**ML-136X/ ML-136X.SCI (SUPERVISED)**
MAXLOGIC INTELLIGENT ADDRESSABLE SYSTEM RELAY CONTROL MODULE (1 OUTPUT) / SHORT CIRCUIT ISOLATOR
MAXLOGIC INTELLIGENT ADDRESSABLE SYSTEM SWITCH MONITOR MODULE (1 INPUT) / SHORT CIRCUIT ISOLATOR
MAXLOGIC INTELLIGENT ADDRESSABLE SYSTEM 2 INPUT/1 OUTPUT MODULE / SHORT CIRCUIT ISOLATOR
MAXLOGIC INTELLIGENT ADDRESSABLE SYSTEM 4 INPUT/2 OUTPUT MODULE / SHORT CIRCUIT ISOLATOR
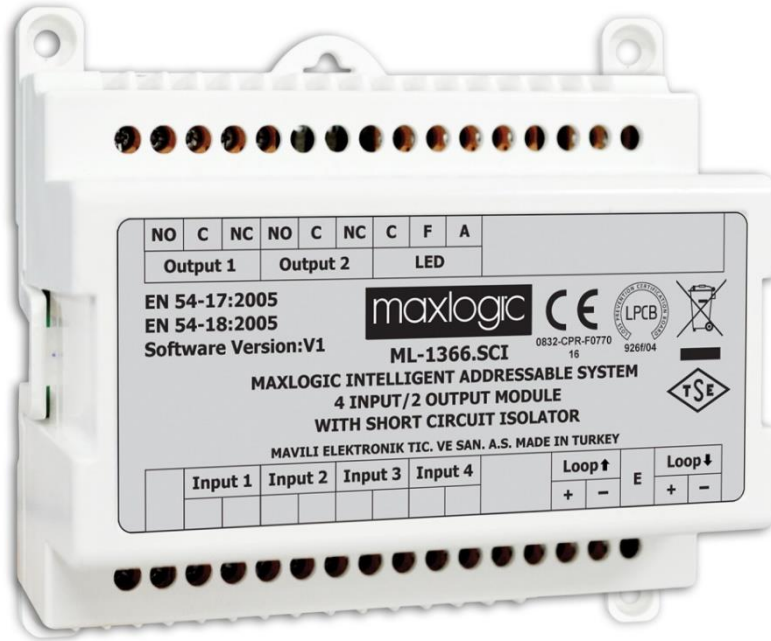
ML-1361 and ML-1361.SCI (c/w short circuit isolator) relay module is included with **1 pc dry contact** (volt free) relay output,

ML-1362 and ML-1362.SCI (c/w short circuit isolator) switch monitor module is included with **1 pc contact** (volt free) monitor input,

ML-1363.SCI (c/w short circuit isolator) I/O Module is included **with 2 pcs switch monitor input** and **1 pc relay control output,**

ML-1366 and ML-1366.SCI (with Short Circuit Isolator) I / O module consists of **4 switch monitoring inputs** and **2 relay control outputs.**

They work with **loop powered.** No **external supply** is required.

Works compatible with **Maxlogic** series addressable panels.

Working with the VIP communication protocol, these modules are **programmable to work in cause - effect scenarios**.

Within the scope of fire automation, **desired peripheral systems can be monitored** with switch monitoring inputs and **desired peripheral systems can be controlled** with relay outputs**.**

Relay outputs have **Normally Open** and **Normally Closed** operation features.

Switch Monitoring Inputs are used to monitor external dry contact (voltage free) relay output.

The product is supervised. With this feature, **Short Circuit** and **Open Circuit** situations, which are switch monitoring input line fault conditions, can be monitored. For detailed information, see. "Operation of Supervised Feature"

The desired monitoring method should be determined before energizing the panel. The event type that will be after the contact change can be determined by the user. Inputs can be adjusted as any of the 13 different event types (**fire, evacuation, fault, pre-alarm, technical alarm, technical fault, warning, security, announce system active, telephone active, analog event, internal event, information**). User defines this setting through the computer program (Loop Manager +). If not defined by the user, switch monitor inputs are set to be "fire". Switch monitor lines are supervised for "**open-circuit**" conditions.

