

# Ziegler

Redefine Innovative Metering

# Technical Datasheet

## ZAM ZST9

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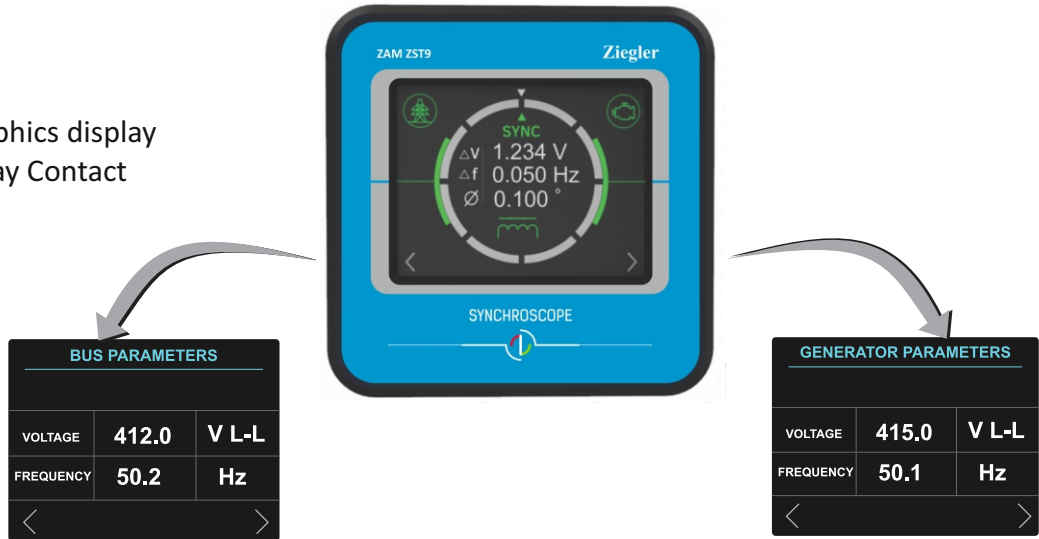
Synchroscope

# ZAM ZST9

## Synchroscope

### Salient Features:

- Touch Screen Graphics display
- Potential free Relay Contact
- Easy Navigation



ZAM ZST9 displays actual difference of voltage, frequency & phase angle between the BUS (Reference) voltage & generator (Incoming) voltage. When two alternators or sources are to be parallel it is necessary that their frequency & amplitude should be equal and phase difference be near to zero. When all these 3 parameters are within the required limits ZST9 indicates that the two sources can be paralleled.

### Applications Areas

- Synchronizing two different BUS inputs.
- Synchronizing two different Generator inputs.
- Synchronizing Generator & BUS inputs

### Product Features

#### Touch Screen Graphics display

Ziegler ZST9 has touch sensible color graphics LED display with resolution of 320 X 240.

#### Graphical Analysis

Graphical representation of Synchronization status. Frequency delta & phase angle delta and voltage delta.

#### Casing Material

Thick Steel Sheet EDD grade CR material

#### Measured Parameters

- Measurement of Frequency difference (BUS & Gen.)  $\Delta f$
- Measurement of Phase angle difference (BUS & Gen.)  $\Delta \theta$
- Measurement of Voltage amplitude difference (BUS & Gen.)  $\Delta V$
- BUS voltage & BUS Frequency.
- Generator Voltage & Generator Frequency.

#### Potential free relay contact

Potential free relay contact for indicating sync status.

# ZAM ZST9

## Synchroscope

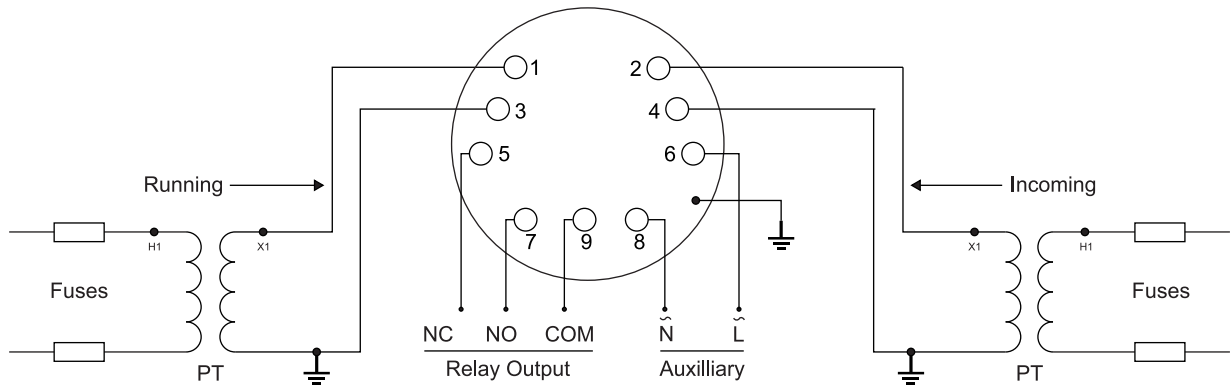
### Technical Specifications:

