

6. 배전반용 역률계 (Panel & Switch-board Power Factor Meter)



TYPE : WY-R □ □P



TYPE : WY-S □ □P



TYPE : WY-SH96 □ □



TYPE : WY-W □ □P

● Specifications

- 1 Phase 2 Wire P.F meter (1상 2선식 역률계)

Type	Size(mm)	Input		Oper. Prin.	Class (%)	Burden(VA)		Weight (g)	Dimen.	Transducer	
		Volt	Curr.			Volt	Curr.				
WY-R06P	60×60	110V or 220V	5A or 1A	D K	±5.0	0.5	0.5	630	Refer to Page 679	Ext.	
WY-R08P	80×80							660			
WY-R10P	100×80							670			
WY-S47P	47×47							600			
WY-S72P	72×72			610							
WY-S96P1	96×96			680				Refer to Page 680			Int. Ext.
WY-SH96P1				750							
WY-SH96P1T	80×80							760			Int. Ext.
WY-W08P1				110×110							
WY-W11P1	Int. Ext.										
WY-W11P1T		Ext.									

※ Ext. : 변환기 별도 외부형(External Transducer Type), Int. : 변환기 내부 일체형(Internal Transducer Type)

- 1 Phase 3 Wire P.F meter (1상 3선식 역률계)

Type	Size(mm)	Input		Oper. Prin.	Class (%)	Burden(VA)		Weight (g)	Dimen.	Transducer	
		Volt	Curr.			Volt	Curr.				
WY-R06P2	60×60	110V	5A or 1A	D K	±5.0	0.5	0.5	630	Refer to Page 679	Ext.	
WY-R08P2	80×80							660			
WY-R10P2	100×80							670			
WY-S47P2	47×47							600			
WY-S72P2	72×72			610							
WY-S96P2	96×96			680				Refer to Page 680			Int. Ext.
WY-SH96P2				750							
WY-SH96P2T	80×80							760			Int. Ext.
WY-W08P2				110×110							
WY-W11P2	Int. Ext.										
WY-W11P2T		Ext.									

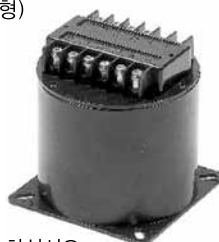
※ Ext. : 변환기 별도 외부형(External Transducer Type), Int. : 변환기 내부 일체형(Internal Transducer Type)

● External T/D & Internal T/D 의 제품 구성도

External T/D (별도 분리형)



+



Internal T/D (일체형)



※ 계측기와 T/D는 제조 번호가 일치하도록 설치 하십시오.
Install the manufacture's serial number of meter and T/D unitedly.

PANEL BOARD METER

교류역률계 Power Factor Meter (PF)



· 3 Phase 3 Wire P.F meter (3상 3선식 역률계)

Type	Size(mm)	Input		Oper. Prin	Class (%)	Burden(VA)		weight (g)	Dimen.	Trans-ducer	Remarks			
		Volt	Curr.			Volt	Curr.				Load			
WY-R06P3	80×80	110V or 220V	5A or 1A		±5.0	0.5	0.5	760	Refer to Page 679	Ext.	B			
WY-R06P3U											Un			
WY-R08P3	80×80										790	B		
WY-R08P3U												Un		
WY-R10P3	100×80											800	B	
WY-R10P3U													Un	
WY-S47P3	47×47			730				B						
WY-S47P3U								Un						
WY-S72P3	72×72							740			B			
WY-S72P3U											Un			
WY-S96P3	96×96										830	B		
WY-S96P3U												Un		
WY-SH96P3	96×96	830		Int.	B									
WY-SH96P3T				Ext.	B									
WY-SH96P3U				Int.	Un									
WY-SH96P3UT				Ext.	Un									
WY-W08P3	80×80		900		Ext.	B								
WY-W08P3U					Un									
WY-W11P3	110×110			920		Int.	B							
WY-W11P3T						Ext.	B							
WY-W11P3U						Int.	Un							
WY-W11P3UT						Ext.	Un							

