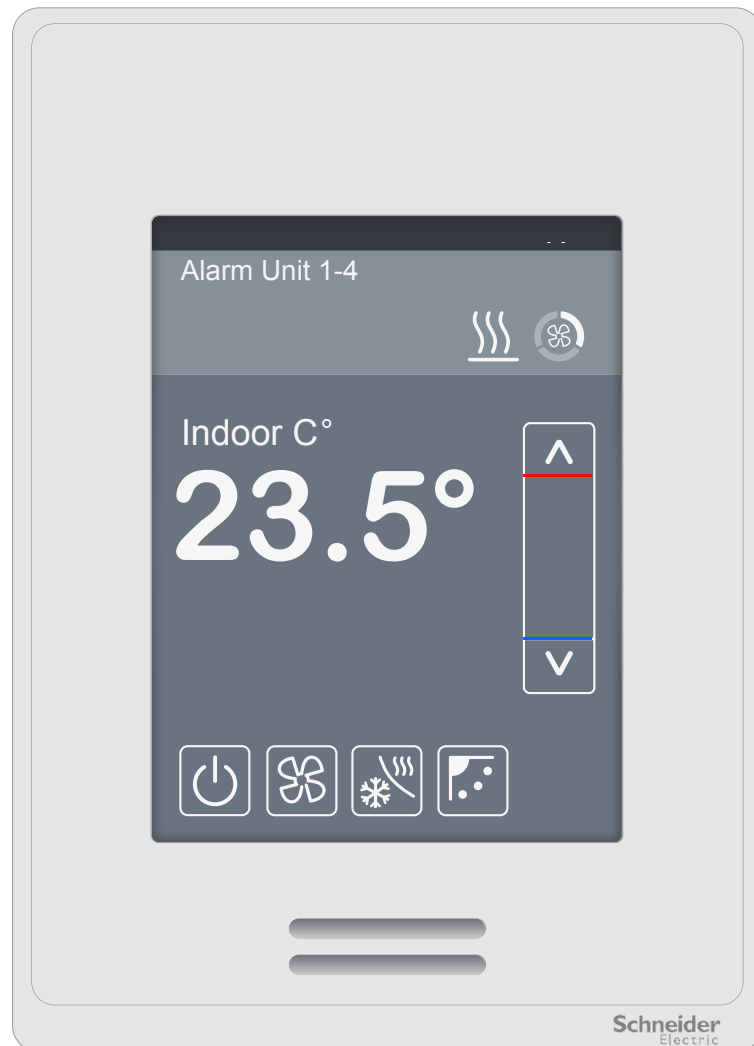# VRF Remote Controller

SER8150RxB1194

Technical Cut Sheet

Remote Controller for Panasonic VRF systems for commercial and high end hospitality markets

Release 1

SER8150RxB1194 Remote Controller Features

AT A GLANCE

Custom design

- Touch screen with customizable user experience

- 5 selectable screen colors out of the box

- Supports the upload of a custom standby screen and custom messages

- Select between 5 states of air direction

- Available in multiple languages

- One touch changes °C / °F

- On-board PIR occupancy sensor (PIR model only)

- On-baord RH sensor

- Compatible with ZigBee Pro wireless sensors

- Available Uploader Tool for the upload of Lua Scripts, standby screen images, and firmware upgrades

Integration

- Multiple options for integration to EcoStruxure Building Operation

The perfect balance between simplicity and sophistication. An elegantly simple casing combines with configurable screen colors to match decor. Display any Panasonic logo and custom messages on screen to reinforce the Panasonic brand and provide a more enjoyable occupant experience.

Introduction
This remote controller is a single powered component and communicates directly to the VRF indoor unit from a single cable with two conductors.

Touch screen with customizable user experience
The touch screen of the SER8150RxB1194 offers a customizable user experience with selection of languages, units, air direction, buttons, and screen colors. It also supports the upload of an image or logo that becomes the default standby screen of the device. Custom messages can be displayed on-screen using BACnet objects when the remote controller is integrated to a BACnet system.

Passive infrared motion sensor
The SER8150R5B1194 models are equipped with a discrete Passive Infrared (PIR) motion sensor. By using this internal information, the remote controller can integrate a script to customize special behavior, such as setpoint change, system mode change, fan mode speed and time interval. This information is also published via BACnet.

