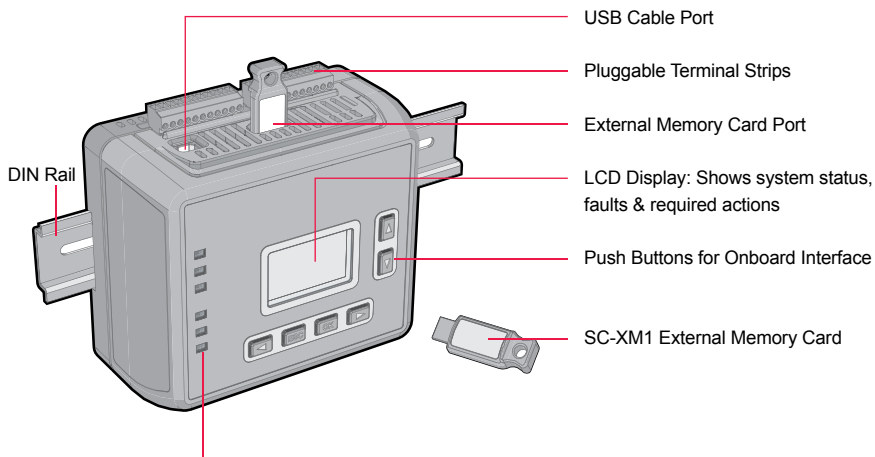











# SC22-3 Safety Controller QUICK START GUIDE



**BANNER**<sup>®</sup>  
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<b>Power</b>		ON
<b>Status</b>		RUN Mode
		I/O Fault
<b>TX/RX</b>		RUN Mode
		Data Transfer between PC and SC22-3
<b>Safety Outputs 1, 2, 3</b>		Safety Output ON
		Safety Output OFF
		Waiting for Reset

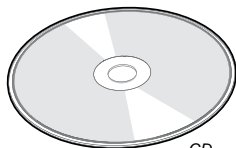
 = *Flashing*

# 1 GET STARTED

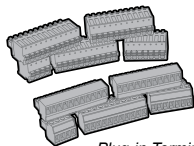
This QUICK START GUIDE will help you:

- **Install** the SC22-3 PC Interface (PCI) software
- **Configure** your application with the PCI
- **Confirm** your configuration

Take these items out of the kit\*



CD



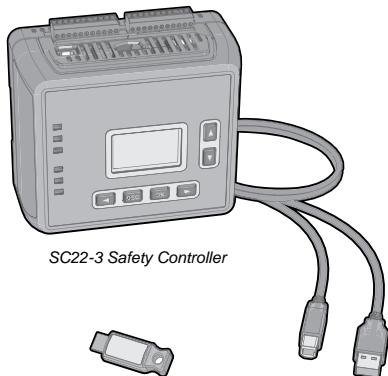
Plug-in Terminals  
(SC-TS1 & SC-TC1)



SC-XMP XM Card  
USB Programming Tool



SC-XM1 External  
Memory Card



SC22-3 Safety Controller

SC-USB1  
USB A/B Cable

Base Model: SC22-3 Safety Controller, SC-XM1 Memory Card

Model Number	Includes:
SC22-3-S	Screw terminals
SC22-3-C	Clamp terminals
SC22-3-SU1	Screw terminals, programming tool & USB cable
SC22-3-CU1	Clamp terminals, programming tool & USB cable

\* Items included depend on model number.



Install the software

- 1 Insert CD into computer CD drive
- 2 To install: run setup.exe, or click “Install Software” on launch menu
- 3 Restart computer for maximum functionality  
*On restart, Banner Safety Controller icon will appear on your desktop*
- 4 Double-click icon to launch PCI

#### System Requirements

Operating system	Windows® XP, 2000, and Vista®
Hard drive space	100 MB (plus up to 280 MB for Microsoft .NET 2.0, if not already installed)
Third-party software	Microsoft .NET 2.0 (installs with PC Interface if not already on computer) Adobe® Reader® for Windows® 7.0 or newer
USB port	USB 1.1 or 2.0 type A port

## Review the PC Interface screen

Create and manage your files with the **TOOL BAR**

The screenshot displays a software interface with several key components:

- TOOL BAR:** A horizontal bar at the top containing icons for file operations (New, Open, Save, Print, etc.) and system management (Help, Settings, etc.).
- I/O FILES:** A vertical sidebar on the left showing a tree view of files and folders, including sub-sections for 'I/O Channels', 'I/O Devices', and 'I/O Modules'.
- CONFIGURATION DOCUMENTS:** The main workspace area displaying a large wiring diagram with various components and connections.
- Configuration Summary:** A small window on the right side showing a summary of the configuration parameters.
- Wiring Diagram:** A detailed view of the wiring diagram, showing individual components and their interconnections.
- Ladder Logic Diagram:** A vertical window on the far right showing a ladder logic diagram with rungs and logic elements.

