

Surface Temperature Distribution Measurement of Aluminum

Challenge

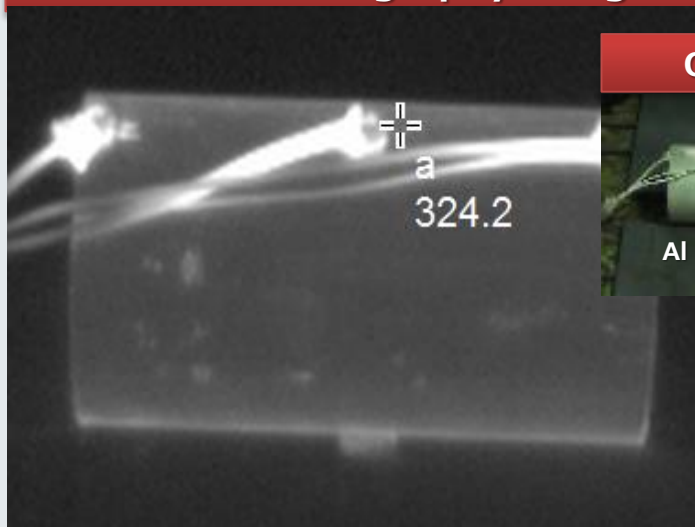
- Accurate measurement of Al is very difficult due to its low emissivity.
- Thermocouple cannot tell if it measures uniformly.

Avio Solution

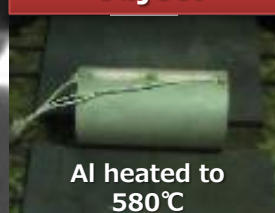
- ◆ World-first!* Technology to measure temperature of low emissivity object by eliminating influence of reflection
- ◆ Good news for automotive industry ! Highly accurate measurement is possible when material is changed from Fe to Al for body weight reduction.
- ◆ High precision measurement of mold to support quality control.

Support weight reduction for all-electric vehicle development

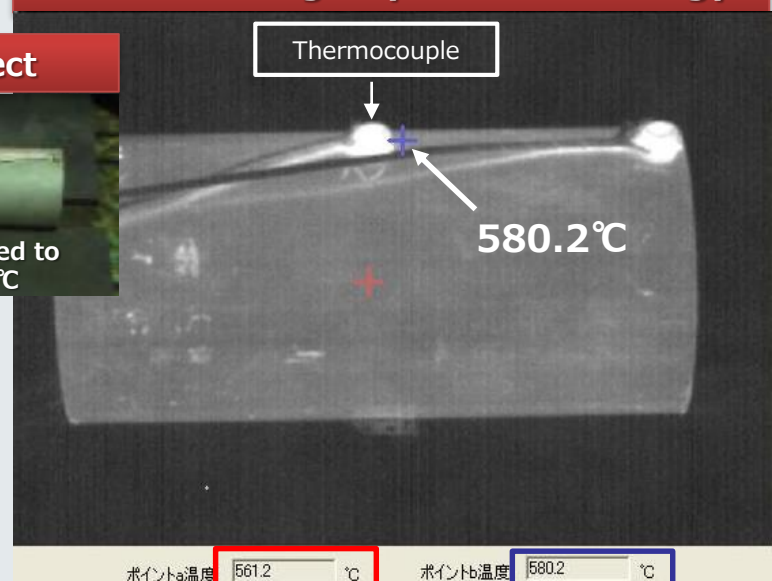
General Thermography Image



Object



Thermal image by new technology



Due to influence of reflection, measurement of actual temperature and temperature distribution is difficult, even emissivity compensation is used.

Accurate temperature is displayed by eliminating reflection 580.2°C(Blue point), where thermocouple is 580°C.

*As of July 2017. It may be affected by environmental temp. etc.

Avio Thermography Line up for Special Measurement

■ Measurement of low emissivity object

- ◆ Custom order item
- ◆ Pixels : 320 x 256
- ◆ Frame rate : 100Hz
- ◆ External I/F : Gig-E
- ◆ Range : 160°C~(Al)
180°C~(Cu)
- ◆ Accuracy : ±4°C or ±4%

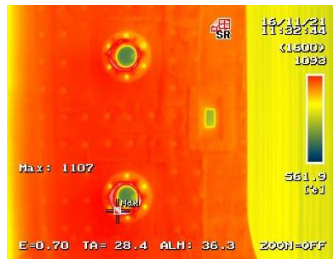


Prototype

- ➔ Custom order item
- ➔ Various lens are available by C-Mount mechanism
- ➔ High speed temperature transition can be measured by min. 5μs exposure time.

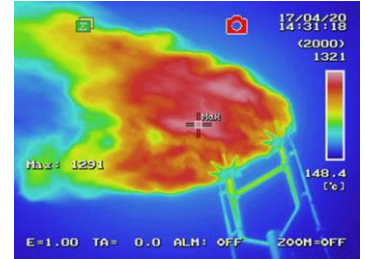
■ R300BP-TF

- ◆ Measurement through flame
- ◆ Wavelength : 3.7~3.9μm
- ◆ Range : 400~1500°C



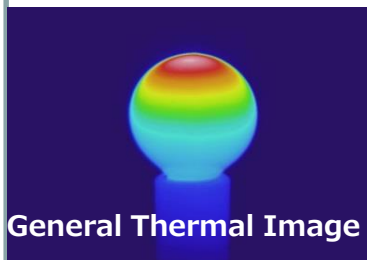
■ R300BP-OF

- ◆ Measurement of flame
- ◆ Wavelength : 4.25 to 4.75μm
- ◆ Range : 600~2000°C



■ R300BP-TG

- ◆ Measurement through glass
- ◆ Wavelength : 3.0 to 3.5μm
- ◆ Range : 500~1000°C



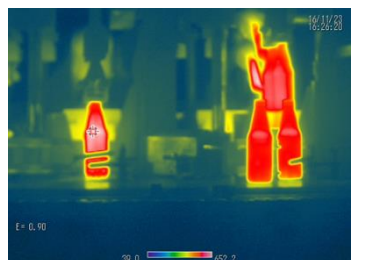
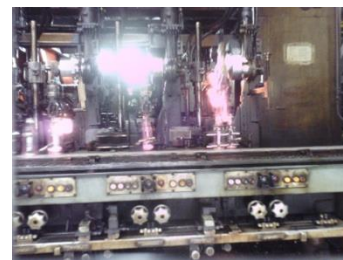
General Thermal Image



R300BP-TG

■ R300BP-OG

- ◆ Measurement of glass surface
- ◆ Wavelength : 5.2 to 7.4μm
- ◆ Range : 400~1500°C



Avio offers most suitable model for all of your measurement needs.

 NIPPON AVIONICS CO., LTD.

Overseas Sales Department
Industrial Electronic Products Sales Division
4206, Ikonobe-cho, Yokohama, 224-0053, Japan
TEL +81-45-930-3596
Fax +81-45-930-3597
E-mail : product-irc-e@ml.avio.co.jp

<http://www.avio.co.jp/english/>



WARNINGS & CAUTIONS

- Before using this product, please carefully read the provided Operation Manual "WARNINGS" & "CAUTIONS" section to ensure proper operation.
- Please do not place the product in high temperature, high humidity or high inert gas environments.

Distributor: