

ATF6PZ SWIFT

FAST AUTO FOCUS & TRACKING FOR PIEZO Z ACTUATORS

Laser line 660nm or 785nm ATF designed for precise focus of piezo Z actuators for inspection, repair and laser micro-machining systems where high speed tracking is needed

New



The ATF6PZ SWIFT

WDI's ATF6PZ SWIFT is a high speed, high accuracy, autonomous digital autofocus sensor. Its "Smart Sensor Architecture" (SSA) incorporates a semiconductor laser, built-in CMOS image sensor, FPGA and microprocessor for fast digital image processing. By projecting a laser line onto the sample and digitally processing the image, the ATF6PZ SWIFT provides fast and precise output to accurately control the focus position of external piezo Z actuators and stages. By supplying an analog output, the sensor can connect and direct a piezo Z device without the need to go through a secondary controller.

High Accuracy At Fast Speeds

WDI's ATF6PZ SWIFT sensors project their focusing laser directly through the objective lens of the microscope. This "Through The Lens" (TTL) technique allows the sensor to provide extremely accurate autofocus, with a success rate typically higher than 99%. The ATF6PZ SWIFT's on-board digital processing coupled with an improved faster sampling rate allows it to maintain this accuracy with **3 times the speed** of previous versions. As the sensor connects directly to the piezo Z device autofocus times are shortened.

Static or Dynamic Autofocus

The ATF6PZ SWIFT is continually assessing distance and direction to focus, **updating its data every 0.15 milliseconds**. This allows the sensor to keep samples in focus regardless of whether they are stationary or in motion. This powerful tracking autofocus makes it perfect for scanning very large specimens precisely at very high speeds.

Maximum Flexibility

By projecting a laser line, the ATF6PZ SWIFT sensor operates equally effectively on patterned and un-patterned specimens as well as diffusing and reflective surfaces making it ideal for media such as TFT arrays and photo masks. The sensor also automatically adjusts its laser intensity and sensor expose time, allowing it to adapt from low reflectivity (down to 1%) to highly reflective (99%) surfaces. It is compatible with objectives from 2X to 100X, and wavelengths including UV, NUV and NIR.

Easy Integration

All of the sensors in WDI's ATF family are designed with ease of integration in mind. They are compatible with most types of infinity corrected microscope objectives. The ATF6PZ SWIFT comes as a stand-alone sensor with analog output for direct connection to an external piezo Z actuator or stage amplifier. All WDI's ATF sensors have small, standardized footprints and connections, and can output in either analog or digital formats, making them both easy to install and easy to upgrade as application requirements evolve.



光技術をサポートする

株式会社オプトサイエンス

<http://www.optoscience.com>

東京本社 〒160-0014 東京都新宿区内藤町1番地 内藤町ビルディング TEL:03-3356-1064
大阪営業所 〒532-0011 大阪市淀川区西中島7-7-2 新大阪ビル西館 TEL:06-6305-2064
名古屋営業所 〒450-0002 名古屋市中村区名駅2-37-21 東海ソフトビル TEL:052-569-6064

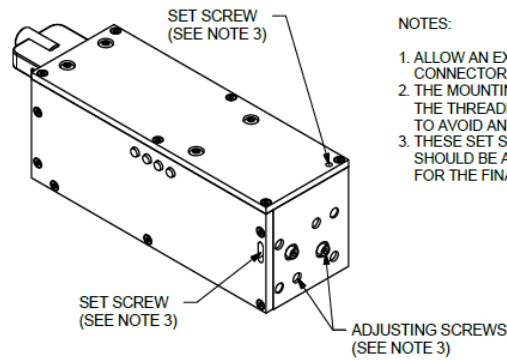
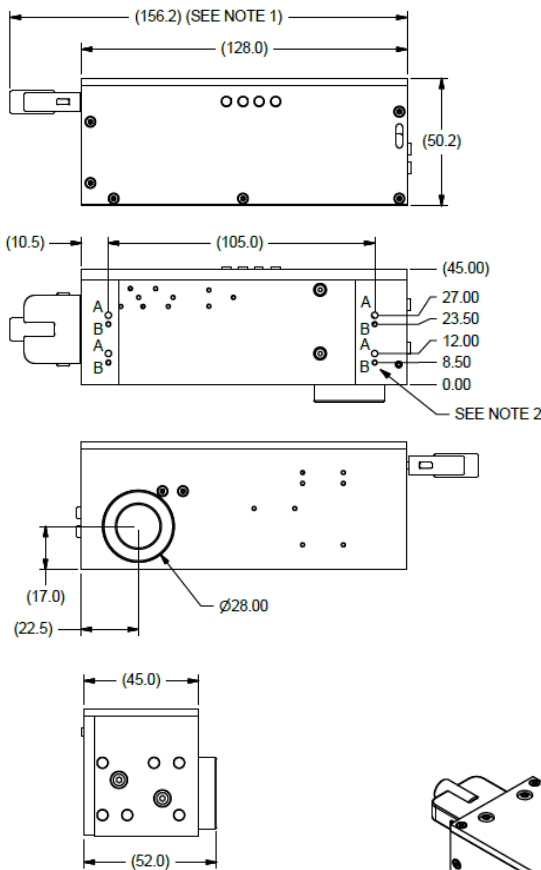
E-mail : info@optoscience.com

ATF6-PZ Sensor	
Structured Light Pattern	Line Segment
Sensor Wavelength	Choice of 660nm or 785nm
Image Detector	Line Scan CMOS
Internal Update Rate	20kHz
Static Autofocus Accuracy	± 1/4 Objective Depth of Focus
Fast Tracking Autofocus Accuracy	± 1/2 Objective Depth of Focus

General Performance	
Output Data Rate	6.5kHz
Reflectivity Adaption Delay	1ms
Laser Type	Semiconductor
Laser Safety	Class 2 660, 785nm
Weight	250g
Dimensions	40 X 40 X 120mm
Maximum Cable Length	1.8m
Compliance	CE SEMI

External Requirements	
Specimen Reflectivity	1% ~ 99%
Glass Thickness	> 0.5mm
Diffusing Specimen	Yes
Specular Specimen	Yes
Patterned Specimen	Yes
Textured Specimen	Yes

Operating Specifications	
Input Voltage	18V to 25V, 24V Nominal
Operating Temperature	18°C ~ 35°C
Storage Temperature	10°C ~ 45°C
Humidity	10% ~ 90% Non Condensing



- NOTES:
1. ALLOW AN EXTRA 30mm FOR CABLE BEND RADIUS AND CONNECTOR UNPLUGGING.
 2. THE MOUNTING SCREWS SHOULD PROTRUDE INTO THE THREADED HOLES BY NO MORE THAN 4mm TO AVOID ANY INTERFERENCE WITH THE INTERNAL COMPONENTS.
 3. THESE SET SCREWS AND ADJUSTING SCREWS SHOULD BE ACCESSIBLE AFTER INSTALLATION FOR THE FINAL, IN FIELD, CALIBRATION OF THE SENSOR.



is a world leader in the manufacturing and integration of industrial autofocus sensors and microscopy automation solutions for the biomedical, metrology, electronics, semiconductor and laser markets. WDI's success lies in an innovative culture and ability to optimize and adapt our technology to a customers' specific requirements by listening to their needs and gaining a deep understanding of their processes, applications and goals. WDI employs over 20 optical, electrical, mechanical and software engineers as well as scientists who are dedicated to servicing our customers. We have locations in Canada and Poland, as well as service centers in Taiwan and South Korea. Contact WDI today to see how we can help solve your microscopy automation needs.