Fire automation inputs:

- Sprinkler system information
- Pressure ventilation system ON/OFF information
- Smoke dampers ON/OFF information
- Emergency security announcement system information
- Emergency lighting system information
- Gas-stop system information
- Earthquake early warning system
- Alarm system
- Extinguishing system

The module uses **30V DC, 1A** bipolar (**volt-free**) **contact relay output**. It has **Normally Open** and **Normally Closed** contact positions.. It can be normally open and normally close. It can be programmed via computer program (Loop Manager +) to create outputs according to the user defined event type. The output can be any of the 13 different **event types (fire, evacuation, fault, pre-alarm, technical alarm, technical fault, warning, security, announce system active, telephone active, analog event, internal event, information)** and **delay of up to 250 seconds**. If no programming is made, the delay is 0 second; event type is "**fire**" and "**fault**".

Fire automation outputs:

- Lifts
- Pressure fan activation
- Smoke dampers opening/closing
- Emergency security announcement activation
- Emergency lighting system activation
- Electrical panels control
- Closing Solenoid valves
- Disabling Air conditioning systems
- Extinguishing System activation

INDICATORS

3pcs LED indicators are available on Module as mentioned below:

• **COMMUNICATION LED (C):** color. It flashes during question module address when it communicates with panel.
• **FAULT LED (F):** Yellow color. It lights up if available any faults in module or power supply.
• **ACTIVATION LED (A):** Red color. It lights up same period with COMM. LED when input or output is activated.
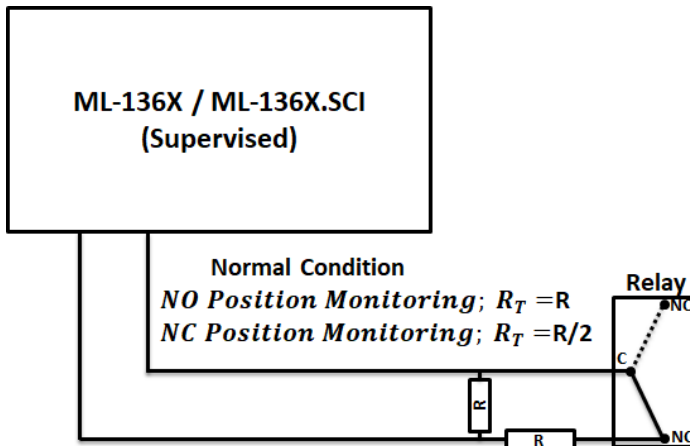
ADDRESSING PROCESS

Module can get address by addressing device as software. This information is important while addressing; the module can get only one address. Addressing process is done automatically from inputs to outputs. The address is given to first input of the switch monitor, which is given to module, other inputs and outputs take the addresses respectively. For Example: If the 1st address is given to first input of "the switch monitor". 2nd, 3rd and 4th addresses are forwarded to other 3 input of the switch monitor. 2 pcs relay outputs take the 5th and 6th number address respectively.

PRODUCT FEATURES

- Complies to **EN 54-18 and EN 54-17 standard**
- ML-1366 4/2 I/O module with **4 pcs dry contact monitoring input** and **2 pcs dry contact relay output** option
- ML-1363 2/1 I/O module with **2 pcs dry contact monitoring input** and **1 pcs dry contact relay output** option
- ML-1361 relay control module with 1 pcs relay output option
- ML-1362 switch monitoring module with **1 pcs contact monitoring input** option
- Available also with SCI (short circuit isolator)
- Monitoring fault status (**Short Circuit, Open Circuit**) of switch monitoring inputs. (For detailed information, see. "Operation of Supervised Feature")
- Ability to assign any of the **13 different user-defined** event types for **relay outputs** and / or **switch monitoring** inputs.
- Ability to assign a delay of up to 250 seconds to the outputs
- Microprocessor controlled
- Easy addressing by software through addressing device
- Easy programming with the **Loop Manager +** software
- Communication, Fault and Activation LEDs
- Loop powered
- Aesthetic design
- Manufactured with surface mount technology
- Interrupt feature that cuts the loop communication and enables the panel **to receive fire alarm in just 1,5 seconds**.
- Normally open (NO) or normally closed (NC) contact operating feature

Normal Condition

ML-136X / ML-136X.SCI
(Supervised)

Normal Condition
NO Position Monitoring; $R_T = R$
*NC Position Monitoring*; $R_T = R/2$

Relay
NO
C
R
R
NC

In its normal state, the resistance seen at the switch monitoring input will be read as "$R_T = R$" when the monitored relay is in "**NO**" position, as "$R_T = R/2$" when it is in "**NC**" position, and it will be detected by the system that there is no break, short circuit, etc. in the monitoring line.

