



professional projector series  
F82 series

WUXGA or 1080p resolution  
3-chip DLP® technology  
up to 10 000 ANSI lumens  
Advanced Color Optical Processing



[www.projectiondesign.com](http://www.projectiondesign.com)

## professional projector series

The projectiondesign professional series of projectors include high resolution, high performance products designed and made specifically for graphically challenging applications such as scientific visualisation, training and simulation, media and entertainment in public displays, and other similar applications.

Our utmost concern is customer satisfaction through image quality and operational reliability. All professional series projectors come with a 24/7 operation warranty, and a wide range of configuration options to ensure the best possible application fit.

# F82 series

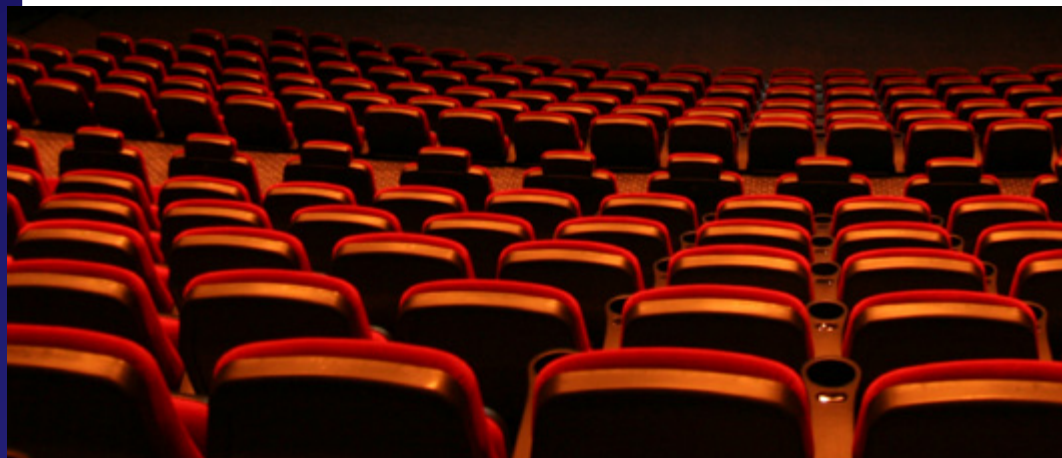
The projectiondesign F82 series of three-chip DLP® projectors is our top professional model, and is made for large screen imaging and the ultimate image quality for in demanding users.

### Markets and applications

With its brightness, and numerous configuration, performance, and warranty options, the F82 series is made for users with extra high requirements and expectations. It fills large screens in auditoriums, on stages, or other applications that require high brightness and the ultimate in image quality and reliability.

### Key features

- RealColor™ colour management provides completely unique colour management accuracy
- Full 24/7 warranty covers nearly any operating environment and installation requirement
- DynamicBlack™ gives totally unique dynamic range for a three-chip projector
- ACOP optical colour processing enables user selectable color management without loss of bit depth
- 3-chip DLP® technology provides outstanding colours and dynamics
- Comprehensive lens range designed for high resolution
- Choice of WUXGA and 1080p resolution options





### WUXGA or 1080p resolution

The projectiondesign F82 can be configured with either WUXGA or 1080p resolution for computer or video centric applications. In large auditoriums and with large screens, where computer imaging with maximum level of detail is a primary requirement, 1920x1200 pixels (WUXGA) is the obvious choice, and fully compatible with the legacy 1600x1200 format. Furthermore, for video centric applications, the 1920x1080 (Full HD 1080p) pixel resolution perfectly fits high definition video and data. For editing and video centric applications where a menu line, or additional information is needed on screen simultaneously with the unaltered 1080p video image, WUXGA resolution gives just that.



### 3-chip DLP®

3-chip DLP technology is renowned for producing formidable on-screen images, as it uses three DMD® (Digital Micromirror Device) imagers for strongly saturated and accurate colours. With lots of brightness from the 3-chip engine's high efficiency, and many options for adjusting colour and brightness performance, the F82 series can be tailored to suit a vast number of applications, focusing on large screen video centric displays and events.