Quickly review and access  
I/O property information  
with the **I/O FILES**

View finished system diagrams  
and summary with the  
**CONFIGURATION DOCUMENTS**

Wiring Diagram

Ladder Logic  
Diagram

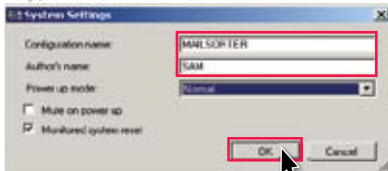
## 2 GET SET

### Name and save your configuration

1 Click “Systems Settings”  
in the Tool Bar



2 Enter configuration  
name and click “OK”



3 Click “Save” to save the  
configuration file

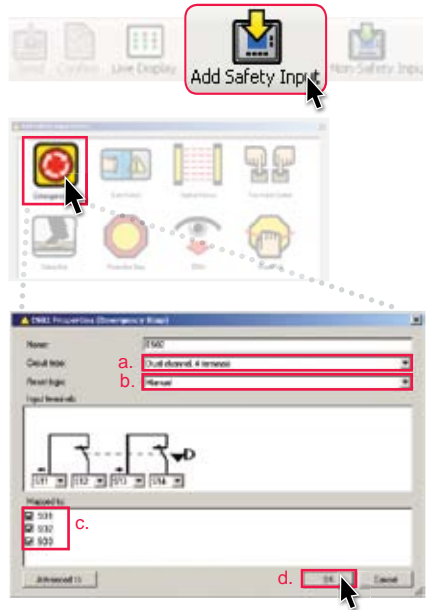


**CAUTION!** *Thoroughly read the instruction manual before using this product in a safeguarding application.*

## Add a safety input

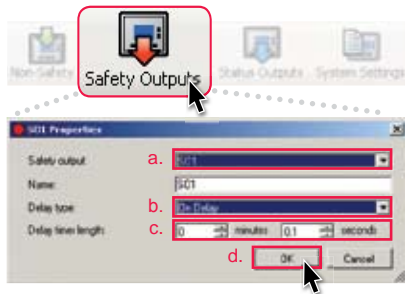
- 1 Click “Add Safety Input” in the Tool Bar
- 2 Select a device
- 3 Modify device properties:
  - a. Select device circuit type
  - b. Select reset logic
  - c. Map inputs and outputs
  - d. Click “OK”

This process may be used for either safety or non-safety input devices.



## Set timing functions

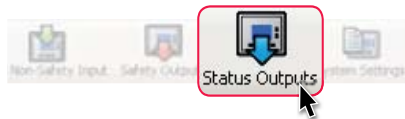
- 1 Click “Safety Outputs” in the Tool Bar
- 2 Configure output properties:
  - a. Select safety output
  - b. Select delay type
  - c. Specify delay time limit
  - d. Click “OK”



## Establish Status Output properties

Select “Status Outputs” from the Tool Bar and select any of the following:

- *Track Input*
- *System Waiting for Reset*
- *Track Output*
- *Output Waiting for Reset*
- *System Lockout Status*
- *Mute Status*
- *I/O Fault Status*



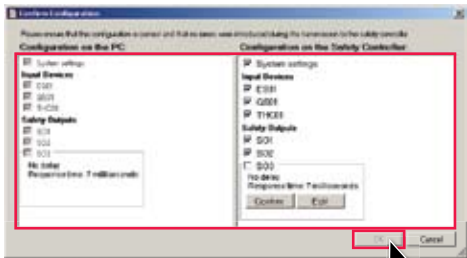
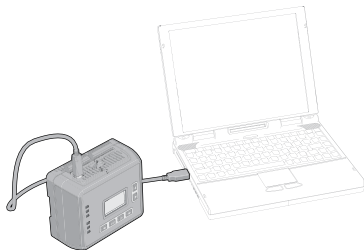


# 3 GET GOING

## Confirm your configuration

Power the SC22-3 Controller, and connect it to the PC via the USB cable

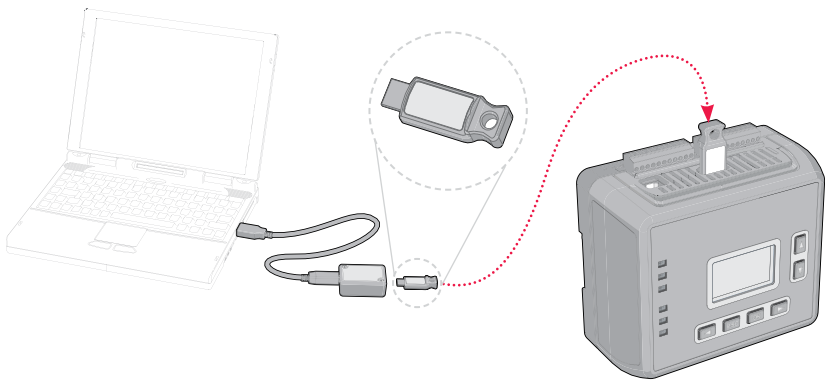
- 1 Click “Save” to save configuration file
- 2 Click “Confirm” in Tool Bar
- 3 Enter Controller’s password (Default password is “0000”)
- 4 Confirm each correct input or output parameter checkbox
- 5 Click “OK” and push “System Reset” (or cycle power)



