REACTIVE POWER (VAR) TRANSDUCER

AR

FEATURES

- Accuracy ±0.2% RO.
- Excellent long term stability(4~20mA, 750Ω)
- Precision measurement even for unbalance system
- Precision measurement even for distorted wave
- High impulse & surge protection (5KV)
- The case can be mounted on a 35mm rail which complies with DIN 46277

• OUTPUT

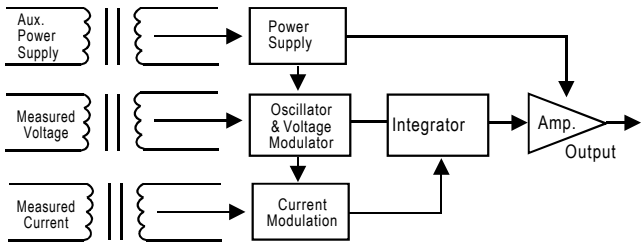
DC Output Range	Load Resistance	Output Resistance	Output Ripple	Response Time
-1~0~1V	≥500 Ω	≤0.05Ω	≤0.5% RO. (peak)	≤400mS. 0~99%
-5~0~5V	≥500 Ω			
1~3~5V	≥500 Ω			
0~5~10V	≥500 Ω			
-1~0~1mA	0~10K Ω	≥ 20M Ω		
-10~0~10mA	0~1K Ω	≥ 5M Ω		
0~10~20mA	0~750 Ω			
4~12~20mA	0~750 Ω			

Accuracy:	±0.2% Rated of Output
Input frequency:	50HZ±3HZ or 60HZ ±3HZ
Input frequency effect:	≤ 0.015%, per 0.01HZ
Input burden:	≥ 0.1VA (ampere input)
	≤ 0.2VA (voltage input)
Aux. power supply:	AC 110V ±15%, 50/60HZ
	AC 220V±15%, 50/60HZ
	DC24V, 48V, 110V, +15%, -10%
Power effect:	≤0.1% RO.
Power consumption:	≤4VA, ≤ DC 3W
Waveform effect:	≤0.2% RO. at distortion factor 15%
Output load effect:	Current output≤0.1% RO.
	Voltage output≤0.05% RO.
Electromagnetic balance effect:	≤ 0.1% RO.
Mutual interference effect:	≤ 0.1% RO. between element
Magnetic field strength:	400A/M. ≤ 0.2% RO.
Span adjustment range:	≥ 5% RO.
Zero adjustment range:	≥ 1% RO.
Operating temperature range:	0~60°C
Storage temperature range:	-10~70°C
Temperature coefficient:	≤100PPM from 0 to 60°C
Max. relative humidity:	95%
Isolation:	Input/output/power/case
Insulation resistance:	≥ 100MΩ, DC 500V
Dielectric withstand voltage:	Between input/output/power/case
(IEC 414, 688, ANSI, C37)	AC 3KV, 60HZ, 1 min.
Impulse withstand test:	5KV, 1.2 X 50us
(IEC 255-4, ANSI C37 90a)	Common mode & differential mode
Performance:	Designed to comply with IEC688
Safety requirements:	IEC 414, BS5458

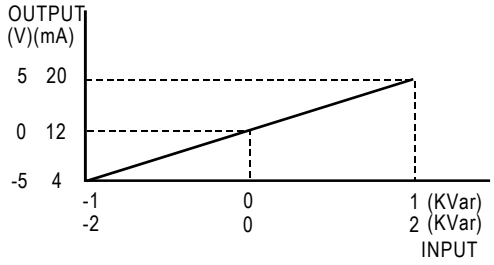
DESCRIPTION

Model :AR-1 **for 1φ2W, active power (var)**
AR-3 for 3φ3W, active power (var)
AR-3A for 3φ4W, active power (var)

A wide range of transducers to measure all forms reactive power, in both balanced and unbalanced, single or 3 phase system. They utilize the well prove "time division multiplication" method of measuring instantaneous power over a wide range of input waveforms. The circuit diagram shown measured voltage is modulated by circuit of an oscillator. Square wave pulses from a multi-vibrator circuit, with a mark-space ratio varied by the measured voltage and amplitude by the measured current, are fed to an integrator an output amplification circuit. The dc signal produced is then directly proportional to power input-Var.



