

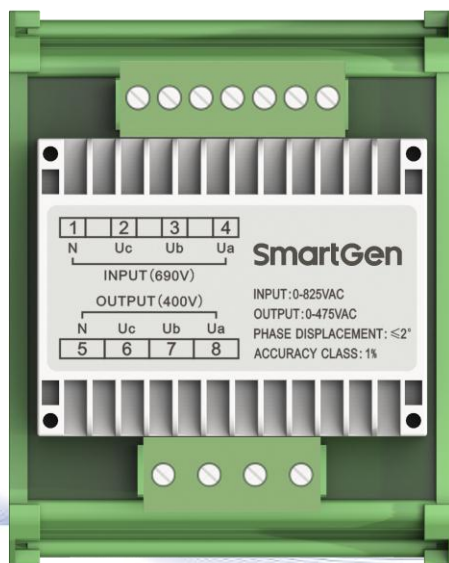
# SmartGen

MAKING CONTROL SMARTER

## PTM6940

### POTENTIAL TRANSFORMER MODULE

### USER MANUAL



郑州众智科技股份有限公司  
SMARTGEN(ZHENGZHOU)TECHNOLOGY CO.,LTD.

**SmartGen 众智** Chinese trademark

**SmartGen** English trademark

**SmartGen** – make your generator *smart*

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**Table 1 Software Version**

Date	Version	Note
2019-11-13	1.0	Original release.
2020-11-20	1.2	Added instructions to typical application.
2022-08-24	1.3	Update company logo and manual format.

## CONTENT

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SmartGen

## 1 OVERVIEW

**PTM6940 Potential Transformer Module** is a kind of PT module which transforms input voltage 690VAC (Rated) to output 400VAC (Rated). It can be applied in higher voltage collection scenario together with a controller.

## 2 PERFORMANCE AND CHARACTERISTICS

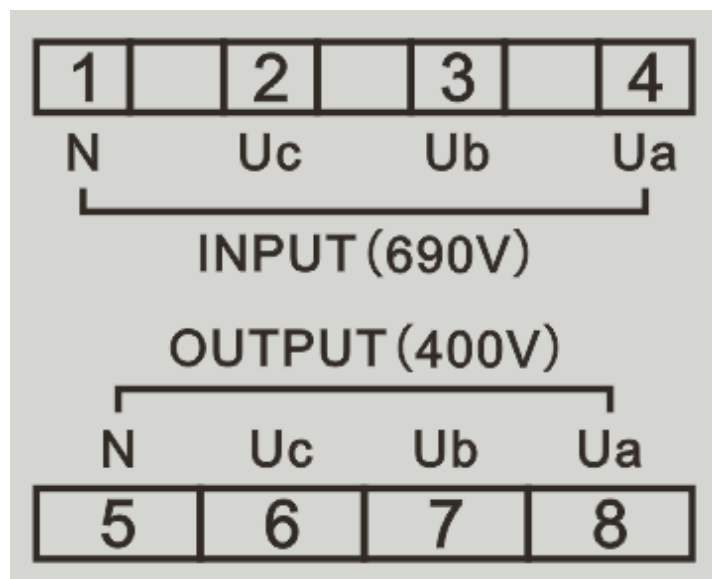
- Input voltage range: (0~825)VAC;
- Output voltage range: (0~475)VAC;
- Phase shift:  $\leq 2^\circ$ ;
- Accuracy:  $\leq 1\%$ ;
- Realize signal insulation;
- Suitable for 3Ph 3W, and 3Ph 4W.