### DLP technology

#### – chosen for reliability

The DLP technology from Texas Instruments® is chosen for its unmatched reliability, and its unique coupling with long lasting image quality. With a widely recognised and proven reliability record, and high brightness and contrast, all whilst displaying utterly natural colours, it is the obvious choice for heavy duty applications that are that run continuously, or are mission critical. Independent testing has proven DLP technology to be the most reliable of all microdisplays; not degrading when subjected to UV light, inherent in all projectors. Unlike competing technologies, showing severe image quality degradation after only a few thousand hours, DLP technology remains constant over hundreds of thousands of hours.

## California Academy of Sciences, California, USA.

*The California Academy of Sciences in San Francisco, USA, uses more than 30 projectiondesign projectors in various configurations.*



*A wide range of lenses, from ultra wide 0.74 : 1 to 6.24 : 1 gives unique flexibility in installations and placement of product.*

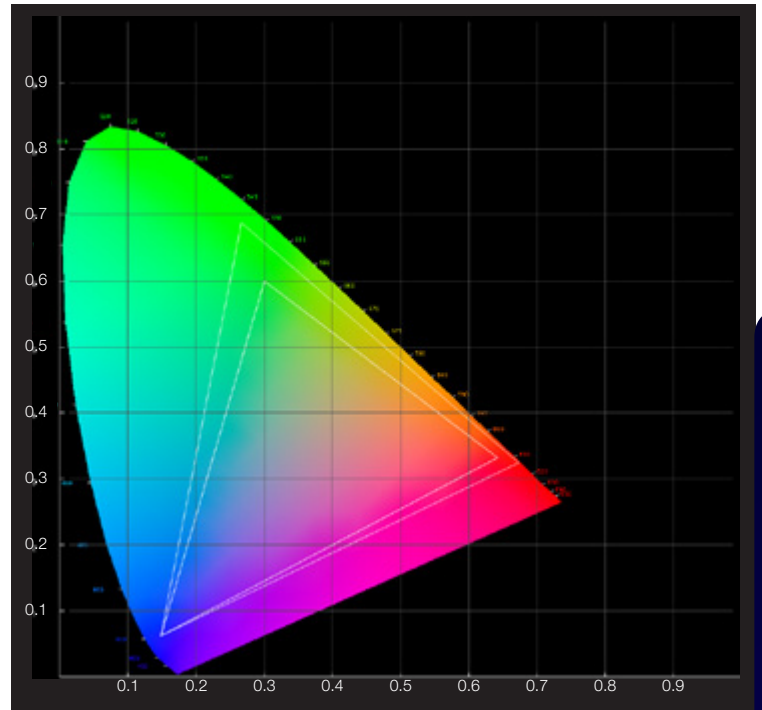
### Precision projection lenses

The F82 series features a wide range of custom designed, precision projection lenses for the best image quality, and the most reliable setups. Key features include infinitely adjustable IRIS and aperture settings, and motorized zoom, focus and lens shift with profile memories for use in multiple settings and installations with programmed calibration and screen configurations. Most importantly, every single lens uses Low Dispersion (LD) glass and aspherical lens elements for high quality focusing and sharpness, as well as high optical interfield contrast, resulting in very high image quality. Unlike many competing projector ranges, the lenses are designed and made with high resolution in mind, not taking standard, off the shelf lenses for use in higher performance applications. The range of lenses span from an ultra wide angle 0.74 : 1, to a long tele zoom at 6.24 : 1, and comprises five options.

# revolutionary colour performance

## Advanced Color Optical Processing

The F82 series projectors feature new and revolutionary projection design optical color processing technology. By combining fixed and motorised optical filters for each colour channel, red, green, and blue, the projector can be optically calibrated with near infinite accuracy. It also means that by the flick of a switch, you can change the projected colour gamut from standard computer graphics optimised, to comply with for instance REC709 (High Definition programming) All this without any loss of bit depth, as the compensation is purely optical, and not electronic. Unlike competing projectors, where colour calibration is based upon a simple yellow notch filter to change the green point of the picture, or simply by changing electronic values, ACOP gives vastly superior performance on all important levels.



