CWH/CQH AC WATT-Hr & VAR-Hr Transducer

ADTEK

Features

- Measuring Watt-Hr or Var-Hr or Watt-Hr & Var-Hr
  1P2W, 1P3W, 3P3W, 3P4W Balanced or Unbalanced systems
- Precision measurement even for distorted wave
- Output range programmable by dip-switch
- High impulse & Surge protection
- High stability & low cost
- CE certification

Ordering Information

C — Input Type — Conncetion — Input Range — Input Freq. — Output Range — Aux. Power

CODE	Input Type
WH	Watt-Hr
QH	Var-Hr
WQH	Watt-Hr & Var-Hr

CODE	Connection
12	1P2W Unbalanced
13	1P3W Unbalanced
33	3P3W Unbalanced
34	3P4W Unbalanced
35	3P3W Balanced
36	3P4W Balanced

CODE		Input Range
A1		0~1 A
A5		0~5 A
	V1	110V or 120V
	V2	220V or 240V
	V3	380V or 416V
	V4	$110V_{LL}$-$63.5V_{LN}$ or $120V_{LL}$-$69.3V_{LL}$
	V5	$190V_{LL}$-$100V_{LN}$ or $208V_{LL}$-$120V_{LN}$
	V6	$380V_{LL}$-$220V_{LN}$ or $416V_{LL}$-$240V_{LN}$
	V7	220V-110V(1P3W)

*V4, V5, V6 will be selected in 3P4W connection.

CODE	Input Freq.
5	50Hz ±3Hz
6	60Hz ±3Hz

CODE		Output Range
A		1 count/KWH(KVARH)
B		10 counts/KWH(KVARH)
C		100 counts/KWH(KVARH)
D		1000 counts/KWH(KVARH)
E		10000 counts/KWH(KVARH)
O		Specify(output conuts)
	P	15V Pulse
	C	Open Collect
	R	Relay Contace

Maximum frequency of Relay Contact is 10Hz. It means the relay will be trip 36000 times/hour. And the life time of relay contact is 1,000,000 times

CODE	Aux. Power
ADH	AC85~264V DC100~300V
ADL	AC/DC20~56V
AS	Self Powered

Technical Specification

INPUT: Watt / Var

Connection	AC Input		Bais Ref. Value Watt or Var	Input Burden
	Voltage	Current		
1P2W	110V or 120V	5A (1A)	± 0.5 K (± 0.1K)	≦ 0.10VA or ≦ 0.15VA
	220V or 240V		± 1.0 K (± 0.2K)	
1P3W	220V ~ 110V		± 1.0 K (± 0.2K)	
3P3W	110V or 120V		± 1.0 K (± 0.2K)	
	220V or 240V		± 2.0 K (± 0.4K)	
	380V or 416V		± 3.0 K (± 0.6K)	
3P4W	$190V_{LL}$-$110V_{LN}$ or $208V_{LL}$-$120V_{LN}$		± 1.5 K (± 0.3K)	
	$380V_{LL}$-$220V_{LN}$ or $416V_{LL}$-$240V_{LN}$		± 3.0 K (± 0.6K)	

*The maximum input is 450V and 5A. If the input over the level please connects with CT or PT to the transducer.
*V_{LL} means Voltage of line to line; V_{LN} means Voltage of line to neutral.
*The basic ref, value is base on second of PT & CT, and versus the high range of output

OUTPUT: Programming by Dip Switch inside

Output Range		Output Mode		
Per KWH or Per KVARH	1 count	V Pulse DC 15V 10mA	Open Collect DC 30V, 100mA (DC 60V, 50mA Specified)	Relay Contact AC 110, 0.5A DC 24V, 1A Max. Freq.: 10Hz
	10 counts			
	100 counts			
	1000 counts			
	10000 counts			
	100000 counts			

Accuracy : ≦ ±0.2% of F.S.
Waveform effect ≦ 0.01% of F.S. at 15% distortion
Max. input over: Voltage: 1.5 x rated continuous
2 x rated for 10 seconds
4 x rated for 2 seconds
Current: 3 x rated continuous
10 x rated for 10 seconds
50 x rated for 1 second
Input frequency: 50 Hz ±3 Hz, 60 Hz ±3 Hz
Response time: ≦ 250 mS
Span adjustment: ≦ ±5% of F.S. (or ±20% of F.S. specify)
Zero adjustment: ≦ ±2% of F.S. (or ±20% of F.S. specify)
Output load effect: Current output ≦ 0.1% of F.S.
Voltage output ≦ 0.05% of F.S.