Open Circuit Condition

ML-136X / ML-136X.SCI
(Supervised)

Open Circuit Condition
$R_T = \infty$

Open Circuit

Relay
NO
C
R
R
NC
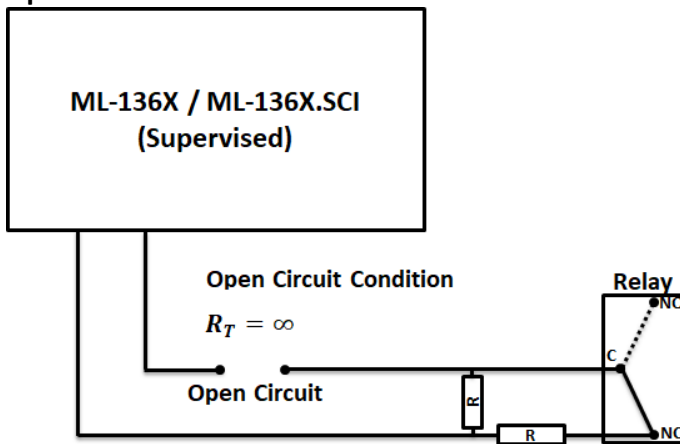
In case of open circuit, the resistance seen at the switch monitoring input will be read as "$R_T = \infty$" and the module will transmit the open circuit fault signal to the panel.

Short Circuit Condition

ML-136X / ML-136X.SCI
(Supervised)

Short Circuit Condition
$R_T = 0$

Short Circuit

Relay
NO
C
R
R
NC
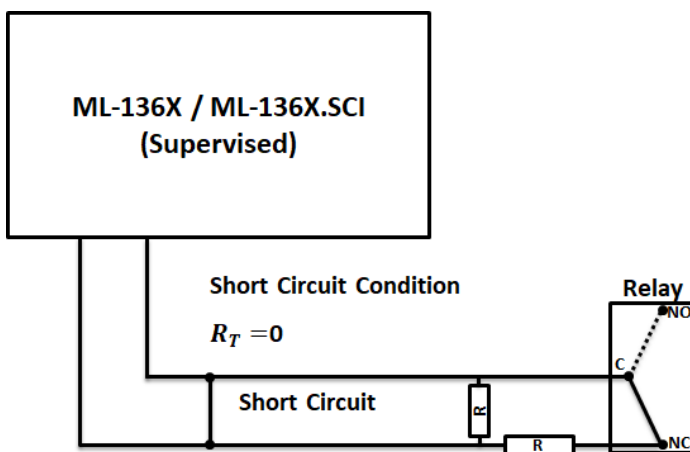
In case of short circuit, the resistance seen at the switch monitoring input will be "$R_T = 0\Omega$" and the module will transmit the short circuit fault signal to the panel.

Switch Monitoring Status - NO Contact Monitoring
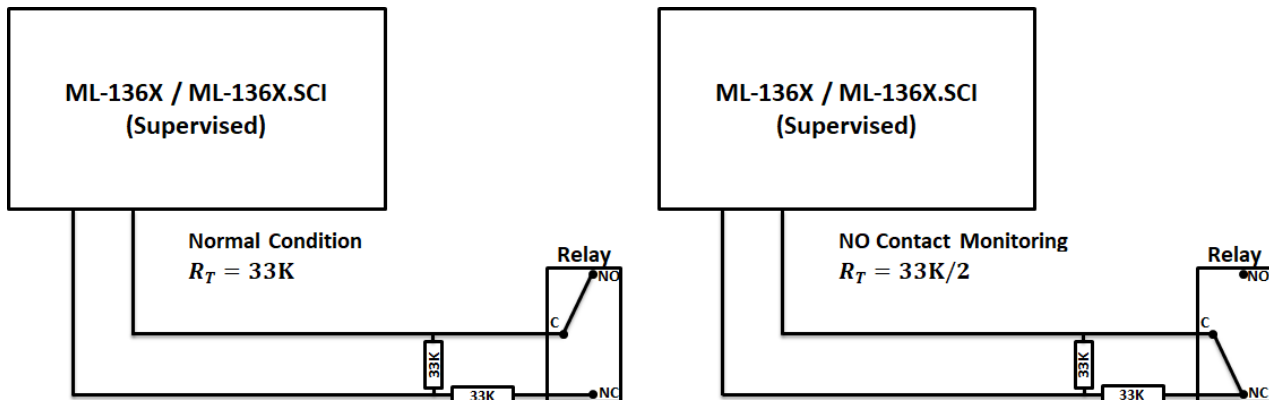
* When the resistance seen at the switch monitoring input is "$R_T = 33K$" in the normal position, the resistance seen when the monitored relay changes position will be "$R_T = 33K/2$" and the information that the relay has changed position will be transmitted to the panel.