## RealColor™ colour calibration

Each F82 projector is uniquely characterised and calibrated during manufacture. Unique optical performance values are recorded and matched to the electronic image processing to secure perfect on-site calibration. With RealColor, it is possible to match any number of projectors, and ensure they all project the same primaries and grey scale, without going through a very complicated process. Using our ProNet 2.0 software automates this process.



## What RealColor gives

RealColor provides a unique and quick way to calibrate and set up perfect images for any number of projectors. RealColor can alter imagery by changing simple characteristics such as the colour temperature of the image – perfectly along the black body curve, or very complex details such as each colour's relative saturation and x,y coordinates. RealColor works by mathematically calculating each colour independently, in fact, it is perfect to within 0.002 along all axes of measurement.

## DynamicBlack™ for outstanding dynamics

The F82 series features unmatched imaging dynamics amongst large venue projectors. The unique DynamicBlack functionality automatically adapts to the input histogram of the image, and adjusts so that image output contrast is maximised at any one point in time. This creates much more dynamic imaging, and a more involving experience. If DynamicBlack functionality is not desired, the user can manually adjust IRIS and settings to match a constant, desired output level, with contrast up to 15 000 : 1, and brightness levels to match that of the desired screen size requirement.



## Colour matching

Like all other projection design professional projectors, the F82 series features numerous possibilities and alternatives for matching of several projectors, so that they all appear and perform similarly. Actual colour matching is realised through several process steps, including that of hand selecting units that are optically similar. Additionally, colour matching is realised using extensive features of the RealColor colour management suite, so that every single projector performs absolutely similarly. ProNet 2.0 calibration software suite automates this process.



*DynamicBlack automatically adjusts output to the input signal, and maximises available contrast in the image. The result is unmatched dynamic performance.*

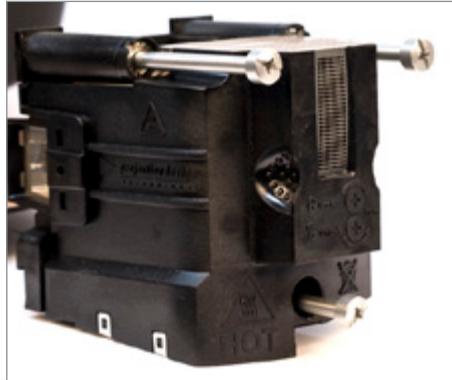
### Low Total Cost of Ownership

Thanks to its complex and robust build and construction, the F82 series requires very little maintenance and in-life maintenance. There are no user serviceable parts, and it does not have any filters or other parts that need periodical replacement. That means it does not require a costly and high frequency maintenance contract. At the same time, and compared to similarly performing xenon high power lamps, lamp replacement cost is low\*, and typical lamp life is long. In total, a very cost effective projector over time, resulting in low, and predictable, cost of ownership.

\* When replacing lamps, it is advised to use only original parts and accessories, as non original aftermarket lamps may reduce performance, damage the projector, and void warranties.

### Low Frequency Maintenance programme

Our Low Frequency Maintenance programme can be set to automatically notify of required services and maintenance. When run continuously, moving parts such as fans and colour wheels require periodic replacement in order to secure and enable heavy duty, and uninterrupted operation. With the F82, the shortest duty cycle of any one component – run in full power mode, is as long as 8000 hours, meaning a full year's operation in 24/7 without maintenance. Add to that hot swappable lamps, and you have a projector that simply does not need to be turned off, running either in automatic lamp relay mode, or even with two lamps at any power setting around the clock.



Original lamp with projectiondesign optimised fixture mechanics.