## 3 SPECIFICATION

**Table 2 Technical Parameters**

Items	Contents
Input Voltage (Rated)	690VAC
Output Voltage (Rated)	400VAC
Case Dimensions	72.0mmx89.6mmx63.2mm
Working Temperature	(-25~+70) $^\circ$ C
Working Humidity	(20~93)%RH
Storage Temperature	(-30~+80) $^\circ$ C
Weight	0.39kg

## 4 WIRE CONNECTION

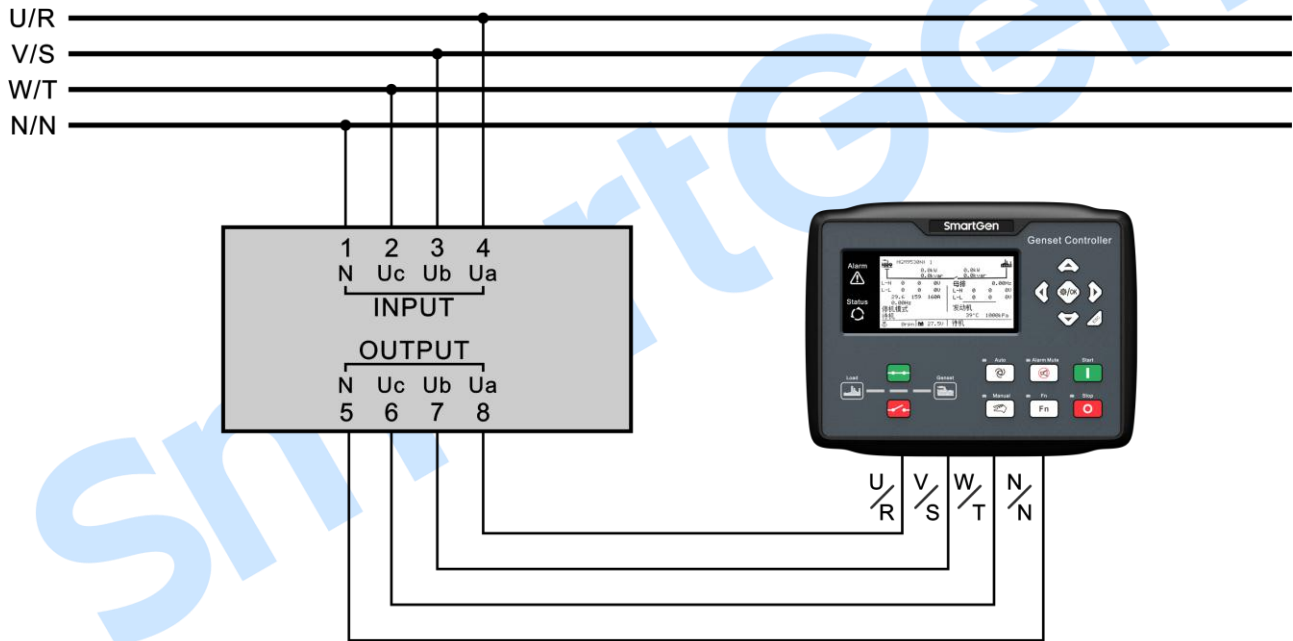


**Fig.1 PTM6940 Terminals**

**Table 3 Connection Terminal Description**

No.	Function	Cable Size	Remark
1	N Wire Input	1.0mm <sup>2</sup>	Connects sampling voltage N wire.
2	U <sub>c</sub> Phase Voltage Input	1.0mm <sup>2</sup>	Connects sampling voltage C phase.
3	U <sub>b</sub> Phase Voltage Input	1.0mm <sup>2</sup>	Connects sampling voltage B phase.
4	U <sub>a</sub> Phase Voltage Input	1.0mm <sup>2</sup>	Connects sampling voltage A phase.
5	N Wire Output	1.0mm <sup>2</sup>	Connects controller N wire.
6	U <sub>c</sub> Phase Voltage Output	1.0mm <sup>2</sup>	Connects controller U phase, or R phase voltage monitoring input.
7	U <sub>b</sub> Phase Voltage Output	1.0mm <sup>2</sup>	Connects controller V phase, or S phase voltage monitoring input.
8	U <sub>a</sub> Phase Voltage Output	1.0mm <sup>2</sup>	Connects controller W phase, or T phase voltage monitoring input.