## Using the SC-XM1 external memory card

The external memory card stores one configuration and can be used to:

- *Configure a replacement Controller on the factory floor*
- *Clone other Controllers without the use of a PC*
- *Reconfigure an in-service Controller on the factory floor without the use of a PC*



# SC22-3 Safety Controller System Overview

## Safety Input Devices



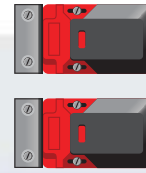
E-Stops



Light Curtains



Two-Hand Controls



Interlock Switches

## Non-Safety Input Devices



Manual Resets



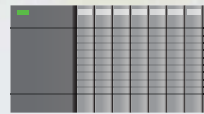
ON/OFF Switches

## Features:

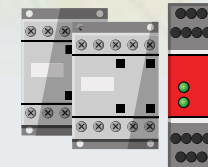
- 22 input terminals for monitoring up to 22 devices
- 3 redundant PNP safety outputs
- Auto and manual reset
- Output delay options
- 10 status outputs
- Category 4 (PL e) and SIL 3 safeguarding applications



Status Outputs






Safety Outputs



# SPECIFICATIONS

(Detailed specs available in the manual)

Power	24V dc +/- 20% 400 mA max (no output loads) 5.9A (all outputs ON at maximum load)
Housing	35 mm DIN mount IEC IP 20 rating Plug-in terminals
Inputs	22 (safety or non-safety inputs) Configurable for solid-state or contact-based input devices
Safety Outputs	3 independent, dual-channel, PNP (6 terminals) 750 mA each @ 24V dc (per output)
Status Outputs	10 single-channel PNP outputs (non-safety) 0.5A max each @ 24V dc 1.0A max @ 24V dc (total for all 10 outputs)
Performance Standards	SIL 3 per IEC 62061 and IEC 61508 Category 4 (PL e) per ISO 13849-1
Approvals	  

# RESOURCES

Download:



*Manual P/N 133487*



*Software P/N 134534*

Learn:



*Banner Engineering*



*Machine Safety Online Training*

Buy:



*Buy Banner Online*

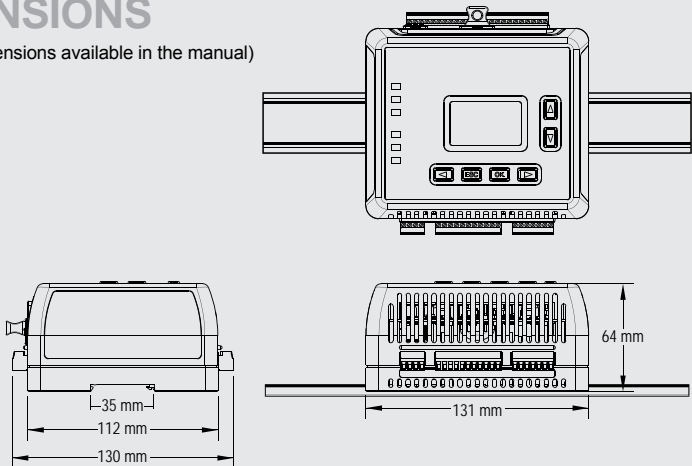
**1-888-373-6767**

[www.bannerengineering.com](http://www.bannerengineering.com)

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# DIMENSIONS

(Detailed dimensions available in the manual)



WARNING! For Safe Use:



Although the Banner SC22-3 Safety Controller can be used in a broad set of safeguarding applications, **IT IS THE USER'S RESPONSIBILITY TO:**

- **Read** and understand the manual
- **Assess** what safeguarding devices and methods are appropriate for any given machine or application
- **Create** and confirm each Safety Controller configuration
- **Commission** and verify that the entire safeguarding system works as intended
- **Recommission** and maintain the system periodically throughout its working life

**FAILURE TO DO SO COULD LEAD TO SERIOUS INJURY OR DEATH.**

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**IMPORTANT:** This document will help you get started setting up a configuration through the Safety Controller's PC Interface. Use of this document assumes familiarity with the pertinent safety standards and practices as outlined in the SC22-3 instruction manual (p/n 133487 online at [www.bannerengineering.com](http://www.bannerengineering.com) or on the accompanying CD).

Refer to the support documentation of each individual safety input or output device for full information regarding installation, operation and connection of those devices.

Refer to the SC22-3 Instruction Manual for using the Controller, the Onboard Interface, PC Interface and for in-depth specifications, configuration, operation and troubleshooting information.

**APPROVALS:**



WARRANTY: Banner Engineering Corp. warrants its products to be free from defects for one year. Banner Engineering Corp. will repair or replace, free of charge, any product of its manufacture found to be defective at the time it is returned to the factory during the warranty period. This warranty does not cover damage or liability for the improper application of Banner products. This warranty is in lieu of any other warranty either expressed or implied.



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