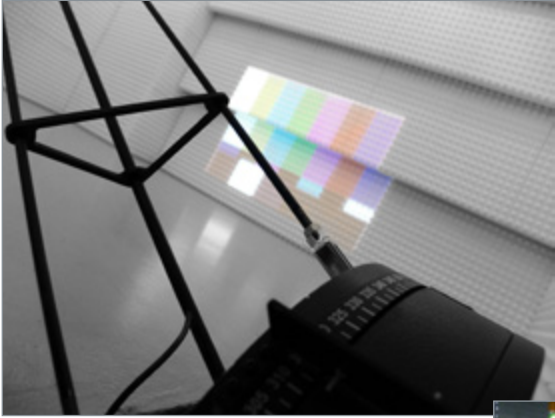
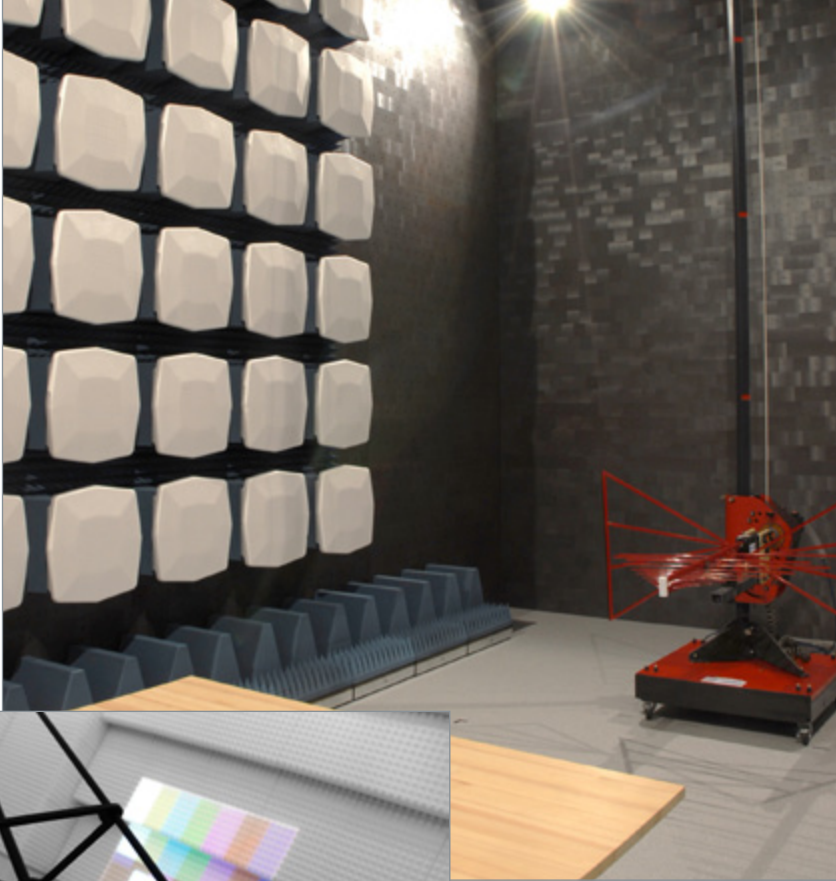


### Designed for full 24/7 operation

All projectiondesign professional projectors feature full 24/7 operation warranties. That means they are designed to operate continuously. There is no fine print. Designing for 24/7 operation requires a lot of attention to detail. Some technologies are better than others when it comes to withstand the abuse of time. We use only components that have predictable behaviours, for instance fans, colour wheel motors, and electronic components that are designed by their respective manufacturers to do the same - withstand time. There are no off-the-shelf components. That is why we also closely monitor the creation of every detail, apply dedicated thermal management, and use specific materials in all parts of the process.



Changing lamps is easily done from the side of the projector.



*projectiondesign in-house EMC lab.*

*In-house acoustics lab.*

*RoHS compliant PCB assembly line.*

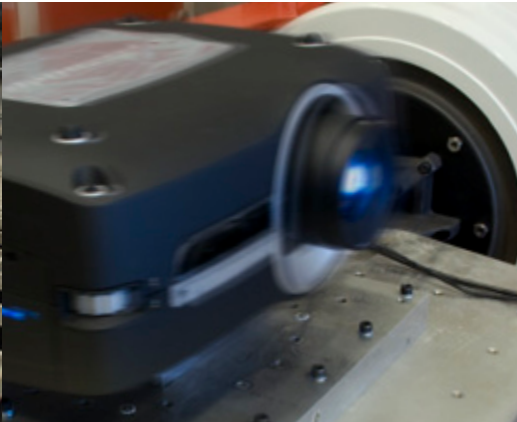
### In house development and process management

