

**ALPAO atmospheric turbulence WFS** is a Shack-Hartmann WFS dedicated to astronomy and defense applications. With the most advanced EMCCD sensor, it features a high sensitivity and a very high frequency. The latency has been optimized to fit the most demanding applications.

This sensor perfectly fits with **ALPAO DM** and **ALPAO Real Time Computer ACE fast**.



## Key features

### HIGH SENSIVITY

Quantum efficiency  
>90% at 600nm

### FAST WFS

Up to 1.8kHz

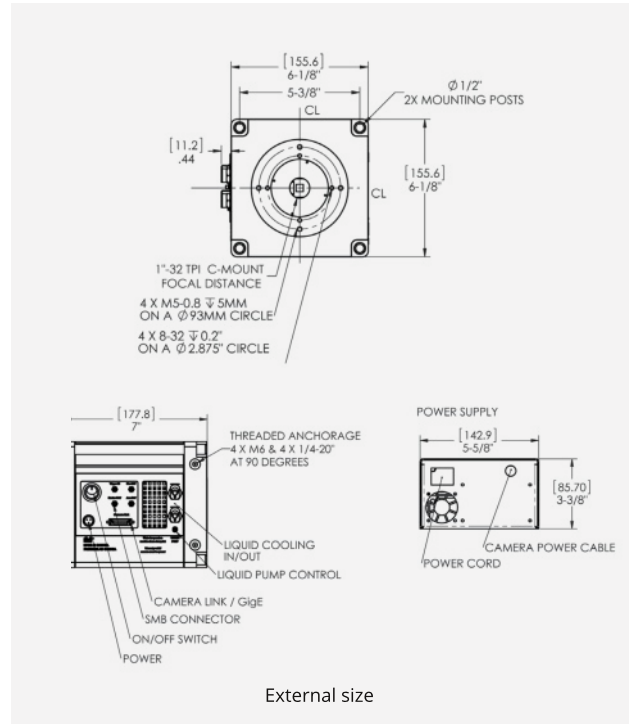
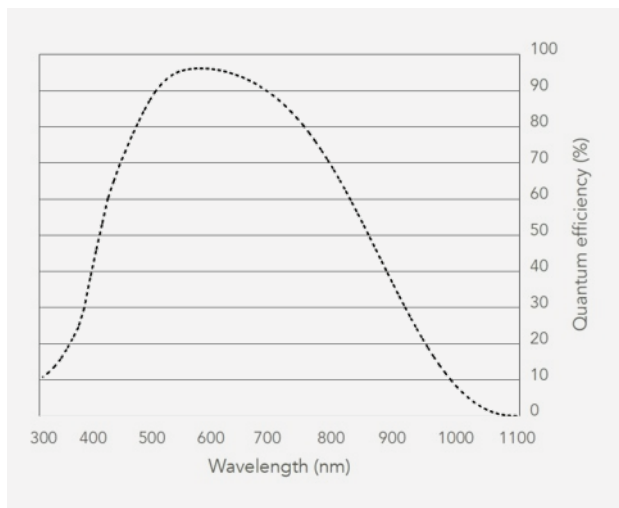
### LOW LATENCY

Optimize for  
atmospheric corrections

## TYPICAL PERFORMANCES

Sensor type
Acquisition frequency
Sensor maximum quantum efficiency
Number of microlenses
Microlens pitch
Spectral range
Interface
Dynamic in tip-tilt / focus (PtV)
Residual WFE error on closed loop *
Absolute precision *
Repeatability *
Typical noise (RMS)
Operating temperature
Recommended DM

VIS WFS-69	VIS WFS-97	VIS WFS-277	VIS WFS-468
EMCCD			
1838Hz	1004Hz		
>90% at 600nm			
8 x 8	10 x 10	16 x 16	23 x 23
192µm	307µm	192µm	133µm
250 - 1100nm			
Camera Link			
10µm	20µm	15µm	10µm
20nm RMS			
λ/20 RMS			
10nm RMS			
< 0.1 electron			
0°C to 30°C			
DM69	DM97-15	DM277	DM468



## MORE INFORMATION

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Note \*: considering a measurement performed in good flux conditions and without wavefront perturbation

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