Switch Monitoring Status – NC Contact Monitoring
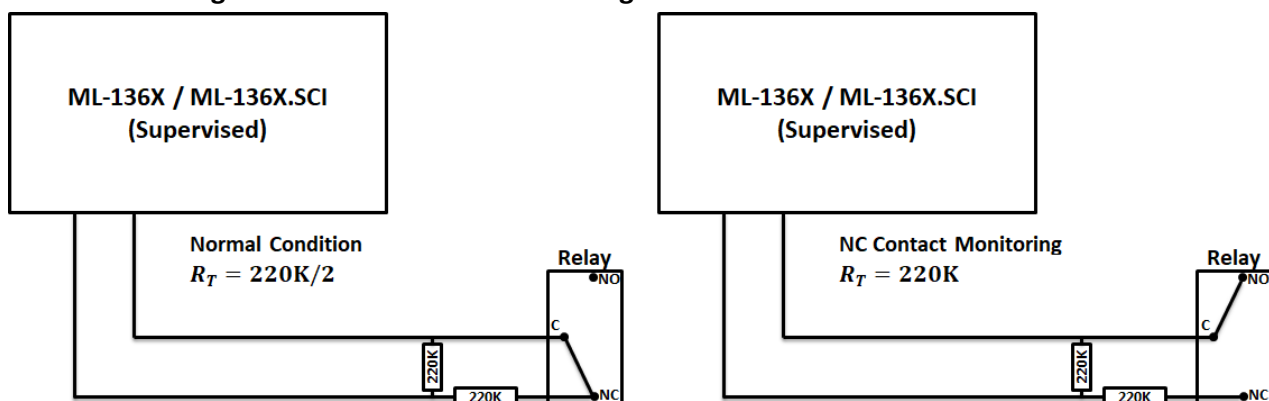
* When the resistance seen at the switch monitoring input is "$R_T = 220K/2$" in the normal position, the resistance seen when the monitored relay changes position will be "$RT = 220K$" and the information that the relay has changed position will be transmitted to the panel.

* For NO and NC contact monitoring settings, check the "Connection Diagram" operation steps.

TECHNICAL SPECIFICATIONS

Power Supply	18-33V DC Loop Powered
Quiescent / Alarm Current	@NO switch monitor - 1,75mA / 2mA @NC switch monitor – 2mA / 1,75mA
Output Contact Capacity	1A @ 30V DC
Communication Protocol	VIP / ~1000 baud
Cable Type	1x2x0,8+0,8JH(st)H / 1x2x1,0+1,0JH(st)H / 1x2x1,5+1,5JH(st)H
Maximum Cable Distance	1500m @ (1x2x0,8+0,8JH(st)H)
Weight	135 gr
Dimensions (LxWxD)	52 x 100 x 100
Working Temperature	(-10°C) - (+55°C)
Storing Temperature	(-30°C) - (+60°C)
Color	White
Relative Humidity	%95 (+40°C non-condensing)

TECHNICAL SPECIFICATION FOR MODELS WITH SHORT CIRCUIT ISOLATOR

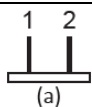|	
Maximum Supply Voltage (Vmax)	33V
Nominal Supply Voltage (Vnom)	26V
Minimum Supply Voltage (Vmin)	18V
Maximum Switching Current (ISmax)	1A
Maximum Working Current (ICmax)	1A
Short Circuit Current (ILmax)	< 45 mA
Maximum Contact Resistance (ZCmax)	500 mΩ
Isolating Voltage (VSOmin - VSOmax)	8V - 13V
Reconnect Voltage (VSCmin - VSCmax)	8V - 13V

