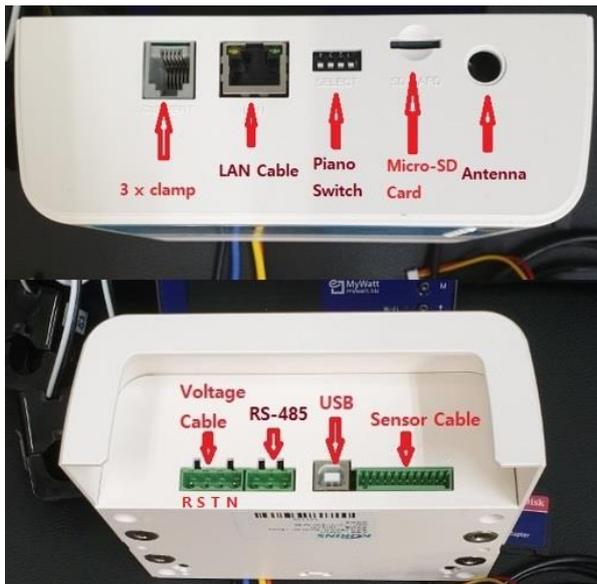
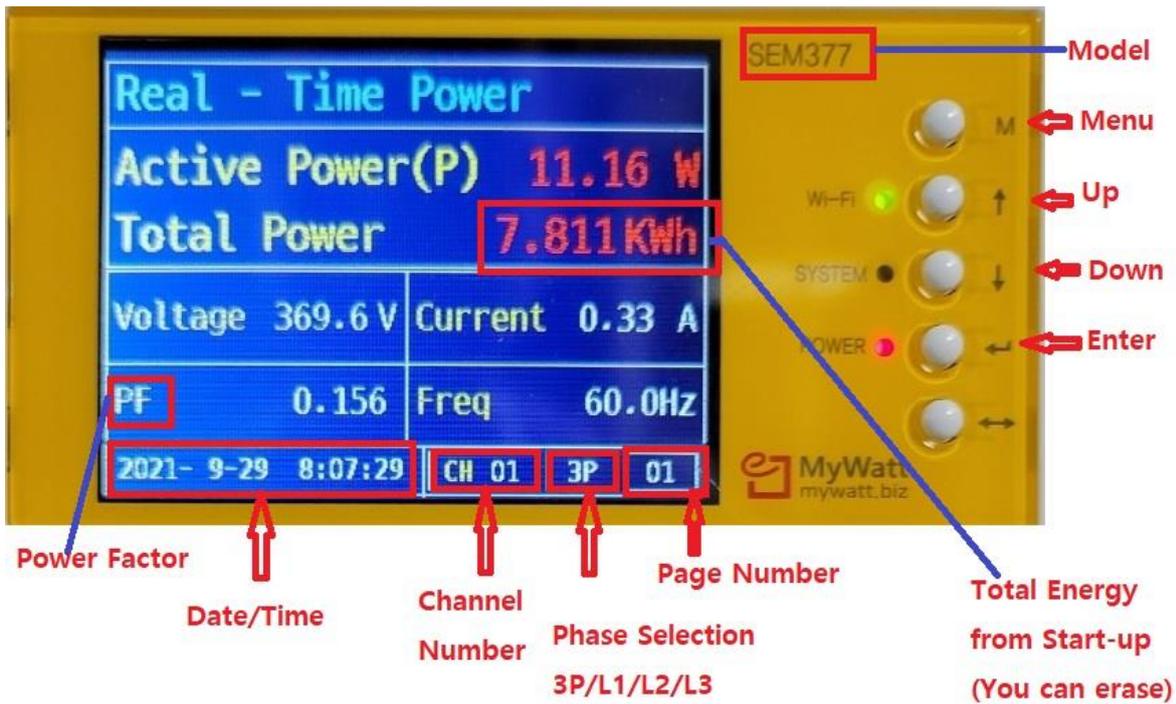