Every single part of the F82 series projectors is developed, rigorously tested, and verified in-house at projectiondesign. With more than 800 models and variations of projectors in regular manufacture, test, research and verification facilities include everything from acoustical analysis labs, to a full featured FCC certified EMC lab, environmental labs for lifetime and operational testing, such as temperature variations and testing of vibration resistance, as well as our own optics lab and various test and demo facilities.



*projectiondesign warehouse is completely automatic.*

*F82 series undergoing vibration testing.*



## immaculate process management

Every single F82 projector is rigorously tested, and characterised in-house. We keep test records and performance statistics for every single unit. Also, as we put our pride into making great projectors, they are not passed down an automated production line, but enjoy the careful management of people at all stages of their manufacture. That also means we are personally responsible for all of them. In addition, every single projector is made to specific order. The configuration ordered is the configuration built, and only existing in that particular installation.

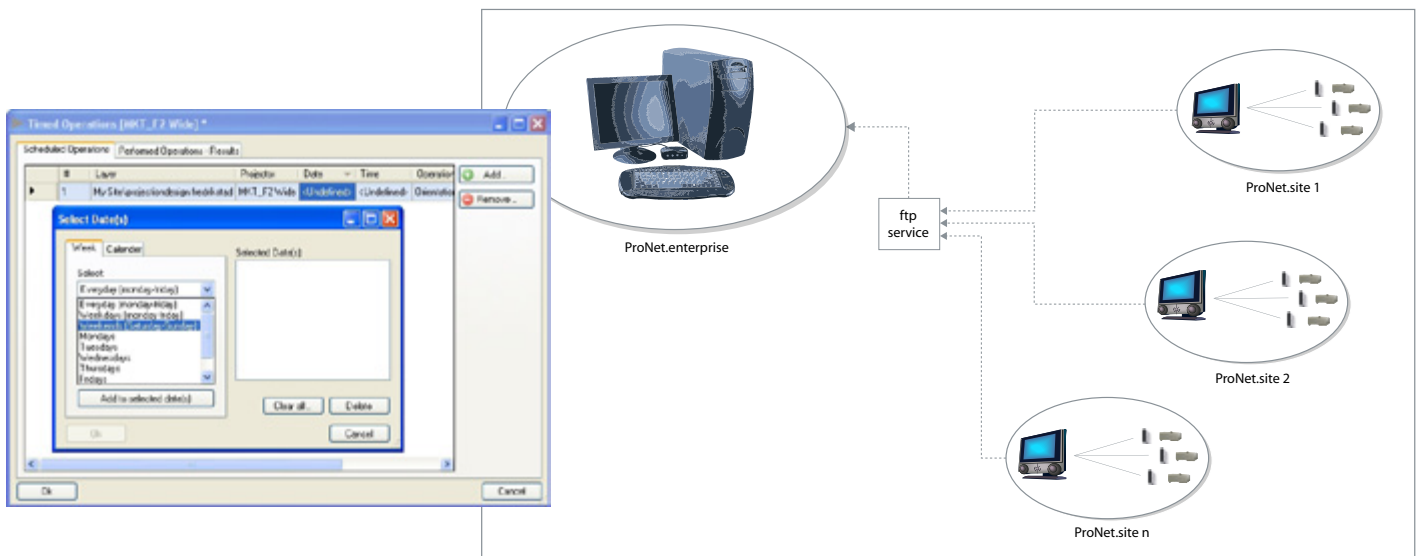


### Extensive input compatibility

Two discrete digital inputs, HDMI and DVI-D enables simple and source switching setups in smaller installations. Both inputs feature HDCP - High bandwidth Digital Content Protection. The F82 also features legacy formats such as RGBHV over VGA, and a 5-BNC input, in addition to standard video formats. Importantly, the F82 features a projectiondesign unique interface, XPort™, for connection to third party modules, as well as standard modules provided by projectiondesign. An HD-SDI module is available from projectiondesign.