· 3 Phase 4 Wire P.F meter (3상 4선식 역률계)

※ Ext : 변환기 별도 외부형(External Transducer Type), Int : 변환기 내부 일체형(Internal Transducer Type)

Type	Size(mm)	Input		Oper. Prin	Class (%)	Burden(VA)		weight (g)	Dimen.	Trans-ducer	Remarks			
		Volt	Curr.			Volt	Curr.				Load			
WY-R06P4	60×60	190/√3V or 380/√3V	5A or 1A		±5.0	0.5	0.5	760	Refer to Page 679	Ext.	B			
WY-R06P4U											Un			
WY-R08P4	80×80										790	B		
WY-R08P4U												Un		
WY-R10P4	100×80											800	B	
WY-R10P4U													Un	
WY-S47P4	47×47			730				B						
WY-S47P4U								Un						
WY-S72P4	72×72							740			B			
WY-S72P4U											Un			
WY-S96P4	96×96										830	B		
WY-S96P4U												Un		
WY-SH96P4	96×96			830									Int.	B
WY-SH96P4T													Ext.	B
WY-SH96P4U								Int.					Un	
WY-SH96P4UT								Ext.					Un	
WY-W08P4	80×80							900				Ext.	B	
WY-W08P4U												Un		
WY-W11P4	110×110	920			Int.	B								
WY-W11P4T					Ext.	B								
WY-W11P4U					Int.	Un								
WY-W11P4UT					Ext.	Un								

※ Ext : 변환기 별도 외부형(External Transducer Type), Int : 변환기 내부 일체형(Internal Transducer Type)

T
R
A
N
S
포머

N
C
T
노이즈컷트랜스

S
S
R
무접점릴레이

T
P
R
전력조정기

S
M
P
S
스미칭파워

N
/
F
노이즈필터

H
/
F
고조파필터

S
P
D
서지보호기

R
E
L
A
Y
보호계전기

E
L
D
누전경보기

G
F
R
지락계전기

Z
C
T
영상변류기

M
E
T
E
R
지시전기계기

C
T
/
V
T
계기용변성기

F
A
N
팬

교류역률계 Power Factor Meter (PF)



● Description

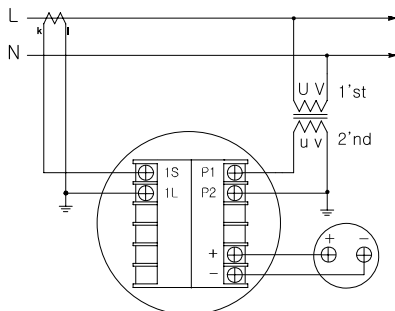
- 본 계측기는 Transducer 형으로 불평형 역률계와 평형 역률계로 구분한다.
- 동작 전압의 범위는 정격전압의 $\pm 10\%$ 이내입니다.
- 동작전류의 범위는 20~100%입니다.
- Specification 이외의 계측기는 정격 2차전압 110V 와 정격 2차전류 5A (1A) 인 VT와 C.T 를 연결하여 사용하십시오.
- WY-W11P type 의 역률계는 transducer box 를 내장하고 있으며, WY-R□□P, WY-S□□P, WY-W08P type 의 역률계는 외부에 transducer box 를 연결하여 사용하십시오.
- 3상 4선식의 정격전압은 선간전압/ $\sqrt{3}$ 으로 표시합니다.
- 정격전압의 90% 이하인 작은 부하에서는 본 계측기의 동작이 부정확하며, 정격전류의 1/5이상인 부하에서 본 계측기의 정확한 오차가 보장됩니다.
- 역률계의 표준 눈금은 LEAD 0.5~1~0.5 LAG 입니다.