Power Supply

Power supply: ADH: AC 85~264V, DC 100~300V
ADL: AC / DC 20~56V
Self Powered: Interior connection from input volt
Working volt: ±15% rated of input voltage
Power effect: ≦ 0.05% of F.S.
Power consumption: ≦ 8 VA
Mutual interference effect: ≦ 0.1% of F.S. between each element
Magnetic field strength: 400ATM ≦ 0.2% of F.S.

Environmental Conditions

Operating temperature: 0~60℃
Operating relative humidity:20~95 %RH, non-condensing
Temperature coefficient: ≦ 100 PPM/℃
Storage temperature: -10~70℃

Electrical Safety

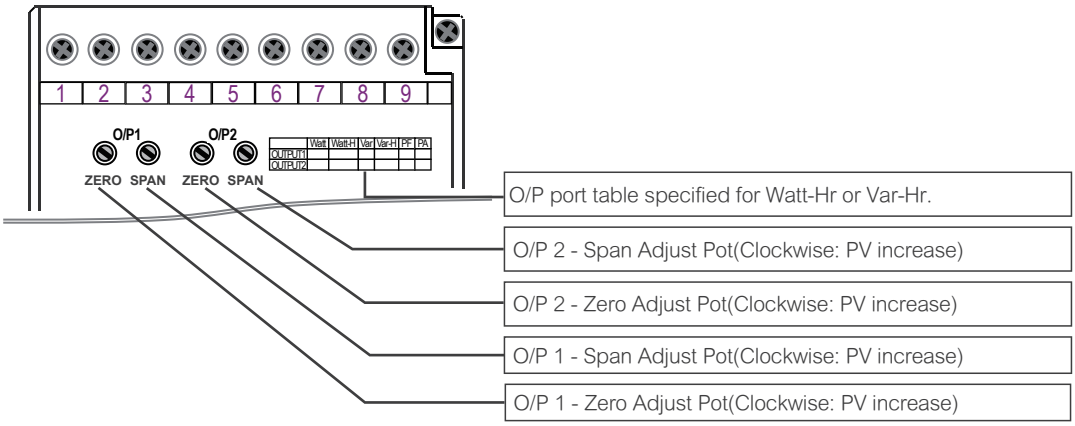
Dielectric Strength: IEC 414, IEC 688:1992, ANSI C37.90a
Between Input / Output / Power / Case
AC 4KV, 50/60Hz, 1 min.
Surge test: IEC 255-4, ANSI C37.90a
6KV, 1.2 x 50 μ sec.
Comm on mode & differential mode

Insulation resistance: ≧ 100MΩ, DC 500V
Safety: IEC 414, BS 5458
Enclosure: IEC 529 (IP50)
Certification Standard: IEC 60688
CE: EMC:EN61326:2003
Safety(LVD): EN61010:2001

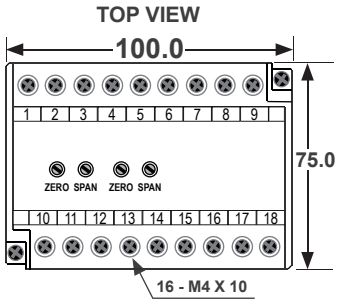
Mechanical Structure

Case material: ABS Non-flammable (UL 94V-0)
Mounting: Wall or DIN rail (EN 50022)
Weight: under 650g