SEM370/375/377/380/388/390/392 Energy Logger manual





SEM370/SEM375, 3-Phase Energy Logger

www.mywatt.biz/energyeye



3 Phase 4-Line Energy Logger

***2.4" TFT lcd display**

***75A, 120A, 200A, 350A, 500A current clamp**

***Micro SD Card data logger**

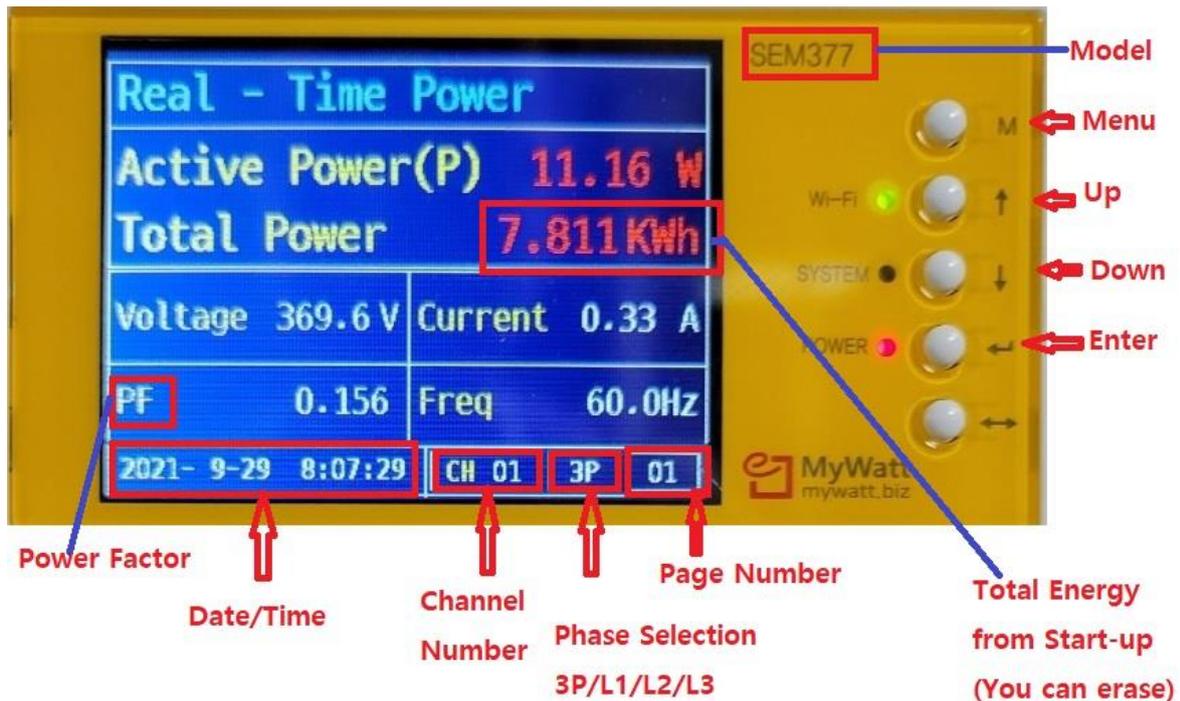
***Modbus RS-485, TCP/IP, USB**

***Wi-Fi, RF433MHz, LORA**

***Web Cloud service: <http://mywatt.org>**

***Application: "mywatt30"**

***Temperature, Humidity, Pressure sensor**



SEM370 basic version:

has Micro SD-Card slot, Modbus RS-485, TCP/IP, 3 Phase 4-Line voltage input, 3 clamp connection terminal and extra sensor terminals. We also provide Battery clock back-up device.

"B" type USB terminal is included. 2.4" TFT Icd.

In case of TCP/IP, you can get web cloud service directly by connecting LAN cable (2-channel service is free) 30channel service for 5 yeats is option.(\$10.00)

SEM370WIFI version:

has Micro SD-Card slot, Modbus RS-485, TCP/IP, 3 Phase 4-Line voltage input, 3 clamp connection terminal and extra sensor terminals. We also provide Battery clock back-up device.

"B" type USB terminal is included.

In case of TCP/IP, you can get web cloud service directly by connecting LAN cable (2-channel service is free) 30channel service is option.

*WIFI module: Included. You can get 5 years free web cloud service with WIFI module.

*RS-485 software: included.

*RS-485 connector: included.

*RS-485 cable and adapter: Option. You can connect to 31 channels.

*Micro-sd card slot: included. You can log more than 10 years data.

*Graphic lcd display: Daily, weekly, monthly and yearly graph is possible. You can save 1 year data on CPU flash memory.

*Web cloud service: Daily, 15-minute daily, weekly, monthly, yearly, bi-year graph is possible.

SEM370 have 5 push buttons and 3 led display.

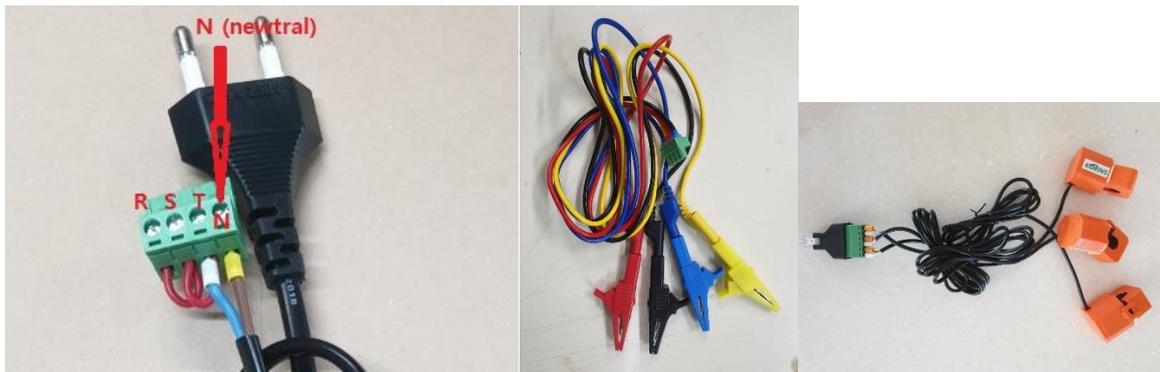
SEM370 optional items:

*Temperature and humidity sensor

*WIFI module

*LORA module (FULL MESH networking service up to 100 channels)

*Pressure sensor (0 to 10bar)



If you want to measure single phase with 3-channel display by using 3 current clamp, please make the cable connection as the above photo left.

If your cable connection method is reverse, you can see "--" Watt or "--" Power Factor data when you see the lcd display.

If you see "--" data on lcd, please change the clamp connection position with reverse side.

If you need to measure only single phase and 1 channel energy measuring, please connect only "N" and "T" pole.

"B" type USB terminal:

If you connect 5V DC power, SEM370/SEM375 power is on and the clock is start to work.

In this case, you can measure with optional sensors.

3-Phase 4-Line voltage energy measuring

Please connect 4-Line voltage connector with 4-line cables.

Please connect the RJ12 jack with 3-clamps on top of SEM370 case.

if you see "--" data on lcd display, please rotate the clamp connecting position

SEM370, SEM375 clamps:

SEM370 clamps must be ordered separately. You must use the clamps which is confirmed by the

We provide 30A, 60A, 100A, 200A, 500A, 2000A clamps.

SEM370 LCD operation method.