● Description

- The type of operating principle of these meters are the transducer type and also the meter classify into the balanced power factor meter and the unbalanced power factor meter.
- Operating voltage range is $\pm 10\%$ of rated voltage.
- Operating current range is 20 to 100% of rated current.
- For other voltage and / or current ratings higher than listed on the in Specification. use external C.T and / or external VT with a 110V (220V) / 5A (1A) instrument.
- In case of the WY-W11P type of P.F meters, transducer box is self-contained and the WY-R□□P, WY-S□□P, WY-W08P type of P.F meters are provided with on external transducer box.
- Rating voltage of 3phase 4wire is at phase voltage. ($/\sqrt{3}$)
- The meter do not operate when load current is under 10% of rated current. And : If the circuit current is less than a 1/3 of the rating (or less then 1.66A if the rating is 5A) the error of P.F meter may have happened more then that of rated current.
- Standard scale : LEAD 0.5~1~0.5 LAG.

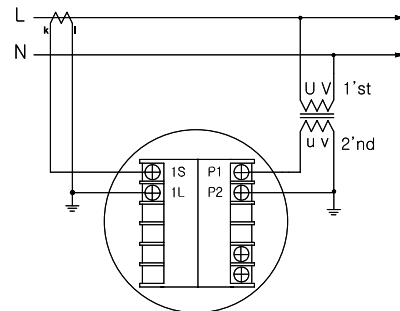
● Outside Connection

- With Ext. Transducer
(WY-R□□P, WY-S□□P, WY-W08P)



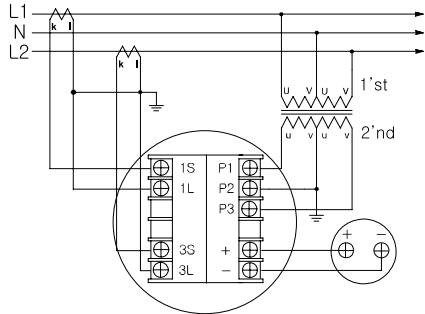
1상2선식
1 Phase 2Wire
Power Factor Meter

- Int. Transducer
(WY-W11P)

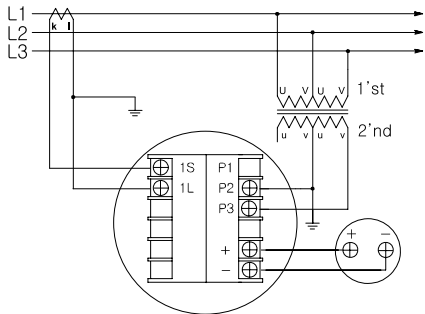


● Outside Connection

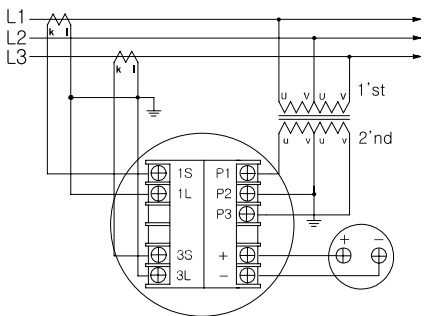
· With Ext. Transducer (WY-R, WY-S, WY-W08)



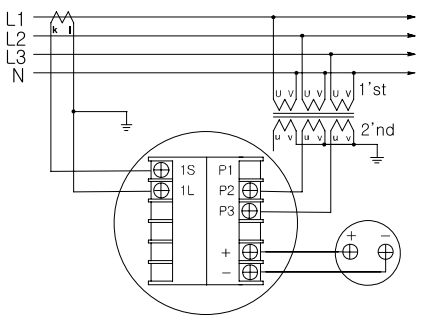
1상3선식
1 Phase 3Wire
Power Factor Meter



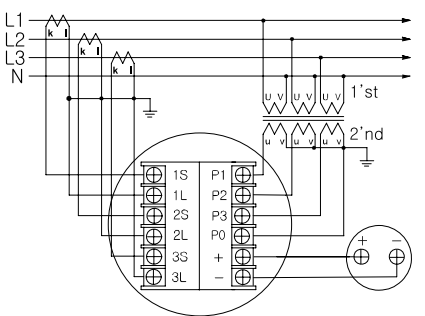
3상3선식
3 Phase 3Wire
Power Factor Meter
Balance Type