MODELS

Product	Description
ML-1361	Maxlogic Intelligent Addressable System Relay Control Module, 1 Output
ML-1361.SCI	Maxlogic Intelligent Addressable System Relay Control Module, 1 Output, Short Circuit Isolator
ML-1362	Maxlogic Intelligent Addressable System Switch Monitor Module, 1 Input
ML-1362.SCI	Maxlogic Intelligent Addressable System Switch Monitor Module, 1 Input, Short Circuit Isolator
ML-1363	Maxlogic Intelligent Addressable System 2 Input/1 Output Module
ML-1363.SCI	Maxlogic Intelligent Addressable System 2 Input/1 Output Module, Short Circuit Isolator
ML-1366	Maxlogic Intelligent Addressable System 4 Input / 2 Output Module
ML-1366.SCI	Maxlogic Intelligent Addressable System 4 Input / 2 Output Module, Short Circuit Isolator

Relay Output
NO   NC
C

Relay Output
NO   NC
C

NO	C	NC	NO	C	NC	C	F	A
Output 1			Output 2			LED		

maxlogic

ML-136X / ML-136X.SCI

Input 1	Input 2	Input 3	Input 4		Loop ↑	E	Loop ↓
					+	−		+	−

R
C
R
NO   NC
* Fault condition monitoring resistors

NC Contact Monitoring Input

Intelligent Addressable Fire Alarm Panel
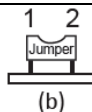Loop (+)
Loop (−)
Earth

Loop (−)
Loop (+)
Earth
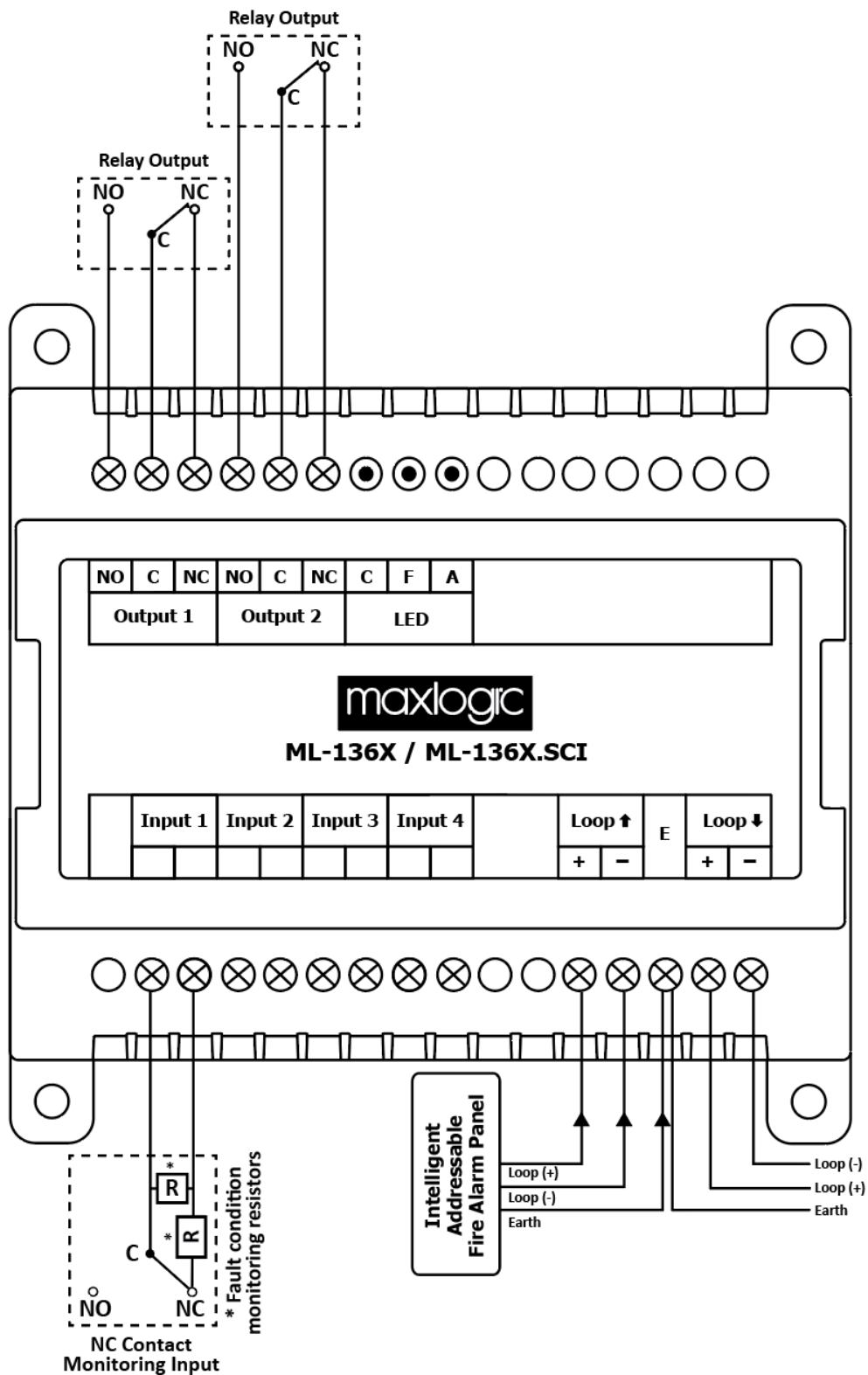
* ML-1366 / ML-1366.SCI I/O module has 4 switch monitoring inputs and 2 relay control outputs.