SEM370 have 5 buttons. (MODE, UP, DOWN, ENTER, OTHERS)



#1: Mode Button

If you press Mode button, you can see 18menu.

*ENERGY1:

You can see Active power(W), Total Energy power (Wh or kWh), Power Factor, Voltage, Frequency.

*ENERGY2:

Active power(W), Total Energy power (Wh or kWh), Reactive Power (AVR), Apparent Power (VA), AVRh, Vah,

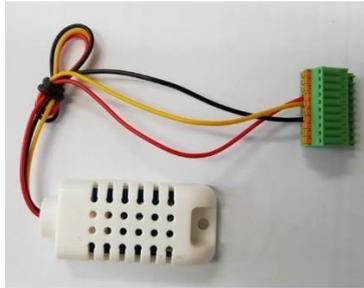
*COST & GRAPH:

Daily and Monthly Energy cost calculation will be provided in the future.

We also provide Daily/Monthly/Yearly graph & chart.

*T&H (Temperature and Humidity): Option

*Pressure sensor: 10bar sensor (option)



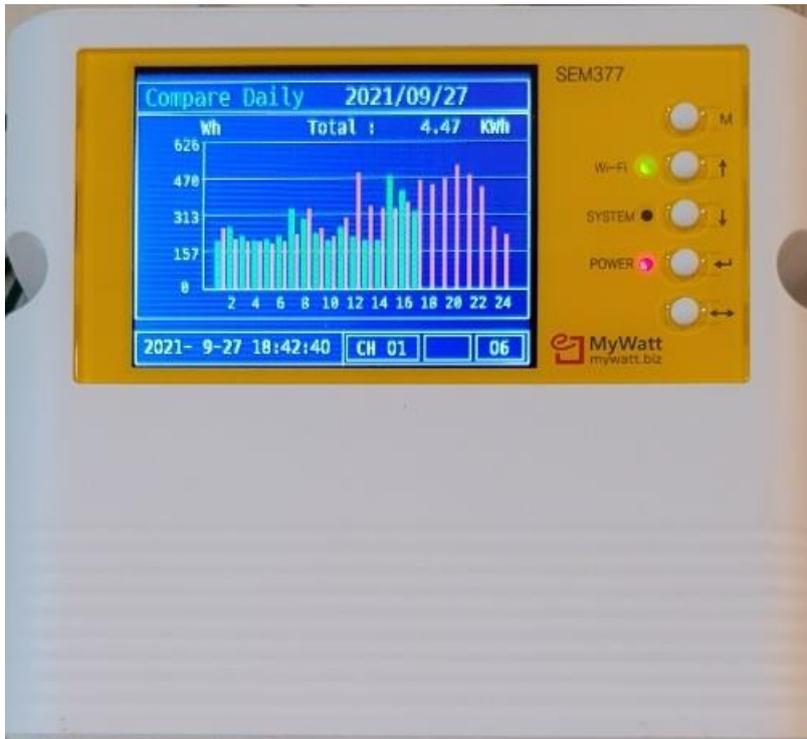
Model THS Temperature & Humidity Sensor for CRT5000



Clamp Type (200A, 500A, 60A)



*Compare Menu: Yesterday/Today, Last Week/This Week, Last Month/This Month, Last Year/This Year

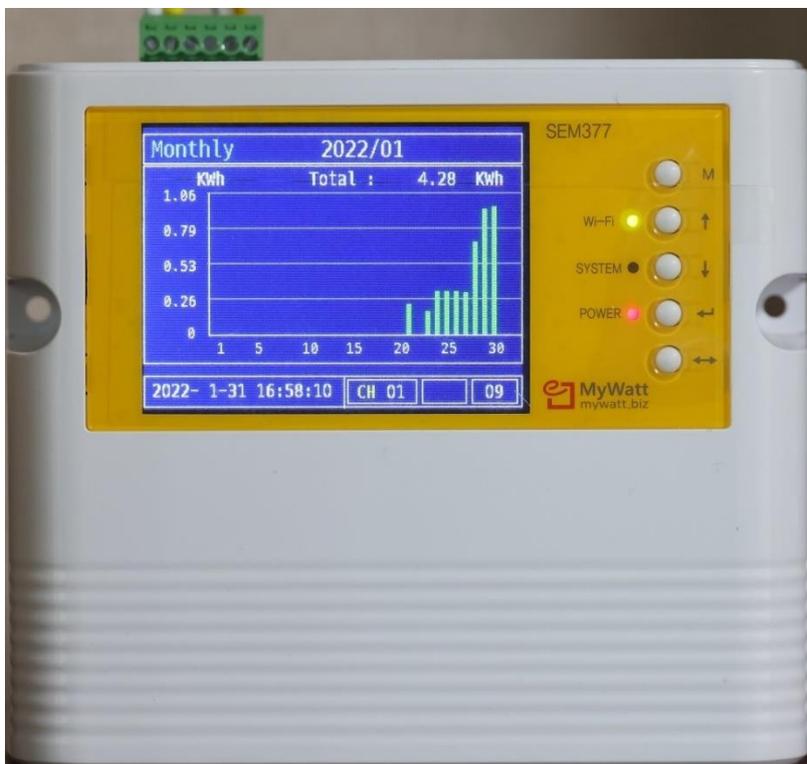


*Trend Menu: Will be available in the future.

*CHART: You can see day/month/year energy consumption data and the cost.



*GRAPH: You can see day/week/month/year bar-graph and the total amount with 1hour interval. We memorize this data on the CPU flash memory up to 1 year.



*TIMER: You can set the energy consumption start time and stop time and could see the total energy and the cost during the terms.



*ALARM: Will be available in the near future soon. You can set the high and low alarm point and get the signal from the sensor port.



