## Base Memory Module Configuration for Retrofit Ground Trip Block Lever

#### **Table of Contents**

Section	Page
Introduction	
Qualified Persons	2
Read this Instruction Sheet	2
Retain this Instruction Sheet	2
Special Warranty Provisions	2
Safety Information	
Understanding Safety-Alert Messages	3
Following Safety Instructions	3
Replacement Instructions and Labels	3
Overview	4

Section	Page
Install Software on Your Computer Computer Requirements	5
Software Installation	6
Updating the Base Memory Module Connect to the Control Update	8
Verifying Lever Operation Connect to IntelliLink® Setup Software Download Utility	11 12 14





Instruction Sheet 766-572

Qualified Persons	
	The equipment covered by this publication must be installed, operated, and maintained by qualified persons who are knowledgeable in the installation, operation, and maintenance of overhead electric power distribution equipment along with the associated hazards. A qualified person is one who is trained and competent in:
	<ul> <li>The skills and techniques necessary to distinguish exposed live parts from non-live parts of electrical equipment.</li> </ul>
	• The skills and techniques necessary to determine the proper approach distances corresponding to the voltages to which the qualified person will be exposed.
	<ul> <li>The proper use of the special precautionary techniques, personal protective equip- ment, insulating and shielding materials, and insulated tools for working on or near exposed energized parts of electrical equipment.</li> </ul>
	These instructions are intended only for such qualified persons. They are not intended to be a substitute for adequate training and experience in safety procedures for this type of equipment.
Read this Instruction Sheet	Thoroughly and carefully read this instruction sheet before programming, operating, or maintaining your S&C IntelliRupter PulseCloser Fault Interrupter. Familiarize yourself with the safety information on page 3. The latest version of this instruction sheet is available online in PDF format at <b>sandc.com/Support/Product-Literature.asp</b>
Retain this Instruction Sheet	This instruction sheet is a permanent part of your S&C IntelliRupter® fault interrupter. Designate a location where you can easily retrieve and refer to this publication.
Special Warranty Provisions	The standard warranty contained in S&C's standard conditions of sale, as set forth in Price Sheet 150, applies to IntelliRupter fault interrupter and its associated options except for the control group (the protection and control module and communication module) and S&C SpeedNet <sup>TM</sup> Radio, as applicable. For these devices the first paragraph of said warranty is replaced by the following:
	(1) General: Seller warrants to immediate purchaser or end user for a period of 10 years from the date of shipment that the equipment delivered will be of the kind and quality specified in the contract description and will be free of defects of workmanship and material. Should any failure to conform to this warranty appear under proper and normal use within ten years after the date of shipment the seller agrees, upon prompt notification thereof and confirmation that the equipment has been stored, installed, operated, inspected, and maintained in accordance with recommendations of the seller and standard industry practice, to correct the nonconformity either by repairing any damaged or defective parts of the equipment or (at seller's option) by shipment of necessary

replacement parts.

Replacement control groups provided by seller or repairs performed by seller under the warranty for the original equipment will be covered by the above special warranty provision for its duration. Replacement control groups purchased separately will be covered by the above special warranty provision.

This warranty does not apply to major components not of S&C manufacture, such as batteries and communication devices, as well as hardware, software, resolution of protocol-related matters, and notification of upgrades or fixes for those devices. However, S&C will assign to immediate purchaser or end user all manufacturers' warranties that apply to such major components.

#### Understanding Safety-Alert Messages

There are several types of safety-alert messages which may appear throughout this instruction sheet as well as on labels attached to the IntelliRupter fault interrupter. Familiarize yourself with these types of messages and the importance of the various signal words, as explained below.

#### 

"DANGER" identifies the most serious and immediate hazards that *will likely* result in serious personal injury or death if instructions, including recommended precautions, are not followed.

## **WARNING**

"WARNING" identifies hazards or unsafe practices that *can* result in serious personal injury or death if instructions, including recommended precautions, are not followed.

