§ Generator Digital CONTROLLER §
Synchronous check relay CSY-96

■ APPLICATION

This product is synchronous check relay with synchronizing validation display for synchronizing between bus and generator/between system and system. This product can be used as failsafe at automatic synchronizing and manual synchronizing.
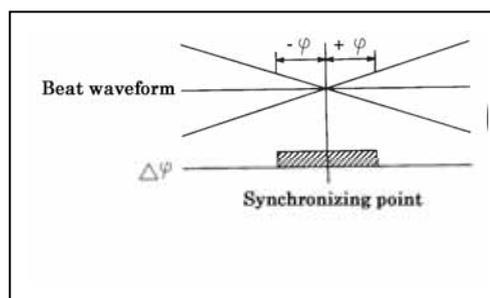
■ FEATURES

‣ Integrated version of synchronous check relay and synchronoscope.

‣ Synchronous check signal can be set to be ±3°to ±35°.

‣ Detection/setting of voltage difference, frequency difference is possible.

‣ With dead bus detection function.

‣ High quality/high reliability.

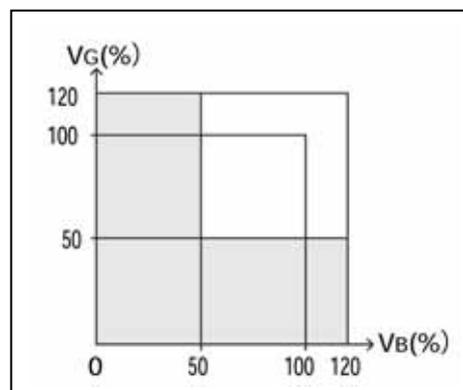## ■ FUNCTION

▫ Synchronous check signal（Δϕ）

When voltage difference and frequency difference are within set values, plus phase difference is within set value, contact a signal is outputted and Δϕ LED is lit up.

$$\left[\begin{array}{l} 90V \quad V_B \quad 135V \\ V_G \quad 80V \\ F_B=50 \text{ or } 60Hz \pm3Hz \end{array} \right.$$

▫ **Deadbus** closing signal (D.B.C)

If either one of V_B and V_G or both of them fall below 50% of rated voltage, contact a signal is outputted and LED is lit up.

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■ STANDARD SPECIFICATIONS

ITEM	DESCRIPTION		SPECIFICATION
AC input	Bus side input	Single phase	Specify please EITHER
	Generator side input	Single phase	AC110V, 50/60Hz(0.5VA)　OR
			AC110V/√3V, 50/60Hz(0.5VA)
Control output	Synchronous check signal	(Δφ)	PHOTO MOS FET relay output (*1)
	Deadbus closing signal	(D.B.C)	MAX DC100V, 100mA
	ALARM signal	(ALARM)	
Power supply	AC100/110V, 50/60Hz(5VA)		AC85　127V　AC / DC
	DC100/110V(5W)		DC88　143V
Display LED	POWER		Green LED
	Signal for voltage difference within set value	(V)	Green LED
	Signal for frequency difference within set value	(F)	Green LED
	Synchronous check signal	(Δφ)	Orange LED
	Deadbus closing signal	(D.B.C)	Green LED
	ALARM signal	(ALARM)	Red LED
Measurement display	Phase difference		26 Orange LED (Synchronizing point: green)

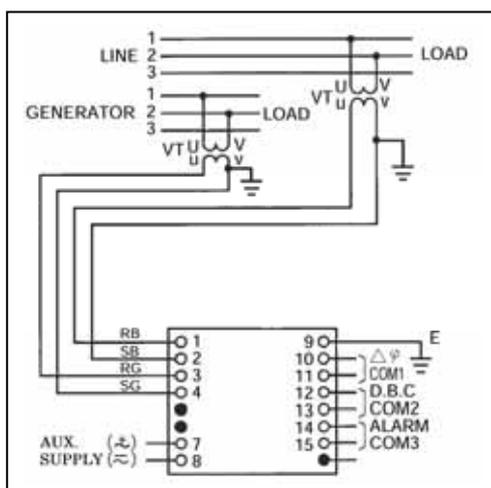*1 : the relay used externally is equivalent to MM4X or LY-2N.

ITEM		SPECIFICATION
Tolerance	Voltage difference	±1
	Frequency difference	±0.03Hz
	Phase difference	F　0.1Hz ±1°
		0.1　　F　0.2Hz ±2°
		0.2　　F　0.3Hz ±3°
Operation temperature / humudity range		0　55　, 5　95　RH (no condensation)
Storage temperature range		10　　70
Appearance color / Mass		Muncell N1. 5(black) / 1kg or less

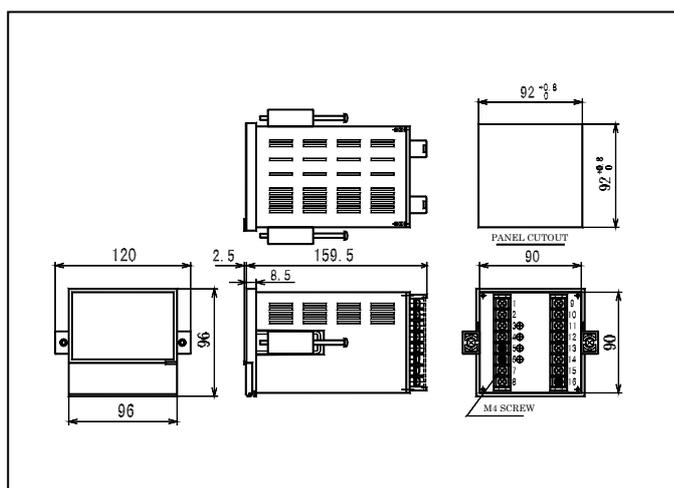# § Generator Digital CONTROLLER §
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■ SETTING

SETTING ITEM	MARK	DEFAULT VALUE	SETTING RANNGE
Voltage difference AC110V　　100% (rotary code switch)	ΔV	5%	3, 5, 10(%)
Frequency difference (rotary code switch)	F	0.1Hz	0.05, 0.1, 0.15 0.2, 0.25, 0.3(Hz)
Phase difference (rotary code switch)	φ	15°	3, 5, 10, 15, 20, 25, 30, 35(°)

■ CONNECTION DIAGRAM   ■ DIMENSIONS

■ PURCHASE SPECIFICATION

Specify please following items on ordering

► Type

► Input voltage

► Aux. supply

Note: the product is shipped in default value and test report is recorded in default value, too.

Change to your desired value according to the instruction on user's manual before using.