*RS-485 (Modbus RS-485): You can memorize the channel number and baud rate.

You can connect up to 30chnnels. If you use multi-channel, please set the channel number on this menu..

*RF433MHz: Will be available in the future.

*WIFI (5 years free web cloud service is included):

If you buy WIFI module and insert it onto the main pcb, you can use WIFI mode.

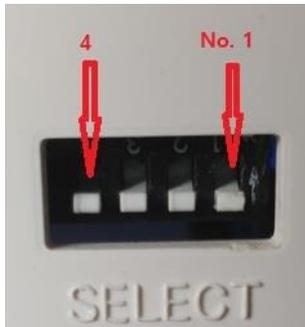
Please select the WIFI mode and press the START icon and press the COMPLETE icon.

Then you could see the ENERGY1 menu page and could see the green led is blinking continuously.

Then the WIFI pairing mode is starting now.

*LAN: (Web cloud service)

Please connect the LAN cable on to the tcp/ip slot and press the #1 piano switch down and up for the web cloud service starting.



*CLOCK

You can change the clock by using up/down/enter button. Or if you are using WIFI module, your SEM370 device clock will change automatically by the internet line.

*LANGUAGE:

Now we provide English mode only.

*MODBUS RS-485

You can adjust the baud-rate and the Modbus channel number.

*AUTO SCROLL:

You can set and could see up to 3 page view automatically with 2 seconds interval.

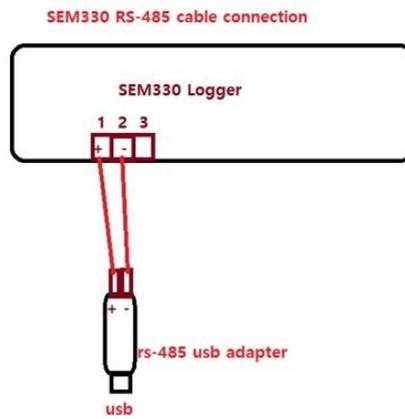
*ADMIN:

You can adjust the CT/PT ratio with this mode. You need password for to keep security.

*** RS-485 software operation method:**

We supply RS-485 to USB adapter as below photo.

Please connect "+" to "+" and "-" to "-" by cable. You must prepare the cable and link both sides.



Please also use the pc software which we provide separately. You can see 30 kinds of data on one page with 2 seconds interval.

download site: www.mywatt.biz/download/485soft.zip

When starting the software, please check the "Port" number is correct or not. If it is okay, please press the "Open" button then you could see the 30 kinds of data at once with 2 seconds interval. If you are not satisfied, you can change from 2 seconds to 200 seconds.

If you want to see the data with 2 seconds interval, please press "START" button. The software will show you the measured data immediately.

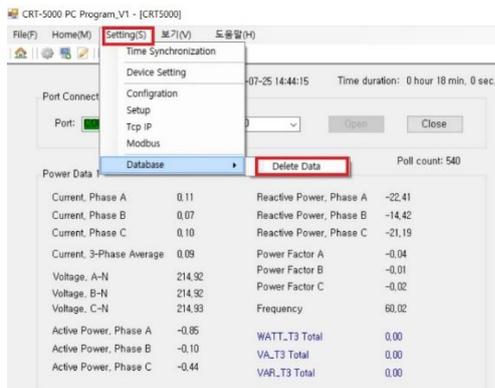
If you see "-" figure on Active power (W or kW), please rotate the clamp position or change the

voltage pole when you made mistake.

If you want to erase the PC software logged data, please do the following action:

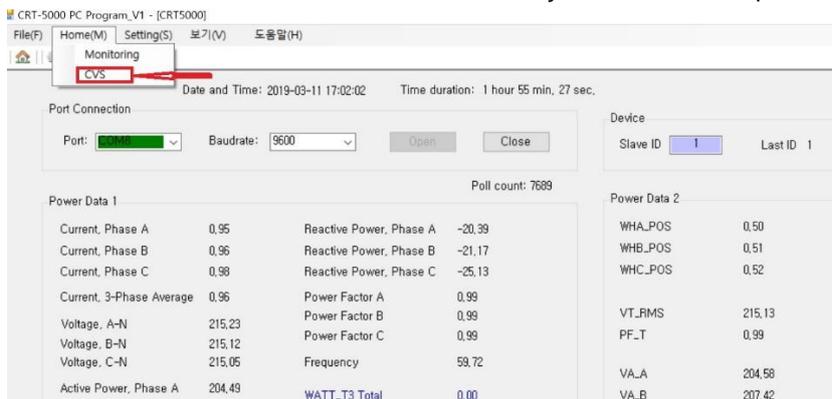
Setting -> Database -> Delete Data

You can see the logged data is deleting.



If you want to save the logged data to PC, please do as below:

Home -> CVS selection and save the file to your wanted file position.



If you want to connect up to 30 channels of SEM370, you must memorize the Device Number by the "RS-485 mode.

Micro SD card data logging: 1-minute interval data logging. 1 month 1 file is saving now. (If you need 15min. measuring interval, you must order us in advance.