3상3선식
3 Phase 3Wire
Power Factor Meter
UnBalance Type

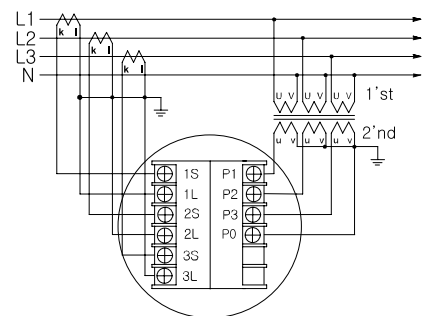
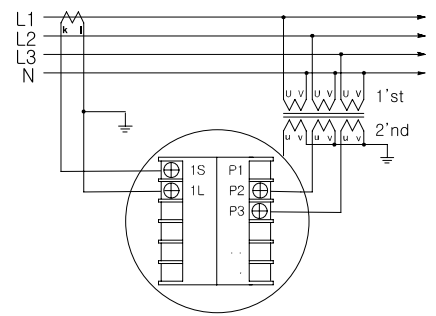
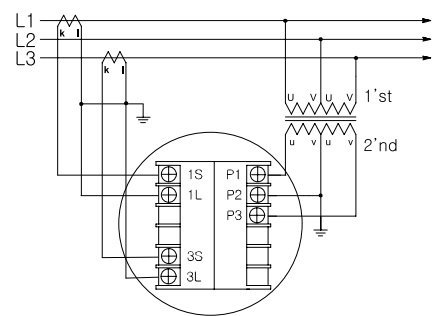
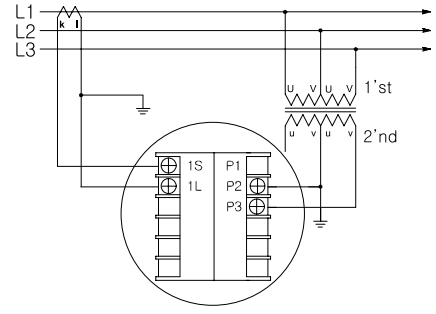
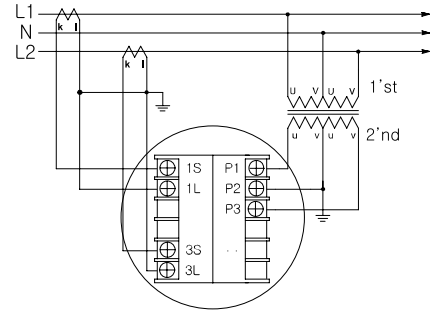


3상4선식
3 Phase 4Wire
Power Factor Meter
Balance Type



3상4선식
3 Phase 4Wire
Power Factor Meter
UnBalance Type

· Int. Transducer (WY-11, WY-SH96)



트랜스포머

노이즈컷트랜스

무선검출레이

전력조정기

스입칭파워

노이즈필터

고조파필터

서지보호기

보호계전기

누전경보기

지락계전기

영상변류기

지시전기계기

계기용변성기

FAN



● Dimension

· WY-R Type Dimension

(Unit = mm)

Front view																														
Rear view		<table border="1"> <thead> <tr> <th>Type</th> <th>W</th> <th>H</th> <th>D</th> <th>A</th> <th>B</th> <th>C</th> <th>E</th> <th>Ø</th> </tr> </thead> <tbody> <tr> <td>WY-R08</td> <td>80</td> <td>80</td> <td>36</td> <td>15</td> <td>34</td> <td>30</td> <td>64</td> <td>65</td> </tr> <tr> <td>WY-R10</td> <td>100</td> <td>80</td> <td>36</td> <td>15</td> <td>36</td> <td>28</td> <td>80</td> <td>65</td> </tr> </tbody> </table>	Type	W	H	D	A	B	C	E	Ø	WY-R08	80	80	36	15	34	30	64	65	WY-R10	100	80	36	15	36	28	80	65	
Type	W	H	D	A	B	C	E	Ø																						
WY-R08	80	80	36	15	34	30	64	65																						
WY-R10	100	80	36	15	36	28	80	65																						

