

The Radome Accessories Control Center

from Skywire Design Inc

The RACC is a pre-assembled, expandable user interface for radome power distribution, fire detection, security, environmental control, and status monitoring. Commonly used with SATCOM earth stations, the RACC is the C³I hub for any radome in which it is installed.

The RACC is a next generation product, and is backward compatible with the RAP/RAIB used by the MET program, while providing additional features and greater flexibility. The components of the RACC are factory installed and pre-wired on steel frames and packaged for worldwide shipping. Once on site, the sections are easily joined, and power and signal wiring is connected as needed to external circuits.



Standard Features of the RACC

SMOKE/FIRE DETECTION SYSTEM

- Aspirating (air sampling) fire detector uses light chamber technology
- All serviceable electronic components are accessible at radome floor level
- Detector meets -40°F/-40°C to 122°F/50°C temperature range without special environmental control (heating/cooling)

POWER DISTRIBUTION PANELBOARD

- Surface-mounted NEMA 3R 208/120VAC, 3Ø
- Other voltages available
- Main breaker: 100A; Optional 150A, 200A
- Whole panel transient surge suppressor
- Branch breakers included for:
 - Radome interior lighting
 - Entry and obstruction (FAA/ ICAO) lighting
 - Radome interior service outlets

- Smoke/fire detection system
- Ventilation blowers or HVAC, per site requirements

CONTROLLER WITH STATUS REPORTING

- Local and Automatic temperature-based blower control
- Remote blower stop with auto restart reduces pressure to ease entry and exit
- Local and Automatic exterior lighting control
- Interface for all IFL connections for radome systems
- Additional space for site-specific options



Reliable, Serviceable Radome Fire Detection

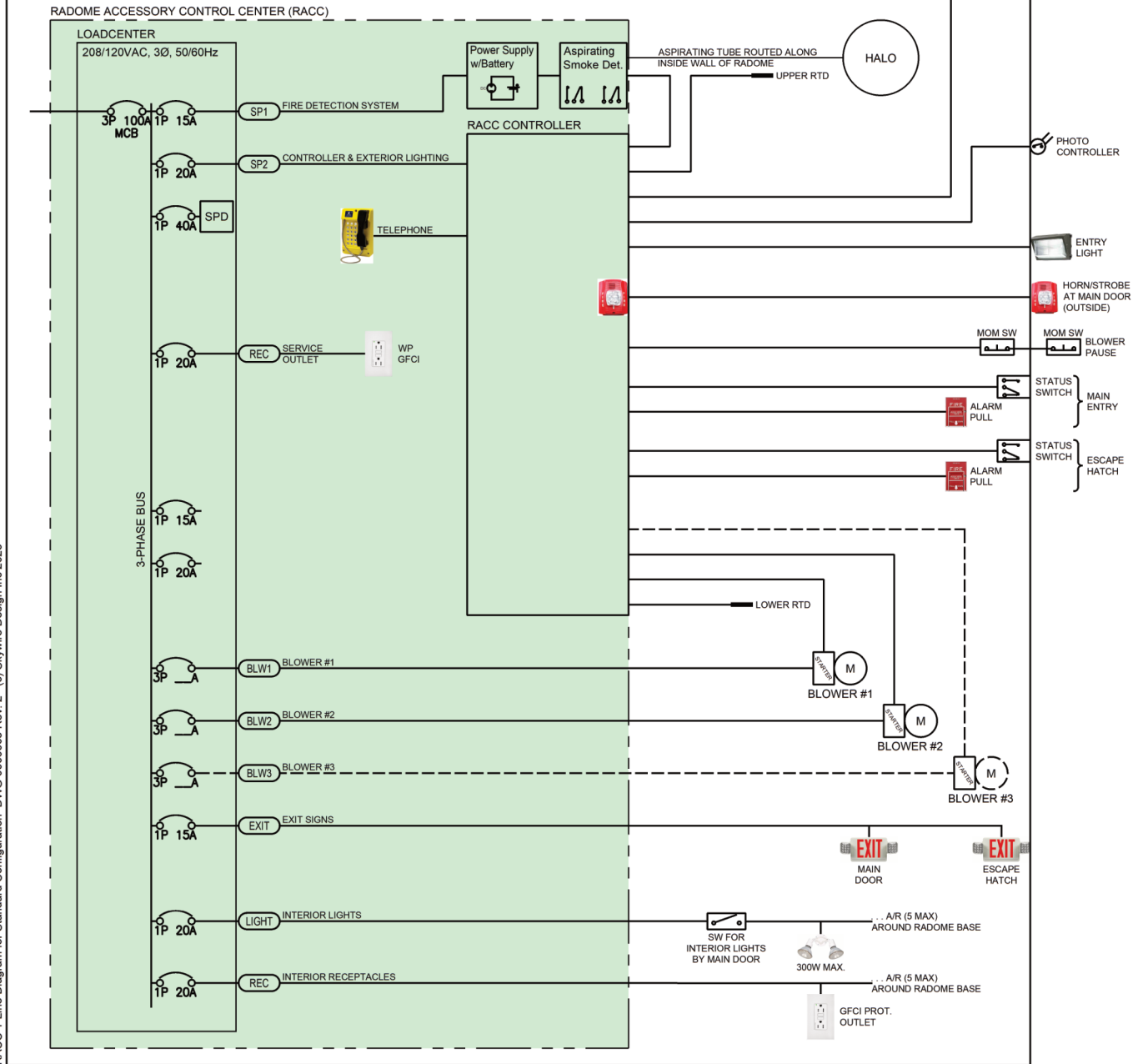
Fire detection in a radome requires equipment that is adapted to high, open spaces; is readily tested and maintained; and is suitable for dusty/dirty conditions and extreme temperatures. When located for optimal detection, the typical ionization or photoelectric smoke detector used in homes and offices must be installed well above the equator of the radome. In this location, they are practically unmaintainable and so fall into disrepair and become unserviceable. Air sampling (aspirating) detectors, on the other hand, are ideally suited for the application.