	A	B	Current			Voltage			Active Power			Reactive Power			
2	DEV ID	DATETIME	CPR	CPS	CPT	C3PA	VRN	VSN	VTN	PPR	APPS	APPT	RPPR	RPPS	RPPT
3	1	2017-02-08 0:00	2.28	0.99	0.19	1.15	220.53	220.6	220.57	323.4	67.33	33.99	-205.65	-156.77	-20.13
4	2	2017-02-08 0:01	2.62	0.99	0.19	1.27	220.49	220.53	220.42	415.19	66.69	34.33	-210.39	-156.92	-20.34
5	3	2017-02-08 0:02	2.45	0.99	0.19	1.21	220.35	220.42	220.39	381.59	66	34	-211.61	-157.23	-20.84
6	4	2017-02-08 0:03	2.67	1.18	0.19	1.35	219.93	220.02	219.94	435.66	137.72	34.11	-202.1	-159.77	-20.72
7	5	2017-02-08 0:04	2.29	1.01	0.18	1.16	220.56	220.55	220.5	315.13	61.29	33.8	-210.49	-162.13	-19.96
8	6	2017-02-08 0:05	2.69	0.98	0.18	1.28	220.24	220.31	220.26	443.24	66.82	33.2	-205.7	-155.55	-20.16
9	7	2017-02-08 0:06	2.27	0.99	0.19	1.15	220.16	220.23	220.2	320.31	67.78	33.88	-207.02	-155.7	-20.41
10	8	2017-02-08 0:07	2.41	1.01	0.19	1.2	220.37	220.36	220.3	354.52	62.11	33.79	-212	-160.69	-20.66
11	9	2017-02-08 0:08	2.29	0.99	0.19	1.16	220.47	220.55	220.42	316.29	64.76	33.73	-204.68	-156.75	-20.71
12	10	2017-02-08 0:09	2.7	0.98	0.19	1.31	220.19	220.27	220.23	443.73	65.08	34.25	-208.88	-156.25	-20.52
13	11	2017-02-08 0:10	2.65	1.07	0.18	1.24	219.88	219.88	219.84	418.52	80.18	33.63	-213.98	-160.27	-20.23
14	12	2017-02-08 0:11	2.94	0.98	0.18	1.42	220.22	220.29	220.22	556.96	64.88	33.9	-30.33	-156.05	-19.66
15	13	2017-02-08 0:12	2.02	0.99	0.19	1.06	220.39	220.38	220.36	251.26	63.76	33.94	-211.97	-157.76	-20.47
16	14	2017-02-08 0:13	4.18	1.04	0.19	1.83	219.81	219.87	219.76	778.8	80.7	34.21	-313.8	-154.94	-20.62
17	15	2017-02-08 0:14	2.2	0.98	0.19	1.18	220.3	220.36	220.24	313.01	65.41	33.71	-206.89	-155.81	-20.89
18	16	2017-02-08 0:15	2.17	1.09	0.18	1.14	220.25	220.23	220.2	302.92	118.18	33.78	-206.78	-160.98	-20.01
19	17	2017-02-08 0:16	2.01	0.98	0.18	1.06	220.19	220.24	220.13	251.96	66.8	33.14	-202.52	-156.3	-21.06

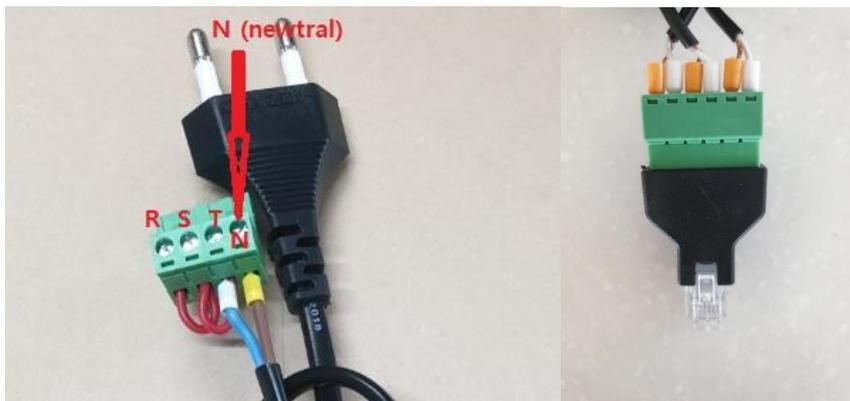
1	Count	저장시간	전류R상	전류S상	전류T상	3상평균전	상전압R상	상전압S상	상전압T상	무효전력R	무효전력S	무효전력T	무효전력R	무효전력S	무효전력T	역률R상
2	COUNT	DATETIME	IR	IS	IT	I_A	VR	VS	VT	WATT_R	WATT_S	WATT_T	VAR_R	VAR_S	VAR_T	PFR
3	4215	2017-02-02 0:00	0.05	0.04	0.04	0.04	215.27	215.27	215.28	2.37	2.79	2.8	0.29	0.02	0	0.23
4	4216	2017-02-02 0:01	0.05	0.04	0.04	0.04	216.67	216.68	216.68	1.57	2.56	2.31	-0.01	0.23	0.31	0.16
5	4217	2017-02-02 0:02	0.05	0.04	0.04	0.04	216.48	216.48	216.48	2.02	2.74	2.31	-0.2	-0.11	0.25	0.19
6	4218	2017-02-02 0:03	0.05	0.04	0.04	0.04	217.05	217.05	217.05	1.69	2.41	3	-0.28	-0.3	0.22	0.17
7	4219	2017-02-02 0:04	0.05	0.04	0.04	0.04	216.4	216.4	216.4	2.74	2.68	2.28	-0.31	-0.12	-0.38	0.27

1	역률S상	역률T상	주파수	유효전력R	유효전력S	유효전력T	3상	유효전	무효전력R	무효전력S	무효전력T	3상	무효전	DI_TempA	DI_TempB	DI_Humidi	DI_1A(Co	DI_1B(Co	DI_2A(Co	DI_2B(Co
2	PFS	PFT	HZ	WHR_POS	WHS_POS	WHT_POS	WHTOTAL	VARHR	PCVARHS	PCVARHT	TOT	DI_TempA	DI_TempB	DI_Humidi	DI_1A(Co	DI_1B(Co	DI_2A(Co	DI_2B(Co	DI_2C(Co	DI_2D(Co
3	0.31	0.3	60	47	57	55	159	0	1	2	3	0	0	0	0	0	0	0	0	0
4	0.27	0.25	59.97	47	57	55	159	0	1	2	3	0	0	0	0	0	0	0	0	0
5	0.29	0.25	60	47	57	55	159	0	1	2	3	0	0	0	0	0	0	0	0	0
6	0.25	0.31	59.95	47	57	55	159	0	1	2	3	0	0	0	0	0	0	0	0	0
7	0.3	0.25	59.97	47	57	55	159	0	1	2	3	0	0	0	0	0	0	0	0	0
8	0.26	0.23	59.97	48	57	55	160	0	1	2	3	0	0	0	0	0	0	0	0	0

SD CARD: For the memory. please insert the card to the slot and take off when necessary.