## 

"CAUTION" identifies hazards or unsafe practices that *can* result in minor personal injury or product or property damage if instructions, including recommended precautions, are not followed.

## NOTICE

*"NOTICE*" identifies important procedures or requirements that *can* result in product or property damage if instructions are not followed.

If you do not understand any portion of this instruction sheet and need assistance, contact your nearest S&C Sales Office or S&C Authorized Distributor. Their telephone numbers are listed on S&C's website **sandc.com** Or call S&C Headquarters at (773) 338-1000; in Canada, call S&C Electric Canada Ltd. at (416) 249-9171.

#### NOTICE

Read this instruction sheet thoroughly and carefully before installing or operating your S&C IntelliRupter PulseCloser Fault Interrupter.



If you need additional copies of this instruction sheet, contact your nearest S&C Sales Office, S&C Authorized Distributor, S&C Headquarters, or S&C Electric Canada Ltd.

It is important that any missing, damaged, or faded labels on the equipment be replaced immediately. Replacement labels are available by contacting your nearest S&C Sales Office, S&C Authorized Distributor, S&C Headquarters, or S&C Electric Canada Ltd.

Following Safety Instructions

Replacement Instructions and Labels These instructions are to be used in conjunction with the **IntelliRupter Ground Trip Block Retrofit Kit Instructions RD-7137**.

To ensure proper operation of the IntelliRupter fault interrupter, the installation of the Ground Trip Lever retrofit must be accompanied with execution of this procedure. The software in the IntelliRupter fault interrupter control must be later than version 1.7.6 and less than version 3.5.0. Once this procedure has been completed it will be possible to upgrade to version 3.5.0 and higher. For controls configured with software versions greater than 3.4.9 contact S&C Automation Service, call 1-855-381-8800, or e-mail **automationservices@sandc.com**. Installation of the Ground Trip Block lever renders the Hot Line Tag lever inoperable until this procedure has been executed, and the IntelliRupter fault interrupter software version has been updated. Execution of this procedure on a unit without a Ground Trip Block lever will result in the ground elements being blocked whenever the HOT LINE TAG lever enables Hot Line Tag.

This procedure covers the steps necessary to update the settings in the Base Memory Module to allow the IntelliRupter fault interrupter software to properly recognize the lever updated lever configuration.

#### **WARNING**

Installation of the Ground Trip Block lever renders the Hot Line Tag lever inoperable until this procedure has been executed.

#### NOTICE

Execution of this procedure on a unit without a Ground Trip Block lever will result in the ground elements being blocked whenever the Hot Line Tag lever is in the Hot Line Tag removed position.

#### **Computer Requirements** To install the Base Memory Update Software on your computer you will need:

- A portable IBM-compatible computer with Microsoft<sup>®</sup> Windows<sup>®</sup> XP Service Pack 2 (or higher), a wireless card (onboard or USB), a CD-ROM drive, an internet browser, and access to **sandc.com**
- WinZip file utility.
- Microsoft.Net Framework 3.5 Service Pack 1. You can verify that it has been installed on your computer by opening C:\Windows\Microsoft.Net\Framework with Windows Explorer. If v3.5 has not been installed, download it from this link:

http://www.microsoft.com/downloads/details.aspx?FamilyID=ab99342f-5d1a-413d-8319-81da479ab0d7&displaylang=en

• Windows Installer 3.1

To verify that you have Windows Installer 3.1:

- Click the **Windows Start** button and open Settings > Control Panel
- Double Click: Add or Remove Programs
- Scroll down the list and verify that Windows Installer 3.1 is present.
- Windows WZC—Wireless Zero Configuration (recommended)

To verify that you have Windows Wireless Zero Configuration:

- Click the **Windows Start** button and open Settings > Control Panel
- Double Click: Administrative Tools
- Double Click: Services
- Scroll down the list and verify that Wireless Zero Configuration is present.
- Administrative Privileges.
- The software in the IntelliRupter fault interrupter control must be later than version 1.7.6 and less than version 3.5.0. and corresponding software must be loaded on the PC.

