

INTEGRATING POWER TRANSDUCER

WHP-83A-

INTEGRATING REACTIVE POWER TRANSDUCER

WVHP-83A-



WHP-83A-33

Use

This product converts power/reactive power of single phase/ 3-phase and 3-phase 4-wire to proportional pulse output/ analog output.

Features

1. Power/reactive power can be measured accurately in distorted wave.
2. Integrating power can be measured in short period of time such as 20-30 seconds.
3. Variety of pulse output signal method can be selected.
4. Product with analog output (option) can be manufactured.
Analog output: with line surge (2,000A 8/20µs) protection and signal is outputted in remote place.
5. As output limiter circuit is equipped, output can be limited to approx. 1.5 times of rated value even at an excessive input.

Standard specifications

Item	Specifications	
Tolerance	% against output span	
Influence of temperature	23 ± 20 tolerance %	
Influence of frequency	45-65Hz tolerance %	
Characteristic	In conformity with JIS C1111-1989	
Response time	Time to be within ±1% of constant output value when a stepped input of 90% output is applied.	
Output ripple	P-P against rated output value 1% or less (analog output)	
External adjustment to output	± 5% adjustment is possible.	
Output limiter circuit	Limiting analog output (option) to approx. 1.5 times of rated value against an excessive input.	
Auxiliary supply	AC100/110 or AC200/220V ±15% (50/60Hz); DC24V ±15% ; DC110V (88-143V)	
Overvoltage	input	2 times of rated voltage (10 sec.), 1.2 times (continuity)
	Auxiliary supply	1.5 times of rated voltage (10 sec.), 1.2 times (continuity)
Over current	Rated current: 40 times (1 sec.), 20 times (4 sec.), 10 times (16 sec.), 1.2 times (continuity)	
Insulation resistance	Between input/output/auxiliary supply and outer case (earth).	
	Between pulse output terminal and analog output terminal (option) (Non-insulation between voltage output and analog output).	
	DC500V 50MΩ or more.	
Withstand voltage	Between input/output/auxiliary supply and outer case (earth).	
	Between pulse output terminal and analog output terminal (option) (Non-insulation between voltage output and analog output).	
	AC2, 000V (50/60Hz) 1min.	
Impulse withstand voltage	Between electric circuit and outer case (earth).	
	Between input/output/reset and auxiliary supply terminal. 5kV 1.2/50µS; positive and negative polarity 3 times each.	
Appearance color	Black (munsell N1.5)	
Operating temperature/ humidity range	-10- + 55 , 30-85%RH (no condensation)	
Storage temperature range	-40- + 70	

Specifications

Product	Operation method	Requirement of use				Type	Input		Output	Tolerance	Response (second) ^{*3}	Approximate consumption VA (W)			Weight (kg)
		Cycle wave form	Voltage side	Current side	Frequency (50/60Hz)		Rating	Second power				Pulse output	Analog output	Pulse output	
INTEGRATING POWER	Hall multiplying method				50/60	WHP-83A-12	110V/ 5A	500W	Voltage 10V \pm 10% (2k Ω or more) or Transistor open collector (DC48V/DC100mA MAX) or Photo MOS FET relay (DC48V DC100mA MAX)				1	0.5	1.1
							220V/ 5A	1kW							1.3
							110V/ 5A	1kW							1.3
							110V/ 5A	2kW							1.3
INTEGRATING REACTIVE POWER	Hall multiplying method			unbalance	50/60	WHP-83A-33	110V/ 5A	1kW	DC48V/DC100mA MAX)			100ms + 1/16 ^{*1}	1/phase	1.3	
							220V/ 5A	2kW							1.4
							110V/ 3V/ 5A	1kW							1.3
							220V/ 3V/ 5A	2kW							1.4
INTEGRATING REACTIVE POWER	Hall multiplying method			unbalance	50/60	WHP-83A-34	110V/ 5A	1kW	DC48V/DC100mA MAX)			100ms + 1/16 ^{*1}	0.5/phase	1.3	
							220V/ 5A	2kW							1.4
							110V/ 3V/ 5A	1kW							1.3
							220V/ 3V/ 5A	2kW							1.4

*1. fo: output frequency

*2. AC 4.5VA, DC 2.5W in the case of a product with analog output (option) .

Product range

Item	Rating			Pulse output	Analog output (option)
	Second power	voltage	current		
Integrating power	Single phase	AC50-240V	AC0.1-5V	45-65Hz	0.01667-277.8pps (60-1,000, 000pulse/h)
	Single phase 3-wire				
	3-phase	0.25-1.2kW (110V, 5A) 0.5-2.4kW (220V, 5A)			
	3-phase 4-wire	0.25-1.2kW (110/ 3V, 5A) 0.5-2.4kW (220/ 3V, 5A)			
Integrating reactive power	3-phase	AC50-240V			DC0.1-10V DC0.1-20mA Minus output is not manufacturable.
	3-phase 4-wire				

* Values in this table are Max. Values (except frequency).

