

Forward Scatter Runway Visual Range System

Overview

The Campbell Scientific Instrumented Runway Visual Range, or IRVR System provides an automated assessment of the distance an aircraft pilot can see the runway surface markings and lights.

The automated method of determining RVR, eliminates the error and inconsistencies associated with human observations and ensures reliable and efficient airport operations.

The system is scalable allowing for simple and economical solutions for smaller airfields but scaling up to a full three point sensor location system for CAT III runways at International Airports.

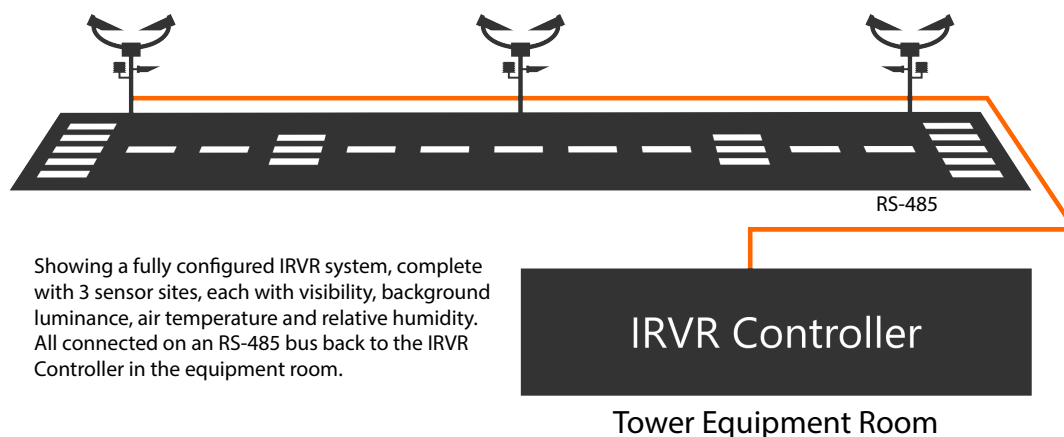
The system can operate as a stand-alone IRVR or provide IRVR data to a larger AWOS system.

Technical Description

The IRVR system utilises several optical sensors at between one and three locations. These locations equate to touch-down, mid-point and stop-end of the runway, depending on its current operating direction. Sensors operate on a network terminating at the IRVR Controller. The controller has the capability to output RVR, Aviation Visibility and if available Present Weather measurements to larger AWOS.

Benefits and Features

- › The IRVR system can provide aviation visibility readings
- › Selectable Touchdown Points
- › Customisable screen to suit user requirements
- › Ability to incorporate Present Weather measurements
- › Can output METAR/SPECI
- › Complies to ICAO 9328, ICAO 9837 & ICAO Annex 3

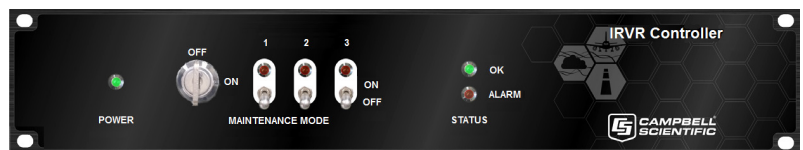


Displays

The IRVR controller presents information in a number of ways. Firstly, it can serve a display over Ethernet or provide data to drive a locally hosted screen, such as PC based displays. The screens are high contrast showing the current RVR value for each site, including trend. The current operational runway direction and the runway light intensity is also shown. If a site is offline for maintenance or any fault or error condition is in effect then this will be displayed clearly as can be seen from the screens below.



The controller, which can be mounted in a 19" rack or be positioned on a desktop, also accepts input from the runway lighting system to provide the runway light intensity (RLI) and an input to determine the operational direction of the runway (RD). Using a combination of visibility and background luminance sensors in conjunction with the RLI and RD, RVR can be calculated for each deployed runway location in accordance with ICAO standards.



This includes both 1 minute values and trends, and 10 minute marked discontinuity values. All data is archived within the controller for a minimum of 30 days and, in the event of any incident, can be retrieved from the unit or a SC115 USB enabled memory device for easy access. RS-232 inputs for an external clock and a service port are also available.

Specifications

- › Compatible Visibility/PW Sensors: CS120A, CS125
- › Background Luminance Sensor: CS140
- › Datalogger based unit for high MTBF and maximum reliability
- › 2U 19" rack mountable
- › Internal clock accurate to ± 3 minutes per year
- › RS-232 input for Wharton clock
- › Contact free relay inputs for Runway Light Intensity and Runway Direction
- › RS-485 inputs for sensor locations
- › Ethernet connection for displays and data messages
- › RS-232 output for data messages
- › RS-232 service port
- › Power: 100-240V AC, 15W 50-60 Hz

Data Output

In addition to the displays, the controller can also output message strings via RS-232 serial or via an IP port for integration into other systems. A choice of messages are available and reflect the same fault and maintenance conditions as displayed on screen.

Added Benefits

An added benefit of the IRVR system is that it can also provide air temperature, relative humidity and visibility readings from the same sensor set. This can prove cost effective when used as part of an AWOS, whereby not only is the RVR returned but the system can utilise these additional values without the need for duplicate sensors.

For further information please contact our Aviation team on +44(0)1509 828888 or sales@campbellsci.co.uk



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February 20, 2019