



# Return Bus Load Shunt Monitoring Cable Assembly Kit

## Installation Manual

Kit Specification Number: 559404

For Use in Spec. No. 582127200 Power Systems

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If you encounter any installation or operational issues with your product, check the pertinent section of this manual to see if the issue can be resolved by following outlined procedures.

Visit <https://www.vertiv.com/en-us/support/> for additional assistance.

## TABLE OF CONTENTS

<b>Admonishments Used in this Document .....</b>	<b>iv</b>
<b>Important Safety Instructions .....</b>	<b>v</b>
Safety Admonishments Definitions .....	v
Safety and Regulatory Statements .....	v
Déclarations de Sécurité et de Réglementation .....	v
<b>1 Vertiv™ Return Bus Load Shunt Monitoring Cable Assembly Kit .....</b>	<b>1</b>
1.1 Kit Description .....	1
1.2 Kit Contents .....	1
1.3 Tools and Material Required .....	1
1.4 Installation Procedure .....	1
<b>2 SM-DU External Shunt Connections .....</b>	<b>4</b>

## Admonishments Used in this Document



**DANGER!** Warns of a hazard the reader *will* be exposed to that will *likely* result in death or serious injury if not avoided. (ANSI, OSHA)



**WARNING!** Warns of a potential hazard the reader *may* be exposed to that *could* result in death or serious injury if not avoided. This admonition is not used for situations that pose a risk only to equipment, software, data, or service. (ANSI)



**CAUTION!** Warns of a potential hazard the reader *may* be exposed to that *could* result in minor or moderate injury if not avoided. (ANSI, OSHA) This admonition is not used for situations that pose a risk only to equipment, data, or service, even if such use appears to be permitted in some of the applicable standards. (OSHA)



**ALERT!** Alerts the reader to an action that *must be avoided* in order to protect equipment, software, data, or service. (ISO)



**ALERT!** Alerts the reader to an action that *must be performed* in order to prevent equipment damage, software corruption, data loss, or service interruption. (ISO)



**FIRE SAFETY!** Informs the reader of fire safety information, reminders, precautions, or policies, or of the locations of fire-fighting and fire-safety equipment. (ISO)



**SAFETY!** Informs the reader of general safety information, reminders, precautions, or policies not related to a particular source of hazard or to fire safety. (ISO, ANSI, OSHA)

## **Important Safety Instructions**

### **Safety Admonishments Definitions**

Definitions of the safety admonishments used in this document are listed under “Admonishments Used in this Document” on page iv.

### **Safety and Regulatory Statements**

Refer to Section 4154 (provided with your customer documentation) for Safety and Regulatory Statements.

### **Déclarations de Sécurité et de Réglementation**

Reportez-vous à la Section 4154 (fourni avec les documents de votre client) pour les déclarations de sécurité et de réglementation.

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# 1 Vertiv™ Return Bus Load Shunt Monitoring Cable Assembly Kit

## 1.1 Kit Description

These instructions provide a step-by-step procedure to field install this kit into Power System Spec. No. 582127200. Installation of this kit in other equipment should not be attempted.

This kit provides a wire harness to reverse the shunt reference voltage to the SM-DU Shunt Monitoring Module located in the primary power bay. The SM-DU module mounted in the primary power bay contains connections for the internal load shunts provided in each power bay (the system can consist of up to three power bays). The SM DU module also provides two (2) additional external shunt monitoring inputs. When used as shipped, any external shunt needs to be installed in the hot (-48V) bus. Use this kit to connect up to five (5) external shunts located in the return bus. This requires all internal shunts connected to the SM-DU module to be disconnected and the associated shunt leads isolated.

## 1.2 Kit Contents

Table 1.1 lists the items furnished with this kit. Before starting the procedure, check the items furnished against those listed to ensure that there are no shortages.

**Table 1.1 Kit Contents**

Qty.	Description	P/N
1	Reverse Shunt Reference Voltage Wire Harness Pigtail	559353
1	These Instructions	IM559404

## 1.3 Tools and Material Required

Table 1.2 lists the items required to install this kit.

**Table 1.2 Tools and Material Required**

Description
Small Straight-Blade Screwdriver to Disconnect and Connect Shunt Leads.
Material to Tie-Back and Insulate Existing Shunt Leads.

## 1.4 Installation Procedure

**THESE INSTRUCTIONS SHOULD BE READ THROUGH COMPLETELY BEFORE INSTALLING THE KIT.**

The following is a step-by-step procedure to install the kit. The procedure has been written for ease of use and to minimize the possibility of contact with potentially hazardous energy. This procedure should be performed in the sequence given, and each step should be completely read and fully understood before performing that step. Observe all "Important Safety Instructions" presented at the beginning of this document as this procedure is being performed. As each step of the procedure is completed, the box adjacent to the respective step should be checked. This will minimize the possibility of inadvertently skipping any steps. If the step is not required to be performed for your site, also check the box to indicate that it was read.