Example: DC0.1-10V: From min. 0-0.1V to max. 0-10V can be manufactured.

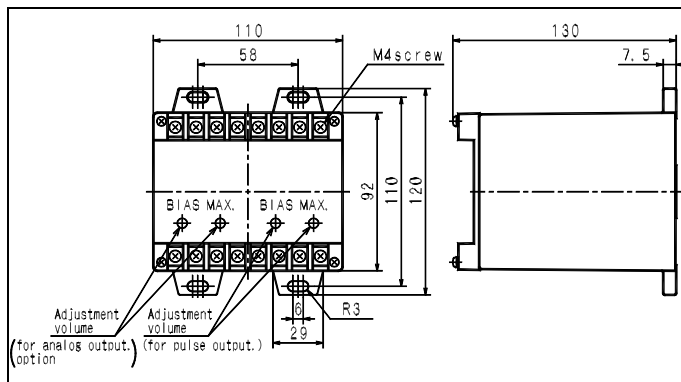
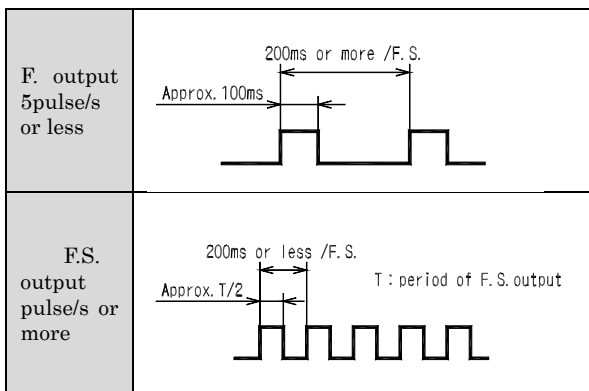
Pulse output ((Specify any one of the following))

<p>Voltage pulse output</p>	<p>Tr. open contactor output</p>	<p>Photo MOS/FET relay output</p>
<p>H.....10V±10% L..... 0.4V</p>	<p>ON OFF</p> <p>Load operates when internal transistor is ON. Do not apply reverse polarity voltage.</p>	<p>ON OFF</p> <p>Load operates when contact is ON. Connect an external assistant relay if it exceeds switching capacity.</p>

* When inductive load such as electromagnetic relay is connected to output contact, installation of diode around load is recommended.

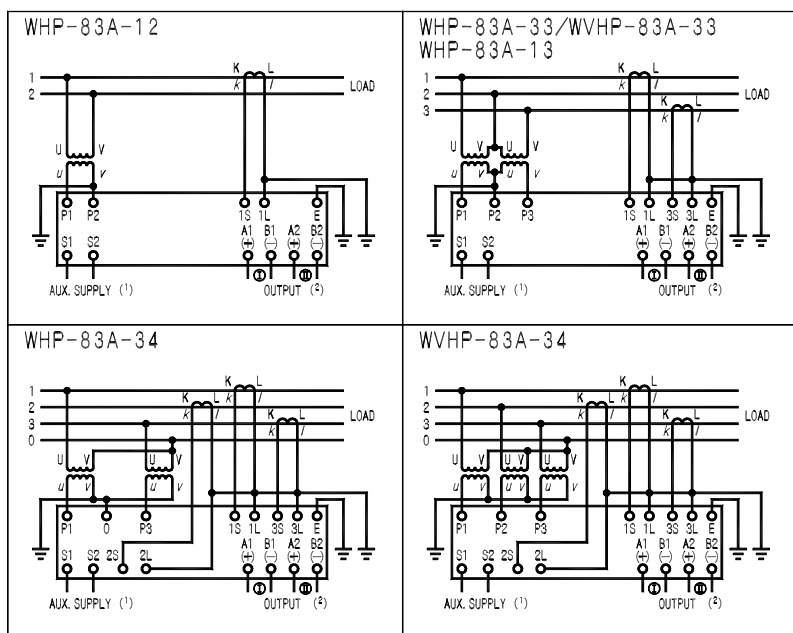
Pulse output width (standard: 100ms)

Dimensions(mm) See connection diagram for terminal arrangement.



Connection diagram

Purchase specifications



Type
Max. input power
Rating (voltage/current/VT
ratio/CT ratio/frequency)
Pulse constant
Pulse output signal method
Option (with analog output,
terminal cover)
auxiliary supply
no. of unit

(1) In the case of DC power source: S1 (+), S2 (-).

(2) OUTPUT is analog output (option), OUTPUT is pulse output. Output notation of standard product without analog output (option) is indicated as OUTPUT