<b>Network Supported</b>	Single Phase/ Three Phase
<b>Accuracy</b>	
Phase angle difference	$\pm 2^\circ$
Voltage difference	$\pm 1\%$ of Nominal value
Frequency difference	$\pm 0.15$ Hz
<b>Reference conditions for Accuracy</b>	
Ambient Temperature	23°C $\pm$ 2°C.
Input Voltage	Rated Voltage $\pm$ 2%
<b>Input Voltage</b>	
Nominal Input voltage (AC RMS)	100 - 500 V
Max continuous input voltage	600 V
Overload withstand	2x times of Nominal voltage for 1 second, repeated 10 times at 10 second intervals
Frequency	50Hz / 60 Hz (45-65 Hz)
Nominal input voltage burden	<0.2 VA approx.
<b>Auxiliary Supply</b>	
Auxiliary voltage & burden	100 - 500 V AC / DC, 45-65 Hz, 9.1 VA
<b>Display update rate</b>	
Response time to step input	1 sec approx.
<b>Applicable Standards</b>	
Safety	IEC 61010-1-2010, Permanently connected use
IP for water & dust	(IP 54 for Front) IEC 60529
Pollution degree:	2
Installation category:	III
Isolation between running & incoming circuits	2kV RMS for 1 minute
<b>Environmental Conditions other information</b>	
Operating temperature	-10 to +55°C
Storage temperature	-20 to +65°C
Relative humidity	0...95% non condensing
Warm up time	Minimum 3 minute
Shock	15g in 3 planes
Vibration	10...150....10Hz, 0.075mm amplitude
Temperature Coefficient	0.05%/°C
<b>Relay Contact (For Sync Status)</b>	
Contact Rating	240 VAC, 5A

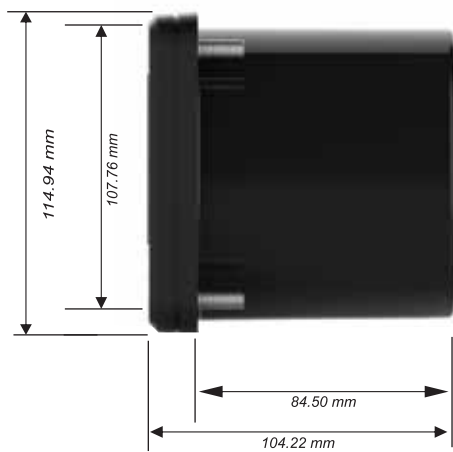
# ZAM ZST9

## Synchroscope

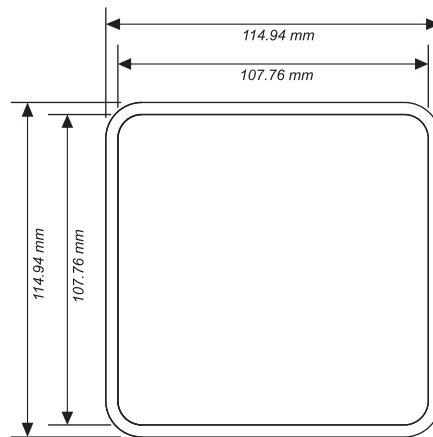
### Electrical Connection



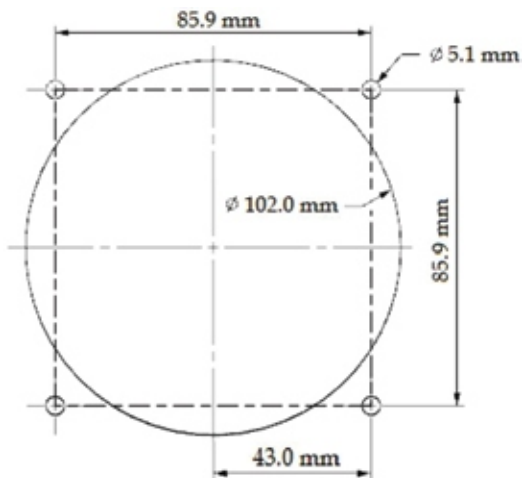
### Dimensional Details



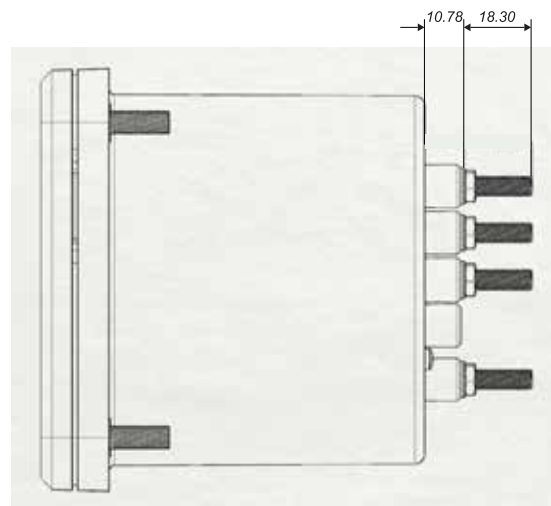
Side View



Front View



Panel Cutout



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