### ProNet 2.0 asset management and calibration

Adding to the serviceability and in-life monitoring features, projectiondesign ProNet 2.0 asset management suite can be set up to monitor and report on an unlimited number of projectors in a dedicated or corporate network, in a single site, or in multiple sites. ProNet 2.0 monitors every single aspect of the projector, from individual lamp and fan status, to operating hours, use statistics, and any other related information. ProNet 2.0 offers ProNet.calibrator which extends features to simplify and automate colour matching and projector calibration.







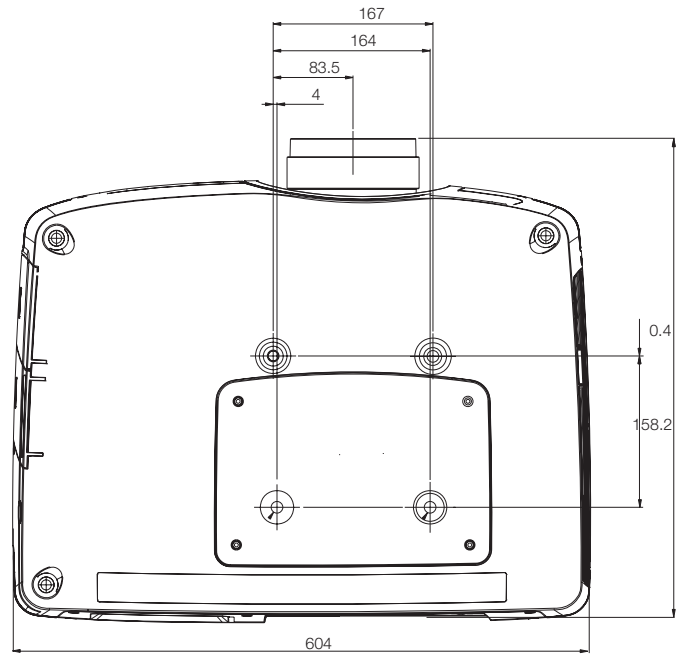
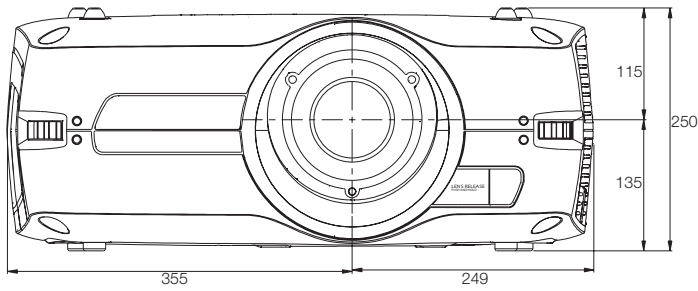
## Technical specifications