Temperature unit adjustment: Please press the "ENTER" button and you could see the unit is changing.

Electricity energy phase change: You can change L1/L2/L3/3P phase by pressing the ENTER button. If you have problem for to connect R/S/T/N 3-phase 4-pole line due to the factory electricity line problem, you can use 2 pole connect (single phase application) as below photo:



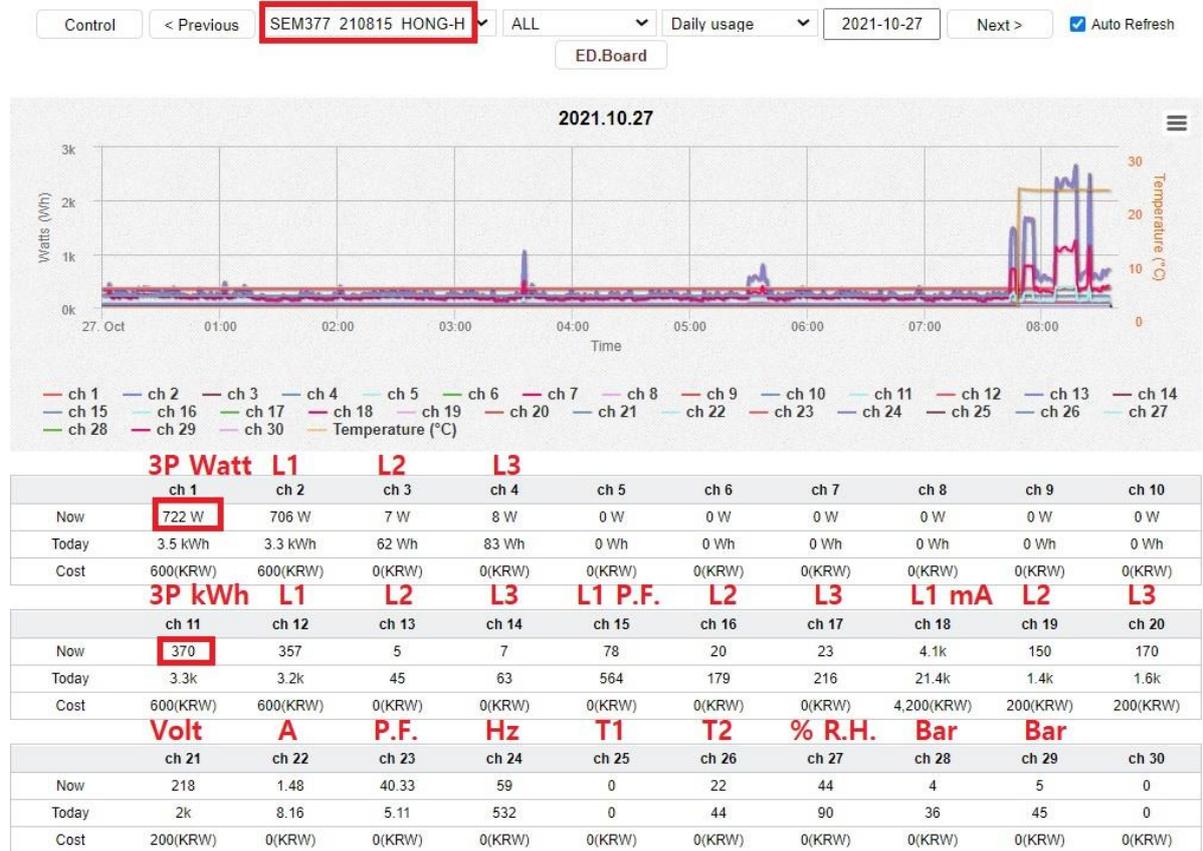
TCP/IP WEB CLOUD SERVICE

You can use TCP/IP web cloud service with free of charge service but only 2-channels.

But if you want to get 30 channel service, you must pay \$10.00 for 5 years. Please contact to Korins

Inc. directly.

30 Channel web cloud service



If the company or factory have problem with WIFI, you can use 4G router instead. Please connect I to TCP/IP line as below photo:



WIFI

WIFI module operation method:

<https://www.youtube.com/watch?v=xOh6xsByJFc>

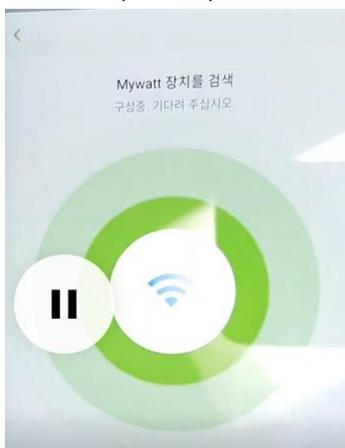
A) If you buy WIFI module and insert it onto the main pcb, you can use WIFI mode.
Please move to WIFI mode and press the START icon and press the COMPLETE icon.
Then you could see the ENERGY1 lcd page and could see the WIFI green led lamp is blinking continuously. Then the WIFI pairing mode is starting now.