• INTPUT-OUTPUT CURVE



SPECIFICATION

• INPUT

Input Range				Max. Input Over Capability
Circuit	Amp	Voltage	Basic Var	
Single Phase	5A	110V(120V)	±0.5KVar	Ampere: 3 X rated continuous; 10 X rated 10 sec.; 50 X rated 1 sec. Voltage: 1.5 X rated continuous; 2X rated 10 sec.; 4X rated 2 sec.
		220V(240V)	±1KVar	
3-Phase 3-Wire	5A	110V(120V)	±1KVar	
		220V(240V)	±2KVar	
3-Phase 4-Wire	5A	190V/120V (208/120V)	±1.5KVar	
		380V/220V (416/240V)	±3KVar	

REACTIVE POWER (VAR) TRANSDUCER

ORDERING MODEL MAKE UP

AR-1
AR-3
AR-3A

Model
AR-1 for 1∅2W
AR-3 for 3∅3W
AR-3A for 3∅4W

Input Current
5 : 5A
O : Option

Input voltage
1 : 110V (120V)
2 : 220V (240V)
3 : 190V/110V (208V/120V)
4 : 380V/220V (416V/240V)
O : Option

Input Frequency
5 : 50HZ
6 : 60HZ
O : Option

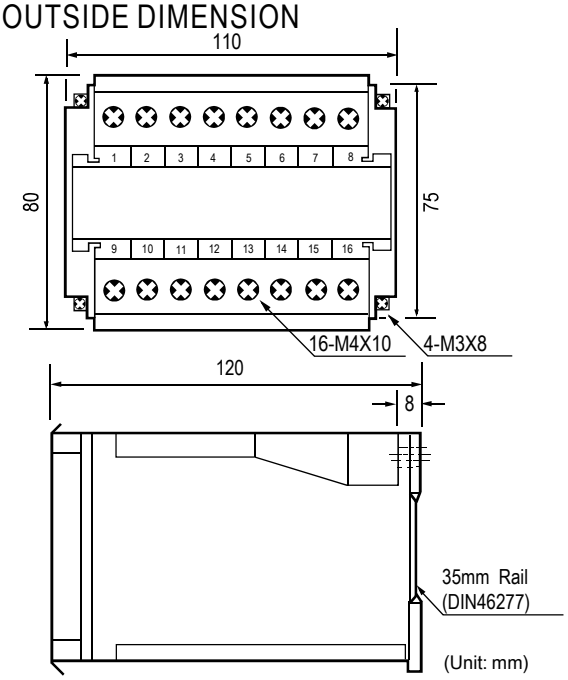
Out Range

V1 : -1 ~ 0 ~ 1V	A1 : -1 ~ 0 ~ 1mA
V2 : -5 ~ 0 ~ 5V	A2 : -10 ~ 0 ~ 10mA
V3 : 1 ~ 3 ~ 5V	A3 : 0~10 ~ 20mA
V4 : 0 ~ 5 ~ 10V	A4 : 4 ~ 12 ~ 20mA
O : Option	

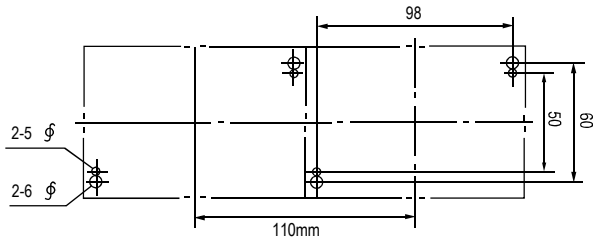
Aux. Power Supply

A : AC110V	C : DC24V
B : AC220V	D : DC48V
O : Option	E : DC110V

THE OUTSIDE DIMENSION



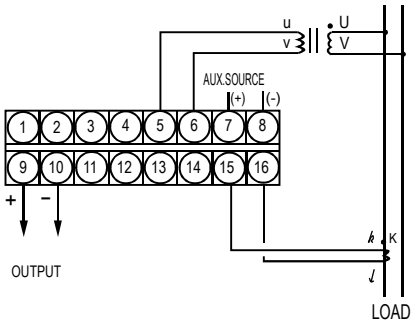
PANEL MOUNTING HOLES



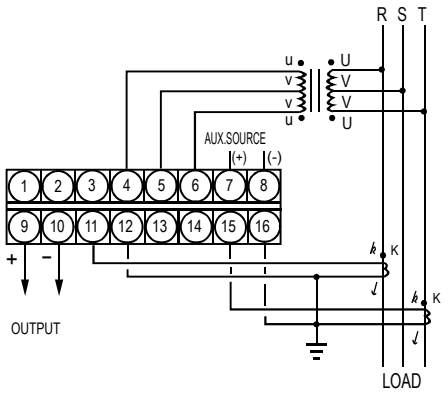
(Unit: mm)

CONNECTION DIAGRAM

AR-1 (1∅2W)



AR-3 (3∅3W)



AR-3A (3∅4W)