The latest IntelliRupter fault interrupter software release and the Base Memory Update software, **GTBRetrofit.zip**, are posted at the S&C Automation Customer Support Portal. This library of current and legacy software requires a password, and gives users access to the software needed for S&C equipment operated by their utility. At **sandc.com** select the *Support* tab and click *S&C Automation Customer Support Portal*. Contact information for obtaining a password is listed on the login page, see Figure 1 on page 6.

Sec Electric Compan	- Sec Automation Customer Support Portal - Windows Internet Explorer	
• @ http://	www.sandc.com/support/customerportal.asp	Google
e Eait yiew Pavo	rices Tools Help	Ø.5.4
Sold Electri	c company = sac Addomation Customer Su	······
	S&C Automation Customer Support Portal	
	S&C customers can use this secure website to download software and access technical support	ort for the S&C Automation Products that
	they operate.	
	Log-In to Secure Site	
	Powered by Salesforce.com	
	Need an Account?	
	If you are an S&C customer and need a password, please complete the form below and a pass	sword will be sent to you via e-mail.
	First Name:	
	Last Name:	
	Title:	
	Email:	
	Phone:	
	Company:	
	Streat	
	Succe	
	×	
	City:	
	Country: United States	
	State: Select State	
	700	
	Zip.	

Figure 1. The S&C Automation Customer Support Portal Login page has contact information for obtaining your password.

#### **Software Installation**

Refer to S&C Instruction Sheet 766-571 "Software Installation" to install or update the IntelliRupter fault interrupter software version on your computer.

Once the computer has the appropriate IntelliRupter fault interrupter software version installed, copy the zip file **GTBRetrofit.zip**, to *C:\Program Files\S&C Electric\ IntelliLink:* and extract the contents of the zip file to the same folder.

To extract the contents of **GTBRetrofit.zip** double click on the file to open the WinZip dialog as seen in Figure 2 on page 7.

٩	VinZip - G	TBRetro	ofit.zip										<u>_     ×</u>
Eile	Actions	⊻iew J	Jobs Options	Help									
- AL						T		9	R	1	9	3	
1	New	Open	Favorites	Add	Extract	Encry	/pt	View	Check	Dut	Wizar	d Vie	ew Style
Nan	ne						Туре		Modi		Size	Ratio	Packed
1	GRBRetrof	it.cmd					Windo	ws NT	2/16		120	10%	108
1 🖻	GTBRetrof	it.scn					SCN F	íle	2/14		856	50%	427
•													►
Selec	ted 0 files	, 0 bytes			Tota	l 2 files,	976 by	tes					0 0 //.

Figure 2. WinZip dialog box.

After opening the WinZip dialog box, click on the **Extract** button or *Actions Extract* from the file menu. The Extract dialog box will open. See Figure 3.

Extract - C:\Program Files\5&C	Electric\IntelliLINK\GTBRe	trofit.zip	×
Extract to: C:\Progra	am Files\S&C Electric\IntelliLINK	1	• 🔊 🖻
My Documents kleind My Computer LTG175	My Computer LTG175     System (C:)     Data (D:)     DVD/CD-RW Drive (E:)     drawingfiles on 'chicago     cso on 'EMC-SNAS:T5.!     Ep on 'Cse05.chicago.s     kleind on 'EMC-SNAS:T     tempdisk on 'EMC-SNAS:	.sandc.ws' (H:) 5.30.504 (cse05.chicago.sandc.ws)' (L:) andc.ws\groups' (0:) 5.5.30.504 (cse05.chicago.sandc.ws)' ( 5:T5.5.30.504 (cse01.chicago.sandc.ws)	P:) s)' (R:)
My Network Places	ected files/folders iles/folders in gurrent folder iles/folders in archive s in Archive:	Open Explorer <u>w</u> indow     Overwrite existing files     Skip older files     Use folder names	Extract Cancel <u>H</u> elp

Figure 3. Extract dialog box.

