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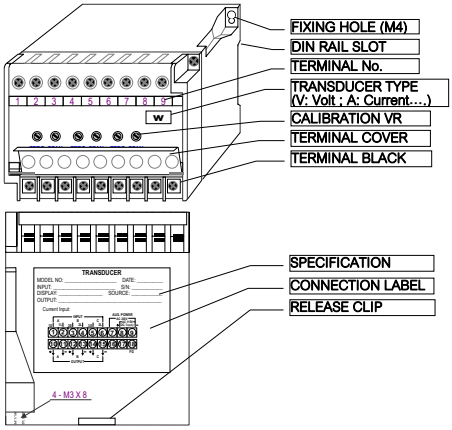
ISO 9002 Registered

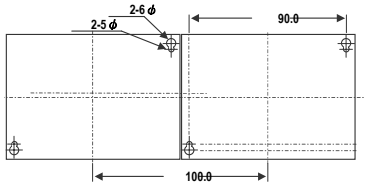
CW / CQ WATT / VAR TRANSDUCERS OPERATION MANUAL

PARTS DESCRIPTION

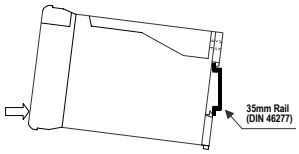


INSTALLATION

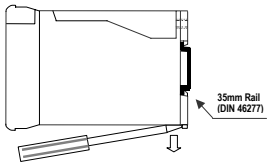
Dimensions



Install:

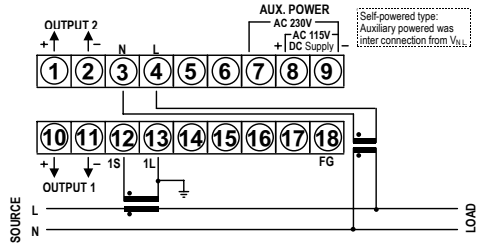


Release:

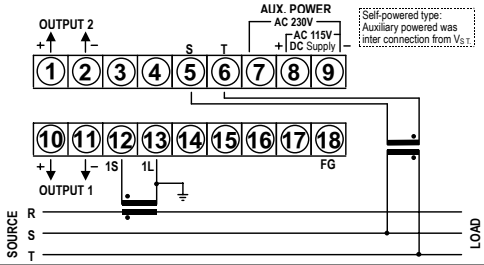


CONNECTIONS

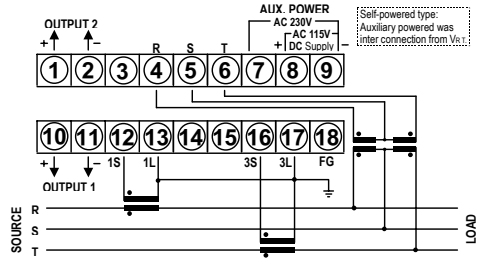
CW(WATT) / CQ(VAR) / CWQ 1P2W (Unbalanced Load)



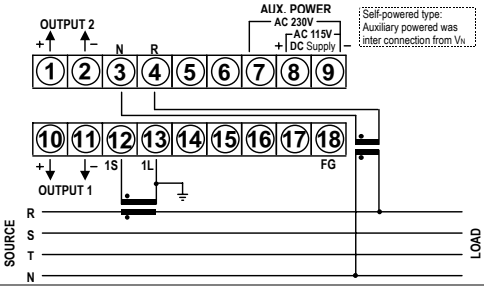
CW(WATT) / CQ(VAR) / CWQ 3P3W (Balanced Load)



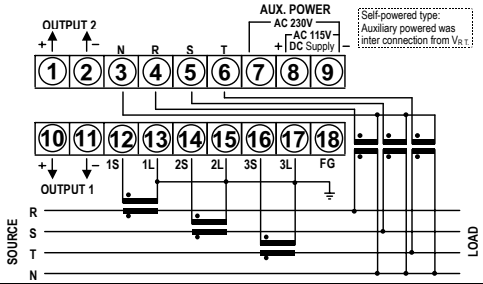
CW(WATT) / CQ(VAR) / CWQ 3P3W (Unbalanced Load)



CW(WATT) / CQ(VAR) / CWQ 3P4W (Balanced Load)



CW(WATT) / CQ(VAR) / CWQ 3P4W (Unbalanced Load)



BEFORE INSTALL THE TRANSDUCERS

1	Please check the **specification** on label is same as your requirement。
2	Please check the **Current, Voltage and Frequency** input are correct。
3	Please check the **Aux. Powered** is correct。
4	Please check the **Sequence of Current and Voltage** input are correct。

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	TROUBLE SITUATION	TROUBLE SHOOTING	REMARK
1	**Without analogue output**	(1) Please check the aux. powered.	
		(2) Release the aux. powered wiring and check the power supply terminals of transducer; CW/CQ 115/230Vac, the power supply terminals is about **368Ω / 810Ω.** 380Vac the power supply terminals is about **2087Ω.** 416Vac the power supply terminals is about **2236Ω.**	
2	**Output isn't variable with input and near by low range**	(1) Please check the input Current and Voltage.	
		(2) Please check the sequence of Current and Voltage.	
3	**Output is over 30% of full range**	(1) Please Check the input Current and Voltage is correct or not.	
		(2) Release the output wiring, and measure the output is correct or not. If it's correct, maybe, there are strong noise in output wiring. If it's still over, maybe the transducer is fault.	
4	**Output is unstable**	(1) Please check the Current, Voltage or Frequency input are stable or not.	
		(2) Release the output wiring, and measure the output is correct or not. If it's correct, maybe, there are strong noise in output wiring. If it's still over, maybe the transducer is fault.	