SER8150RxB1194 Features

Product highlights
- Suitable for both commercial and hospitality markets and systems
- Customizable color digital touch screen interface with multi-language support
- On-board humidity sensor with on-board dehumidification control
- Script can be uploaded for advanced occupancy functions for commercial and lodging applications
- Optional wireless door and window switches available (requires additional ZigBee plug-in board VCM8000V5094P)
- Configurable options related to Panasonic VRF equipment
- Configurable scheduler
- BACnet support of change function for EcoStruxure Building Operation integration

Networking
- ZigBee PRO
- BACnet MS/TP
- Modbus

Integration to EcoStruxure Building Operation
The device can be integrated with Building Management Systems
- Direct wired integration to MS/TP network
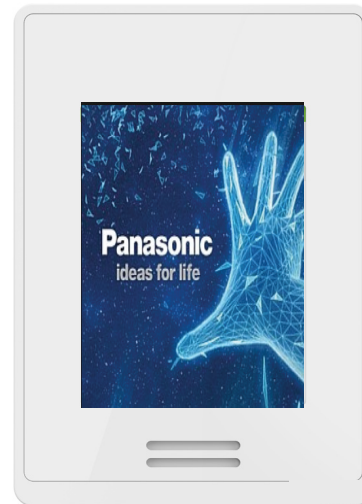
CUSTOM STANDBY SCREEN & MESSAGES

> Custom standby screen

> Custom BACnet MS/TP messages

Customized Screen

SER8150RxB1194 Programming Features

Programming with Lua

The remote controllers are programmable using the open programming language Lua. This allows users to alter the control sequence and interact with the various input / output points. Programming in Lua lets you create a set of general features that can be extended to fit different problem types.

Using Lua scripts enables you to take advantage of the extra inputs and outputs of the remote controller to manage other devices, such as sensors and relays.

Programming with BMS integration

When integrated into a BACnet MS/TP building management system, the SER8150RxB1194 offers the following: .
• BACnet MS/TP integration into BMS
• 10 Program BACnet objects (Lua scripts)
• Each object can contain 460 characters
• No special software, license or tool is required

Programming without integration

When there is no BACnet MS/TP integration, a Lua script can be uploaded directly to the remote controller using the Uploader Tool. Unlike the 10 PG objects used when the unit is integrated via BACnet MS/TP, in this case there is only one script, which can contain up to 16KB.

HVAC applications and beyond

Programming can be used to go beyond the pre-configured control sequences of the remote controller to create customized applications. It can also be used to comply with specific project requirements and manage other applications according to project design.
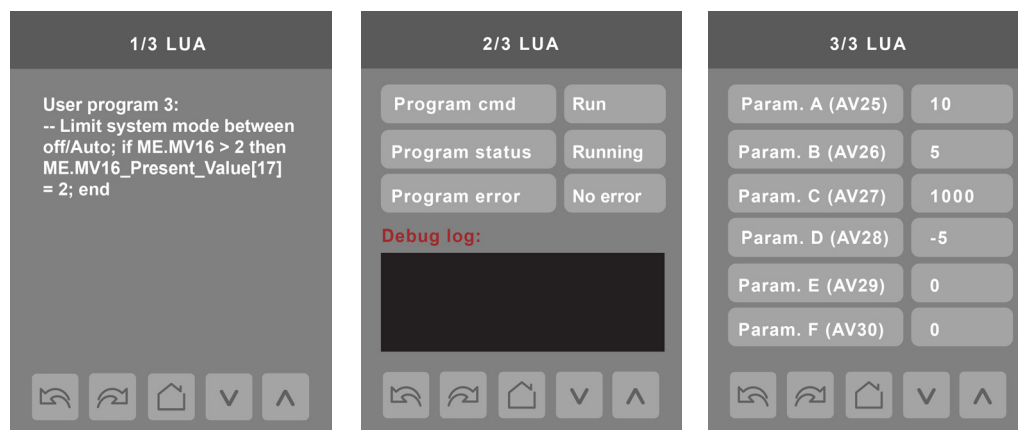
Uploader Tool