|                                   |                            |   |
|-----------------------------------|----------------------------|---|
| <b>projector</b>                  | DLP® digital projector     |   |
| <b>display</b>                    | technology                 | 3-chip DMD™ (Digital Micromirror Device™)           |
|                                   | concept                    | sealed, all-glass optical design with lens shift    |
|                                   | available resolutions      | 1920 x 1200    1920 x 1080                          |
|                                   | brightness                 | centre lumens    10000    10000                     |
|                                   |                            | REC70    7000    7000                               |
|                                   | contrast ratio             | up to 15 000 : 1 (on/off) (automatically adaptive)  |
|                                   | colours                    | 30-bit  |
|                                   | colour management accuracy | ± 0.002 on x, y, z axes                             |
|                                   | image processing latency   | ~ 22 ms on graphics port                            |
| <b>input signal compatibility</b> | computer                   | up to 1920 x 1200 pixels                            |
|                                   |                            | RGBHV, RGBS, RGB                                    |
|                                   | horizontal scan frequency  | 15 - 150 kHz  |
|                                   | vertical scan frequency    | 48 - 190 Hz   |
|                                   | video                      | HDTV (1080i, 720p, 576/p, 480/p)                    |
|                                   |                            | NTSC 3.56/4.43, PAL BGHI, M, N, SECAM               |
|                                   | bandwidth                  | 205 MHz analog RGB                                  |
|                                   |                            | 165 MHz digital RGB (DVI or HDMI)                   |
| <b>optics</b>                     | available lenses           | fixed focal ultra wide angle    EN22 (503-0172-00)  |
|                                   |                            | fixed focal wide angle    EN23 (503-0173-00)        |
|                                   |                            | standard zoom    EN21 (503-0136-00)                 |
|                                   |                            | short tele zoom    EN24 (503-0174-00)               |
|                                   |                            | short tele zoom    EN26 (503-0176-00)               |
|                                   | focusing distance          | 0.7 - 20m   |
|                                   | optical lens shift         | vertical and horizontal                             |
|                                   |                            | EN22 on axis only                                   |
|                                   | lens iris control          | F/2.1 - 6.5 for all lenses, continuously adjustable |
|                                   | DynamicBlack™              | user adjustable                                     |
|                                   | shutter                    | mechanical  |
|                                   | ACOP colour filters        | standard RGB  |
|                                   |                            | motorised REC 709                                   |
|                                   | lamp                       | 2 x 330W UHP™                                       |
|                                   | lamp life                  | 2000 hrs (max typical) (5000 hrs in eco relay mode) |
|                                   | replacement lamp part no.  | 400-0700-00   |

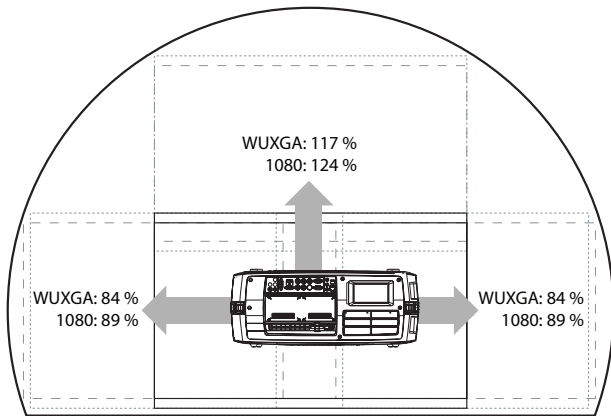
|                             |                           |  |
|-----------------------------|---------------------------|--|
| <b>connectivity</b>         | computer                  | 1x HDMI (1.3)                                    |
|                             |                           | 1x DVI-D   |
|                             |                           | 1x 15-pin DSUB                                   |
|                             |                           | 1x BNC x5  |
|                             | video                     | 1x HDMI (v1.3) (HDCP)                            |
|                             |                           | 1x DVI-D (HDCP)                                  |
|                             |                           | 1x RCA x3 YUV                                    |
|                             |                           | 1x 4-pin mini DIN Y/C                            |
|                             |                           | 1x RCA composite video                           |
|                             | control and communication | 1x RJ45 TCP/IP network port                      |
|                             |                           | 2x RS232 9-pin DSUB (in / out)                   |
|                             |                           | 1x USB - mouse control & firmware upgrade        |
|                             |                           | 2x 12V (60mA) triggers (screen drop / aspect)    |
|                             |                           | 1x RC repeater, 3.5mm mini jack                  |
|                             | other                     | 2x configurable XPort™ (front / back end)        |
| <b>supplied accessories</b> | cables                    | 4m power cord (country dependant)                |
|                             | other                     | backlit IR remote control                        |
|                             |                           | product documentation                            |
| <b>general</b>              | dimensions (dwh)          | 505 x 604 x 250 mm (ex. lens)                    |
|                             | weight                    | about 24 kg (net, ex. lens)                      |
|                             |                           | about 38 kg (shipping)                           |
|                             | environmental             | RoHS, WEEE                                       |
|                             | security                  | 4-digit PIN code, Kensington lock                |
|                             | power requirements        | 12.5A or 6.5A, 100-120V or 200-240V, 50-60Hz     |
|                             |                           | <1050W power consumption                         |
|                             |                           | <2900 BTU/hr                                     |
|                             | conformances              | CE, CSA cUL, FCC Class A, CCC                    |
|                             | operating temperature     | 10 - 40°C / 32 - 104°F, 0 - 1500 m               |
|                             |                           | 0 - 35°C / 32 - 95°F, 1500 - 3000 m              |
|                             | operating and storage     | 20 - 90% RH                                      |
|                             | available colours         | soft touch rubber black matte                    |
|                             | warranties                | standard 2 years, full 24/7 operation            |
|                             |                           | 500 hours or 90 days on lamp                     |
|                             |                           | up to 5 years total extended warranty available. |
|                             |                           | conditions apply.                                |



