time service is sought.

B. For warranty service, send the product only to the Acclaim factory. All shipping charges must be pre-paid. If the requested repairs or service (including parts replacement) are within the terms of this warranty, Acclaim Lighting will pay return shipping charges only to a designated point within the United States. If the entire instrument is sent, it must be shipped in its original package. No accessories should be shipped with the product. If any accessories are shipped with the product, Acclaim Lighting shall have no liability whatsoever for loss of or damage to any such accessories, nor for the safe return thereof. Acclaim reserves the right to replace the item with same or similar product at its discretion.

C. This warranty is void if the serial number has been altered or removed; if the product is modified in any manner which Acclaim concludes, after inspection, affects the reliability of the product; if the product has been repaired or serviced by anyone other than the Acclaim Lighting factory unless prior written authorization was issued to purchaser by Acclaim Lighting; if the product is damaged because not properly maintained as set forth in the instruction manual.

D. This is not a service contract, and this warranty does not include maintenance, cleaning or periodic check-up nor do we guarantee as part of this warranty any lumen performance during period. Parts not covered by this warranty include: fuses, external power supplies, third party items not manufactures by Acclaim lighting. During the period specified above, Acclaim Lighting will replace defective parts at its expense, and will absorb all expenses for warranty service and repair labor by reason of defects in material or workmanship. The sole responsibility of Acclaim Lighting under this warranty shall be limited to the repair of the product, or replacement thereof, including parts, at the sole discretion of Acclaim Lighting. At no time will installation or re-installation or products labor or liability costs will be assumed by Acclaim Lighting. All products covered by this warranty were manufactured after January 1, 2012, and bear identifying serial number marks to that effect.

E. Acclaim Lighting reserves the right to make changes in design and/or improvements upon its products without any obligation to include these changes in any products theretofore manufactured. No warranty, whether expressed or implied, is given or made with respect to any accessory supplied with products describe above. Except to the extent prohibited by applicable law, all implied warranties made by Acclaim Lighting in connection with this product, including warranties of merchantability or fitness, are limited in duration to the warranty period set forth above. And no warranties, whether expressed or implied, including warranties of merchantability or fitness, shall apply to this product after said period has expired.

F. Marine or extreme weather location applications using Acclaim lighting products are subject to a 2 year limited warranty and Acclaim must be notified prior to delivery of units for such applications so that preventative treatment can be made to the products to ensure proper performance and product life with a special marine code coating / sealing process at an additional cost.

G. The consumer's and or dealer's sole remedy shall be such repair or replacement as is expressly provide above; and under no circumstances shall Acclaim Lighting be liable for any loss or damage, direct or consequential, arising out of the use of, or inability to use, this product. This warranty is the only written warranty applicable to Acclaim Lighting products and supersedes all prior warranties and written descriptions of warranty terms and conditions heretofore published.

www.acclaimlighting.com