Lua scripts, standby screen images and firmware upgrades can be loaded to the remote controller using the Uploader Tool.
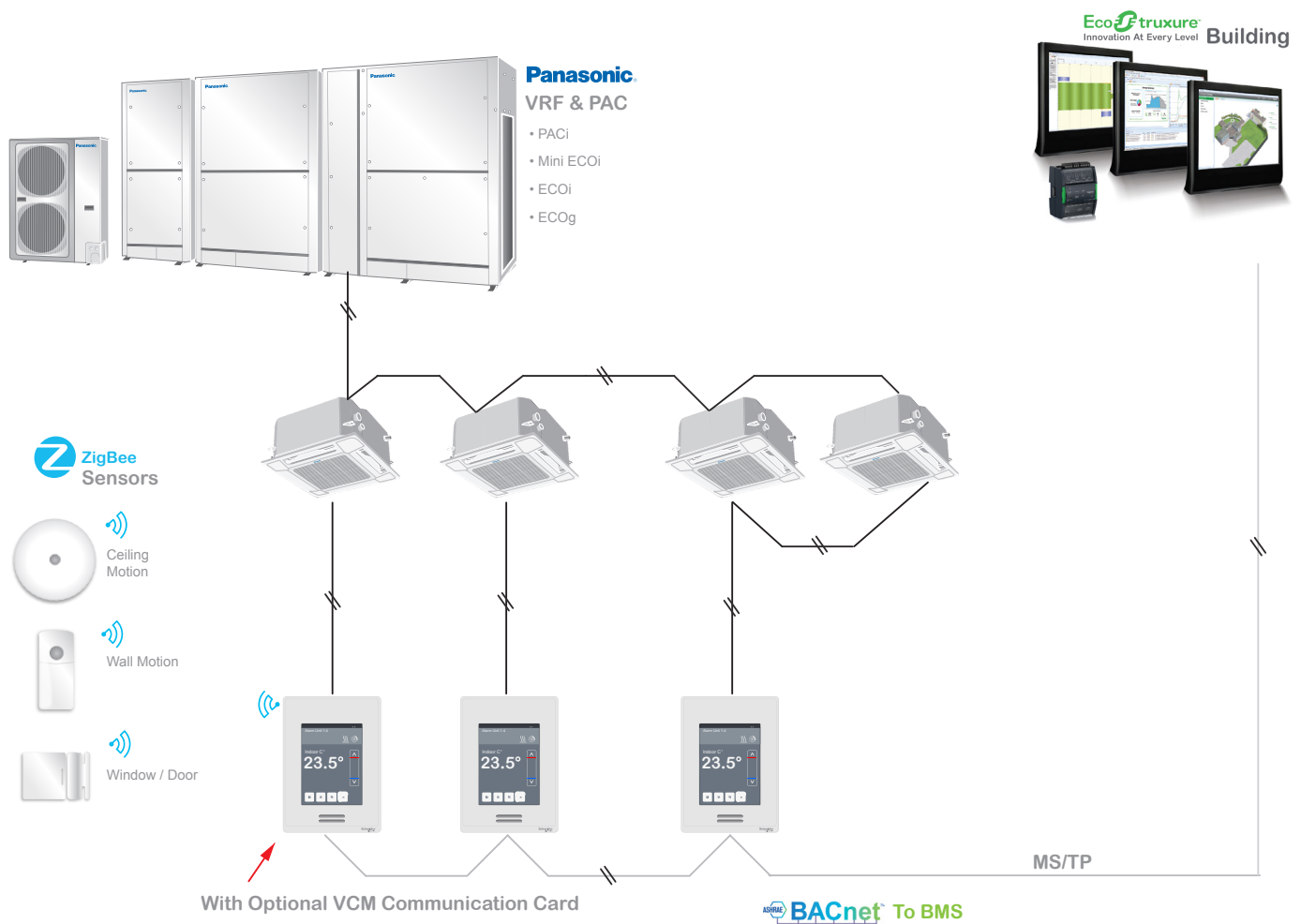
> PG objects viewed through a BMS
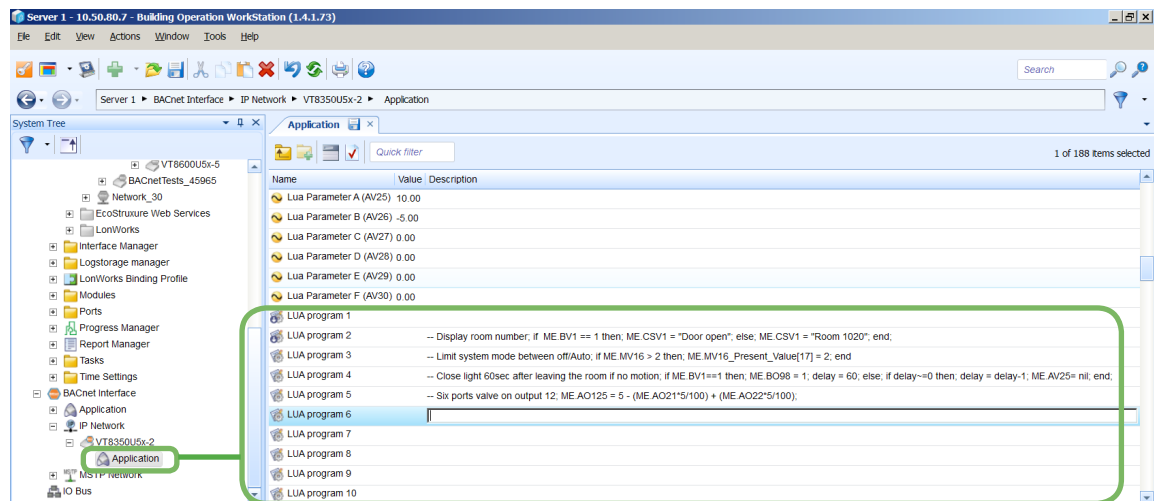
> PG objects viewed through the touch-screen display