Set the **Extract to:** field to *C:\Program Files\S&C Electric\IntelliLink* and click on the **Extract** button. Verify the folder *C:\Program Files\S&C Electric\IntelliLink* contains the files, **GRBRetrofit.cmd** and **GTBRetrofit.scn**.

Connect to the Control

Select *Start> Programs> S&C Electric> LinkStart> LinkStart*. The main screen will open. See Figures 4 and 5.

	000			Sec. 1	MOODE NOC	3001 0							
	m	S&C Office	•	è	S&C Electr	ic			►	<b>m</b>	LinkStart	2	DB Edit
	2	CO C Els stuis		6	Motorola D	river Ins	taller		•		LicenseActivator	<u>≶∕c</u>	WiFiKeys
	4:::	S&C Electric	'	6	HP				►	<mark></mark>	Radio Query Tool	5	LinkStart
	2	D		6	Microsoft	Office Liv	e Meetin	g 2007	•	F	RadioMap	Г	
		Programs	'	6	Microsoft S	öilverlight			►	然	RDAA		
		Documents	•	Г						<u></u>	RQT MailMan		
				L .						J	SpeedLINK User Manual		
	1	Settings	•	L						ł	SpeedLINKReadme.doc		
<u></u>		Search	•	L							vcredist_x86.exe		
ll ē				L .							Configure SpeedNet Radios		
SSS		Help and Support		L						×c	IntelliLINK		
Į	-	Rup		L						×c	IntelliLINK Offline		
<b>a</b> .		Zann		L .						2	IntelliTEAM Designer		
vs XP	$\square$	Log Off kleind		L									
ļ		Undock Comput <u>e</u> r		H				_				- 10	
Ē				1			े 🙎		🕗 •	· 🚄	<mark>4 • ▲ • ≡ </mark> ☴ ☴ ☴ ■	<b>,</b>	-
15		Shut Down			At 2.3"	Ln 8	Col 1	F	REC	TRK	EXT OVR English (U.S	03	
	Start	🕝 🏉 🍋 👿	6	6	∞ %	× 1	0	1	3	×	🗿 🛛 🔀 IntelliRupter(R)	WiFi C	ion 🛛 💌 766
		📑 🔁 🕩 🏄	2		5	± RE5	# 💣	1	-	×	S&C Electric Cor	npany	🕅 🦉 unti
_			-			_	-					-	

Figure 4. Starting the LinkStart program.

🔀 IntelliRupter(R) WiFi Connection Management	
S&C Electric Company Excellence Through Innovation	LinkStart Version 3.1.3.4
Connect to an IntelliRupter	
Device Name: DeviceName Prev	Next
Device Location: DeviceLocation	
Serial Number: Serial Record: 0	Clear
Connect	
Connection Progress	S
Select WiFi Adapter	Exit
Intel(R) PRO/Wireless 3945ABG Network Connection - Tee	efer2 Miniport

Figure 5. LinkStart main screen.

If your computer has more than one Wi-Fi adapter, click *Select Wi-Fi Adapter* and select the desired adapter from the list, by clicking on the number next to the adapter, and then click the **Done** button. See Figure 6.

Enter the IntelliRupter fault interrupter serial number in the *Serial Number*: text box and click **Connect**. See Figure 5 on page 8. Note that if the serial number database has been setup you can also use the **Prev** and **Next** buttons to scroll through the IntelliRupter fault interrupter list. For more information on the LinkStart main screen see S&C Instruction Sheet 766-571 page 19.

Select a Wireless Adapter	×					
1 Intel(R) PRO/Wireless 3945ABG Network Connection - Teefer2 Miniport						
	]					
Dana						
Dolle						

Figure 6. Wi-Fi Adapter selection screen.

