

무효전력/무효전력량 변환기 (Var & Var-hour Transducer)

■ 주요사양 (Specification)

- Accuracy : Var unit : 0.2% of span
: Var-hour unit : 0.2% at rated voltage & current
0.4% at rated voltage & 1/20 of rated current
- Frequency : 50Hz or 60Hz
- Burden : Voltage : 0.5VA / phase
Current : 1.0VA / phase
- Auxiliary Power : AC 110 / 220V
- Ripple : Var unit : 0.5% P-P of span
- Response Time : Var unit : 0.4sec (0~99% for step change)
- Pulse Time : Var-hour unit : App. 100ms

Output Mode	Circuit	Type	Rated Input(AC)		Output(DC)		Var-hour unit		Weight (g)	Case Model			
			Voltage	Current	Range	Load Com.	Output	Load					
DC Current / Pulse	1P 2W	TAP - 1R1C	110V or 220V	5A or 1A	0~1mA	< 10kΩ	1P / 1kvarh 10P / 1kvarh 100P / 1kvarh 1P / 10 kvarh 1P / 100kvarh	Contact Capacity AC 110V, 1A PF 1.0	≐700	TL			
		TAP - 1R2C			4~20mA	< 500Ω							
	1P 3W	TAP - 2R1C			0~1mA	< 10kΩ			≐890				
		TAP - 2R2C			4~20mA	< 500Ω							
	3P 3W	TAP - 3R1C			0~1mA	< 10kΩ			≐1040				
		TAP - 3R2C			4~20mA	< 500Ω							
	3P 4W	TAP - 4R1C	190/√3V		0~1mA	< 10kΩ			≐730				
		TAP - 4R2C			4~20mA	< 500Ω							
DC Voltage / Pulse	1P 2W	TVP - 1R1C	110V or 220V		0~1V	> 200Ω			1P / 100kvarh		Contact Capacity AC 110V, 1A PF 1.0	≐730	TL
		TVP - 1R2C			1~5V	> 1kΩ							
	1P 3W	TVP - 2R1C			0~1V	> 200Ω						≐890	
		TVP - 2R2C			1~5V	> 1kΩ							
	3P 3W	TVP - 3R1C			0~1V	> 200Ω						≐1040	
		TVP - 3R2C			1~5V	> 1kΩ							
	3P 4W	TVP - 4R1C	190/√3V		0~1V	> 200Ω						≐730	
		TVP - 4R2C			1~5V	> 1kΩ							

※ 주문사양에 따라 입력, 출력, 제어전원 및 주파수를 변경하여 제작이 가능합니다.

Order made is available except for standard products. (Input, Output, Auxiliary power, Frequency)

※ 주문 시 VT, CT 및 펄스출력의 비율을 말씀해 주시기 바랍니다.

When the ordering, you must be announced the VT ratio, CT ratio and the ratio of output pulse.

Circuit	ex 1) 3P 3W	ex 2) 3P 4W
Type	: TAP - 3R2C	TAP - 4R2C
VT ratio	: 3300 / 110 V	22900/ $\sqrt{3}$ / 190/ $\sqrt{3}$ V
CT ratio	: 100 / 5A	50 / 5 A
Output : Var unit	: DC 4~20 mA	DC 4~20mA
Var-hour unit	: 1 pulse / 1kvarh	1pulse / 1kvarh
Ratio of output pulse	: 600 pulse / 600kvarh	2000 pulse / 2000 kvarh

※ 주문 시 3600펄스를 초과할 수 없습니다. When the ordering, Please not exceed the 3600 pulse.

■ Operating Area of Input

	Voltage		Current		Frequency		Auxiliary Power (AC)	
Rating	110V	220V	1A	5A	50Hz	60Hz	110V	220V
Range	0~120V	0~240V	0~1.5A	0~7.5A	47~53Hz	57~63Hz	90~130V	180~260V

※ 전압, 전류 및 제어전원의 동작범위는 연속 정격이 아니므로 단시간 동안의 입력값 대비 출력값의 동작 범위입니다.

Operation range of voltage, current and auxiliary power is not continuous rating. Therefore it is operation range of output value compared to input value during a short time.

■ Calibration Var

(Unit : kvar)

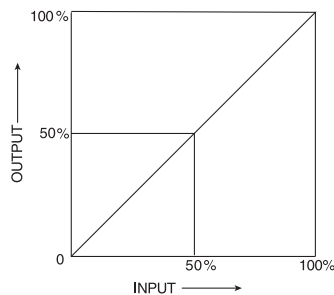
		1P2W	1P3W	3P3W								3P4W				
		110	110	220	380 110	440 110	3300 110	6600 110	22000 110	22900 110	154kV 110	208/ $\sqrt{3}$	380/ $\sqrt{3}$ 190/ $\sqrt{3}$	380/ $\sqrt{3}$	11400/ $\sqrt{3}$ 190/ $\sqrt{3}$	22900/ $\sqrt{3}$ 190/ $\sqrt{3}$
C.T 2'ry A	5A	0.6	1.0	2.0	1,158	1.0	1.0	1.0	1.0	0.961	1.0	2.0	2.0	4.0	1.666	1.666
	1A	0.12	0.2	0.4	0.232	0.2	0.2	0.2	0.2	0.192	0.2	0.4	0.4	0.8	0.333	0.333

※ 3상3선식의 표준교정 무효전력은 1.0kvar이고, 3상4선식은 1.666kvar 입니다.
The standard calibration var of 3P 3W is 1.0kvar and that of 3P4W is 1.666kvar.