· WY-R Type Dimension

Front view																														
Rear view		<table border="1"> <thead> <tr> <th>Type</th> <th>W</th> <th>H</th> <th>D</th> <th>A</th> <th>B</th> <th>C</th> <th>E</th> <th>Ø</th> </tr> </thead> <tbody> <tr> <td>WY-R05</td> <td>51</td> <td>51</td> <td>35</td> <td>14</td> <td>18</td> <td>18</td> <td>36</td> <td>44</td> </tr> <tr> <td>WY-R06</td> <td>60</td> <td>60</td> <td>35</td> <td>14</td> <td>24</td> <td>24</td> <td>48</td> <td>54</td> </tr> </tbody> </table>	Type	W	H	D	A	B	C	E	Ø	WY-R05	51	51	35	14	18	18	36	44	WY-R06	60	60	35	14	24	24	48	54	
Type	W	H	D	A	B	C	E	Ø																						
WY-R05	51	51	35	14	18	18	36	44																						
WY-R06	60	60	35	14	24	24	48	54																						

· WY-S Type Dimension

(Unit = mm)

Front view																																							
Rear view		<table border="1"> <thead> <tr> <th>Type</th> <th>W</th> <th>H</th> <th>D</th> <th>A</th> <th>B</th> <th>C</th> <th>X</th> <th>Y</th> </tr> </thead> <tbody> <tr> <td>WY-S47</td> <td>48</td> <td>48</td> <td>44</td> <td>5</td> <td>44</td> <td>12</td> <td>44,5</td> <td>44,5</td> </tr> <tr> <td>WY-S72</td> <td>72</td> <td>72</td> <td>67</td> <td>5</td> <td>44</td> <td>22</td> <td>68</td> <td>68</td> </tr> <tr> <td>WY-S96, SH96</td> <td>96</td> <td>96</td> <td>91</td> <td>5</td> <td>44</td> <td>22</td> <td>92</td> <td>92</td> </tr> </tbody> </table>	Type	W	H	D	A	B	C	X	Y	WY-S47	48	48	44	5	44	12	44,5	44,5	WY-S72	72	72	67	5	44	22	68	68	WY-S96, SH96	96	96	91	5	44	22	92	92	
Type	W	H	D	A	B	C	X	Y																															
WY-S47	48	48	44	5	44	12	44,5	44,5																															
WY-S72	72	72	67	5	44	22	68	68																															
WY-S96, SH96	96	96	91	5	44	22	92	92																															