#### Update

Select *Start> Run*. The **Run** dialog box will open. See Figure 7.



#### Figure 7. Run dialog box.

Type C:\Program Files\S&C Electric\IntelliLink\GRBRetrofit.cmd in the **Open:** text box.

Verify that LinkStart is connected and click the **OK** button. The S&C Control Software Loader will launch with a **Log On** dialog box. See Figure 8 on page 10.

S&C Control Software Loader	_ 🗆 🗙
Options	
Update Control Software  Misc.   Log On  User Name:  admin  QK  Password:  Cancel	Exit About
Bjart Download Connected 127.0.0.1 MCU DNP:65532	Try All Protocols

Figure 8. S&C Software Loader Log On dialog box.

Enter your User Name and Password, and click the **OK** button. The default entries are *User Name:* **admin**, and *Password:* **1135Atlantic**. See Figure 8.

The upgrade script will automatically run and restart the MCU application. After the scrip has completed the **Log On** dialog box will reappear. See Figure 9. Re-enter your User Name and Password.

S&C Control	Software Loader	×
Options	trol Software	
opuate cor		1
		Exit
	Sci Log On	About
	Enter user name and password	
	User Name: admin QK	
	Password: Cancel	
Script Status	estart the MCU'	
		Try All Protocols Always on top
	Start Download	
Connected	127.0.0.1 MCU DNP:65532	

Figure 9. S&C Software Loader Log On dialog box.

The upgrade script will automatically close upon completion.

# Connect to IntelliLink® Setup Software

Click the IntelliLink button on the *LinkStart* main screen. See Figure 10.

Set TotalliDuptor(D) WiEi Connection Management	
S&C Electric Company Excellence Through Innovation	nkStart rsion 3.1.4.4
Connect to an IntelliRupter	• 📻 •
Device Name: DS-08-9001010 Device Location: DS Serial Number: 08-9001010 Record: 15 Serial Number Selected: 08-9001010 Disconnect IntelliLINK Download Utili	ty.
A27 Active Connection CH 5 Select WiFi Adapter WiFi Admin Intel(R) PRO/Wireless 3945ABG Network Connection - Teefer2 M	-47 dBm Exit diniport

Figure 10. LinkStart main screen displays when connected.

The *S&C IntelliLink Login* dialog box will open. See Figure 11. Enter your User Name and Password, and click the **OK** button. The default entries are *User Name:* admin, and *Password:* **1135Atlantic**.

S&C IntelliLINK®. Login					
User Name:	admin	•			
Password:					
Qk		Cancel			

Figure 11. S&C IntelliLink Setup Software Login dialog box.

#### Setup

Select *Setup > General > User Commands*. See Figure 12. Verify there are four check boxes available for configuring GROUND TRIP BLOCK lever functionality.

IntelliR upter®	iRupter® Closer InteliRupter Site-Related User Commands User Settings Time Revisions								
PulseCloser									
peration telliTEAM SG/II	Command Function		Command Label	Left Button Label	Right Button Label	Assigned to User Command			
etup	Ground/Neg-Seq Trip	Default	Ground/Neg-Seq Trip	Enable	Block	Command1			
General		User	Ground/Neg-Seq Trip	Enable	Block	Command1			
Destection	Test on Backfeed	Default	Test on Backfeed	Enable	Block	Unassigned			
Protection	Test on Backleed	User	Test on Backfeed	Enable	Block	Unassigned			
Restoration	Circuit Testing	Default	Circuit Testing	Enable	Block	Command2			
Communications		User	Circuit Testing	Enable	Block	Command2			
Security	Second Closing Profile	Default	2nd Closing Profile	On	Off	Command3			
Validate (Apply		User	2nd Closing Profile	On	Off	Command3			
validate/Apply	Sensitive Farth Trin	Default	Sensitive Earth Trip	Enable	Block	Unassigned			
etering		User	Sensitive Earth Trip	Enable	Block	Unassigned			
agnostics	Single Phase Operation	Default	1-Phase Operation	Enable	Block	Unassigned			
ogs L		User	1-Phase Operation	Enable	Block	Unassigned			
	When the Ground Trip Lever is Moved to the Blocked Position:  Block ground and negative sequence overcurrent elements Block circuit testing Change to an alternate General Profile:  This table defines user labels for user-assignable commands and their assignment to command buttons on the main Operation screen. For each command function enter test for the command label and labels for the right and left buttons for the function. In the last column, refer: the user command number you want to aring this function to. NOTE: Changing the text associated with a command and its labels will not change the behavior of the command. For example, if you change the word "Block"								
	to 'Permat', the command will the left button will still enable to Note: Assigning more than one	still block in the operation e function to	the associated operation, and it you associated operation, and it you associated the same user command will result in v	n the word "block" to the Lett	Button of an "Enable/Block	c pair,			

