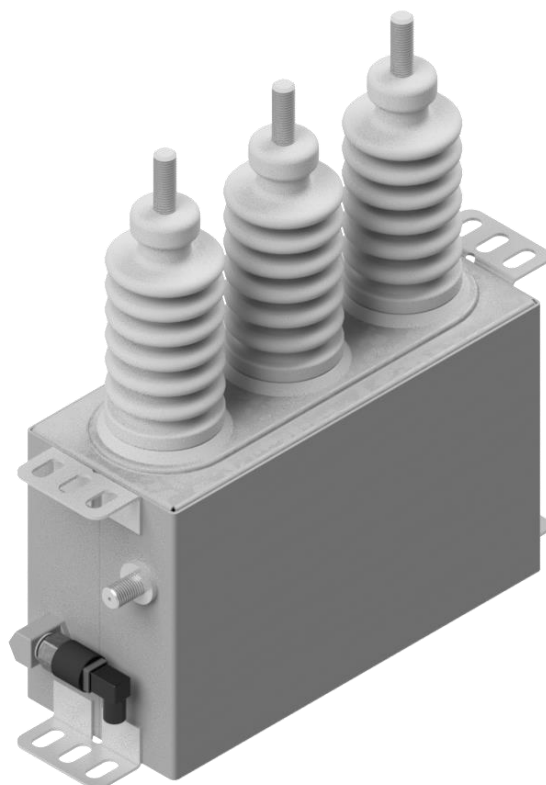


# ZORC® PRESSURE SWITCH SPECIFICATIONS

- OPERATIONAL INFORMATION & SPECIFICATIONS -



**EXCELLENCE BY DESIGN**

## INDUSTRY SOLUTIONS - PRODUCTS AND DESIGN

- ❖ GENERAL INDUSTRY
- ❖ UTILITIES
- ❖ MINING

## CONTENTS

<b>1</b>	<b>DOCUMENTS</b>	<b>3</b>
<b>2</b>	<b>SAFETY</b>	<b>4</b>
<b>3</b>	<b>INSTALLATION CONSIDERATIONS</b>	<b>4</b>
<b>4</b>	<b>OPERATION</b>	<b>4</b>
<b>5</b>	<b>WARNING</b>	<b>4</b>
<b>6</b>	<b>WARRANTY</b>	<b>4</b>
<b>7</b>	<b>REFERENCES</b>	<b>5</b>
<b>8</b>	<b>PRESSURE SWITCH CHARACTERISTICS</b>	<b>5</b>
<b>9</b>	<b>ELECTRICAL CONNECTION</b>	<b>6</b>
<b>10</b>	<b>APPLICATION INFORMATION</b>	<b>6</b>
<b>11</b>	<b>TYPICAL SYSTEM INTERFACE</b>	<b>7</b>
<b>12</b>	<b>REGISTER TRADEMARK</b>	<b>7</b>
<b>13</b>	<b>CONTACT DETAILS</b>	<b>7</b>



<b>PRODUCT SUPPORT DOCUMENT</b>	
Company: Strike Technologies	
Product: [ZORC PRESSURE SWITCH]	
Specifications & Operation	Document date: 2020/05/28
Document version: [01v04]	
Scope: Function Descriptions, Specifications & Operational Information.	

## 1 DOCUMENTS

Document version	Document updated	Amendment	Changes	Notes/Comments
01v02	2020/04/24	Released		
01v03	2020/04/28	Minor Update		
01v04	2020/05/28	Minor Update		

ADDITIONAL SUPPORT DOCUMENTS AVAILABLE				
Document version	Document date	Document type	Scope	Comments
		ZORC User Manual	Operation, Safety & specifications	
		ZORC Dimensional Drawings	Dimensional GA drawings for ZORC's	

## 2 SAFETY

Strike Technologies have implemented a pressure switch on certain models of ZORC as an additional safety feature in order to limit damage to system components including the switchgear, machine\* and the ZORC.

## 3 INSTALLATION CONSIDERATIONS

### Considerations for ZORC installation with or without Pressure Sensor

The ZORC is designed to operate within a certain level of Voltage harmonics [%TH(V)D]. Higher frequency harmonics causes increased power dissipation within the ZORC and could lead to the ZORC being operated outside of the designed parameters. It is highly recommended to measure the system % TH(V)D prior to the installation of a ZORC unit, with or without a pressure sensor. Should the TH(V)D exceed 8% then additional compensation measures will need to be considered and implemented prior to installation.

