

Mobile Infrared Target



As part of a suite of testing facilities QinetiQ offers customers a mobile infrared target which can be deployed almost anywhere in the UK accessible to a land rover.

Bar Groups

The emissivity of the bar groups is approximately 0.9 and the surface face can be viewed in the 3 to 5 μ m and 8 to 14 μ m bands

Control System

The system is electronically adjustable in 0.1 $^{\circ}$ C increments with the temperature of the ambient panels matching the background temperature.

IRT Operating Parameters

The bar groups reach the required stable operating temperature with one hours of switch on. This is

the maximum time that would be required allowing for the worst case wind condition. The target is normally stable within 15 minutes.

The bar groups are capable of operating satisfactorily in the following conditions

- Ambient/cold operating range - 0 to 40 $^{\circ}$ C
- Hot bars operating range - 0 to 10 $^{\circ}$ C above cold bars
- Wind speed – 20 knots maximum continuous
- Humidity – 80% maximum (not raining)

The IRT cannot operate in rainfall above 0.5mm per hour.

Performance Characteristics

The radiant temperatures of each of the bar groups conforms to the following parameters:

- The radiant temperature standard deviation along and across any bar shall be no greater than 10% of the radiant temperature difference between the hot and cold bars or 0.5 $^{\circ}$ C, whichever is the greater
- The set of bars with temperatures closer to the background temperature shall be no more than 3 $^{\circ}$ C above or below the radiant temperature of the background on which the target is deployed
- The control system and components is to give an accuracy of $\pm 0.1^{\circ}$ C. However, in a practical situation on an open field with a maximum wind speed of 20 knots at ambient temperatures between 0 and 40 $^{\circ}$ C with a relative humidity up to 80%; then the accuracy shall be $\pm 0.5^{\circ}$ C

Target Dimensions – The Ground Resolved Distances (GRD) available are shown below

| GRD (cm) |
|---------------------|
| 30 |
| 50 |
| 60 |
| 70 |
| 80 |
| 90 |
| 100 |
| 110 |
| 120 |
| 130 |
| 150 |
| 160 |
| 170 |
| 190 |
| 210 |

NB. These are only available along-track for oblique orientation.

For further information on any of the infrared testing facilities please contact.

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