Figure 12. Setup > General > User Commands screen.

Select the desired check boxes to configure GROUND TRIP BLOCK lever functionality.

Go to the *Setup > Validate/Apply* screen. See Figure 13. Click on the **Validate** button. After validation has completed click on the **Apply** button.

SAC Intelli INK & Remote Setup Software- IntelliRupter- (Validate-Apply Settings)  G Connection Data Tools Window Hep									
<b>S</b> IntelliRupter®	Setup - Validate/Apply								
PulseCloser									
Operation IntelliTEAM SG/II Setup General Protection Restoration	Caution:       The settings you've entered are stored in buffer memory are not used by the IntelliRupter until they are Validated and Applied.         This screen permits you to validate the settings you've previously entered and, if desired, apply them to IntelliRupter. This screen also permits you to undo the settings, if they have not been applied.         Image: The screen also permits you to undo the settings without applying them, press the "Validate" button.         Image: The you've previously entered and if the "Validate" button.         Image: The you've previously entered and if the "Validate" button.         Image: The you've previously entered and in the "Validate" button.         Image: The you've previously entered and in the "Validate" button.         Image: The you've previously entered and in the "Validate" button again								
Communications	Validation Result								
Security	Group	None							
Validate/Apply	Instance	A/							
Metering	Data	UK	$- \parallel$						
<u>Diagnostics</u> Logs	To validate the settings and apply them overwriting existing settings press the "Apply" If an error or inconsistency is found, it will be displayed in the "Validation Result" box above. Correct the problem and press the "Apply" button again You may need to do this several times, until all issues have been resolved.								
	Buffer         To undo all settings in buffer memory before they are applied and revert to the existing settings, press the "Reset Buffer" button.           Settings cannot be reset if they have been applied to the control.								
	Command Status: Completed Successfully If a command completes unsuccessfully, view the historic events log for more detail.								
	Note:       1. If the new settings are applied, they will also be saved to the IntelliRupter Base Memory.         2. On the next power-up, the IntelliRupter will use settings from:       Base Memory								
	Connect	ed to: Location:							

Figure 13. Setup > Validate/Apply screen.

#### Verification

Make sure both levers are in the **Off** position and verify both the **Hot Line Tag** and **Ground Trip Block** indicators on the *Main Operation* screen indicate *Off*. See Figure 14, and Figure 15 on page 15.



Figure 14. HOT LINE TAG and GROUND TRIP BLOCK levers in their Off position.



Figure 15. Hot Line Tag and Ground Trip Block indicated in the Off position.

While monitoring the **Operation** screen, shown in Figure 15, move the GROUND TRIP BLOCK lever into the **Blocked** position and verify that the **Ground Trip Block** indicator switches from **Off** to **On**.

Return the GROUND TRIP BLOCK lever to the **Off** position and move the HOT LINE TAG lever to the **Applied** position. Verify that the **Hot Line Tag** indicator switches from **Off** to **On**, and verify that the **Ground Trip Block** indicator has switched to **Off**.