In the event that changes are made to the electrical system subsequent to the installation of the ZORC, measurements of TH(V)D would be recommended for re-assessment.

As with any piece of equipment, operating conditions during commissioning are never the same a few years down the line and this is where the risk should be noted and the pressure switch considered.

Strike Technologies' recommendation is to utilize the ZORC with a pressure sensor to ensure that the machine and ZORC are disconnected when necessary under the following conditions:

- Should there be an indication that harmonics are present with the TH(V)D being above 8%.
- Ambient temperatures are constantly high, typically above 50°C to 56°C.
- General additional safe practice and protection required in an electrical system.

## 4 OPERATION

The pressure switch is activated should the internal pressure of the ZORC unit increase due to any potential external electrical anomalies.

Pressure build-up can cause the container to rupture or swell due to:

- Continuous or prolonged system overvoltage (greater than applied system protection settings or protocol).
- Excessive system voltage harmonics (>8%).

The pressure threshold is factory pre-set.

## 5 WARNING

Do not adjust the position of the sensor as this would interfere with the factory torque settings and could result in oil leaks.

## 6 WARRANTY

Warranty will be void if the pressure is adjusted.

**NOTE:** No liability will be accepted in the event of damage if the pressure switch is not connected or tampered with.

*\*Machine refers to the motor; transformer or generator being protected by ZORC*

## 7 REFERENCES



Fig1: Pressure Switch

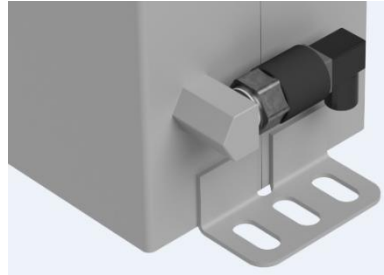


Fig2: Pressure Switch Application

## 8 PRESSURE SWITCH CHARACTERISTICS

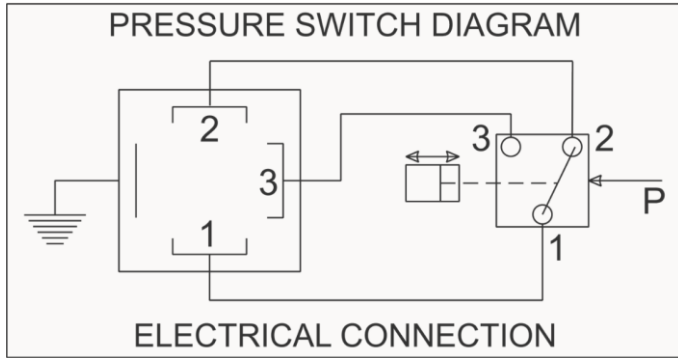
Parameter	Unit	Value / Description	Notes / Comments
Pressure Threshold	Bar	0.8	Factory pre-set. Pressure tolerance $\pm 5\%$
	Pa	80000	
	psi	11.036	
Working Temperature	$^{\circ}\text{C}$	-25 to 55	Ambient Temperature
	$^{\circ}\text{F}$	-13 to 131	
Mechanical Life	Cycles	$10^6$	
Weight	kg	0.05	Added to ZORC weight
	lb	0.11	
Body Material		zinc plated steel	

Electrical Parameter	Unit	Value / Description	Notes / Comments
Contact Maximum Load	$A_{\text{rms}}$	0.5	
	$V_{\text{rms}}$	250	
Contacts	1	Common	Refer to Electrical Connection Diagram
	2	Normally Closed	
	3	Normally Open	
	Plating	Silver	
IP Rating		IP65	
ATEX <sup>1</sup>		II 3G Ex nc IIB T6 Gc IP65	* Available upon request only.
		II 3D Ex nc IIIB T85 $^{\circ}\text{C}$ Dc IP65	

**Note:**

- 1) Application of the pressure switch in an Intrinsically Safe environment requires the contacts of the pressure switch to be supplied through and Intrinsic Safety barrier as per regulation. An additional Intrinsic Safety loop approval is also mandatory from the relevant certified bodies. The Intrinsic Safety loop approval is the responsibility of the end user.