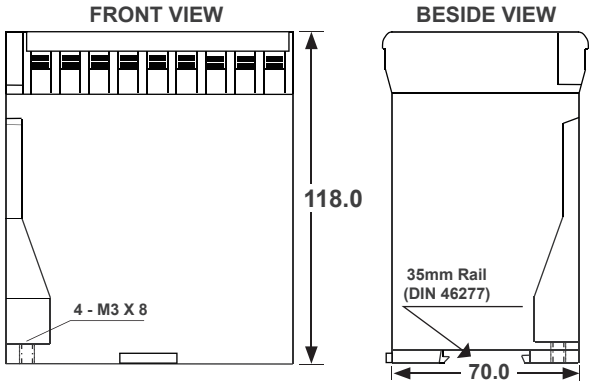
Adjustment



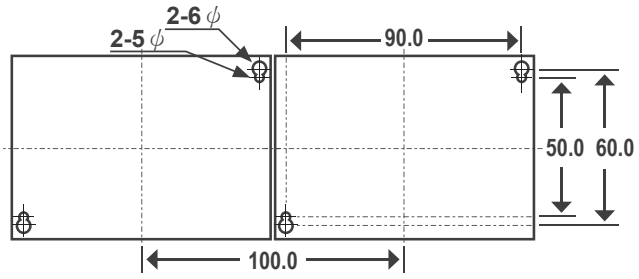
Dimensions



Unit: mm



Installation



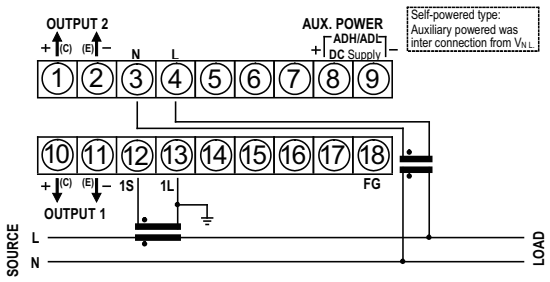
Unit: mm

Output Range Programming

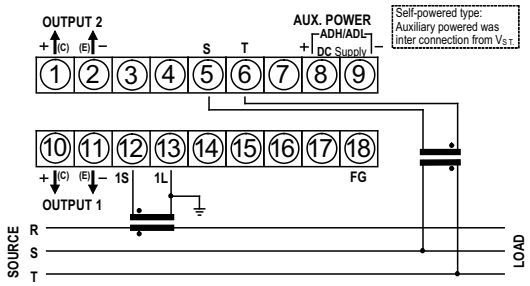
Output	pcb no. WQHP2-2 DIP SWITCH										pcb no. WQHP-HR2 DIP SWITCH								WQHP-HR1 (Test Point)
	1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	Freq.(T1, Gnd)
1p/KWh (1p/KVARh)	on		on	on	on		on	on	on	on	on	on					on	on	4.6205K Hz
10p/KWh (10p/KVARh)	on	on		on		on	on		on	on							on		9.9556K Hz
100p/KWh (100p/KVARh)			on	on	on	on		on		on					on				9.9556K Hz
1000p/KWh (1000p/KVARh)		on	on				on								on				9.9556K Hz
10000p/KWh (10000p/KVARh)	on	on	on												on				9.9556K Hz

Pin Assignment

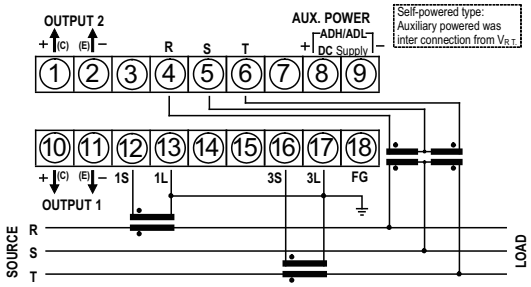
• Watt-Hr / Var-Hr / Watt - Hr & Var-Hr - 1Φ2W (Unbalanced Load)



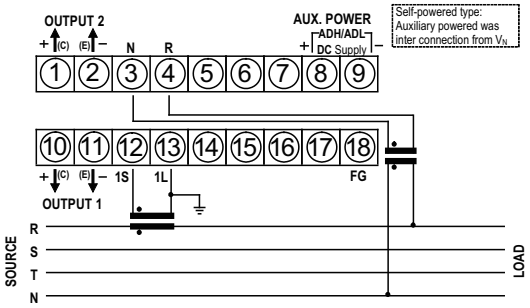
• Watt-Hr / Var-Hr / Watt-Hr & Var-Hr - 3Φ3W (balanced Load)



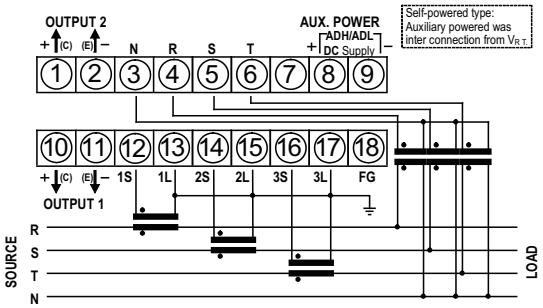
• Watt-Hr / Var-Hr / Watt - Hr & Var-Hr - 3Φ3W (Unbalanced)



• Watt-Hr / Var-Hr / Watt-Hr & Var-Hr - 3Φ4W (balanced Load)



• Watt & Watt-Hr / Var & Var-Hr - 3Φ4W (Unbalanced Load)



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