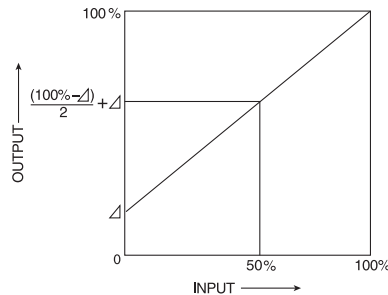
※ 변환기의 교정 무효전력은 무효전력계의 교정 무효전력과 같습니다.
The calibration vars of transducer is same the calibration of varmeter

■ Input-Output Curve (Var unit)

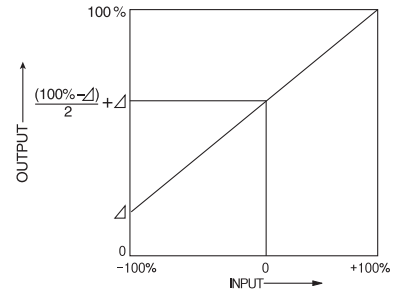
- Output Range : 0~1mA
0~1V



- Output Range : 4~20mA
1~5V

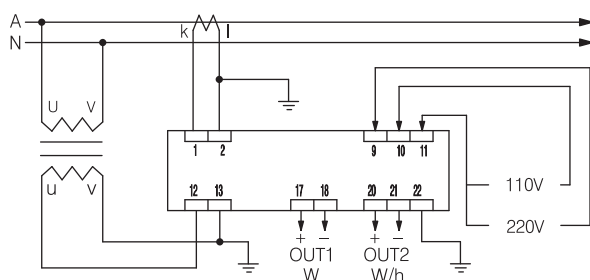


- Output Range : 4~12~20mA
1~3~5V

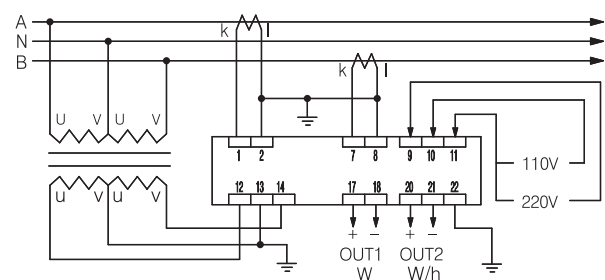


■ 외부 결선 (External Connection)

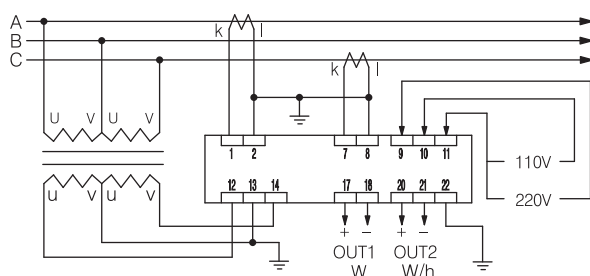
- 1P 2W



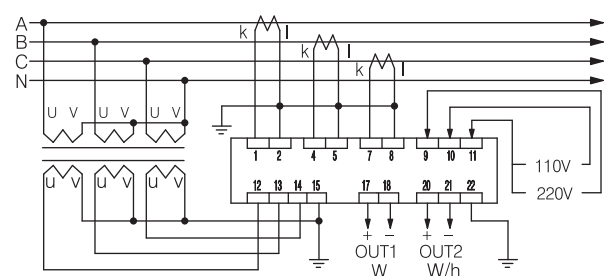
- 1P 3W



- 3P 3W



- 3P 4W



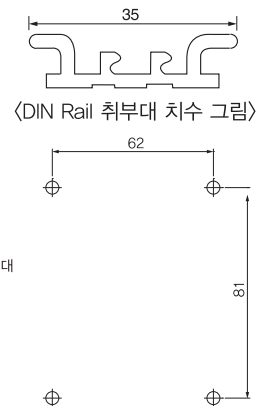
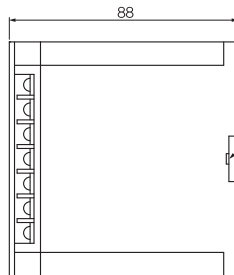
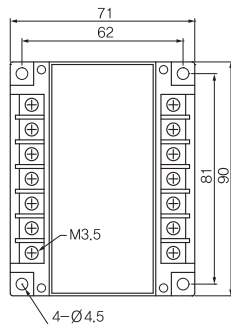
■ 주요성능 (Performance)

- Standard Test Temperature : $23^{\circ}\text{C} \pm 2^{\circ}\text{C}$
- Operating Temperature Range : $0^{\circ}\text{C} \sim 40^{\circ}\text{C}$
- Storage Temperature Range : $-10^{\circ}\text{C} \sim 60^{\circ}\text{C}$
- Operating Humidity : 30~85%, non-condensing
- Color of case : Black (Munsell No N1.5)
- Material of Case : ABS Resin / DIN rail type
- Terminal Screws : M3.5
- Auxiliary Power : AC 110 / 220 V
- Zero Adjustment : $\pm 10\%$ minimum
- Span Adjustment : $\pm 10\%$ minimum
- Influences Affecting Accuracy
 - Temperature : Less than 0.2% from 0 to 50°C
 - Long-term Stability : Less than 0.2% / year non-cumulative
 - Frequency : Less than 0.1% 50Hz or 60Hz
 - External magnetic field : Less than 0.2% 400 A / m
- Overload Current : 1.2 I_n continuous
10 I_n 3 sec.
- Voltage : 1.2 V_n continuous
1.5 V_n 10sec.
- Dielectric Strength : Input terminal to Case AC 2000V 1 minute
Input to Output terminal AC 2000V 1 minute
- Impulse / Surge : $1.2 \times 50\mu\text{s}$, 5kV / 2.5kV 1MHz

■ 외형 치수 (Dimension)

Unit : mm

■ TS Type



■ TL Type