OUTPUT PROGARMMING AND CALIBRATION

Watt / Var Programming table: If you want to change the output range, please according to the table to change the dip-switches.

OUTPUT	pcb no. WQHP2-2											
	DIP SWITCH										JUMPER	
	1	2	3	4	5	6	7	8	9	10	CN10	CN11
0 ~ 1 mA					on							■
0 ~ 5 mA					on	on				on		■
0 ~ 10 mA					on	on						■
0 ~ 20 mA					on		on					■
4 ~ 20 mA	on				on		on					■
0 ~ 0.5 ~ 1 mA					on				on	on		■
0 ~ 5 ~ 10 mA					on	on			on	on		■
0 ~ 10 ~ 20 mA					on		on		on	on		■
4 ~ 12 ~ 20 mA	on				on		on		on	on		■
-1 ~ 0 ~ +1 mA					on						■	
-5 ~ 0 ~ +5 mA					on	on				on	■	
-10 ~ 0 ~ +10 mA					on	on					■	
-20 ~ 0 ~ +20 mA					on		on				■	
0 ~ 1 V		on	on	on				on				■
0 ~ 5 V			on	on				on				■
0 ~ 10 V				on				on				■
1 ~ 5 V	on		on	on				on				■
2 ~ 10 V	on			on				on				■
0 ~ 0.5 ~ 1 V		on	on	on				on	on	on		■
0 ~ 2.5 ~ 5 V			on	on				on	on	on		■
0 ~ 5 ~ 10 V				on				on	on	on		■
1 ~ 3 ~ 5 V	on		on	on				on	on	on		■
2 ~ 6 ~ 10 V	on			on				on	on	on		■
-1 ~ 0 ~ +1 V		on	on	on				on			■	
-5 ~ 0 ~ +5 V			on	on				on			■	
-10 ~ 0 ~ +10 V				on				on			■	

* JUMPER: (1) "■" closed by jumper. (2) blank fields mean open.

The transducer is calibrated at the factory per order. If it will need to be re-calibrated, please according to the following process to calibrate.

CW / CQ

Calibration Process:

1. According to the connection diagram on the transducer to connect between AC Watt or Var standard source and terminal of the transducer. And a DMM was connected from terminal to receive the output signal of the transducer (according to the connection on the goods label).
2. Adjust the standard source Vout & Aout to meet low scale.
   - Normally, Vout of the standard source was fixed in rated volt input of transducer and regulated the Aout value of the standard source to "0".
3. Adjust **Zero adjust pot** (Watt or Var) on the top until DMM shows low scale of output.
4. Adjust the standard source Vout & Aout to match the Basic Watt
   - Normally, Vout of the standard source was fixed in rated volt input of transducer and regulated the Aout value of the standard source to match the Basic Watt.
5. Adjust **Span adjust pot** (Watt or Var) on the top until DMM shows the full scale of output.
6. Send standard source ((Input Hi + Input Lo)/2 –Input Lo of this transducer) to the transducer, and check middle output.
7. As same as step 6 to check 1/4, 3/4 of full range.
8. Re-cycle step 2~ step 7.
9. OK.

EXAMPLE:

CTW-34--A5V45-D2

1. I/P: 5A, 416-240V,50Hz,3P4W; O/P: 4~20mA(0~+3KWbasic); Aux. Power: AC 240V, 50Hz
2. Adjust the standard source Vout & Aout to meet "0" Watt.
3. Vout of the standard source was fixed in 416V.00$_{line\text{-}line}$-240V.00$_{line\text{-}N}$ and regulated the Aout value of the standard source to "0.000" A.
4. Adjust **Zero adjust pot** (Watt) on the topside until DMM shows value in "4.000" mA.
5. Adjust the standard source Vout & Aout to match 3KWbasic.
   - Vout of the standard source was fixed in 416.00$V_{line\text{-}line}$-240.00$V_{line\text{-}N}$ and regulated the Aout value of the standard source to "4.1666" A.
6. Adjust **Span adjust pot** (Watt) on the topside until DMM shows value in "20.000" mA.
7. Adjust the standard source Vout & Aout to match 1.5 KWbasic.
   - Vout of the standard source was fixed in 416.00$V_{line\text{-}line}$-240.00$V_{line\text{-}N}$ and regulated the Aout value of the standard source to "2.0833" A to the transducer, and check middle output in "12.000" mA.
8. As same as step 6 to check 1/4, 3/4 of full range.
9. Re-cycle step 2~ step 7.
10. OK.

Calibration Procedure in Bi-Direction Watt or Var. Type:

1. According to the connection diagram on the transducer to connect between AC Watt standard source and terminal of the transducer. And a DMM was connected from terminal to receive the output signal of this transducer (according to the connection on the goods label).
2. Adjust the standard source Vout & Aout to match the **+**Basic Watt.
   - Normally, Vout of the standard source was fixed in rated volt input of transducer and regulated the Aout value of the standard source to match the **+**Basic Watt.
3. Adjust **Span adjust pot** (Watt or Var.) on the topside until DMM shows value in the full scale of output.
4. Change the Aout 2 lines each pair (each phase) or Change the Vout 2 lines each pair (each phase).
5. Adjust the standard source Vout & Aout to match the **-**Basic Watt.
   - Normally, Vout of the standard source was fixed in rated volt input of transducer and regulated the Aout value of the standard source to match the **-**Basic Watt.
6. Adjust **Zero adjust pot** (Watt or Var.) on the topside until DMM shows value in the low scale of output.
7. Send standard source (Input Hi + Input Lo)/2 –Input Lo of this transducer) to the transducer, and check middle output.
8. As same as step 6 to check 1/4, 3/4 of full range.
9. Re-cycle step 2~ step 8.
10. OK