B) Please download the "mywatt30" App from Google shop or IOS Shop to your mobile phone.
And you must register your ID with your email address or company email address on this App site.

- 1) Please log on the MYWATT30 app with your ID and password.
- 2) Please select the NEW DEVICE icon and select the WIFI icon and select the SEM360/370 device.
- 3) Please go to WIFI channel display mode on your smart phone:



- 4) Please find and select the "SEM370_XXX123" number which is matching your SEM370 serial number.
- 5) After selection, the above SEM370_XXX123 will be chosen as your default WIFI line.
- 6) Please insert the password number "korins1234".
- 7) After finish the above process, please move to the remained APP process.
- 8) Please write your office or factory available WIFI line (2.4G line only) ID.
- 9) Please also write your WIFI line password.
- 10) Then please press 'NEXT" icon until it stop the pairing process.

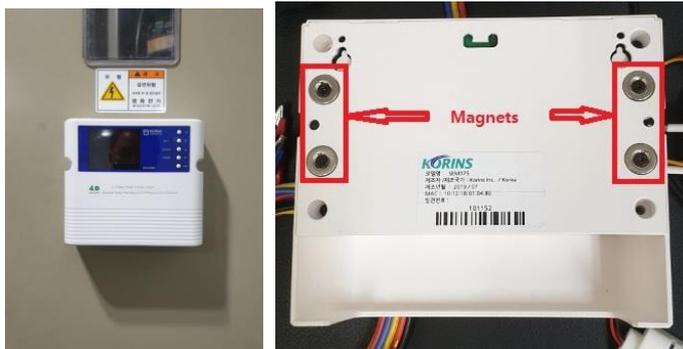


SEM375 Model



SEM375 is suitable for wall mounting or stand type for the service staffs. It has magnet on back side plastic part and could easily attach on to the steel plate.

SEM375 also have rechargeable battery for the clock backup.



New lcd menu for SEM375 and SEM370, SEM375, SEM377, SEM380, SEM388, SEM390

Lcd display mode have the following new MENU.

1) Graph (Day/Week/Month/Year)

You can adjust the day by using up/down button and adjust the day -> week-> month-> year by using Enter button.



2)Chart (day/month/year)

Similar as Graph mode.

Chart			Chart			Chart		
Daily	Energy(kWh)	Cost	Monthly	Energy(kWh)	Cost	Yearly	Energy(MWh)	Cost
2020/ 1/ 1	14142.875	16971	2019/ 8			2020		
2020/ 1/ 2	12673.250	15208	2019/ 9			2019	1.108732	1330479
2020/ 1/ 3	12495.875	14995	2019/10	281.5721	337887			
2020/ 1/ 4			2019/11	400.2426	480291			
2020/ 1/ 5			2019/12	426.9174	512301			

3) Timer Mode

You can set the Timer start time and stop time and could see the Total kWh and cost during the terms.

4) Auto Scroll Mode

You can select 3 pages and could see the 3 pages with 3 seconds interval automatically. You can adjust the time interval also.

5) Charge Rate

You can adjust the kWh cost with your currency.

6) Admin Mode (CT/PT ratio change)

You must use password for to adjust the ratio change.

7) Cost Mode

Day and Month energy amount and cost reading with 1minute interval

8) T&H Mode (Temperature and Humidity mode)

You can see the data by using the optional sensors.

9) Pressure Mode

You can see the pressure by using 10bar sensor. Normally we recommend for compressor air.

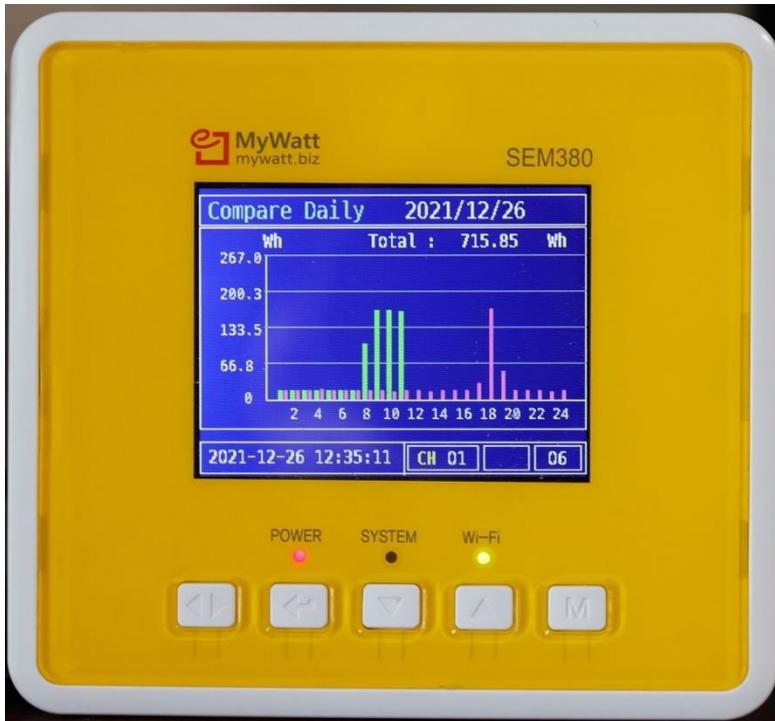
10)Factory Reset Mode

Please press the Mode and Enter button 10 seconds continuously. You can see Factor reset display.

All the lcd data and Total kWh data will be 0. Your SEM375/SEM370 meter will start from 0 Watt.