**NOTE!** When performing any step in this procedure which requires removal of existing hardware, retain all hardware for use in subsequent steps, unless otherwise stated.

### 1.4.1 Procedure



**DANGER!** Observe the Important Safety Instructions located at the beginning of this document.

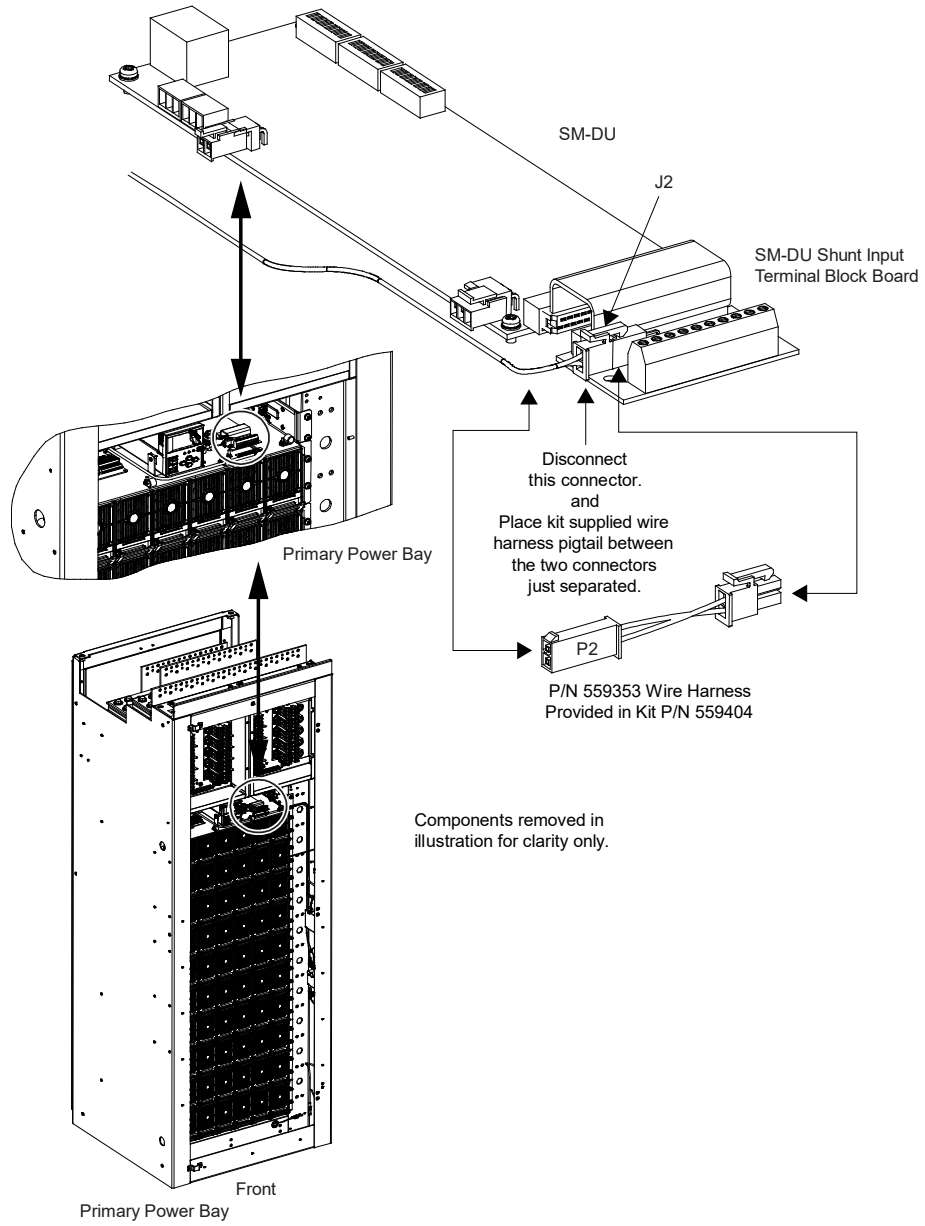


**NOTE!** Refer to Figure 1.1 as this procedure is performed.

- [ ] 1. Locate the J2 connector on the shunt input terminal block board. See Figure 1.1.
- [ ] 2. Remove the J2 connector from the shunt input terminal block board.
- [ ] 3. Insert J2 into P2 of the kit supplied wire harness pigtail assembly (P/N 559353).
- [ ] 4. Insert the opposite end of the kit supplied wire harness pigtail assembly (P/N 559353) into the shunt input terminal block board where J2 was removed in step 2.
- [ ] 5. Remove all existing shunt leads from the SM-DU module. Insulate and tie back these leads.
- [ ] 6. Refer to the next section to connect external shunts.