SER8150RxB1194 Typical Application

Applications

The Remote Controller is configured to manage up to eight different VRF devices. The diagram below shows a typical application for a wired architecture.

Panasonic

VRF & PAC

- PACi
- Mini ECOi
- ECOi
- ECOg

Eco$truxure
Innovation At Every Level **Building**

ZigBee Sensors

Ceiling Motion

Wall Motion

Window / Door

23.5°

23.5°

23.5°

With Optional VCM Communication Card

MS/TP

ASHRAE BACnet **To BMS**

SER8150RxB1194
Specifications

Dimensions
Height: 12cm/4.72in
Width: 8.6cm/3.39in
Depth: 2.7cm/1.06in

Power Requirements
16 Vdc from Panasonic R-R IDU connectors
50/60 Hz, 4VA, Class 2 Supply

Range from Indoor Unit
Recommended 500ft (150 m)

Operating Conditions
0 °C to 50°C (32°F to122°F)
0% to 95% R.H. non-condensing

Storage Conditions
-30°C to 50°C (-22°F to 122°F)
0% to 95% R.H. non-condensing

Temperature Sensor
Local 10 K NTC type 2 thermistor

Temperature Sensor Resolution
± 0.1°C (± 0.2°F)

Temperature Sensor Accuracy
± 0.5°C (± 0.9°F) @ 21°C (70°F) typical calibrated

Humidity Sensor and Calibration
Single point calibrated bulk polymer type sensor

Humidity Sensor Precision
Reading range from 10 to 90 % R.H. non-condensing 10 to 20% precision: 10%
20% to 80% precision: 5%
80% to 90% precision: 10%

Humidity Sensor Stability
Less than 1.0 % yearly (typical drift)

Wiring
Maximum wire length between last indoor unit to SER8150RxB1194 equals 490ft (150m) with AWG #18 wire (0.82 mm^2). Refer to Panasonic VRF guidelines "Wiring System Diagram for Remote Controller" for this limitation.

Approximate Shipping Weight
0.34 kg (0.75 lb)

Safety Standards All Models
LVD Directive 2006/95/EC
EN 60950-1:2006/A2:2013
UL 873 CSA C22.2 No.24-93

EMC Standards All Models
EMC Directive 2004/108/EC
IEC 61326-1:2005
FCC 15 Subpart B
ICES-003