· Mounting Introduction

WY-S47, WY-S96	WY-S72		WY-SH96	

TRANS

NOCT

SSR

TPR

SMP

N/F

H/F

SPD

RELAY

ELD

GFR

ZCT

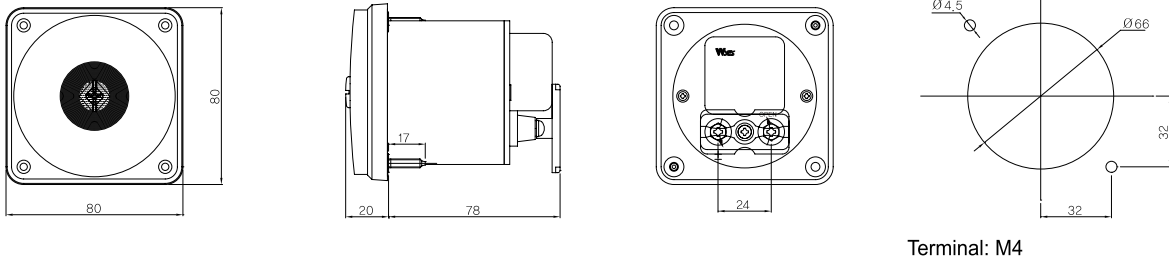
METER

CT/VT

FAN

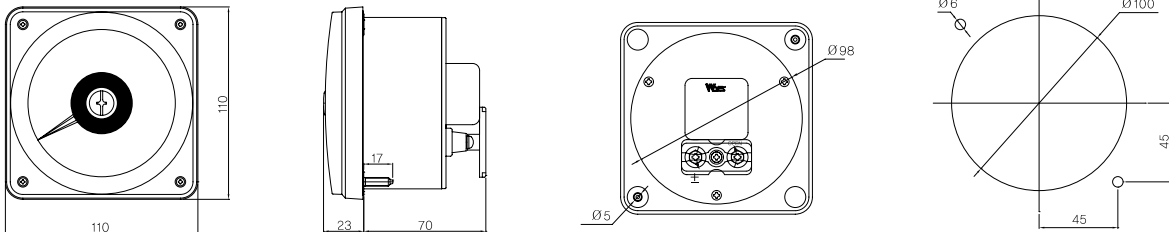
● Dimension

· WY-W08 Type Dimension



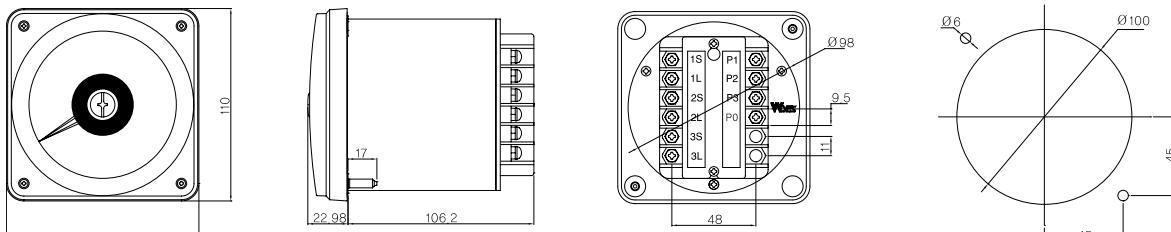
Terminal: M4

· WY-W11 A, V Type Dimension



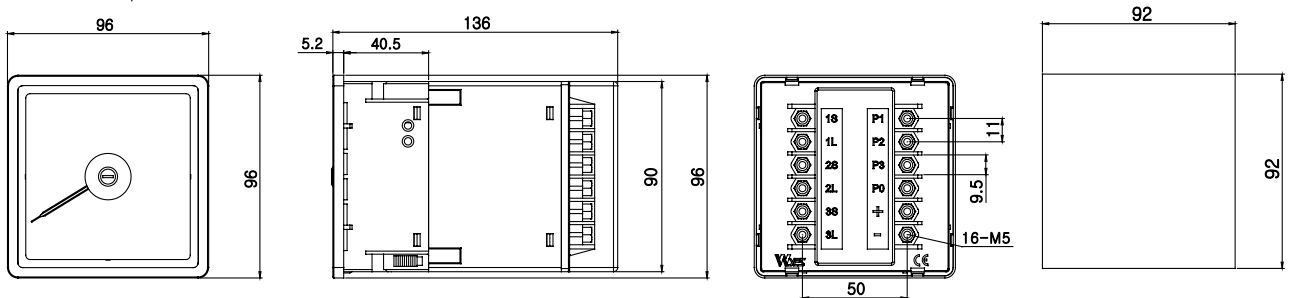
Terminal: M4

· WY-W11 KW, var, PF Type Dimension



Terminal: M4

· WY-SH96 KW, var PF Dimension



● 외부 변환기 사용

R, S, W08 타입의 Watt, var, Hz PF 계측기는 외부에 우측과 같은 변환기 (T/D) 를 사용합니다.

● External Transducers (For meter)

The Transducer for meter is used with the Watt, var and PF meter, etc., of the R type and S type or W08 type which is external transducer.