A halo of lightweight flexible plastic tubing is installed at the top of the radome and connected to a small air pump in a detector located near the base of the radome. Air is drawn into the halo through precisely sized and spaced holes, and continuously sampled by the detector to monitor for particles of combustion. Detection is thus possible long before there is visible

smoke or fire. While additional spot detection may be desired in specific enclosures such as the hub or pedestal of the antenna, the aspirating smoke detector is able to continuously monitor all equipment and personnel in the radome. Locating the active components of the detector at ground level ensures easy access to hardware when inspection, testing, or occasional repair is required.

While the PLC that operates the RACC controller monitors the fire detection equipment, the fire detector operates from its own battery-backed power supply. In LOCAL mode the detector will operate an alarm outside the radome entry door and inside the radome. In REMOTE mode it will report to a fire alarm control panel which will operate the alarms. In either mode, annunciation is fully independent of RACC controller status.

RADOME ASSEMBLY



RACC 1-Line Diagram for Standard Configuration: DWG 0000063 Rev. 2 (c) Skywire Design Inc 2023

Typical System Power and Control Diagram (1-line)

Pre-Installation Site Survey Questionnaire

BLOWERS

- How many blowers for the radome?
- What type of motor starter do the blowers use?
___ Magnetic ___ Soft Start ___ VFD
- What manual controls are available at the blower motor starter?
- What sensors are associated with control of the blower (manometer, blocked filter sensor, thermometer, other?)
- What blower power is used?
Voltage ___ Phases ___ Frequency ___
- Is the nameplate data available?
- Are wiring diagrams available?

EGRESS POINTS

- How many points of egress does the radome have? Where?
- Do they open in or out?
- Do they have alarm switches installed to indicate the door/hatch is open?
- If so, what type of switch is used?

FIRE PROTECTION

- Will the radome fire detection system connect to a site fire alarm control panel (FACP)?
- If yes, what is the total cable length needed from radome to FACP?
- Does the site need Class A or Class B wiring?
- What is the brand and model number of the FACP?
- How many alarm pulls are in the radome now? What brand and model number(s)?

OTHER FEATURES

- What size is the radome?
Diameter: ___ft/m
Truncation: ___%
- Is there a radome vent hatch at the top?
- Is the vent hatch louver controllable?
- Is control motorized or manual?
- Is the radome now, or does it need to be, air conditioned?

To find out more about the RACC, please contact our office:

Specifications subject to change without notice.
Please contact SDI for latest information before concluding system design.



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