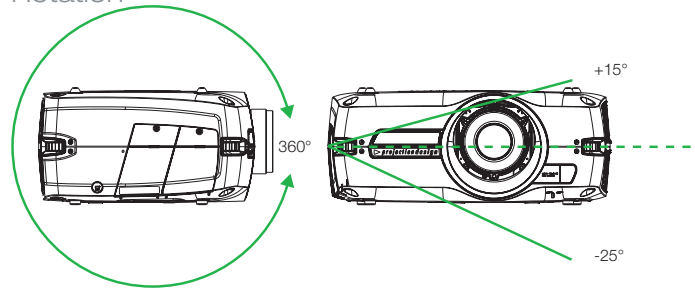
Standard bolt-on ceiling mount interface



Flexible vertical and horizontal lens shift

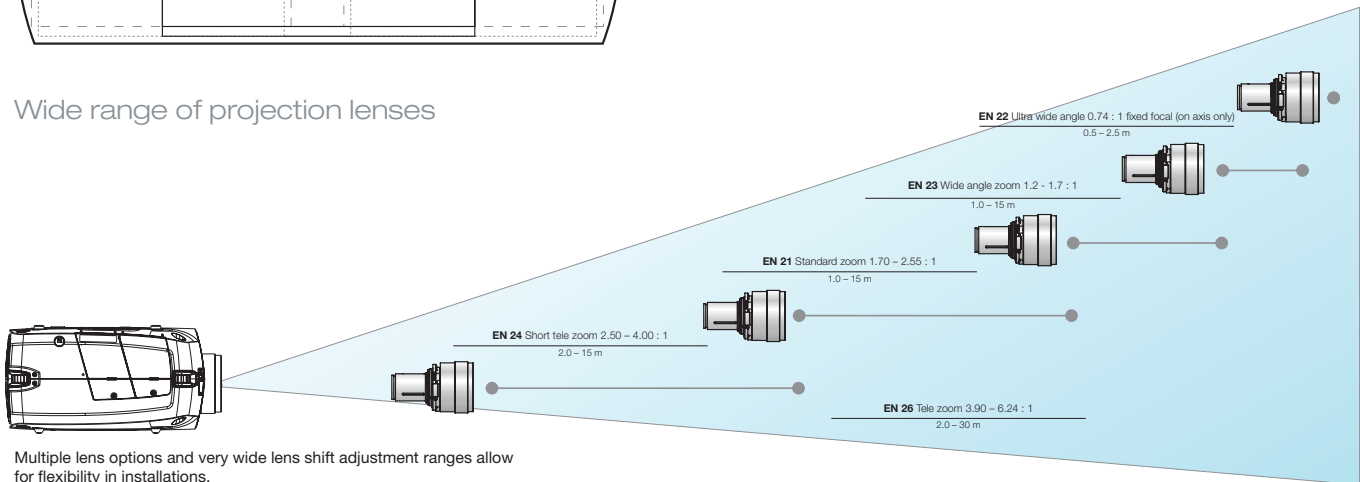


Rotation



The F80 can be rotated 360 degrees around the side to side axis, and for instance project straight down or up, as well as +25/-15 degrees side to side.

Wide range of projection lenses



Multiple lens options and very wide lens shift adjustment ranges allow for flexibility in installations.

Available versions

| Model     | Part Number |
|-----------|-------------|
| F82 1080  | 101-1610-08 |
| F82 wuxga | 101-1611-08 |

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