**5 TYPICAL WIRING DIAGRAM**

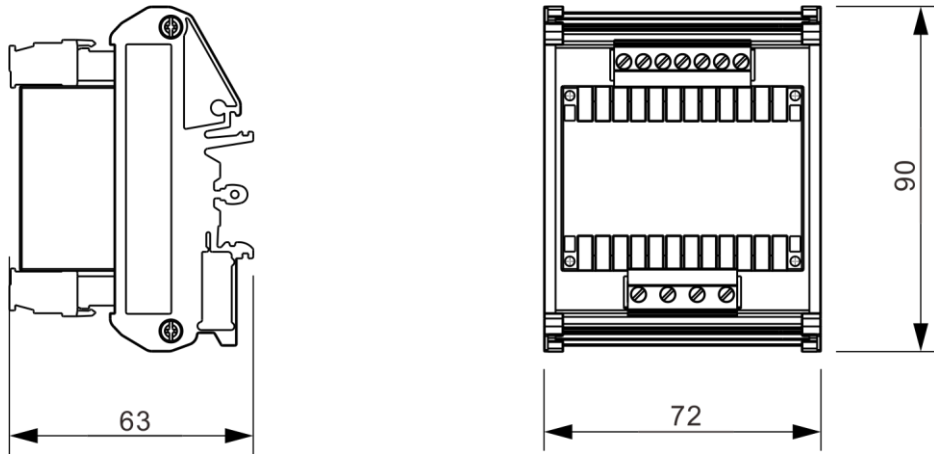


**Fig.2 Generating Voltage Sampling Wire Connection**

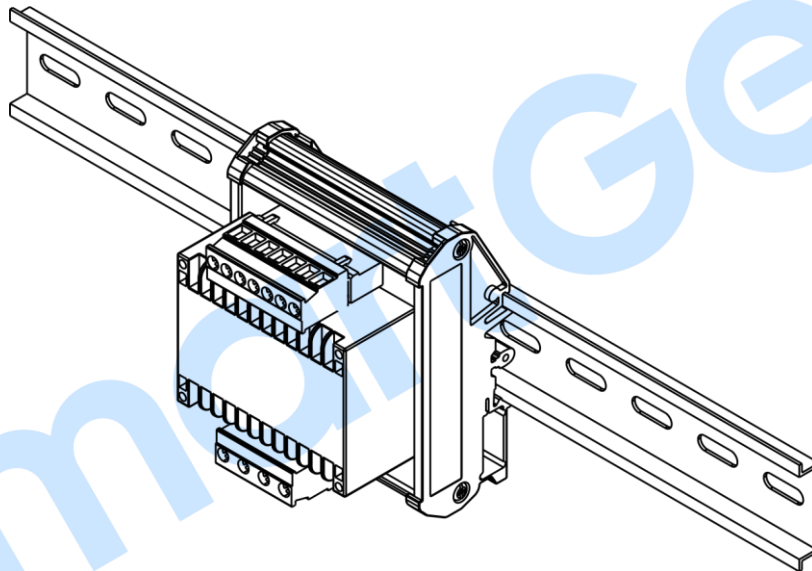
**NOTES:**

- (1) PT ratio of controller can be set according to the site situation (705:400 is recommended).
- (2) This module is only applicable to genset controller of SmartGen and PT ratio needs to be set.
- (3) This module is used for signal transformation, not for both signal transformation and power supply.

**6 OVERALL DIMENSIONS AND INSTALLATION**



**Fig.3 PTM6940 Overall Dimensions (Unit: mm)**



**Fig.4 PTM6940 Rail Installation**

**7 TROUBLE SHOOTING**

**Table 4 Troubleshooting**

Symptoms	Possible Solutions
Sampling voltage value abnormal on controller	Check module wire connection or the PT ratio of the controller.
Sampling voltage phase sequence abnormal on controller	Check module wire connection.
Sampling voltage loss of phase on controller	Check module wire connection.