Figure 1.1 Installing the Kit



## 2 SM-DU External Shunt Connections

You just installed wire harness pigtail P/N 559353 that was included in kit P/N 559404. This allows you to connect external shunts which are located in the return bus to the SM-DU module. The SM-DU module provides five (5) shunt monitoring inputs. Refer to the following procedure and Figure 2.1 for connections details.

### 2.1.1 Procedure



**DANGER!** Observe all “Important Safety Instructions” presented at the beginning of this document.



**NOTE!** Refer to Figure 2.1 as this procedure is performed.

- [ ] 1. Connect up to five (5) external shunts to the SM-DU module. Observe proper polarity. See Figure 2.1.

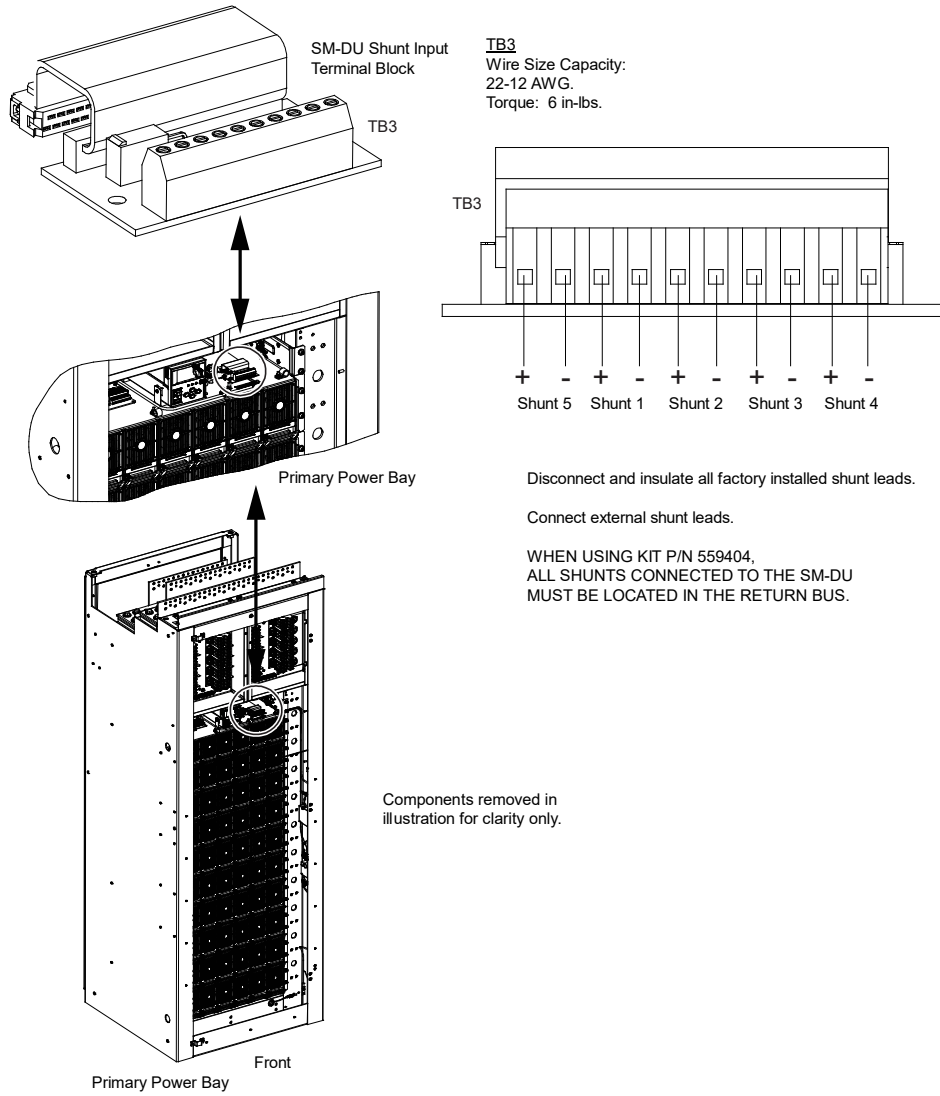


**NOTE!** With kit P/N 559404 installed, all shunts connected to the SM-DU module must be located in the return bus.

Connect the plus side of the shunt to the positive shunt input on the SM-DU. Connect the negative side of the shunt to the negative shunt input on the SM-DU.

- [ ] 2. Refer to the ACU+ Instructions (UM1M820BNA) and program the SM-DU module’s shunt inputs.

**Figure 2.1 External Shunt Connections to the SM-DU Module**



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