Radio Standards (Wireless Models)
R&TTE Directive 1999/5/EC
IEC 61326-1:2005
EN 301 489-1 V1.9.2
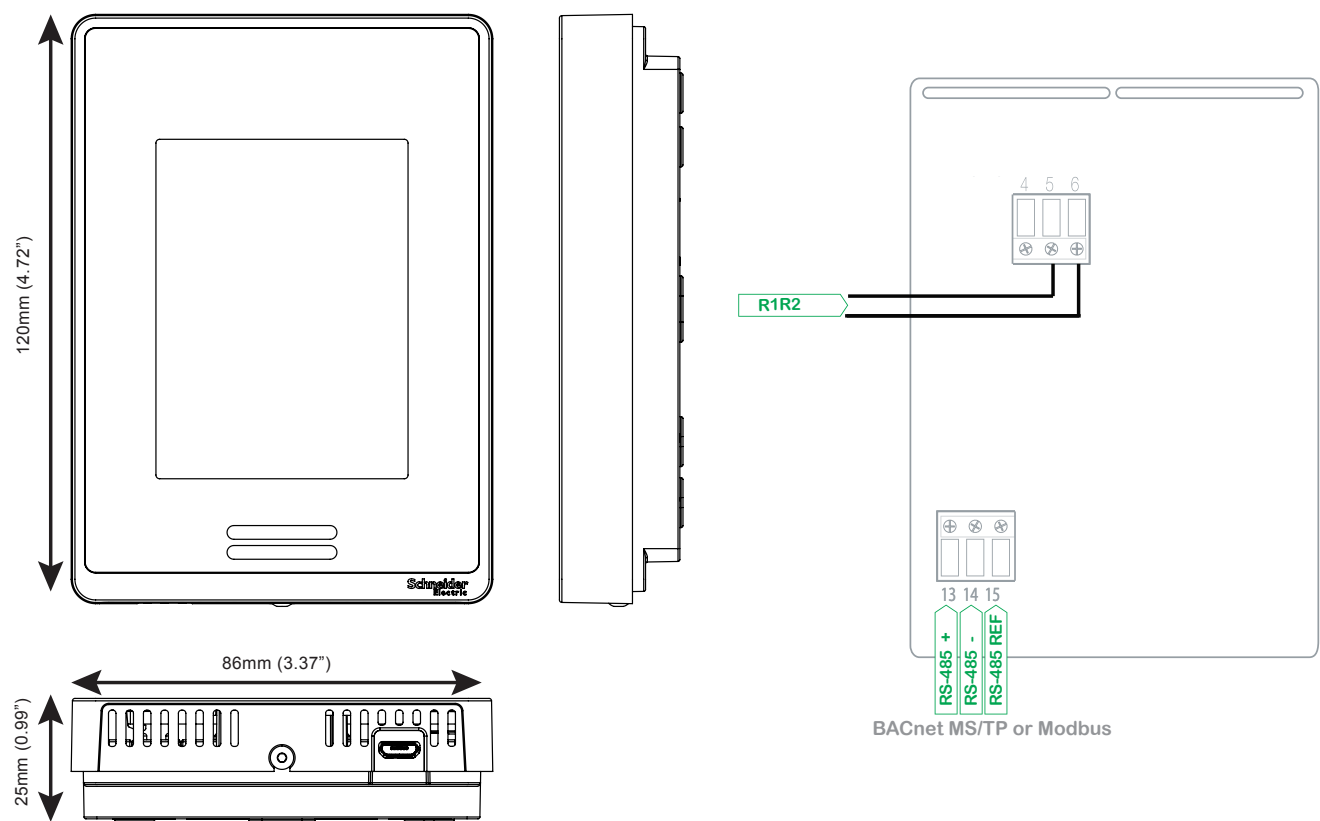EN 301 328 V1.8.1
FCC 15 Subpart C, Class A
RSS 210
THIS DEVICE COMPLIES WITH PART 15 OF THE FCC RULES. OPERATION IS SUBJECT TO THE FOLLOWING TWO CONDITIONS: (1) THIS DEVICE MAY NOT CAUSE HARMFUL INTERFERENCE, AND (2) THIS DEVICE MUST ACCEPT ANY INTERFERENCE RECEIVED, INCLUDING INTERFERENCE THAT MAY CAUSE UNDESIRED OPERATION.

Check with your local government for instruction on disposal of these products.

SER8150RxB1194 Dimensions & Ordering

Dimensions & Wiring

120mm (4.72")

86mm (3.37")

25mm (0.99")

4 5 6

R1R2

13 14 15

RS-485 +
RS-485 -
RS-485 REF

BACnet MS/TP or Modbus

Ordering

Model	RH Sensor	PIR Sensor
SER8150R0B1194	X	
SER8150R5B1194	X	X