

# SECTION S

## PARAMETER SECURITY

Revision Date: 7-22-24

### Description

The Parameter Security feature is used to guard the Controller's Parameters from unauthorized tampering remotely through SCADA Communication Ports COM1 & ENET1. It requires the entry of a 48 bit Security Code in order to gain remote Write Access to the Parameters. When the Parameter Security is setup to be active, entry of the Security Code is required to change the value of the setup parameters. Security Code entry is never required to remotely view the setup parameters.

Parameter Security will not hinder an operator from making changes to the setup parameters using the pushbuttons on the front of the Controller, it only prevents unauthorized tampering remotely through SCADA Communication Ports COM1 & ENET1.

Each of the SCADA Communication Ports (COM1 & ENET1) have their own Parameter Security.

Entering the Security Code through one of the communication ports, unlocks the Write Access of the Parameters but only through the communication port through which you entered the Security Code, and leaves the locked / unlocked status of the other communication port unchanged.

While locked, Write Access protection covers all of the Setup Parameters (Modbus Registers), and all the Control Bits (Modbus Coils). However, there is an exception made to allow for the Fault Code to be reset remotely by setting Modbus Coil 719 (Register 40045 Bit 14), without the need to enter the Security Code.

The Security Code Entry is divided into three parts (SCE3 : SCE2 : SCE1), where each part is a separate 16-bit parameter that has an entry range of 1 - 65,535. All three parts of the Security Code must be entered correctly to unlock the Setup Parameters.

Once unlocked, the Write Access of the Parameters and Control Bits will remain unlocked until the Write Access Relock Delay expires, or until an operator enters a "1" into the Security Code Entry SCE1 or SCE2 or SCE3.

The Communication Ports also have a "Parameter Security Alert" feature that detects the Suspicious Activity of an Unusually High Number of Entries into the Security Code Entry Parameters (SCE1, SCE2 and SCE3). If Suspicious Activity is detected, the Controller locks out all further entries into Parameters SCE1, SCE2 and SCE3 and issues Fault Code 1201 if through COM1 or Fault Code 1202 if through ENET1. Status of the "Parameter Security Alert" is also available from Modbus Coils 651 or 652 (Register 40041 Bits 10 or 11). To reset the Fault Code and restore the ability to write to the Security Code Entry Parameters (SCE1, SCE2 and SCE3), cycle the power to the Controller.

User / Operator Info.			SCADA	Description of Parameters and SCADA Notes
Parameter	Default Value	Current Value	Register Address	
<b>Security Code Entry</b>				
<b>SCE1</b>	11	-	42078	Security Code Entry - <b>SCE3 : SCE2 : SCE1</b> Range: 1 - 65,535 Enter Your Security Code Here to Unlock the Parameters. Manually Relock by Entering "1" into Parameter SCE1, or SCE2, or SCE3. If you forget your Security Code, have the Serial Number and consult the factory.
<b>SCE2</b>	12	-	42079	
<b>SCE3</b>	13	-	42080	
The "Parameter Security Alert, Suspicious Activity - COM1" status is available from Modbus Coil 651 (Register 40041 Bit 10). The "Parameter Security Alert, Suspicious Activity - ENET1" status is available from Modbus Coil 652 (Register 40041 Bit 11).				

## PARAMETER SECURITY

User / Operator Info.			SCADA		
Parameter	Default Value	Current Value	Register Address	Description of Parameters and SCADA Notes	
<b>Parameter Security Setup</b>					
Parameter Security is for protecting the Setup Parameters from being tampered with remotely through SCADA Communication Ports ENET1 or COM1 and will not hinder an operator from making changes to the Controller's Setup Parameters from the front of the Controller.					
<b>S.01</b>	0		-	<b>ENET1</b>	Write Access Mode 0 = Always Unlocked 1 = Requires Security Code Entry 2 = Always Locked
<b>S.02</b>	0		-	<b>COM1</b>	
<b>S.03</b>	10 min.		-	Write Access Relock Delay <span style="float: right;">Range: 10 - 480 minutes</span>	
<b>SCS1</b>	11	-	-	Change Security Code - <b>SCS3 : SCS2 : SCS1</b> <span style="float: right;">Range: 2 - 65535</span> Establishes the Numerical Values that will be Accepted as the Security Code.	
<b>SCS2</b>	12	-	-		
<b>SCS3</b>	13	-	-		

### Parameter Security Notes:

1. Write Access Mode "0" (Always Unlocked), provides Write Access for all Parameters and Control Bits through SCADA Communication Ports ENET1 or COM1.
2. Write Access Mode "1" (Requires Security Code Entry), provides protection from remote tampering. In this mode, no Parameters or Control Bits may be changed (written to) through SCADA, without first entering the Security Code.
3. Write Access Mode "2" (Always Locked), provides additional protection from tampering. In this mode, no Parameters or Control Bits may be changed (written to) through SCADA, even with Security Code entered.
4. Attempts to remotely read the Security Code Entry Parameters SCE3, SCE2 or SCE1 or the Change Security Code (Parameters SCS3, SCS2 or SCS1) will always return a zero.
5. To setup the Parameter Security you must change the Security Code to values only you know, by entering the new Security Code into Parameters SCS3, SCS2 and SCS1. Also, you must change the Write Access Mode of the SCADA Communication Ports you wish to protect to either mode "1" or mode "2". This can be done in the menu on the front of the Controller.