* ML-1363 / ML-1363.SCI I/O module has 2 switch monitoring inputs and 4 relay control outputs.

* ML-1362 / ML-1362.SCI input module has only 1 switch monitoring input.

* ML-1361 / ML-1361.SCI output module is included with only 1 pc dry contact (volt free) relay output.

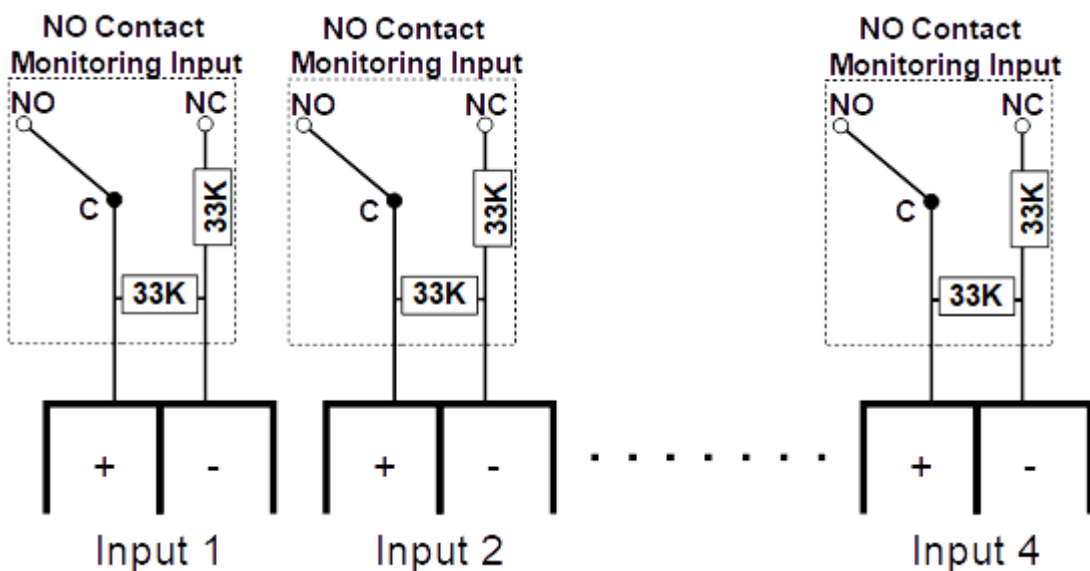|	**Switch Monitoring Inputs – Type Selection**
1 2 (a)	(a) If NO contact is desired to be monitored, jumper should not be attached to the NO / NC pin.
1 2 Jumper (b)	(b) If NC contact is desired to be monitored, a jumper should be attached to the NO / NC pin.

(a) End of Line Resistance - Normally Open (NO) Contact When Requested to Monitor

(b) End of Line Resistance - Normally Closed (NC) Contact When Requested to Monitor