## 9 ELECTRICAL CONNECTION



## 10 APPLICATION INFORMATION

The pressure switch can be configured to protect the system in different configurations:

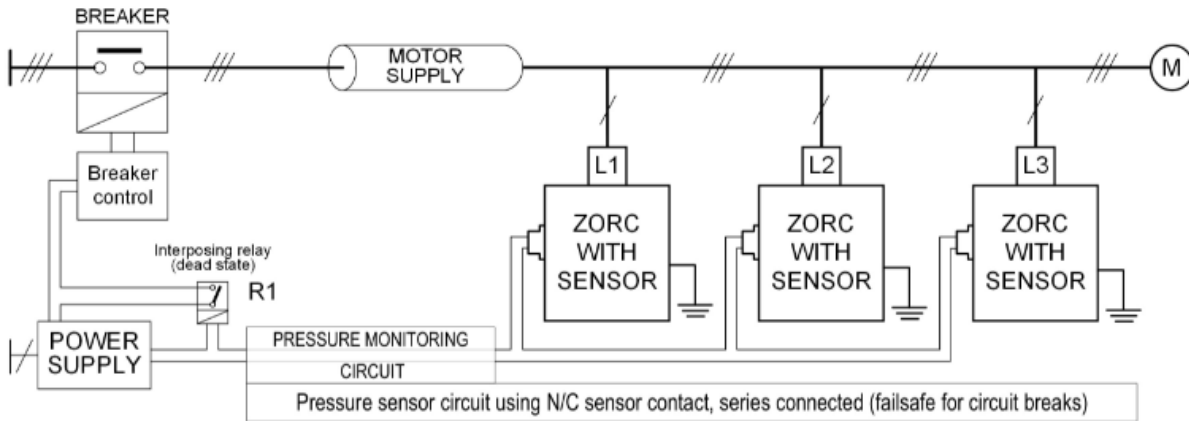
- Disconnect only the ZORC
- Disconnect the machine and the ZORC (recommended)

Comparison of methods:

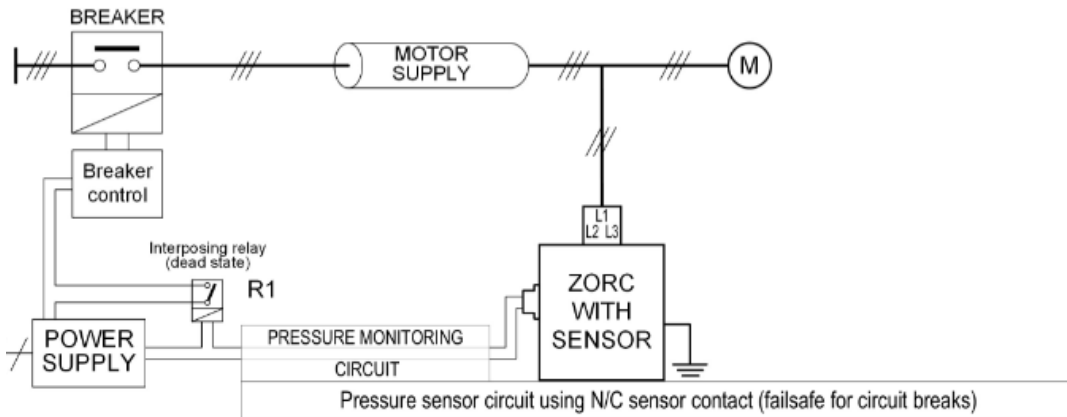
Feature	Disconnect only the ZORC	Disconnect the equipment and the ZORC
ZORC removed in the event of pressure build-up	✓	✓
Prevent Tank rupturing	✓	✓
Machine operates when ZORC is disconnected	✓ Note: Machine and switchgear can be operated but at risk of damage to machine due to switching surges not clamped if no ZORC in service.	✗ Note: Machine and switchgear protected.
Cost	✗ Note: Additional breaker required to disconnect the ZORC.	✓ Note: No additional breaker required to disconnect the ZORC.

## 11 TYPICAL SYSTEM INTERFACE

### SINGLE PHASE M1 ZORC'S FITTED WITH PRESSURE SENSOR



### THREE PHASE M3 ZORC'S FITTED WITH PRESSURE SENSOR



## 12 Register Trademark

ZORC® is a registered Trademark with Strike Technologies.

## 13 CONTACT DETAILS

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