SEM380

3.2" tft lcd, rail and panel mounting type



SEM388 Model (2022 new)

4.0" tft lcd type



SEM390 4-Channel Energy Logging for 3 Phase 4-Line application

You can use a SEM390 model instead of 4sets of SEM370 model. You can save money and space.



*Graphic lcd: included

*Micro-sd card: 8G sd card included.

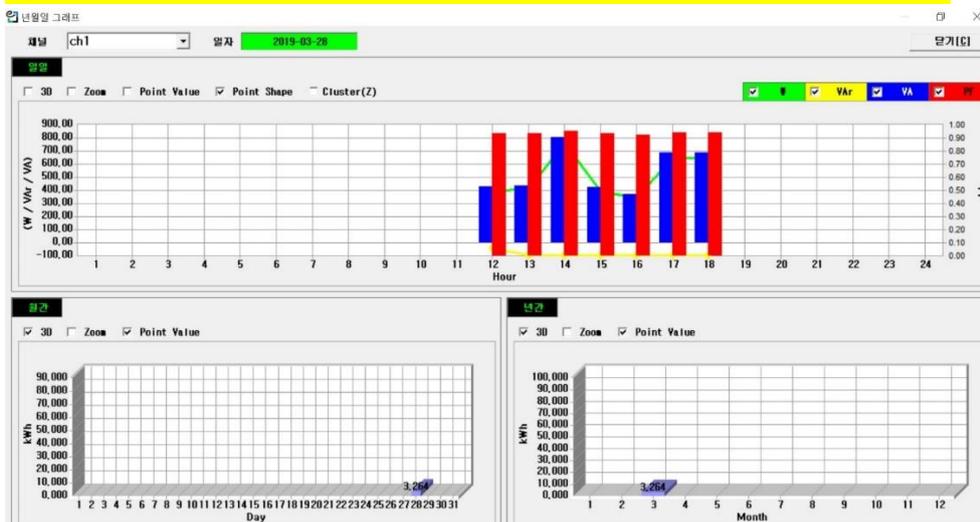
*Current clamp: 5A to 2000A clamp is possible.

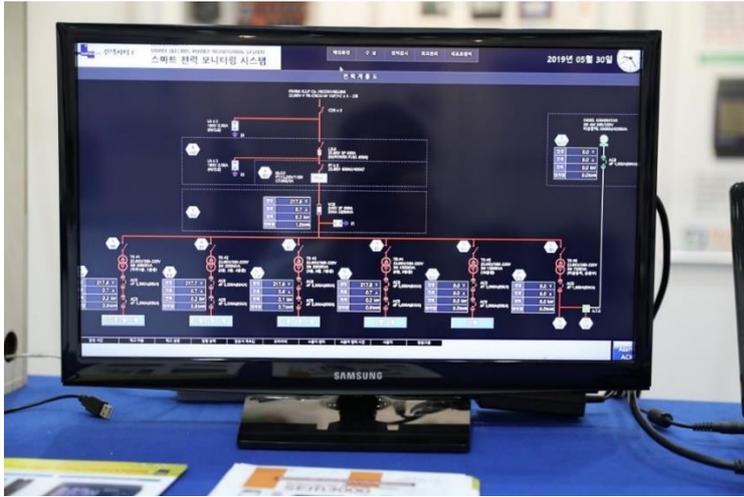
You can connect to 12pcs clamps.

*Web cloud service: 5 years free web cloud service is included when you buy WIFI module.

*Android App "mywattpro" is included.

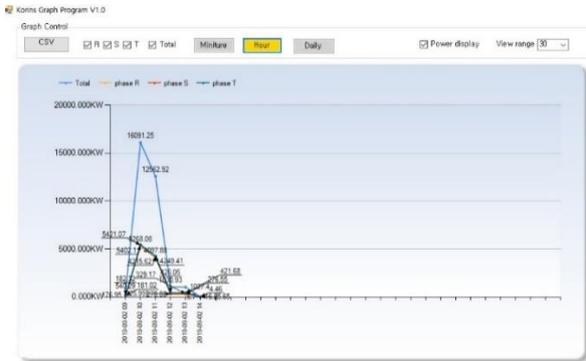
Optional Graphic software – MYWATT-GRAPH

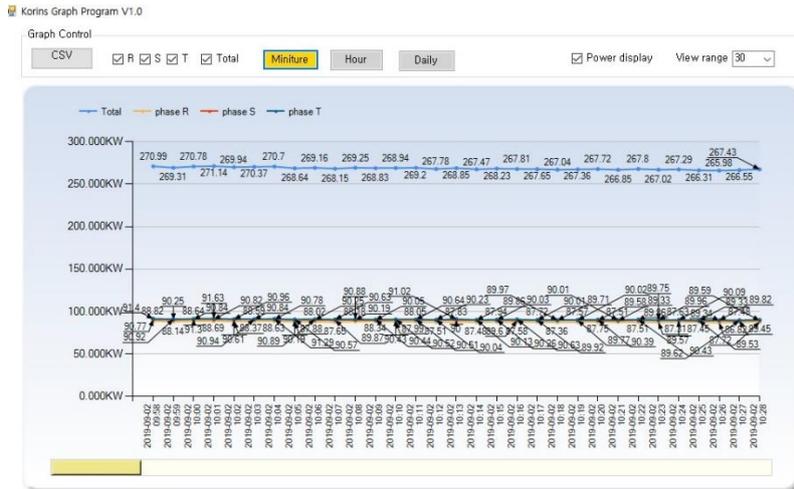




Optional sd card file software:

You can see realtime/hour/day graph for W/P/F/Ampere/Voltage with this new software





MyWatt Inc./Korins Inc.

David Hong/chairman <http://energyeye.kr> <http://mywatt.biz>

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